CEAG



1005

Catalogue

Explosion-Protected Products

COOPER Crouse-Hinds



1

PORTABLE EX-LAMPS

Torches and hand lamps
Searchlights
Hand- and machine lamps
Tank inspection lamps

3

EX-SIGNAL- AND ESCAPE SIGN LUMINAIRES

Escape sign luminaires in plastic design with LED-technology
Escape sign luminaires in metal design with LED-technology
Safety and emergency luminaire in plastic design
Signal- and emergency light fitting

5

EX-AUDIO/VISUAL-SIGNALLING

Manual call points
Status lamps
Beacons and strobes
Sounders, Horns and speakers
Heat detectors

7

EX-JUNCTION BOXES AND TERMINAL ENCLOSURES

Junction boxes in plastic and metal design
Terminal boxes and in plastic and metal design
Terminal enclosures in stainless steel
Connection and intermediate motor terminal boxes in plastic design

9

EX-CONTROL UNITS AND CONTROL STATIONS

Installation switch in plastic design
Control stations in plastic and metal design
Control and signal units for panel mounting
Control switches with/without measuring instrument
Flameproof control stations

11

EX-DISTRIBUTIONS

Distributions in plastic and metal design
Distribution enclosures and components
Flameproof distributions for gases in Ex-group IIC and IIB
Flameproof panels and racks

EX-FLUORESCENT LIGHT FITTINGS

Light fitting in plastic design
Emergency light fitting in plastic design
Recessed ceiling light fitting in metal design
Flameproof light fittings
Light fitting for zone 2/22

2

EX-PENDANT LIGHT FITTINGS AND FLOODLIGHTS

Pendant light fittings in metal design
Floodlights in metal design
Vessel light fittings
Pendant light fittings and floodlights for zone 2/22

4

ELECTRICAL CONNECTIVITY

eXLink Ex-connector system in plastic and metal design up to 16 A
Ex-multi purpose terminals
Plugs and sockets up to 125 A for Ex-Zone 1, 2 and industry application
Ex-repair and maintenance sockets and distributions up to 80 A
Portable Ex-cable reels

6

EX-CABLE GLANDS

Cable glands in plastic design
Cable glands in metal design
Accessories: Reducing rings, screw plugs, breathing gland etc.

8

SAFETY AND MAIN CURRENT SWITCHES

Ex-safety switches up to 630 A
Industrial safety switches up to 630 A
Ex-main current switches up to 630 A
Ex-circuit breakers up to 630 A
Ex-manual motor starter

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REGULATIONS

from A to Z



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D EX-HAZARDOUS AREAS DUE TO EXPLOSIVE DUST/AIR MIXTURES

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J WWW.CEAG.DE YOUR PARTNER WITH COMPETENCE IN EXPLOSION-PROTECTED


DEKRA

EC-Type Examination Certificate

A Regulations on Explosion-Protection

Electrical apparatus for use in hazardous areas must be explosion-protected in design and must comply with the regulations on Explosion-Protection. In order to establish a requirement and safety level that is the same throughout Europe, the European Union has compiled product-related "European Directives" for all types of products.
In 1976 the Council of the European Community issued basic directives on Explosion-Protection. These were converted into national law in Germany in the "Regulations concerning electrical installations in explosive atmospheres (Elex V)" issued in February 1980. CENELEC, the European committee for electrotechnical standardization, worked out European standards for apparatus for use in hazardous areas. In Germany these standards DIN EN 50014 to 50020/VDE 0170/0171, Parts 1 to 7, designated as VDE regulations, came into force on 1.5.1978. They contain constructional and test requirements for explosion-protected electrical apparatus for hazardous areas.

The certificates of conformity or inspection certificates issued by notified bodies of member states of the EC, which are issued on the basis of the tests carried out, are recognized by all member states of the EU as type examination certificates.

Explosion-protected apparatus according to the directive 76/117/EEC bear the **Ex-symbol.**

B The Directive 94/9/EC

After a transition period, as of July 1, 2003 the **directives 94/9/EC of the European Parliament and Council** for the harmonization of the statutory provisions of member states on apparatus and protective systems intended for use in potentially explosive atmospheres dated 23.3.1994 (Directive 94/9/EC) will replace any existing directives on Explosion-Protection on a European level.

All explosion-protected apparatus which have been put into circulation for the first time since **1. July 2003 have to be** in compliance with this directive.

This new Ex directive was converted into national German law by the new **"Explosion-Protection decree (ExVO)"** issued in December 1996.

These ATEX directives 1999/92/EC regulate the explosion-protection and the standards for the required monitoring of apparatus in Germany. These national regulations were replaced by the **"Industrial Safety Regulations" in October 2002.**

Amongst other things, the ATEX directive 94/9/EC now regulates the classification and marking of apparatus for use in hazardous areas.



New is the classification of apparatus in the following:

Apparatus for mining operations: **Apparatus Group I**

Apparatus for use in all other hazardous areas: **Apparatus Group II**

This is divided further into apparatus categories that regulate the safety level of the apparatus for the respective zone:

Categories 1, 2 and 3

In addition to this, distinction is also made between apparatus for use in **Gas-Ex hazardous areas,** code letter "G", and apparatus for use in **Dust-Ex hazardous areas,** code letter "D"

Apparatus for Gas-Ex hazardous areas

Apparatus category	Zone	Marking
1	0	II 1 G
2	1	II 2 G
3	2	II 3 G

Apparatus for Dust-Ex hazardous areas

Apparatus category	Zone	Marking
1	20	II 1 D
2	21	II 2 D
3	22	II 3 D

After successful completion of the type test within the scope of the conformity evaluation procedure, the authorized testing stations, now called **notified bodies,** issue an "EC Type Examination Certificate".



To fulfil all requirements of the Explosion-Protection directive 94/9/EC (as well as those of any further EC-directives which are applicable), the manufacturer issues an **"EC-Declaration of Conformity".** To allow free movement of goods throughout Europe, the

CE marking

shall be affixed to all apparatus to which this EC declaration of conformity applies.

All explosion-protected products in this catalogue have already been certified in accordance with the new ATEX-Directive 94/9/EC. Additionally, most of the products in this catalogue have supplementary approvals for the use in areas where hazardous flammable dusts are present.



C Hazardous Areas due to Explosive Gases, Vapours and Mists

Hazardous areas due to the presence of explosive gases, vapours and mists are classified into three zones. This classification depends on the probability of the occurrence of an explosive gas atmosphere.

Zone 0 covers areas in which an explosive atmosphere caused by a mixture of air and gases, vapours or mists is present, **continuously, for long periods or frequently.**

Zone 0 mainly encompasses the areas inside closed containers, pipelines and apparatus which contain inflammable liquids. The respective operating temperature lies above the flash point. The hazardous area is above the liquid level and not within the liquid.

With **apparatus in the category 1 G** (for Zone 0), in order to avoid ignition hazards resulting from electrical circuits of the apparatus, it is necessary to guarantee the specified degree of safety:

- ❒ in the event of two independent faults when only one protection measure is applied, or
- ❒ in the event of the failure of one protection measure, by means of a second, independent protective measure.

These conditions are deemed fulfilled if, for example, the apparatus is designed

- ❒ in the type of protection “ia” to IEC 60079-11 (EN 60079-11), or if “specially casted encapsulations“ma” are used according IEC 60079-18 (EN 60079-18), or .
- ❒ a combination of two independent ignition protections according to IEC 60079... (EN 60079...) are used.

So can for example, hand lamps with intrinsic supply circuits or intrinsic apparatus “ib“, an additional and in accordance to IEC 60079-18 (EN 60079-18) flameproof encapsulation.
The requirements on apparatus with regard to electrostatic charges are considerably higher than those for Zone 1 or Zone 2.
Additionally to the original types of protection the constructional and testing requirements for electrical apparatus in Group II 1 G according to IEC 60079-26 (EN 60079-26) are valid.

Zone 1 covers areas in which the **occasional** occurrence of an explosive atmosphere due to the presence of gases, vapours or mists is likely.

Inflammable or explosive substances are made, processed or stored in Zone 1. This includes the area surrounding charging doors, the immediate vicinity of filling and emptying devices, the immediate vicinity of fragile equipment and lines, as well as around cable glands on pumps and slides that do not seal adequately. The occurrence of an explosive atmosphere is likely during normal operation.

With **apparatus of the category 2 G** (for Zone 1), it is either necessary to ensure that the occurrence of an ignition source is excluded, or the ignition source must be encapsulated by a recognized type of protection in such a way that the ignition of an explosive atmosphere surrounding the apparatus is prevented.
This applies in Zone 1 for both normal, trouble-free operation and for the operating faults that commonly occur.
The constructional and test regulations for the permissible types of protection are laid down in IEC 60079-... (EN 60079-..).

Zone 2 covers areas in which the occurrence of an explosive atmosphere due to the presence of gases, vapours and mists is not likely, but if one should occur, then only rarely and only for a short period.
Zone 2 encompasses areas where explosive or flammable materials are manufactured or stored. Zone 2 also encompasses areas around Zones 0 and 1, for example areas around flanged joints of pipelines in closed rooms. Furthermore, it includes areas in which, due to natural or forced ventilation, the lower explosion limit is reached in exceptional cases only, e.g. the surroundings of outdoor installations.

Apparatus in the category 3 G (Zone 2) must be designed in such a way that it is safe during normal, trouble-free operation. All apparatus that fulfils the requirements for Category 1G and 2G may be used. The requirements for electrical apparatus specially designed for use in Zone 2 have been newly regulated in IEC 60079-15 (EN 60079-15). The previous practice of also using apparatus of “good industrial quality” in



Zone 2, a common practice in some countries, is no longer be possible.

The requirements for Zone 2 (3 G) apparatus according to previous national standards have been regulated by the new European Zone 2 standard and provide a considerably higher safety standard.

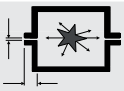
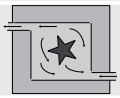
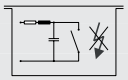
The table below contains all relevant types of explosion protection, which can be used singularly or in a combination for explosion protected apparatus.

The **type of protection "n"** applies for Zone 2 apparatus: apparatus that cannot ignite a surrounding explosive atmosphere under normal and certain abnormal operating conditions. In addition to this, distinction is made between apparatus that does normally not produce arcs/sparks and/or hot surfaces **"non-sparking apparatus"** and apparatus that produce sparks/arcs and/or hot surfaces **"sparking apparatus".** The Explosion-Protection methods resulting from this were derived, in part, from the types of protection for Zone 1/category 2 apparatus, whereby they were adapted for Zone 2/ category 3 apparatus on a lower level.

Non-sparking apparatus "nA":
The risk of the occurrence of sparks, arcs and/or hot surfaces during normal operation is minimized by constructional measures.

Sparking apparatus:
Here sparks, arcs and/or hot surfaces occur during normal operation:
The following protection methods are permissible:
Apparatus with protected contacts: **"nC"**
This includes enclosed switchgear, non-ignitable components, hermetically sealed, sealed and encapsulated devices.
Restricted breathing apparatus: **"nR"**
Simplified pressurized apparatus: **"nZ (py)"**
Limited power apparatus: **"nL (ic)"**

Types of protection for apparatus in Gas-Ex-areas

Type of protection	Symbol	IEC EN	Princip	Application
Flameproof enclosure	d	IEC 60079-1 EN 60079-1		Power-operated apparatus, switchgear, motors (all types of apparatus producing ignitable arcs in normal operation)
Sand filling	q	IEC 60079-5 EN 60079-5		Capacitors, electronice components, fuses
Pressurization	p	IEC 60079-2 EN 60079-2		Power-operated apparatus (active safety measures required)
Oil immersion	o	IEC 60079-6 EN 60079-6		Transformers (rarely used)
Encapsulation	m	IEC 60079-18 EN 60079-18		Measurement and control devices, relays, electronic circuits
Increased safety	e	IEC 60079-7 EN 60079-7		Coonection and distribution boxes light fittings, measuring instruments, squirrel cage motors (no ignitable sparks in normal operation)
Intrinsic safety	i	IEC 60079-11 EN 60079-11		Measurement and control devices, data processing (low electric values)
Protection type for Zone 2	n	IEC 60079-15 EN 60079-15	● non-sparking apparatus: nA ● apparatus with protected contacts: nC ● restricted breathing apparatus: nR ● apparatus with simplified pressurization: nZ (py) ● limited power apparatus: nL (ic)	Lamps, motors, plugs and sockets, measurement and control devices


DEKRA

Type Examination Certificate

Hazardous Areas due to explosive Dust-/Air-Mixtures

Hazardous areas due to the presence of inflammable dust/air mixtures are also subdivided into 3 zones that are comparable to the zones for explosive gas atmospheres.

Zone 20 covers areas in which an explosive atmosphere due to dust/air mixtures is present **continuously, for long periods or frequently.**

If these conditions occur, they are usually found in closed containers, pipelines, apparatus, etc. where a continuous or for longer periods a dust/air mixture is probably to be found.

Zone 21 covers areas in which the occurrence of an explosive atmosphere due to dust/air mixtures is to be expected **occasionally.**

This can, for example, include areas in the immediate vicinity of dust extraction or filling stations and areas where dust deposits can occur and can form a potentially explosive concentration of inflammable dust mixed with air under normal operating conditions.

Zone 22 covers areas in which the occurrence of an explosive atmosphere due to whirled-up dust is not likely, but, if it occurs, then in all probability only rarely and only for a **short period.**

This can, for example, include areas in the vicinity of apparatus containing dust if the dust can escape from leaks and in time build up a dangerous dust layer (e.g. milling rooms, where dust leaks from the mill and builds a dust layer).

Only apparatus that fulfils the conditions of the ATEX directive shall be used in these areas.

Electrical apparatus for use in hazardous dust-areas the type of protection “dust Explosion-Protection due to enclosure” is mostly common.

The design- and test regulations for the type of protection “tD” are based in the standard IEC/EN 61241-0 and -1, for the future as type of protection „t“ included in the IEC/EN 60079-31...

With such dust explosion-protected apparatus, there are, among other things, given surface temperatures and minimum IP degrees of protection required.

The approval amendments for dust Explosion-Protection in accordance with EC-directive 94/9/EC are already available for many of the explosion-protected light fittings and apparatus in this catalogue.

E Classification of Apparatus

In accordance with the various properties of gases with regard to ignition temperature, ignition capability and flame transmission capacity, explosion-protected electrical apparatus is divided into explosion groups and temperature classes.

Division of explosion-protected apparatus into explosion groups

To specify the scope of application of explosion-protected electrical apparatus, it is sub-divided into two groups:

Group I: Electrical apparatus for use in mines susceptible to the hazard of firedamp

Group II: Electrical apparatus for use in all other hazardous areas

A further sub-division of the Explosion Group II into “A”, “B” and “C” is prescribed for the types of protection “flameproof enclosure” and “intrinsic safety”, as well as for “increased safety” with regard to electrostatic requirements.
This is also for the protection types nC and nL. With the type of protection “flameproof enclosure” this sub-division is made according to the maximum experimental safe gap for the non-transmission of an internal ignition (MESG), whereas with the type of protection “intrinsic safety” this sub-division is made according to the ratio of the minimum ignition current of the mixture being tested to the minimum ignition current of a mixture of laboratory methane and air (MIC).
Group II C apparatus is suitable for use in all types of gas atmospheres.

Division of explosion-protected apparatus into temperature classes

The ignition temperature is the lowest temperature of a surface at which an explosive atmosphere will ignite.
Gases and vapours can be divided into temperature classes according to their ignition temperatures. This results in a subdivision of explosion-protected electrical apparatus into the temperature classes T1 to T6. This classification allows explosion-protected apparatus to be used economically. The maximum surface temperature of an apparatus must always be lower than the ignition temperature of the gas/air or vapour/air mixture.

Generally speaking, explosion-protected apparatus must be suitable for an ambient temperature from **–20 °C** to **+40 °C.** The following tables show both the division of explosion-protected apparatus according to the temperature classes and examples of the classification of gases and vapours in accordance with the explosion groups and temperature classes (material-specific factor).

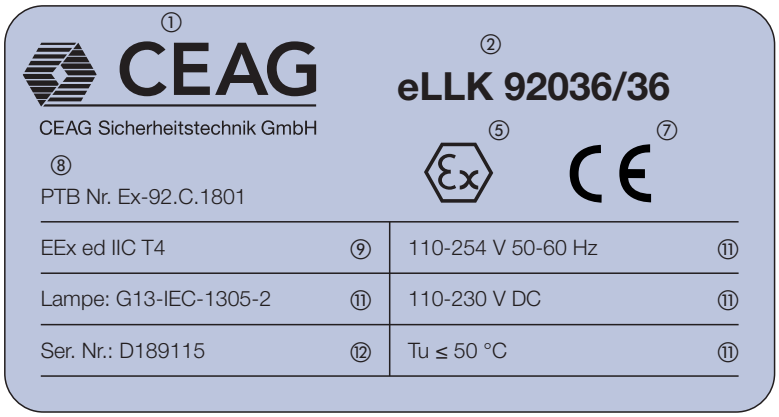
The max. surface temperature of an electrical apparatus for use in hazardous dust-areas with the type of protection “dust Explosion-Protection due to enclosure” “tD” resp. “t” is defined with a dust layer of 5 mm height. This is relevant to select electrical apparatus for dust-ex areas. The ignition temperature respective the glow temperature of the dust is determining for the suitability of the apparatus.

Division of explosion-protected apparatus into Explosion Groups and temperature classes

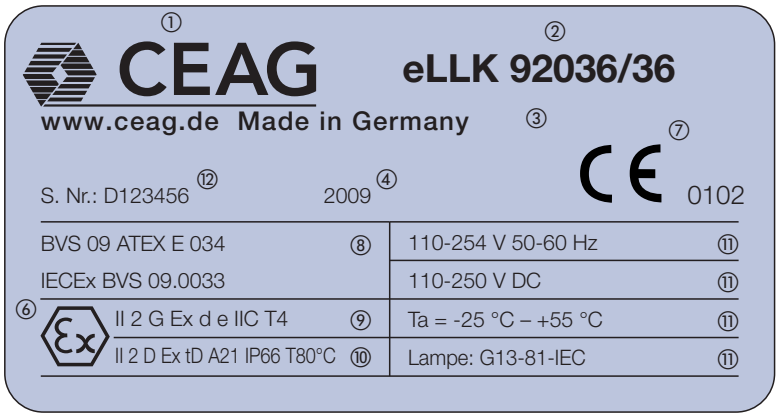
	T1	T2	T3	T4	T5	T6
I	Methan					
IIA	Acetone, Ethane Ethylacetate Ammonia Benzol Acetic acid Carbonmonoxide Methanol, Propane Toluene	Ethylalkohol i-amylacetate n-butane n-butylalcohol	Petrol Diesel-fuel Aviation-fuel Heating-oils n-hexane	Acetaldehyde Ethylether		
IIB	Town gas (lamp gas)	Ethylene				
IIC	Hydrogen	Acetylene				Carbon-disulphide

Division of explosion-protected apparatus into temperature classes

Temperature class	Max. surface temperature
T1	450 °C
T2	300 °C
T3	200 °C
T4	135 °C
T5	100 °C
T6	85 °C



Type label according to previous directive



Type label according to Explosion-Protection directive 94/9/EC

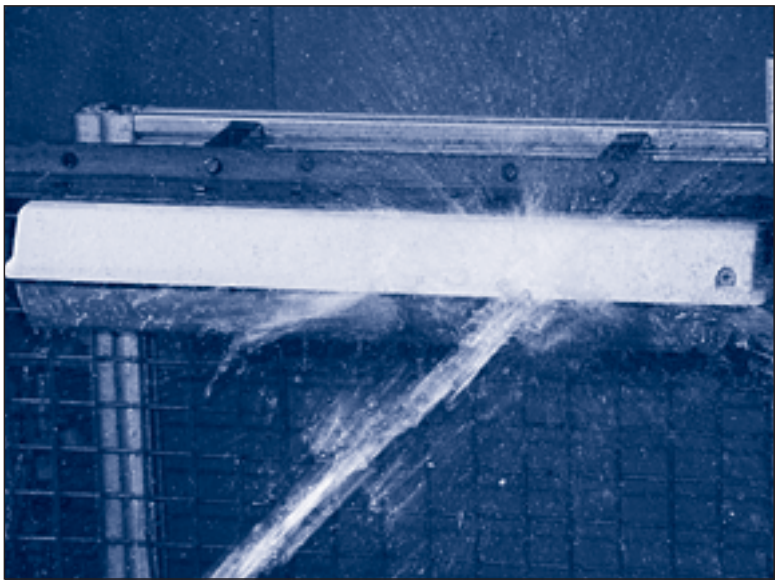
F Marking of Explosion Protected Apparatus

As, until the transition period expires, both the previous basic Explosion-Protection directive 76/117/EEC, supplemented by the individual Explosion-Protection directive 79/196/EEC, and the new Explosion-Protection directive 94/9/EC are valid, there are two valid parallel certification procedures and marking methods for explosion-protected apparatus.

By way of example, the two type labels for an explosion-protected light fitting for fluorescent lamps show both the marking according to the previous directive and the ATEX stands for the notified body in marking according to the new directive. involved in the production quality system (in this case PTB).

Additionally in the future Ex-protected apparatus according to the latest standard EN 60079-0, 2009 will be marked in conformance to the Equipment Protection Level (EPL):
– Ga, Gb or Gc for Gas-Ex-apparatus
– Da, Db or Dc for Dust-Ex- apparatus

① Name / Code of manufacturer
② Type code
③ Address of manufacturer
④ Year of manufacture
⑤ Community marking for explosionprotected apparatus in accordance with directive 76/117/EWG
⑥ Marking of apparatus in accordance with directive 94/9/EC:
for use in hazardous areas: **II**
apparatus Group II for use in zone 1 areas category: **2**
for use in gas hazardous areas: **G**
for use in Dust-Ex-areas: **D**
⑦ CE marking confirming conformity with all requirements of the applicable directives for the product. The number next to the CE marking (only typical for ATEX) stands for the notified body involved in the production quality system (in this case PTB)
⑧ Testing station (notified body) and the respective number
⑨ Marking of apparatus in accordance with the European Standards for the construction and testing of explosion protected apparatus:
EEx: Built and tested according to the European Standards
e d: Type of protection here „increased safety“ and „flameproof encapsulation“
II C: Explosion group
T 4: Temperature class
⑩ Additional marking of the apparatus for Dust-Ex:
tD: Ignition protection type „protection by housing“
A21: For Zone 21 acc. process A
T 80 °C: Max. surface temperature + 80 °C
IP 66: Type of protection
⑪ Technical data
Testing station (notified body) and the respective number
⑫ Serial number



G Degrees of Protection of Explosion Protected Apparatus

Because they are often used in outdoor installations and often come into contact with dust and water, as well as with other environmental influences caused by chemical media, explosion-protected electrical apparatus are subjected to particularly extreme operating conditions. In accordance with the constructional and test requirements explosion-protected apparatus must, therefore, satisfy the requirements for a minimum degree of protection, normally **IP 54.** The IP degrees of protection according to EN 60529 are defined according to the protection against inadvertent contact, foreign matter and water.

The degrees of protection against solid foreign matter are designated by the first code number.

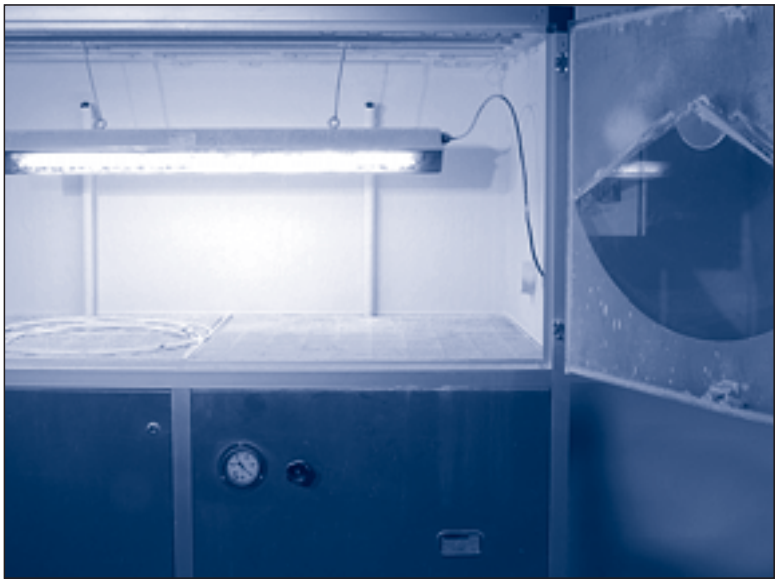
Degrees of protection against water are designated by the second code number.

Example: **IP 65:** dust-tight, protected against jet water.

According to the test procedures for explosion protected apparatus the degree of protection has to be tested and meet the requirements after the necessary climatic storage and impact tests. This is more harder to pass than the normal test according to IEC 60529.

Degrees of protection according to IEC 60529

First Number	Degree of protection	Second Number	Degree of protection
0	No special protection	0	No special protection
1	Protected against solid foreign bodies Ø 50 mm and larger	1	Protected agains vertically dripping water
2	Protected against solid foreign bodies Ø 12.5 mm and larger	2	Protected against dripping water when enclosure is incliened up to 15 °C
3	Protected against solid foreign bodies Ø 2.5 mm and larger	3	Protected against spray water being sprayed at an angle up to 60 °
4	Protected against solid foreign bodies Ø 1 mm and larger	4	Protected against splash water from any direction
5	Dust protected	5	Protected against jet water from any direction
6	Dust-tight	6	Protecte againt powerful water jets from any direction
		7	Protected against water intrusion when submerged for a limited time
		8	Protected against water intrusion when submerged, time irrelevant



H Regulations and Approvals Outside of the EC Jurisdiction

Outside the jurisdiction of the ATEX directive 94/9/EC (EC area and associated countries) there are other standards and approvals that apply for the operation of electrical apparatus for use in hazardous areas.

National approvals on the basis of the EN directives

The majority of the eastern European countries such as Russia, Belarus, Ukraine, Poland, Hungary and Kazakhstan, etc. have their own certification bodies that issue their own approvals on the basis of the current EC type examination certificates. These are requisite for the installation and operation of electrical apparatus in hazardous areas in these countries. Cooper Crouse-Hinds GmbH is in possession of approvals for the products listed in this catalogue in many of these countries.

Explosion-Protection in North America

The IEC/EN approach to Explosion-Protection differs to the engineering practices in North America. Here, to name one example, they use closed conduit systems with potted ignition barriers. Other criteria also apply for the classification. In addition to the "hazardous (classified) locations" **Class I** (gases, vapours and mists), there are **Class II** (dusts) and **Class III** (fibres). These design regulations and classifications are laid down in the NEC regulation, Sections 500 (divisions) to 505 (zones), valid for the USA, and in the CEC standard, Section 18, valid for Canada. In addition to this the areas are divided into Division 1 and Division 2 (chapter 500).

In Canada the IEC-zone classification was introduced as a standard. To use the division classification is the exception rather the rule.

Due to the introduction of the IEC zone classification concept in Canada in 1988 and in the USA in 1996 (amendment of NEC, Article 505 and of CEC), the use of a comparable technology became possible.

An continuously growing part of the Cooper Crouse-Hinds GmbH explosion-protected products are additionally certified in accordance to the American norms.

Comparison of the IEC - NEC - CEC Classifications

	Gases, vapours or mists Class I	(IEC)	Dusts Class II	Fibres Class III
Regulation USA	NEC 500-5	NEC 505-7	NEC 500-6	NEC 500-7
Regulation Kanada	CEC J18-004	CEC 18-006	CEC 18-008	CEC 18-010
Classification	Division 1 Division 2	Zone 0 Zone 1 Zone 2	Division 1 Division 2	Division 1 Division 2
Groups (Groups to NEC 500... or CEC J18-050	– 3	– 7	– 3	
	Div. 1 and 2 A (acetylene) B (hydrogen) C (ethylene) D (propane)	Zone 0, 1, 2 II C (acetylene, hydrogen) II B (ethylene) II A (propane)	 E (metals) F (coals) G (grain)	Div. 1 and 2 ---
Temperature classes I	Div. 1 and 2 T1 ≤ 450 °C T2 ≤ 300 °C T2A ≤280 °C; T2B ≤ 260 °C T2C ≤ 230 °C; T2D ≤ 215 °C T3 ≤ 200 °C; T3A ≤ 180 °C T3B ≤ 165 °C; T3C ≤ 160 °C T4 ≤ 135 °C; T4A ≤ 120 °C T5 ≤ 100 °C T6 ≤ 85 °C	Zone 0, 1 and 2 T1 ≤ 450 °C T2 ≤ 300 °C T3 ≤ 200 °C T4 ≤ 135 °C T5 ≤ 100 °C T6 ≤ 85 °C	Div. 1 and 2 T1 ≤ 450 °C T2 ≤ 300 °C T2A ≤280 °C; T2B ≤ 260 °C T2C ≤ 230 °C; T2D ≤ 215 °C T3 ≤ 200 °C; T3A ≤ 180 °C T3B ≤ 165 °C; T3C ≤ 160 °C T4 ≤ 135 °C; T4A ≤ 120 °C T5 ≤ 100 °C T6 ≤ 85 °C	none

International Certification/ IECEx Scheme

The **IECEx-Scheme** is an international compliant assessment scheme relating to equipment for use in explosive atmospheres based on IEC-standards.

The **IEC-norms** as a world-wide standard are an important basis for the certification of explosion protected products.

The work on the **IECEx-Scheme** are well advanced so that certification for apparatus based on IEC-standards are possible in the meantime and will be issued by an **IECEx-Certificate.**

The aim is to accomplish a global acceptance of the IECEx-certificate so that manufacturers do not need additional certificates for the global market.

In the course of international praxis of explosion protection certificates according to IECEx Scheme will become more important. Cooper Crouse-Hinds apparatus will extended step by step to this IECEx certifications.



Certification according to Ex-Nepsi are guided from IEC standards.







Chemical Stability of Plastics

Material	Polyamide	Polyester	Polycarbonate
Acetone	+	+	–
Ethyl alcohol (up to 30 %)	O	+	0.96 %
Ethyl glycol	O	+	+
Ammonia (at 23 °C)	+	+ 10 %	–
Benzene 60/140 °C	+	+	+
Benzol (at 23 °C)	+	+	–
Boric acid 3 %	+	+	+
Butane	+	+	+
Chlorine bleaching solution	O	+	
Chloric gas (damp)	O	+	–
Chloride of lime	O	+	+
Chromic acid 10 %	–	+	+
Cyclohexane	+	+	+
Diesel oil	+	+	+
Jet fuel	+	+	+
Acetic acid (up to 25 %)	O	+	+ 10 °C
Formaldehyde	+	+	+
Glycol	+	+	+
Glycerine	+	+	+
Uric acid (up to 20 %)	+	+	+
Fuel oil	+	+	+
Machinery oil	O	+	+
Sea water	+	+	+
Methyl alcohol	O	+	O
Lactic acid conc. 20 %	+	+	+
Mineral oil	+	+	
Sodium chloride	O	+	+
Soda lye (20 - 25 °C)	+	+ 5 %	–
Petroleum	+	+	–
Phosphoric acid conc.	–	+	+
Soap suds (at 23 °C)	+	+	+
Sulphuric acid 5 - 30 % and 70 %	O	+	+
Sulphuric dioxide, dry (at 23 °C)	+	+	O
Super fuel (at 60 °C)	+	+	–
Turpentine (at 23 °C)	+	+	–
Tartaric acid	O	+	+ up to 10 %
Citric acid up to 32 %	+	+	+

Explanation of symbols: + = stable O = limited stability – = non-stable

Chemical Stability of Plastics for Explosion-Protected Apparatus

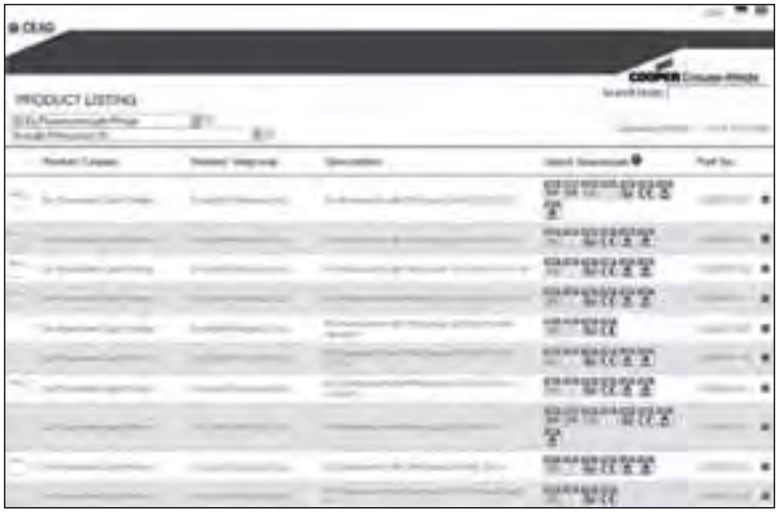
Nowadays explosion-protected electrical apparatus is often made in the economical type of protection “increased safety”. This calls for the use of high-grade, specially selected and tested plastics that meet the high requirements and provide a high mechanical, thermal and chemical stability.

The plastics listed in the table beside have been used in practice for years and have proved to be reliable. The table beside gives details issued by the manufacturers of the plastics relating to the chemical stability of the plastics listed compared to a series of media.

These details can, however, only be applied up to a degree for the evaluation of the usability of explosion-protected electrical apparatus in chemical and petrochemical installations, as the aggressive atmosphere often only occurs for a short time and in a relatively low concentration.









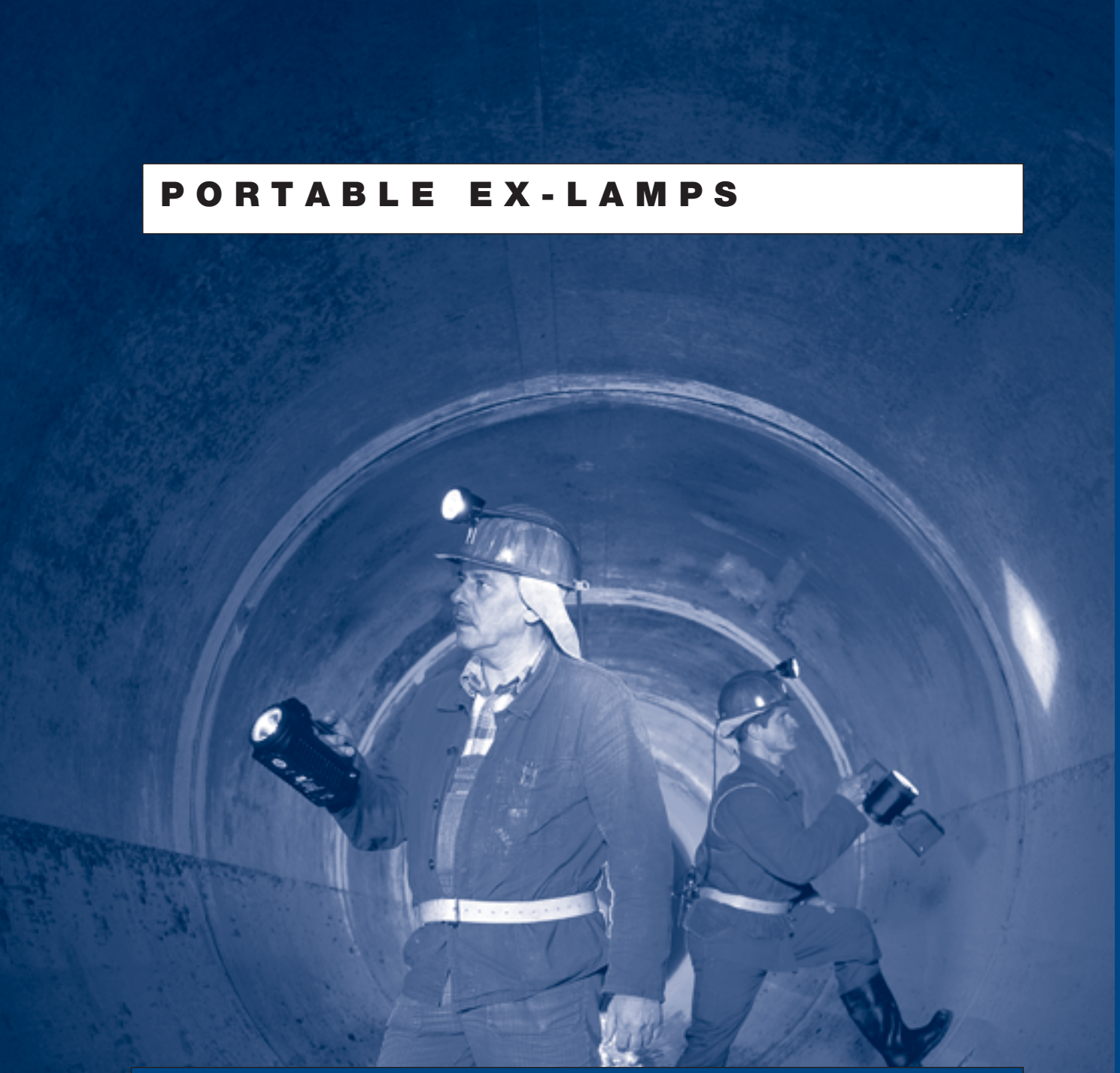
J www.ceag.de www.crouse-hinds.com Your Partner with Competence in Explosion Protection

It is our goal to make the theme of explosion-protection as clear and as understandable as possible. So that you can access “online” and be able to have access to **all** the important and interesting information that you might need, you can use both web-sites to update product data, latest information from standardisation and user-friendly themes out of the scope of explosion protection.

Do you need urgently an actual operation instruction or a certification of a product? No problem – you can use our service without any registration or log-in procedure.

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PORTABLE EX-LAMPS



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Field of Application

Explosion-protected portable lamps are predominantly used for industrial applications such as security patrols, inspections and repair work. The police and fire brigade use explosion-protected lamps to ensure safety at the scene of an accident, in case explosive substances are present. Besides reliability and safety, explosion-protected portable lamps must meet the standard requirements of handling, weight, lighting properties and operating time. Explosion-protected portable lamps must not be opened in explosive atmospheres. Similarly, batteries may only be charged outside the hazardous area.

Minimum Safety Standard: minimum requirement is Zone 1

Since there are no physical barriers between the hazardous areas which are subdivided into zones, special attention has to be paid to portable electrical apparatus. For this reason all portable lamps of our brand "CEAG" are approved for Zone 1 hazardous areas. Zone 2 is automatically included. The Cooper Crouse-Hinds GmbH also offers solutions for Zone 0 (which exists for example, in closed tanks), Zone 21 and Zone 22.

Hazard Warning Lamps according to the ADR-Directive

A special version of the SEB 8 Ex-Searchlight has been developed for use in the field of transportation of hardardous goods. This version conforms to 94/55/EG and can therefore be used throughout Europe as a Hazard Warning Lamp.

Material choice

The lights described in this catalogue are mainly made of high-quality impact resistant plastic (eg. polyamide or polycarbonate). By adding conductive substances, a surface resistance for the housing is achieved which prevents an electrostatic charge. All plastics used can be recycled.
Housings of explosion-protected electrical apparatus must conform to IP54 protection as a minimum. Especially for usage in rough environments the brand "CEAG" offers hand lamps that conform to the high standard up to IP67.
Scratch resistant mineral glass is used for the light aperture.
This ensures that, inspite of rough use, the light aperture remains clear for the duration of its use.

Ergonomics: Single-Handed Operation

All portable lamps are designed for "singlehanded operation". This means they can be switched on and off with one hand (even when wearing safety gloves), while the other hand is free for other tasks.



Focussing Stabex HF



Focussing HE 8

Lighting technology

Depending on their use, explosion-protected portable lamps are required to have different luminous intensity distributions, such as a broad beam (working light) or a spotlight. This is achieved by the use of powerful lamps and different systems of focussing the light. In the new types of CEAG lights the need to be able to focus the light has been realized by the use of an adjustable reflector. This kind of reflector enables focussing a broad beam into a spotlight. Different slip-on filters enable a change of light colour. A novel dispersive filter composed of many small prisms enables the beam of light to be broadened without a major loss of working light.

Halogen lamps with a double bulb: bright and cool

Halogen lamps have a very bright, white light, but due to their high surface temperature their light output must be limited. By means of a special method, whereby the halogen lamp is provided with a “double bulb”, Cooper Crouse-Hinds GmbH has considerably increased the useful light output. Thus, explosion-protected lights can make optimum use of the advantages of the halogen lamp (high light output, pleasant light colour and long service life).

LEDs: robust and long-lasting

With substantial progress of LED technique in the last years today exists new product-specific designed light sources for handlamps. Cooper Crouse Hinds as a pioneer for innovative light systems starts with the introduction of the new Stabex mini II this LED technique combined with optimized reflector technique. The robust lamp enclosure combined with the long-lasting and vibration-insensitive LED source will increase additional safety for the operator.

Guidance of light

In order to achieve optimum lighting properties, all components are analyzed, calculated and measured. The development and manufacture of the series are based on the results of our in-house light laboratory. The range diagrams essential for a portable lamp, have been derived from the polar curves established by the light laboratory. These diagrams tell the user at what distance a round surface is irradiated with an illumination of min. 1 lux.

Battery Technology

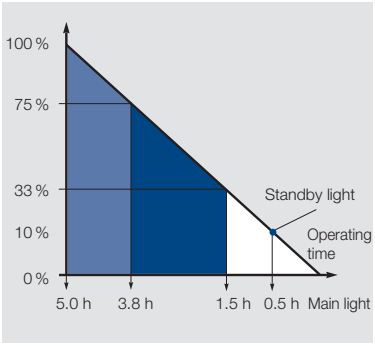
The CEAG explosion-protected lamps can be fitted with rechargeable (secondary cells) or non-rechargeable batteries (primary cells). Which battery is best from an economical point of view depends on the respective application. If lamps are used on an irregular basis, high-quality primary cells (alkaline manganese batteries) to IEC 60086 should be used. If the lamps are used frequently, it is preferable to use gas-tight, rechargeable nickel cadmium batteries (NiCd). In addition to the fact that they are extremely economical, the outstanding characteristics of these batteries are the constant voltage, the high energy density and the suitability for use in hazardous areas. Discharged NiCd batteries can easily be stored for several years. NiCd batteries have to be recylcled and are almost 100 % reusable.

Furthermore new battery concepts are implemented to increase the light duration of the lamp. The hand-lamp series SEB 9 for example is equipped with new nickel-metal hydride (NiMH) batteries. The operating time of the main lamp will be increased to 7 h. (5.5 with NiCd)

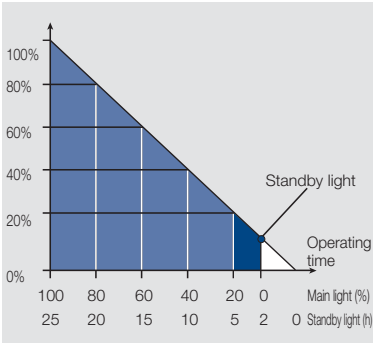
Hand lamps type „CEAG“ may be used only with certified battery packs.



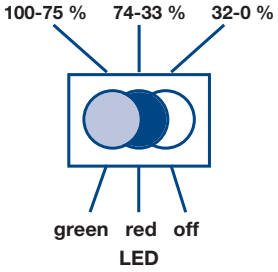
Rechargeable battery for SEB 8

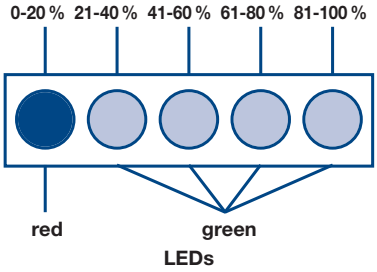


Function „indication of residual operating time“ HE 8 N



Function „indication of residual operating time“ SEB 8/SEB 9





Charge state indication

Unlike with lead batteries, the charge state of NC batteries cannot be determined by means of the residual charge voltage, but must be calculated using an involved micro-processor technology. Cooper Crouse-Hinds GmbH offers various systems for this in their portable lamps.

HE 8

With lamps of the series HE 8 N/EURO PLUS the remaining duration and the charge state is indicated in three stages via a twocoloured LED display. This means that the operator is always informed about the state of the battery and can, therefore, reach a safe place before the batteries are completely run down. If the main filament breaks or when the operating life expires, the HE 8 N EN automatically switches over to the less powerful standby filament. Thus, a sudden loss of light is avoided. If the standby filament continues to be discharged, a protective circuit arrangement switches off the lamp after approx. 0.5 hours.

SEB 8... / SEB 9...

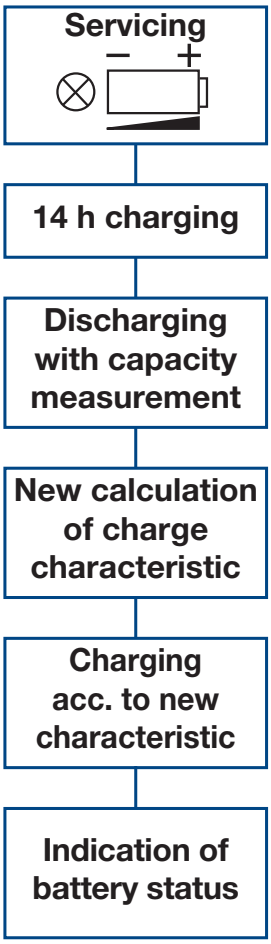
The lighting electronics in the explosion-protected searchlight SEB 8 features 5 LEDs that indicate the residual capacity in 20 % stages. If the residual capacity falls below the 20 % limit, a red LED warns the operator. Before the overdischarge protection stage is reached, the powerful main light switches over to the weaker standby light to give the operator an optical signal and to conserve energy. If, to ward off any hazards, it is necessary to continue to operate the standby lamp, the standby lamp can be switched over to manual operation, whereby the monitoring electronics is bridged.

Safety functions

Each time the light is switched on, the lighting electronics check the function of the standby lamp. If the main lamp fails, the light is switched over automatically to the standby lamp. The fault is signalized by the flashing red LED.

Service circuit

Lights of the series SEB 8 feature a unique service circuit that calculates the remaining capacity according to the ageing of the battery and adapts the charge data accordingly. This ensures a gentle, service-life prolonging battery charge at all times. In addition, the operator is also given information on the state of the battery with regard to ageing and can, therefore, replace the batteries at an appropriate point in time. This means that hazards resulting from changing the batteries too early or too late are avoided. The service test is fully automatic.





The right light for every type of operation

Each type of operation calls for a specially selected light. The requirements for lights for inspection work, where a searchlight is rarely needed or is only needed for a short time, are different to those for lights for repair work, where a powerful, robust light with a long operating life is needed all the time. The CEAG-brand range provides a suitable light for almost every application possible. Due to their size and the use of primary cells, the mini, mini II, mini LED and the HF Stabex torches and the HE5 pocket torches are suited for inspections on a regular basis and as a constant companion for security personnel. The Stabex HF-L version with rechargeable NC cells is suitable for frequent operations. Here, the extra costs for the rechargeable cells and the charger unit often pay for themselves within a relatively short time considering the maintenance costs for replacing empty batteries.

The powerful HE 8 hand lamps are either fitted with rechargeable cells or with primary batteries and can be used as work lights or searchlights.

The robust SEB 8/SEB 9 light series is used by the mobile task forces of fire brigades and rescue services, as well as for maintenance and repair work in all hazardous areas. It meets the requirements of the fire brigade standard DIN 14642. A luminous intensity of 15,000 cd allows light to be projected up to 150 m. A consistent working light can be achieved with a diffusing lens, that is supplied with the lamp. Due to the battery capacity, long operation times of up to approx. 5.5 h resp. 7 h, do not pose a problem. The special SEB 8-ADR can be used for hazard warning in the transportation of hazardous goods.

Overview: Features of the explosion-protected hand lamps

Type of light fitting	Primary cells	Secondary cells	Built-in mains charger	External mains charger	12/24 V charger	Special features
Stabex mini	2 x R6/LR6	–	–	–	–	Single-handed operation
Stabex mini II	2 x R6/LR6	–	–	–	–	Can be focused
Stabex mini LED	3 x R6/LR6	–	–	–	–	Can be focused, Power LED
Stabex HF	2 x R20/LR20	–	–	–	–	Can be focused
Stabex HF-L	–	2 x 4 Ah	–	LG 493	–	Can be focused
Stabex MO	2 x R20/LR20	–	–	–	–	Use in Zone 0
HE 5 EN	1 x 3R12	–	–	–	–	Extremely flat design
HE 8 N EN	–	3 x 4 Ah	–	LG 483	–	Indication for residual operating time, red signal light
HE 8 EURO	3 x R20/LR20	–	–	–	–	Can be focused
HE 8 EURO PLUS	–	3 x 4 Ah	–	Plug-in charger	–	Indication of residual operatting, can be focused
SEB 8	–	4 x 7 Ah	–	LG 443	Vehicle charger 90	Capacity indication, can be
SEB 8 ADR	–	4 x 5 Ah	–	LG 443	Vehicle charger 90	focused, standby light,
SEB 8 DIN	–	4 x 5 Ah	–	LG 443	Vehicle charger 90	servicing circuit
SEB 8 L	–	4 x 7 Ah	yes	LG 443	Vehicle charger 90	Capacity indication, can be focused, standby light, servicing circuit, mains charger cable with plug
SEB 9	–	4 x 9.5 Ah	–	LG 443	Vehicle charger 90	see SEB 8/SEB 8 L
SEB 9 L	–	4 x 9.5 Ah	yes	LG 443	Vehicle charger 90	
HLE 7 LEN	–	3 x 7 Ah	yes	–	–	Flexible cable from battery to headpiece

E X - T O R C H L I G H T

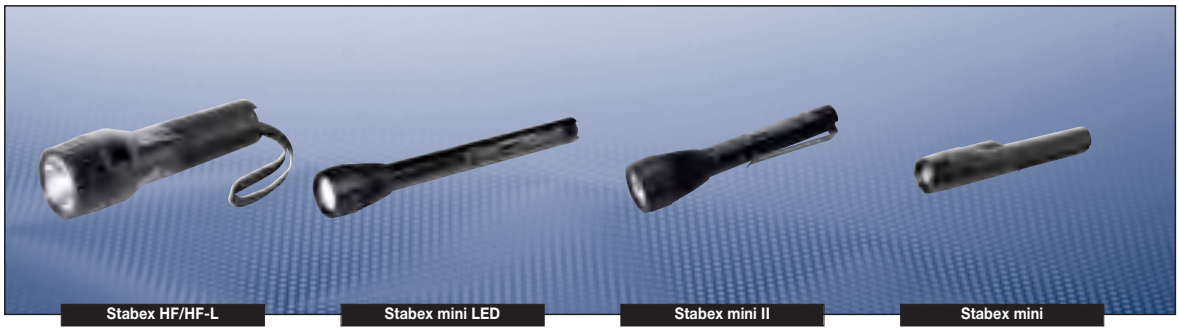
Stabex mini / Stabex mini II / Stabex mini LED / Stabex HF / Stabex MO

The Stabex mini, Stabex mini II, Stabex LED, Stabex HF and the Stabex HF-L range of explosion-protected torchlights meets the requirements of the ATEX-Directive 94/9/EG. The torchlights have been conceived for use in Zone 1 and Zone 2.
The Stabex mini II and mini LED are also suitabel for the Zones 21 and 22. Complementary the Stabex HF and HF-L are also for use in the Zone 20. Due to the temperature classification T5/ T4 these torchlights can be used in nearly any hazardous area. Because of their compact design, the torches are used for security patrols and inspection duties. The Stabex mini II with micro-xenon filled lamp and the Stabex LED with high-power LED will reach highest light intensity with smallest battery power.

The Stabex HF and HF-L models equipped with a halogen lamp can be uniformly focused for short and long ranges.
The ergonomically designed light switch is easily operated by means of a sliding switch – even with safety gloves. The Stabex mini and mini IIis fitted with 2 dry cells size AA, the Stabex mini LED with 3 dry cells size AA and the Stabex HF with 2 dry cells size D.
The Stabex HF-L model is equipped with an Ex e certified handle containing 2 NiCd accumulators, that can be recharged in the LG 493 charger. By replacing the complete handle with NiCd batteries, any new Stabex HF can be converted into a rechargeable version. Due to the special design of the battery housing, a special locking device is not required. Thus, the batteries can easily be replaced outside of the hazardous area, no special tool being required.



- **Single-handed operation even with work gloves**
- **Degree of protection IP65**
- **Light cone can be focused – Stabex mini II/LED/ HF/HF-L**
- **Halogen bulb – HF Stabex HF/HF-L**
- **Scratch resistant mineral glass**
- **International Approvals**



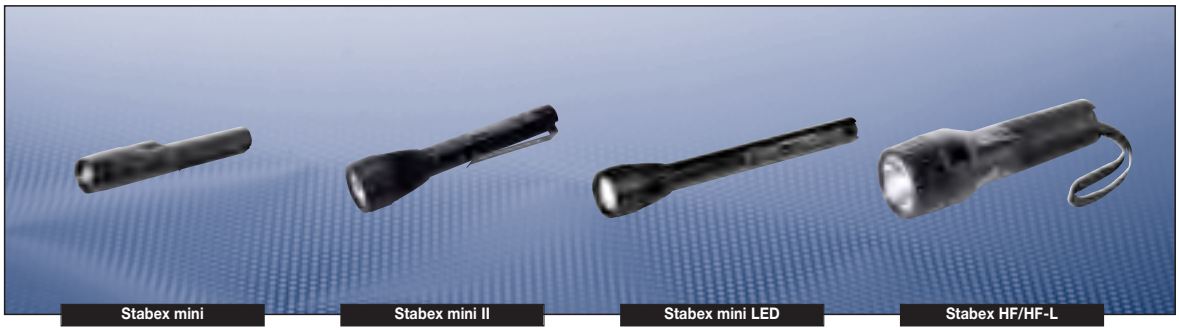
Technical data

	Stabex mini II	Stabex mini LED
Marking to 94/9/EC	Ⓔx II 2 G Ex e ib IIC T4 Ⓔx II 2 D Ex tD A21 IP66 T56 °C	Ⓔx II 2 G Ex e ib IIC T4 Ⓔx II 2 D Ex tD A21 IP66 T85 °C
EC-Type Examination Certificate	PTB 04 ATEX 2119	BVS 08 ATEX E 158
IECEx Certificate of Conformity	IECEx BKI 08.0002	–
Marking accd. to IECEx	Ex eib IIC T4 Ex tD A21 IP66 T56 °C	– –
Permissible ambient temperature	-20 °C to +40 °C specified data: 0 °C to +30 °C (battery)	-20 °C to +40 °C / +50 °C[1)] specified data: 0 °C to +30 °C (battery)
Lamp/illuminant	2.3 V/0.36 A (XENON)	1 W Power LED
Max. luminous intensity	> 4000 cd	
Luminous flux	approx. 10 lm	approx. 20 lm
Battery	2 dry cell AA-size IEC 60086 R 6/LR 6	3 dry cell AA-size IEC 60086 R 6/LR 6
Rated operating duration	approx. 8 h	approx. 8 h
Rotary switch	ON - OFF (focusable)	ON - OFF (focusable)
Degree of protection accd. EN 60529	IP66	IP66
Dimension (L x W x H)	154 x Ø 34 mm	208 x Ø 34 mm
Weight	approx. 0.09 kg (without battery)	approx. 0.12 kg (without battery)
Enclosure material	Aluminium	Aluminium
Enclosure colour	black	black
Protective cover/protective bowl	Ø 24 mm, mineral glass	Ø 24 mm, mineral glass

	Stabex mini	Stabex HF	Stabex HF-L
Marking to 94/9/EC	Ⓔx II 2 G Ex e ib IIC T4 Gb (applies for)	Ⓔx II 2 G Ex e ib IIC T4 Ⓔx II 1 D Ex tD A20 IP65 T90 °C	Ⓔx II 2 G Ex e ib IIC T4 Ⓔx II 2 D Ex tD A21 IP65 T57 °C
EC-Type Examination Certificate	PTB 98 ATEX 2061	PTB 98 ATEX 2062	PTB 98 ATEX 2062
IECEx Certificate of Conformity	–	IECEx BKI 08.0002	IECEx BKI 08.0002
Marking accd. to IECEx	– –	Ex e ib IIC T4 Ex tD A21 IP65 T57 °C	Ex e ib IIC T4 Ex tD A21 IP65 T57 °C
Permissible ambient temperature	-20 °C to +40 °C specified data: 0 °C to +30 °C	-20 °C to +40 °C specified data: 0 °C to +30 °C (battery)	-20 °C to +40 °C specified data: 0 °C to +30 °C (battery)
Incandescent lamp	2.2 V/0.4 A	2.8 V/0.5 A (Halogen)	2.8 V/0.5 A (Halogen)
Lamp cap	E10	PX 13.5s	PX 13.5s
Luminous flux	7 lm	17 lm	17 lm
Battery	2 dry cells IEC 60086 R 6/LR 6	2 dry cells IEC 60086 R 20/LR 20	2 rechargeable NiCd battery 1,2 V/4 Ah
Rated operating duration	approx. 8 h	approx. 12 h	7 h
Switch	ON - OFF	ON - OFF	ON - OFF
Degree of protection accd. EN 60529	IP65	IP65	IP65
Dimension (L x W x H)	166 x Ø 32 mm	220 x Ø 60 mm	220 x Ø 60 mm
Weight	approx. 0.07 kg (without battery)	approx. 0.25 kg (without battery)	0.55 kg (incl. accu)
Enclosure material	Polycarbonate	Polyamide	Polyamide
Enclosure colour	black	black	black
Protective cover/protective bowl	Ø 23 mm, mineral glass	Ø 48 mm, mineral glass	Ø 48 mm, mineral glass

Charger LG 493	
Rated voltage	220 - 250 V AC
Dimensions (L x W x H)	163.5 x 151.5 x 129 mm
Weight	approx. 1.3 kg
Charging duration	max. 14 h (dep. on the state of charge)

[1)] Depends on battery, see operation manual



Ordering details | Accessories

Type	Scope of delivery	OU	Order No.
Stabex mini **(Phase out type)**	with incandescent lamp, without battery (set order qty's 10 units)	10	**1 1358 000 001**

Accessories for Ex-torchlight Stabex mini		
Type	**OU**	**Order No.**
1 incandescent lamps 2.2 V/0.4 A	10	**1 1358 000 070**

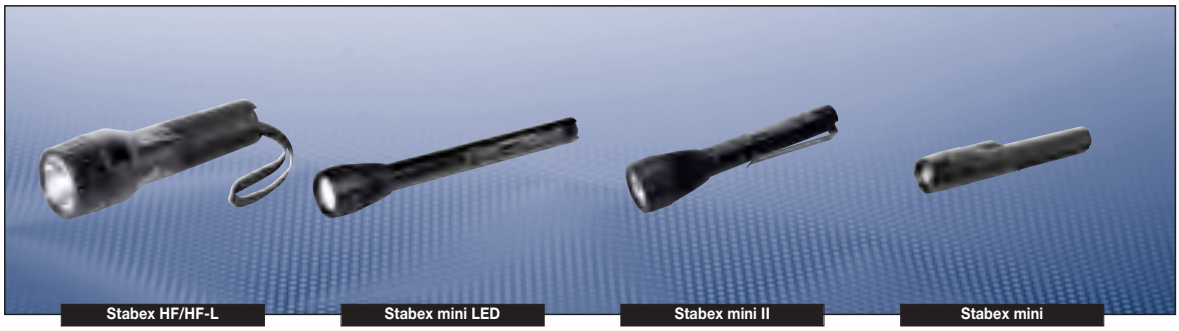
Type	Scope of delivery	OU	Order No.
Stabex mini II	with xenon lamp, without battery (set order qty's 10 units)	10	**1 1360 000 001**
Stabex mini LED	mit LED, without battery (set order qty's 10 units)	10	**1 1360 000 006**

Accessories for Ex-torchlight Stabex mini II / LED		
Type	**OU**	**Order No.**
Xenon lamp 2.3 V/0.36 A for Stabex mini II	10	**1 1360 002 001**
Bumbag Stabex mini II	1	**3 1360 001 900**
Bumbag Stabex mini LED	1	**3 1360 006 900**

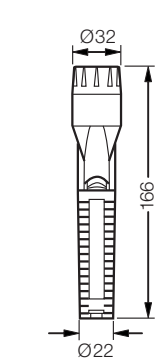
Type	Scope of delivery	OU	Order No.
Stabex HF	with halogen lamp, without battery	1	**1 1359 000 001**
Stabex HF-L (rechargeable)	Lamp with halogen lamp and battery	1	**1 1359 000 010**
Charger LG 493	for Stabex HF-L	1	**1 1540 000 493**

Accessories for Ex-torchlight Stabex HF/HF-L		
Type	**OU**	**Order No.**
1 halogen lamp 2.8 V/0.5 A	10	**1 1359 000 070**
Handle with 2 NC battery	1	**2 1359 200 000**

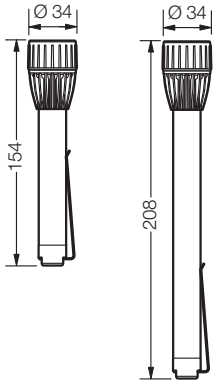
Please note that only Order Unit (OU) can be orderd.



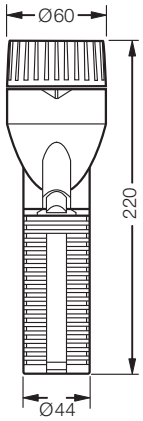
Dimension drawing | Range-diagram



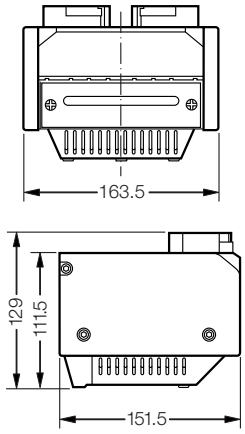
Stabex mini



Stabex mini II / LED

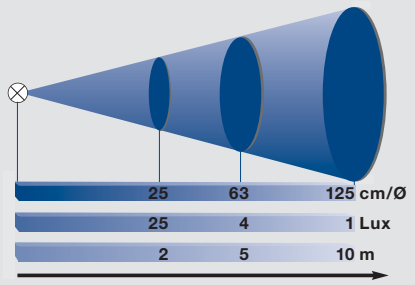


Stabex HF/HF-L

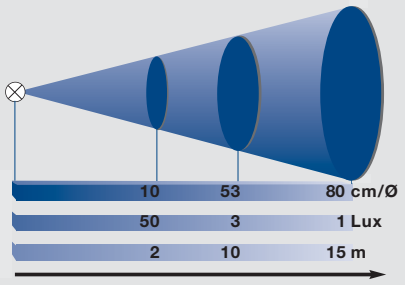


Charger LG 493

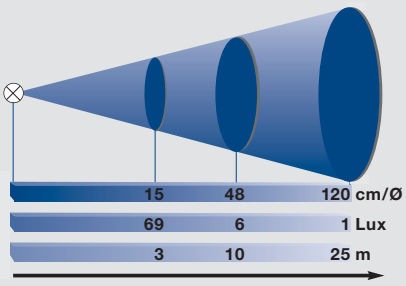
Range-diagram Stabex mini



Range-diagram Stabex mini II



Range-diagram Stabex HF/HF-L



Dimensions in mm

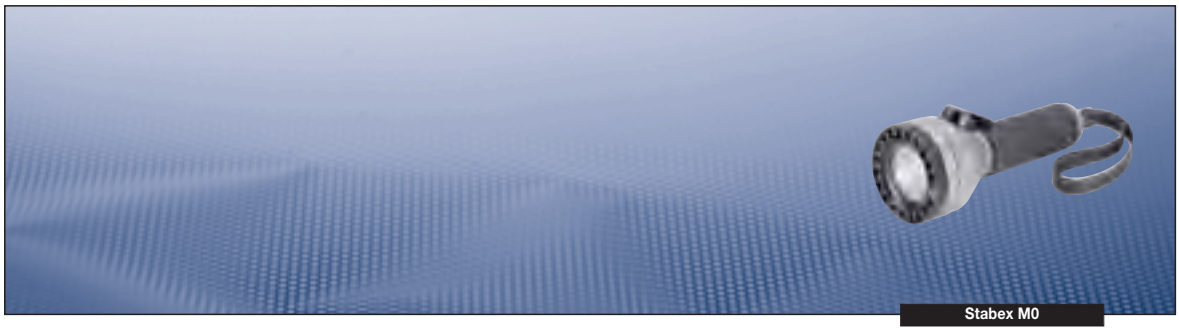
EX-TORCHLIGHT

Stabex M0

The Stabex M0 was specially developed as an inspection lamp for gas or empty mineral oil tanks where the permanent hazard of an explosive gas atmosphere exists.
The Stabex M0 explosion-protected torch has specifically been approved for use in Zone 0 hazardous areas up to the temperature class T6, and also fulfills the ATEX-Directive 94/9/EG.
The Zone 0 safety requirements are met, since a permanent overlapping of 2 to 3 explosion categories is provided for. The torchlight may be operated in the Zone 0 without additional safety measures up to a height of 5 metres above ground level. After use, the lamp must not be left in the Zone 0 hazardous areas.
The rotary switch is designed for singlehanded operation. Even when safety gloves are worn, it can be operated without difficulty. The housing of the extremely robust torch is made of stainless steel and bronze which prevents the generation of ignitable sparks due to impact. The multipart front pane is made of mineral safety glass. The torch is equipped with 2 dry cells size D according 8 IEC 86 LR20 which are impact-protected by a metal sheath.



- **Zone 0**
- **Extremely robust housing made of stainless steel and bronze**
- **Ergonomic switch design makes it suitable for operation with safety gloves**
- **International Approvals**



Technical data

Stabex M0	
Marking to 94/9/EC	Ex II 1 G EEx ib ed IIC T6/T4
EC-Type Examination Certificate	PTB 99 ATEX 2197 X
Permissible ambient temperature	-20 °C to +40 °C
	specified data: 0 °C to +30 °C (battery)
Incandescent lamp	2.5 V/0.3 A
Light aperture	Ø 44 mm, mineral glass
Battery	2 dry cells IEC 60086 R 20/LR 20 (T6/T4)
Operating time	approx. 12 h (alcaline battery)
Luminous flux	approx. 12 lm
Degree of protection accd. EN 60529	IP65
Weight	approx. 2.2 kg (without battery)
Enclosure material	Stainless steel/bronze
Max. permitted height of fall	5 m

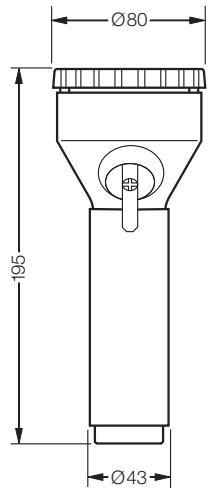
Phase out type

Ordering details | Accessories

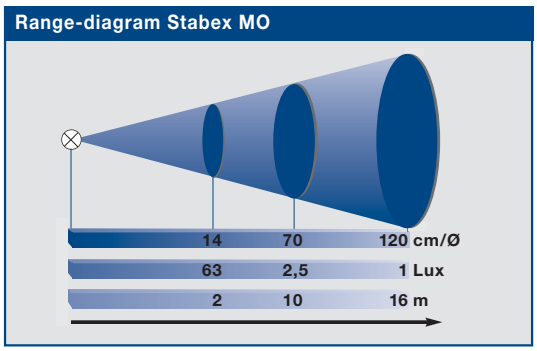
Type	Scope of delivery	Order No.
Stabex M0	with incandescent lamp and battery	**1 1350 000 001**

Accessories for Ex-torchlight Stabex mini		
Type	**OU**	**Order No.**
1 incandescent lamp 2.5 V/0.3 A	5	**1 2041 820 000**
Protective sheath for battery	1	**3 1350 001 024**

Dimension drawing | Range-diagram



Stabex MO



Dimensions in mm

E X - H A N D L A M P

HE 5 EN / HE 8

The powerful handlamps meets the requirements of ATEX-Directive 94/9/EG and has been approved for use in Zones 1 and 2 hazardous areas These lamps are particularly suitable for inspection and repair work, security patrols, and in railway workshops and shunting yards and inspection duties. The lamps have been designed for single-handed operation.
Due to its flat, handy shape the lamp HE 5 with temperature class T6 can be put in any pocket. There is also a strap for fastening the lamp to clothing or to a belt. By the use of both a parabolic reflector and a fresnel lens, a light distribution is obtained which equally serves short and long distances. The battery is a (flat) 4.5 V dry battery to IEC 60086 3 R 12.
The handlamps HE 8 EN fulfils additional requirements. By means of the light switch it can be switched over to a red signal light, which is produced by 4 powerful light emitting diodes visible at a long range. The working light can be uniformly focused for a short and long range.
In conjunction with the LG 483 charger, the light is automatically switched on in the event of a mains failure (non-maintained system mode). While the working light is switched on, an electronic indication of the residual operating time is provided. During the charging process the charging state is also indicated. In case of a broken filament or at the end of the duty cycle, the hand lamp automatically switches over to the stand by light. The built-in safety circuit prevents the deep discharge of the battery. The battery insert is fitted with a rechargeable NiCd battery (3.6 V/4 Ah). The lamp is charged in the LG 483 charger. When the battery is charged, only the amount of energy that has been used will be replaced.
The HE 8 EURO is fitted with 3 dry batteries while the HE 8 EURO PLUS is fitted with a rechargeable, gas-tight NiCd battery. By using the rechargeable battery insert, the HE 8 EURO can be converted into a type HE 8 EURO PLUS.

- **Up to temperature class T6**
- **Handy shape**
- **Scratch resistant mineral glass**
- **Gentle charge dependent on the drawn capacity (HE 8 N EN)**
- **Reversible to red signal light by light switch (HE 8 N EN)**
- **Indication of residual operating time and charging state (except HE 8 EURO)**
- **Degree of protection up to IP65**
- **International Approvals**



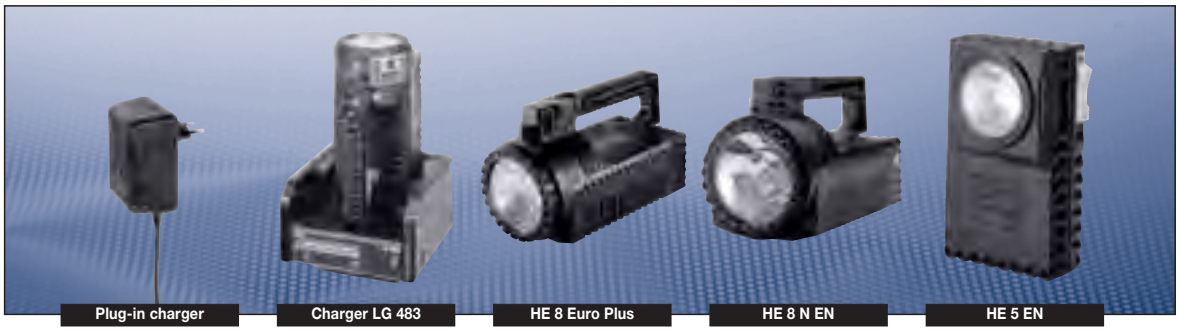


Technical data

HE 5 EN	
Marking to 94/9/EC	Ⓔx II 2 G EEx e ib T6/T4 / Ⓔx II 2 G Ex e ib T4/T6 Gb (applies for)
EC-Type Examination Certificate	PTB 99 ATEX 2196
Permissible ambient temperature	-20 °C to +40 °C / specified data: 0 °C to +30 °C (battery)
Incandescent lamp	3.7 V/0.3 A
Battery	Flat battery 4.5 V IEC 60086 3 R 12 (T6) resp. IEC 60086 3 LR12 (T4)
Operating time	approx. 6 h
Switch	Slide switch „ON - OFF“
Degree of protection accd. EN 60529	IP54
Enclosure material	Polyamid / black
Weight	approx. 0.14 kg (without battery)
Light aperture	Ø 40 mm, mineral glass

	HE 8 N EN	HE 8 EURO/HE 8 EURO PLUS
Marking to 94/9/EC	Ⓔx II 2 G EEx e ib IIC T4	Ⓔx II 2 G EEx e ib IIC T4
(new standard)	Ⓔx II 2 G Ex e ib IIC T4 Gb (applies for)	Ⓔx II 2 G Ex e ib IIC T4 Gb (applies for)
EC-Type Examination Certificate	PTB 98 ATEX 2063	PTB 98 ATEX 2063
Permissible ambient temperature	-20 °C to +40 °C specified data: 0 °C to +30 °C (battery)	-20 °C to +40 °C specified data: 0 °C to +30 °C (battery)
Incandescent lamp	3.75 V / 0.8 / 0.4 A	4 V / 0.82 A
Battery	rechargeable NC battery (3.6 V/4 Ah)	EURO: battery insert for 3 x 1.5 V/IEC 60086, R 20/LR 20 EURO PLUS: batter insert with rechargeable NC battery 3.6 V/4 Ah
Operating time	approx. 5 h	approx. 10 h (HE 8 EURO) approx. 4 h (HE 8 EURO PLUS)
Rotary switch	3 positions „Main beam - OFF - signal light (red)“	3 positions „Main beam - OFF - main beam“
Degree of protection accd. EN 60529	IP65	IP65
Enclosure material	Polyamide/black	Polyamide/black
Function	– Indication of residual operating time – Emergency light in event of mains failure – Charge depending on the drawn capacity – Red signal light, switchable – Switching for standby light or in case of brocken filament	– Easily replaceable battery insert – Halogen lamp with double bulb – Indication of residual operating time (HE 8 EURO PLUS) – Protection against overcharge (HE 8 EURO PLUS)
Weight	approx. 1.0 kg (with battery)	approx. 0.64 kg (HE 8 EURO, without battery) approx. 1.0 kg (HE 8 EURO PLUS, with battery insert, rechargeable)
Light aperture	Ø 71 mm, mineral glass	Ø 71 mm, mineral glass

	Charger LG 483	Plug-in charger HE 8 EURO PLUS
Rated voltage	220 - 250 V AC 50/60 Hz	220 V ± 10 %, 50/60 Hz
Input power	12 VA	6.5 VA
Insulation class	II	II
Charging duration	max. 8 h (dep. on the state of charge)	16 h (for approx. 4 h operating time > 24 h (for approx. 5 h operating time)
Degree of protection accd. EN 60529	IP 31	IP 20
Weight	approx. 1.3 kg	approx. 0.42 kg



Ordering details

Type	Scope of delivery	Order No.
HE 5 EN	with incandescent lamp, without battery	**1 1125 000 111**

Accessories for Ex-pocket torch HE 5 EN

Type	OU	Order No.
1 incandescent lamps 3.7 V/0.3 A	10	**1 2041 810 000**

Type	Scope of delivery	Order No.
HE 8 N EN	with incandescent lamp and battery	**1 1118 000 050**
Charger LG 483		**1 1540 000 483**

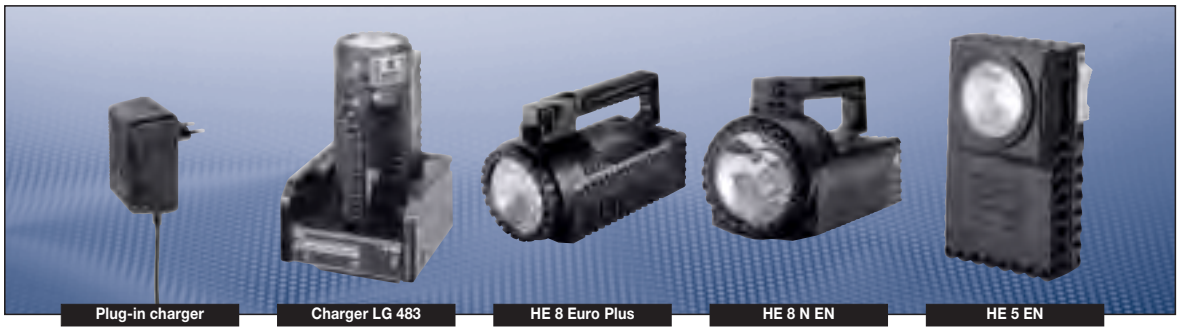
Accessories for Ex-hand lamp HE 8 N EN

Type	OU	Order No.
Battery pack with NC-battery 3.6 V/4 Ah	1	**2 1118 020 000**
1 incandescent lamps 3.75 V/0.8/0.4 A	5	**1 2035 300 000**

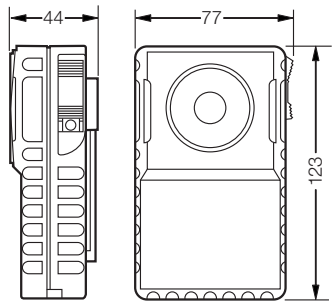
Type	Scope of delivery	Order No.
HE 8 EURO	with lamp, without battery	**1 1118 000 001**
HE 8 EURO PLUS	with lamp and battery pack, rechargeable	**1 1118 000 010**
Plug-in charger		**1 1518 000 111**

Accessories for Ex-hand lamp HE 8 EURO/EURO PLUS

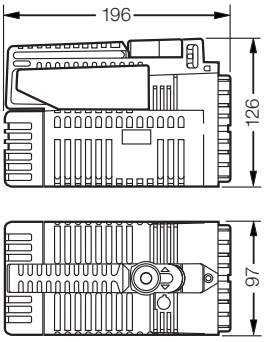
Type	OU	Order No.
Battery pack with NC-battery 3.6 V/4 Ah, rechargeable	1	**2 1118 024 000**
Halogen lamp with double bulb 4 V/0.82 A	1	**2 2061 080 000**



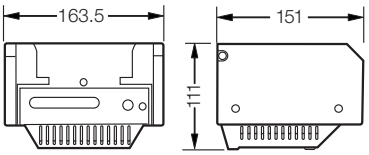
Dimension drawing | Range-diagram | Indication of residual operating time



HE 5 EN

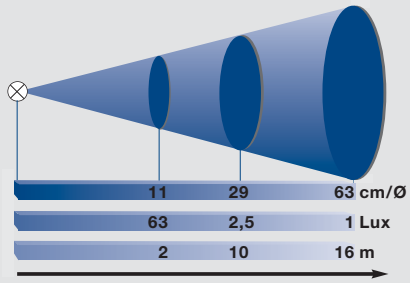


HE 8 N EN/HE 8 EURO/HE 8 EURO PLUS

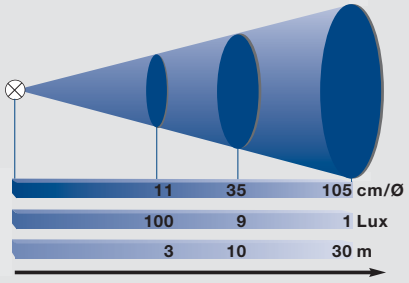


Charger LG 483

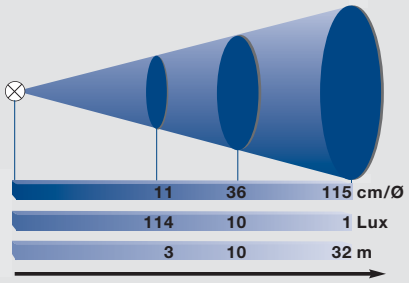
Range-diagram HE 5 EN



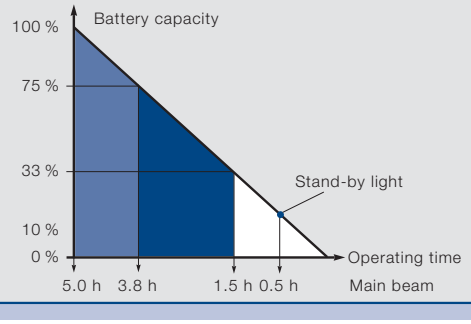
Range-diagram HE 8 N EN



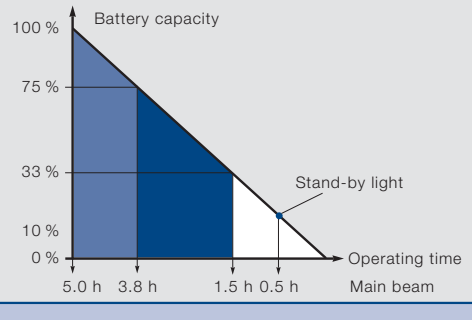
Range-diagram HE 8 EURO/EURO PLUS



Indication of residual operating time HE 8 N EN



Indication of residual operating time HE 8 EURO PLUS



Dimensions in mm

E X - S E A R C H L I G H T

SEB 8 / SEB 8 L / SEB 8 ADR / SEB 8 DIN / SEB 8 L DIN / SEB 9 / SEB 9 L

The powerfull explosion-protected portable searchlights SEB 8/SEB 9 are in accordance to the ATEX-Directive 94/9/EG and have therefore been certified for usage in the Zones 1, 2, 21 and 22 up to temperature class T4. Their use is permitted in nearly any area where the hazard of an explosive atmosphere exists. They have been developed for inspection, maintenance and repair operations in hazardous explosive atmospheres. Due to their robust construction and the high IP65 safety standard they can be used in nearly any work area subject to high mechanical stress and high humidity. Five light emitting diodes provide continuous information on the current operating and charging state, plus it will also “warn” you in due time when the battery capacity is low or it needs to be replaced. The electronics additionally protect against excessive discharging as well as overcharging – only the amount of energy that has been used will be replaced. This increases the service life of the battery. In the event of a broken filament, the lamp will automatically switch over from the main beam to the standby light, in order to prevent the user from being left suddenly in the dark.

The searchlights SEB 8 ... have a light intense halogen double bulb lamp and a gas-tight NiCd battery 4,8 V/7 Ah.

The new searchlight SEB 9 contains a NiMH 4.8 V 9.5 Ah battery and the well known halogen double-bulb lamp.

Max. luminous intensity 15,000 cd.

The SEB 8 DIN is equipped with a Xenon filled lamp and a 4.8 V 5 Ah NICd batterie. This type fulfils the additional standarts EN 60068-2-27 for use in fire brigade vehicles. Max. luminous intensity 12,000 cd.



- **Indication of available duration provides safety of operation**
- **Broken filament detection and automatic switchover to pilot light occurs**
- **No overcharging of the battery due to a recharge dependent on the used capacity**
- **Focusing beam**
- **Degree of protection IP65**
- **International Approvals**



SEB 8/SEB 8 L
as search and work light

SEB 8 / SEB 9
A search and working light

This explosion-protected portable searchlight has been developed in order to comply with the requirements for control and rescue operations of the police and the fire brigade. The electronics of the lamp are reliably protected against electromagnetic fields (EMC). They are in accordance with the ATEX-Directive 94/9/EG. Special for operations where a constant luminosity is required the prism filter will give you a quadratic working light with a uniform, widespread luminous intensity distribution and that with no major loss. Slip-on coloured filters extend the range of functions for the SEB 8 such as safeguarding and giving signals.

SEB 8 ADR as a warning light according to StVZO and ADR-Directives

For special operations such as a warning and inspection light for the transport of hazardous goods by road the Cooper Crouse-Hinds GmbH has developed the SEB 8 ADR. This version has been certified by the Federal Motor Vehicle Department as a warning and inspection light according to the Road Traffic Regulations and has been issued with an EC-Type Examination Certificate. According to the ATEX-Directive 94/55/EG, this lamp can be used across Europe as a hazard warning and inspection light for the transportation of hazardous good on the road. This is possible due to optimized orange filter and the special switching technology.

Charging possibilities SEB 8.. / SEB 9..

The SEB 8.../SEB 9... model can be charged from a motor vehicle battery using the vibrationproof motor vehicle holder (10-33 V) or from the mains supply of the LG 443 charger. The SEB 8 L/SEB 9 L model features an integrated mains connecting lead by means of which it can be recharged from the 230 V mains supply.



SEB 8 ADR as a warning light in the transportation of hazardous goods on the road

SEB 8 DIN

The compliance with relevant standards and the various options makes this explosion-protected search light to an exceeding handlamp for controlling- and rescue applications of fire brigades and other public forces. Hence, it is listed with almost all pubilc and local fire brigades in Germany and for many years exceedingly successfully in use of application.

The robust and proven technology ensures with a high **protective grade IP65** a save function, even on high mechanical stress and wet locations. The ergonomic single-handed operation, the belt hook and the limited weight according the new standard guarantees the user-friendly application.

A NiCd accumulator 4.8 V/5 Ah and an **operation period of 5.5 hours** the SEB 8 DIN provides a safety reserve on site and exceed at all the standard requirements.

All required lighting tasks are fulfilled by the use of the excellent light technology of the xenon main-light lamp 4.8 V/4 W. In addition focusing the light from searchlight to scattered light and a max. luminous intensity of more than **12,000 cd** will meet all requirements of lighting.

Approvals and test certificates

These search lamp fulfil as the only one of its kind the following construction-and test standards and passed following Approvals and test certificates:

- DIN14642 (German Institute for Standardization) for explosions protected hand lamps with motor vehicle charger edition 9/2003, for installation within vehicles of the fire brigade.
- EC Type Examination Certificate for explosion protection for gas-ex and dust-ex-areas (ATEX Certificate)
- ECC type approval of the Federal Office for Motor Vehicles for the EMC guideline 95/54/EC using within motor vehicles (e1 certificate)
- Shock test report according to DIN EN 60068-2-27 for the use of the lights in fire brigade vehicles (DIN 1846-2:2001)
- General design approval of the Federal Office for Motor Vehicles for the use of the SEB 8 as a warning light (type SEB 8 ADR).





Technical data

	SEB 8...	SEB 9...
Marking to 94/9/EC	Ex II 2 G Ex e ib IIC T4 Ex II 2 D Ex tD A21 IP66 T85 °C	Ex II 2 G Ex e ib IIC T4 Ex II 2 D Ex tD A21 IP66 T85 °C
EC-Type Examination Certificate	BVS 08 ATEX E 116	BVS 09 ATEX E 005
Permissible ambient temperature	-20 °C to +40 °C, specified data: 0 °C to +30 °C (battery)	-20 °C to +40 °C, specified data: 0 °C to +30 °C (battery)

	SEB 8 | SEB 8 L SEB 9 | SEB 9 L	SEB 8 ADR	SEB 8 DIN SEB 8L DIN
EC-Type approval acc. guideline 95/54/EC	e1	e1	e1
EMV in vehicles	23025	23025	23025
Approved design of Federal Office for motor vehicles	–	K 265	–
Incandescent lamp	5.5 V/5.5 W (halogen lamp with double lamp)	5.5 V/5.5 W (halogen lamp with double lamp)	4.8 V/4 W (Xenonlight)
Lamp cap	BA 15d	BA 15d	BA 15d
Pilot lamp	4.8 V/0.3 A	4.8 V/0.3 A	4.8 V/0.3 A
Lamp cap 2	BA 9s	BA 9s	BA 9s
Max. luminous intensity	15000 cd	15000 cd	12000 cd
Luminous flux	approx. 100 lm	approx. 100 lm	approx. 65 lm
Battery	SEB 8: NC-Battery rechargeable 4.8 V/7 Ah SEB 9: NiMH-Battery rechargeable 4.8 V/9.5 Ah	NC-Battery, rechargeable 4.8 V/7 Ah	NC-Battery, rechargeable 4.8 V/5 Ah
Rated operating duration (main light)	SEB 8: approx. 5.5 h SEB 9: approx. 7 h	approx. 5.5 h	approx. 5.5 h
Charging duration	SEB 8: max. 14 h (capacity-dependent) SEB 9: max. 20 h (capacity-dependent)		
Rotary switch	Service – pilot light – Off – main light – signal		
Degree of protection accd. EN 60529	IP65	IP65	IP65
Dimensions (L x W x H)	325 x 119 x 146.5 mm	325 x 119 x 146.5 mm	343 x 119 x 146.5 mm
Weight	SEB 8: 2.2 kg/SEB 8L: 2.5 kg SEB 9: 1.9 kg/SEB 9L: 2.2 kg	2.2 kg	SEB 8 DIN: 1.6 kg SEB 8 L DIN: 2.2 kg
Enclosure material	Polyamide	Polyamide	Polyamide
Enclosure colour	black	black	black
Protective cover/protective bowl	Ø 98 mm mineral glass	Ø 98 mm mineral glass	Ø 98 mm mineral glass
Function	microprocessor-controlled operating period indication, capacity-dependent charge flashing light, emergency light, switching for standby light or in case of broken filament, internal charger		

Integrated Charger SEB 8 L | SEB 9 L	
Rated voltage	230 V
Frequency	50 - 60 Hz

Charger LG 443 for SEB 8/9 ...	
Rated voltage	220 - 250 V
Frequency	50 - 60 Hz
Dimension (L x W x H)	163.5 x 151 x 111 mm

Motor vehicle charger 90 for SEB 8/9 | SEB 8/9 L | SEB 8 ADR	
Rated voltage	10 - 33 V DC
Dimension (L x W x H)	152.5 x 145 x 128 mm



SEB 8 DIN | SEB 8 ADR as warning light | Charger LG 443 | Motor vehicle charger 90

Ordering details

Type	Scope of delivery	Order No.
SEB 8 L	With halogen lamp with double bulb, pilot lamp, diffusing lens and battery (rechargeable directly about mains lead, LG 443 or motor vehicle charger 90)	**1 1147 000 001**
SEB 8	With halogen lamp with double bulb, pilot lamp, diffusing lens and battery (rechargeable with LG 443 or motor vehicle charger 90)	**1 1147 000 002**
SEB 8 ADR	With halogen lamp with double bulb, pilot lamp, diffusing lens and battery (rechargeable with LG 443 or motor vehicle charger 90)	**1 1147 000 200**
SEB 9 L	With halogen lamp with double bulb, pilot lamp, diffusing lens and battery (rechargeable directly about mains lead, LG 443 or motor vehicle charger 90)	**1 1147 009 001**
SEB 9	With halogen lamp with double bulb, pilot lamp, diffusing lens and battery (rechargeable with LG 443 or motor vehicle charger)	**1 1147 009 002**

Accessories for Ex-hand lamps SEB 8/9 / SEB 8/9 L / SEB 8 ADR

Type	OU	Order No.
Battery set 7 Ah, 4.8 V NC	1	**2 1147 701 000**
Battery set 9.5 Ah, 4.8 V NiMh	1	**2 1147 791 000**
Conversion kit for motor vehicle charger 90	1	**2 1147 400 000**
Halogen lamp with double bulb 5.5 V/5.5 W	1	**1 2061 000 040**
1 Incandescent lamp 4.8 V/0.3 A (pilot lamp)	10	**1 2041 450 000**
Radial diffuser cap, orange	1	**2 1145 017 000**
Slip on filters red, orange, green	1	**2 1147 300 000**
Slip-on filter orange with adapter and magnet for SEB 8 ADR	1	**1 1147 080 000**

Type	Scope of delivery	Order No.
SEB 8 DIN	with belt hook, xenon-main light, pilot lamp, Prismenlinse und Batterie (rechargeable with LG 443 or motor vehicle charger 90)	**1 1147 000 004**
SEB 8 L DIN	with belt hook, xenon-main light, pilot lamp, diffusing lens and battery (rechargeable directly about mains lead, with LG 443 or motor vehicle charger 90)	**1 1147 000 003**

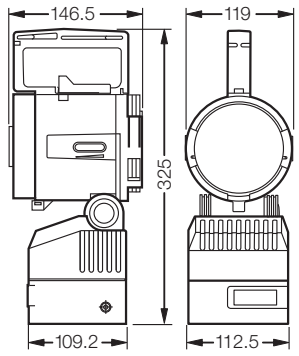
Accessories for Ex-searchlight SEB 8 DIN

Type	Scope of delivery	OU	Order No.
Battery set	5 Ah, 4.8 V NC	1	**2 1147 512 000**
Main beam	4.8 V/4 W	1	**1 2061 001 400**
Incandescent lamp	4.8 V/0.3 A (pilot lamp)	10	**1 2041 450 000**
Belt hook	stainless steel hook	1	**2 1147 500 000**

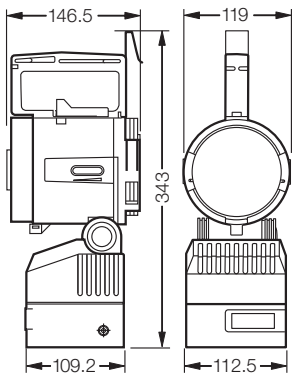
Type	Scope of delivery	Order No.
Charger LG 443	220 V - 250 V AC	**1 1540 000 443**
Motor vehicle charger 90	10 V - 33 V DC	**1 1145 000 792**
Wall bracket SW	console without charging module	**1 1145 000 795**



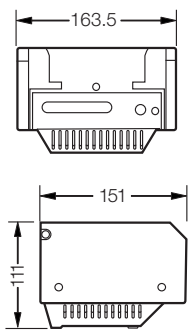
Dimension drawing | Range-diagram | Indication of residual operating time



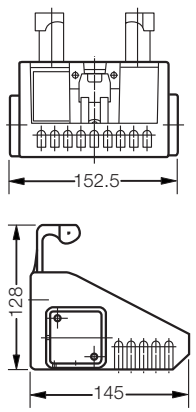
SEB 8/SEB 9/SEB 8L/SEB 9L/
SEB 8 ADR



SEB 8 DIN/SEB 8 L DIN

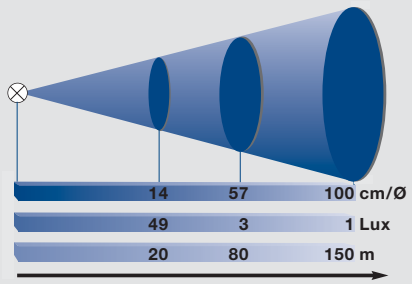


LG 443

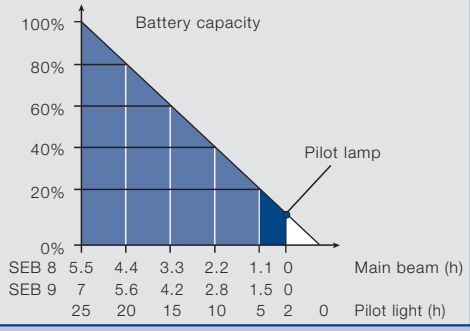


Motor vehicle
charger 90

Range-diagram



Indication of residual operating time



Dimensions in mm

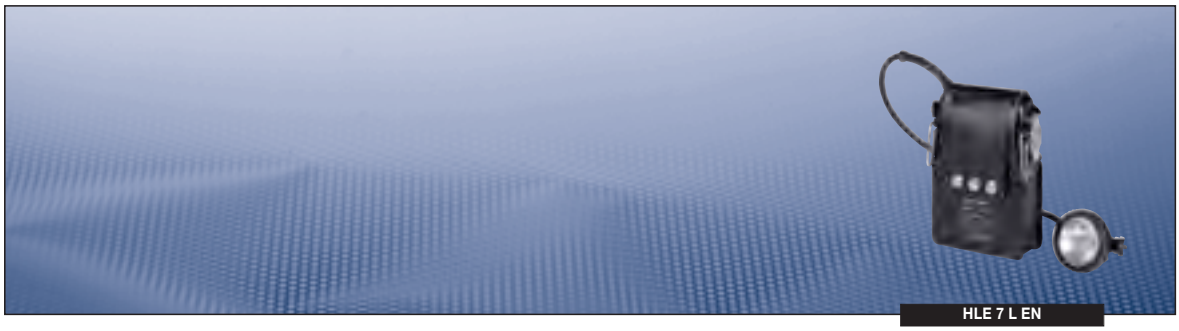
EX-CAPLIGHT

HLE 7 L EN

The explosion-protected HLE 7 L EN has been developed as a working and inspection lamp for tunnelling and for duties in sewage systems. It is in accordance with the ATEX-Directive 94/9/EG and has been approved for use in the Zones 1 and 2 hazardous areas up to the temperature class of T4. The lamp can easily be fixed onto the headpiece holder of the protective helmet. The main or secondary filament of the two-filament lamp is operated by the switch on the headpiece. The lamp has a highly flexible neoprene-sheathed connecting cable. The battery container is additionally protected by a leather case. The powerful energy source consists of a three-cell maintenance free and gas-tight 7 Ah NiCd battery which can be charged from the 230 V mains supply by means of the provided connecting lead. The battery has an integrated charging circuit. The battery container does not have to be opened for charging. A red and green LED indicate the charging state.



- **Abrasion resistant flexible connection between battery and headpiece**
- **Powerful maintenance free, gastight 7 Ah battery**
- **Battery container with integrated charging circuit**
- **Red and green LED‘s indicating the charging state**
- **Two-filament lamp provides safety in case of a broken filament**
- **International Approvals**



Technical data

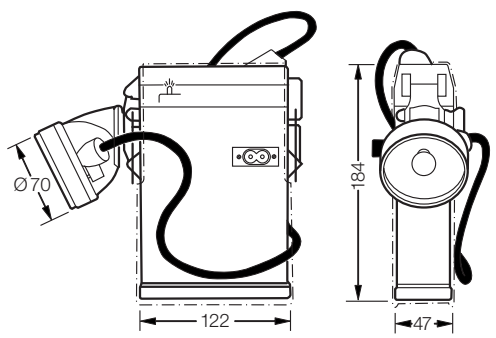
HLE 7 L EN	
Marking to 94/9/EC	Ex II 2 G EEx e ib IIC T4 / Ex II 2 G Ex e ib IIC T4 (applies for)
EC-Type Examination Certificate	PTB 99 ATEX 2194
Permissible ambient temperature	-20 °C to +40 °C, specified data: 0 °C to +30 °C (battery)
Permissible ambient temperature during charging	0 °C to +35 °C
Rated voltage	230 V ± 10 %, 50/60 Hz
Input power	4 VA
Insulation class	II
Incandescent lamp	3.75 V / 0.8 / 0.4 A
Battery	rechargeable NC battery 3.6 V/7 Ah
Operating time	approx. 8 h
Charging duration	max. 18 h
Light aperture	Ø 65 mm, mineral glass
Rotary switch	4 positions: „OFF - pilot light - OFF - main light“
Degree of protection accd. EN 60529	IP54
Weight	approx. 2.0 kg (with battery)
Enclosure material	Polyamide/black
Function	– Integrated charger
	– Charge state indication
	– Two-flament lamp

Ordering details

Type	Scope of delivery	Order No.
HLE 7 L EN	with incandescent lamp, battery and mains connection lead	**1 1229 000 416**

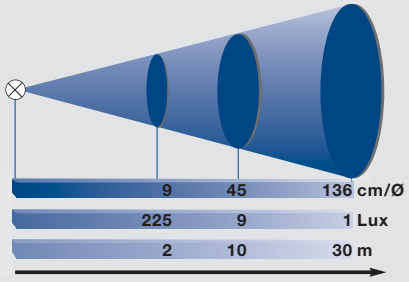
Accessories for Ex-cap light HLE 7 L EN		
Type	**OU**	**Order No.**
Power supply complete	1	**2 1229 456 000**
1 Incandescent lamp 3.75 V/0.8 A/0.4 A	5	**1 2035 520 000**
Belt	1	**3 0231 001 011**
Head ribbon for helmets	1	**2 1261 191 000**

Dimension drawing | Range-diagram



HLE 7 L EN

Range-diagram



Dimensions in mm

EX-HAND AND MACHINE LAMPS

HL/ML 43 / HL/ML 50 / HL/ML 60 / HL/ML 70
with fluorescent lamps and LEDs

These explosion-protected hand- and machine lamps with fluorescent or LED illuminants were designed especially for inspection and maintenance work in potentially explosive atmospheres, such as are found in the chemical industry, in offshore installations, in the automobile sector, in the aircraft industry and in shipyards.

Due to the small dimensions combined with a high light output, these robust lamps are particularly well suited for use in confined spaces, inside machines and in silos, etc., as well as anywhere where a reliable, portable light source is needed. Together with the appropriate accessories (optional), these lamps can also, for example, be used at sampling openings or as level gauges, or they can be fitted to railings.

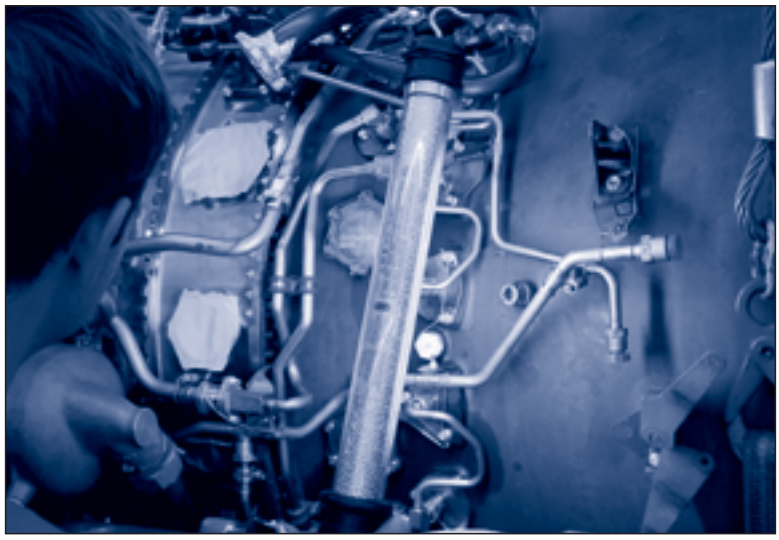
When working in confined spaces, containers and silos with metallic materials, special attention shall be paid to the protection of persons in accordance with the installation requirements. Lamps for low-voltage operation (24 V - 50 V) or with an isolating transformer (TR version) are available for such applications. Alternatively, earth-leakage circuit breakers with a rated tripping current of 10 mA can also be used. The explosion-protected versions of these protection devices can be positioned in the immediate vicinity of the lamps. Due to the low surface temperatures, they may also be mounted in the immediate vicinity of combustible materials.



- **Single and twin-lamp versions from 6 W to 58 W**
- **Rated voltage ranges 24/230 V AC/DC**
- **With electronic ballast**
- **Robust protective tube made of polycarbonate**
- **Suited for use in gas and dust Ex-atmospheres**
- **Safety standard IP68**

Application range

The powerful, explosion-protected hand and machine lamps with bi-pin fluorescent lamps fulfil the requirements of ATEX directive 94/9/EC. They are generally suited for use in potentially explosive gas atmospheres in Zones 1 and 2, as well as in potentially explosive dust atmospheres in Zones 21 and 22, and are approved for temperature class T5 or surface temperatures up to 80°C.



Constructional features

The explosion-protected hand and machine lamps feature an integrated electronic ballast (EVG) and are available with one or two built-in fluorescent lamps. Depending upon the type, they are approved for various supply voltages. The light-transmitting, protective tube is made of impact-resistant polycarbonate and features a built-in reflector. The lamp caps are made of robust neoprene rubber.

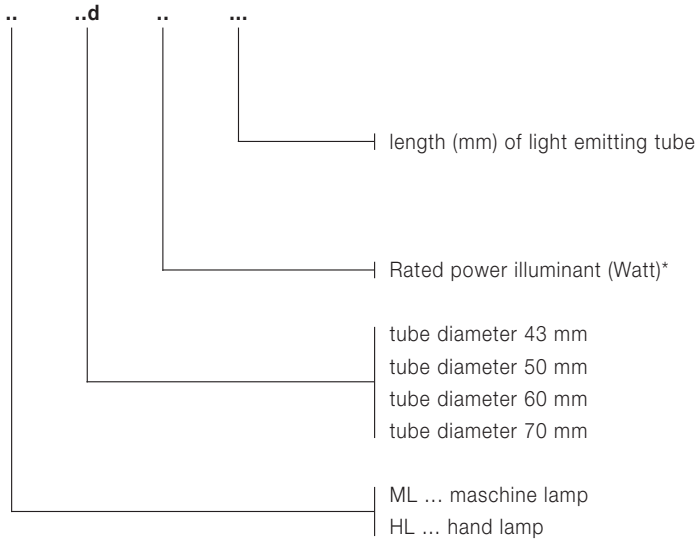
Versions

Hand lamps (marking E) feature a grooved grip made of neoprene rubber with a metal, trumpet-shaped gland and a neoprene rubber end cap with hook for hanging up the lamp at the workplace.

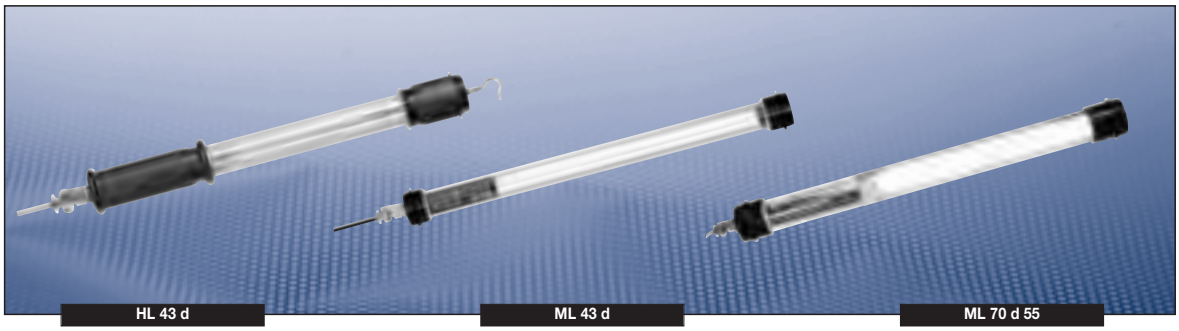
Machine lamps (marking EM) are used for the local illumination of machines and parts thereof. They are also ideally suited for use as level gauges. They feature a metal trumpet-shaped gland and two neoprene rubber caps. They can be mounted directly onto the machines with suitable clamps.

Lamps with isolating transformer (marking TR) are particularly suited for the safe protection of persons. For this purpose there is a completely potted isolating transformer for the galvanic isolation of the lamp from the supply voltage in the power supply cable.

Type code



* Twin-lamp version is marked with ./2

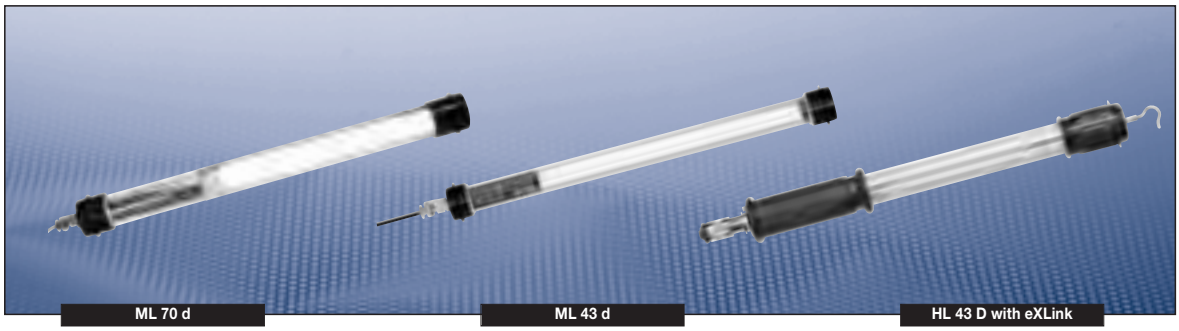


Technical data

	HL 43 d/ML 43 d	ML 50/60/70 d
Marking to 94/9/EC	Ex II 2 G Ex d IIC T5 Ex II 2 D Ex tD A21 IP68 T95 °C	Ex II 2 G Ex d IIC T5 Ex II 2 D Ex tD A21 IP68 T95 °C
EC-Type Examination Certificate	BVS 07 ATEX E 164 X	BVS 07 ATEX E 164 X
IECEx-Certificate of Conformity	IECEx BVS-08.0014X	IECEx BVS-08.0014X
Marking to IECEx	Ex d IIC T5 Gb Ex t IIIC T95 °C Db (IP68)	Ex d IIC T5 Gb Ex t IIIC T95 °C Db (IP68)
Permissible ambient temperature	–20 °C to +40 °C –20 °C to +60 °C (option)	–20 °C to +40 °C –20 °C to +60 °C (option)
Rated voltage 1	230 V AC/DC	110 - 240 V AC/DC
Rated voltage 2	24 V AC/DC	24 - 50 V AC/DC
Frequency	50 - 400 Hz	50 - 400 Hz
Power	max. 13 W[1)]	max. 58 W[1)]
Power factor cos V	> 0.95	> 0.95
Ballast	EVG integrated	EVG integrated
Standard cable length	5 m cable 3 x 1 mm² without plug[2)]	5 m cable 3 x 1 mm² without plug[2)]
Insulation class	I resp. II	I resp. II
Lamp/illuminant	[1)]	T8/TC-L[1)]
Lamp cap	G5	2G11 (PL-lamps) / G13 (18 - 58 W)
Luminous flux	[1)]	[1)]
Degree of protection accd. EN 60529	IP68	IP68
Dimension (L x W x H)	[1)]	[1)]
Weight	[1)]	[1)]
Enclosure colour	black	black
Protective cover/protective bowl	Polycarbonate	Polycarbonate

[1)] see Ordering details

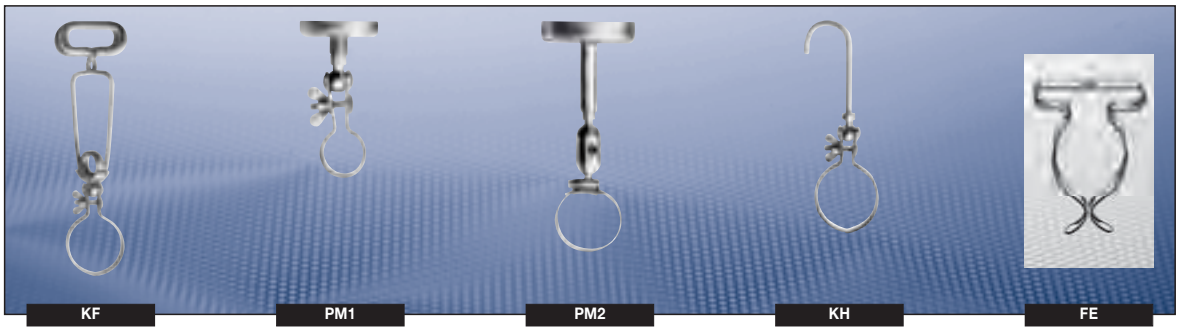
[2)] Plug on request, optional with eXLink® coupler



Ordering details

Type	with fluorescent lamps	Lamp cap	Luminous flux[1] lm	Dimensions A mm	Ø B mm	Ø C mm	Weight approx. kg	Order No.
24 V AC/DC hand lamps								
HL43d 6 383	1 x 6 W	G 5	215	563	66	43	1.4	**1 1700 000 000**
HL43d6/2 383	2 x 6 W	G 5	430	563	66	43	1.5	**1 1700 000 005**
HL43d8460	1 x 8 W	G 5	448	640	66	43	1.5	**1 1700 000 001**
HL43d8/2 460	2 x 8 W	G 5	896	640	66	43	1.6	**1 1700 000 006**
HL43dLED6 460 (DC)	6 W LED	–	315	640	66	43	1,5	**1 1700 000 003**
24 V AC/DC machine lamps								
ML43d6383	1 x 6 W	G 5	215	504	66	43	1.4	**1 1700 000 010**
ML43d6/2383	2 x 6 W	G 5	430	504	66	43	1.5	**1 1700 000 015**
ML43d8460	1 x 8 W	G 5	448	581	66	43	1.5	**1 1700 000 011**
ML43d8/2460	2 x 8 W	G 5	896	581	66	43	1.6	**1 1700 000 016**
230 V AC/DC hand lamps								
HL43d6383	1 x 6 W	G 5	215	563	66	43	1.4	**1 1700 000 200**
HL43d6/2383	2 x 6 W	G 5	430	563	66	43	1.5	**1 1700 000 205**
HL43d8460	1 x 8 W	G 5	448	640	66	43	1.5	**1 1700 000 201**
HL43d8/2460	2 x 8 W	G 5	896	640	66	43	1.6	**1 1700 000 206**
HL43d13690	1 x 13 W	G 5	949	870	66	43	1.7	**1 1700 000 202**
HL43dLED6 460	6 W LED	–	315	640	66	43	1,5	**1 1700 000 107**
230 V AC/DC machine lamps								
ML43d6383	1 x 6 W	G 5	215	504	66	43	1.4	**1 1700 000 210**
ML43d6/2383	2 x 6 W	G 5	430	504	66	43	1.5	**1 1700 000 215**
ML43d8460	1 x 8 W	G 5	448	581	66	43	1.5	**1 1700 000 211**
ML43d8/2460	2 x 8 W	G 5	896	581	66	43	1.6	**1 1700 000 216**
ML43d13690	1 x 13 W	G 5	949	811	66	43	1.7	**1 1700 000 212**
24-50 V AC/DC machine lamps								
ML50d18920	1 x 18 W	G 13	1296	1041	72	50	2.4	**1 1700 000 310**
ML50d301225	1 x 30 W	G 13	2460	1346	72	50	2.4	**1 1700 000 311**
ML60d361530	1 x 36 W	G 13	3348	1651	82	60	2.8	**1 1700 000 312**
ML60d581830	1 x 58 W	G 13	5220	1951	82	60	3.2	**1 1700 000 313**
ML70d18570(PL)	1 x 18 W	G 13	1200	691	92	70	2.2	**1 1700 000 317**
ML70d24665(PL)	1 x 24 W TC-L	2G11	1800	786	92	70	2.8	**1 1700 000 316**
ML70d36761(PL)	1 x 36 W TC-L	2G11	2900	882	92	70	3.4	**1 1700 000 315**
ML70d55881(PL)	1 x 55 W TC-L	2G11	4780	1002	92	70	3.8	**1 1700 000 314**
110-240 V AC/DC machine lamps								
ML50d18870	1 x 18 W	G 13	1296	991	72	50	2.4	**1 1700 000 510**
ML50d301175	1 x 30 W	G 13	2460	1296	72	50	2.4	**1 1700 000 511**
ML50d361480	1 x 36 W	G 13	3348	1601	72	50	2.8	**1 1700 000 512**
ML60d581780	1 x 58 W	G 13	5220	1901	82	60	3.2	**1 1700 000 513**
ML70d18522(PL)	1 x 18 W	G 13	1200	643	92	70	2.2	**1 1700 000 517**
ML70d24617(PL)	1 x 24 W TC-L	2G11	1800	738	92	70	2.8	**1 1700 000 516**
ML70d36713(PL)	1 x 36 W TC-L	2G11	2900	834	92	70	3.4	**1 1700 000 515**
ML70d55833(PL)	1 x 55 W TC-L	2G11	4780	954	92	70	3.8	**1 1700 000 514**

[1] Depends on lamps



Accessories

Clamp with ball joint KF

Type	for diameter in mm	Height A in mm	Weight kg	Order No.
KFV 3	40	265	0.260	**1 1700 000 900**
KFV 4	50	280	0.260	**1 1700 000 901**

Fixing clip - INOX 1.4301

Type	for diameter in mm	Dimensions height in mm	Weight kg	Order No.
BS 70	70	–	0.012	**1 1700 000 951**

Spring clip FE

Type	for diameter in mm	Height A in mm	Weight kg	Order No.
FE 3	40	62	0.020	**1 1700 000 930**
FE 4	50	78	0.023	**1 1700 000 931**

Permanent magnet PM 1 (adhesion 10 kg)

Type	for diameter in mm	Height A in mm	Weight kg	Order No.
PM 1	50	130	0.210	**1 1700 000 911**

Permanent magnet PM 2 (adhesion 50 kg)

Type	for diameter in mm	Height A in mm	Weight kg	Order No.
PM 2	40	190	0.680	**1 1700 000 915**
PM 2	50	205	0.680	**1 1700 000 916**
PM 2	53	207	0.680	**1 1700 000 917**
PM 2	60	215	0.680	**1 1700 000 918**
PM 2	70	225	0.680	**1 1700 000 919**
PM 2	80	235	0.680	**1 1700 000 920**

Suspension hook with ball joint KH

Type	for diameter in mm	Height A in mm	Weight kg	Order No.
KH 4	50	183	0.115	**1 1700 000 921**
KH 5	53	185	0.118	**1 1700 000 922**
KH 6	60	195	0.120	**1 1700 000 923**
KH 7	70	205	0.123	**1 1700 000 924**
KH 8	80	215	0.127	**1 1700 000 925**

Eye bolt with ball joint M5 - INOX 1.4301

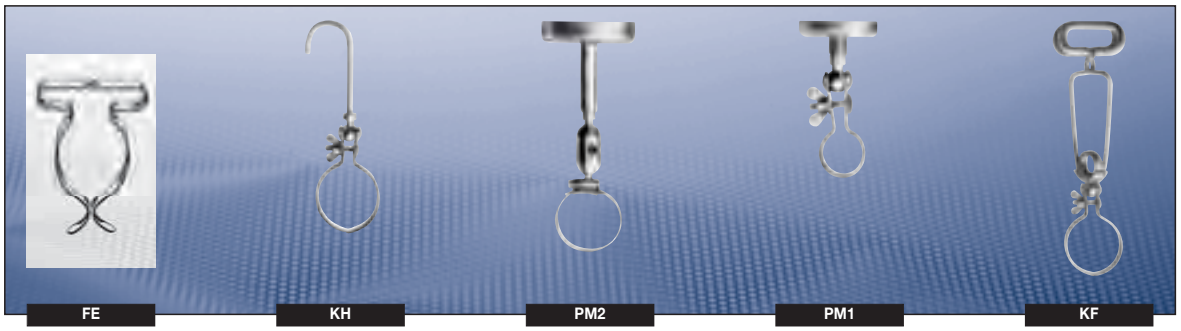
Type	for diameter in mm	Height A in mm	Weight kg	Order No.
RS 4	15	58	0.034	**1 1700 000 950**

Plastic pipe clamp

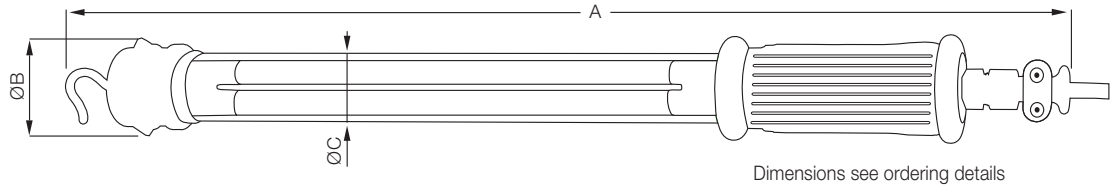
Type	for diameter in mm	Height C in mm	Width A in mm	Order No.
CILC 63	63 – 71	115	78	**1 1700 000 960**
CILC 71	71 – 80	124	87	**1 1700 000 961**
CILC 80	80 – 90	136	98	**1 1700 000 962**

Luminaire key SCH

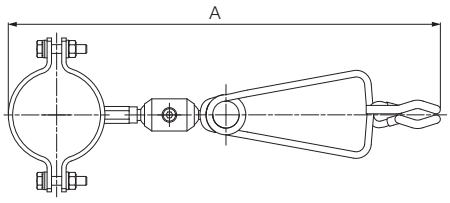
Type	Application	Weight kg	Order No.
SCH 2	Luminaire key	0.1	**1 1700 000 940**



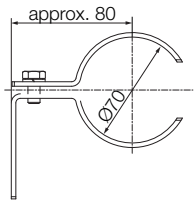
Dimension drawing | Polar curve



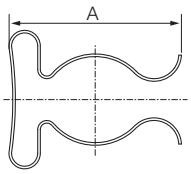
Dimensions see ordering details



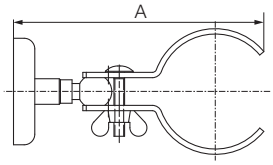
KFV...



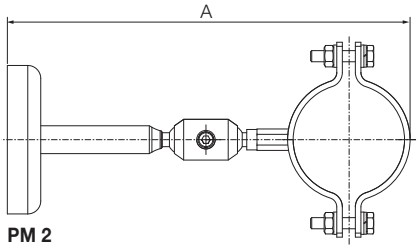
BS 70



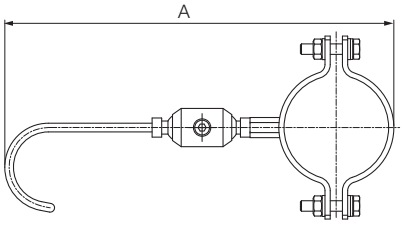
FE..



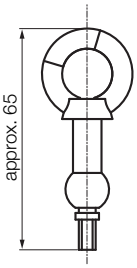
PM 1



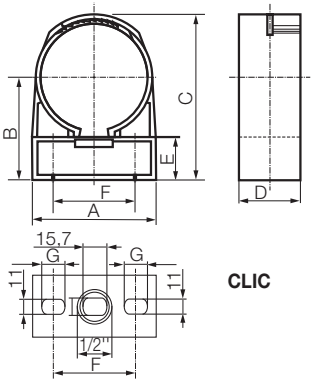
PM 2



KH...

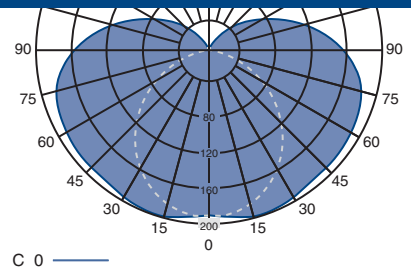


RS4

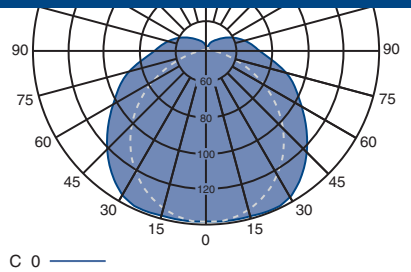


CLIC

Polar curve HL../ML..
(single lamp)



Polar curve HL../ML..d
(TC-Lamp) (twin lamp)



Dimensions in mm

EX-TANK INSPECTION LAMP

FOC Fibre-Optic Light Guide Cable with 25 m long portable system for operating in Zone 0

In order to create adequate working lighting in the Zone 0 areas during maintenance work, only hand-held lamps, such as the Stabex MO with relatively low levels of light, have been available to date. But if large areas of illumination are needed, a system to light up the inside of the tank in Zone 0 is now available for the first time in the form of the new Tank Inspection Lamp FOC 25.

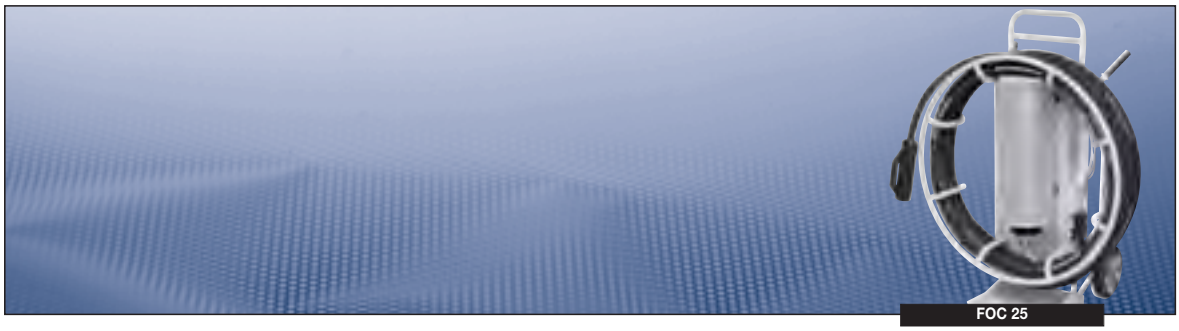
Mechanical Version

The system comprises 2 units:

1. A transport trolley with a fixed cable reel, an Ex-de lamp housing and a supply cable with a plug allow the transport and operation of the light cable system in Zone 1. The size of the cable reel is also designed to prevent intentional access through the tank opening.
1. The 25 m long fibre-optic cable may be introduced into Zone 0 after the equipotential bonding has been connected.



- **High light capacity in Zone 0 (approx. 300 lm)**
- **metal halide lamp 150 W with electronic ballast and specially sized reflector for use with light guide systems**
- **Permanently installed transport carriage with large wheels (200 mm diameter) for easier and safer handling even on uneven ground**
- **Light guide cable with highest degree of protection IP67**
- **Only a screw terminal is needed for central equipotential bonding, since the protective hose that conducts electricity and the conductive wheel construction include the whole system**
- **High-quality protective hose for the light guide cable pursuant to EN 12115 in a chemical and oil-resistant design**



Technical data

Transport trolley with light source (Equipment 1)	
Marking to 94/9/EC	Ex II 2 G Ex de IIC T4[1)]
EC-Type Examination Certificate	PTB 02 ATEX 2179
Permissible ambient temperature	-20 °C to +40 °C
Rated voltage	220 V - 230 V AC
Rated current	1.8 A
Frequency	50 Hz
Ballast	EVG
Cable length	approx. 2.5 m with CEE-plug 16 A Zone 1
Insulation class	I
Lamp/illuminant	150 W Halogen metal vapour lamp
Degree of protection accd. EN 60529	IP66
Dimension (L x W x H)	1305 x 1000 x 600 mm
Type of mounting	mobile trolley
Enclosure material	Metal
Enclosure colour	yellow

Phase out type

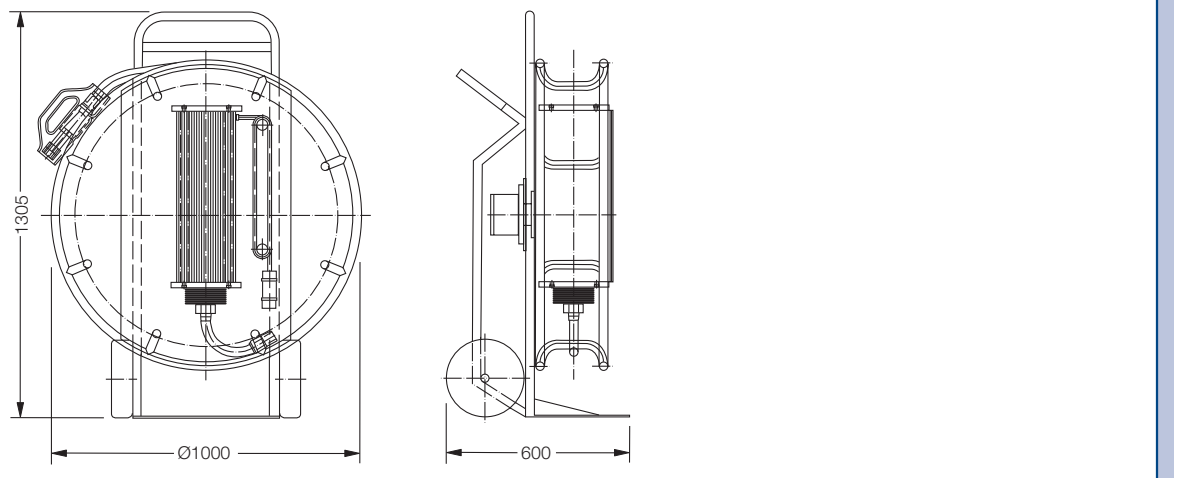
Fibre-optic base (Equipment 2)	
Marking to 94/9/EC	Ex II 1 G Ex IIC T6
Degree of protection accd. EN 60529	IP67
Luminous flux	approx. 300 lm
Dimension (L x W x H)	25 m fibreoptic light guide cable
Total weight of the system	112 kg

[1)] Fulfils IEC 31WG8/TD3 protection against ignition by optic radiation

Ordering details

Type	Scope of delivery	Order No.
FOC 25	incl. 25 m light guide cable	**1 3032 000 001**

Dimension drawing



FOC 25

Dimensions in mm



Accessories

On the following page you will find Accessories and Spare Parts for the portable Ex-Lamps covered in chapter 1.

Spare Parts

As well as the above, there is also a large amount of spare parts available for maintenance and repair work.
If required, please contact us, you will find that we will be more than pleased to help you.
We must point your attention to the fact that repair work done on explosive-protected products must be carried out with original spart parts only! If this is not the case and third-party parts are used, the Certification and Approval for the product will be forfitted and a possible reduction of the explosion-proctection may be achieved.



Repair Service

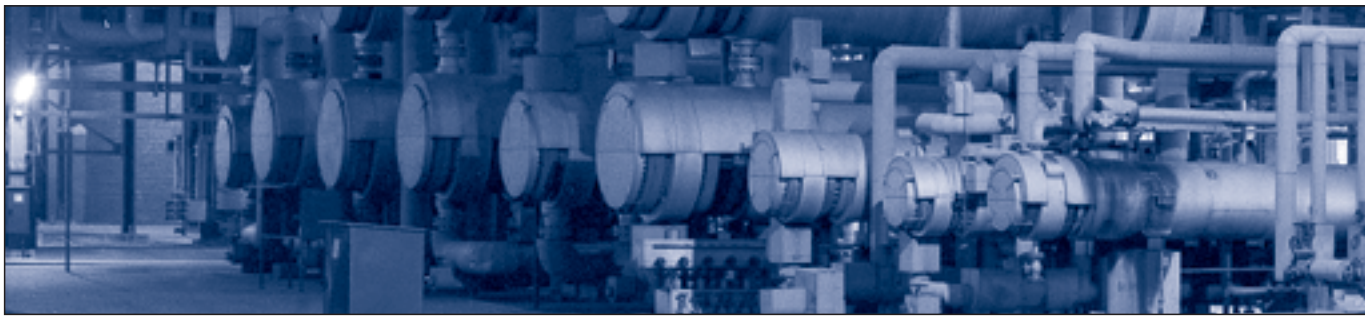
Of course the Cooper Crouse-Hinds GmbH upholds its own repair department where customer repairs are carried out. Our qualified and schooled personnel carry out repairs and overhauling using original spare parts, quickly and efficiently. This service also includes the end quality testing needed for explosion-protected products.
With this service you have an "assured safety" as do all overhauled Ex-Lamps and products by Cooper Crouse-Hinds GmbH.

Repair Schooling/Training

Repairs on explosion-protected electrical products must be carried out by qualified Electricians only!
For our customers to be able to repair explosion-protected goods themselves we offer Qualification Training Courses in our house several times a year.
Each trainee will become extensive training documentation and will, after having completed the course, a course completion certification. Please get in contact with us if you require further informaton.

EX-FLUORESCENT LIGHT FITTINGS

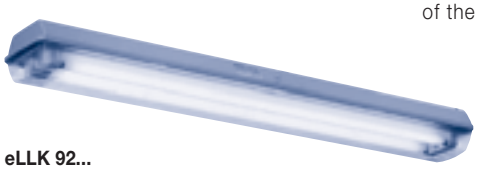
EX-LIGHT FITTING eLLK 92... – MAIN FEATURES	2.2
EX-LIGHT FITTING eLLK 92...	2.12
EX-POLE MOUNTED LIGHT FITTING eLLM 92...	2.14
EX-EMERGENCY LIGHT FITTING eLLK 92... NIB	2.18
EX-RECESSED CEILING LIGHT FITTING eLLB 20...	2.26
EX-RECESSED CEILING LIGHT FITTING RLF 250...	2.38
EX-d LIGHT FITTING AB 12 AND EVF...	2.46
EX-LIGHT FITTING nLLK 08... FOR ZONE 2	2.56
EX-EMERGENCY LIGHT FITTING nLLK 08... N FOR ZONE 2	2.62
EX-PHOTOCELL	2.68
LIGHTING MOUNTING SYSTEMS	2.70



The best choice for an economical solution for the illumination of probable explosive environments is the fluorescent lamp.

The advantages of fluorescent lamps in light fittings:

- worldwide availability
- low cost
- very good colour reproduction
- immediate starting
- easy handling
- long service life with EVG-Technology
- immediate restart
- standardised disposal of the fluorescent lamps



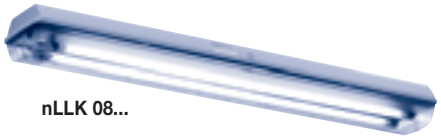
eLLK 92...



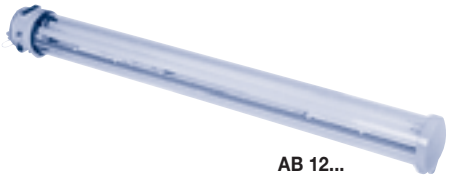
EVF...

Depending on the proposed usage there is a variety of groups to choose from:

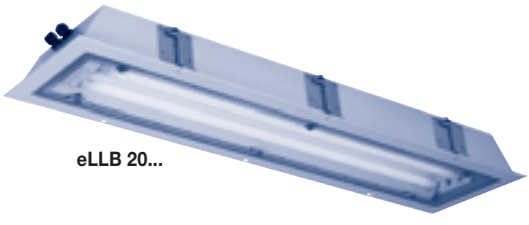
- eLLK/M 92...:
  Surface and pole mounted for use in the Zones 1, 2, 21 and 22
- nLLK 08...:
  Surface mounted for use in the Zones 2, 21 and 22
- eLLB 20 and RLF 250.....:
  Recessed ceiling mounting for use in the Zones 1, 2, 21 and 22
- AB 12.../EVF..:
  Flameproof surface mounted for use in the zones 12, 2 and 22



nLLK 08...



AB 12...



eLLB 20...

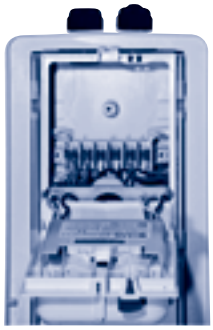


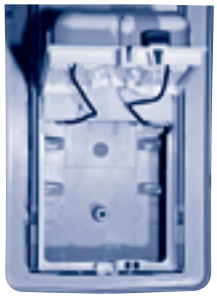
RLF 250...



one sided through-wiring Type 1/6









Fluorescent light fittings of the series **eLLK 92... / nLLK 08...** are equipped with a single-end through-wiring **1/6** as standard. Here there are 2 cable entries M25 for cable sizes Ø 8-17 mm, where as one of these is fitted with a certified blanking plug (red) as a stopper.

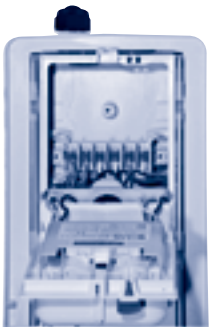
The **2/6** version is fitted with a cable entry M25 for cable sizes Ø 8-17 mm and a certified blanking plug (red) as stopper on both ends. The mains terminal block has 6 clamps enabling wire of up to 2 x 6 mm² (solid) or 2 x 4 mm² (multi wire) to be connected. This allows for a comfortable and problem free wiring (L, L1, L2, L3, N and PE) and installation.

The **2/6** version is fitted with a second mains terminal block of 6 clamps on the opposite side. The required internal wiring of the light fitting has been rated for 16 A.

The standard screwable terminal block allows single sided connecting without having to bend the wire. Simply push the hinged cover shut and you already have protection against contact according to BGV A2.

double sided through-wiring Type 2/6









Technical Special Features on hand of the eLLK 92

The fluorescent lamp series eLLK 92..., eLLM 92..., nLLK 08... and in some parts the eLLB 20... have in their architecture, the same characteristics, which we show here on hand of the eLLK 92-Series.

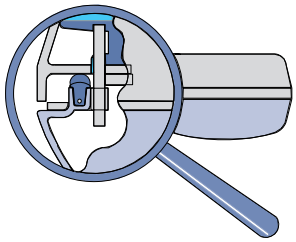
Materials

The eLLK 92 light fitting is made of highgrade plastics that, in addition to the excellent mechanical properties, also feature a high stability against many chemicals found in industrial plants. All the materials used for the light fitting



Combination of high resistant materials

provide are effectively protected against corrosion and have already been successfully tried and tested in chemical and off-shore installations.



Optimized Sealing system

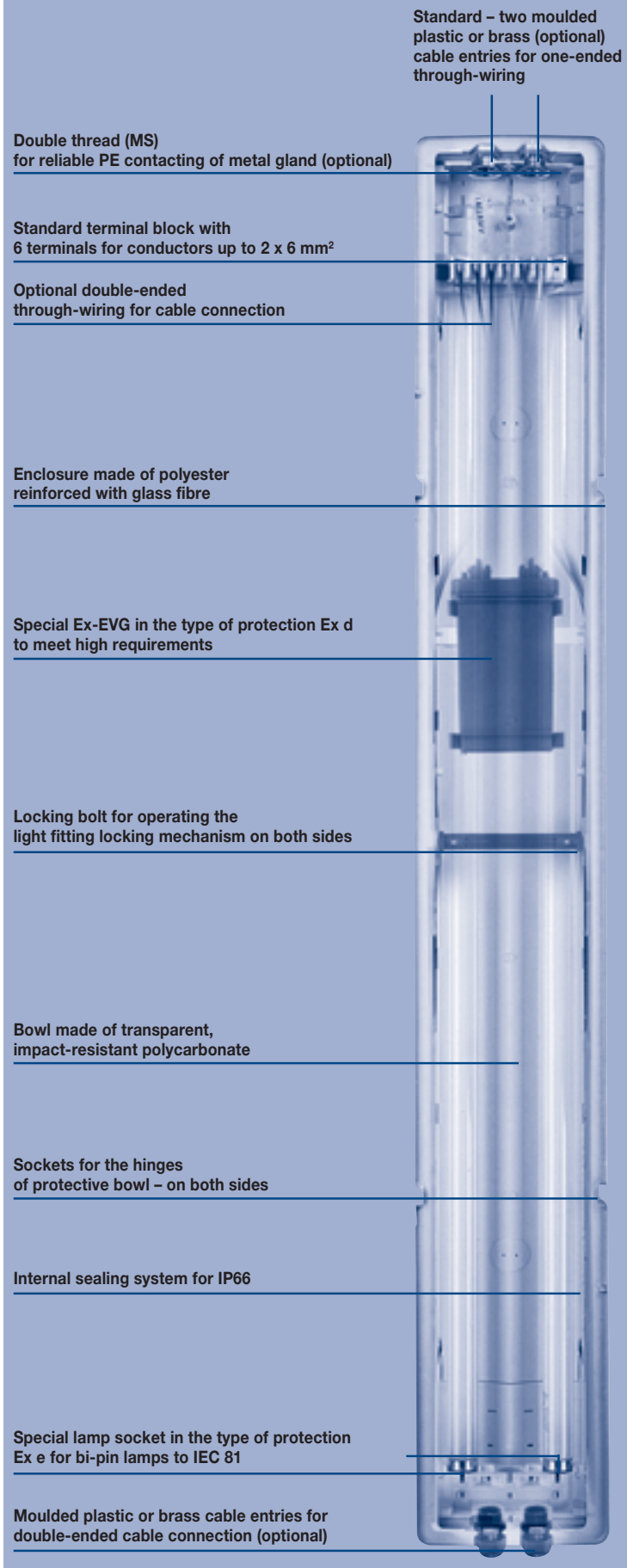
Sealing system

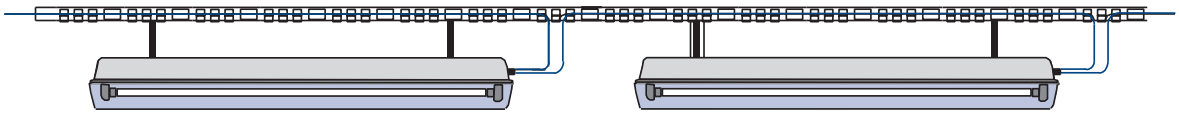
The bowl and the enclosure form a labyrinth, that protects the seal against jet water. The continuous seal is extremely elastic and, in conjunction with the locking mechanism, ensures that the light fitting is sealed tightly for a long time. As was also confirmed by an ERA test, this is the only way to reliably maintain the degree of protection IP66 for a longer period.

Aptitude tests

The eLLK 92 light fitting has already passed both tests with lateral thrusts due to wind up to 12 Bft and the ERA[1)] test specified for British off-shore installations. Here, for example, the sealing qualities and the resistance to vibration are tested.

[1)] ERA-Test= UK-test institute for offshore technology





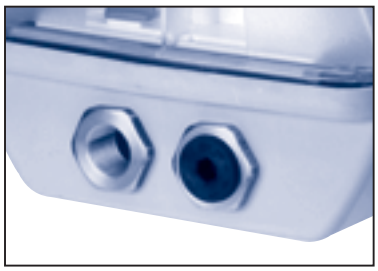
Cost reduction with single-end through-wiring



generously dimensioned terminal compartments



Plastic cable entries



Metal thread



Myer Hubs (for Conduit-System)

Standard version for two cables

The standard version of the eLLK 92 is designed for a single-ended through-wiring. According to the verdict in an independent expertise, together with the easily accessible terminal compartment, this connection method results in a time saving of up to 30% compared to conventional light fittings using the classical through-wiring method.

Installation of the eLLK 92/nLLK 08

Whether it is mounted on rails or suspended from the sealing, the lion's share of the overall costs is taken up by the installation and electrical connection of the light fitting. Here, due to the standardized fixing clearances and the generously dimensioned terminal compartments, the eLLK 92 provides a high saving potential. The terminal compartment can be opened without removing covers or reflectors, thus permitting the easy connection of cables.

Three ways – one solution

Depending on the type of installation, different cable entries could be required for the connection of the light fitting. Available for all types are the following:

- M25 x 1.5 Plastic cable entries
- M20 x 1.5 Earthed metal thread for metal cable entries
- non-metric threads, for example Myer Hubs 3/4" NPT-Thread

Lamp replacement made easy

Irrespective of how the light fitting is installed, the locking mechanism can be operated on either side – this means that there are no future surprises with

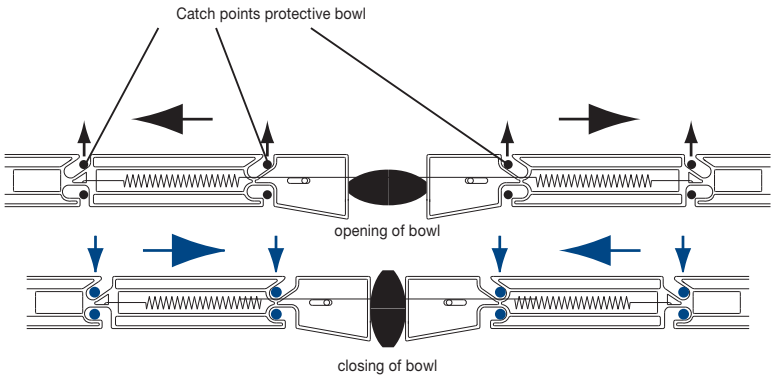


Easy lamp replacement

light fittings that were installed at a later point in time. The fact that the locking mechanism can be operated on both sides and that the protective bowl is hinged on both sides, means that there is plenty of scope for the arrangement of light fittings. The bowl can simply be swung open in the respective direction without tools – this is made possible by the hinge fasteners fitted on both sides of the light fitting housing. A quarter turn of the locking bolt and the bowl opens up downwards. The hinges on the cover are fixed in such a way that the replacement lamps can be safely deposited in the bowl, thus saving time when replacing lamps. The bowl cannot fall down, even in wind and rain.



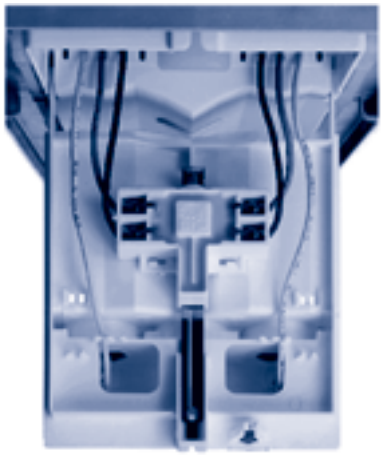




Closing system using the "strongbox principle" guarantees a correct sealing

Locking mechanism

The housing and the protective bowl are securely locked by means of a locking mechanism according to the „strongbox principle" on both sides that features as many as 24 latch points . This new type of locking system features stainless steel springs that regulate the pressure applied to the seal, thus guaranteeing the tightness of the light fittings, even in the event of changes due to the ageing of the sealing material and variable climatic influences.



compulsory N/C contact safeguarded against contact

Double the safety is better

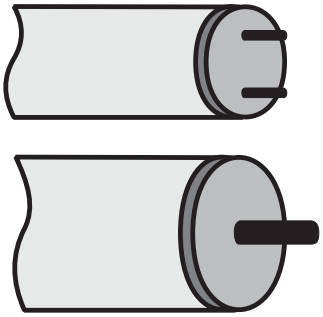
The regulations require the automatic disconnection of the supply voltage when the light fitting is opened. The built-in compulsory NC contact is safeguarded against inadvertent operation and, as soon as the locking mechanism of the light fitting is operated, it de-energizes all parts that can be touched. A second interlock switch increases the safety level for the operator. Therefore, even if the lock of the light fitting is actuated while the protective bowl is still open, the switch cannot be operated, as, in this case, the circuit for the light fitting remains disconnected.

Lamps

All the light fittings in the eLLK 92/ nLLK 08 /eLLB 20 and RLF 250.. series have been developed and certified for Ø 26 mm bi-pin fluorescent lamps with a G 13 lamp cap in accordance with:

IEC 60081 – page 22/20 (18 W)
IEC 60081 – page 24/20 (36 W)
IEC 60081 – page 21/22 (58 W)

This means that the lamps, that are available all over the world, can be used for both hazardous and non-hazardous areas. Not only does this simplify stock-keeping, but the operator also benefits from all the technical advantages in conjunction with EVG operation. Compared to the old Ø 38 mm single-pin fluorescent lamps, the luminous power of the system is increased by a factor of 2.2. Special thermo-lamps with 38 mm diameter can be used in all bi-pin lamp holder of CEAG fluorescent light fittings. This allows an economical use of fluorescent lamps even below ambient temperatures of –5°C



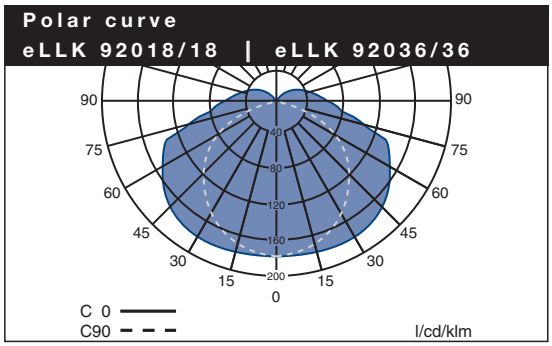
International Ø 26 mm bi-pin fluorescent lamp and the old Ø 38 mm single-pin fluorescent lamp

Lighting engineering

Due to the various fields of application light fittings are equipped with a large variety of lamps and reflectors. The criteria for the selection of the types of lamps and reflectors are basically determined by the type of lighting required (illumination of surfaces or objects, etc.) and the economic efficiency. When planning a lighting installation, the polar curves of the luminous intensity of the light fittings being used are required in order to calculate the illumination distribution.

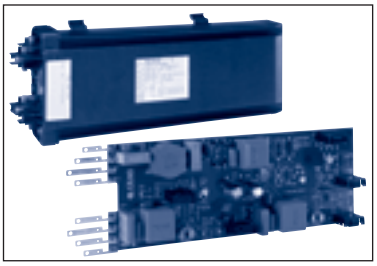


CEAG products are constanly being advanced and tested in the company's own lighting laboratory



Polar curves

During the development phase the lighting properties of all explosion-protected light fittings are tested in the Cooper Crouse-Hinds GmbH lighting laboratory. In this way it is ensured that the reflectors, as well as the protective bowls for fluorescent light fittings are optimized down to the last detail. In the case of the light fittings eLLK 92.., nLLK 08.., eLLB 20 and RLF 250.. series of Cooper Crouse-Hinds GmbH has succeeded in optimizing both the illumination of surfaces with the largest possible light distribution and the illumination of objects with the highest possible axial light intensity. The polar curve of each light fitting can be found in the technical data and can be used together with the other lighting values to calculate the illuminance. All lighting design data can be downloaded from our Web page: www.ceag.de



Electronic ballasts (EVG)

Nowadays it is not possible to imagine modern light fittings for fluorescent lamps without the EVG technology. Features such as immediate starting, the absence of flickering during operation or the minimal heat rise are only possible with this technology. With the CEAG EVG technology, fluorescent light fittings for use in hazardous areas also provide decisive advantages:

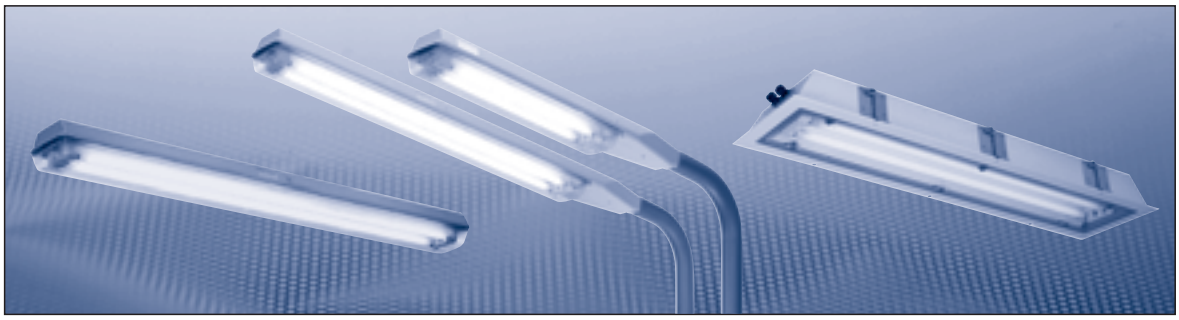
- possibility of a lamp-sparing cold start
- use of bi-pin lamps, Ø 26 mm
- use with various mains voltages from 110 V up to 254 V ± 10 %
- Regulation of luminous flux with fluctuating mains voltage
- safe lamp ignition at low and high ambient temperatures
- longer service life for lamps
- AC/DC operation possible
- Standard dual channel ballast, that means on failure of one lamp the second lamp will continue in operation independent from the failed one.

EOL (END OF LIFE) – What is it?

As with all other lamps, the lifetime of every fluorescent lamp is limited. Users of all Ex fluorescent light fittings reported on some critical situations where, after being in operation for longer periods, they overheated or even caught fire. It is not possible to say for certain to what extent the EOL effects were the cause of this. At the request of the German Manufacturers Association the Phsyikalisch-Technische Bundesanstalt (PTB) in Braunschweig carried out an independent investigation of this phenomenon. The results of this latest investigation have been published and can be found on the Internet pages of the PTB.

Extract from this report:

„In the more recent past, luminaires used in conjunction with these fluorescent lamps have been found to fail as a result of local overheating of the lamp cap and the lamp socket. There are different kinds of faults that may have led to these failures. One possible explanation is the end-of-life effect (EOL) of the lamp, which will occur only in exceptional cases at the end of the lamp lifetime. It is for the time being not possible to reproduce this EOL effect in the laboratory in a conclusive manner, but it may be described as follows in qualitatively terms ...“



The solution for Zone 1 applications – CEAG EVG 09

All the EVGs (electronic ballast's) supplied by CEAG since 1988 feature monitoring of the lamp circuit, detection of the rectifier effect, as well as a shutdown of the circuit in the event that the lamp does not strike. Therefore, the CEAG EVGs already ensured a high level of safety at the service life of the lamps long before the discussions on EOL ever started. The new CEAG EVG 09 also fulfils the relevant EOL requirements of the industrial standard IEC 61347-2-3 (§ 17.2 and 17.3), as well as those laid down in the latest draft of IEC 60079-7 Ed. 4 7/2006 (Electrical Apparatus in the type of protection Increased Safety), for luminaires for use in potentially explosive atmospheres Zone 1. Thus, the CEAG EVG 09, which is certified to: BVS 09 ATEX E 054 U, meets the latest findings and the newest standards.


DEKRA

EC-Type Examination Certificate

The advantages for you:

- Time-tested and reliable technology
- Latest lamp circuit monitoring as an additional safety factor
- Meets all requirements of the standard draft IEC 60079-7 for luminaires with fluorescent lamps in "Increased Safety" (EOL)
- EVG designed specially for rough operating conditions of Zone 1 – not just an encapsulated industrial EVG
- Thermally optimised circuitry for long service life, even in high ambient temperatures
- Wide input voltage range and DC operation for universal use
- Two separate lamp circuits (autarkic switching) provide more safety for your employees and installations
- Practically insensitive to network harmonics and over-voltage influences
- Isolation of one lamp circuit for use in emergency lighting installations (economic battery use)

Which protective circuits does the new EVG 09 have?

The standard DIN EN 61347-2-3 (VDE 0712-33), which was issued in February 2005, only stipulates a permanent monitoring of the lamp circuit for EOL effects for T4 and T5 lamps (16 mm and thinner). The draft version of the standard IEC 60079-7, which was derived from this standard, lays down the test requirements for Ex-e light fittings with cold start EVGs for T6 (26 mm) fluorescent lamps.
Unlike industrial luminaires with EVGs, Ex-e luminaires shall fulfil all of the relevant conditions of this standard.

The EVG 09 in practice: Explosion protected luminaires with trademark CEAG

All these functions are just one component in the extensive safety concept of the CEAG EVG 09. The use of high impact resistant plastic materials for the encapsulation in the type of protection Ex-de, as well as the additional unit fuses for the event that a fault occurs rounds off the whole package.

The new CEAG EVG 09 will become standard for our fluorescent light fittings series:
eLLK 92 .../.. , eLLM 92 .../.... NIB
as well as fort he recessed ceiling luminaires eLLB 20... and RLF 250...

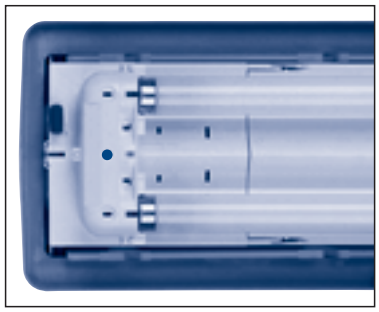




EVG-Capsulation

Robust technology for extreme applications

The operation of explosion-protected light fittings places high requirements on the reliability and durability of the circuits being used. In addition to temperature, moisture and mechanical stress, mains contamination or voltage peaks can affect the light fittings. Here the EVGs specially developed by Cooper Crouse-Hinds GmbH provide safe protection against harmful influences. Whereas conventional industrial EVGs are designed for an ambient temperature of the light fittings of up to + 30°C, the CEAG EVGs are designed for an ambient temperature of + 50°C. The large-scale printed wiring board layouts ensure an even heat distribution, through-connections and encapsulation of sensitive components provide mechanical protection. A hermetically sealed enclosure provides protection against undesirable substances that could cause damage to the PCB.



Direct or alternating voltage?

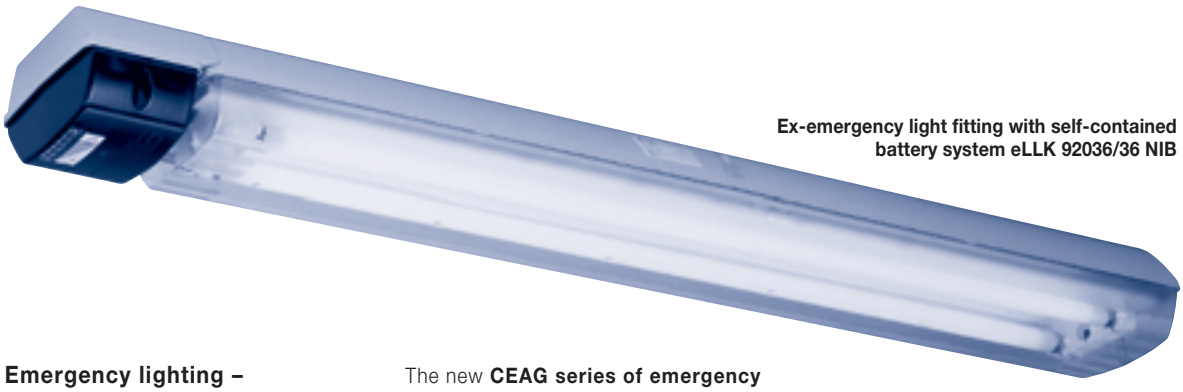
Conventional ballasts only work with an alternating voltage and can only be used with group or central battery installations under certain conditions. Cooper Crouse-Hinds GmbH, as the leading manufacturer of emergency lighting installations, offers an explosion-protected ballast that can be operated with alternating and direct voltages.

Quality cannot be left to chance

Extensive testing and a highly automated production process are necessary to ensure a constant good quality. Cooper Crouse-Hinds GmbH has been manufacturing EVGs for more than 25 years and has the necessary know-how. In addition to the routine verifications and tests carried out on all apparatus, stress tests are carried out on individual batches to ensure safe findings with regard to component specifications.

Computer-aided final inspections

The uncompromising safety of the explosion-protected eLLK 92 light fittings is maintained throughout the various production stages and includes the final inspection. Each light fitting is tested in detail by a computer test program. All data relating to the manufacture and safety is stored and can still be called up years later. This is where the Cooper Crouse-Hinds GmbH quality assurance system, that is certified to ISO 9001:2000, clearly makes it mark.



Ex-emergency light fitting with self-contained battery system eLLK 92036/36 NIB

Emergency lighting – central or decentral

Appertaining to Emergency Lighting in hazardous explosive areas, their are two general philosophies. That of the supply assurance, the test and maintanance effort and that of the economic efficiency.

Emergency light fittings with a self-contained battery system

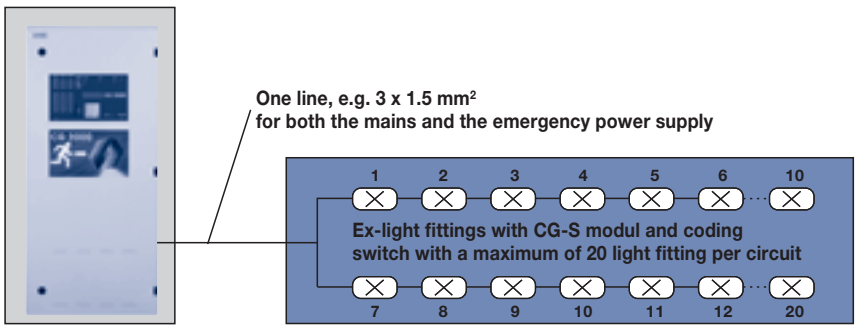
Emergency light fittings with self-contained battery systems provide the required Emergency lighting decentral, independant from central systems. That means the battery, the charger and the electronics are integrated in the light fitting. Taking the availability and the redundance into consideration, this system has with respect to the supply assurance in safety-engineering sensible areas a very high standard. Taking the economic efficiency into consideration, the required effort of testing, maintance and the environmental effect on the battery life span of eachself-contained battery system has to be taken into account. Taking the above into consideration it is without reason the best solution when emergency light fittings with a self-contained battery system are used in large and spacious explosion hazardous areas where the number of fittings to be used is limited.

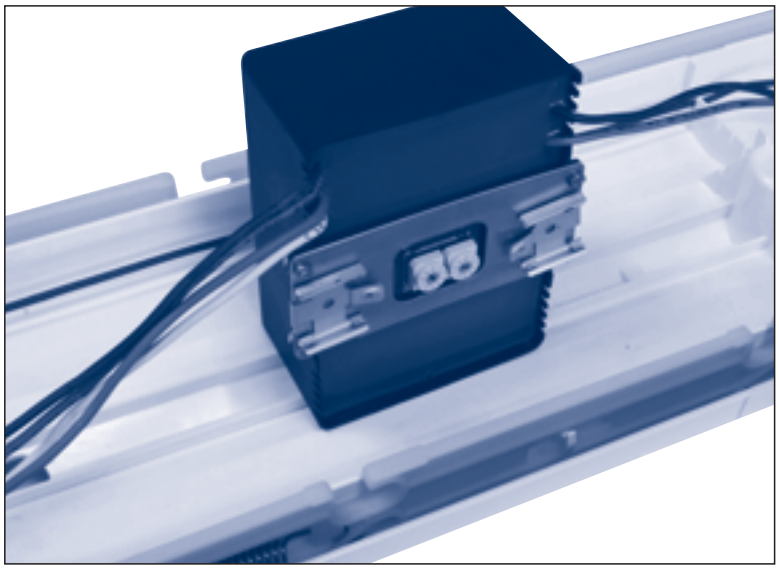
The new **CEAG series of emergency light fittings with self-contained battery systems eLLK 92 NIB, eLLB 20... NIB** have all the necessary self-control features needed and does the required functionality and operating time tests automatically. Hereby the battery lifespan is optimized.

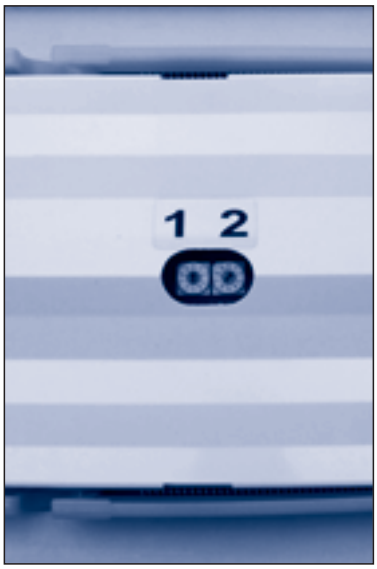
Centrally controlled emergency lighting systems with CG-Modules

A centrally controlled emergency light system using the CEAG group supply and a central battery system is installed when a large number of emergency lights are conglomerated and can be used as a system emergency lighting. These battery systems are generally, not installed in the hazardous areas and therefore do not have to cope with the same environmental conditons as the light fittings themselves. This usually results in an extended life span of the batteries with a minimized maintanance effort. One must of course take into consideration that the cable laying from the central battery to each light fitting in the hazardous areas affords an increased effort.

CEAG emergency lighting supply unit for non-hazardous areas







To be able to run on the CEAG emergency light fittings system we can provide the following light fitting series eLLK 92, nLLK 08 and eLLB 20 versions with **"CG-S Modules"**. This controlling module controls amongst other things the data exchange between the main emergency light apparatus and the individual light fittings per power supply cable and reports all functional errors.

In conjunction with the CG-S Modules, it is now possible to connect individually monitored emergency light fittings to a CEAG emergency lighting installation with monitoring system. Here it is now possible to integrate explosion-protected light fittings as system light fittings into the practical monitoring system of CEAG group or central battery installations.

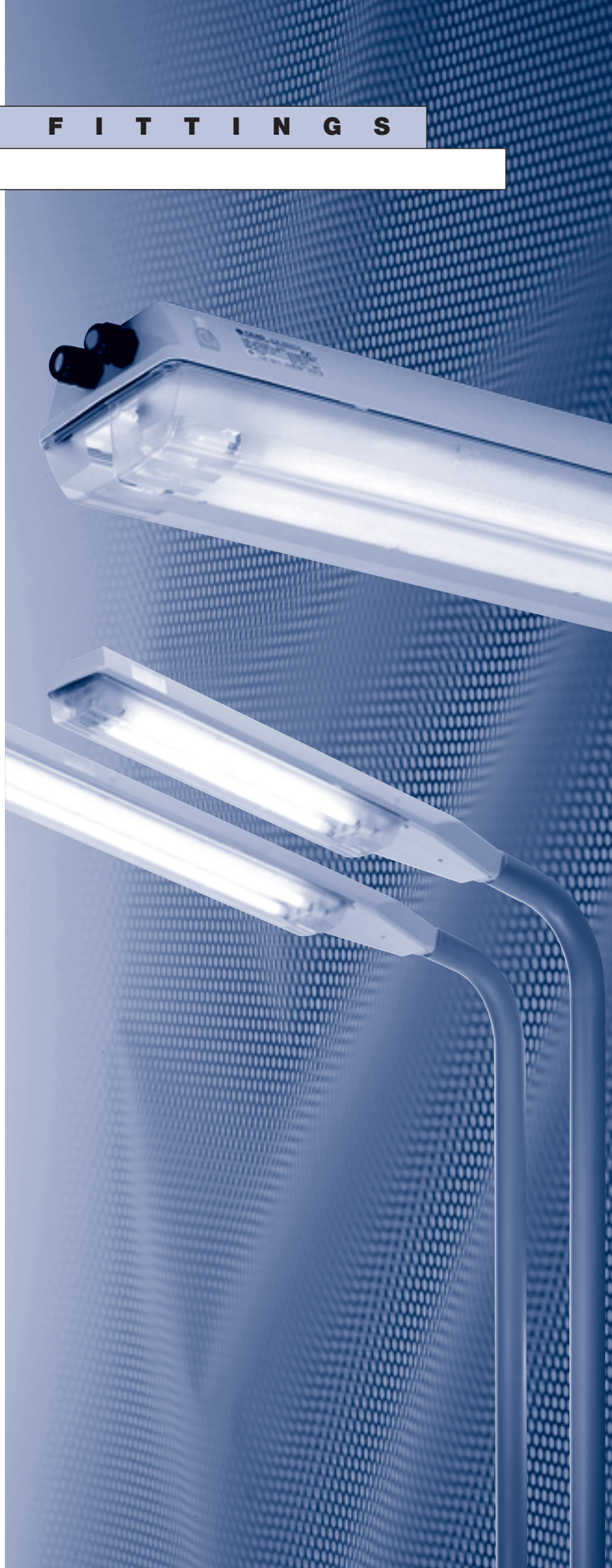
This combination offers the following advantages:

- Automatic performance of the necessary function test with central record-keeping
- Enormous cost savings as manual testing is no longer necessary
- Two-lamp operation with mains supply, single lamp operation with emergency power supply, therefore cost saving for batteries and apparatus
- High degree of safety of emergency lighting due to constant display of availability
- Simplified installation:
  - mains and emergency power supply have a common connection
  - a separate data line is not required
  - a maximum of 20 light fittings can be connected to one circuit
  - automatic performance of the necessary function tests with central record-keeping

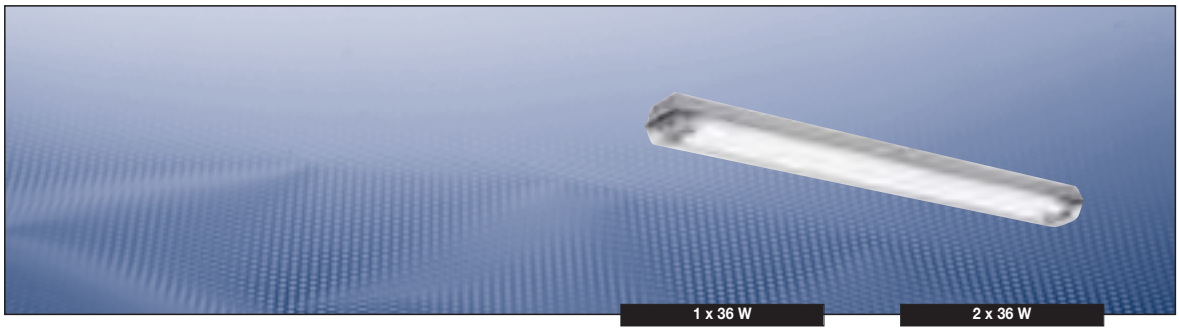
EX-LIGHT FITTINGS

eLLK 92... 18 W - 58 W
All plastic design for Zone 1 and 21

The eLLK 92 Ex-protected light fittings for bi-pin fluorescent lamps are fitted with an electronic ballast and conform to the ATEX Directive 94/9/EG. The modern economical ballast EVG 09 according to the latest standards (IEC 60079-7: 2006) allows a safe and economical operation of bi-pin fluorescent lamps G13 according to IEC 60081. Lamps reaching its end of life will be monitored and securely switched off (EOL-effect). The high input voltage range allows international use. Due to the standard dual channel architecture (with double lamp fittings) if one fluorescent lamp fails, the other fluorescent lamp will independently stay in operation. The standard single-sided through-wiring in connection with the variety of possibilities offers a cost efficient installation. Double-sided lock with 10, 20 or 24 latch points allows the protective bowl to be hingeable on both sides meaning the fitting can be mounted without having to pay attention to which side is the right side. Automatic switch built as a safety disconnector according to EN 60947 (IEC 664) with an automatic switch ensuring the disconnection of all exposed components when the fitting is opened. The optional CG-S module represents an optimum solution for the individual monitoring of light fittings connected to CEAG emergency battery systems.



- **Standard dual channel ballast**
- **Double-sided safety lock**
- **Safety locking system due to an integrated forced isolating switch**
- **Safety standard IP66**
- **Connection to CEAG emergency light monitoring systems possible**
- **International Approvals**



Technical data

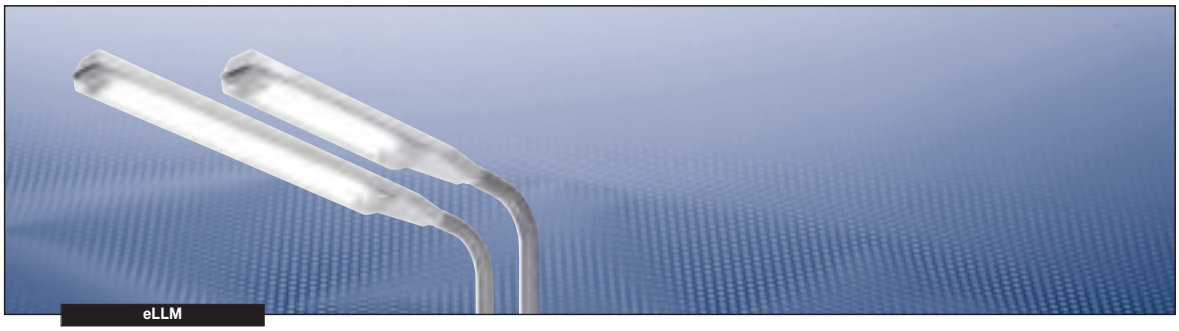
eLLK 92018/18 | eLLK 92036 / eLLK 92036/36 | eLLK 92058 / eLLK 92058/58	
Marking to 94/9/EC	Ex II 2 G Ex de IIC T4 / Ex II 2 G Ex de mb II T4 (CG-S variant) Ex II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	BVS 09 ATEX E 034
IECEx-Certificate of Conformity	IECEx BVS 09.0033
Marking to IECEx	Ex de mb IIC T4 Ex tD A21 IP66 T 80 °C
Permissible ambient temperature	-25 °C to +55 °C ($U_n \geq 220$ V) -25 °C to +50 °C ($U_n < 220$ V)[1]
Frequency	50 - 60 Hz
Power factor cos φ	≥ 0.95
Circuit	EVG resp. EVG/CG-S
Connecting terminals	L1, L2, L3, L, N, PE; max. 2 x 6 mm² per terminal
Insulation class	I
Lamp cap	G13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP66
Cable glands/gland plates/enclosure entry holes	Ex-e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm, Option: M20 x 1.5 metal thread
Enclosure material	Glass-fibre reinforced polyester
Protective cover/protective bowl	Polycarbonate

	eLLK 92018/18	eLLK 92036	eLLK 92036/36
Rated voltage	110 - 254 V AC / 110 - 250 V DC	110 - 254 V AC / 110 - 250 V DC	110 - 254 V AC / 110 - 250 V DC
Rated voltage CG-S	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC
Rated current	0.18 A 0.19 A (CG-S variant)	0.18 A	0.34 A 0.35 A (CG-S variant)
Lamp/illuminant	2 x T26 / 18 W (T8)	1 x T26 / 36 W (T8)	2 x T26 / 36 W (T8)
Rated luminous flux[2]	2700 lm	3350 lm	6700 lm
Light efficiency in operation	78 %	86 %	78 %
Dimensions (L x W x H)	760 x 188 x 130 mm	1360 x 188 x 130 mm	1360 x 188 x 130 mm
Weight	approx. 5.2 kg / approx. 5.6 kg (CG-S variant)	approx. 7.2 kg	approx. 7.4 kg / approx. 7.7 kg (CG-S variant)

	eLLK 92058	eLLK 92058/58
Rated voltage	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC
Rated voltage CG-S	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC
Rated current	0.27 A	0.53 A / 0.54 A (CG-S variant)
Lamp/illuminant	1 x T26 / 58 W (T8)	2 x T26 / 58 W (T8)
Rated luminous flux[2]	5200 lm	10400 lm
Light efficiency in operation	83 %	72 %
Dimensions (L x W x H)	1660 x 188 x 130 mm	1660 x 188 x 130 mm
Weight	approx. 8.2 kg	approx. 9.1 kg / approx. 9.6 kg (CG-S variant)

[1] eLLK 92058/58: max. +40 °C

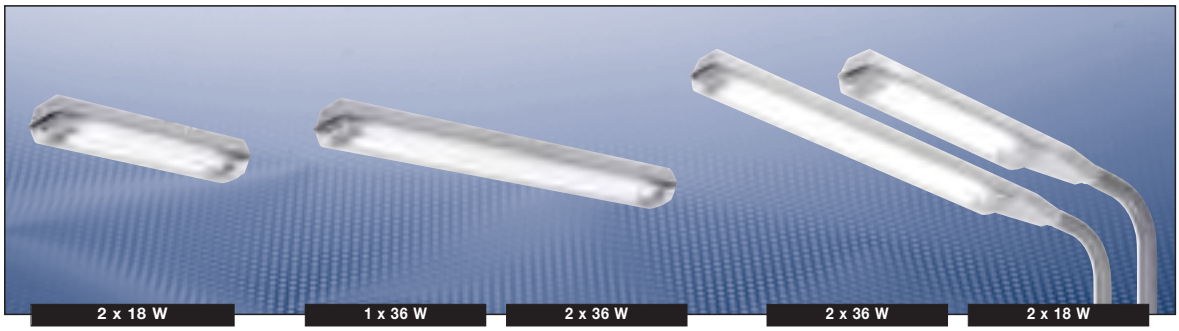
[2] depends on used lamps



Technical data

eLLM 92018/18 | eLLM 92036/36	
Marking to 94/9/EC	Ⓔx II 2 G Ex de IIC T4 Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	BVS 09 ATEX E 034
IECEx-Certificate of Conformity	IECEx BVS 09.0033
Marking to IECEx	Ex de IIC T4 Ex tD A21 IP66 T80 °C
Permissible ambient temperature	-25 °C to +55 °C ($U_n \geq 220$ V) -25 °C to +50 °C ($U_n < 220$ V)
Rated voltage	110 - 254 V AC / 110 - 250 V DC
Frequency	50 - 60 Hz
Power factor cos φ	≥ 0.95
Circuit	EVG
Connecting terminals	L1, N, PE; max. 2 x 6 mm² per terminal
Insulation class	I
Lamp cap	G13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP66
Cable glands/gland plates/enclosure entry holes	Ex-e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm
Enclosure material	Glass-fibre reinforced polyester
Protective cover/protective bowl	Polycarbonate

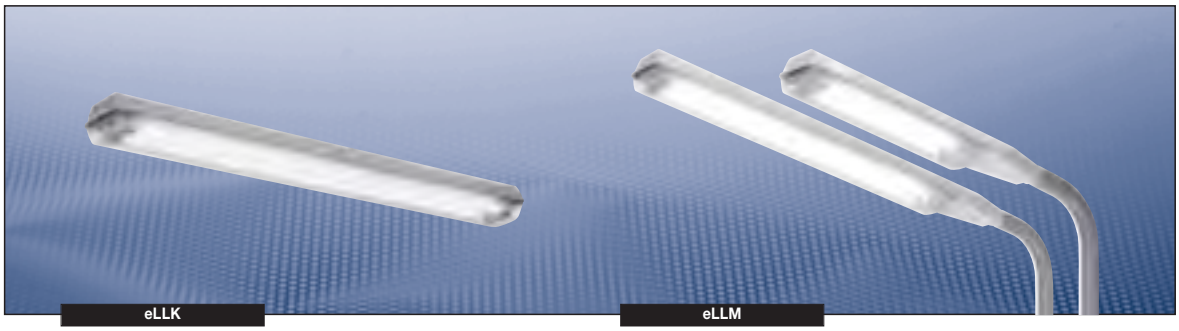
	eLLM 92018/18	eLLM 92036/36
Rated voltage	110 - 254 C AC / 110 - 250 V DC	
Rated current	0.18 A	0.34 A
Lamp/illuminant	2 x T26 / 18 W (T8)	2 x T26 / 36 W (T8)
Rated luminous flux[1)]	2700 lm	6700 lm
Light efficiency in operation	78 %	78 %
Dimensions (L x W x H)	1060 x 188 x 130 mm	1660 x 188 x 130 mm
Pole socket	Ø 44 mm x 150 mm	Ø 44 mm x 150 mm
Weight	approx. 7.0 kg	approx. 9.5 kg



Ordering details

Type	Terminals	Through-wiring		Cable glands[3]	Plugs	Order No.
		single-ended	double-ended			
eLLK 92018/18 (2 x 18 W)						
1/6-1	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	**1 2265 875 101**
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	**1 2265 875 103**
1/6-1 M[1]	1 x 6	x	–	2 x M20 x 1.5	1 x threaded	**1 2265 875 109**
2/6-2 M[1]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 2265 875 111**
eLLK 92018/18 (2 x 18 W)						
Level gauge P2	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	**1 2265 875 126**
eLLK 92018/18 CG-S[2] (2 x 18 W)						
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	**1 2265 881 103**
2/6-2M[1]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 2265 881 211**
eLLM 92018/18 (2 x 18 W)						
1/6-1	1 x 3	–	–	1 x M25 x 1.5		**1 2268 875 101**
eLLK 92036 (1 x 36 W)						
1/6-1	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	**1 2263 875 101**
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	**1 2263 875 103**
1/6-1 M	1 x 6	x	–	2 x M20 x 1,5	1 x threaded	**1 2263 875 111**
eLLK 92036 (1 x 36 W)						
Level gauge P3 1/6-1	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	**1 2263 875 125**
eLLK 92036/36 (2 x 36 W)						
1/6-1	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	**1 2266 875 101**
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	**1 2266 875 103**
1/6-1 M[1]	1 x 6	x	–	2 x M20 x 1.5	1 x threaded	**1 2266 875 109**
2/6-2 M[1]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 2266 875 111**
eLLK 92036/36 CG-S[2] (2 x 36 W)						
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	**1 2266 881 103**
2/6-2M[1]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 2266 881 211**
eLLM 92036/36 (2 x 36 W)						
1/6-1	1 x 3	–	–	1 x M25 x 1.5		**1 2269 875 101**
eLLK 92058 (1 x 58 W)						
1/6-1	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	**1 2264 875 101**
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	**1 2264 875 103**
2/6-2 M[1]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 2264 875 111**
eLLK 92058/58 (2 x 58 W)						
1/6-1	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	**1 2267 875 101**
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	**1 2267 875 103**
2/6-2 M[1]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 2267 875 111**
eLLK 92058/58 CG-S[2] (2 x 58 W)						
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	**1 2267 881 103**
2/6-2 M[1]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 2267 881 211**

[1] M: with metal thread, without cable gland
[2] CG-S: design single monitored emergency light fitting for use in CEAG emergency light supply unit
[3] With dustcover if entry/thread is not closed
Scope of delivery without lamp and fixing accessories.



Accessories

Lamp for luminaire eLLK92/eLLM92

Type of lamp socket/ diameter	Power	Luminous flux light colour	Order No.
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2220-1	18 W	1350 lm white	**3 2475 900 001**
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2420-1	36 W	3350 lm white	**3 2475 900 002**
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2520-1	58 W	5200 lm white	**3 2475 900 003**
Aura-Ultimate T26/Ø 26 mm (T8) Longlife G13-socket	18 W 36 W 58 W	1300 lm white 3350 lm white 5200 lm white	**3 2475 900 087** **3 2475 900 088** **on request**
Aura Super Ex T-HS 26/Ø 26 mm[1)] Single pin cap Fa6	18 W 36 W 58 W	1150 lm white 3000 lm white 4800 lm white	**3 2475 900 084** **3 2475 900 085** **on request**

Series eLLK 92... and eLLM 92...

Type	Order No.
Hexagon screw SW 13	**3 2485 000 005**

Series eLLM 92018/18 and eLLM 92036/36

Type	Order No.
Single sided through wiring 2/6 with 2 entries M25, incl. terminals and mounting material	**2 2218 602 000**

Fixing materials eLLK 92

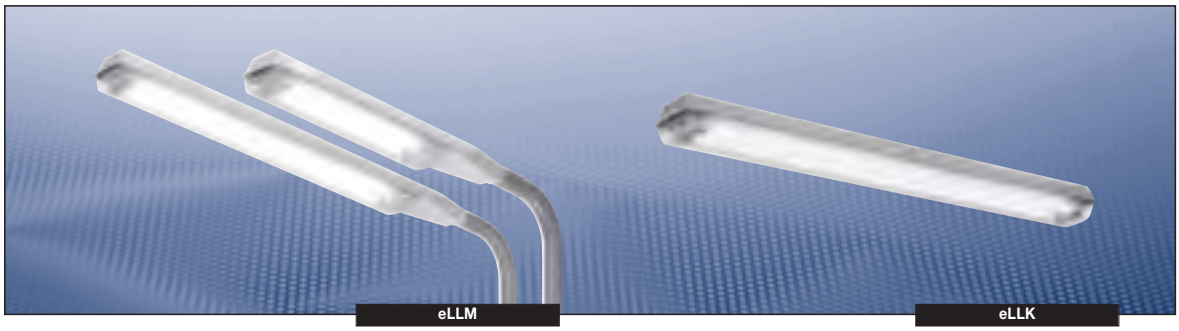
Type/code	Corrosion protection	Qty. per light fitting	Order No.
Eye bolt A2	galvanized	2	**2 2480 002 000**
Hexagon screw S4	stainless steel	2	**2 2480 054 000**
Ceiling mounting bracket D92 incl. screws and washer	stainless steel	2	**2 2480 092 000**

Fixing materials

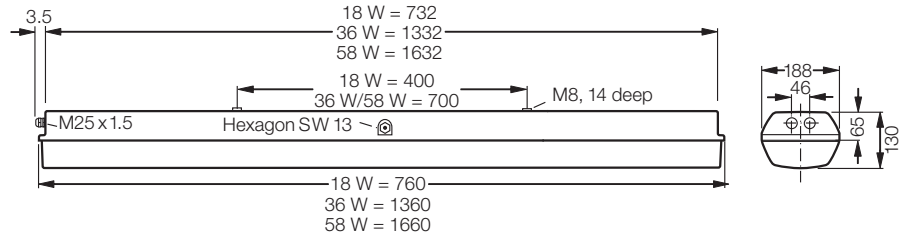
Type/code	Corrosion protection	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	Order No.
Pipe clamp					
R12	hot galvanized	1¼"	38 - 42	2	**2 2480 462 000**
R14	CrNi	1¼"	38 - 42	2	**2 2480 464 000**
R22	hot galvanized	1½"	47 - 51	2	**2 2480 472 000**
R24	CrNi	1½"	47 - 51	2	**2 2480 474 000**
R32	hot galvanized	2"	56 - 60	2	**2 2480 482 000**
R34	CrNi	2"	56 - 60	2	**2 2480 484 000**
Wall bracket W27	hot galvanized		42.4	1	**2 2483 027 000**
Luminaire wall suspension 30° incl. screws and washer	hot galvanized			2	**2 2480 000 122**

[1)] For luminaires eLLK 923../.. and eLLM 923../.. with single pin caps Fa6

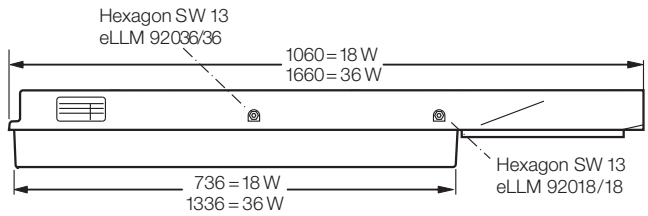
Metal cable glands M20/M25 see page 8.10.
Complete Mounting Systems see page 2.70 to 2.76.



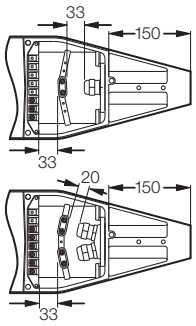
Dimension drawing | Polar curve | Accessories



eLLK 92018/18 / eLLK 92036 / eLLK 92036/36 / eLLK 92058 / eLLK 92058/58

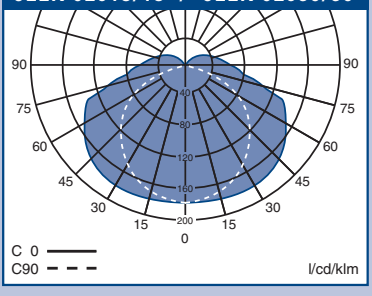


eLLM 92018/18 / eLLM 92036/36

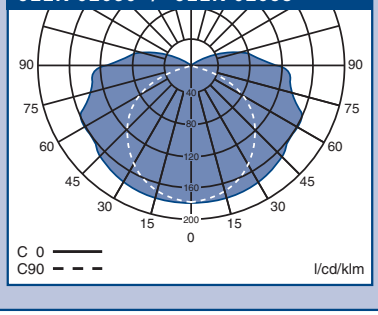


eLLM 92...

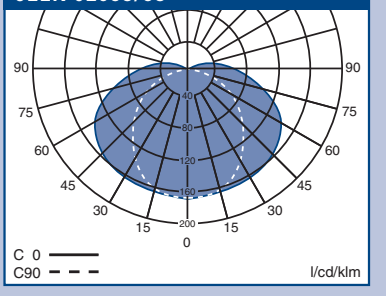
Polar curve eLLK 92018/18 / eLLK 92036/36

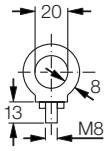


Polar curve eLLK 92036 / eLLK 92058

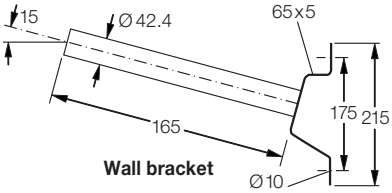


Polar curve eLLK 92058/58

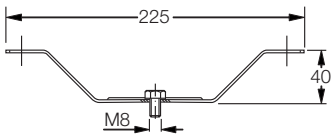


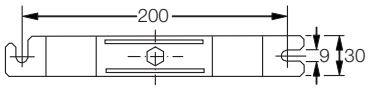


Eye bolt

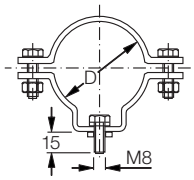


Wall bracket

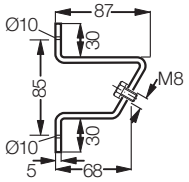




Ceiling mounting bracket D92



Pipe clamp



Luminaire wall suspension 30°

Dimensions in mm

EX-EMERGENCY LIGHT FITTINGS

eLLK 92... NIB/eLLM 92... NIB 18 W - 36 W
All-plastic for Zone 1 and 21

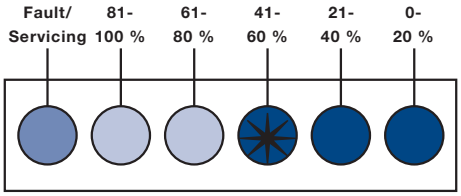
The new Ex-emergency light fittings with self-contained battery unit, types eLLK 92... NIB, for bi-pin fluorescent lamps are fitted with an electronic ballast (EVG). They meet the requirements of ATEX Directive 94/9/EC. The electronic ballast EVG 09, according to the newest standard (IEC 60079-7:2006) enables the safe and economic use of G13 bi-pin lamps acc. to IEC 60081. Lamps are monitored and safety shut down at the event that the lamp does not strike. Due to a new charging and monitoring technology with intelligent microelectronics, they provide reliable safety and reduced maintenance costs. A function test lasting 5 minutes, that is carried out automatically on a weekly basis, even during mains operation, and a quarterly partial duty-cycle test provide additional safety and drastically reduce the necessaary amount of manual tests. The charging and discharging funtions are monitored constantly by the micro-processor and are indicated via a diode display. Only the spent energy is recharged – therefore, overcharging is not possible. The so-called memory effect cannot occur – the service life of the battery is optimized. The need to replace a battery, a fault in the emergency lighting circuit or a faulty battery is indicated by the LED display. Due to a new type of battery connection, the battery can be replaced in the hazardous area. The emergency lighting cycle can be set locally for 1.5 or 3 hours. A remote switch inquiry is standard.



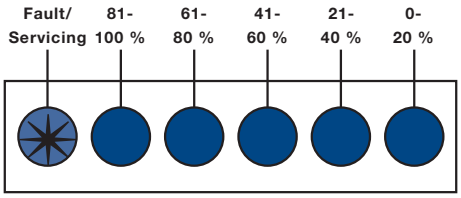
- **Two-channel EVG with EOL monitoring as standard**
- **Automatic weekly 5 minute function test**
- **Automatic quarterly partial duty cycle test**
- **Fault indication by flashing red LED with reset after fault elimination**
- **Monitoring of battery cells with fault indication**
- **Capacity-dependant charging: indication of charged capacity and remaining operating time by 5 green LEDs**
- **Easy replacement of battery, even in Ex-area**
- **International approvals**



red LED green LEDs
Monitoring Display

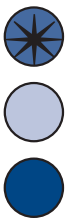


Capacity larger than 40 %, Charging (flashing), no faults



Capacity 100 %, Charging, Fault after Function or duty cycle

LED:



= flashing

= off

= on

Emergency light fittings with self-contained battery systems

Emergency light fittings with self-contained battery systems provide the required emergency lighting from a de-centralized source and function inde-pendent of the central system. These light fittings are particularly economical when used in extensive plants. Until now, compared to the centrally opera-ted and monitored installations, the disadvantage of the emergency light fittings with self-contained battery systems was that they do not supply any information on the state of the light fittings. With the introduction of the eLLK 92 .... NIB, Cooper Crouse-Hinds GmbH has now incorporated monito-ring. Five LEDs supply constant infor-mation on the charging state, and the available battery capacity.

Monitoring functions NIB

A novelty is the enlarged self-monito-ring function with automatic function and duration tests. For further safety, all battery cells are permanently moni-tored. In the event of a fault, the red LED lights up. Then the battery must be changed. Resetting is not possible for safety reasons.
Guarded by a lens, the 5 green LEDs cotinuously indicate the charging state and the battery capacity. Charging is indicated by flashing green LEDs. The loaded capacity is shown in 20 % steps. An automatic 5 minute function test is carried out on a weekly basis. Thereby, the electronics of the emergency lamp switches from mains to emergency operation, while the mains lamp stays in normal operation. The battery capacity and also the converter- and lamp-function is being tested and possible faults are shown by a flashing red LED. After removing the fault (p.e. by lamp change) and a new function test the fault indication resets auto-matically.

A partial duty cycle-test (35 min.) is initiated automatically after approx. 3 months. If the min. operation time of 30 minutes is not reached, this is indicated by a flashing red LED. When the cause of the fault has been elimina-ted, the fault indication is reset during the next emergency lighting operation (manual or automatic) when the minimum operating time of approx. 30 minutes has been reached.

Handling

The battery is installed in a separate, certified housing.
There are up to 7 Ex-d connectors for the data transfer between the battery unit and the luminaire. Therefore, a battery change is also possible in hazardous areas – at any time. If the luminaire is closed all contacts are safely closed (Fig. 1).

After opening

After loosening the screw plug the battery can be taken away. Thereby the Ex-d switching contact first is cutoff and disconnect the battery circuit (Fig. 2).
So the battery can be completely cut off from the charging circuit of the luminaire (Fig. 2a).
A battery change in hazardous areas can be done at every time. A detachable strap protects the insert from being dropped inadvertenly (Fig. 3).

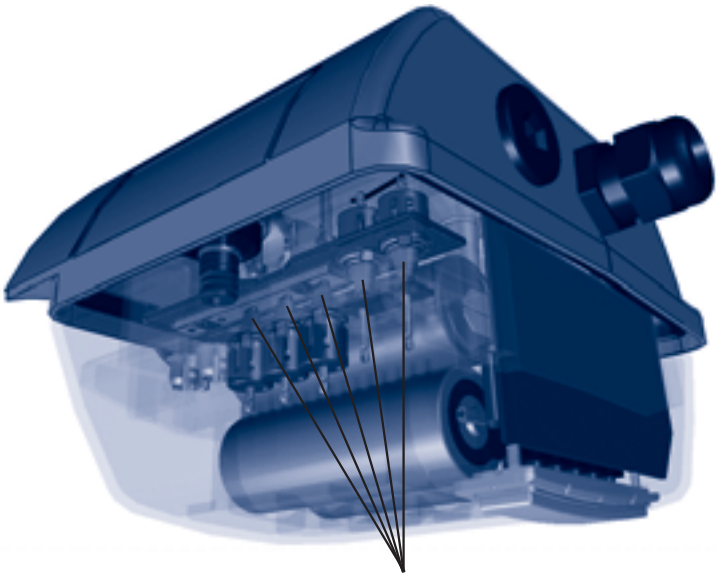


Fig. 1: Ex-d Contact pins

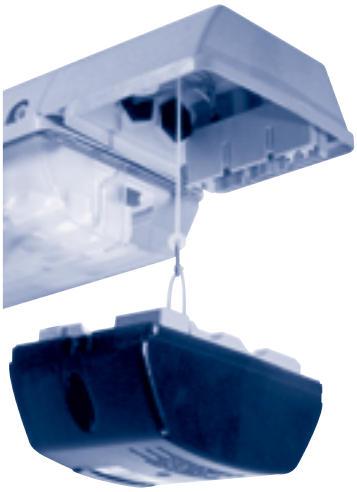


Fig. 3

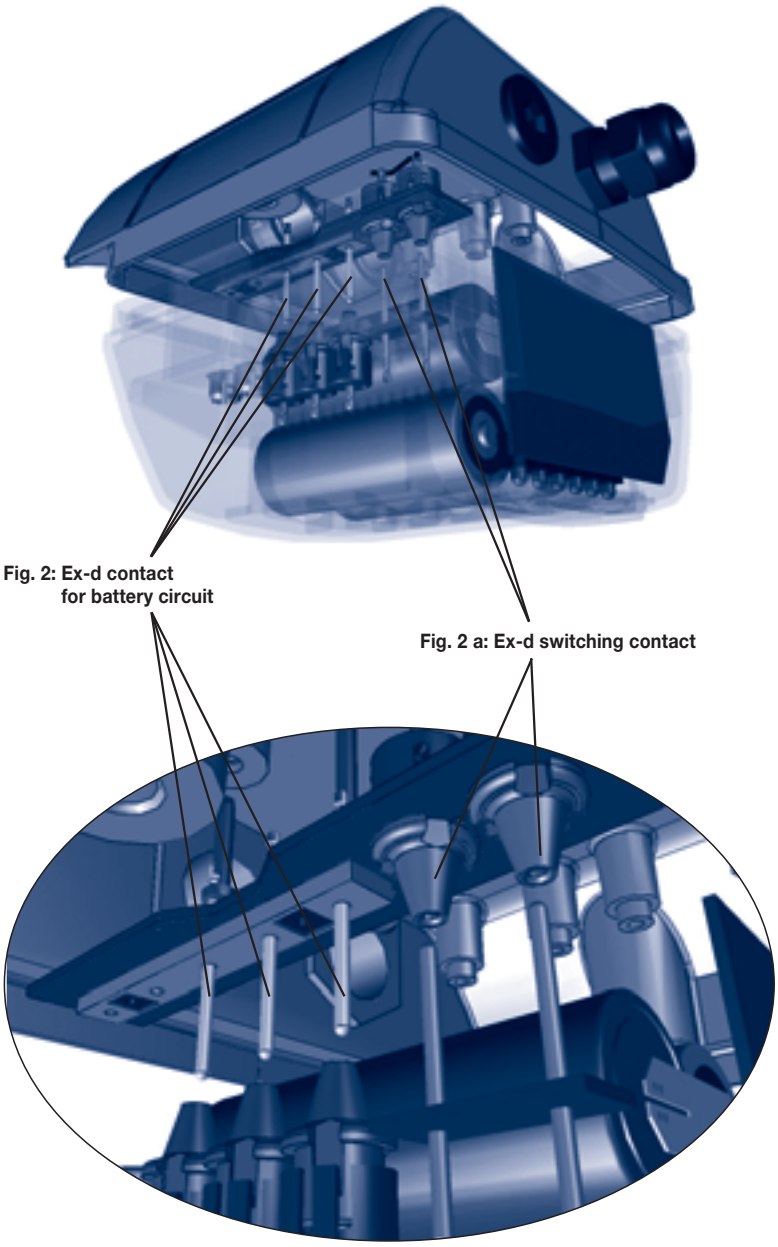
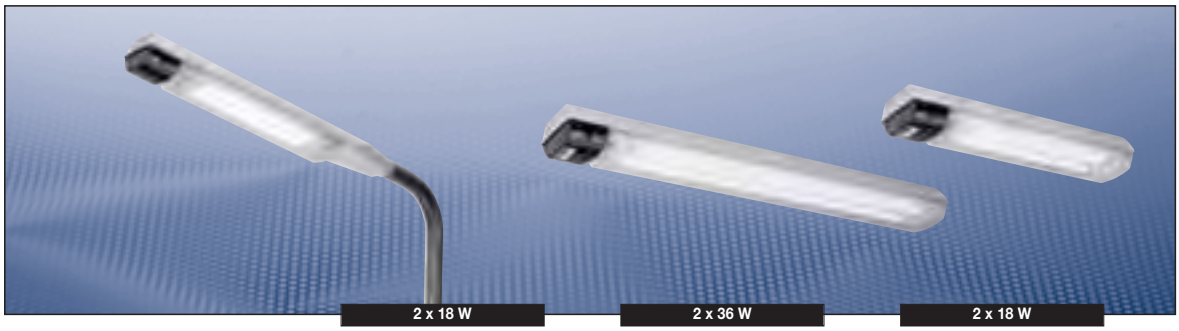


Fig. 2: Ex-d contact for battery circuit

Fig. 2 a: Ex-d switching contact

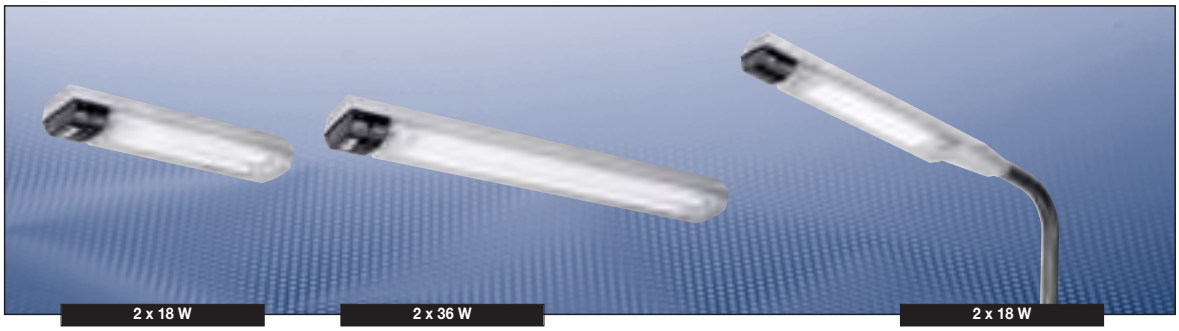


Technical data

eLLK 92018/18 NIB | eLLK 92036/36 NIB | eLLM 92018/18 NIB	
Marking to 94/9/EC	Ex II 2 G Ex de mb ib IIC T4 / Ex II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	BVS 09 ATEX E 034
IECEx-Certificate of Conformity	IECEx BVS 09.0033
Marking to IECEx	Ex de mb [ib] IIC T4 Ex tD A21 IP66 T80 °C
Permissible ambient temperature	-25 °C to +50 °C (specified data: -5 °C to +35 °C)
Rated voltage	220 - 254 V AC
Rated voltage (option)	110 - 127 V AC
Frequency	50 - 60 Hz
Power factor cos φ	≥ 0.95
Circuit	EVG with emergency lighting supply
Insulation class	I
Lamp cap	G13 accd. to IEC 60081
Light efficiency in operation	78 %
Battery	Battery set with 7 Ah-NC battery, with LED display and monitoring via microprocessor
Rated emergency lighting operation	1-lamps can be set on site for an emergency lighting duration of 1.5 or 3 hours
Charging duration	> 14 h
Degree of protection accd. EN 60529	IP66
Cable glands/gland plates/enclosure drilling	Ex-e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm, Option: M20 x 1.5 metal thread (eLLK 92 NIB)
Enclosure material	Glass-fibre reinforced polyester
Protective cover/protective bowl	Polycarbonate

	eLLK 92018/18 NIB	eLLK 92036/36 NIB	eLLM 92018/18 NIB
Rated current	0.23 A	0.40 A	0.23 A
Connecting terminals	L1, L2, L3, L, N, PE; max. 2 x 6 mm² per terminal	L1, L2, L3, L, N, PE; max. 2 x 6 mm² per terminal	L1, L2, L3, L, N, PE; max. 2 x 6 mm² per terminal
Lamp/illuminant	2 x T26 / 18 W (T8)	2 x T26 / 36 W (T8)	2 x T26 / 18 W (T8)
Rated luminous flux[1)]	2700 lm	6700 lm	2700 lm
Luminous flux in emergency operation (1.5 h, one lamp)[1)]	1215 lm (90 %)	1507 lm (45 %)	1215 lm (90 %)
Luminous flux in emergency operation (3 h, one lamp)[1)]	607 lm (45 %)	873 lm (25 %)	607 lm (45 %)
Dimensions (L x W x H)	900 x 188 x 130 mm	1500 x 188 x 130 mm	1205 x 188 x 130 mm
Pole socket			Ø 44 x 150 mm
Weight	approx. 8.8 kg	approx. 12 kg	approx. 10.5 kg

[1)] depends on used lamps



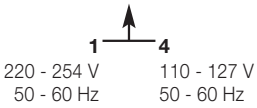
Ordering details

Type	Terminals	Through-wiring single-ended	Through-wiring double-ended	Cable glands[2]	Plugs	Order No.
eLLK 92018/18 NIB (2 x 18 W)						
1/6-1	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	**1 2260 879 101**
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	**1 2260 879 103**
2/6-2 M[1]	2 x 6	–	x	4 x M20 x 1.5	3 x threaded	**1 2260 879 111**
eLLK 92036/36 NIB (2 x 36 W)						
1/6-1	1 x 6	x	–	2 x M25 x 1.5	1 x blanking	**1 2261 879 101**
2/6-2	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	**1 2261 879 103**
2/6-2 M[1]	2 x 6	–	x	4 x M20 x 1.5	3 x threaded	**1 2261 879 111**
eLLM 92018/18 NIB (2 x 18 W)						
2/6-1	1 x 8	x	–	1 x M25	–	**1 2273 879 101**

[1] M: with metal thread, without cable gland

[2] With dustcover if entry/thread is not closed

Scope of delivery without lamp and fixing accessoires

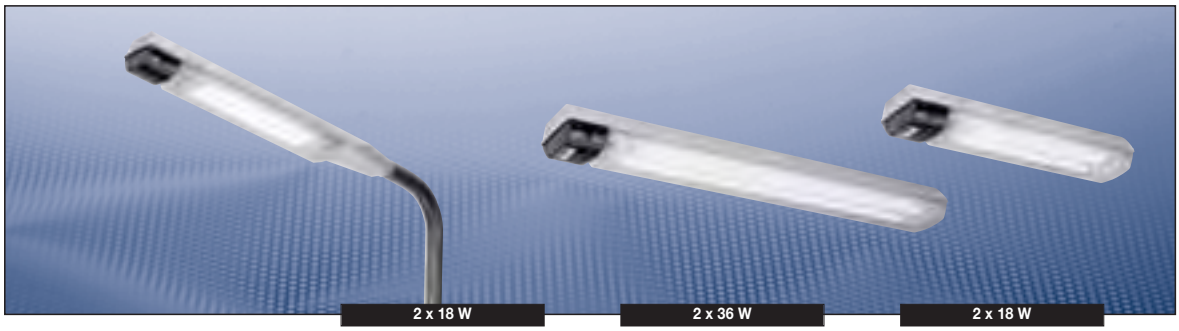


Accessories

Lamp for luminaire eLLK92... NIB/eLLM92... NIB

Type of lamp socket/ Diameter	Power	Luminous flux Light colour	Order No.
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2220-1	18 W	1350 lm white	**3 2475 900 001**
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2420-1	36 W	3350 lm white	**3 2475 900 002**
Aura-Ultimate T26/Ø 26 mm (T8) Longlife Socket G13	18 W 36 W	1300 lm white 3350 lm white	**3 2475 900 087** **3 2475 900 088**
Aura Super Ex T-HS 26/Ø 26 mm[1] Single pin cap Fa6	18 W 36 W	1150 lm white 3000 lm white	**3 2475 900 084** **3 2475 900 085**

[1] For luminaires eLLK 923../.. and eLLM 923../.. single-pin caps Fa6



Accessories

Series eLLK 92... NIB and eLLM 92... NIB	
Type	**Order No.**
Hexagon key SW 13	**3 2485 000 005**

Series eLLM 92018/18 NIB and eLLM 92036/36 NIB	
Type	**Order No.**
Single sided through wiring 2/6 with 2 entries M25, incl. terminals and mounting material	**2 2218 602 000**

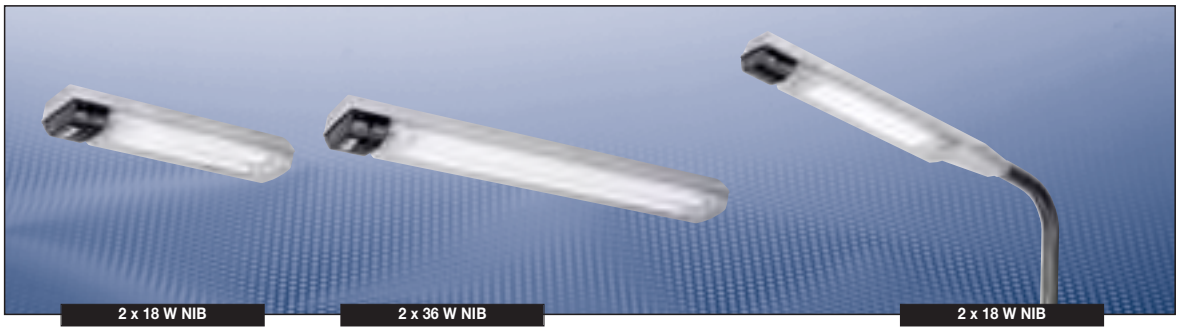
Fixing materials eLLK 92... NIB			
Type/code	**Corrosion protection**	**Qty. per light fitting**	**Order No.**
Eye bolt A2	galvanized	2	**2 2480 002 000**
Hexagon screw S4	stainless steel	2	**2 2480 054 000**
Ceiling mounting bracket D92 incl. screws and washer	stainless steel	2	**2 2480 092 000**

Fixing materials					
Type/code	**Corrosion protection**	**for pipes DIN**	**Outer Ø D (mm)**	**Qty. per light fitting**	**Order No.**
Pipe clamp					
R12	hot galvanized	1¼"	38 - 42	2	**2 2480 462 000**
R14	CrNi	1¼"	38 - 42	2	**2 2480 464 000**
R22	hot galvanized	1½"	47 - 51	2	**2 2480 472 000**
R24	CrNi	1½"	47 - 51	2	**2 2480 474 000**
R32	hot galvanized	2"	56 - 60	2	**2 2480 482 000**
R34	CrNi	2"	56 - 60	2	**2 2480 484 000**
Wall bracket W27	hot galvanized		42.4	1	**2 2483 027 000**
Luminaire wall suspension 30° incl. screws and washer	hot galvanized			2	**2 2480 000 122**

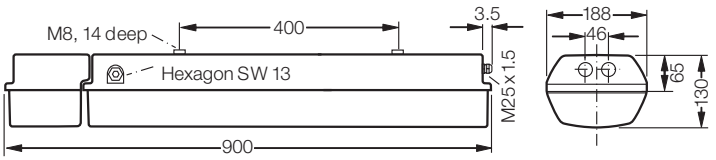
Battery	
Type	**Order No.**
eLLK 92..., eLLM 92... NIB Battery set type 2710-3 with LED display and micro-processor monitoring, complete	**2 2710 904 000**

[1] For luminaires eLLK 923../.. and eLLM 923../.. with single pin caps Fa6

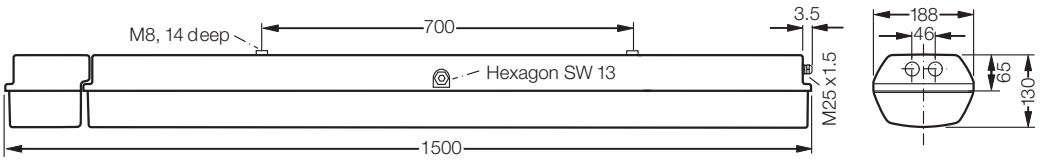
Metal cable glands M20/M25 see page 8.10.
Complete Mounting Systems see page 2.70 to 2.76.



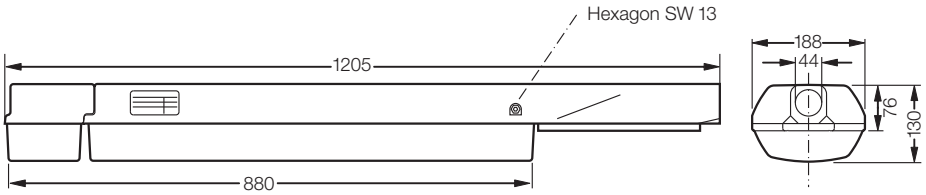
Dimension drawing | Polar curve



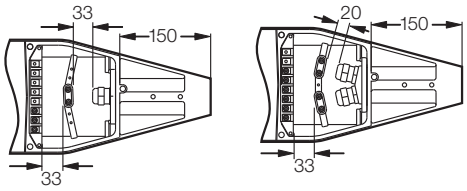
eLLK 92018/18 NIB



eLLK 92036/36 NIB

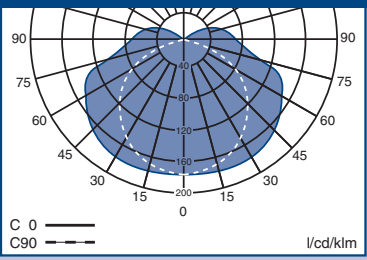


eLLM 92018/18 NIB

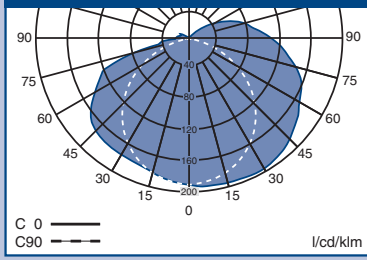


eLLM 92018/18 NIB

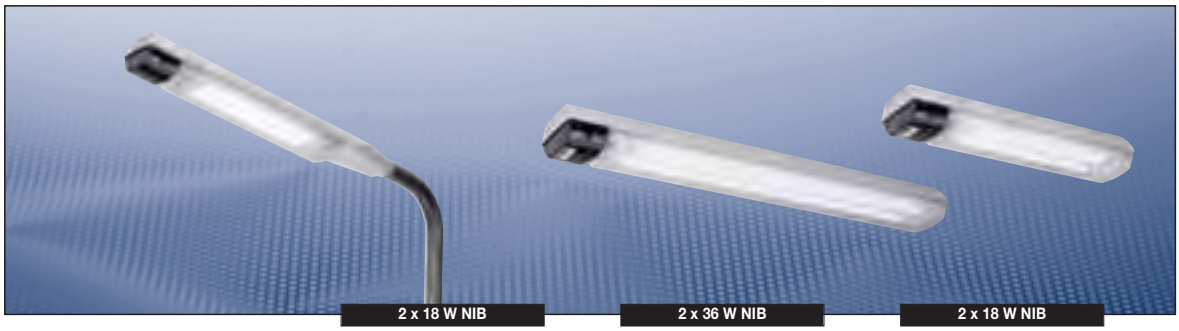
Polar curve
eLLK 92018/18 /
eLLK 92036/36 NIB



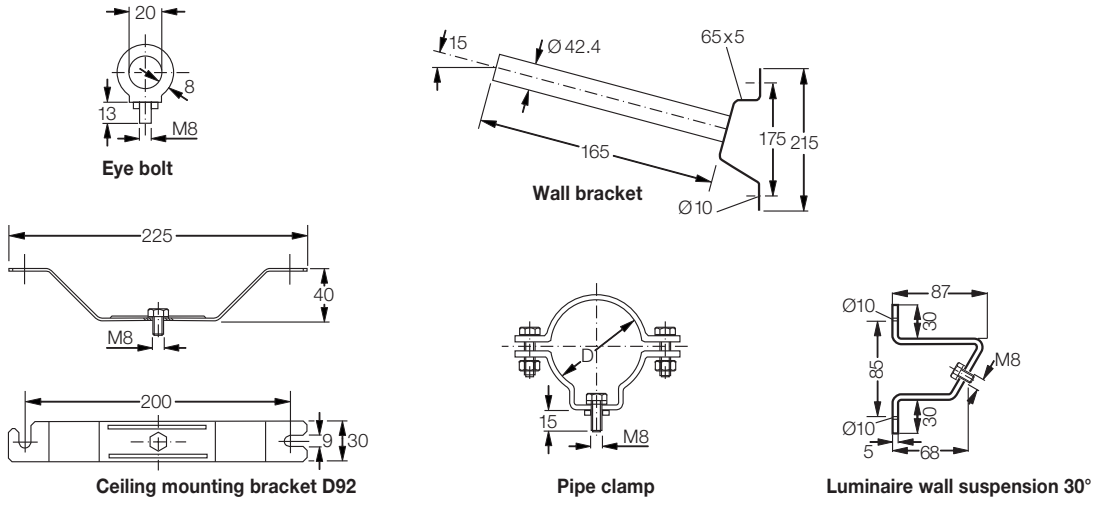
Polar curve
eLLK/eLLM 920../.. NIB
in emergency operation



Dimensions in mm



Dimension drawing



Dimensions in mm

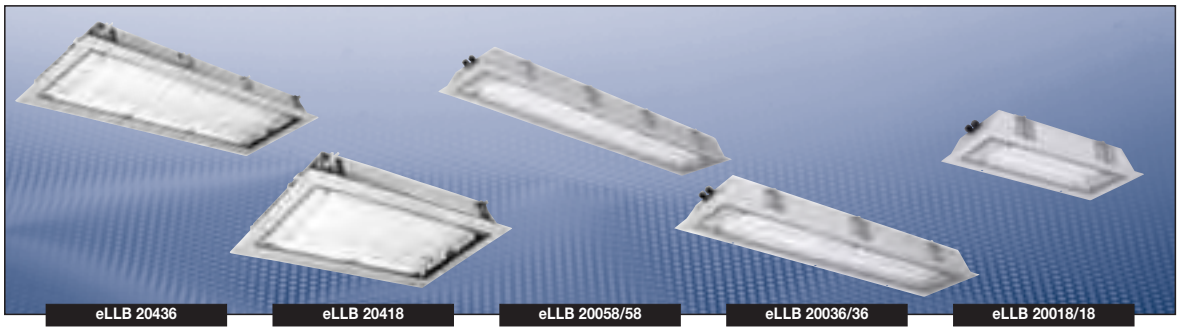
EX-RECESSED CEILING LIGHT FITTINGS

eLLB 20... 18 - 58 W
Metallic design for Zone 1 and 21

The eLLB 20 explosion-protected ceiling light fitting with electronic ballast meet the requirements of ATEX-Directive 94/9/EC and are suitable for two-pin fluorescent lamps.
These lamps are used for surface and flush mounting in ceilings, in particular in clean rooms where smooth, flush surfaces are very important. The area of application is in the pharmaceutical and chemical industry and in engineering as well as in paint shops and spraying cabinets.
The housing comprises white-painted steel sheet with integrally moulded covering frame or, optionally, made of polished stainless steel. Safe installation in the ceiling is ensured with special fixing elements, who allows a universal and simple mounting in recessed clean room ceiling from 25 up to 90 mm thickness. In addition, it can also be fixed by means of two M8 drilled holes on the top of the housing.
The hinged, frameless pane made of 6 mm thick safety glass is fixed with captive screws and has inside hinges. The sealing material is guaranteed silicone-leak-proof. The modern economical ballast EVG 09 according to the latest standards (IEC 60079-7: 2006) allows a safe and economical operation of bi-pin fluorescent lamps G13 according to IEC 60081. Lamps reaching its end of life will be monitored and securely switched off (EOL-effect). The high input voltage range allows international use. The standard two-channel structure means that if one lamp fails, the other one remains in operation.
The standard two-sided through-wiring together with the generous terminal housing offers a cost-saving installation.
The light switch is designed as an automatic disconnector pursuant to EN 60947-1 (IEC 60664) and reliably prevents the lamp from being switched on when the cover disc is open.
With the optional CG-S module, single monitoring of the lamp is possible with the CEAG Emergency Light Supply Systems.



- **Two channel EVG with EOL monitoring as standard**
- **Flush Installation Specially for Clean Rooms**
- **Optionally in painted sheet steel or stainless steel**
- **Safety locking due to integral automatic disconnector**
- **High degree of protection IP66**
- **Connection to CEAG Emergency Light Supply Systems possible**



Technical data

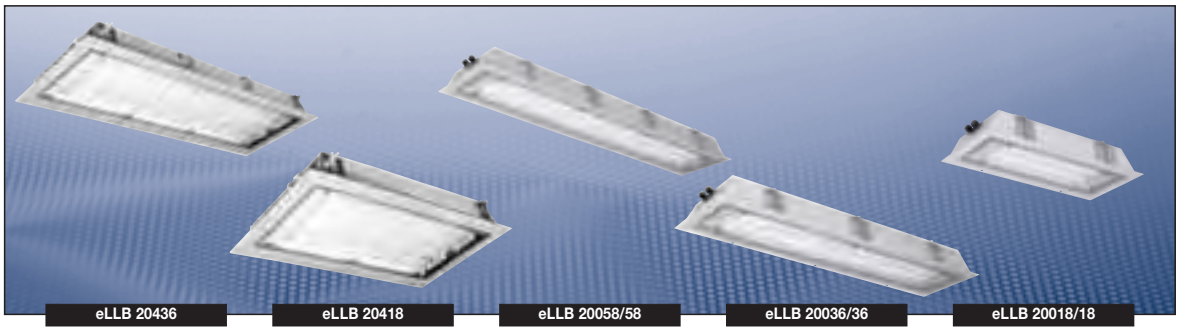
eLLB 20018/18 | eLLB 20418 | eLLB 20036/36 | eLLB 20436 | eLLB 20058/58	
Marking to 94/9/EC	Ex II 2 G EEx ed IIC T4 / Ex II 2 G EEx dem ib IIC T4 (CG-S variant) Ex II 2 D IP66 T80 °C
(new standard – applies for)	Ex II 2 G Ex de IIC T4 / Ex II 2 G Ex de ib m IIC T4 (CG-S variant) Ex II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	DMT 02 ATEX E 069
Permissible ambient temperature	-25 °C to +50 °C
Frequency	50 - 60 Hz
Power factor cos φ	≥ 0.95
Circuit	EVG resp. EVG/CG-S
Connecting terminals	L1, L2, L3, L, N, PE; max. 2 x 6 mm² per terminal, through-wiring double-ended
Insulation class	I
Lamp cap	G13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP66
Cable glands/gland plates/enclosure drilling	Ex-e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm, Option: metal thread M20 x 1.5
Enclosure material	Painted steel sheet, white optional polished stainless steel
Enclosure colour	white RAL 9010, optional stainless steel
Protective cover/protective bowl	Single-safety glass pane of 6 mm thick
Permissible ceiling tickness for fixing accessories	min. 25 mm to max. 90 mm

	eLLB 20018/18	eLLB 20418
Rated voltage	110 - 254 V AC / 110 - 250 V DC	110 - 254 V AC / 110 - 250 V DC
Rated voltage CG-S	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC
Rated current	0.18 A / 0.19 A (CG-S variant)	0.36 A / 0.37 A (CG-S variant)
Lamp/illuminant	2 x T26 / 18 W (T8)	4 x T26 / 18 W (T8)
Rated luminous flux[1)]	2700 lm	5400 lm
Light efficiency in operation	70 %	69 %
Dimensions (L x W x H)	862 x 340 x 120 mm	862 x 490 x 120 mm
Weight	apx. 15 kg / apx. 15.5 kg (CG-S variant)	apx. 25 kg / apx. 25.5 kg (CG-S variant)

	eLLB 20036/36	eLLB 20436
Rated voltage	110 - 254 V AC / 110 - 250 V DC	110 - 254 V AC / 110 - 250 V DC
Rated voltage CG-S	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC
Rated current	0.34 A / 0.35 A (CG-S variant)	0.68 A / 0.69 A (CG-S variant)
Lamp/illuminant	2 x T26 / 36 W (T8)	4 x T26 / 36 W (T8)
Rated luminous flux[1)]	6700 lm	13400 lm
Light efficiency in operation	70 %	69 %
Dimensions (L x W x H)	1460 x 340 x 120 mm	1460 x 490 x 120 mm
Weight	apx. 22 kg / apx. 22.5 kg (CG-S variant)	apx. 34 kg / apx. 34.5 kg (CG-S variant)

	eLLB 20058/58
Rated voltage	220 - 254 V AC / 195 - 250 V DC
Rated voltage CG-S	220 - 254 V AC / 195 - 250 V DC
Rated current	0.53 A / 0.54 A (CG-S variant)
Lamp/illuminant	2 x T26 / 58 W (T8)
Rated luminous flux[1)]	10400 lm
Light efficiency in operation	68 %
Dimensions (L x W x H)	1760 x 340 x 120 mm
Weight	approx. 26 kg / approx. 26.5 kg (CG-S variant)

[1)] depends on used lamps



Ordering details

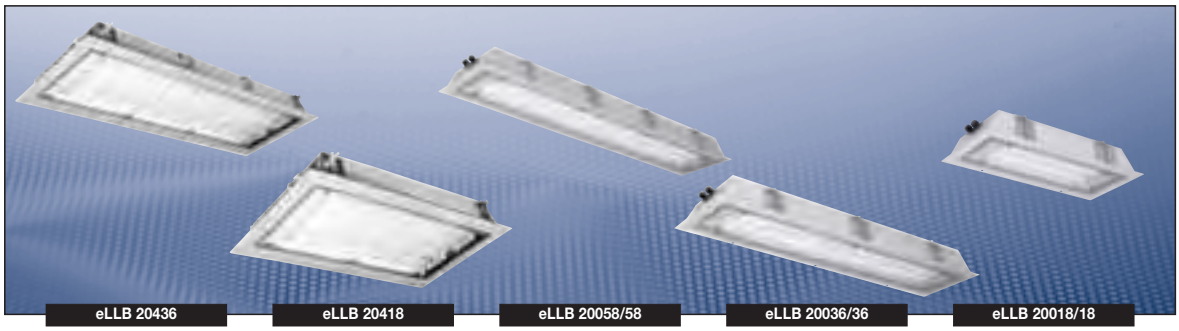
Type	Cable gland[3]	Enclosure	Order No.
Type eLLB 20018/18			
eLLB 20018/18	M20M[2]	stainless steel 316	**1 2190 218 111**
eLLB 20018/18	M20M[2]	painted steel sheet	**1 2190 218 101**
eLLB 20018/18	M25K	stainless steel 316	**1 2190 218 011**
eLLB 20018/18	M25K	painted steel sheet	**1 2190 218 001**
eLLB 20018/18 CG-S[1]	M20M[2]	stainless steel 316	**1 2190 218 723**
eLLB 20018/18 CG-S[1]	M20M[2]	painted steel sheet	**1 2190 218 713**
eLLB 20018/18 CG-S[1]	M25K	stainless steel 316	**1 2190 218 733**
eLLB 20018/18 CG-S[1]	M25K	painted steel sheet	**1 2190 218 703**
Type eLLB 20036/36			
eLLB 20036/36	M20M[2]	stainless steel 316	**1 2190 236 111**
eLLB 20036/36	M20M[2]	painted steel sheet	**1 2190 236 101**
eLLB 20036/36	M25K	stainless steel 316	**1 2190 236 011**
eLLB 20036/36	M25K	painted steel sheet	**1 2190 236 001**
eLLB 20036/36 CG-S[1]	M20M[2]	stainless steel 316	**1 2190 236 723**
eLLB 20036/36 CG-S[1]	M20M[2]	painted steel sheet	**1 2190 236 713**
eLLB 20036/36 CG-S[1]	M25K	stainless steel 316	**1 2190 236 733**
eLLB 20036/36 CG-S[1]	M25K	painted steel sheet	**1 2190 236 703**
Type eLLB 20058/58			
eLLB 20058/58	M20M[2]	stainless steel 316	**1 2190 258 111**
eLLB 20058/58	M20M[2]	painted steel sheet	**1 2190 258 101**
eLLB 20058/58	M25K	stainless steel 316	**1 2190 258 011**
eLLB 20058/58	M25K	painted steel sheet	**1 2190 258 001**
eLLB 20058/58 CG-S[1]	M20M[2]	stainless steel 316	**1 2190 258 723**
eLLB 20058/58 CG-S[1]	M20M[2]	painted steel sheet	**1 2190 258 713**
eLLB 20058/58 CG-S[1]	M25K	stainless steel 316	**1 2190 258 733**
eLLB 20058/58 CG-S[1]	M25K	painted steel sheet	**1 2190 258 703**
Type eLLB 20418			
eLLB 20418	M20M[2]	stainless steel 316	**1 2190 418 111**
eLLB 20418	M20M[2]	painted steel sheet	**1 2190 418 101**
eLLB 20418	M25K	stainless steel 316	**1 2190 418 011**
eLLB 20418	M25K	painted steel sheet	**1 2190 418 001**
eLLB 20418 CG-S[1]	M20M[2]	stainless steel 316	**1 2190 418 723**
eLLB 20418 CG-S[1]	M20M[2]	painted steel sheet	**1 2190 418 713**
eLLB 20418 CG-S[1]	M25K	stainless steel 316	**1 2190 418 733**
eLLB 20418 CG-S[1]	M25K	painted steel sheet	**1 2190 418 703**
Type eLLB 20436			
eLLB 20436	M20M[2]	stainless steel 316	**1 2190 436 111**
eLLB 20436	M20M[2]	painted steel sheet	**1 2190 436 101**
eLLB 20436	M25K	stainless steel 316	**1 2190 436 011**
eLLB 20436	M25K	painted steel sheet	**1 2190 436 001**
eLLB 20436 CG-S[1]	M20M[2]	stainless steel 316	**1 2190 436 723**
eLLB 20436 CG-S[1]	M20M[2]	painted steel sheet	**1 2190 436 713**
eLLB 20436 CG-S[1]	M25K	stainless steel 316	**1 2190 436 733**
eLLB 20436 CG-S[1]	M25K	painted steel sheet	**1 2190 436 703**

[1] CG-S: design single monitored emergency light fitting for use in CEAG emergency light supply unit

[2] M: with metal thread, without cable gland

[3] With dustcover if entry/thread is not closed

Scope of delivery without lamp and fixing accessories.



Accessories

Lamp for luminaire eLLB 20...

Type of lamp socket/ Diameter	Power	Luminous flux Light colour	Order No.
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2220-1	18 W	1350 lm white	**3 2475 900 001**
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2420-1	36 W	3350 lm white	**3 2475 900 002**
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2520-1	58 W	5200 lm white	**3 2475 900 003**
Aura-Ultimate T26/Ø 26 mm (T8) Longlife G13-socket	18 W 36 W 58 W	1300 lm white 3350 lm white 5200 lm white	**3 2475 900 087** **3 2475 900 088** **on request**

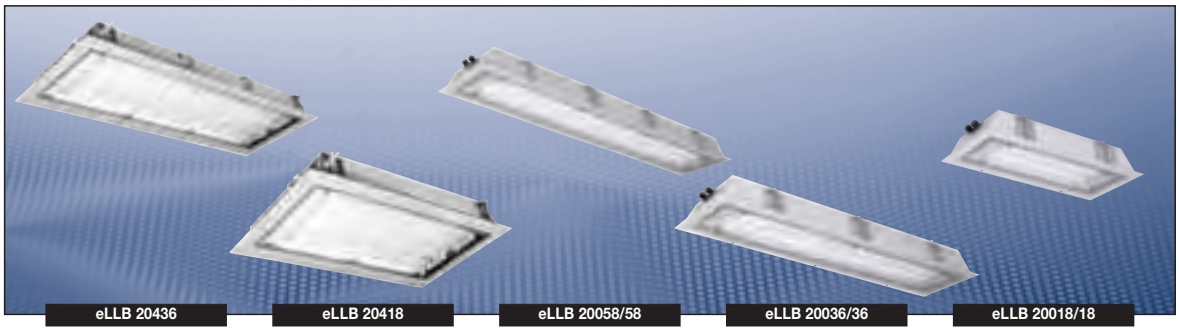
Fixing materials eLLB 20...

Type/code	Corrosion protection	Qty. per light fitting	Order No.
Eye bolt A2	galvanized	2	**2 2480 002 000**
Hexagon screw S4	stainless steel	2	**2 2480 054 000**
Ceiling mounting bracket D92 incl. screws and washer	stainless steel	2	**2 2480 092 000**

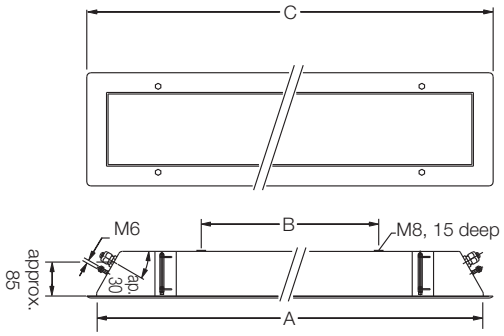
Fixing materials eLLB 20...

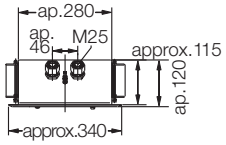
Type/code	Corrosion protection	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	Order No.
Pipe clamp					
R12	hot galvanized	1¼"	38 - 42	2	**2 2480 462 000**
R14	CrNi	1¼"	38 - 42	2	**2 2480 464 000**
R22	hot galvanized	1½"	47 - 51	2	**2 2480 472 000**
R24	CrNi	1½"	47 - 51	2	**2 2480 474 000**
R32	hot galvanized	2"	56 - 60	2	**2 2480 482 000**
R34	CrNi	2"	56 - 60	2	**2 2480 484 000**
Luminaire wall suspension 30° incl. screws and washer	hot galvanized			2	**2 2480 000 122**

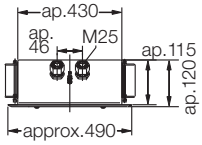
Metal cable glands M20/M25 see page 8.10.
Complete Mounting Systems see page 2.70 to 2.76.



Dimension drawing | Polar curve



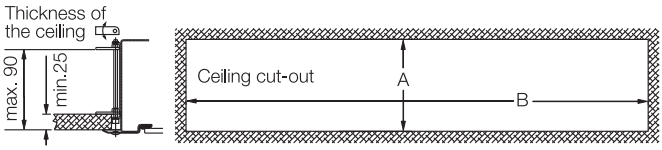




	A	B	C
eLLB 20018/18	802	400	862
eLLB 20036/36	1400	700	1460
eLLB 20058/58	1700	700	1760
eLLB 20418	802	400	862
eLLB 20436	1400	700	1460

eLLB 20018/18
eLLB 20036/36
eLLB 20058/58

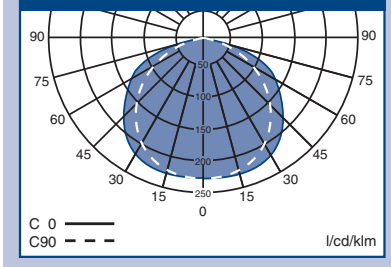
eLLB 20418
eLLB 20436



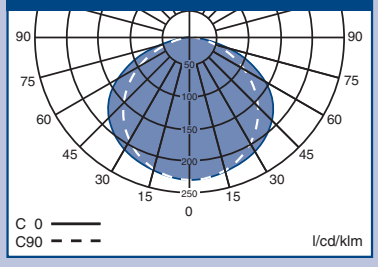
	A	B
eLLB 20018/18	315+3	832+5
eLLB 20036/36	315+3	1432+5
eLLB 20058/58	315+3	1732+5
eLLB 20418	465+3	832+5
eLLB 20436	465+3	1432+5

eLLB 20018/18 / eLLB 20036/36 / eLLB 20058/58 / eLLB 20418 / eLLB 20436

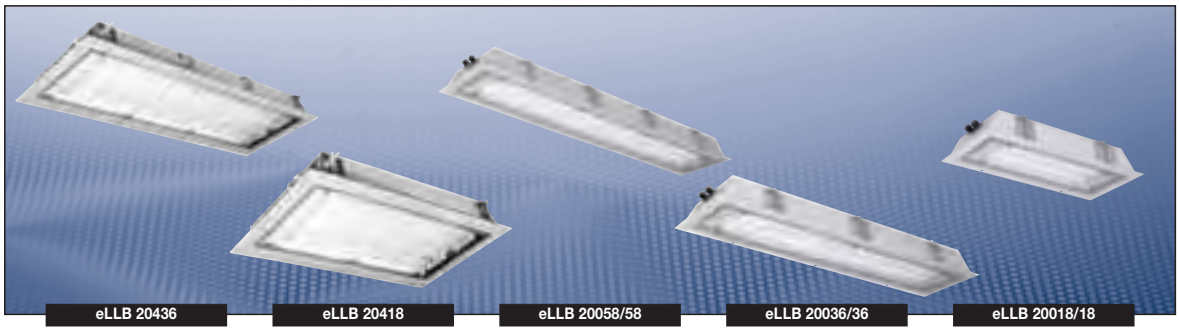
Polar curve
eLLB 20018/18 / eLLB 20036/36
eLLB 20058/58



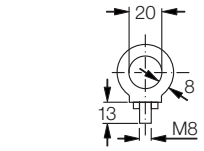
Polar curve
eLLB 20418 / eLLB 20436



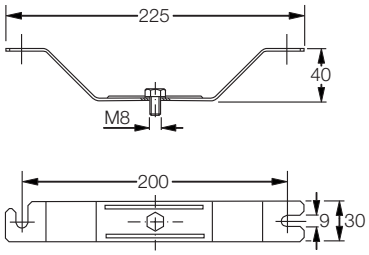
Dimensions in mm



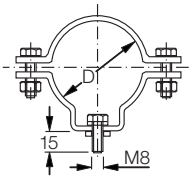
Dimension drawing



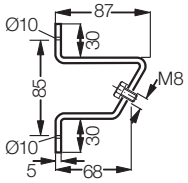
Eye bolt



Ceiling mounting bracket D92



Pipe clamp



Luminaire wall suspension 30°

Dimensions in mm

EX-EMERGENCY RECESSED CEILING LIGHT FITTINGS

eLLB 20... NIB 18-36 W
Metallic design for Zone 1 and 21

The new Ex-emergency light fittings with self-contained battery unit, type eLLB 20 ... NIB for bi-pin fluorescent lamps are fitted with an electronic ballast (EVG). They meet the requirements of ATEX-Directive 94/9/EC. The electronic ballast EVG 09, according to the newest standard (IEC 60079–7:2006) enables the safe and economic use of G13 bi-pin lamps acc. to IEC 60081. Lamps reaching its end of life will be monitored and securely switched of (EOL-effect). Due to a new charging and monitoring technology with intelligent microelectronics, they provide reliable safety and reduced maintenance costs. A function test lasting 5 minutes, that is carried out automatically on a weekly basis, even during mains operation, and a quarterly partial duty-cycle test provide additional safety and drastically reduce the neccessary amount of manual tests.

The charging and discharging functions are monitored constantly by the micro-processor and are indicated via a diode display. Only the spent energy is recharged – therefor, overcharging is not possible. The so-called memory effect cannot occur – therefore life of the battery is optimized. The need to replace a battery, a fault in the emergency lighting circuit or a faulty battery is indicated by the LED display.

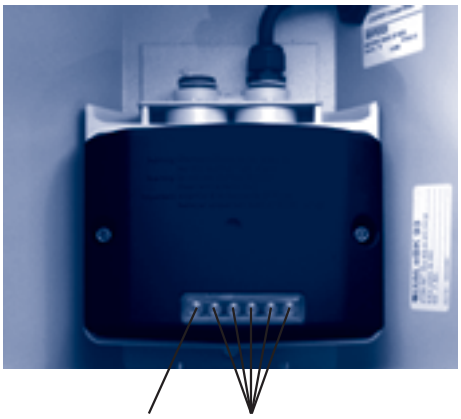
Due to a new type of battery connection, the battery can be replaced in the hazardous area. The emergency lighting cycle can be set locally for 1.5 or 3 hours.

A remote switch inquiry is standard.

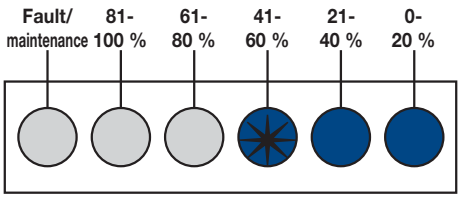
All the other mechanical details are corespon-ding to the eLLB 20... serie. The seperate battery housing with a 1.5 m long connecting load can be mounted directly in line with the light fitting or, depending on the ceiling raster, alongside it.



- **Two channel EVG with EOL monitoring as standard**
- **Automatic weekly 5 min. function test**
- **Automatic quaterly partial duty cycle test**
- **Fault indication by flashing red LED with reset after fault elimination**
- **Capacity-dependent charging: indication of charged capacity and remaining operating time by 5 green LEDs**
- **Easy replacement of battery, even in Ex-area**
- **Separate mounted no battery housing**

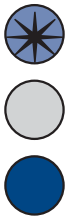


red LED green LEDs
Monitoring display

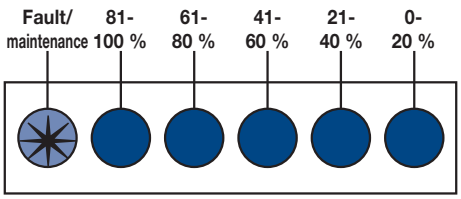


Capacity higher 40 %, charging operation (flashing) no Fault

LED:



= flashing
= off
= on



Capacity 100 %, charging operation, fault after function or duty cycle

Monitoring functions NIB

Guarded by a lens, the 5 green LEDs cotinuously indicate the charging state and the battery capacity. Charging is indicated by flashing green LEDs. The loaded capacity is shown in 20 % steps.
A novelty is the enlarged self-monitoring function with automatic function and duration tests.
An automatic 5 minute function test is carried out on a weekly basis. Thereby, the electronics of the emergency lamp switches from mains to emergency operation, while the mains lamp stays in normal operation. The battery capacity and also the converter and lamp-function is being tested and possible faults are shown by a flashing red LED. After removing the fault (p.e. by lamp change) and a new function test the fault indication resets automatically.

A partial duty cycle-test (35 min.) is initiated automatically after approx. 3 months. If the min. operation time of 30 minutes is not reached, this is indicated by a flashing red LED. When the cause of the fault has been eliminated, the fault indication is reset during the next emergency lighting operation (manual or automatic) when the minimum operating time of approx. 30 minutes has been reached.



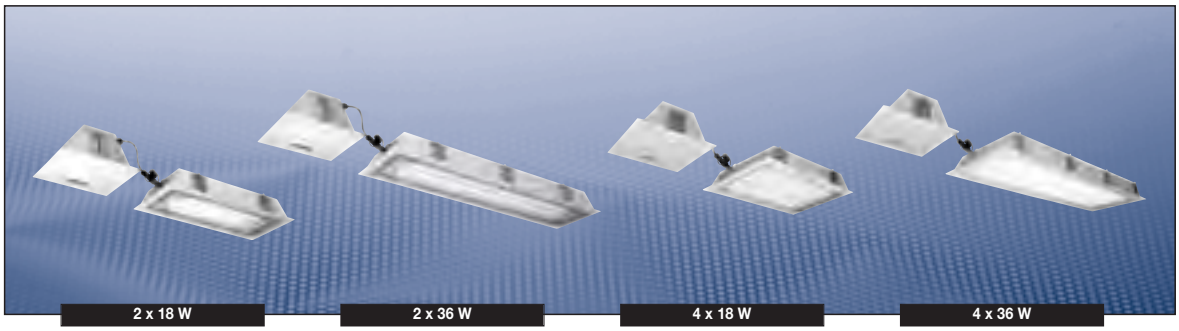
Battery set NIB

Emergency light fittings with self-contained battery systems

Emergency light fittings with self-contained battery systems provide the required emergency lighting from a decentralized source and function independent of the central system. These light fittings are particularly economical when used in extensive plants. Until now, compared to the centrally operated and monitored installations, the disadvantage of the emergency light fittings with self-contained battery systems was that they do not supply any information on the state of the light fittings. With the introduction of the eLLB 20 ... NIB, Cooper Crouse-Hinds has now incorporated monitoring. Five LEDs supply constant information on the charging state and the available battery capacity.

Handling

The battery is installed in a separate, certified housing.
There are up to 7 Ex-d connectors for the data transfer between the battery unit and the luminaire. Therefore, a battery change is also possible in hazardous areas – at any time.
The run-down battery set can be replaced by loosening the screws and simply pulling off the battery set. A detachable strap protects the insert from being dropped inadvertenly.



Technical data

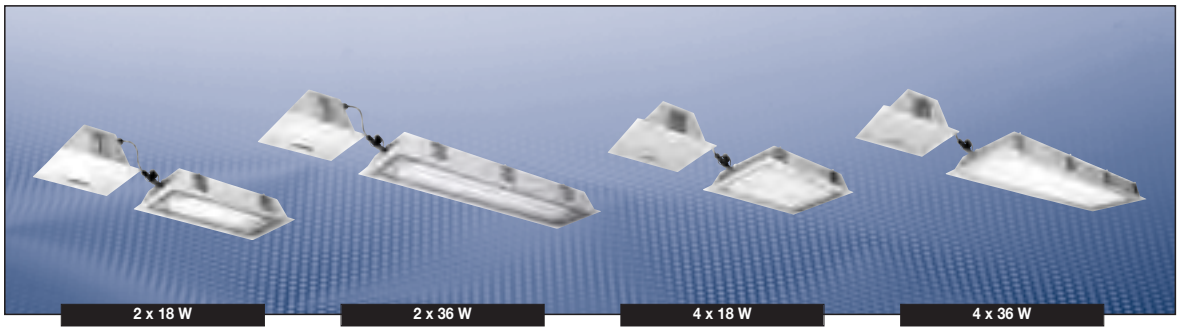
eLLB 20018/18 NIB | eLLB 20418 NIB | eLLB 20036/36 NIB | eLLB 20436 NIB	
Marking to 94/9/EC	Ex II 2 G EEx edm ib IIC T4 / Ex II 2 G IP66 T80 °C
(new standard – applies for)	Ex II 2 G Ex dem ib IIC T4 / Ex II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	DMT 02 ATEX E 069
Permissible ambient temperature	-20 °C to +50 °C (apecified data: -5 °C to +35 °C)
Rated voltage	220 - 254 V AC
Rated voltage (option)	110 - 127 V AC
Frequency	50 - 60 Hz
Power factor cos φ	≥ 0.95
Circuit	EVG with emergency lighting supply
Connecting terminals	L1, L2, L3, L, N, PE; max. 2 x 6 mm² per terminal, through-wiring double-ended
Insulation class	I
Lamp cap	G 13 accd. to IEC 60081
Battery	Battery set with 7 Ah-NC battery, with LED display and monitoring via microprocessor
Battery housing	Connection via 1.5 long connection lead with plugs
Rated emergency lighting operation	1-lamps can be set on site for an emergency lighting duration of 1.5 or 3 hours
Charging duration	> 14 h
Degree of protection accd. EN 60529	IP66
Cable glands/gland plates/enclosure drilling	Ex-e cable glands M25 x 1.5 (plastic) for cables Ø 8 - 17 mm Option: M20 x 1.5 metal thread
Enclosure material	Painted steel sheet, white optional polished stainless steel
Enclosure colour	white, optional stainless steel
Protective cover/protective bowl	Single-safety glass pane of 6 mm thick
Permissible ceiling tickness for fixing accessories	min. 25 mm to max. 90 mm

	eLLB 20018/18 NIB	eLLB 20418 NIB
Rated current	0.23 A	0.41 A
Lamp/illuminant	2 x T26 / 18 W (T8)	4 x T26 / 18 W (T8)
Rated luminous flux	2700 lm	5400 lm
Luminous flux in emergency operation (1.5 h, one lamp)[1)]	1215 lm (90 %)	1215 lm (90 %)
Luminous flux in emergency operation (3 h, one lamp)[1)]	607 lm (45 %)	607 lm (45 %)
Light efficiency in operation	70 %	69 %
Dimensions (L x W x H)	862 x 340 x 120 mm	862 x 490 x 120 mm
Weight	approx. 18 kg	approx. 29 kg

	eLLB 20036/36 NIB	eLLB 20436 NIB
Rated current	0.40 A	0.74 A
Lamp/illuminant	2 x T26 / 36 W (T8)	4 x T26 / 36 W (T8)
Rated luminous flux	6700 lm	13400 lm
Luminous flux in emergency operation (1.5 h, one lamp)[1)]	1507 lm (45 %)	1507 lm (45 %)
Luminous flux in emergency operation (3 h, one lamp)[1)]	873 lm (25 %)	873 lm (25 %)
Light efficiency in operation	70 %	69 %
Dimensions (L x W x H)	1460 x 340 x 120 mm	1460 x 490 x 120 mm
Weight	approx. 25 kg	approx. 38 kg

Battery housing	
Cable glands/gland plates/enclosure drilling[1)]	Connection via 1.5 long connection lead with plugs eXLink
Dimensions (L x W x H)	350 x 340 x 143 mm
Weight	approx. 5.7 kg

[1)] depends on used lamps



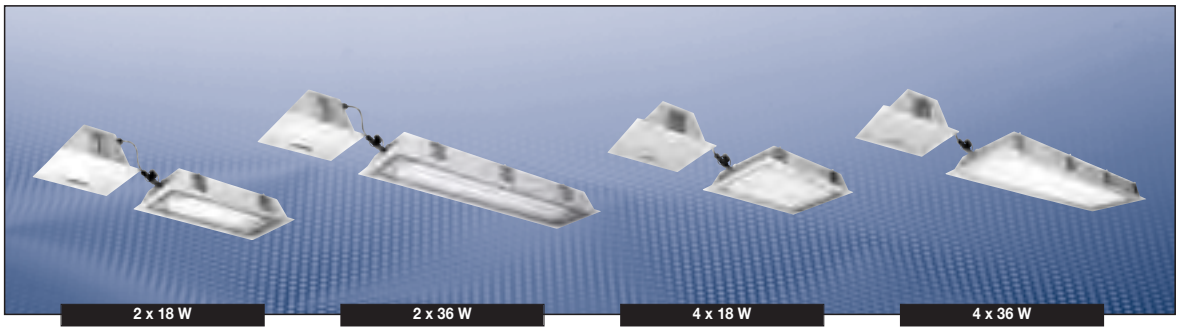
Ordering details

Type	Cable gland[2]	Enclosure	Order No.
Type eLLB 20018/18 NIB			
eLLB 20018/18 NIB	M25K	painted steel sheet	**1 2190 218 002**
eLLB 20018/18 NIB	M25K	stainless steel 316	**1 2190 218 012**
eLLB 20018/18 NIB	M20M[1]	painted steel sheet	**1 2190 218 102**
eLLB 20018/18 NIB	M20M[1]	stainless steel 316	**1 2190 218 112**
Type eLLB 20036/36 NIB			
eLLB 20036/36 NIB	M25K	painted steel sheet	**1 2190 236 002**
eLLB 20036/36 NIB	M25K	stainless steel 316	**1 2190 236 012**
eLLB 20036/36 NIB	M20M[1]	painted steel sheet	**1 2190 236 102**
eLLB 20036/36 NIB	M20M[1]	stainless steel 316	**1 2190 236 112**
Type eLLB 20418 NIB			
eLLB 20418 NIB	M25K	painted steel sheet	**1 2190 418 002**
eLLB 20418 NIB	M25K	stainless steel 316	**1 2190 418 012**
eLLB 20418 NIB	M20M[1]	painted steel sheet	**1 2190 418 102**
eLLB 20418 NIB	M20M[1]	stainless steel 316	**1 2190 418 112**
Type eLLB 20436 NIB			
eLLB 20436 NIB	M25K	painted steel sheet	**1 2190 436 002**
eLLB 20436 NIB	M25K	stainless steel 316	**1 2190 436 012**
eLLB 20436 NIB	M20M[1]	painted steel sheet	**1 2190 436 102**
eLLB 20436 NIB	M20M[1]	stainless steel 316	**1 2190 436 112**

[1] M: with metal thread, without cable gland

[2] With dustcover if entry/thread is not closed

Scope of delivery without lamp and fixing accessories.



Accessories

Lamp for luminaire eLLB 20... NIB

Type of lamp socket/ Diameter	Power	Luminous flux Light colour	Order No.
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2220-1	18 W	1350 lm white	**3 2475 900 001**
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2420-1	36 W	3350 lm white	**3 2475 900 002**
Aura-Ultimate T26/Ø 26 mm (T8) Longlife G13-socket	18 W 36 W	1300 lm white 3350 lm white	**3 2475 900 087** **3 2475 900 088**

Fixing materials eLLB 20... NIB

Type/code	Corrosion protection	Qty. per light fitting	Order No.
Eye bolt A2	galvanized	2	**2 2480 002 000**
Hexagon screw S4	stainless steel	2	**2 2480 054 000**
Ceiling mounting bracket D92 incl. screws and washer	stainless steel	2	**2 2480 092 000**

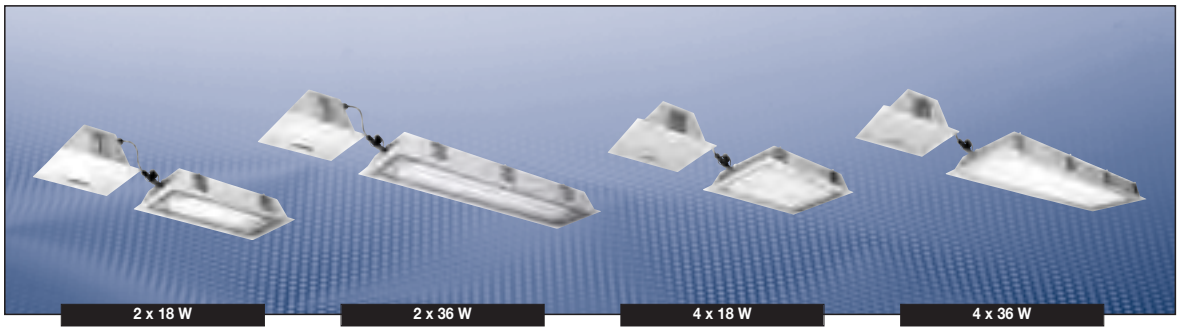
Fixing materials eLLB 20... NIB

Type/code	Corrosion protection	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	Order No.
Pipe clamp					
R12	hot galvanized	1¼"	38 - 42	2	**2 2480 462 000**
R14	CrNi	1¼"	38 - 42	2	**2 2480 464 000**
R22	hot galvanized	1½"	47 - 51	2	**2 2480 472 000**
R24	CrNi	1½"	47 - 51	2	**2 2480 474 000**
R32	hot galvanized	2"	56 - 60	2	**2 2480 482 000**
R34	CrNi	2"	56 - 60	2	**2 2480 484 000**
Luminaire wall suspension 30° incl. screws and washer	hot galvanized			2	**2 2480 000 122**

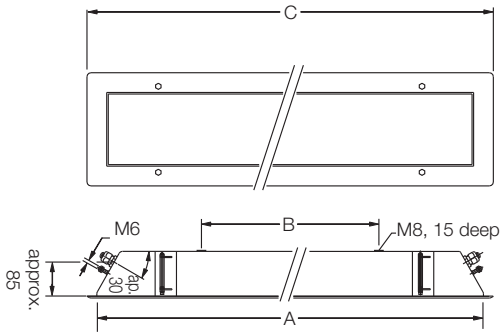
Spare part battery eLLB 20... NIB

Type	Order No.
Battery set Type 2710-3 with LED display and micro-processor monitoring, complete	**2 2710 904 000**

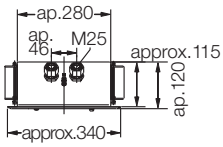
Metal cable glands M20/M25 see page 8.10.
Complete Mounting Systems see page 2.70 to 2.76.



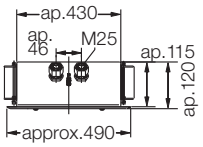
Dimension drawing | Polar curve



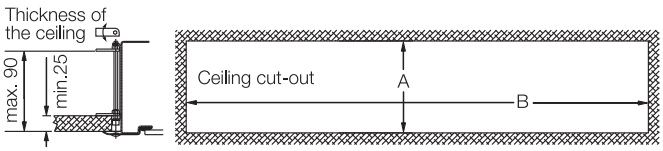
	A	B	C
eLLB 20018/18	802	400	862
eLLB 20036/36	1400	700	1460
eLLB 20418	802	400	862
eLLB 20436	1400	700	1460



eLLB 20018/18
eLLB 20036/36

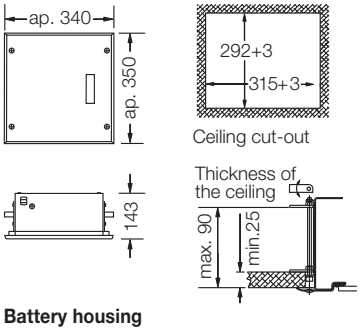


eLLB 20418
eLLB 20436



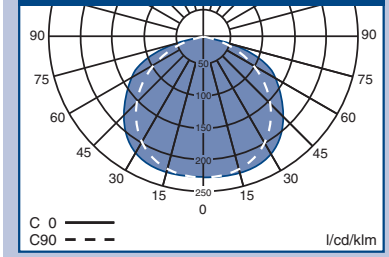
	A	B
eLLB 20018/18	315+3	832+5
eLLB 20036/36	315+3	1432+5
eLLB 20418	465+3	832+5
eLLB 20436	465+3	1432+5

eLLB 20018/18 / eLLB 20036/36 / eLLB 20418 / eLLB 20436

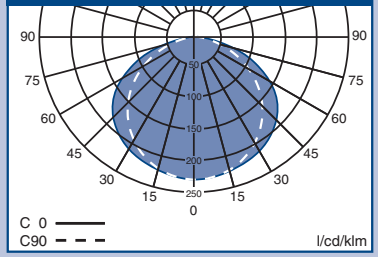


Battery housing

Polar curve
eLLK 20018/18 NIB
eLLK 92036/36 NIB



Polar curve
eLLK 20418 NIB
eLLK 92436 NIB



Dimensions in mm

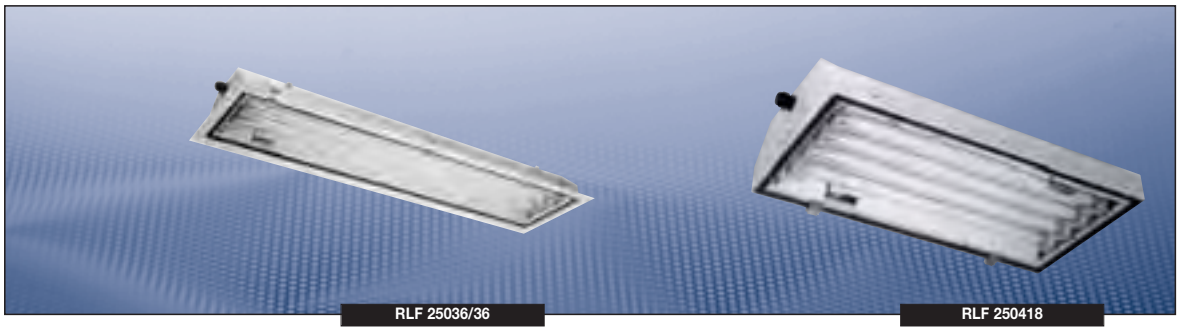
EX-RECESSED CEILING LIGHT FITTINGS

RLF/RLF-INOX 250 18 - 58 W / RLF/RLF-INOX 250... N 18 - 36 W
Metallic design for Zone 1 and Zone 21

The RLF... explosion-protected recessed ceiling light fittings with electronic ballast meet the requirements of ATEX-Directive 94/9/EC and are suitable for two-pin fluorescent lamps.
These lamps are used for surface and flush mounting in ceilings, in particular in clean rooms where smooth, flush surfaces are very important. The area of application is in the pharmaceutical and chemical industry and in labs as well as in paint shops and spraying cabinets.
The housing comprises white-painted steel sheet with an optionally integrally moulded covering frame for safe installation in the ceiling. The type RLF-INOX is made of stainless steel. In addition, it can also be fixed by means of two M8 drilled holes on the top of the housing.
The hinged, frameless pane made of 5 mm thick safety glass is fixed with 3 alt. 4 captive screws. The sealing material is EPDM and guarantees the high portection IP65.
The electronic ballasts of the latest generation can be used internationally due to their large input voltage range and contents the “End oft Life“ disconnection acc. latest standard. The standard two-channel structure means that if one lamp fails, the other one remains in operation.
The standard two-sided through-wiring together with the generous terminal housing offers a cost-saving installation.
The light switch reliably prevents the lamp from being switched on when the cover pane is open.
An emergency light fitting version with self-contained battery-system allows a decentral emergency light with an emergency lighting cycle of 1.5 or 3 hours.



- **Flush installation specially for lean rooms by using the accessed mounting frame**
- **Standard, two-channel electronic**
- **Enclosure polished available made of stainless steel 304 (RLF-INOX 250...)**
- **Safety locking due to integral disconnector**
- **High degree of protection IP65**
- **Version with self-contained battery system**



Technical data

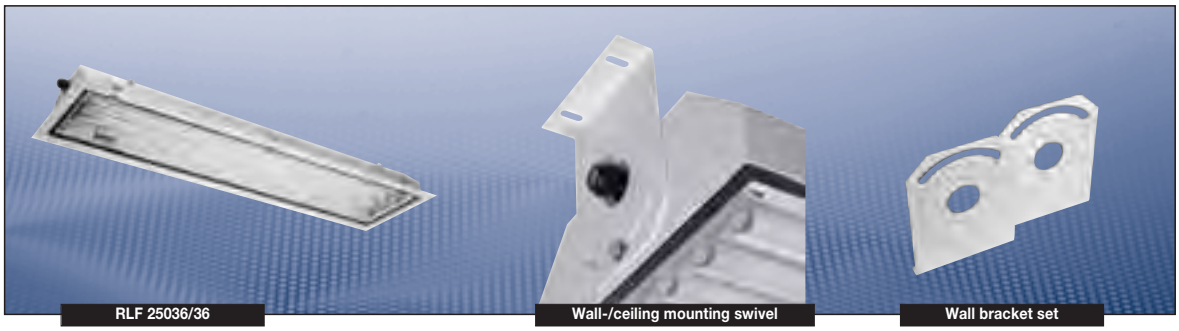
RLF 250... / RLF-INOX 250...	
Marking to 94/9/EC	Ex II 2 G Ex de IIC T4 / Ex II 2 D Ex tD A21 IP65 T60 °C
EC-Type Examination Certificate	FTZU 06 ATEX 0050 X
Permissible ambient temperature	-20 °C to +40 °C
Frequency	50 - 60 Hz
Power factor cos φ	≥ 0.95
Circuit	EVG
Connecting terminals	L1, L2, L3, N, PE; max. 2 x 4.0 mm²
	Through-wiring double-ended
Insulation class	I
Lamp cap	G 13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP65
Cable glands/gland plates/enclosure drilling	Ex-e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm,
	Option: M20 x 1.5 metal thread
Enclosure material	Painted steel sheet (RLF-INOX 250...: polished stainless steel 304 (1.4301)
Enclosure colour	white, stainless steel
Protective cover/protective bowl	Single-safety glass pane of 5 mm thick

	RLF... 25018/18	RFL... 250418
Rated voltage	110 - 254 V AC / 110 - 250 V DC	110 - 254 V AC / 110 - 250 V DC
Rated current	0.18 A	0.36 A
Lamp/illuminant	2 x T26 / 18 W (T8)	4 x T26 / 18 W (T8)
Rated luminous flux[2)]	2700 lm	5400 lm
Light efficiency in operation	70 %	69 %
Dimensions (L x W x H)	701 x 302 x 130 mm	701 x 362 x 130 mm
Weight	6.9 kg	9.5 kg

	RLF... 25036/36	RFL... 250336	RFL... 250436
Rated voltage	110 - 254 V AC / 110 - 250 V DC	110 - 254 V AC / 110 - 250 V DC	110 - 254 V AC / 110 - 250 V DC
Rated current	0.34 A	0.51 A	0.68 A
Lamp/illuminant	2 x T26 / 36 W (T8)	3 x T26 / 36 W (T8)	4 x T26 / 36 W (T8)
Rated luminous flux[2)]	6700 lm	10050 lm	13400 lm
Light efficiency in operation	70 %	68 %	69 %
Dimensions (L x W x H)	1312 x 302 x 130 mm	1312 x 302 x 130 mm	1312 x 362 x 130 mm
Weight	12.9 kg	13.4 kg	16.5 kg

	RLF... 25058/58	RFL... 250358	RFL... 250458
Rated voltage	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC	220 - 254 V AC / 195 - 250 V DC
Rated current	0.53 A	0.80 A	1.06 A
Lamp/illuminant	2 x T26 / 58 W (T8)	3 x T26 / 58 W (T8)	4 x T26 / 58 W (T8)
Rated luminous flux[2)]	10400 lm	15600 lm	20800 lm
Light efficiency in operation	68 %	66 %	67 %
Dimensions (L x W x H)	1611 x 302 x 130 mm	1611 x 302 x 130 mm	1611 x 362 x 130 mm
Weight	17.2 kg	17.8 kg	19.8 kg

[1)] depends on used lamps



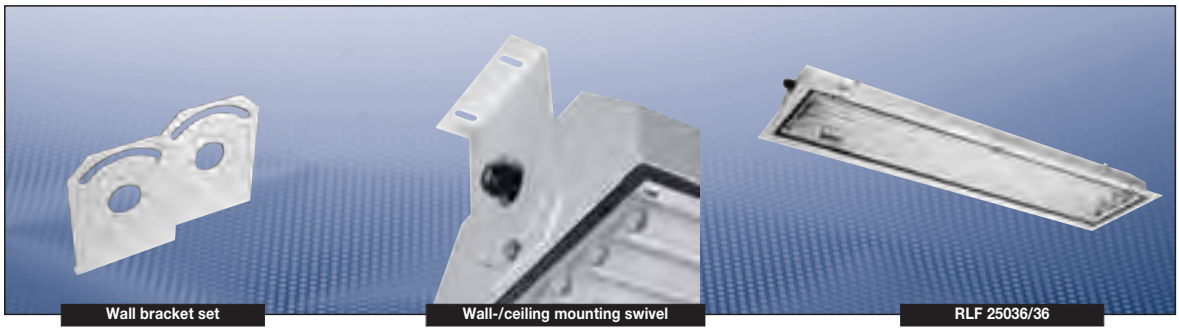
Ordering details

Type	Cable gland[1)]	Thread[1)]	Order No.
Type RLF 250... made of sheet steel			
RLF 25018/18 2/5-2 K	M25 x 1.5	–	**1 2283 218 001**
RLF 25036/36 2/5-2 K	M25 x 1.5	–	**1 2283 236 001**
RLF 25058/58 2/5-2 K	M25 x 1.5	–	**1 2283 258 001**
RLF 25018/18 2/5-2 M	–	M20 x 1.5	**1 2283 218 002**
RLF 25036/36 2/5-2 M	–	M20 x 1.5	**1 2283 236 002**
RLF 25058/58 2/5-2 M	–	M20 x 1.5	**1 2283 258 002**
RLF 250336 2/5-2 K	M25 x 1.5	–	**1 2283 336 011**
RLF 250358 2/5-2 K	M25 x 1.5	–	**1 2283 358 011**
RLF 250336 2/5-2 M	–	M20 x 1.5	**1 2283 336 012**
RLF 250358 2/5-2 M	–	M20 x 1.5	**1 2283 358 012**
RLF 250418 2/5-2 K	M25 x 1.5	–	**1 2283 418 011**
RLF 250436 2/5-2 K	M25 x 1.5	–	**1 2283 436 011**
RLF 250458 2/5-2 K	M25 x 1.5	–	**1 2283 458 011**
RLF 250418 2/5-2 M	–	M20 x 1.5	**1 2283 418 012**
RLF 250436 2/5-2 M	–	M20 x 1.5	**1 2283 436 012**
RLF 250458 2/5-2 M	–	M20 x 1.5	**1 2283 458 012**
Type RLF-INOX 250... made of stainless steel			
RLF-INOX 25018/18 2/5-2 K	M25 x 1.5	–	**1 2283 218 004**
RLF-INOX 25036/36 2/5-2 K	M25 x 1.5	–	**1 2283 236 003**
RLF-INOX 25058/58 2/5-2 K	M25 x 1.5	–	**1 2283 258 003**
RLF-INOX 25018/18 2/5-2 M	–	M20 x 1.5	**1 2283 218 003**
RLF-INOX 25036/36 2/5-2 M	–	M20 x 1.5	**1 2283 236 004**
RLF-INOX 25058/58 2/5-2 M	–	M20 x 1.5	**1 2283 258 004**
RLF-INOX 250336 2/5-2 K	M25 x 1.5	–	**1 2283 336 001**
RLF-INOX 250358 2/5-2 K	M25 x 1.5	–	**1 2283 358 001**
RLF-INOX 250336 2/5-2 M	–	M20 x 1.5	**1 2283 336 002**
RLF-INOX 250358 2/5-2 M	–	M20 x 1.5	**1 2283 358 002**
RLF-INOX 250418 2/5-2 K	M25 x 1.5	–	**1 2283 418 001**
RLF-INOX 250436 2/5-2 K	M25 x 1.5	–	**1 2283 436 001**
RLF-INOX 250458 2/5-2 K	M25 x 1.5	–	**1 2283 458 001**
RLF-INOX 250418 2/5-2 M	–	M20 x 1.5	**1 2283 418 002**
RLF-INOX 250436 2/5-2 M	–	M20 x 1.5	**1 2283 436 002**
RLF-INOX 250458 2/5-2 M	–	M20 x 1.5	**1 2283 458 002**

[1)] With dustcover if entry/thread is not closed

Scope of delivery without lamps and fixing material.

Note: mounting frames are not part of the delivery. Please see accessories.



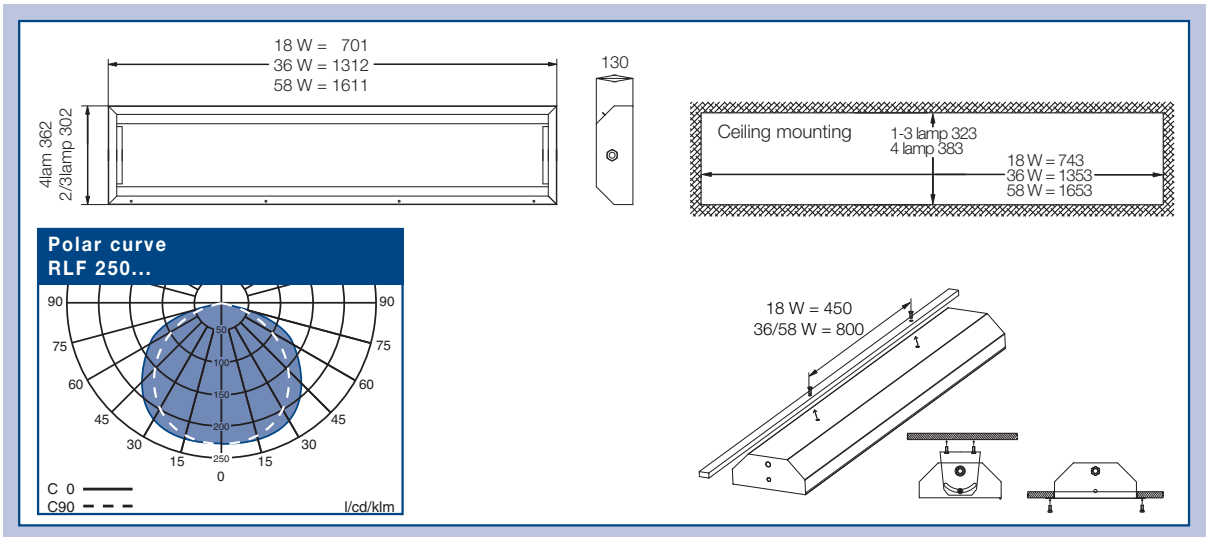
Accessories

RLF ...

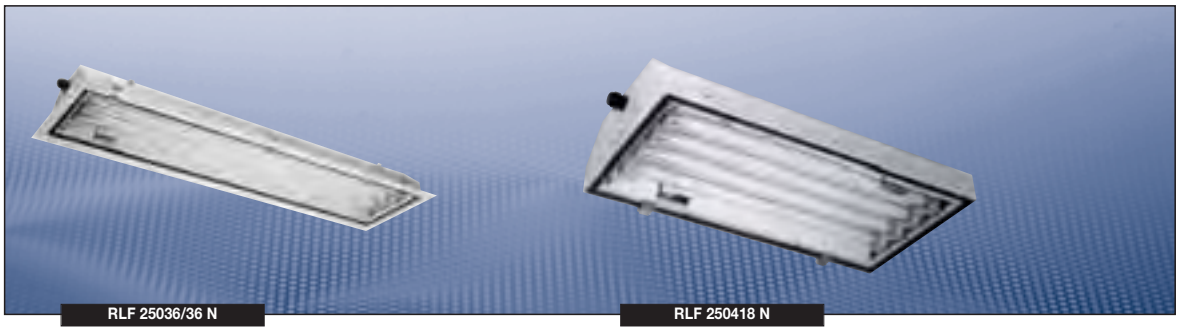
Type	Version	Application	Order No.
Wall bracket set	2 pcs.	RLF 250...	**3 2283 000 007**
Mounting frame for ceiling mounting:	for luminaires 2 x 18 W	RLF 250...	**3 2283 000 001**
	for luminaires 4 x 18 W	RLF 250...	**3 2283 000 002**
	for luminaires 2 x/3 x 36 W	RLF 250...	**3 2283 000 003**
	for luminaires 4 x 36 W	RLF 250...	**3 2283 000 004**
	for luminaires 2 x/3 x 58 W	RLF 250...	**3 2283 000 005**
Wall bracket set INOX	2 pcs.	RLF-INOX 250...	**3 2283 000 014**
Mounting frame INOX for ceiling mounting:	for luminaires 2 x 18 W	RLF-INOX 250...	**3 2283 000 008**
	for luminaires 4 x 18 W	RLF-INOX 250...	**3 2283 000 009**
	for luminaires 2 x/3 x 36 W	RLF-INOX 250...	**3 2283 000 010**
	for luminaires 4 x 36 W	RLF-INOX 250...	**3 2283 000 011**
	for luminaires 2 x/3 x 58 W	RLF-INOX 250...	**3 2283 000 012**
	for luminaires 4 x 58 W	RLF-INOX 250...	**3 2283 000 013**

Metal cable glands M20/M25 see page 8.10.
Complete Mounting Systems see page 2.70 to 2.76.

Dimension drawing | Polar curve



Dimensions in mm



RLF 25036/36 N

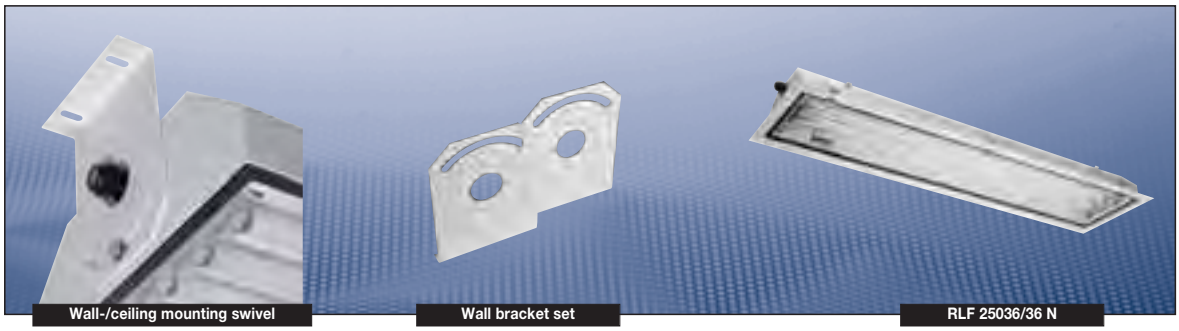
RLF 250418 N

Technical data

RLF 250... N / RLF-INOX 250... N	
Marking to 94/9/EC	Ex II 2 G Ex de mb IIC T4 / Ex II 2 D Ex tD A21 IP65 T60 °C
EC-Type Examination Certificate	FTZU 08 ATEX 0188 X
Permissible ambient temperature	-5 °C to +40 °C
Rated voltage	230 - 240 V AC
Frequency	50 - 60 Hz
Circuit	EVG with emergency lighting supply
Connecting terminals	L, L1, L2, L3, N, PE max. 6 x 4.0 mm², through-wiring double-ended
Insulation class	I
Lamp cap	G 13 accd. to IEC 60081
Battery	3.6 V/4 Ah (18 W) / 6 V/4 Ah (36 W)
Rated emergency lighting operation	1.5 h / 3 h
Charging duration	> 24 h
Degree of protection accd. EN 60529	IP65
Cable glands/gland plates/enclosure drilling	Ex-e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm,
	Option: M20 x 1.5 metal thread
Enclosure material	Painted steel sheet (RLF-INOX 250.. N: polished stainless steel)
Enclosure colour	white, stainless steel
Protective cover/protective bowl	Single-safety glass pane of 5 mm thick

	RLF... 25018/18 N	RFL... 250418 N
Rated current	0.20 A	0.36 A
Lamp/illuminant	2 x T26 / 18 W (T8)	4 x T26 / 18 W (T8)
Rated luminous flux[1)]	2700 lm	5400 lm
Luminous flux in emergency operation (1.5 h, one lamp)[1)]	270 lm (20 %)	270 lm (20 %)
Luminous flux in emergency operation (3 h, one lamp)[1)]	216 lm (16 %)	216 lm (16 %)
Light efficiency in operation	70 %	69 %
Dimensions (L x W x H)	701 x 302 x 130 mm	701 x 362 x 130 mm
Weight	8.9 kg	11.5 kg

	RLF... 25036/36 N	RFL... 250436 N
Rated current	0.36 A	0.68 A
Lamp/illuminant	2 x T26 / 36 W (T8)	4 x T26 / 36 W (T8)
Rated luminous		



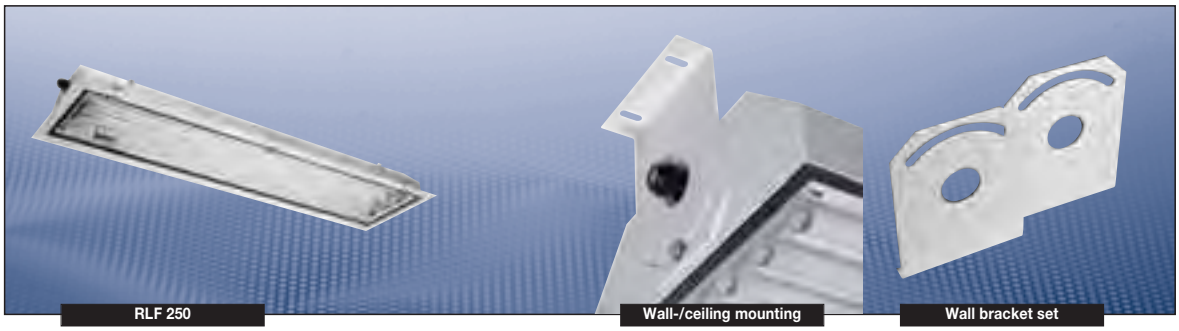
Bestellangaben

Type	Cable gland	Thread	Order No.
Typ RLF 250.. made of sheet steel			
RLF 25018/18 N 2/6-2 K – 1.5 h	M25 x 1.5	–	**1 2283 218 201**
RLF 25036/36 N 2/6-2 K – 1.5 h	M25 x 1.5	–	**1 2283 236 201**
RLF 25018/18 N 2/6-2 M – 1.5 h	–	M20 x 1.5	**1 2283 218 202**
RLF 25036/36 N 2/6-2 M – 1.5 h	–	M20 x 1.5	**1 2283 236 202**
RLF 250418 N 2/6-2 K – 1.5 h	M25 x 1.5	–	**1 2283 418 201**
RLF 250436 N 2/6-2 K – 1.5 h	M25 x 1.5	–	**1 2283 436 201**
RLF 250418 N 2/6-2 M – 1.5 h	–	M20 x 1.5	**1 2283 418 202**
RLF 250436 N 2/6-2 M – 1.5 h	–	M20 x 1.5	**1 2283 436 202**
RLF 25018/18 N 2/6-2 K – 3 h	M25 x 1.5	–	**1 2283 218 301**
RLF 25036/36 N 2/6-2 K – 3 h	M25 x 1.5	–	**1 2283 236 301**
RLF 25018/18 N 2/6-2 M – 3 h	–	M20 x 1.5	**1 2283 218 302**
RLF 25036/36 N 2/6-2 M – 3 h	–	M20 x 1.5	**1 2283 236 302**
RLF 250418 N 2/6-2 K – 3 h	M25 x 1.5	–	**1 2283 418 301**
RLF 250436 N 2/6-2 K – 3 h	M25 x 1.5	–	**1 2283 436 301**
RLF 250418 N 2/6-2 M – 3 h	–	M20 x 1.5	**1 2283 418 302**
RLF 250436 N 2/6-2 M – 3 h	–	M20 x 1.5	**1 2283 436 302**
Typ RLF-INOX 250.. made of stainless steel			
RLF-INOX 25018/18 N 2/6-2 K – 1.5 h	M25 x 1.5	–	**1 2283 218 203**
RLF-INOX 25036/36 N 2/6-2 K – 1.5 h	M25 x 1.5	–	**1 2283 236 203**
RLF-INOX 25018/18 N 2/6-2 M – 1.5 h	–	M20 x 1.5	**1 2283 218 204**
RLF-INOX 25036/36 N 2/6-2 M – 1.5 h	–	M20 x 1.5	**1 2283 236 204**
RLF-INOX 250418 N 2/6-2 K – 1.5 h	M25 x 1.5	–	**1 2283 418 203**
RLF-INOX 250436 N 2/6-2 K – 1.5 h	M25 x 1.5	–	**1 2283 436 203**
RLF-INOX 250418 N 2/6-2 M – 1.5 h	–	M20 x 1.5	**1 2283 418 204**
RLF-INOX 250436 N 2/6-2 M – 1.5 h	–	M20 x 1.5	**1 2283 436 204**
RLF-INOX 25018/18 N 2/6-2 K – 3 h	M25 x 1.5	–	**1 2283 218 303**
RLF-INOX 25036/36 N 2/6-2 K – 3 h	M25 x 1.5	–	**1 2283 236 303**
RLF-INOX 25018/18 N 2/6-2 M – 3 h	–	M20 x 1.5	**1 2283 218 304**
RLF-INOX 25036/36 N 2/6-2 M – 3 h	–	M20 x 1.5	**1 2283 236 304**
RLF-INOX 250418 N 2/6-2 K – 3 h	M25 x 1.5	–	**1 2283 418 303**
RLF-INOX 250436 N 2/6-2 K – 3 h	M25 x 1.5	–	**1 2283 436 303**
RLF-INOX 250418 N 2/6-2 M – 3 h	–	M20 x 1.5	**1 2283 418 304**
RLF-INOX 250436 N 2/6-2 M – 3 h	–	M20 x 1.5	**1 2283 436 304**

[1] With dustcover if entry/thread is not closed

Scope of delivery without lamps and fixing material.

Note: mounting frames are not part of the delivery. Please see accessories.



Accessories

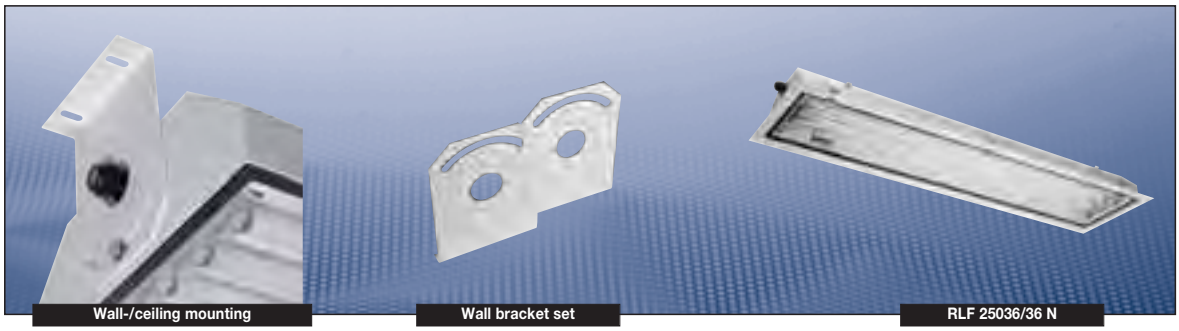
Lamp for luminaire RLF 250...

Type of lamp socket/ Diameter	Power	Luminous flux Light colour	Order No.
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2220-1	18 W	1350 lm white	**3 2475 900 001**
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2420-1	36 W	3350 lm white	**3 2475 900 002**
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2520-1	58 W	5200 lm white	**3 2475 900 003**
Aura-Ultimate T26/Ø 26 mm (T8) Longlife G13-socket	18 W 36 W 58 W	1300 lm white 3350 lm white 5200 lm white	**3 2475 900 087** **3 2475 900 088** **on request**

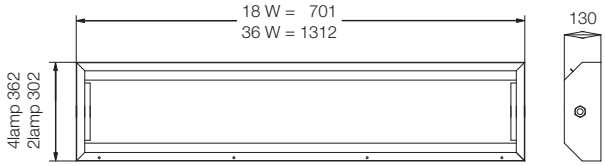
RLF 250...

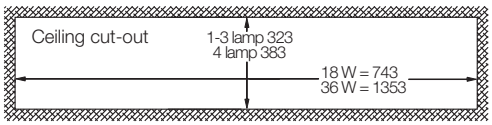
Type	Version	Application	Order No.
Wall bracket set	2 pcs.	RLF 250...	**3 2283 000 007**
Mounting frame for ceiling mounting:	for luminaires 2 x 18 W	RLF 250...	**3 2283 000 001**
	for luminaires 4 x 18 W	RLF 250...	**3 2283 000 002**
	for luminaires 2 x/3 x 36 W	RLF 250...	**3 2283 000 003**
	for luminaires 4 x 36 W	RLF 250...	**3 2283 000 004**
	for luminaires 2 x/3 x 58 W	RLF 250...	**3 2283 000 005**
Wall bracket set INOX	2 pcs.	RLF-INOX 250...	**3 2283 000 014**
Mounting frame INOX for ceiling mounting:	for luminaires 2 x 18 W	RLF-INOX 250...	**3 2283 000 008**
	for luminaires 4 x 18 W	RLF-INOX 250...	**3 2283 000 009**
	for luminaires 2 x/3 x 36 W	RLF-INOX 250...	**3 2283 000 010**
	for luminaires 4 x 36 W	RLF-INOX 250...	**3 2283 000 011**
	for luminaires 2 x/3 x 58 W	RLF-INOX 250...	**3 2283 000 012**
	for luminaires 4 x 58 W	RLF-INOX 250...	**3 2283 000 013**
Battery set	3.6 V/4 Ah		**on request**
Battery set	6 V/4 Ah		**on request**

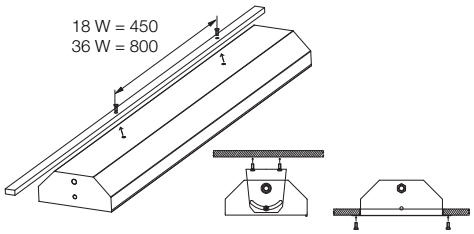
Metal cable glands M20/M25 see page 8.10.
Complete Mounting Systems see page 2.70 to 2.76.



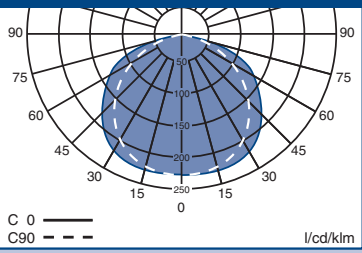
Dimension drawing | Polar curve







Polar curve
RLF 250... N

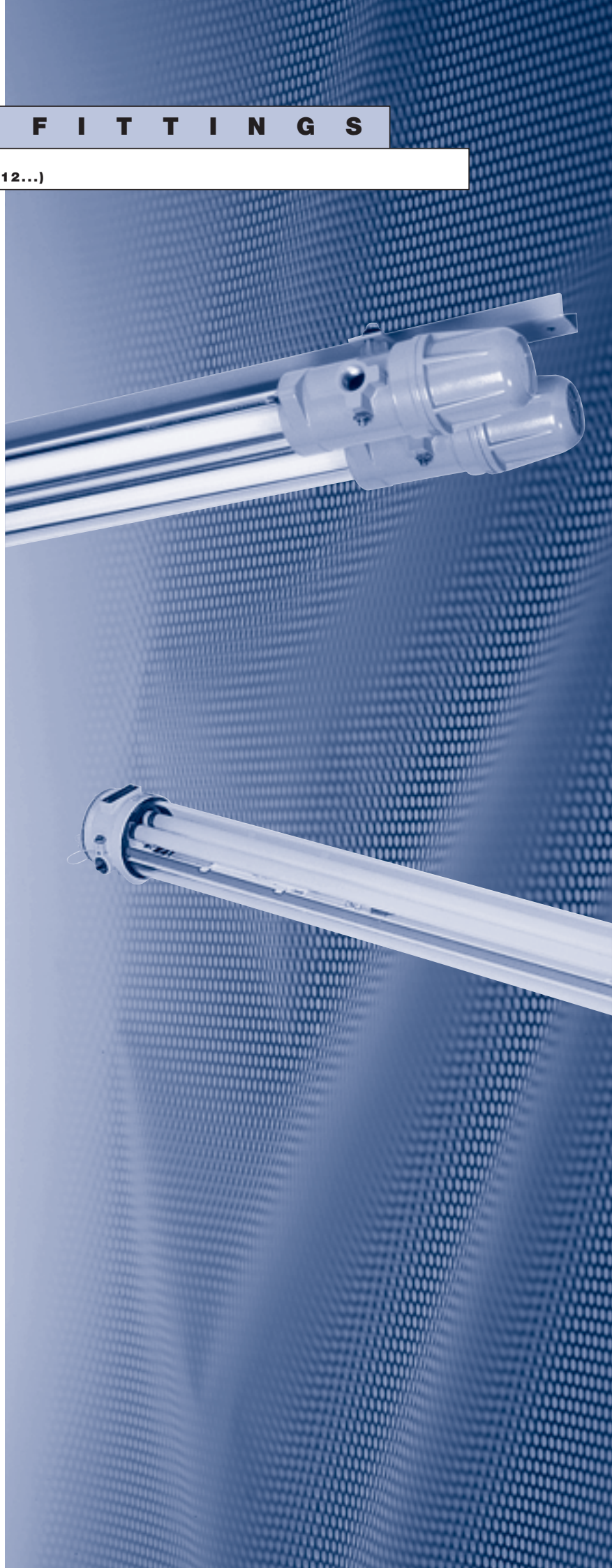


Dimensions in mm

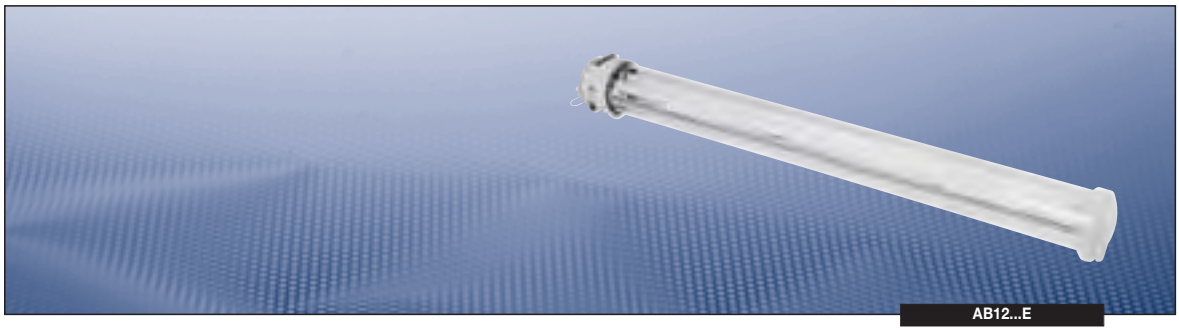
E X - L I G H T F I T T I N G S

AB 12... and EVF... 18 - 58 W
Metal version for Zone 1 and Zone 21 (AB 12...)

The light fittings series AB12 and EVF for fluorescent lamps are in accordance with the ATEX-Directive 94/9/EC and can be used in the Zones 1, 2 (for EVF...) and Zone 1, 2, 21 and 22 (for AB 12...). They are fitted alternatively with electronic or electromagnetic ballasts for fluorescent lamps with G13 sockets. The flameproof housing is made of copperfree aluminium (Cu < 0.1 %), the protective tube is made of borosilicate glass with high mechanical and thermal stability. The easy to open threaded cover, the large terminal compartment and lamp guide on a guide carriage make it simple for servicing.



- **Robust housing**
- **Easy opening due to screw plug on end**
- **2 individual circuits (double lamp version)**
- **Large terminal compartment**



Technical data

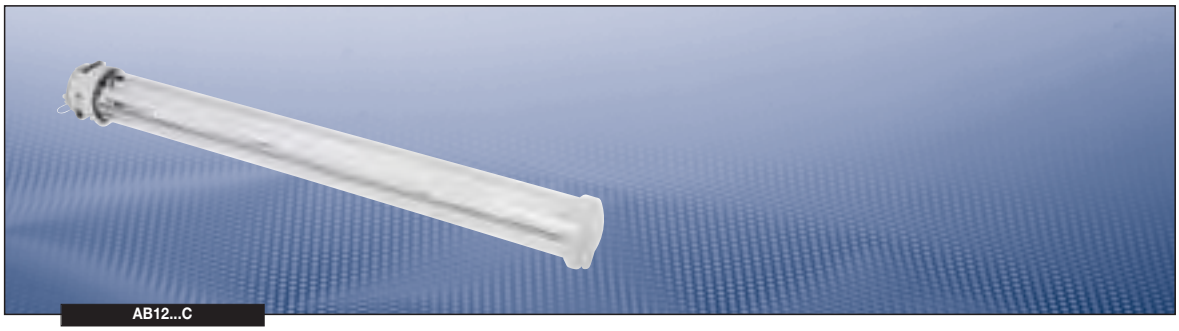
AB 12...E with electronic ballast	
Marking to 94/9/EC	Ⓔx II 2 G Ex d IIB T5 / Ⓔx II 2 D Ex tD A21 IP67 T78 °C[1]
EC-Type Examination Certificate	LOM 02 ATEX 2013 X
IECEx Certificate of Conformity	IECEx BKI 07.0008 X
Marking accd. to IECEx	Ex d IIB T5 Ex tD A21 IP67 T76 °C
Permissible ambient temperature	-20 °C to + 40 °C
Rated voltage	198 V - 254 V AC / 175 - 280 V DC
Frequency	50/60 Hz
Power factor cos φ	> 0.9
Circuit	EVG
Connecting terminals	L1, N and PE: 2 x 2.5 mm² / PE ext. 2 x 6 mm²
Insulation class	I
Light efficiency in operation	73%
Lamp cap	G 13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP67
Cable glands/gland plates/enclosure drilling	Direct entry: 2 x 3/4" ISO 7/1, 1 x Ex d plugs ¾", eXLink inlet on request
Enclosure material	Copper-free aluminium
Enclosure colour	Polyester finish grey
Protective cover/protective bowl	Borosilicate glass

	AB 12220 E	AB 12240 E	AB 12265 E
Rated current	0.17 A	0.48 A	0.49 A
Lamp/illuminant	2 x T26 / 18 W	2 x T26 / 36 W	2 x T26 / 58 W
Rated luminous flux[2]	2700 lm	6700 lm	10400 lm
Dimensions (L x W x H)	707 x 144 x 140 mm	1320 x 144 x 140 mm	1620 x 144 x 140 mm
Weight	7 kg	12 kg	14 kg

Options	Through-wiring with terminals L1, L2, L3, N and PE: 2 x 2.5 mm², other lamps, single lamp versions

[1] certification accd. to new standard applies for

[2] depends on used lamps


AB12...C

Technical data

AB 12... C/PL with conventional ballast	
Marking to 94/9/EC	Ex II 2 G Ex d IIB T5 / Ex II 2 D Ex tD A21 IP67 T93 °C[1]
EC-Type Examination Certificate	LOM 02 ATEX 2013 X
IECEx Certificate of Conformity	IECEx BKI 07.0008 X
Marking accd. to IECEx	Ex d IIB T5
	Ex tD A21 IP67 T93 °C
Permissible ambient temperature	-20 °C to +55 °C
Rated voltage	230 V
Frequency	50 Hz
Power factor cos φ	> 0.9
Circuit	conventional ballast with ignitor
Connecting terminals	L1, N and PE: 2 x 2.5 mm² / PE ext. 2 x 6 mm²
Insulation class	I
Light efficiency in operation	70 %
Degree of protection accd. EN 60529	IP67
Cable glands/gland plates/enclosure drilling	Direct entry: 2 x ¾" ISO 7/1, 1 x Ex d plugs ¾", eXLink inlet on request
Enclosure material	Copper-free aluminium
Enclosure colour	Polyester finish grey
Protective cover/protective bowl	Borosilicate glass

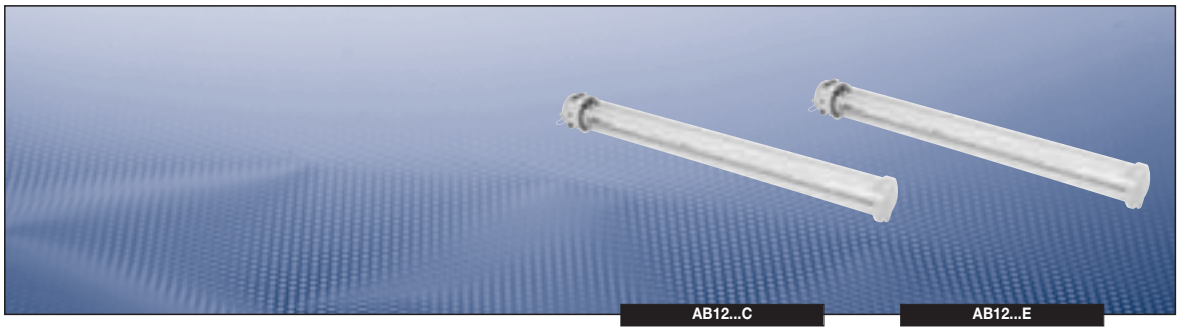
	AB 12220 C	AB 12236PL
Rated current	0.37 A	0.39 A
Lamp/illuminant	2 x T26/ 18 W / T38/ 20 W	2 x TC-L 36 W
Luminous flux[1]	2700 lm	2900 lm
Lamp cap	G 13 accd. to IEC 60081	2G11
Dimensions (L x W x H)	707 x 144 x 140 mm	707 x 144 x 140 mm
Weight	7 kg	8.5 kg

	AB 12240 C	AB 12265 C
Rated current	0.43 A	0.67 A
Lamp/illuminant	2 x T26 / 36 W / T38/ 40 W	2 x T26 / 58 W / T38/ 65 W
Luminous flux[1]	6700 lm	10400 lm
Lamp cap	G 13 accd. to IEC 60081	G 13 accd. to IEC 60081
Dimensions (L x W x H)	1320 x 144 x 140 mm	1620 x 144 x 140 mm
Weight	12 kg	14 kg

Options	Through-wiring with terminals L1, L2, L3, N and PE: 2 x 2.5 mm²,
	other lamps, single lamp versions

[1] certification accd. to new standard applies for

[2] depends on used lamps



Ordering details

Type	Lamp	Rated current	Cable gland for cable	Order No.
Type AB 12...E				
AB12220E	2 x 18 W	0.17 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 060 301**
	2 x 18 W	0.17 A	–	**NOR 000 005 060 300**
AB12240E	2 x 36 W	0.32 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 060 309**
	2 x 36 W	0.32 A	–	**NOR 000 005 060 308**
AB12265E	2 x 58 W	0.49 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 060 317**
	2 x 58 W	0.49 A	–	**NOR 000 005 060 316**
Type AB 12...C				
AB12220C	2 x 18/20 W	0.37 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 060 347**
	2 x 18/20 W	0.37 A	–	**NOR 000 005 060 346**
AB12236PL	2 x 36 W-TC-L	0.39 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 060 670**
	2 x 36 W-TC-L	0.39 A	–	**NOR 000 005 060 669**
AB12240C	2 x 36/40 W	0.43 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 060 355**
	2 x 36/40 W	0.43 A	–	**NOR 000 005 060 354**
AB12265C	2 x 58/65 W	0.67 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 060 363**
	2 x 58/65 W	0.67 A	–	**NOR 000 005 060 362**

Accessories

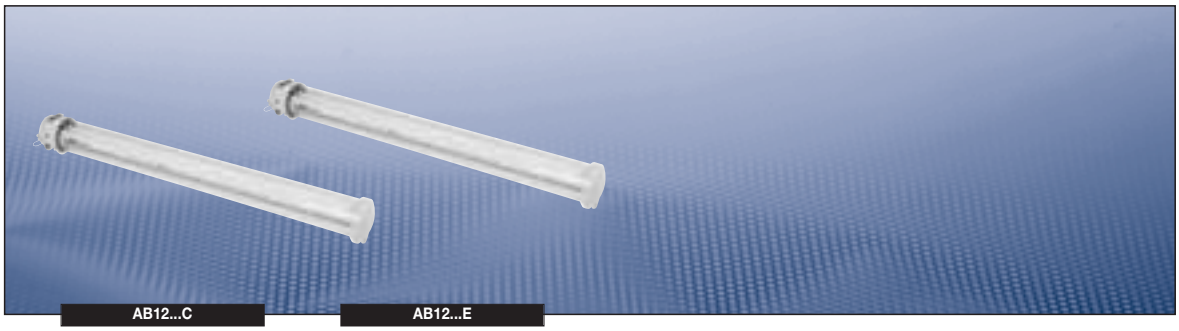
Lamp for luminaire AB12..

Type of lamp socket/ Diameter	Power	Luminous flux Light colour	Order No.
T26/Ø 26 mm (T8) Bi-pin socket G13	18 W	1350 lm white	**3 2475 900 001**
	36 W	3350 lm white	**3 2475 900 002**
	58 W	5200 lm white	**3 2475 900 003**
T26/Ø 26 mm (T8) Longlife Bi-pin socket G13 Aura-Ultimate	18 W	1300 lm white	**3 2475 900 087**
	36 W	3350 lm white	**3 2475 900 088**
	58 W	5200 lm white	**on request**
TC-L four-pin/Ø 18 mm Socket 2G11 for AB 12236 PL	36 W	2900 lm white	**on request**

Reflector for luminaire AB12..

Type	Material	Version	Application	Order No.
Reflector RAB 220	AISI 304		for AB 12220../AB 12236 PL	**NOR 003 045 060 403**
Reflector RAB 240	AISI 304		for AB 12240..	**NOR 003 045 060 411**
Reflector RAB 265	AISI 304		for AB 12265..	**NOR 003 045 060 429**
Reflector RAB 220	AISI 316		for AB 12220	**NOR 003 165 060 403**
Reflector RAB 240	AISI 316		for AB 12240	**NOR 003 165 060 411**
Reflector RAB 265	AISI 316		for AB 12265	**NOR 003 165 060 429**
Reflector GRAB 220	AISI 304	with wire guard (steel, white epoxid coated)	for AB 12220../AB 12236 PL	**NOR 003 045 060 479**
Reflector GRAB 240	AISI 304	with wire guard (steel, white epoxid coated)	for AB 12240..	**NOR 003 045 060 487**
Reflector GRAB 265	AISI 304	with wire guard (steel, white epoxid coated)	for AB 12265	**NOR 003 045 060 485**
Reflector GRAB 220	AISI 316	with wire guard (steel, white epoxid coated)	for AB 12220../AB 12236 PL	**NOR 003 165 060 479**
Reflector GRAB 240	AISI 316	with wire guard (steel, white epoxid coated)	for AB 12240..	**NOR 003 165 060 487**
Reflector GRAB 265	AISI 316	with wire guard (steel, white epoxid coated)	for AB 12265..	**NOR 003 165 060 495**

Scope of delivery without lamps and fixing material.



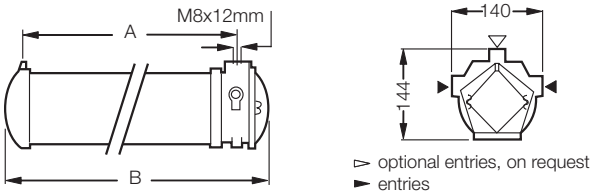
Accessories

Type	Material	Order No.
Eye bolt A1	galvanized steel	**NOR 000 005 009 261**
Ceiling mounting bracket A5	galvanized steel	**NOR 000 005 009 162**
Wall suspension BFP 45	galvanized steel	**NOR 000 005 009 196**
Pipe clamp A8 1" 1/2 D 47 – 51 mm	hot galvanized steel	**NOR 000 005 009 211**
Pipe clamp A9 2" D 56 – 60 mm	hot galvanized steel	**NOR 000 005 009 229**

For these applications, it will be necessary to have 2 parts for each luminaire.

Metal cable glands M20/M25 see page 8.10.
Complete Mounting Systems see page 2.70 to 2.76.

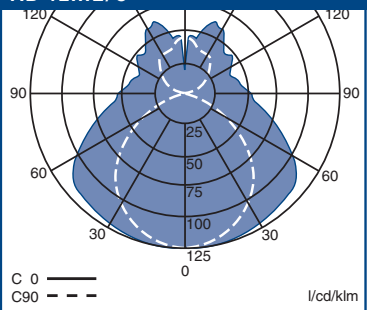
Dimension drawing | Polar curve



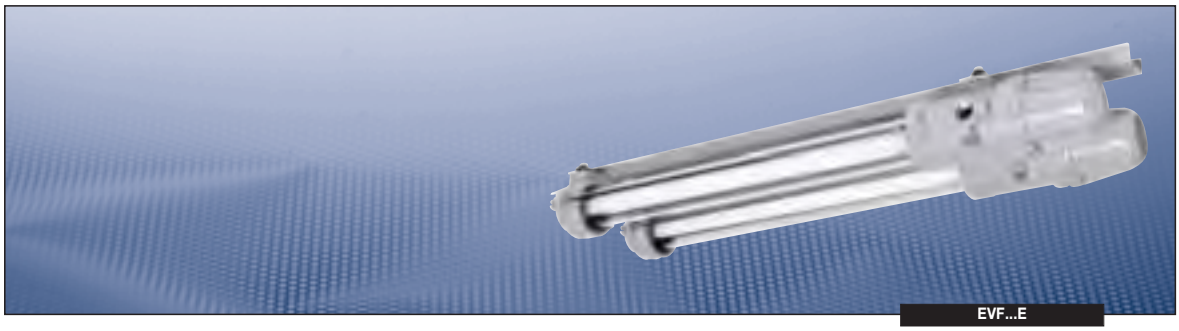
Type	A	B
AB 12220	652	707
AB 12236 PL	652	707
AB 12240	1265	1320
AB 12265	1565	1620

AB 12220E / AB 12220C / AB 122236PL

Polar curve
AB 12...E/C



Dimensions in mm


EVF...E

Technical data

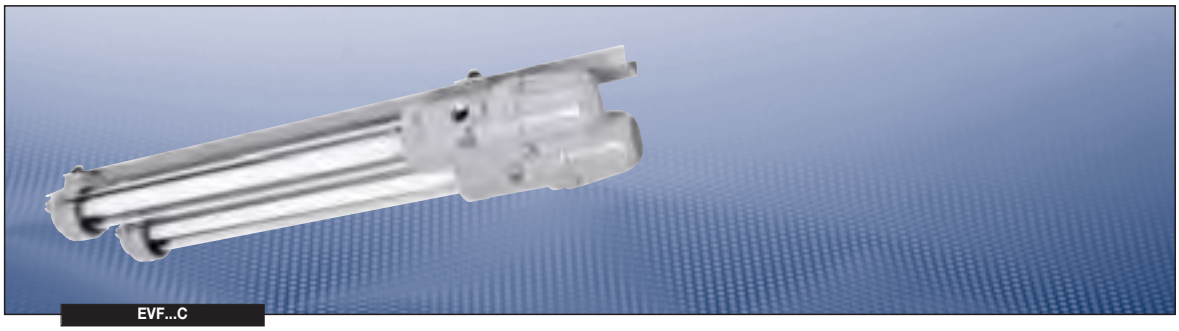
EVF...E	
Marking to 94/9/EC	Ex II 2 G Ex d IIC T6[1)] Ex II 2 D Ex tD A21 IP67 T76 °C
EC-Type Examination Certificate	LOM 02 ATEX 2019 X
IECEx Certificate of Conformity	IECEx BKI 07.0033 X
Marking accd. to IECEx	Ex d IIC T6 Ex tD A21 IP67 T76 °C
Permissible ambient temperature	-20 °C to +40 °C
Rated voltage	198 V - 254 V AC / 175 V - 280 V DC
Frequency	50/60 Hz
Power factor cos φ	> 0.9
Circuit	EVG
Connecting terminals	L1, N and PE: 2 x 2.5 mm² / PE ext. 2 x 6 mm²
Insulation class	I
Lamp cap	G 13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP67
Cable glands/gland plates/enclosure drilling	Direct entry: 2 x ¾" ISO 7/1, 1 x Ex d plugs ¾", eXLink inlet on request
Enclosure material	Copper-free aluminium
Enclosure colour	Polyester finish grey
Protective cover/protective bowl	Borosilicate glass

	EVF 120 E	EVF 140 E/240 E	EVF 165 E / 265 E
Rated current	0.09 A	0.16 A / 0.32 A	0.25 A / 0.49 A
Lamp/illuminant	1 x T26 / 18 W	1 x T26 / 36 W, 2 x T26 / 36 W	1 x T26 / 58 W, 2 x T26 / 58 W
Rated luminous flux[2)]	1350 lm	3350 lm / 6700 lm	5200 lm / 10400 lm
Light efficiency in operation	83 %	83 % / 73 %	83 % / 73 %
Dimensions (L x W x H)	990 x 120 x 145 mm	1598 x 120 x 145 mm 1598 x 275 x 150 mm	1908 x 120 x 145 mm 1908 x 275 x 150 mm
Weight	6.2 kg	9.0 kg / 16.9 kg	14.6 kg / 26.4 kg

Options	Through-wiring with terminals L1, L2, L3, N and PE: 2 x 2.5 mm² other lamps, single lamp versions

[1)] certification accd. to new standard applies for

[2)] depends on used lamps



EVF...C

Technical data

EVF...C with conventional ballast	
Marking to 94/9/EC	Ⓔx II 2 G Ex d IIC T6[1)] Ⓔx II 2 D Ex tD A21 IP67 T76 °C
EC-Type Examination Certificate	LOM 02 ATEX 2019 X
IECEx Certificate of Conformity	IECEx BKI 07.0033 X
Marking accd. to IECEx	Ex d IIC T6 (58/65 W T5 bei T_a > +40 °C) Ex tD A21 IP67 T76 °C
Permissible ambient temperature	-20 °C to +55 °C
Rated voltage	230 V
Frequency	50 Hz
Power factor cos φ	> 0.90
Circuit	conventional ballast with ignitor
Connecting terminals	L1, N and PE: 2 x 2.5 mm² / PE ext. 2 x 6 mm²
Insulation class	I
Degree of protection accd. EN 60529	IP67
Cable glands/gland plates/enclosure drilling	Direct entry: 2 x ¾" ISO 7/1, 1 x Ex d plugs ¾", eXLink inlet on request
Enclosure material	Copper-free aluminium
Enclosure colour	Polyester finish grey
Protective cover/protective bowl	Borosilicate glass

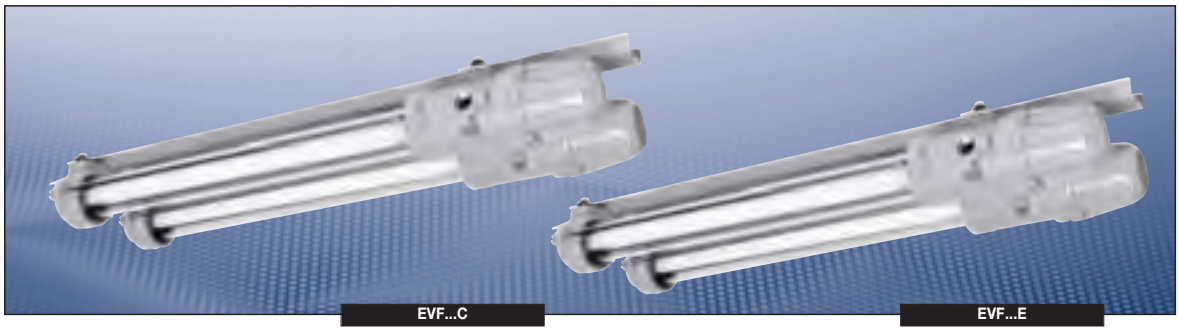
	EVF 120 C	EVF 140 C	EVF 165 C
Rated current	0.15 A	0.25 A	0.39 A
Lamp/illuminant	1 x T26 / 18 W, 1 x T38 / 40 W	1 x T26 / 36 W, 1 x T38 / 40 W	1 x T26 / 58 W, 1 x T38 / 65 W
Rated luminous flux	1350 lm	3350 lm	5200 lm
Light efficiency in operation	81 %	81 %	81 %
Dimensions (L x W x H)	990 x 120 x 145 mm	1598 x 120 x 145 mm	1908 x 120 x 145 mm
Weight	6.2 kg	9.0 kg	14.6 kg

	EVF 240 C	EVF 265 C
Rated current	0.50 A	0.78 A
Lamp/illuminant	2 x T26 / 36 W, 2 x T38 / 40 W	2 x T26 / 58 W, 2 x T38 / 65 W
Rated luminous flux[2)]	6700 lm	10400 lm
Light efficiency in operation	71 %	71 %
Dimensions (L x W x H)	1598 x 275 x 150 mm	1908 x 275 x 150 mm
Weight	16.9 kg	26.4 kg

Options	Through-wiring with terminals L1, L2, L3, N and PE: 2 x 2.5 mm² other lamps, single lamp versions

[1)] certification accd. to new standard applies for

[2)] depends on used lamps



Ordering details

Type	Lamp	Rated current (230 V/50 Hz)	Cable gland for cable	Order No.
Type EVF...E				
EVF120E	1 x 18 W	0.09 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 070 301**
	1 x 18 W	0.09 A	–	**NOR 000 005 070 300**
EVF140E	1 x 36 W	0.16 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 070 309**
	1 x 36 W	0.16 A	–	**NOR 000 005 070 308**
EVF165E	1 x 58 W	0.25 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 070 317**
	1 x 58 W	0.25 A	–	**NOR 000 005 070 316**
EVF240E	2 x 36 W	0.32 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 070 329**
	2 x 36 W	0.32 A	–	**NOR 000 005 070 328**
EVF265E	2 x 58 W	0.49 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 070 335**
	2 x 58 W	0.49 A	–	**NOR 000 005 070 333**
Type EVF...C				
EVF120C	1 x 18/20 W	0.15 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 070 065**
	1 x 18/20 W	0.15 A	–	**NOR 000 005 070 064**
EVF140C	1 x 36/40 W	0.25 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 070 031**
	1 x 36/40 W	0.25 A	–	**NOR 000 005 070 030**
EVF165C	1 x 58/65 W	0.39 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 070 403**
	1 x 58/65 W	0.39 A	–	**NOR 000 005 070 402**
EVF240C	2 x 36/40 W	0.50 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 070 023**
	2 x 36/40 W	0.50 A	–	**NOR 000 005 070 022**
EVF265C	2 x 58/65 W	0.78 A	1 x 3/4" Ø 9 - 14 mm	**NOR 000 005 070 429**
	2 x 58/65 W	0.78 A	–	**NOR 000 005 070 428**

Accessories

Lamp for luminaire EVF..

Type of lamp socket/ Diameter	Power	Luminous flux Light colour	Order No.
T26/Ø 26 mm (T8) Bi-pin socket G13	18 W	1350 lm white	**3 2475 900 001**
	36 W	3350 lm white	**3 2475 900 002**
	58 W	5200 lm white	**3 2475 900 003**
T26/Ø 26 mm (T8) Longlife Bi-pin socket G13	18 W	1300 lm white	**3 2475 900 087**
	36 W	3350 lm white	**3 2475 900 088**
Aura-Ultimate	58 W	5200 lm white	**on request**

Wire guard for luminaire EVF..

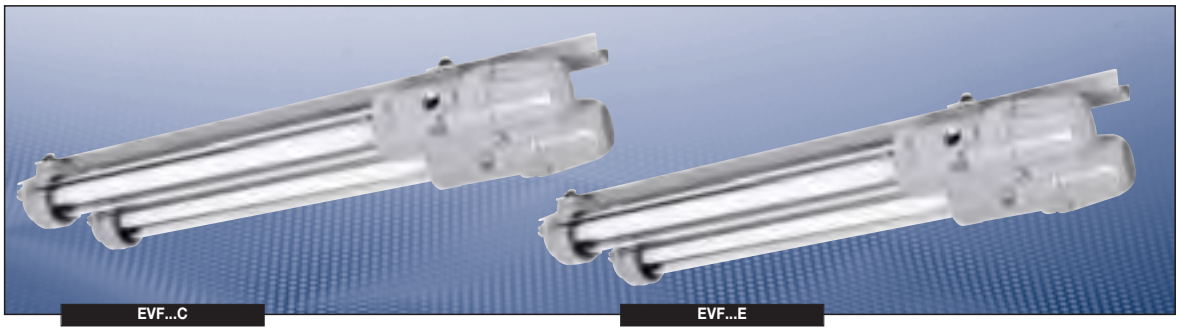
Type	Version	Order No.
Wire guard REVF 20 (steel, white epoxid coated)	for EVF 120	**NOR 000 000 507 385**
Wire guard REVF 40 (steel, white epoxid coated)[1)]	for EVF 140/240	**NOR 000 000 507 393**
Wire guard REVF 65 (steel, white epoxid coated)[1)]	for EVF 165/265	**NOR 000 000 507 319**

[1)] EVF 240 and 265-two wire guards per fitting.

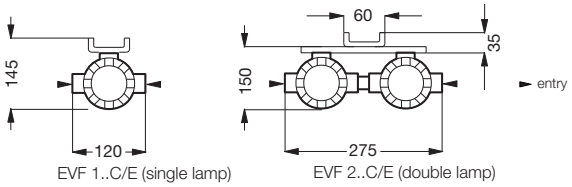
Scope of delivery without lamps and fixing accessories.

Metal cable glands M20/M25 see page 8.10.
Complete Mounting Systems see page 2.70 to 2.76.

EVF...E with electronic ballast
EVF...C with electromagnetic ballast

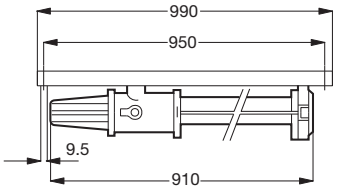


Dimension drawing | Polar curve

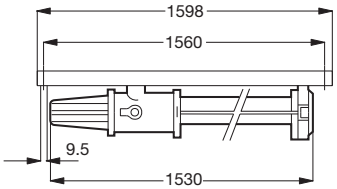


EVF 1..C/E (single lamp)

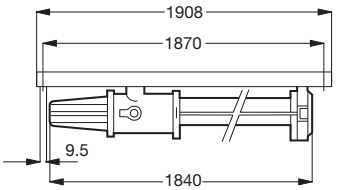
EVF 2..C/E (double lamp)



EVF120E / EVF120C

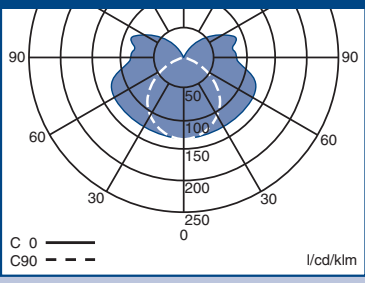


EVF140E / EVF140C /
EVF240E / EVF240C

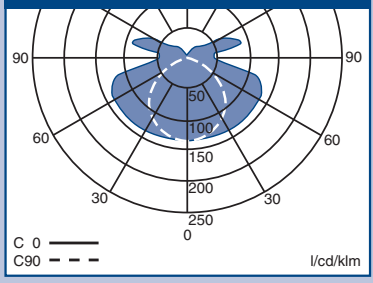


EVF165E / EVF165C
EVF265E / EVF265C

Polar curve
EVF 1...



Polar curve
EVF 2...

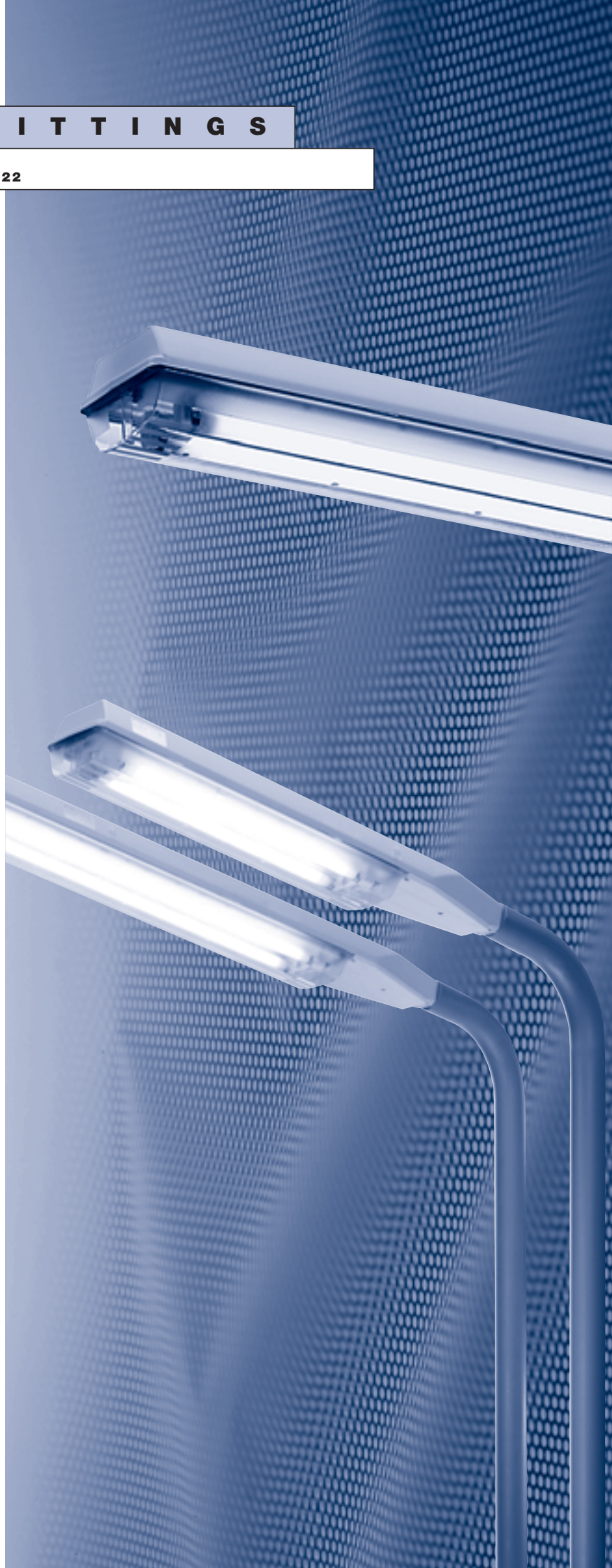


Dimensions in mm

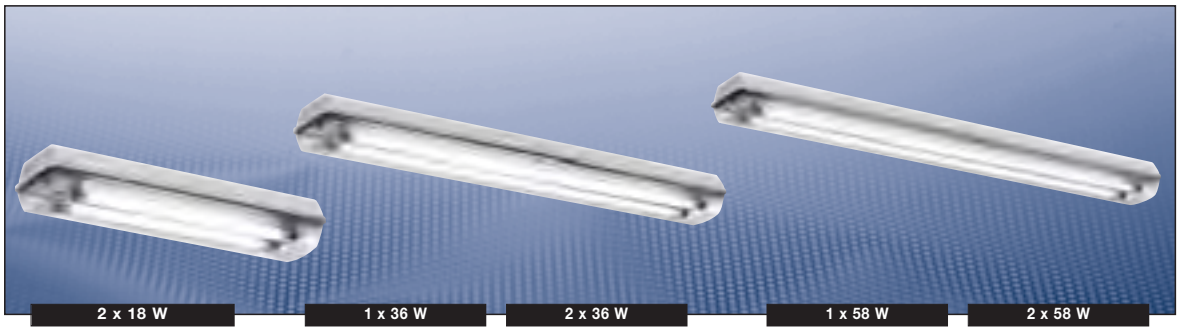
EX-LIGHT FITTINGS

nLLK 08... 18 - 58 W
All-plastic design for Zone 2 and Zone 21/22

The explosion-protected light fittings of the series nLLK 08 conform to the requirements of the ATEX-Directive 94/9/EC. They are designed and tested acc. to the latest standard IEC EN 60079-15 for Ex equipment for use in zone 2 and EN 61241-1 for use in Zone 21 and Zone 22 of dust Ex-areas. They are equipped with electronic ballasts (EVGs) for G13 bi-pin fluorescent lamps. The new EVG additionally fullfills the relevant requirements of "End of Life" (EOL) acc. IEC 60079-7 for explosion protected fluorescent light fittings design "increased safety". The standard single-sided through-wiring architecture in conjunction with the generously large terminal compartment offers a cost efficient installation. Double-sided lock with 10, 20 or 24 latch points allows the protective bowl to be hingeable on both sides meaning the fitting can be mounted without having to pay attention to which side is the right side. With the optional CG-S module, single monitoring of the lamp is possible with the CEAG Emergency Light Supply Systems.



- **Cost efficient installation due to single-sided through-wiring**
- **With electronic ballast incl. EOL set-up**
- **Double-sided safety lock**
- **Safety standard IP66**
- **Integration in the CEAG Emergency Light Supply System**



Technical data

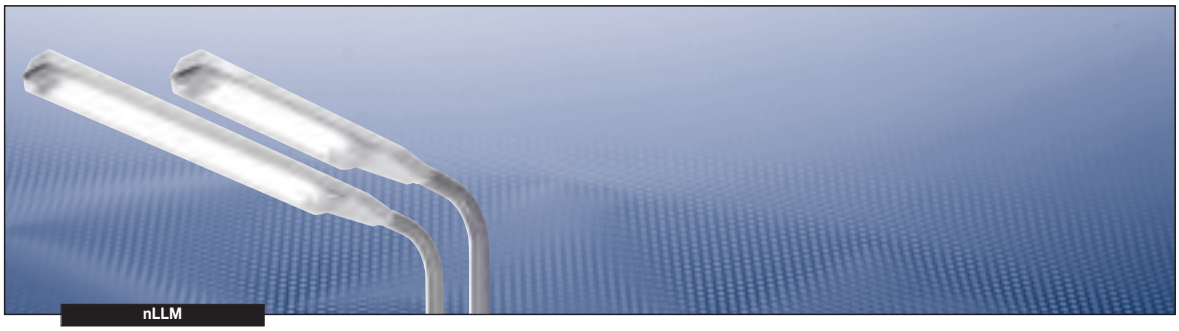
nLLK 08018/18 | nLLK 08036 | nLLK 08036/36 | nLLK 08058 | nLLK 08058/58	
Marking to 94/9/EC	Ex II 3 G Ex nA de/de mb IIC T4
	Ex II 3 D Ex tD A22 IP66 T80 °C
	Ex II 2 D Ex tD A21 IP66 T80 °C
Examination Certificate	BVS 09 ATEX E 147
EC-Type Examination Certificate	BVS 09 ATEX E 162
Permissible ambient temperature	–25 °C to +50 °C / –25 °C to +40 °C (2 x 58 W)
	–25 °C to +45 °C (2 x 36 W 2/5 + 2/6, excl. CG-S-Version)
Rated voltage AC	220 V - 240 V AC
Rated voltage AC (CG-S)	220 V - 254 V AC
Rated voltage DC	220 V - 240 V DC
Rated voltage DC (CG-S)	195 V - 250 V DC
Frequency	50 - 60 Hz
Power factor cos φ	>= 0.95
Circuit	EVG resp. EVG/CG-S
Connecting terminals	L1, N, PE (option L1, L2, L3, N, PE) max. 2 x 2.5 mm², clamp terminals;
	optional screw-type terminals max. 2 x 6 mm² (L1, L2, L3, L, N, PE)
Insulation class	I
Lamp cap	G13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP66
Cable glands/gland plates/enclosure drilling	Ex e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm
	Option: M20 x 1.5 metal thread
Enclosure material	Glass-fibre reinforced polyester
Protective cover/protective bowl	Polycarbonate

	nLLK 08018/18
Rated current	0.16 A / 0.17 A (CG-S variant)
Lamp/illuminant	2 x T26 / 18 W
Rated luminous flux[1)]	2700 lm
Light efficiency in operation	78 %
Dimensions (L x W x H)	760 x 188 x 130 mm
Weight	approx. 3.6 kg / approx. 5.6 kg (CG-S variant)

	nLLK 08036	nLLK 08036/36
Rated current	0.16 A	0.34 A / 0.35 A (CG-S variant)
Lamp/illuminant	1 x T26 / 36 W	2 x T26 / 36 W
Rated luminous flux[1)]	3350 lm	6700 lm
Light efficiency in operation	86 %	78 %
Dimensions (L x W x H)	1360 x 188 x 130 mm	1360 x 188 x 130 mm
Weight	approx. 5.6 kg	approx. 5.8 kg /approx. 8.0 kg (CG-S variant)

	nLLK 08058	nLLK 08058/58
Rated current	0.27 A	0.53 A / 0.54 A (CG-S variant)
Lamp/illuminant	1 x T26 / 58 W	2 x T26 / 58 W
Rated luminous flux[1)]	5200 lm	10400 lm
Light efficiency in operation	83%	72%
Dimensions (L x W x H)	1660 x 188 x 130 mm	1660 x 188 x 130 mm
Weight	approx. 6.7 kg	approx. 6.9 kg / approx. 9.0 kg (CG-S variant)

[1)] depends on used lamps

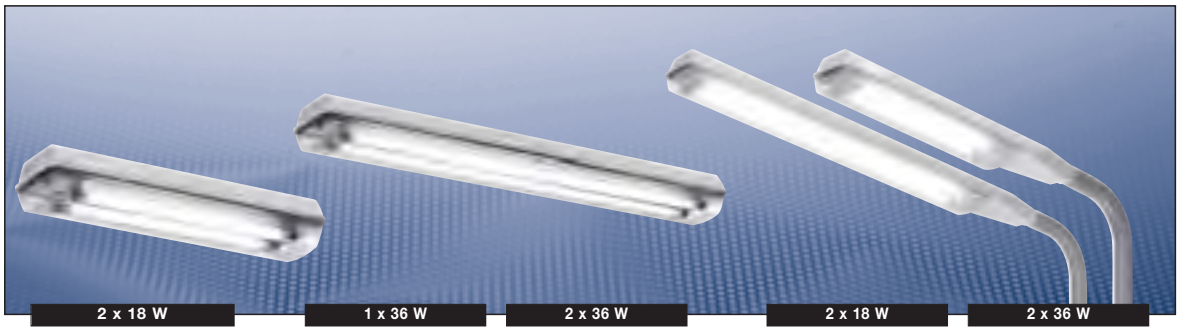


Technical data

nLLM 08018/18 | nLLM 08036/36	
Marking to 94/9/EC	Ex II 3 G Ex nA de/de mb IIC T4 Ex II 3 D Ex tD A22 IP66 T80 °C Ex II 2 D Ex tD A21 IP66 T80 °C
Examination Certificate	BVS 09 ATEX E 147
EC-Type Examination Certificate	BVS 09 ATEX E 162
Permissible ambient temperature	-25 °C to +50 °C
Rated voltage	220 V - 240 V AC
Rated voltage	220 V - 240 V DC
Frequency	50 - 60 Hz
Power factor cos φ	≥ 0.95
Circuit	EVG
Connecting terminals	L, N, PE screw-type terminals max. 2 x 6 mm²
Insulation class	I
Lamp cap	G13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP66
Cable glands	1 x Ex e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm
Enclosure material	Glass-fibre reinforced polyester
Protective cover/protective bowl	Polycarbonate

	nLLM 08018/18	nLLM 08036/36
Rated current	0.16 A	0.34 A
Lamp/illuminant	2 x T26 / 18 W	2 x T26 / 36 W
Rated luminous flux[1)]	2700 lm	6700 lm
Light efficiency in operation	78 %	78 %
Dimensions (L x W x H)	760 x 188 x 130 mm	1360 x 188 x 130 mm
Pole socket	Ø 44 mm x 150 mm	Ø 44 mm x 150 mm
Weight	approx. 6.1 kg	approx. 8.4 kg

[1)] depends on used lamps



Ordering details

Type	Terminals	Through-wiring single-ended	Through-wiring double-ended	Cable glands[2]	Plugs	Order No.
Type nLLK 08018/18 (2 x 18 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	**1 3465 218 001**
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	**1 3465 218 011**
2/6-2 M[1] [4]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 3465 218 021**
Type nLLK 08018/18 CG-S[2] (2 x 18 W)						
2/6-2[4]	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	**1 3465 218 912**
2/6-M[1] [4]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 3465 218 922**
Type nLLM 08018/18 (2 x 18 W)						
1/3-1	1 x 3	–	–	1 x M25 x 1.5	–	**1 3465 218 101**
Type nLLK 08036 (1 x 36 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	**1 3465 136 001**
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	**1 3465 136 011**
2/6-2M[1] [4]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 3465 136 021**
Type nLLK 08036/36 (2 x 36 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	**1 3465 236 001**
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	**1 3465 236 011**
2/6-2M[1] [4]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 3465 236 021**
Type nLLK 08036/36 CG-S[2] (2 x 36 W)						
2/6-2[4]	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	**1 3465 236 912**
2/6-2M[1] [4]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 3465 236 922**
Type nLLM 08036/36 (2 x 36 W)						
1/3-1	1 x 3	–	–	1 x M25 x 1.5	–	**1 3465 236 101**
Type nLLK 08058 (1 x 58 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	**1 3465 158 001**
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	**1 3465 158 011**
2/6-2M[1] [4]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 3465 158 021**
Type nLLK 08058/58 (2 x 58 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	**1 3465 258 001**
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	**1 3465 258 011**
2/6-2M[1] [4]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 3465 258 021**
Type nLLK 08058/58 CG-S[2] (2 x 58 W)						
2/6-2[4]	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	**1 3465 258 912**
2/6-2M[1] [4]	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	**1 3465 258 922**

[1] M: with metal thread, without cable gland

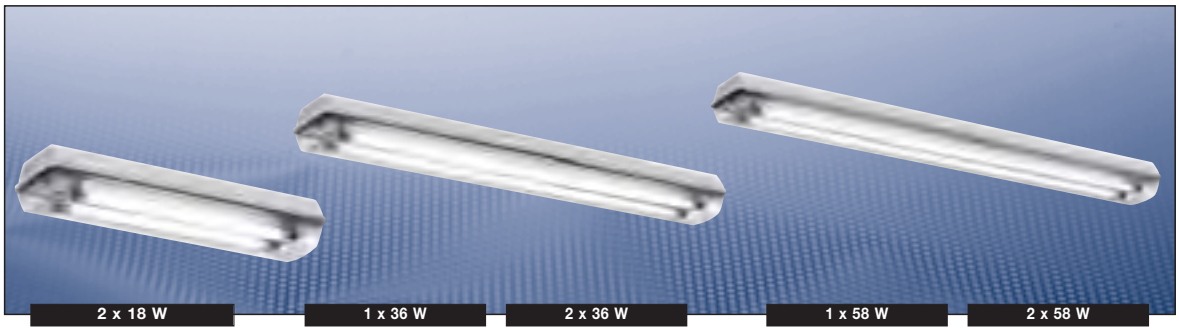
[2] CG-S: design single monitored emergency light fitting for use in CEAG emergency light supply unit

[3] With dustcover if entry/thread is not closed

[4] With screw-type terminals max. 2 x 6 mm²

Version with integrated isolating switch on request

Scope of delivery without lamp and fixing accessoires



Accessories

Lamp for luminaire nLLK08/nLLM08

Type of lamp	Power	Luminous flux Light colour	Order No.
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2220-1	18 W	1350 lm white	**3 2475 900 001**
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2420-1	36 W	3350 lm white	**3 2475 900 002**
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2520-1	58 W	5200 lm white	**3 2475 900 003**
Aura-Ultimate T26/Ø 26 mm (T8) Longlife Socket G13	18 W 36 W 58 W	1300 lm white 3350 lm white 5200 lm white	**3 2475 900 087** **3 2475 900 088** **on request**

Series nLLK 08... and nLLM 08...

Type	Order No.
Hexagon screw SW 13	**3 2485 000 005**

Series nLLM 08018/18 and nLLM 08036/36

Type	Order No.
Single sided through wiring 2/6 with 2 entries M25, incl. terminals and mounting material	**2 2218 602 000**

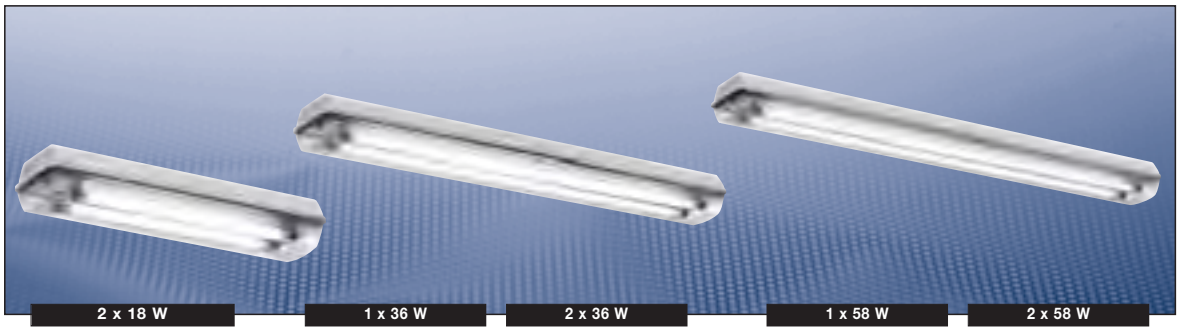
Fixing materials nLLK 08

Type/code	Corrosion protection	Qty. per light fitting	Order No.
Eye bolt A2	galvanized	2	**2 2480 002 000**
Hexagon screw S4	stainless steel	2	**2 2480 054 000**
Ceiling mounting bracket D92 incl. screws and washer	stainless steel	2	**2 2480 092 000**

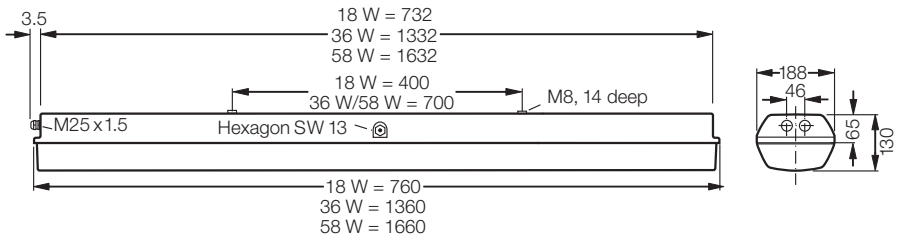
Fixing materials nLLK 08... and nLLM 08...

Type/code	Corrosion protection	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	Order No.
Pipe clamp					
R12	hot galvanized	1¼"	38 - 42	2	**2 2480 462 000**
R14	CrNi	1¼"	38 - 42	2	**2 2480 464 000**
R22	hot galvanized	1½"	47 - 51	2	**2 2480 472 000**
R24	CrNi	1½"	47 - 51	2	**2 2480 474 000**
R32	hot galvanized	2"	56 - 60	2	**2 2480 482 000**
R34	CrNi	2"	56 - 60	2	**2 2480 484 000**
Wall bracket W27	hot galvanized		42.4	1	**2 2483 027 000**
Luminaire wall suspension 30° incl. screws and washer	hot galvanized			2	**2 2480 000 122**

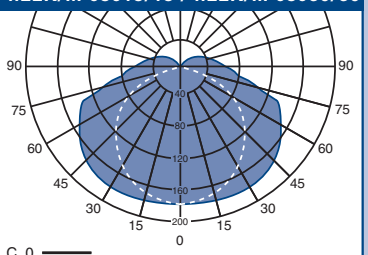
Metal cable glands M20/M25 see page 8.10.
Complete Mounting Systems see page 2.70 to 2.76.



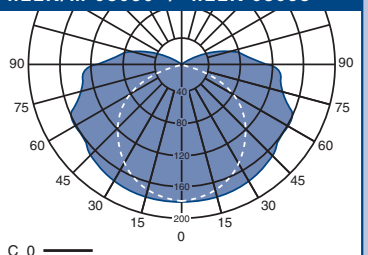
Dimension drawing | Polar curve | Accessories



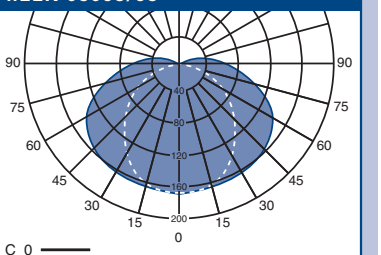
Polar curve
nLLK/M 08018/18 / nLLK/M 08036/36

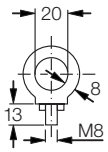


Polar curve
nLLK/M 08036 / nLLK 08058

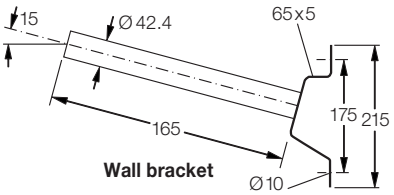


Polar curve
nLLK 08058/58

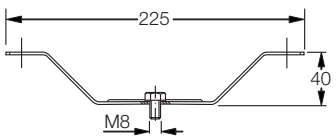


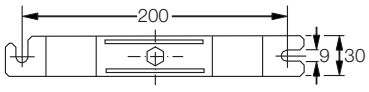


Eye bolt

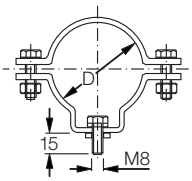


Wall bracket

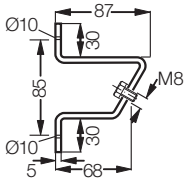




Ceiling mounting bracket D92



Pipe clamp



Luminaire wall suspension 30°

Dimensions in mm

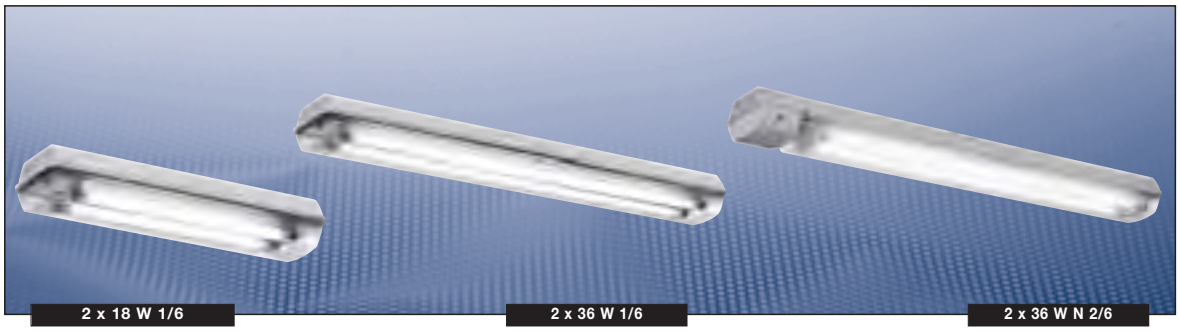
EX-EMERGENCY LIGHT FITTINGS

nLLK 08...N 18 - 36 W
Plastic version for Zone 2 and Zone 21/22

The explosion-protected light fittings of the series nLLK 08 N are conform to the requirements of the ATEX-Directive 94/9/EC. They are designed and tested acc. to the latest standard IEC EN 60079-15 for Ex equipment for use in zone 2 and EN 61241-1 for use in Zone 21 and Zone 22 of dust Ex-areas.
They are equipped with electronic ballasts (EVGs) for G13 bi-pin fluorescent lamps and are available for 18 W and 36 W.
Additionally it fullfills the relevant requirements „End of Life“ (EOL) acc. IEC 60079-7 for explosion protected fluorescent light fittings design „increased safety“ as well as for mains operation and for emergency light operation.
Additionally the light fittings fullfill the requirements acc. EN 60598 part 2-22 for emergency light fittings.
They are fitted with a self contained battery for maintained and non maintained mode.
The light fitting has an emergency lighting duration time of 1.5 h, alternativ 3.0 h and a green indication LED for charging current and fault indication.
The standard single-sided through-wiring architecture in conjunction with the generously large terminal compartment offers a cost efficient installation.
Double-sided lock with 10 resp. 20 latch points allows the protective bowl to be hingeable on both sides meaning the fitting can be mounted without having to pay attention to which side is the right side. Maintenance-friendly the self-contained battery is mounted beneath a reflector-flap. Versions with double sided through wiring have a flanged battery housing.



- **Cost efficient installation due to single-sided through-wiring**
- **With electronic ballast incl. EOL set-up**
- **Double-sided safety lock**
- **High degree of protection IP66**
- **Self-contained NC-battery for emergency lighting 1.5 h, alt. 3.0 h**
- **Easy battery change**



Technical data

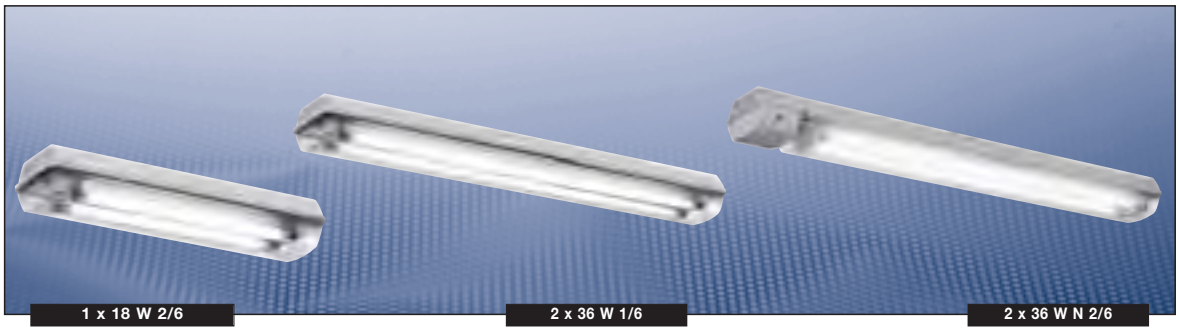
nLLK 08018/18 N 1/6 | nLLK 08018/18 N 2/6 | nLLK 08036/36 N 1/6 | nLLK 08036/36 N 2/6	
Marking to 94/9/EC	Ex II 3 G Ex nA de/de mb IIC T4
	Ex II 3 D Ex tD A22 IP66 T80 °C
	Ex II 2 D Ex tD A21 IP66 T80 °C
Examination Certificate	BVS 09 ATEX E 147
EC-Type Examination Certificate	BVS 09 ATEX E 162
Permissible ambient temperature	-25 °C to + 45 °C / -25 °C to +40 °C (2 x 36 W 2/6) (specified data: -5 °C to +35 °C)
Rated voltage	220 V - 240 V AC
Frequency	50 - 60 Hz
Power factor cos φ	>= 0.95
Circuit	EVG with emergency lighting supply
Connecting terminals	L1, L2, L3, L, N, PE, max. 2 x 6 mm² per terminal
Insulation class	I
Lamp cap	G13 accd. to IEC 60081
Light efficiency in operation	78%
Rated emergency operation duration	1.5 h / 3 h
Charging duration	> 24 h
Degree of protection accd. EN 60529	IP66
Cable glands/gland plates/enclosure drilling[1)]	Ex e cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm
	Option: M20 x 1.5 metal thread
Enclosure material	Glass-fibre reinforced polyester
Protective cover/protective bowl	Polycarbonate

	nLLLK 08018/18 N 1/6	nLLLK 08018/18 N 2/6[2)]
Rated current	0.18 A	0.18 A
Lamp/illuminant	2 x T26 / 18 W	2 x T26 / 18 W
Rated luminous flux[1)]	2700 lm	2700 lm
Luminous flux in emergency operation (1.5 h, one lamp)[1)]	880 lm (65 %)	880 lm (65 %)
Luminous flux in emergency operation (3 h, one lamp)[1)]	415 lm (30 %)	415 lm (30 %)
Battery	6 V/4 Ah NC Accu	6 V/4 Ah NC Accu
Dimensions (L x W x H)	760 x 188 x 130 mm	900 x 130 x 188 mm
Weight	approx. 4.5 kg	approx. 6.0 kg

	nLLK 08036/36 N 1/6	nLLK 08036/36 N 2/6[2)]
Rated current	0.36 A	0.36 A
Lamp/illuminant	2 x T26/ 36 W	2 x T26/ 36 W
Rated luminous flux[1)]	6700 lm	6700 lm
Luminous flux in emergency operation (1.5 h, one lamp)[1)]	1200 lm (36 %)	1200 lm (36 %)
Luminous flux in emergency operation (3 h, one lamp)[1)]	---	1040 lm (31 %)
Battery	6 V/4 Ah NC Accu	6 V/4 Ah NC Accu (1.5 h), 6 V/7 Ah NC Accu (3.0 h)
Dimensions (L x W x H)	1360 x 188 x 130 mm	1500 x 130 x 188 mm
Weight	approx. 6.8 kg	approx. 8.3 kg (1.5 h), approx. 9.3 kg (3.0 h)

[1)] depends on used lamps

[2)] Version 2/6 with seperate battery housing



Ordering details

Type	Connecting terminals	Through-wiring single-ended	Through-wiring double-ended	With M25 plastic cable glands	For M20 metal[2] cable glands	Rated emergency lighting operation	Order No.
Type nLLK 08018/18 N 1/6 (2 x 18 W)							
1/6-1	1 x 6	X	–	X	–	1.5 h	**1 3470 218 001**
1/6-1 M[1]	1 x 6	X	–	–	X	1.5 h	**1 3470 218 031**
1/6-1	1 x 6	X	–	X	–	3 h	**1 3469 218 001**
1/6-1 M[1]	1 x 6	X	–	–	X	3 h	**1 3469 218 031**
Type nLLK 08018/18 N 2/6 (2 x 18 W)[3]							
2/6-2	2 x 6	–	X	X	–	1.5 h	**1 3470 218 011**
2/6-2 M[1]	2 x 6	–	X	–	X	1.5 h	**1 3470 218 131**
2/6-2	2 x 6	–	X	X	–	3 h	**1 3469 218 011**
2/6-2 M[1]	2 x 6	–	X	–	X	3 h	**1 3469 218 131**
Type nLLK 08036/36 N 1/6 (2 x 36 W)							
1/6-1	1 x 6	X	–	X	–	1.5 h	**1 3470 236 001**
1/6-1 M[1]	1 x 6	X	–	–	X	1.5 h	**1 3470 236 031**
Type nLLK 08036/36 N 2/6 (2 x 36 W)[3]							
2/6-2	2 x 6	–	X	X	–	1.5 h	**1 3470 236 011**
2/6-2 M[1]	2 x 6	–	X	–	X	1.5 h	**1 3470 236 131**
2/6-2	2 x 6	–	X	X	–	3 h	**1 3469 236 011**
2/6-2 M[1]	2 x 6	–	X	–	X	3 h	**1 3469 236 131**

[1] M: with metal thread, without cable gland

[2] With dustcover if entry/thread is not closed

[3] Version 2/6 with separate battery housing

Version with integrated isolating switch on request

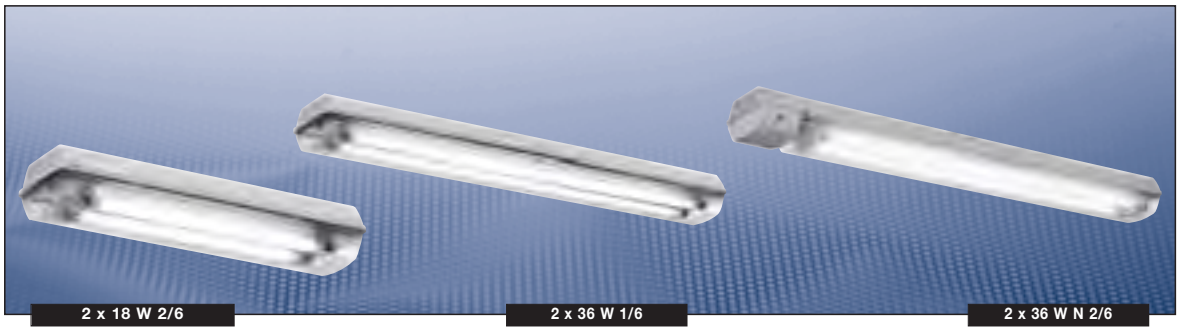
Scope of delivery without lamp and fixing accessoires

Accessories

Lamp for luminaire nLLK08... N/nLLM08... N

Type of lamp socket/ Diameter	Power	Luminous flux Light colour	Order No.
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2220-1	18 W	1350 lm white	**3 2475 900 001**
Bi-pin socket G13 T26/Ø 26 mm (T8) G13-60081-IEC-2420-1	36 W	3350 lm white	**3 2475 900 002**
Aura-Ultimate T26/Ø 26 mm (T8) Longlife Socket G13	18 W 36 W	1300 lm white 3350 lm white	**3 2475 900 087** **3 2475 900 088**

Metal cable glands M20/M25 see page 8.10.
Complete Mounting Systems see page 2.70 to 2.76.



Accessories

Series nLLK 08... N	
Type	Order No.
Hexagon screw SW 13	**3 2485 000 005**

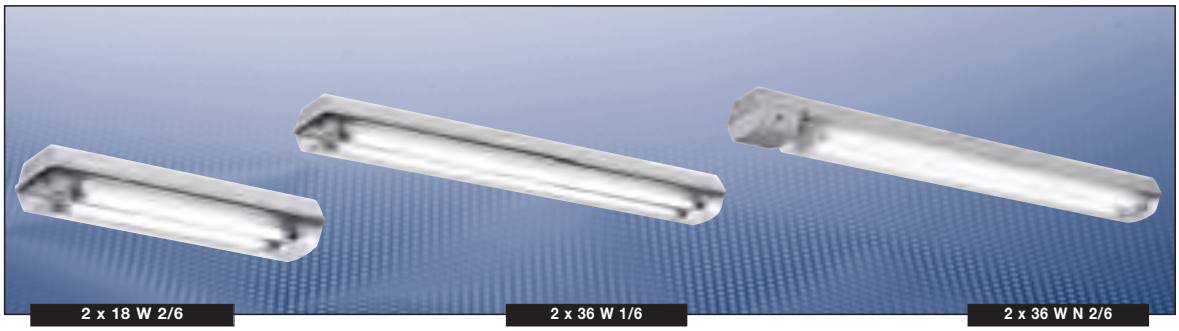
Series nLLK 08... N	
Type	Order No.
Single sided through wiring 2/6 with 2 entries M25, incl. terminals and mounting material	**2 2218 602 000**

Fixing materials nLLK 08... N			
Type/code	Corrosion protection	Qty. per light fitting	Order No.
Eye bolt A2	galvanized	2	**2 2480 002 000**
Hexagon screw S4	stainless steel	2	**2 2480 054 000**
Ceiling mounting bracket D92 incl. screws and washer	stainless steel	2	**2 2480 092 000**

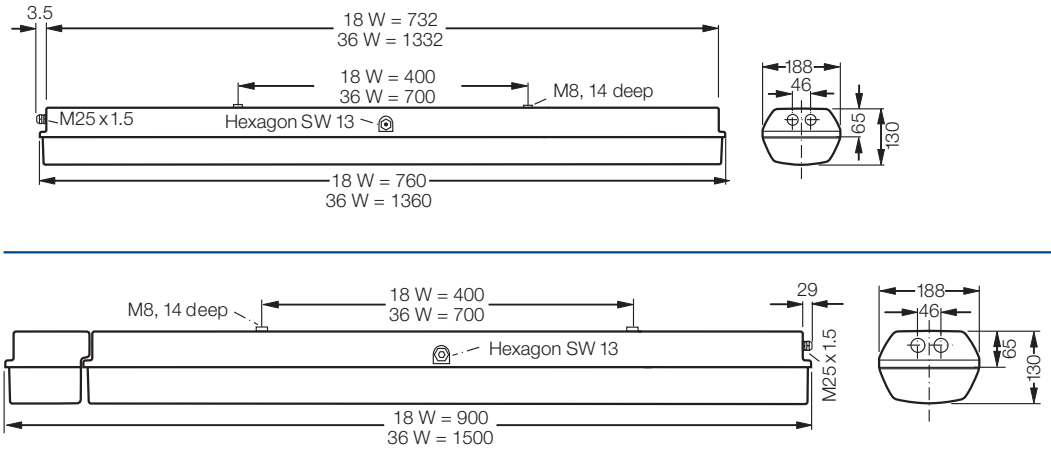
Fixing materials nLLK 08... N					
Type/code	Corrosion protection	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	Order No.
Pipe clamp					
R12	hot galvanized	1¼"	38 - 42	2	**2 2480 462 000**
R14	CrNi	1¼"	38 - 42	2	**2 2480 464 000**
R22	hot galvanized	1½"	47 - 51	2	**2 2480 472 000**
R24	CrNi	1½"	47 - 51	2	**2 2480 474 000**
R32	hot galvanized	2"	56 - 60	2	**2 2480 482 000**
R34	CrNi	2"	56 - 60	2	**2 2480 484 000**
Luminaire wall suspension 30° incl. screws and washer	hot galvanized			2	**2 2480 000 122**

Battery nLLK 08... N	
Type	Order No.
nLLK 08... N 1/6, nLLK 08... N 2/6	
Battery set 6 V/4 Ah (... 18/18 N 1/6, 1.5 h and 3 h, 36/36 N 1/6, 1.5 h)	**2 3468 236 902**
Battery set 6 V/4 Ah (... 18/18 N 1/6, 1.5 h and 3 h, 36/36 N 1/6, 1.5 h)	**2 3468 236 903**
Battery set 6 V/7 Ah (... 36/36 N 2/6, 3 h)	**2 3468 236 904**

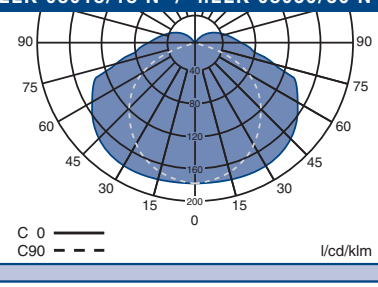
Metal cable glands M20/M25 see page 8.10.
Complete Mounting Systems see page 2.70 to 2.76.



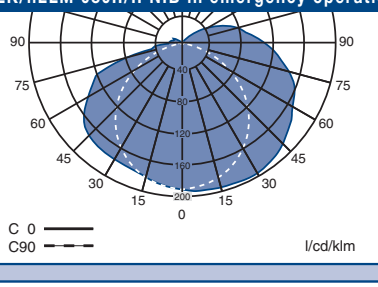
Dimension drawing | Polar curve

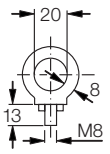


Polar curve
nLLK 08018/18 N / nLLK 08036/36 N

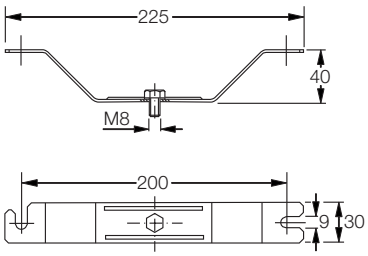


Polar curve
nLLK/nLLM 080../.. NIB in emergency operation

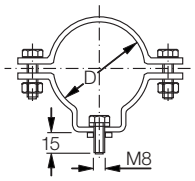




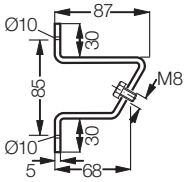
Eye bolt



Ceiling mounting bracket D92



Pipe clamp



Luminaire wall suspension 30°

Dimensions in mm

EX PHOTORELAY

for use in Zone 1 and 2

This photorelay can be used for comfortable and atomatic control of the illumination in hazardous areas.

This screw-in photorelay is proved for the direct installation in ex-d and ex-e enclosures.

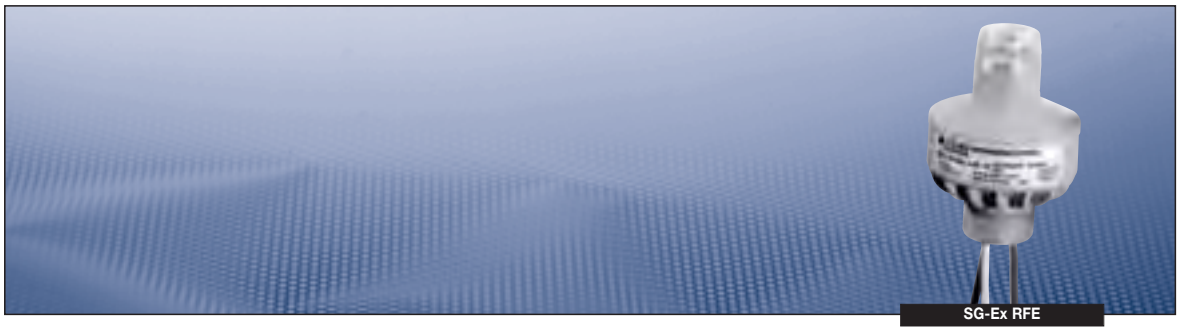
The electronic and the photolectric sensor is encapsuled in a flameproof light alloy enclosure with a M32 x 1.5 mm threated connection. The encapsuled connection cables are 1.5 mm^2 and 500 mm long.

The photoelectric relay has an electronic circuit with low power consumption of approximately 0.3 W, operates with 105 VAC up to 305 VAC 50/60Hz and has a rated current of 10 A resp. a power of up to 1800 VA.

It turns ON immediately but has a 2 to 5 second delay in turning OFF to avoid accidental switching due to a flash, with a high degree of precision in recognizing the light level (lumens) and maintaining its sensibility over a long period of time.



- **Switching capacity up to 1000 W (1800 VA)**
- **High degree of protection IP66**
- **Easy to install**



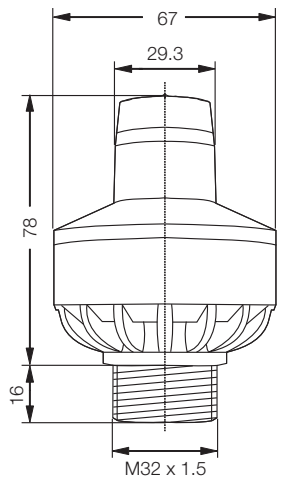
Technical data

SG-Ex RFE	
Marking to 94/9/EC	Ex II 2 G Ex d II C T6
EC-Type Examination Certificate	PTB 06 ATEX 1017 X
Permissible ambient temperature	-40 °C to +70 °C
Rated voltage	105 V to 305 V AC
Rated current	max. 10 A
Frequency	50 - 60 Hz
Power consumption	1 W
Switch rating	1000 W (1800 VA)
Standard cable length	approx. 0.5 m, 1.5 mm²
Insulation class	I
Degree of protection accd. EN 60529	IP66
Weight	0.25 kg
Type of mounting	Screw in thread M32 x 1.5
Enclosure material	Light alloy
Enclosure colour	Grey

Ordering details

Type	Design	Order No.
Photocell SG-Ex RFE	Sensitivity 10 – 15 lux	**GHG 640 9601 P0001**
Photocell SG-Ex RFE	Sensitivity 7 – 12 lux	**GHG 640 9601 P0002**
Photocell SG-Ex RFE	Sensitivity 4 – 11 lux	**GHG 640 9601 P0003**

Dimension drawing



Dimensions in mm

F I X I N G S Y S T E M S

Complete Systems for Light Assembly

Individual assembly system for installing lamp systems can often be realised only at high cost with one-off manufacture. The patented Complete Assembly System stands for low-cost standard fixings for lighting elements on industrial rails, on walls or steel beam constructions.

Stability and Material

A specially developed shaping method is used for this programme, which ensure a high degree of stability. Stainless steel with optimised material strength is used where aggressive media determine the environment. Components that are not made of stainless steel are hot-galvanised pursuant to DIN EN ISO 1461.

Assembly

The assembly systems have been designed for inside and outside. The compact system kits can be assembled by only one person in a very short time. All individual parts are simply plugged together and fastened by a screw. Since there is no need for drilling or welding here, it is possible to work without the "work release system" in the areas at risk of explosions.

Safety

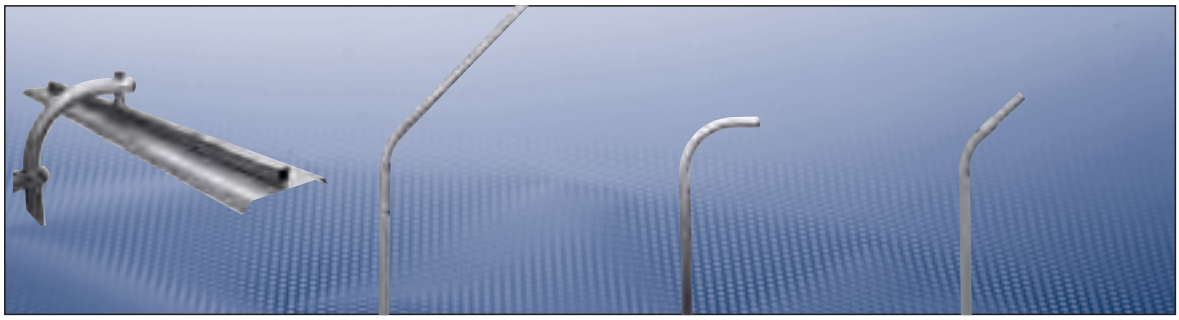
The assembly system is always installed from the safe side of the working platform, i.e. without scaffolding! The prescribed freedom for hands and the avoidance of jutting metallic parts or screws in the construction offers a high standard of safety.

Cost-Saving Maintenance

The use of tilting luminaire masts results in decisive cost advantages due to minimised maintenance. Thus, for example, changing a lamp without scaffolding or assembly aids is possible for just one person in a very short time. Cleaning and repair work can thus be minimised in terms of cost

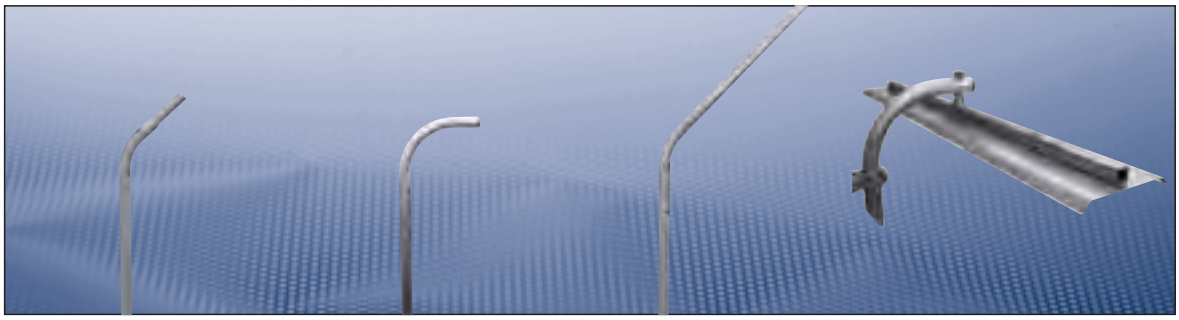


- **Easy to install**
- **Corrosion protected (stainless steel or hot galvanized)**
- **Extra solid construction ensures high wind load resistance**



Ordering details

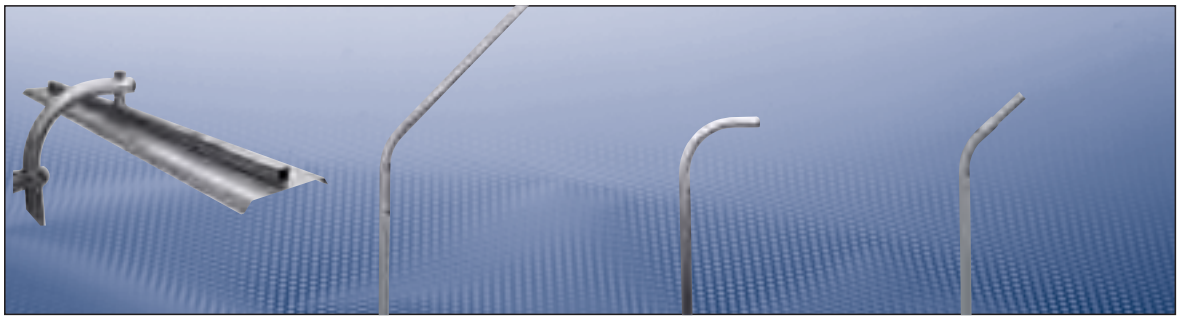
Type	Description	OU	Order No.
Pole-system 90° bended for light support pipe			
LM 48 - 2300/300 - FT	Light pole 90° bended with drilling hole f. LTR 48 and LTRS 48	1	**2 2480 520 001**
LM 48 - 1900/300 - FT	Light pole 90° bended with drilling hole f. LTR 48 and LTRS 48	1	**2 2480 520 002**
LTR 48 - 600 - FT	Light fitting support pipe with cable outlet	1	**2 2480 530 001**
LTR 48 - 1200 - FT	Light fitting support pipe with cable outlet	1	**2 2480 530 002**
LTR 48 - 1500 - FT	Light fitting support pipe with cable outlet	1	**2 2480 530 003**
LTRS 48 - FT	Light fitting support pipe clamp 90° twisted	1	**2 2480 550 012**
Pole-system 45° bended			
LMZ 48 - 1900/190 - FT	Light pole 45° bended, for pole mounted light fittings	1	**2 2480 520 006**
LM 48 - 1900/190 - FT	Light pole 45° bended, p. e. for floodlights	1	**2 2480 520 007**
LMP 48 - 1900/1300 - FT	Light pole whip form 45°, bended	1	**2 2480 520 003**
LMP 48 - 2100/1300 - FT	Light pole whip form 45°, bended	1	**2 2480 520 004**
LMP 48 - 2100/800 - FT	Light pole whip form 45°, bended	1	**2 2480 520 005**
Light pole fixtures			
LMHK 48/48 - ER	Light pole clamp, swivel, with pole slip protection	1	**2 2480 550 004**
LMHS 48/48 - FT	Light pole clamp, fixed	1	**2 2480 550 002**
LMHSD 48/48 - FT	Light pole clamp, fixed, with pole slip protection	1	**2 2480 550 003**
Light poles, bended, for wall mounting			
LMW 48 - 500/1300 - FT	Wall mounted light pole whip form, 45° bended, with cable outlet	1	**2 2480 520 009**
LMW 48 - 500/800 - FT	Wall mounted light pole whip form, 45° bended, with cable outlet	1	**2 2480 520 008**
LMHW 48 - FT	Light pole fixture for wall mounting, set 2 pcs.	1	**2 2480 550 001**



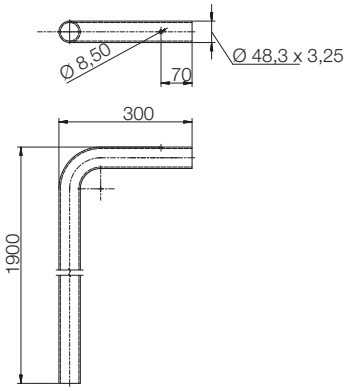
Accessories

Fixing accessories

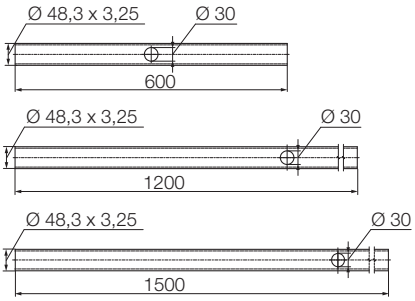
Type/code	Corrosion protection	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	OU	Order No.
Pipe clamp						
R12	hot galvanized	Ø 1¼"	38-42 mm	set 2 pcs.	1	**2 2480 462 000**
R22	hot galvanized	Ø 1½"	47-51 mm	set 2 pcs.	1	**2 2480 472 000**
R32	hot galvanized	Ø 2"	56-60 mm	set 2 pcs.	1	**2 2480 482 000**
R14	stainless steel	Ø 1¼"	38-42 mm	set 2 pcs.	1	**2 2480 464 000**
R24	stainless steel	Ø 1½"	47-51 mm	set 2 pcs.	1	**2 2480 474 000**
R34	stainless steel	Ø 2"	56-60 mm	set 2 pcs.	1	**2 2480 484 000**
Light fitting mounting clamp, two-part, for pipe mounting LB 48 - FT	hot galvanized			set 2 pcs.	1	**2 2480 550 010**
C-bracket for light fitting mounting LAB-C50 - ER	stainless steel			set 2 pcs.	1	**2 2480 550 011**
Eye bolt A 2	hot galvanized			set 2 pcs.	1	**2 2480 002 000**
Luminaire wall suspensioon with 15° angle, for pole mounted light fittings W 27	hot galvanized			–	1	**2 2483 027 000**
Luminaire wall suspension with 30° angle for wall mounting LH 30 - FT	hot galvanized			set 2 pcs.	1	**2 2480 550 013**
Luminaire wall suspension with 45° angle for wall mounting LH 45 - FT	hot galvanized			set 2 pcs.	1	**2 2480 550 014**
Stainless steel hexagon screw M8 für light fixing S 4	stainless steel			set 2 pcs.	1	**2 2480 054 000**
Stainless steel ceiling mounting bracket D 92	stainless steel			set 2 pcs.	1	**2 2480 092 000**
End cap, open with cable outlet SEO 48 - K	plastic				1	**2 2480 550 015**
End cap, closed SEG 48 - K	plastic				1	**2 2480 550 016**
Canopy for fluorescent light fittings LSD 1200 - ER 1200 mm length	stainless steel				1	**2 2480 540 001**
Canopy for fluorescent light fittings LSD 1600 - ER 1600 mm length	stainless steel				1	**2 2480 540 002**
Hexagon nut driver SW 13					1	**3 2485 000 005**



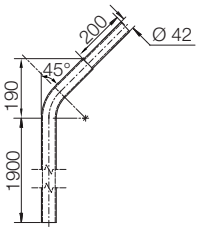
Dimension drawing



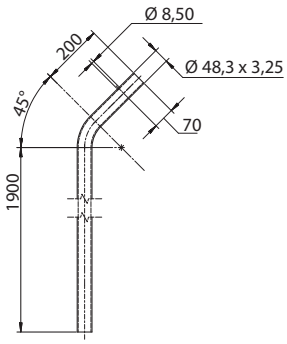
Light pole 90° bended LM 48



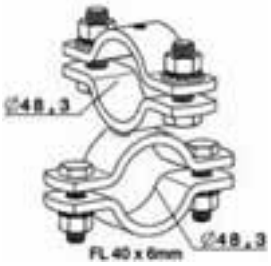
Light fitting support pipes LTR 48



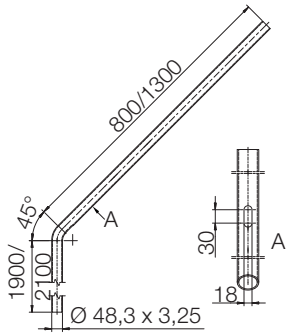
Light pole 45°, bended for pole mounted light fittings, LMZ 48



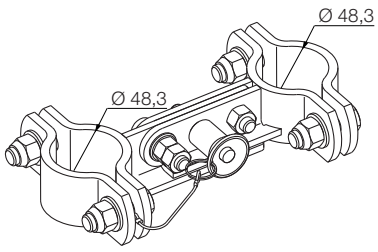
Light pole 45°, bended for floodlights LM 48



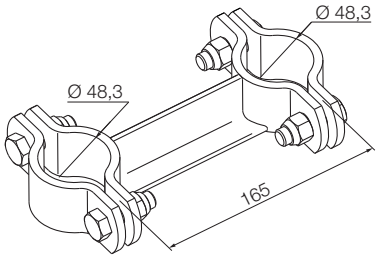
Light fitting support pipe clamps LTRS 48



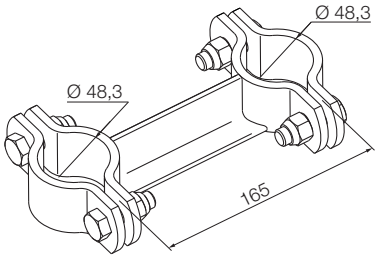
Light pole 45°, bended LMP 48



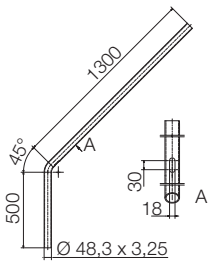
Light pole clamp LMHK



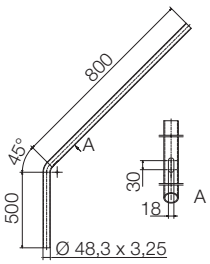
Light pole clamp LMHS



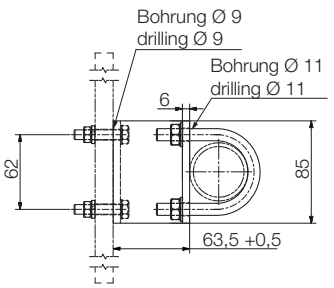
Light pole clamp LMHSD



Light pole wall bracket LMW 48

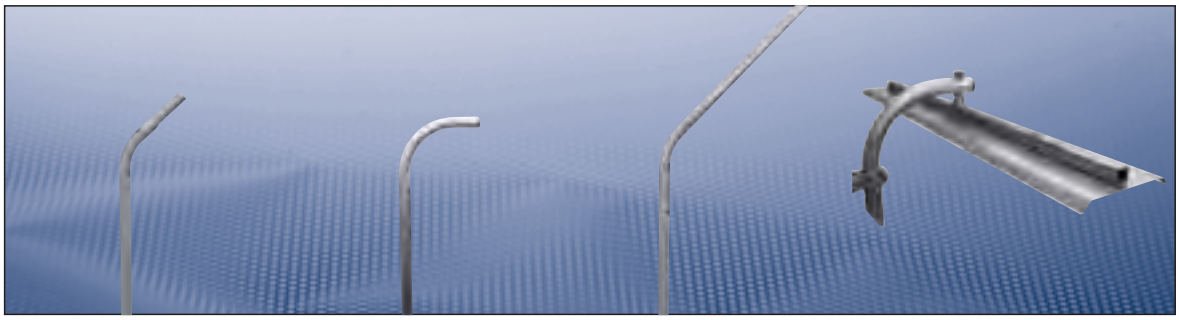


Light pole wall bracket LMW 48

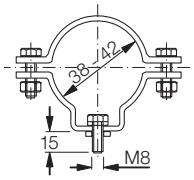


Light pole fixing LMHW 48

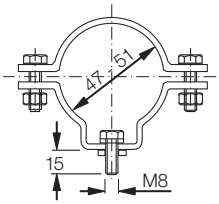
Dimensions in mm



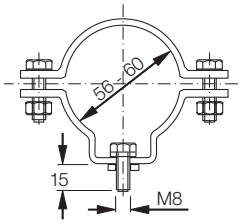
Dimension drawing Accessories



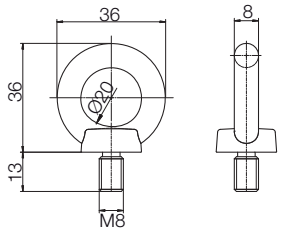
Pipe clamp
R12/R14



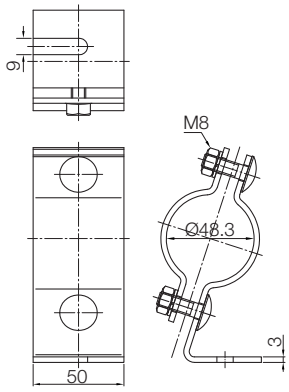
R22/R24



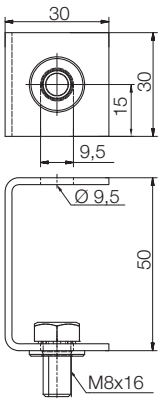
R32/R34



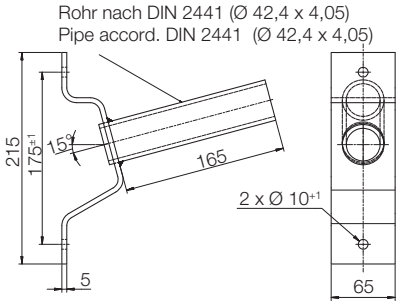
Eye bolt A 2 for light fitting mounting



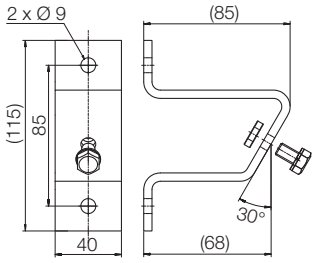
Light fitting mountig clamp, two-part
LB 48



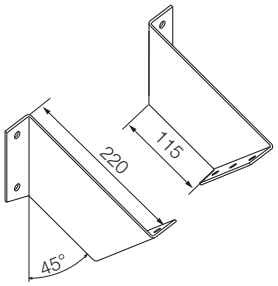
C-bracket for light fitting mounting
LAB-C50



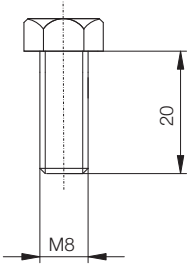
Luminaire wall suspension
for pole mounted light fittings W 27



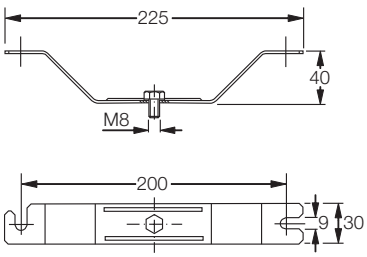
Luminaire wall suspension
with 30° angle LH 30



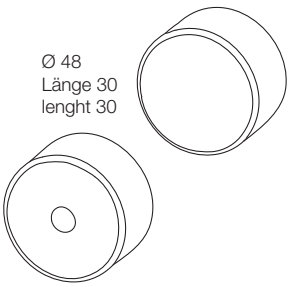
Luminaire wall suspension
with 45° angle LH 45



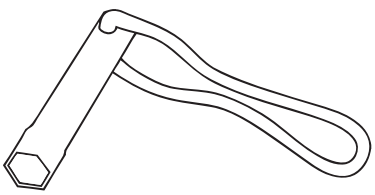
Hexagon screw S 4 for light fixing



Ceiling mounting bracket D92

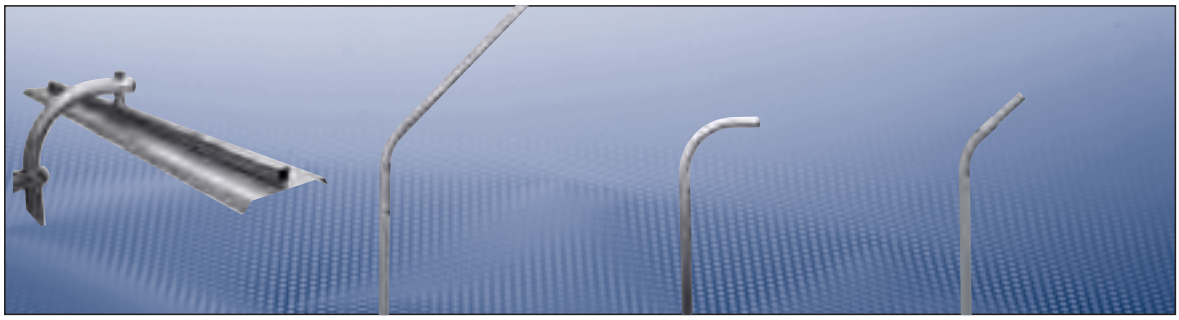


End caps SED 48/SEG 48

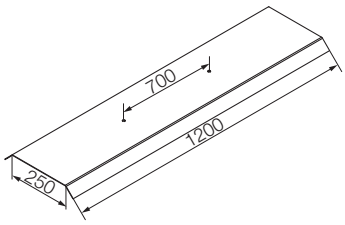


Hexagon nut driver SW13

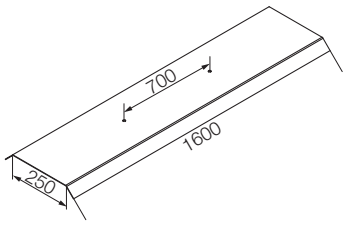
Dimensions in mm



Dimension drawing Accessories



Canopy for fluorescent light fittings 18 W
LSD 1200



Canopy for fluorescent light fittings 36 W
LSD 1600

Dimensions in mm



EX-SIGNAL- AND ESCAPE SIGN LUMINAIRS

EMERGENCY LIGHTING – CENTRAL OR DECENTRAL 3.2

EX-ESCAPE SIGN LUMINAIRES EXIT 3.4

EX-ESCAPE SIGN LUMINAIRES EX-LITE 3.10

EX-EMERGENCY LIGHT FITTING AB 12108-EVG 3.16

EX-EMERGENCY LIGHT FITTING EE11 PL 3.16

EX-SIGNAL- AND EMERGENCY LIGHT FITTING dKLK 23 3.20



Emergency Lighting – central or decentral

Appertaining to Emergency Lighting in hazardous areas, their are two general philosophies. That of the supply assurance, the test and maintanance effort and that of the economic efficiency.

Emergency light fittings with a self-contained battery system

Emergency light fittings with self-contained battery systems provide the required Emergency lighting decentral, independant from central systems. That means the battery, the charger and the electronics are integrated in the light fitting.



Ex-Escape sign luminaire EXIT

Taking the availability and the redundance into consideration, this system has with respect to the supply assurance in safetyengineering sensible areas a very high standard.

Taking the economic efficiency into consideration, the required effort of testing, maintance and the environmental effect on the battery life span of each self-contained battery system has to be taken into account.

Taking the above into consideration it is without reason the best solution when emergency light fittings with a self-contained battery system are used in large and spacious explosion hazardous areas where the number of fittings to be used is limited.

The CEAG Emergency light fittings with self-contained battery systems EXIT N, Ex-Lite E (in preparation) and EE 11 PL have been designed for a 3 hour or 1 hour Emergency Lighting duration. They do in part have an automatic self-test system for functionality and duration tests.



Escape sign luminaire Ex-Lite N



Ex-Emergency Light Fitting EE 11 PL



Central Emergency Lighting Supply using system light fittings with CG-S-Modules

A centrally monitored emergency light system using the CEAG group supply and a central battery system is installed when a large number of emergency lights are conglomerated and can be used as a system emergency lighting.

These battery systems are generally, not installed in the hazardous areas and therefore do not have to cope with the same environmental conditons as the light fittings themselves. This usually results in an extended life span of the batteries with a minimized maintanance effort. One must of course take into consideration that the cable laying from the central battery to each light fitting in the hazardous areas affords an increased effort.

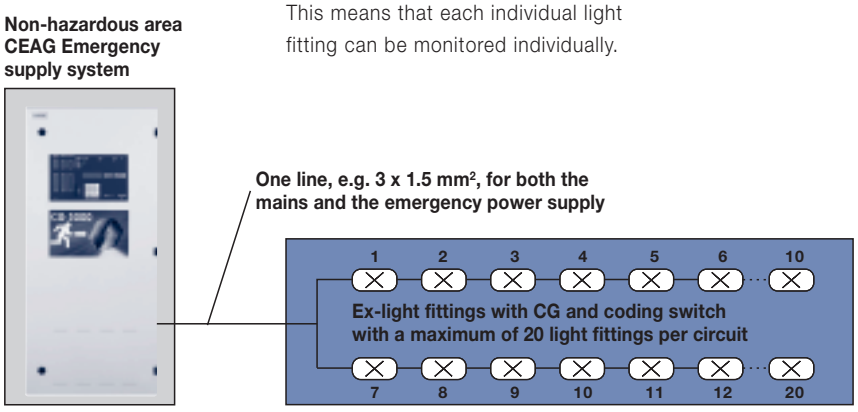
To be able to run the CEAG emergency light system we offer versions with CG-modules for the emergency and escape sign fittings. This controlling module monitors amongst other things the data exchange with the main emergency lighting system and reports all functional errors.

In connection with the CG-S-Modules all CEAG light fittings that are so equipped have the possibility of being connected to the CEAG emergency light system with monitoring facility. This means that each individual light fitting can be monitored individually.

With this the explosion-protected light fittings EXIT CG-S, Ex-Lite CG-S (in preparation), dKLK 23 CG-S and the AB 12108-EVG can be integrated into the monitoring system and be used as system light fittings.

This combination offers the following advantages:

- Automatic performance of the necessary function and duration tests with a central record of all operating funktions and error reports
- Enormous cost savings as manual testing is no longer necessary
- Programming function to enable a multiple lighting modus on a single power supply circuit; that means a choice of permanent or stand-by modus as well as a switching with the general lighting.
- High degree of safety of emergency lighting due to constant display of availability
- Simplified installation:
  - mains and emergency power supply have a common connection
  - no separate data line is required
  - up to 20 light fittings can be connected and addressed separately on one circuit



EX-ESCAPE SIGN LUMINAIRES

EXIT
Moulded plastic version with LED technology for Zone 1 and Zone 21

The EXIT series of explosion-protected escape sign luminaire fulfils the requirements of ATEX Directive 94/9/EC and EN 60598, Section 2.22 for emergency lighting luminaires. The luminaires are suited for marking escape routes and exits in potentially explosive atmospheres. Only white, high-efficiency LEDs are used as illuminants for these luminaires. This guarantees maintenance-free operation, as the illuminants do not need replacing throughout the complete service life of the luminaire.
The supply electronics are also laid out for this service life; the LED circuits are intrinsically safe. The wide input voltage range allows international use. The housing of these luminaires is made of high-grade polycarbonate: the escape signs comply with the latest standards.

Thanks to the robust design and high degree of protection, these luminaires are suited for both indoor and outdoor use.

As an emergency lighting luminaire with self-contained battery system for maintained operation, the EXIT N features an NC battery and automatic function monitoring with operating time test.

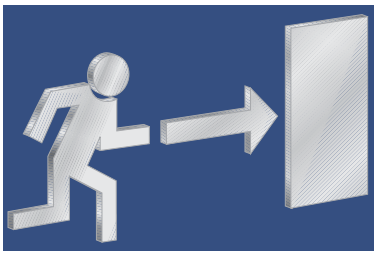
With the optional built-in CG-S monitoring module with coding switch for max. 20 addresses, this luminaire can also be used as an individually monitored emergency lighting luminaire that is connected to a CEAG emergency lighting supply system. With this, the operator can programme the switching mode according to the respective requirements. Thus, as many as 20 luminaires with different switching modes can be connected to one end circuit.



- **All-plastic polycarbonate housing**
- **Power-saving LED technology, maintenance-free throughout service life**
- **High degree of protection IP66**
- **Luminaire with self-contained battery unit and automatic function monitoring**
- **Connection and monitoring with CEAG emergency lighting supply systems possible**

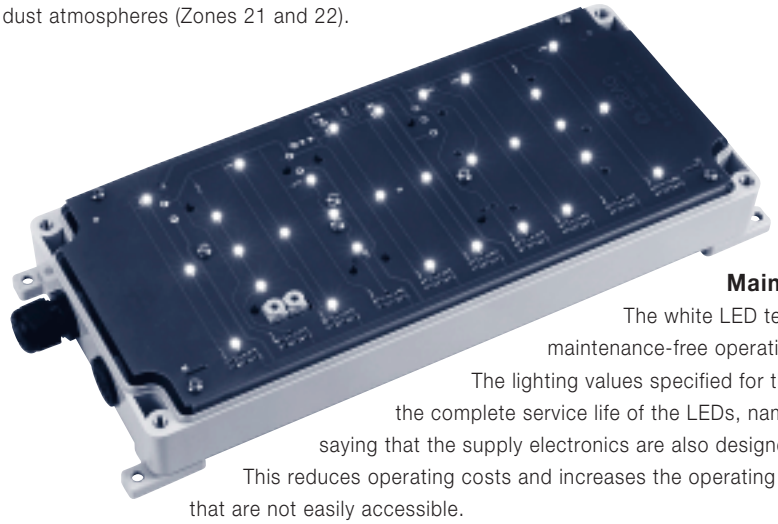
For all types of application

The escape sign luminaires of the EXIT series are available as mains luminaires “EXIT”, e.g. for specially safeguarded industrial networks in production plants, as “EXIT CG-S” emergency lighting luminaires with individual function monitoring for use in CEAG emergency lighting supply systems, and as “EXIT-N” emergency lighting luminaires with self-contained battery systems and automatic function and operating time tests.



Green light for all zones

On account of the robust, all-plastic polycarbonate housing in the high degree of protection IP66, the EXIT luminaire can be installed almost anywhere, both indoors and out. The luminaire is designed in the type of protection EEx em ib IIC up to T6 and in accordance with the ATEX Directive. It can be used in hazardous areas with potentially explosive gas atmospheres (Zones 1 and 2) and potentially explosive dust atmospheres (Zones 21 and 22).



Conformity to standards

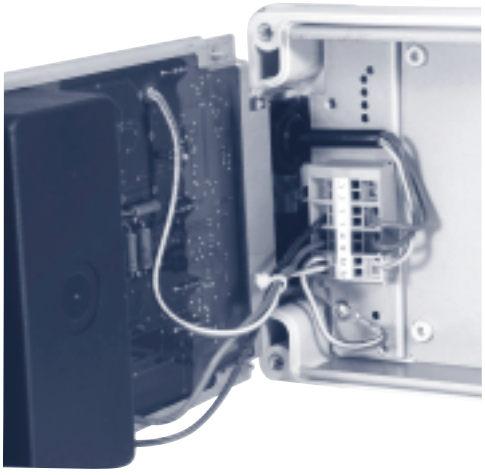
The EXIT explosion-protected escape sign luminaire series fulfils the requirements of ATEX Directive 94/9/EC and EN 60598, Part 2.22 for emergency lighting luminaires. It is suited for marking escape routes and exits in potentially explosive atmospheres. The housing of this luminaire is made of high-grade polycarbonate and it goes without saying that the escape sign comply with the latest standards.

Maintenance-free operation

The white LED technology used as the light source allows maintenance-free operation without replacement of the illuminant. The lighting values specified for the escape sign are maintained throughout the complete service life of the LEDs, namely approx. 50,000 hours. It goes without saying that the supply electronics are also designed for this extremely long operating time. This reduces operating costs and increases the operating safety essentially, in particular in locations that are not easily accessible.

For international use

The LED escape sign luminaire of the EXIT series was designed to meet the requirements of a large number of different safety concepts. Thanks to the wide input voltage range from 110 V to 277 V AC and up to 250 V DC, this luminaire can be used internationally, whereby the supply circuits of the LED circuits are intrinsically safe. The luminaire has a visibility range of 25 metres and it is available with a wide variety of pictograms.



Installation-friendly hinged frame for easy electrical connection

Double safety



Whenever the operational safety of explosion-protected safety and escape sign luminaires is involved, there is no room for compromises, as only a luminaire that is fully functional at all times can save human lives. The new series of explosion-protected LED escape sign luminaires not only fulfils the extremely high explosion protection requirements, but it also fulfils the legal requirements for emergency and safety lighting installations. The new EXIT is capable of safely showing the right way to go at all times, even in complex and often badly laid out industrial installations with potentially explosive atmospheres.



Central emergency lighting supply via system luminaires with CG-S module

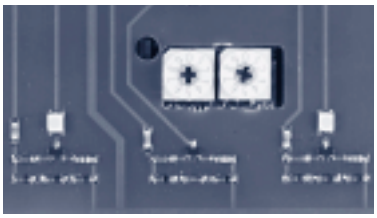
A central emergency lighting supply using CEAG group supply and central battery systems are used wherever a large number of emergency lighting luminaires can be combined and operated as system luminaires.

These battery systems are generally installed outside the hazardous areas and, therefore, they are not subjected to the ambient conditions of the luminaires in the field. As a result, the operating life of the battery is relatively long and the amount of maintenance required is minimal.

The mains and emergency lighting supplies of these luminaires are fed via separate circuits from the emergency lighting power supply installation to the escape sign luminaire in the hazardous area. Various luminaires with CG-S function can be operated in these circuits.

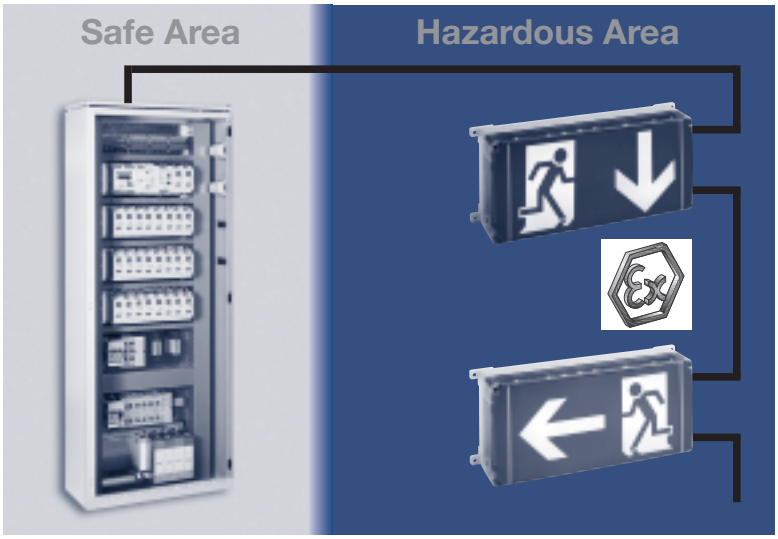
Better safe than sorry

In addition to the EXIT for use as a mains luminaire, e.g. for specially safeguarded industrial networks in production plants, there is also the EXIT CG-S version with easy function monitoring. In conjunction with the CG-S monitoring module with coding switch up to 20 addresses, this luminaire can be operated as emergency lighting luminaire with individual monitoring. The operator can programme the switching mode according to his individual requirements, thus allowing the operation of up to 20 luminaires with different switching modes in one end circuit.

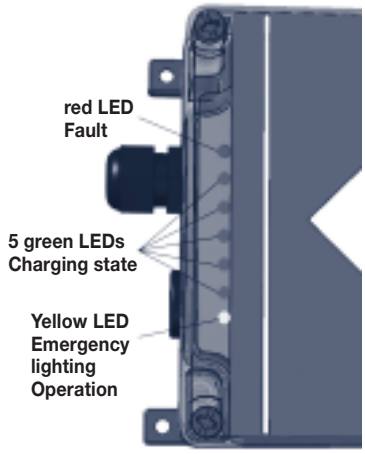


Addressing switch in the EXIT CG-S

No additional installation work is required. The central control unit monitors all the functions of the luminaire, checks the feed line for shorts or open circuits and indicates any incidents clearly on the display. Thus, even with highly complex installations, troubleshooting and eliminating faults are not a problem. Another considerable advantage: all the function and operating time tests are carried out automatically and recorded by the central control unit. This saves no end of time and money. During this function test, the correct functioning of the luminaire is monitored by the built-in CG-S module and any faults are reported to the central control unit. Thus, for example, the failure of LED groups is indicated automatically.







Emergency lighting luminaires with selfcontained battery systems

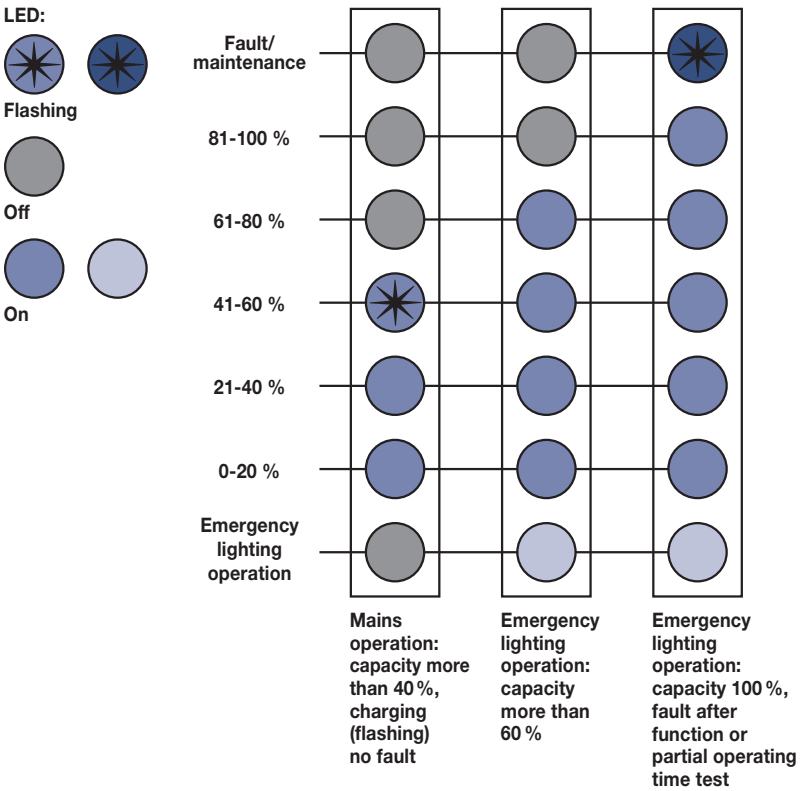
Emergency lighting luminaires with self-contained battery systems provide the required emergency lighting from a decentralized source, independent of central systems. These luminaires are particularly economical when used in extensive plants. Until now, compared to centrally operated and monitored installations, the disadvantage of the emergency lighting luminaires with self-contained battery systems was that they did not provide any information on the state of the luminaire. However, this monitoring function has been incorporated in the EXIT N escape sign luminaire. Five green LEDs supply constant information on the charging state and available battery capacity. A yellow LED indicates the emergency lighting operation mode and an additional red LED indicates any faults.

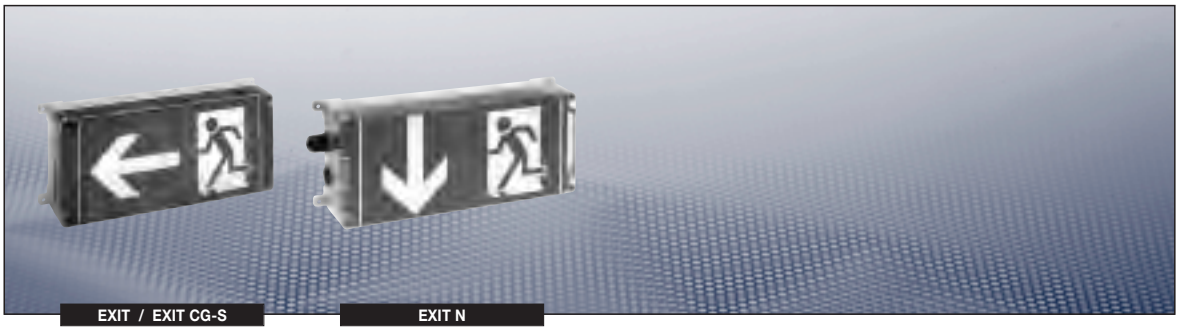
Monitoring functions

The extended self-monitoring with automatic function and partial duty cycle test is also new. The five green LEDs behind the protective cover provide continuous indication of the charging state and the current battery capacity. Charging is signalized by a flashing green LED. The charged capacity is indicated in 20% stages. The yellow LED indicates emergency lighting operation.

An automatic function test lasting 5 minutes is carried out on a weekly basis. For this, the luminaire is switched electronically from mains to battery operation. The emergency lighting function is tested and any faults are indicated by the flashing red LED.

After approx. 3 months a part-operating time test (35 mins.) is initiated automatically. If a minimum emergency lighting operating time of 30 minutes is not reached, it is signalized by the flashing red LED. After the cause of the fault has been eliminated, e.g. by charging or replacing the battery, the fault indication is reset during the next emergency lighting operation (manual or automatic) when the minimum operating time of > 30 minutes has been reached.





EXIT / EXIT CG-S EXIT N

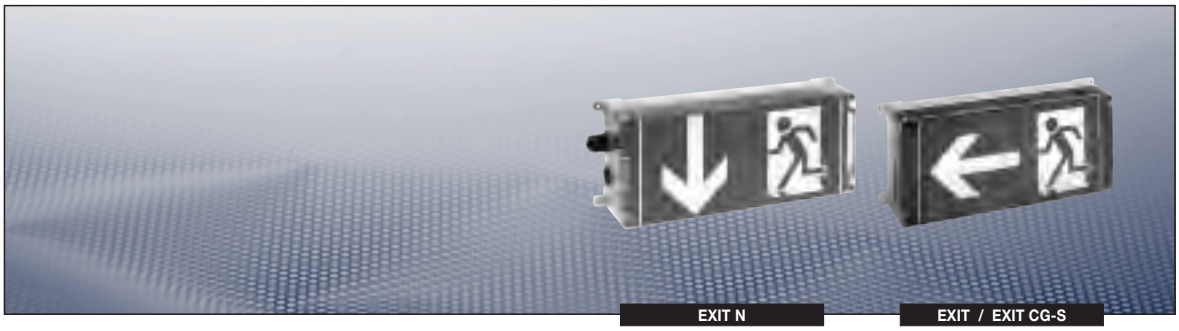
Technical data

EXIT | EXIT CG-S | EXIT N	
Marking to 94/9/EC	Ⓔx II 2 G EEx e m ib IIC T6/T5/T4 / Ⓔx II 2 D IP66 T60 °C
(new standard – applies for)	Ⓔx II 2 G Ex e ib m IIC T4/T5/T6
	Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 02 ATEX 2111
IEC Ex Certificate of Conformity	IECEx BKI 06.0003
Marking accd. to IECEx	Ex emib IIC T4/T5/T6
	Ex tD A21 IP66 T60 °C
Permissible ambient temperature	-20 °C up to +40 °C / 50 °C (EXIT N: specified data +5 °C up to 35 °C)
Rated current	DC: 220 V = 20 mA, 110 V = 40 mA
Frequency	0 up to 50 / 60 Hz
Circuit	elektronic power supply
Connecting terminals	3 x loop terminal 2.5 mm^2
Lamp/Illuminant	high output-LEDs, white
Viewing distance	up to 25 m
Degree of protection accd. EN 60529	IP66
Cable glands/gland plates/enclosure drilling	1 x Ex e-cable gland M20 x 1.5 (plastic) /
	1 x Ex e-screw plug M20 x 1.5
Dimensions (L x W x H)	340 x 150 x 75 mm
Type of mounting	wall installation
Enclosure material	polycarbonat
Enclosure colour	grey, RAL 7035
Protective cover/protective bowl	polycarbonat

EXIT | EXIT 24 V	
Temperature class	T6: Ta max. +40 °C, T5: Ta max. +50 °C
Rated voltage 1	110 V - 277 V AC
Rated voltage 2	110 V - 250 V DC
Rated voltage (EXIT 24 V)	12 - 24 V (EXIT 24 V)
Rated power consumption	approx. 6 VA
Weight	2 kg

EXIT CG-S	
Temperature class	T6: Ta max. +40 °C, T5: Ta max. +50 °C
Rated voltage 1	220 V - 254 V AC
Rated voltage 2	195 V - 250 V DC
Rated power consumption	approx. 6 VA
Weight	2.2 kg

EXIT N	
Temperature class	T5: Ta max. +40 °C, T4: Ta max. +50 °C
Rated voltage 1	110 V - 277 V AC
Rated voltage 2	110 V - 250 V DC
Rated power consumption	approx. 8 VA
Battery	NC-Akku 12 V/600 mAh
Rated emergency operating duration	3 h (specified data +5 °C up to +35)
Charging duration (Cap. > 90 %)	28 h
Weight	2.5 kg



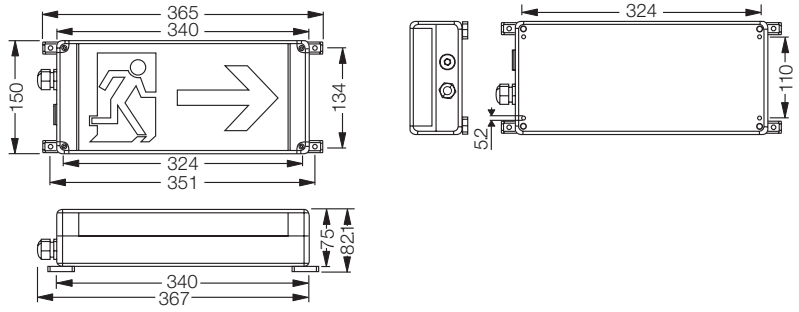
Ordering details

Type	Scope of delivery[1)]	Ordering Code
EXIT		
	including cover with silk-screen pictogram PR	**1 2191 000 _01**
	including cover with silk-screen pictogram PL	**1 2191 000 _02**
	including cover with silk-screen pictogram PU	**1 2191 000 _03**
	including cover, clear, without pictogram	**1 2191 000 _04**
EXIT CG-S		
	including cover with silk-screen pictogram PR	**1 2191 020 _01**
	including cover with silk-screen pictogram PL	**1 2191 020 _02**
	including cover with silk-screen pictogram PU	**1 2191 020 _03**
	including cover, clear, without pictogram	**1 2191 020 _04**
EXIT N		
	including cover with silk-screen pictogram PR	**1 2191 030 _01**
	including cover with silk-screen pictogram PL	**1 2191 030 _02**
	including cover with silk-screen pictogram PU	**1 2191 030 _03**
	including cover, clear, without pictogram	**1 2191 030 _04**

[1)] Other silk-screen pictograms or inscriptions available on request

0 — M20 plastic cable glands
1 — Thread M20 metal (optional)

Dimension drawing | Pictograms



EXIT / EXIT CG-S / EXIT N



PL **PR** **PU**

Escape sign acc. to latest standards

Dimensions in mm

EX-ESCAPE SIGN LUMINAIRES

Ex-Lite
Metal version with LED technology for Zone 1 and Zone 21

The Ex-Lite series of explosion-protected escape sign luminaire fulfils the requirements of ATEX Directive 94/9/EC and EN 60598, Section 2.22 for emergency lighting luminaires. The luminaires are suited for marking escape routes and exits in potentially explosive atmospheres. Only white, high-efficiency LEDs are used as illuminants for these luminaires. This guarantees maintenance-free operation, as the illuminants do not need replacing throughout the complete service life of the luminaire.
The supply electronics are also laid out for this service life; the LED circuits are intrinsically safe. The wide input voltage range allows international use. The housing of these luminaires is made of robust light alloy: the escape signs comply with the latest standards.

Thanks to the very robust design and high degree of protection, these luminaires are suited although under rough conditions for both indoor and outdoor use.

As an emergency lighting luminaire for maintained operation with self-contained battery system, the Ex-Lite N features an NC battery and automatic function monitoring with operating time test.

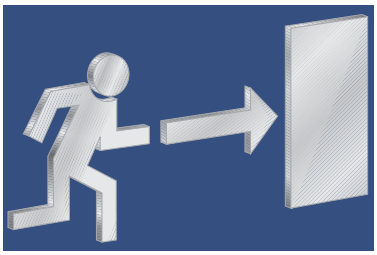
With the optional built-in CG-S monitoring module with coding switch for max. 20 addresses, this luminaire can also be used as an individually monitored emergency lighting luminaire that is connected to a CEAG emergency lighting supply system. With this, the operator can programme the switching mode according to the respective requirements. Thus, as many as 20 luminaires with different switching modes can be connected to one end circuit.



- **Robust light alloy housing**
- **Power-saving LED technology, maintenance-free throughout service life**
- **High degree of protection IP66**
- **Luminaire with self-contained battery unit and automatic function monitoring**
- **Connection and monitoring with CEAG emergency lighting supply systems possible**

For all types of application

The escape sign luminaires of the Ex-Lite series are available as mains luminaires “Ex-Lite”, e.g. for specially safeguarded industrial networks in production plants, as “Ex-Lite CG-S” emergency lighting luminaires with individual function monitoring for use in CEAG emergency lighting supply systems, and as “Ex-Lite-N” emergency lighting luminaires with self-contained battery systems and automatic function and operating time tests.



Green light for all zones

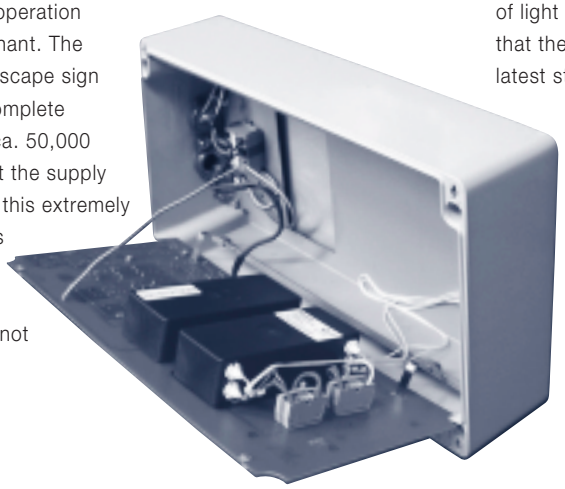
On account of the very robust, light alloy housing in the high degree of protection IP66, the Ex-Lite luminaire can be installed almost anywhere, both indoors and out. The luminaire is designed in the type of protection EEx e m ib IIC up to T6 and in accordance with the ATEX Directive. It can be used in hazardous areas with potentially explosive gas atmospheres (Zones 1 and 2) and potentially explosive dust atmospheres (Zones 21 and 22).

Conformity to standards

The Ex-Lite explosion-protected escape sign luminaire series fulfils the requirements of ATEX Directive 94/9/EC and EN 60598, Part 2.22 for emergency lighting luminaires. It is suited for marking escape routes and exits in potentially explosive atmospheres. The housing of this luminaire is made of light alloy and it goes without saying that the escape sign comply with the latest standards.

Maintenance-free operation

The white LED technology used as the light source allows maintenance-free operation without replacement of the illuminant. The lighting values specified for the escape sign are maintained throughout the complete service life of the LEDs, namely ca. 50,000 hours. It goes without saying that the supply electronics are also designed for this extremely long operating time. This reduces operating costs and increases the operating safety essentially, in particular in locations that are not easily accessible.



For international use

The LED escape sign luminaire of the Ex-Lite series was designed to meet the requirements of a large number of different safety concepts. Thanks to the wide input voltage range from 110 V to 277 V AC and up to 250 V DC, this luminaire can be used internationally, whereby the supply circuits of the LED circuits are intrinsically safe. The luminaire has a visibility range of 28 metres and it is available with a wide variety of pictograms.



Simply change of the pictogram

Double safety



Whenever the operational safety of explosion-protected safety and escape sign luminaires is involved, there is no room for compromises, as only a luminaire that is fully functional at all times can save human lives. The new series of explosion-protected LED escape sign luminaires not only fulfils the extremely high explosion protection requirements, but it also fulfils the legal requirements for emergency and safety lighting installations. The new Ex-Lite is capable of safely showing the right way to go at all times, even in complex and often badly laid out industrial installations with potentially explosive atmospheres.



Central emergency lighting supply via system luminaires with CG-S module

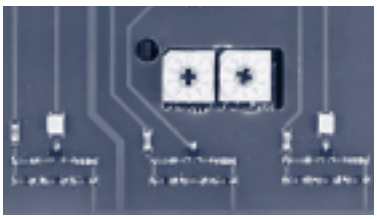
A central emergency lighting supply using CEAG group supply and central battery systems are used wherever a large number of emergency lighting luminaires can be combined and operated as system luminaires.

These battery systems are generally installed outside the hazardous areas and, therefore, they are not subjected to the ambient conditions of the luminaires in the field. As a result, the operating life of the battery is relatively long and the amount of maintenance required is minimal.

The mains and emergency lighting supplies of these luminaires are fed via separate circuits from the emergency lighting power supply installation to the escape sign luminaire in the hazardous area. Various luminaires with CG-S function can be operated in these circuits.

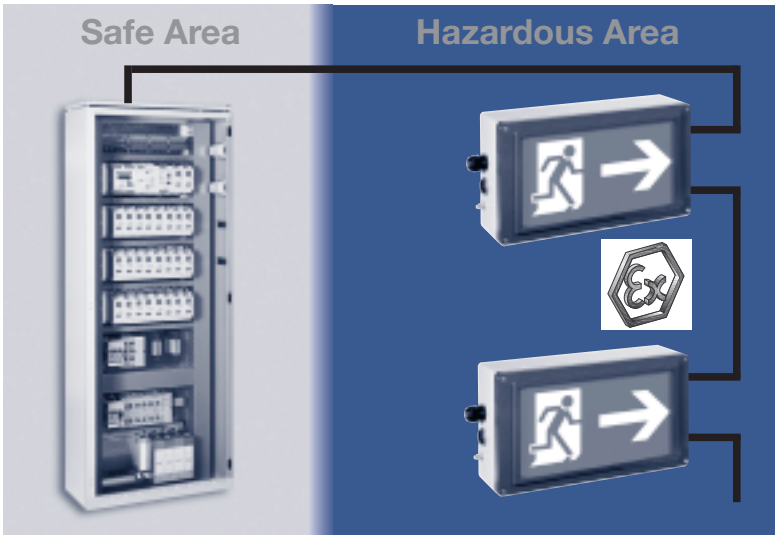
Better safe than sorry

In addition to the Ex-Lite for use as a mains luminaire, e.g. for specially safeguarded industrial networks in production plants, there is also the Ex-Lite CG-S version with easy function monitoring. In conjunction with the CG-S monitoring module with coding switch for max. 20 addresses, this luminaire can be operated as emergency lighting luminaire with individual monitoring. The operator can programme the switching mode according to his individual requirements, thus allowing the operation of up to 20 luminaires with different switching modes in one end circuit.

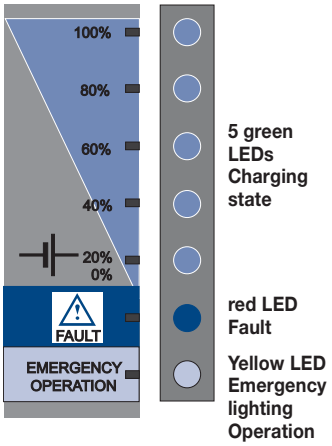


Addressing switch in the Ex-Lite CG-S

No additional installation work is required. The central control unit monitors all the functions of the luminaire, checks the feed line for shorts or open circuits and indicates any incidents clearly on the display. Thus, even with highly complex installations, troubleshooting and eliminating faults are not a problem. Another considerable advantage: all the function and operating time tests are carried out automatically and recorded by the central control unit. This saves no end of time and money. During this function test, the correct functioning of the luminaire is monitored by the built-in CG-S module and any faults are reported to the central control unit. Thus, for example, the failure of LED groups is indicated automatically.







Emergency lighting luminaires with selfcontained battery systems

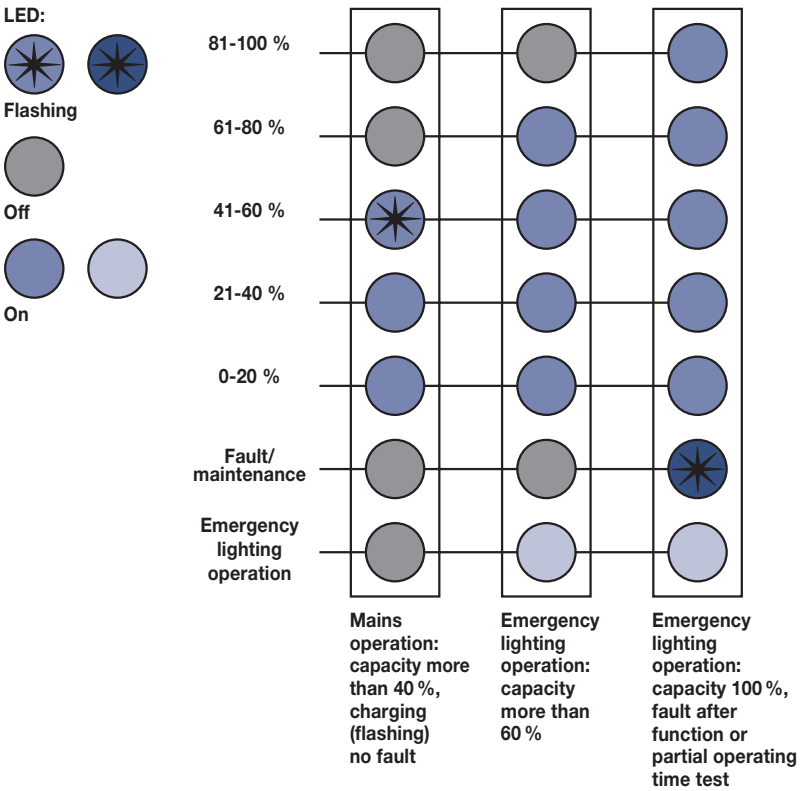
Emergency lighting luminaires with self-contained battery systems provide the required emergency lighting from a decentralized source, independent of central systems. These luminaires are particularly economical when used in extensive plants. Until now, compared to centrally operated and monitored installations, the disadvantage of the emergency lighting luminaires with self-contained battery systems was that they did not provide any information on the state of the luminaire. However, this monitoring function has been incorporated in the Ex-Lite N escape sign luminaire. Five green LEDs supply constant information on the charging state and available battery capacity. A yellow LED indicates the emergency lighting operation mode and an additional red LED indicates any faults.

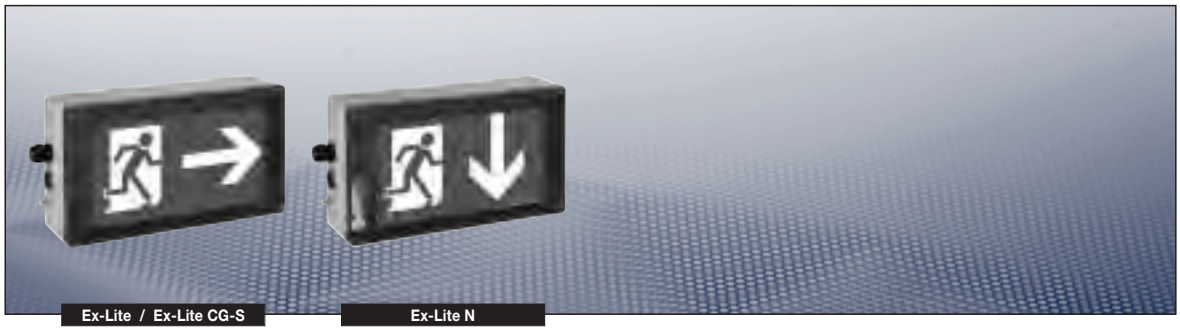
Monitoring functions

The extended self-monitoring with automatic function and partial duty cycle test is also new. The five green LEDs behind the protective cover provide continuous indication of the charging state and the current battery capacity. Charging is signalized by a flashing green LED. The charged capacity is indicated in 20% stages. The yellow LED indicates emergency lighting operation.

An automatic function test lasting 5 minutes is carried out on a weekly basis. For this, the luminaire is switched electronically from mains to battery operation. The emergency lighting function is tested and any faults are indicated by the flashing red LED.

After ca. 3 months a part-operating time test (35 mins.) is initiated automatically. If a minimum emergency lighting operating time of 30 minutes is not reached, it is signalized by the flashing red LED. After the cause of the fault has been eliminated, e.g. by charging or replacing the battery, the fault indication is reset during the next emergency lighting operation (manual or automatic) when the minimum operating time of > 30 minutes has been reached.





Ex-Lite / Ex-Lite CG-S Ex-Lite N

Technical data

Ex-Lite | Ex-Lite CG-S | Ex-Lite N	
Marking to 94/9/EC (new standard – applies for)	Ⓔx II 2 G EEx e m ib IIC T6/T5/T4 / Ⓔx II 2 D IP66 T60 °C Ⓔx II 2 G Ex e ib m IIC T4/T5/T6 Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 02 ATEX 2111
IEC Ex Certificate of Conformity	IECEx BKI 06.0003
Marking accd. to IECEx	Ex emib IIC T4/T5/T6 Ex tD A21 IP66 T60 °C
Permissible ambient temperature	-20 °C up to +40 °C / 50 °C (Ex-Lite N: specified data +5 °C up to 35 °C)
Rated current	DC: 220 V = 20 mA, 110 V = 40 mA
Frequency	0 up to 50 / 60 Hz
Circuit	elektronic power supply
Connecting terminals	3 x loop terminal 2.5 mm^2
Lamp/Illuminant	high output-LEDs, white
Viewing distance	up to 28 m
Degree of protection accd. EN 60529	IP66
Cable glands/gland plates/enclosure drilling	1 x Ex e-cable gland M25 x 1.5 (plastic) / 1 x Ex e-screw plug M25 x 1.5
Dimensions (L x W x H)	400 x 230 x 115 mm
Type of mounting	wall installation
Enclosure material	light alloy
Enclosure colour	grey, RAL 7032 / RAL 7022 (cap)
Protective cover/protective bowl	mineral glass

Ex-Lite | Ex-Lite 24 V	
Temperature class	T6: Ta max. +40 °C, T5: Ta max. +50 °C
Rated voltage 1	110 V - 277 V AC
Rated voltage 2	110 V - 250 V DC
Rated voltage (option)	12 - 24 V (Ex-Lite 24 V)
Rated power consumption	approx. 6 VA
Weight	6.2 kg

Ex-Lite CG-S	
Temperature class	T6: Ta max. +40 °C, T5: Ta max. +50 °C
Rated voltage 1	220 V - 254 V AC
Rated voltage 2	195 V - 250 V DC
Rated power consumption	approx. 6 VA
Weight	6.4 kg

Ex-Lite N	
Temperature class	T5: Ta max. +40 °C, T4: Ta max. +50 °C
Rated voltage 1	110 V - 277 V AC
Rated voltage 2	110 V - 250 V DC
Rated power consumption	approx. 8 VA
Battery	NC-Akku 12 V/600 mAh
Rated emergency operating duration	3 h (specified data +5 °C up to +35 °C)
Charging duration (Cap. > 90 %)	28 h
Weight	6.7 kg



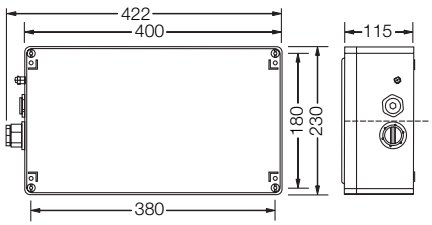
Ordering details

Type	Scope of delivery[1]	Ordering Code
Ex-Lite		
	including cover with pictogram PR	**1 2191 011 _01**
	including cover with pictogram PL	**1 2191 011 _02**
	including cover with pictogram PU	**1 2191 011 _03**
	including cover clear, without pictogram	**1 2191 011 _04**
Ex-Lite CG-S		
	including cover with pictogram PR	**1 2191 021 _01**
	including cover with pictogram PL	**1 2191 021 _02**
	including cover with pictogram PU	**1 2191 021 _03**
	including cover, clear, without pictogram	**1 2191 021 _04**
Ex-Lite N		
	including cover with pictogram PR	**1 2191 031 _01**
	including cover with pictogram PL	**1 2191 031 _02**
	including cover with pictogram PU	**1 2191 031 _03**
	including cover, clear, without pictogram	**1 2191 031 _04**

[1] Other pictograms or inscriptions available on request

0 M25 plastic cable glands
1 Thread M20 metal (optional)

Dimension drawing | Pictograms



Ex-Lite / Ex-Lite CG-S / Ex-Lite N



PL **PR** **PU**

Escape sign acc. to latest standards

Dimensions in mm

EX-EMERGENCY LIGHT FITTING

AB 12108-EVG Safety Light Fitting for Zone Zone 1 and 21
EE11 PL Self-Contained Emergency Luminaire for Zone 1 and 21

These light fittings are in accordance to the ATEX Directive 94/9/EC for the temperature class up to T6. They are therefore certified for use in the Zones 1, 2, 21 and 22. Additionally they fulfill the directive EN 60598, Part 2.22 for Emergency Lighting accordingly.

The Ex-light fitting AB 12108-EVG is fitted with an electronic ballast and an 8 W fluorescent lamp.

With the optional built-in CG-S monitoring module with coding switch for max. 20 addresses, this luminaire can also be used as an individually monitored emergency lighting luminaire that is connected to a CEAG emergency lighting supply system. With this, the operator can programme the switching mode according to the respective requirements. Thus, as many as 20 luminaires with different switching modes can be connected to one end circuit.

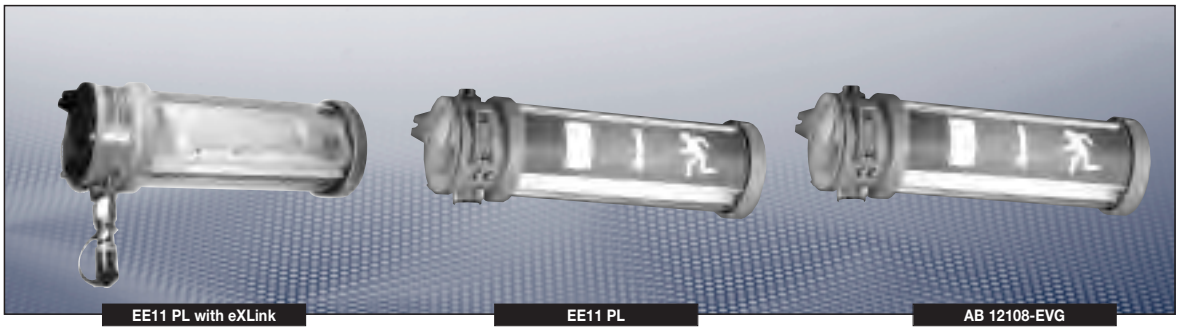
The Ex-light fitting EE 11 PL with a self-contained battery system is fitted with an 11 W compact fluorescent lamp and was designed for a 1.5 hour Emergency Lighting duration and a 3 W white GLS for permanent light.

Additionally the charging status and the mains supply are also shown by LEDs. The housing is made of a copper-free aluminium and has a borosilicate glass tube.

They are used for illuminating emergency exit routes, as well as emergency light fitting for dentification of exits.



- **Housing made of copper-free aluminium with a borosilicate glass tube**
- **Safety Standard IP67**
- **8 W fluorescent lamp for main lighting (AB 12 108)**
- **11 W compact fluorescent lamp for emergency lighting (EE11 PL)**
- **Operation and monitoring possible from CEAG emergency lighting system**



EE11 PL with eXLink | EE11 PL | AB 12108-EVG

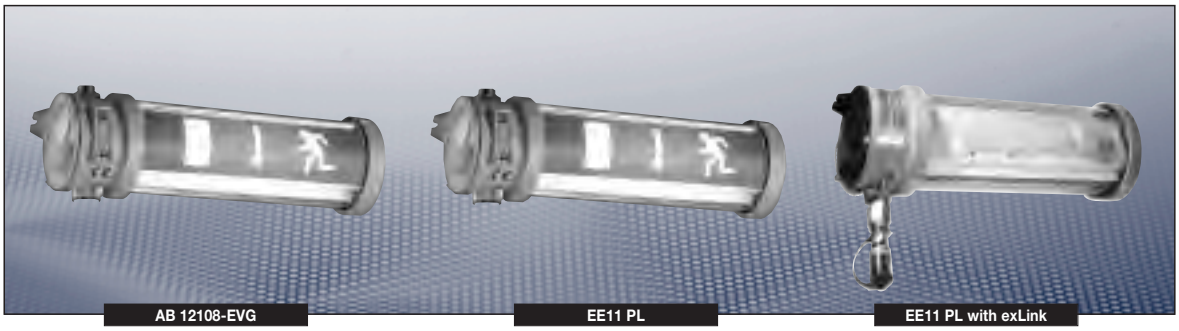
Technical data

AB 12108-EVG	
Marking to 94/9/EC	Ex II 2 G EEx d IIC T6/T5 / Ex II 2 D T 58 °C (T_a up to 40 °C) T 73 °C (T_a up to 55 °C)[1]
(new standard – applies for)	Ex II 2 G Ex d IIC T5/T6 / Ex II 2 D Ex tD A21 IP67 T73 °C
EC-Type Examination Certificate	LOM 02 ATEX 2013 X
Permissible ambient temperature	-20 °C up to +55 °C
Rated voltage 1	230 V AC
Rated voltage 2	220 V DC +25 %/–20 %
Frequency	50 Hz
Rated power consumption	approx. 16 VA
Connecting terminals	L1, N and PE: 2 x 2.5 mm² / PE ext.: 2 x 6 mm²
Insulation class	I
Lamp/Illuminant	1 x 8 W/T5-fluorescent lamp for mains and emergency operation
Lamp cap	G5
Luminous flux Φ_E/Φ_N at the end of rated operating time	75 %
Viewing distance with legend	up to approx. 15 m
Degree of protection accd. EN 60529	IP67
Cable glands/gland plates/enclosure drilling	direct entries: see ordering details
Dimensions (L x W x H)	460 x 144 x 140 mm
Weight	approx. 5.3 kg
Enclosure material	copper-free aluminium
Protective cover/protective bowl	borosilicat-glass

EE11 PL		
Marking to 94/9/EC	Ex II 2 G EEx d IIC T6 / Ex II 2 D T58 °C	
(new standard – applies for)	Ex II 2 G Ex d IIC T5/T6 / Ex II 2 D Ex tD A21 IP67 T73 °C	
EC-Type Examination Certificate	LOM 03 ATEX 2036 X	
Permissible ambient temperature	-5 °C up to +40 °C	
Rated voltage 1	220 V - 240 V AC	
Rated voltage (option)	108 V - 127 V AC	
Frequency	50 - 60 Hz	
Rated power consumption	approx. 16 VA	
Connecting terminals	L1, N and PE: 2 x 2.5 mm² / PE ext.: 2 x 6 mm²	
Insulation class	I	
Lamp/Illuminant	1 x 11 W compact-fluorescent lamp for emergency operation	
Pilot lamp	3 W – GLS for permanent operation	
Lamp cap of 11 W C FL	socket 2G7	
Luminous flux in emergency operation	approx. 70 % after 1.5 h	
Viewing distance with legend	up to approx. 15 m	
Battery	nickel-cadmium 4 Ah	
Rated operating in emergency	1.5 h	
Charging duration	24 h	
Degree of protection accd. EN 60529	IP67	
Cable glands/gland plates/enclosure drilling	see ordering details, eXLink inlet on request	
Dimensions (L x W x H)	460 x 144 x 140 mm	
Weight	approx. 5.6 kg	
Enclosure material	copper-free aluminium	
Protective cover/protective bowl	borosilicat-glass	
Function indication	red LED	battery charging
	green LED	main connection

Note: EE11PL Luminaire must not be opened in hazardous area.

[1] Marking accd. new standard applies for



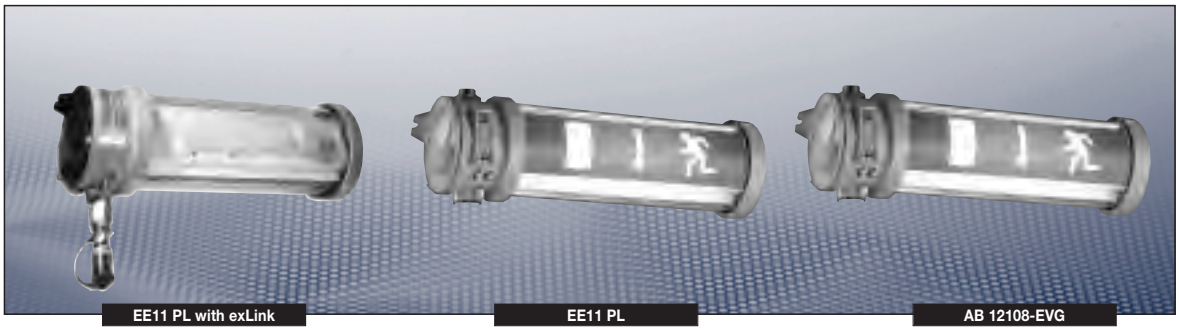
Ordering details

Type	Rated voltage	Thread	Cable gland Ex-d for Ø 9 - 14 mm	Blanking plug Ex-d	Ordering Code
AB12108-EVG					
AB12108-EVG	220 - 230 V AC /	2 x 3/4"	1 x 3/4"	1 x 3/4"	**NOR 000 005 060 837**
AB12108-EVG	195 - 250 V DC	2 x 3/4"	–	1 x 3/4"	**NOR 000 005 060 820**
EE11 PL					
EE11PL	220 - 240 V AC	2 x 3/4"	1 x 3/4"	1 x 3/4"	**NOR 000 005 160 012**
		2 x 3/4"	–	1 x 3/4"	**NOR 000 005 160 013**
EE11PL	108 - 127 V DC	2 x 3/4"	1 x 3/4"	1 x 3/4"	**NOR 000 005 160 015**
		2 x 3/4"	–	1 x 3/4"	**NOR 000 005 160 014**

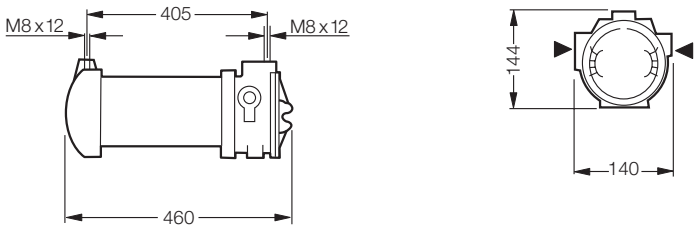
Accessories

Ex-Emergency luminaires AB 12108-EVG and EE11 PL	
Type	Ordering Code
Ceiling bracket D 92 with screws and polyamide washer (CrNi, 2 pcs.)	**2 2480 092 000**
Ceiling bracket A5 hot galvanized (1 pc.)	**NOR 000 005 009 162**
Wall bracket 45° hot galvanized (1 pc.)	**NOR 000 005 009 196**
Reflector RAB 108 (AISI 304)	**NOR 003 045 060 471**
Reflector RAB 108 (AISI 304) + guard (steel white epoxy coating)	**NOR 003 045 060 819**
Reflector RAB 108 (AISI 316)	**NOR 003 165 060 471**
Reflector RAB 108 (AISI 316) + guard (steel white epoxy coating)	**NOR 003 165 060 819**

Lamps for Ex-emergency and signal light fittings				
For luminaire Type	Lamp type/ lamp cap/diameter	Lamp power	rated luminous flux approx.	Ordering Code
AB 12108-EVG	T5, socket G5, Ø 16 mm	8 W	450 lm	**4 0040 004 623**
EE11 PL	TC-SEL, 4-pin socket 2G7	11 W	900 lm	**on request**

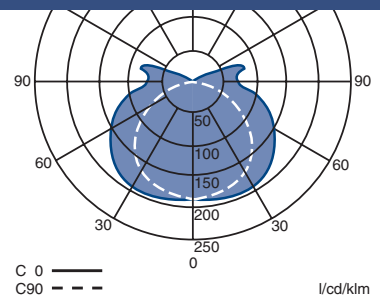


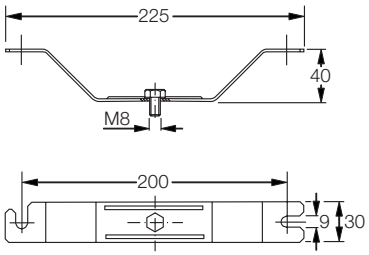
Dimension drawing | Polar curves | Accessories



AB 12108-EVG / EE11 PL

Polar curve
AB 12108-EVG / EE11 PL





Ceiling bracket D92

Dimensions in mm

EX-SIGNAL AND EMERGENCY LIGHT FITTING

dKLK 23
Plastic version for Zone 1

These light fittings meet the requirements of ATEX-Directive 94/9/EC for temperature class T6. It is certified for use in hazardous areas of the Zones 1 and 2 also for the temperature class up to T6 as well as for dust-ex areas of the Zones 21 and 22.
Additionally they fulfill the directive EN 60598, Part 2.22 for Emergency Lighting. The Ex-light fitting dKLK 23 are built for compact fluorescent lamps 5-8 W with integrated electronic ballast.
By use of a flash module (optional) the light fitting can be used also as a strobe light.
The housing is made of a fibre-glass reinforced polyester and the protective globe of a transparent or coloured polycarbonate. When fitted with coloured protective covers they are used as signal light fittings but also as emergency light fittings in conjunction with the exit cubes.
The light fitting is connected by a flameproof eXLink inlet.
With the optional CG-S monitoring module with coding switch (for max. 20 light fittings) which assigns an address to each light fitting, they can be connected as singularly monitored emergency light fittings to the CEAG emergency lighting supply system (dKLK 23 CG-S).



- **Signal light fitting, even with coloured protective globe in temperature class T6 environments**
- **For compact fluorescent lamp with integrated EVG**
- **For ceiling and wall mounting**
- **Safety Standard IP66**
- **With possible connection to the CEAG emergency lighting supply systems**
- **Optional flash module**



Technical data

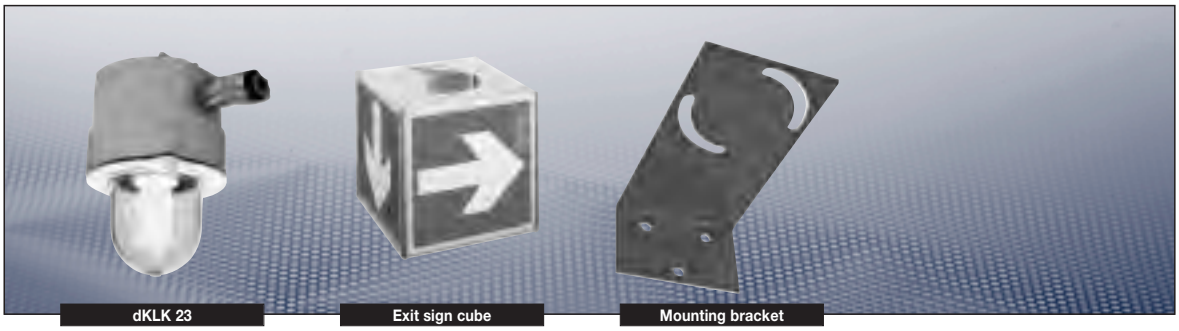
dKLK 23 | dKLK 23 CG-S[1]	
Marking to 94/9/EC	Ex II 2 G Ex d IIC T6 / Ex II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 04 ATEX 1017X
Permissible ambient temperature	-20 °C up to max. +45 °C (dept. on lamp power and operating position)
Rated voltage 1	230 V AC
Rated voltage 2	230 V DC
Rated current	max. 25 mA
Frequency	0 up to 50 / 60 Hz
Connecting terminals	flameproof inlet eXLink, 3pole, 2 + PE cage clamp terminal for cable Ø 8-11 mm and max. 1.5 mm² or flameproof cable gland M20 x 1.5 for cable Ø 8.5-16 mm; terminal L, N, PE max. 2.5 mm² clamp terminal
Insulation class	I
Lamp/Illuminant	Compact-fluorescent lamp with integrated electr. ballast, lamp cap E27, lamp power 5-8 W, manufacturer Philips MASTER PL Electronic 5W/8 W or equivalent; Flashmodule (see accessories)
Lamp cap	E 27
Rated luminous flux[2]	approx. 400 lm (7/8 W)
Degree of protection accd. EN 60529	IP66
Dimensions (L x W x H)	164.5 x 189 x 128 mm
Weight	approx. 1.7 kg
Enclosure material	Glass-fibre reinforced polyester
Protective cover/protective bowl	Polycarbonat

Accessory Flash module type Eurolite E27 Strobe	
Rated voltage	230 V
Frequency	50 Hz
Rated power consumption	5 W
Flash frequency	1-3 Hz

[1] For operation with CEAG emergency lighting systems, with code switch for 20 addresses

[2] Depends on used lamps

Scope of delivery with fixing accessories and without lamp.



Ordering details

Type	Power connection	Colour of protective cover	Ordering Code
dKLK 23			
dKLK 23/eXLink	eXLink	clear	**GHG 871 1001 R 0001**
dKLK 23/eXLink	eXLink	red	**GHG 871 1101 R 0001**
dKLK 23/eXLink	eXLink	green	**GHG 871 1201 R 0001**
dKLK 23/eXLink	eXLink	blue	**GHG 871 1301 R 0001**
dKLK 23 CG-S[1]/eXLink	eXLink	clear with CG-S-module and code switch	**GHG 871 2001 R 0001**
dKLK 23/EEx d	Cable gland M20	clear	**GHG 871 1001 R 0101**
dKLK 23/EEx d	Cable gland M20	red	**GHG 871 1101 R 0101**
dKLK 23/EEx d	Cable gland M20	green	**GHG 871 1201 R 0101**
dKLK 23/EEx d	Cable gland M20	blue	**GHG 871 1301 R 0101**
dKLK 23 CG-S[1]/EEx d	Cable gland M20	clear with CG-S-module and code switch	**GHG 871 2001 R 0101**

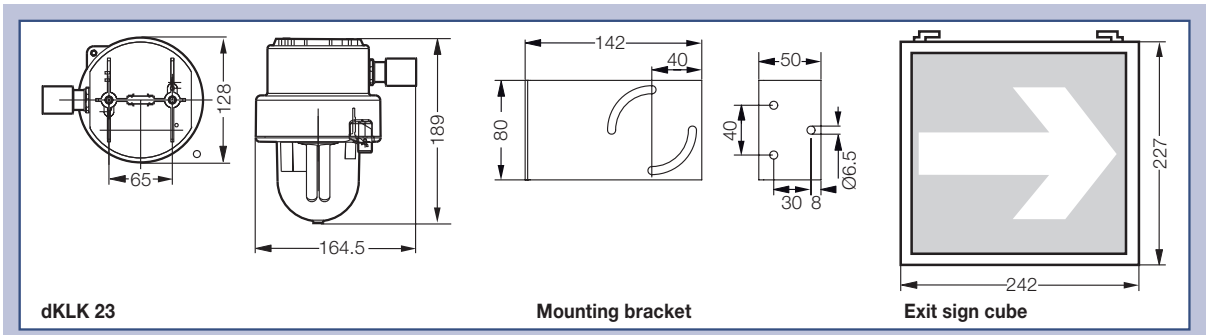
[1] for connection to CEAG emergency supply systems, with address switch for 20 addresses.

Scope of delivery with wall mounting bracket and without lamp.

Accessories

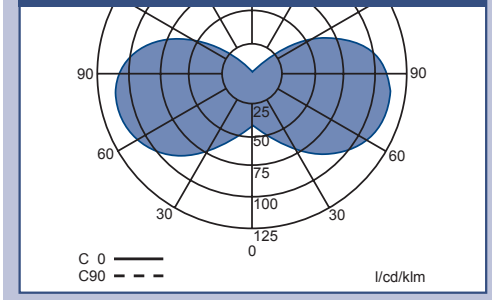
Ex-signal- and exit sign luminaire dKLK 23	
Type	Ordering Code
Flash module Eurolite E27 Strobe	**GHG 870 1912 R 0001**
Exit sign cube (242 x 227 x 242 mm)	**4 0071 344 115**
Compact fluorescent lamp 7 W with EVG	**GHG 870 9302 P 0002**

Dimension drawing | Polar curves



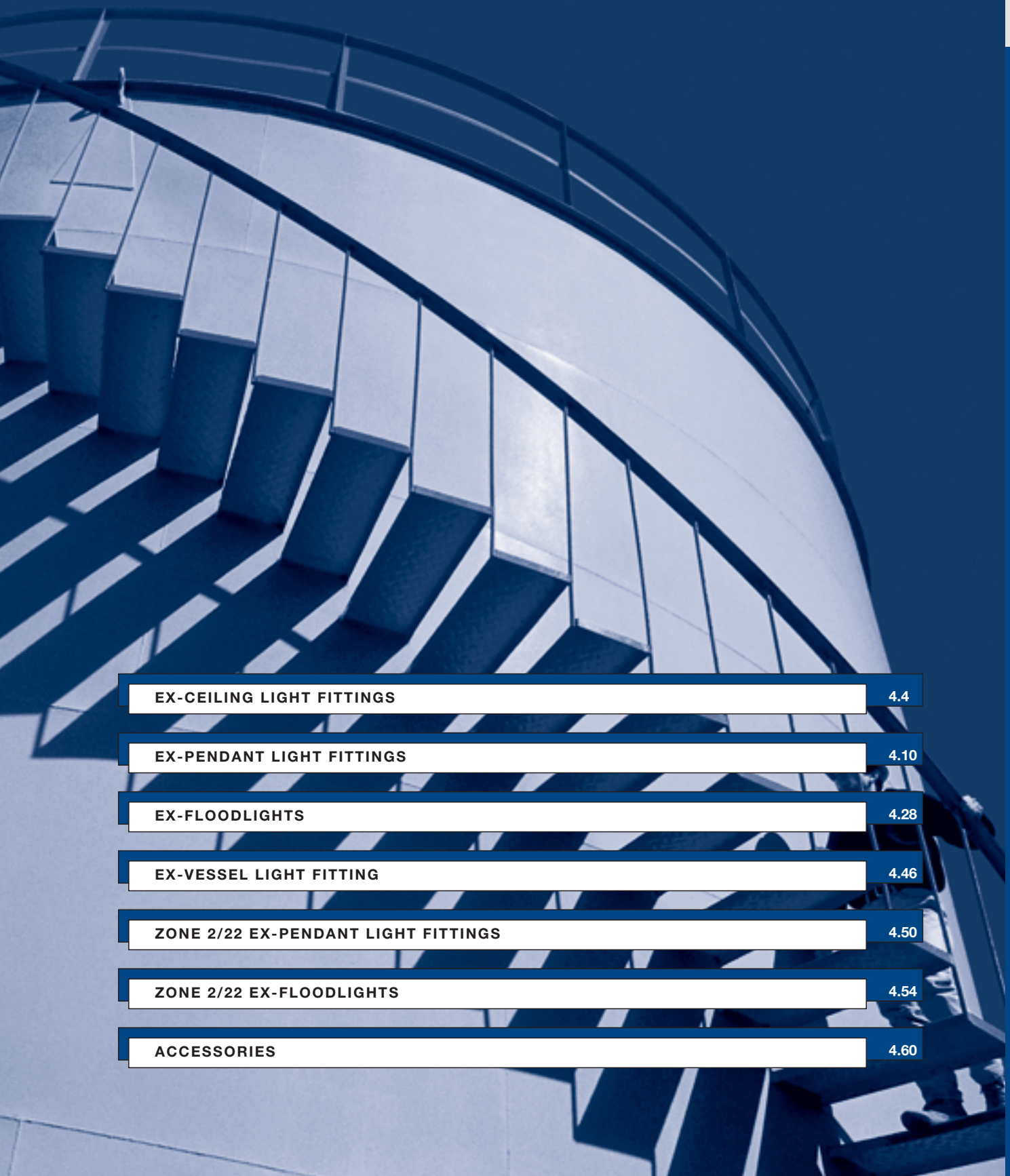
dKLK 23 **Mounting bracket** **Exit sign cube**

Polar curve
dKLK 23 / dKLK 23 CG-S



Dimensions in mm

EX-CEILING, PENDANT LIGHT FITTINGS AND FLOODLIGHTS



EX-CEILING LIGHT FITTINGS 4.4

EX-PENDANT LIGHT FITTINGS 4.10

EX-FLOODLIGHTS 4.28

EX-VESSEL LIGHT FITTING 4.46

ZONE 2/22 EX-PENDANT LIGHT FITTINGS 4.50

ZONE 2/22 EX-FLOODLIGHTS 4.54

ACCESSORIES 4.60



Field of application of pendant light fittings and floodlights with high pressure discharge lamps in hazardous areas.

Where a lot of light is needed and/or where large complexes or areas have to be illuminated, or where there are high ceilings, these are the ideal situations for pendant light fittings and floodlights.

The main field of operation is the illumination in hazardous explosive environments such as On- and Offshore areas, production and storage buildings or Ex-companies in the chemical industry. Also the illumination of outside areas such as loading zones, harbour areas or even refineries.



The pendant light fittings and floodlights are usually fitted with high pressure discharge lamps such as Metal halide lamp or Sodium vapour lamps.

They offer a high output of light and a relatively long life span.

Due to environmental protection the use of Mercury Vapor lamps have been forbidden in more and more countries. The typ of lamp may be replaced by other light sources e.g. Metal halide or sodium vapour lamps.



Pendant light fitting EVQ for Induction lamps

With the CEAG pendant light fittings and floodlights for the Zones 1, 2, 21 and 22 you have a safety assurance even in difficult environmental conditions such as high and low temperature, high humidity, dusty and aggressive explosive atmospheres.
The high safety standard required is assured for even after a long period of usage time. A long service life and the high reliability factor of the used electrical and mechanical components makes these lamps extremely cost-effective. Especially the innovative illuminant technology of the induction lamps used in the EVQ light fittings guarantees a lamp life expectancy of > 60,000 hours. This makes these light fittings destinied for usage in uncomfortable and hard to access areas where one can efficiently minimize the maintanance costs.

The easy changing of the lamp, for example in the new CEAG floodlight series FZD (you just change the complete lamp module), also effectively reduces the maintanance costs. Even in extreme environments and temperatures of -40° C you can be sure that the light fittings will be quickly back in use. The actual lamp replacement can then take place in the work-shop at a later date.



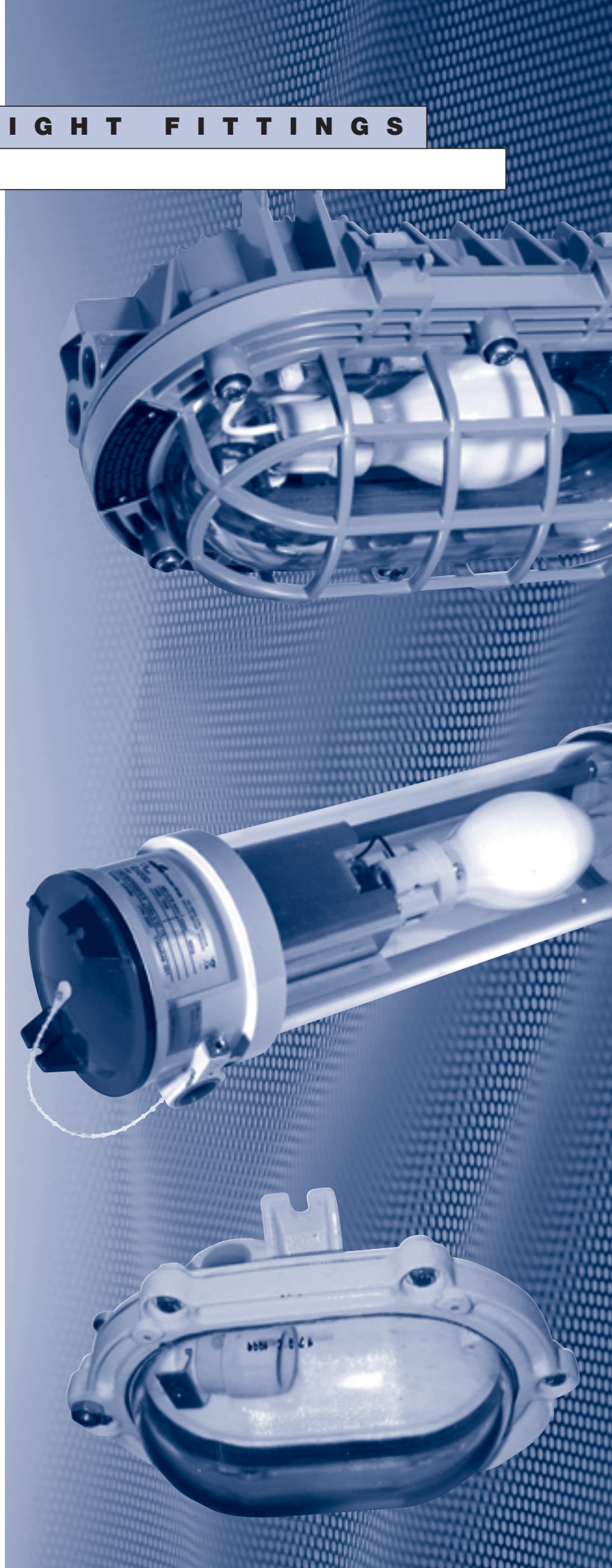
Bulk head light fitting AB 05



FZD flood light

EX-CEILING LIGHT FITTINGS

AB 05, AB 80 and AB12 NAV 70
Metal Version for Zone 1 and 21



AB 05

This explosion-protected light fitting for Incandescent as well for high pressure discharge lamps is designed in accordance to the ATEX-Directive 94/9/EG.
The light fittings are fitted with an impact resistant and thermally stable dome-shaped glass. All external screws are made of high quality stainless steel. The distinguishing characteristics of this series are the low weight and the simple installation.
The control gear for HPS-lamps is installed on a removeable support in order to make the maintenance easy.
The AB 05 series offers a wide range of application using different type of explosion protection:
– Ex e IIC for Zone 1/21
– Ex de IIB (+H2 as an option) for Zone 1/21
– Ex nR for Zone 2/22
An internal aluminium reflector enables a well balanced light distribution characteristic.

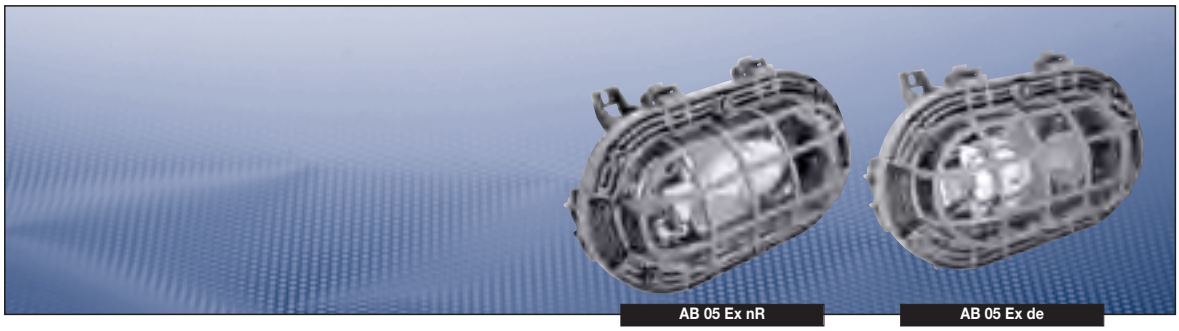
AB 80

Due to the flameproof design all types of incandescent lamps up to 100 W or suitable compact fluorescent lamps with electronic ballast can be used.
The AB 80 light fitting is a flat light fitting for ceiling mounting.
Due to their robust architecture, this light fitting is suitable for use in the chemical industry and have been certified for usage in environments with a temperature of up to +55° C.

AB 12 NAV 70

This compact Ex-d light fixture for high pressure sodium lamps allows individual lighting solutions for areas with limited mounting space. Lamp, ballast capacitor and ignitor are incorporated on a compact module, which allows easy re-lamping and maintenance procedure. An optional external reflector allows individual illumination of working places.

- **Certified for environmental temperatures from -55 °C up to +55° C, depend. on type**
- **Fulfils highest requirements on corrosion protection and mechanical stability**
- **Robust light alloy housing (AB 05, AB12 NAV 70)**
- **Easy installation**
- **High quality stainless steel screws, easier lamp replacement**



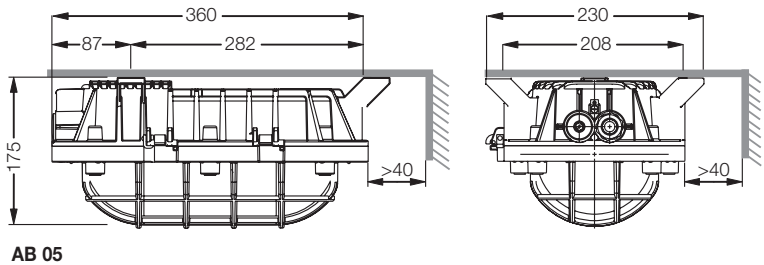
Technical data

Ex-Bulkhead light fitting AB 05			
Marking to 94/9/EC	AB 05 Ex-e	Ex II 2 G Ex de IIC T3/T2	Ex II 2 D Ex tD A21 IP66 T125 °C
	AB 05 Ex-d	Ex II 2 G Ex d IIB (+H2) T4/T3[1]	
	AB 05 nR	Ex II 3 G nR II T4/T3	Ex II 3 D Ex tD A22 IP66 T100/125/140 °C
EC-Type Examination Certificate	AB 05 Ex-e	BVS 07 ATEX E 152 X	
	AB 05 Ex-d	PTB 08 ATEX 1001 X	
Type Examination Certificate	AB 05 nR	BVS 07 ATEX E 151	
Permissable ambient temperature		–20 °C to +40 °C	
		–55 °C to +55 °C (option, depends on version)	
Rated voltage		max. 250 V[2] (AB 05 Ex e/nR)	
		230 V (AB 05 Ex d)	
Frequency		50 - 60 Hz	
Connecting terminals		L1, N, 1 x 1.5 - 4 mm², PE: 2 x 1.5 - 4 mm²	
Insulation class		I	
Lamp/Illuminant		[1]	
Degree of protection accd. EN 60529		IP66	
Cable glands/Gland plates/Enclosure drilling		1 x M20/M25 x 1.5 / 2 x M20/25 x 1.5 one plugged, or	
		1 x 3/4" ISO 7/1/ 2 x 3/4" ISO 7/1 one plugged	
Dimensions (L x W x H)		360 x 230 x 175 mm	
Weight		[1]	
Type of mounting		ceiling/wall mounting	
Enclosure material		light alloy	
Enclosure colour		grey	
Protective cover/protective bowl		borosilicate glass	
Enclosure earth		2 x 6 mm²	

[1] see ordering details

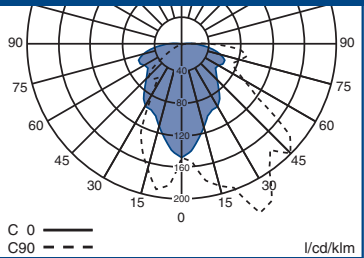
[2] other voltages on request

Dimension drawing | Polar curves

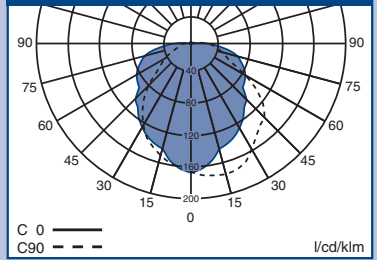


AB 05

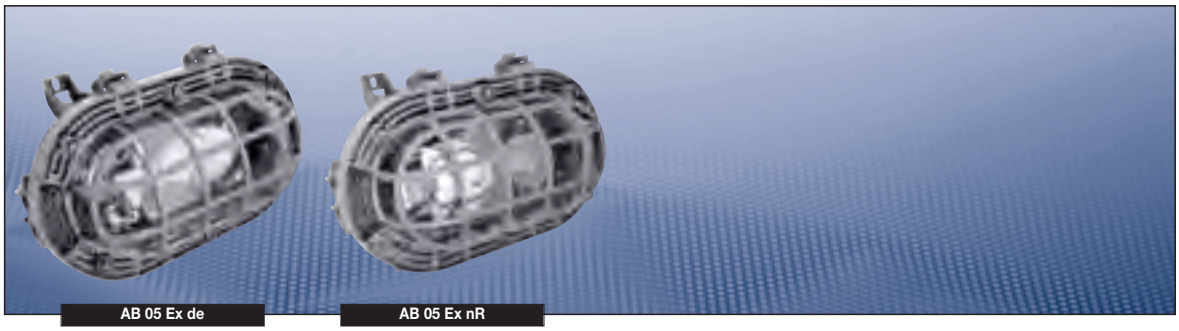
Polar curve AB 05 Ex de



Polar curve AB 05 nR



Dimensions in mm



AB 05 Ex de AB 05 Ex nR

Ordering details

Type	Type of lamp	Rated luminous flux[2]	Temperature class	Cable glands/threads	Weight/ kg	Qty.	Order No.
II 2 G IIC (–20 °C up to +55 °C)							
AB 05 Ex de	incandescent max. 60 W	710 lm	T3/T2[1]	1 x M20	5.9	1	**AB 05 531 011 0001**
AB 05 Ex de	incandescent max. 60 W	710 lm	T3/T2[1]	2 x M20, 1 x Ex-e M20	5.9	1	**AB 05 531 111 0001**
AB 05 Ex de	incandescent max. 60 W	710 lm	T3/T2[1]	1 x M25	5.9	1	**AB 05 531 021 0001**
AB 05 Ex de	incandescent max. 60 W	710 lm	T3/T2[1]	2 x M25, 1 x Ex-e M25	5.9	1	**AB 05 531 221 0001**
II 3G Ex nR II (- 50 °C up to + 55 °C)							
AB 05 nR	70 W HSE	5600 lm	T4	1 x M20	5.4	1	**AB 05 611 011 0001**
AB 05 nR	70 W HSE	5600 lm	T4	2 x M20, 1 x Ex-e M20	5.4	1	**AB 05 611 111 0001**
AB 05 nR	70 W HSE	5600 lm	T4	1 x M25	5.4	1	**AB 05 611 021 0001**
AB 05 nR	70 W HSE	5600 lm	T4	2 x M25, 1 x Ex-e M25	5.4	1	**AB 05 611 221 0001**
AB 05 nR	70 W HSE[3]	5600 lm	T4	1 x M25	5.4	1	**AB 05 611 021 0002**
AB 05 nR	70 W HSE[3]	5600 lm	T4	2 x M25, 1 x Ex-e M25	5.4	1	**AB 05 611 221 0002**
AB 05 nR	80 W HME	3800 lm	T4	1 x M25	5.4	1	**AB 05 621 021 0001**
AB 05 nR	80 W HME	3800 lm	T4	1 x M25, 1 x Ex-e plug	5.4	1	**AB 05 621 221 0001**
AB 05 nR	200 W HME	3100 lm	T3	1 x M25	5.4	1	**AB 05 631 021 0001**
AB 05 nR	200 W HME	3100 lm	T3	1 x M25	5.4	1	**AB 05 631 221 0001**
II 2 G IIB +H2 (- 20 °C up to + 55 °C)							
AB 05 Ex d	70 W HSE	5600 lm	T4	1 x M20 thread	6.9	1	**AB 05 111 011 0001**
AB 05 Ex d	70 W HSE[3]	5600 lm	T4	1 x M20 thread	6.9	1	**AB 05 111 011 0002**
AB 05 Ex d	70 W HSE	5600 lm	T4	1 x Ex d NPT 1/2" thread	6.9	1	**AB 05 111 031 0001**
AB 05 Ex d	70 W HSE	5600 lm	T4	2 x Ex d NPT 1/2" thread	6.9	1	**AB 05 111 331 0001**
AB 05 Ex d	70 W HSE	5600 lm	T4	1 x Ex d NPT 3/4" thread	6.9	1	**AB 05 111 041 0001**
AB 05 Ex d	70 W HSE	5600 lm	T4	2 x Ex d NPT 3/4" thread	6.9	1	**AB 05 111 441 0001**
AB 05 Ex d	70 W HSE[3]	5600 lm	T4	1 x Ex d NPT 3/4" thread	6.9	1	**AB 05 211 041 0002**
AB 05 Ex d	70 W HSE	5600 lm	T4	1 x M20 thread 1 x M20 plug	6.9	1	**AB 05 211 111 0001**
AB 05 Ex d	70 W HSE[3]	5600 lm	T4	1 x M20 thread	6.9	1	**AB 05 211 111 0002**
II 2 G IIB (- 20 °C up to + 55 °C)							
AB 05 Ex d	70 W HSE	5600 lm	T4	1 x M20 thread	6.9	1	**AB 05 211 011 0001**
AB 05 Ex d	70 W HSE[3]	5600 lm	T4	1 x M20 thread	6.9	1	**AB 05 211 011 0002**
AB 05 Ex d	70 W HSE	5600 lm	T4	1 x Ex d NPT 1/2" thread	6.9	1	**AB 05 211 031 0001**
AB 05 Ex d	70 W HSE	5600 lm	T4	2 x Ex d NPT 1/2" thread	6.9	1	**AB 05 211 331 0001**
AB 05 Ex d	70 W HSE	5600 lm	T4	1 x Ex d NPT 3/4" thread	6.9	1	**AB 05 211 041 0001**
AB 05 Ex d	70 W HSE[3]	5600 lm	T4	1 x Ex d NPT 3/4" thread	6.9	1	**AB 05 211 041 0002**
AB 05 Ex d	70 W HSE	5600 lm	T4	1 x M20 thread 1 x M20 plug	6.9	1	**AB 05 211 111 0001**
AB 05 Ex d	70 W HSE[3]	5600 lm	T4	1 x M20 thread	6.9	1	**AB 05 211 111 0002**
AB 05 Ex d	70 W HSE	5600 lm	T4	2 x Ex d NPT 3/4" thread	6.9	1	**AB 05 211 441 0001**

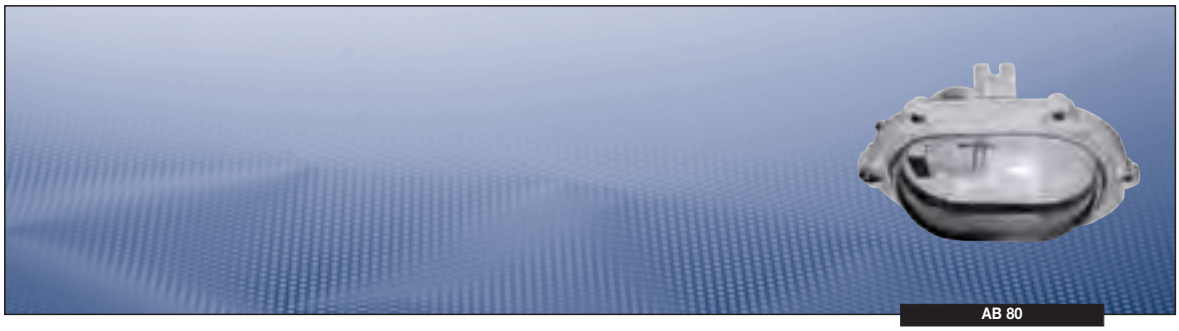
[1] T3 only with lamp accd. to EN 60064 and DIN 49810 marked "T"

[2] depends on used lamps

[3] for HSE lamps with integrated ignitor

Lamps and fixing accessories are not included.

Metal cable glands see page 8.10...


AB 80

Technical data

Ex-Bulkhead light fitting AB 80	
Marking to 94/9/EC	Ⓔx II 2 G Ex d IIB T4 (up to 100 W) / T6 (11 W PL)[1]
EC-Type Examination Certificate	LOM 01 ATEX 2041 X
Permissable ambient temperature	–20 °C - +55 °C
Rated voltage	max. 250 V
Connecting terminals	1 x 2.5 mm² or 2 x 1.5 mm²; PE 2 x 6 mm²
Insulation class	I
Incandescent lamp	60 W, 100 W
Lamp/Illuminant	TC-DSE 11 W
Lamp cap	E 27
Rated luminous flux[1]	710 lm / 1360 lm / 660 lm
Light efficiency in operation	60 %
Degree of protection accd. EN 60529	IP55
Cable glands/Gland plates/Enclosure drilling	2 x 3/4" ISO 7/1-/2 x M25 x 1.5 thread (Ex-d), one plugged
Weight	6.60 kg
Type of mounting	wall/ceiling mounting
Enclosure material	cast iron
Enclosure colour	grey
Protective cover/protective bowl	mechanical and chemical high resistent glass
Enclosure earth	2 x 6 mm²

[1] depends on lamp

Ordering details

Type	Entry thread	Cable gland Ex-d for cable Ø	Blanking plug Ex-d	Order No.
AB 80 with cable gland	2 x 3/4"	9 - 14 mm	1 x 3/4"	**NOR 000 005 120 125**
AB 80	2 x 3/4"	–	1 x 3/4"	**NOR 000 005 120 124**
AB 80	2 x M25	–	1 x M25	**NOR 000 005 120 123**

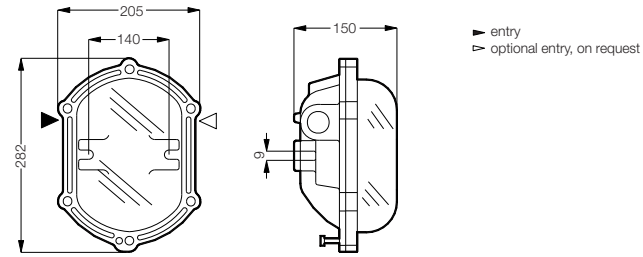
Lamps and fixing accessories are not included

Accessories

Type	Content	Application	Order No.
GAB 80	wire guard	AB 80	**NOR 000 005 120 439**
REP .AB 80	spare glass	AB 80	**NOR 000 005 129 027**

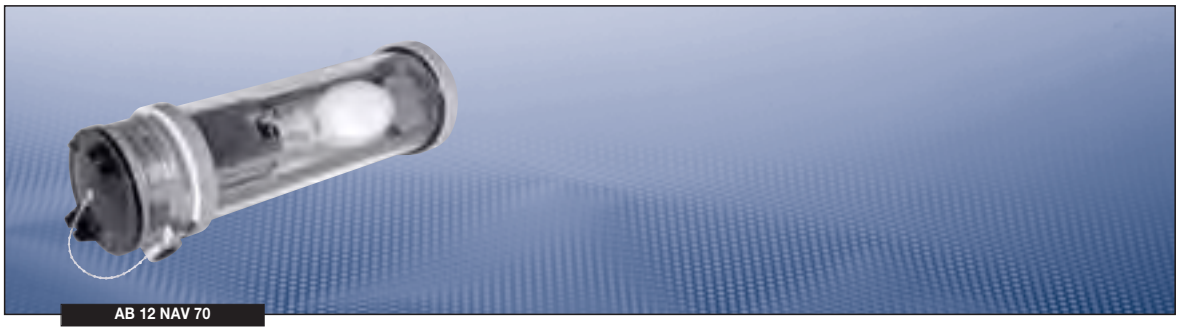
Metal cable glands see page 8.10...

Dimension drawing



AB 80

Dimensions in mm

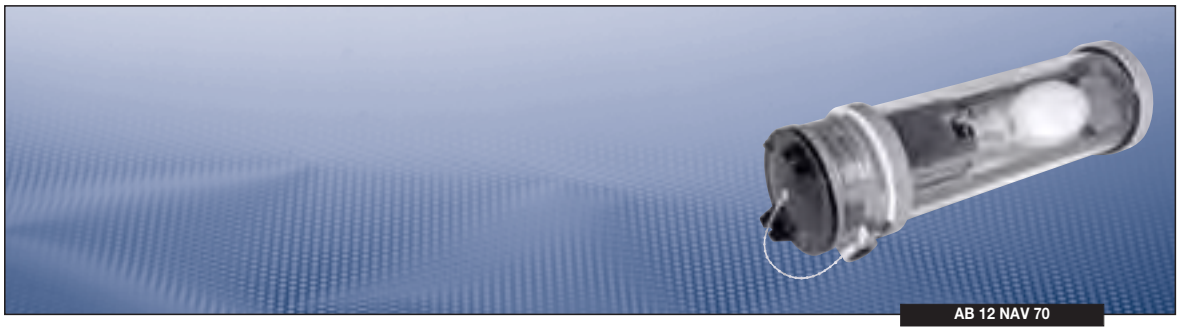


AB 12 NAV 70

Technical data

Ex-Bulkhead light fitting AB 12 NAV 70	
Marking to 94/9/EC	Ex II 2 G Ex d IIC / IIB T3 / Ex II 2 D Ex tD A21 IP67 T160 °C
EC-Type Examination Certificate	LOM 02 ATEX 2013 X
IECEx Certificate of Conformity	IECEx BKI 07.0008X
Marking accd. to IECEx	Ex d IIC / IIB T3
Permissible amient temperature	–20 °C to +55 °C – Gas group IIC
	–45 °C to +55 °C – Gas group IIB
Rated voltage	230 V[1)]
Rated current	0,36 A
Frequency	50 Hz
Power factor cos φ	≥ 0,9
Connecting terminals	L1, N, PE: 2 x 2.5 mm^2, PE 2 x 6 mm^2
Insulation class	I
Lamp/Illuminant	HSE 70 W
Lamp cap	E 27
Rated luminous flux[1)]	5600 lm
Light efficiency in operation	70 %
Degree of protection accd. EN 60529	IP67
Cable glands/Gland plates/Enclosure drilling	2 x 3/4“ ISO 7/1 thread (Ex-d) one plugged
Weight	5.30 kg
Type of mounting	Wall/ceiling mounting
Enlcosure material	light alloy
Enclosure colour	grey
Protective cover	Borosilicate glass tube

[1)] depends on lamp



Ordering details

Type	Entry thread	Cable gland Ex-d for cable Ø	Blanking plug Ex-d	Qty.	Order No.
Group IIC - NORMAL (ambient temperature) (–20 °C to +55 °C)					
AB 12 NAV 70 + PE	2 x 3/4"	9 - 14	1 x 3/4"	1	**NOR 000 005 060 071**
AB 12 NAV 70	2 x 3/4"	–	1 x 3/4"	1	**NOR 000 005 060 070**
Group IIB - LOW (ambient temperature) (up to –45 °C)					
AB 12 NAV 70	2 x 3/4"	–	1 x 3/4"	1	**NOR 000 005 060 072**

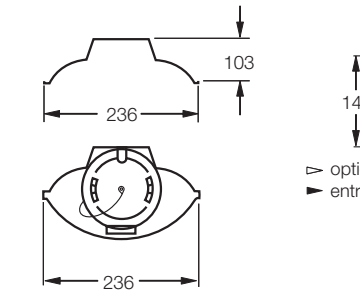
Lamps and fixing accessories are not included

Accessories

AB 12 NAV 70		
Type	**Content**	**Order No.**
D 92	Ceiling bracket with screws and polyamide washer (CrNi, 2 pcs.)	**2 2480 092 000**
A5	Ceiling bracket hot galvanized (1 pc.)	**NOR 000 005 009 162**
BFP45	Wall bracket 45° hot galvanized (1 pc.)	**NOR 000 005 009 196**
RAB 108	Reflector AISI 304	**NOR 003 045 060 471**
RAB 108	Reflector AISI 304 + guard (steel white epoxy coating)	**NOR 003 045 060 819**
RAB 108	Reflector AISI 316	**NOR 003 165 060 471**
RAB 108	Reflector AISI 316 + guard (steel white epoxy coating)	**NOR 003 165 060 819**

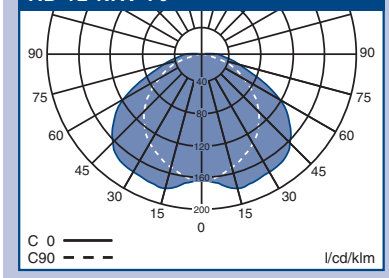
Metal cable glands see page 8.10...

Dimensions drawing | Polar curve



AB 12 NAV 70

Polar curve
AB 12 NAV 70



Dimensions in mm

EX-PENDANT LIGHT FITTINGS

for incandescent and high pressure discharge lamps up to 500 W
Metal version for Zone 1/21



All explosion-protected pendant light fittings for Incandescent, high pressure discharge and Induction lamps are in accordance with the ATEX-Directive 94/9/EG.

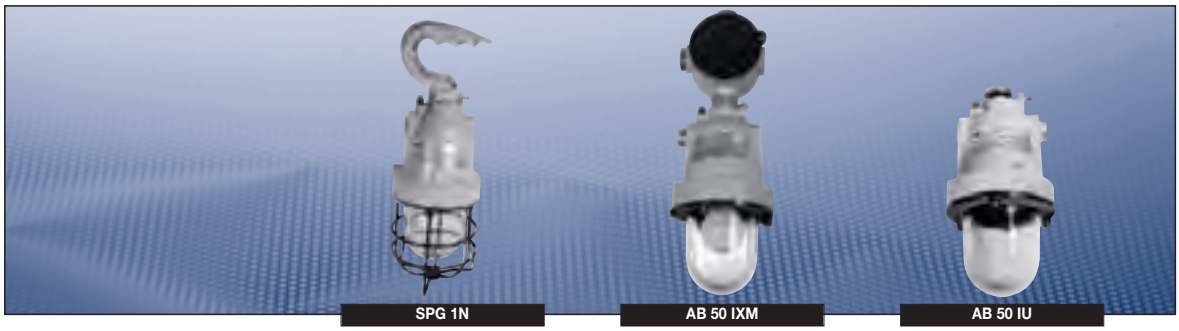
AB 50/SPG 1N and AB51

Due to their compact design the series AB 50, SPG 1N and AB 51 are designed for individual illumination of a local area. Beside the copper-free aluminium housings all external screws are made of stainless steel. The protective glass dome is made of borosilicate glass which has a high mechanical and thermic stability. This ensures a save use even in harsh environmental areas. Most of the world-wide field conditions can be accepted by the large permissible ambient temperature range from –50 °C up to +55 °C.

EVI and EV...

The housing is made of a copper-free aluminium. The ballast for the high pressure discharge lamps (EVM/EVS/EVH) is thermically separated in its own compartment in the top part of the housing. The dome-shaped glass enclosure is made of borosilicate glass which has a high mechanical and thermic stability. All external screws and the reflector are made of stainless steel. The lamp replacement is done by opening the PTFE coated connection ring. Both the glass enclosure and the connection ring are hinged for easy access. Due to their robust architecture, these light fittings are suitable for use in the chemical industry and have been certified for usage in environments with a temperature of up to +55° C (EVQ excluded). The new light fitting EVQ, designed for lamp replacement in > 60000 hour intervals are fitted with induction lamps and a high-frequency generator.

- **For environmental temperatures range of –50 °C up to +55° C (EVQ excluded)**
- **Safety Standard IP67**
- **Robust light alloy housing**
- **Easy opening of lamp compartment**

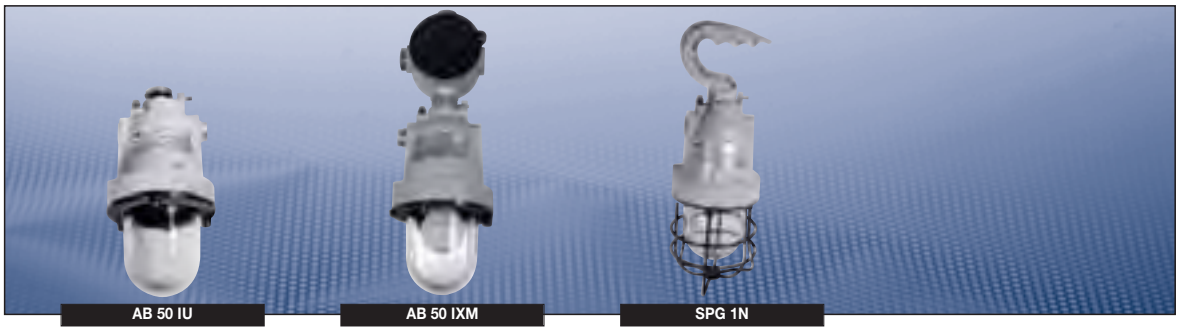


Technical data

AB 50 | SPG 1N	
Marking to 94/9/EC	Ex II 2 G Ex d IIC T3 (direct entry IU); T4 with 60 W at t_{amp} +40 °C[1)]
(new standard – applied for)	Ex II 2 G Ex de IIC T3 (indirect entry IXM)
	Ex II 2 D Ex tD IP67 T180 °C, T130 with 60 W at +40 °C
EC-Type Examination Certificate	LOM 02 ATEX 2018 X
Permissible ambient temperature	-20 °C to +55 °C
	-50 °C to +55 °C (option: AB 50)
Rated voltage	max. 250 V
Power consumption	max. 100 W
Connecting terminals	1 x 2.5 mm² / 2 x 1.5 mm² (IU and SPG1N), 2 x 2.5 mm², PE 2 x 6 mm² (IXM)
Insulation class	I
Incandescent lamp	60 W, 100 W, 75 W halogene[2)]
Lamp cap	E 27
Rated luminous flux[1)]	710 lm / 1360 lm
Light efficiency in operation	68 %
Degree of protection accd. EN 60529	IP67
Cable glands/Gland plates/Enclosure drilling	2 x 3/4" ISO 7/1-thread (Ex-d), one plugged (UI) /
	2 x M25 x 1,5 (IXM), SPG1N incl. cable gland
Dimensions (L x W x H)	see dimension drawing
Weight	see table
Type of mounting	ceiling mounting
Enclosure material	light alloy
Enclosure colour	grey
Protective cover/protective bowl	borosilicate glass

[1)] depends on lamp

[2)] 75 W halogene lamp max t_a = +40 °C



Ordering details

Type	Entry thread	Cable gland for cable Ø	Blanking plug	Weight	Order No.
($T_{ambient}$ -20 °C to +55 °C)					
AB 50 IU (direct entry)	2 x 3/4"	9 - 14 mm Ex-d	1 x 3/4" Ex-d	1.6 kg	**NOR 000 115 110 292**
AB 50 IU (direct entry)	2 x 3/4"	–	1 x 3/4" Ex-d	1.5 kg	**NOR 000 115 110 289**
AB 50 IXM (indirect entry)	2 x M25 x 1.5	9 - 14 mm Ex-e	1 x M25 x 1.5 Ex-e	2.3 kg	**NOR 000 115 110 321**
AB 50 IXM (indirect entry)	2 x M25 x 1.5	–	1 x M25 x 1.5 Ex-e	2.2 kg	**NOR 000 115 110 320**
SPG 1N (portable light fixture)	1 x 3/4"	9 - 14 mm Ex-d	–	2.2 kg	**NOR 000 005 110 745**
($T_{ambient}$ -50 °C to +55 °C)					
AB 50 IU (direct entry)	2 x 3/4"	–	1 x 3/4" Ex-d	1.6 kg	**NOR 000 115 110 389**
AB 50 IXM (indirect entry)	2 x M25 x 1.5	–	1 x M25 x 1.5 Ex-e	2.2 kg	**NOR 000 115 110 420**

Lamps and fixing accessories are not included

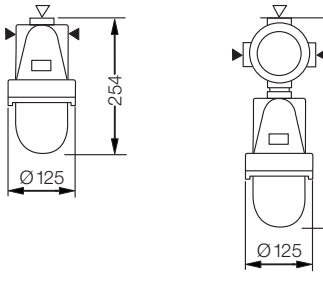
Accessories

AB 50/SPG 1N

Type	Content	Application	Order No.
REP AB 50	Spare glass	AB 50	**NOR 000 115 110 874**
WG	Wire guard, galvanized	AB 50	**NOR 000 115 110 875**
ER	External reflector, coated	AB 50	**NOR 000 115 110 718**
CEV / AB	Eye bolt galvanized	AB 50	**NOR 000 005 110 852**
AS. EV	Ceiling bracket, galvanized	AB 50	**NOR 000 005 110 828**

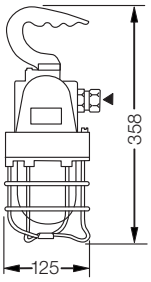
Metal cable glands see page 8.10...

Dimensions drawing | Polar curve



AB 50 IU

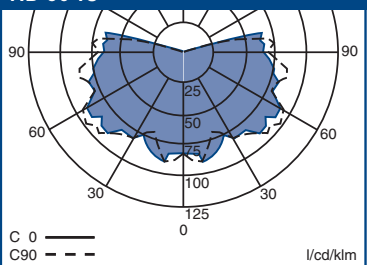
AB 50 IXM



SPG 1N

► entry
▻ optional entry, on request

Polar curve AB 50 IU



Dimensions in mm



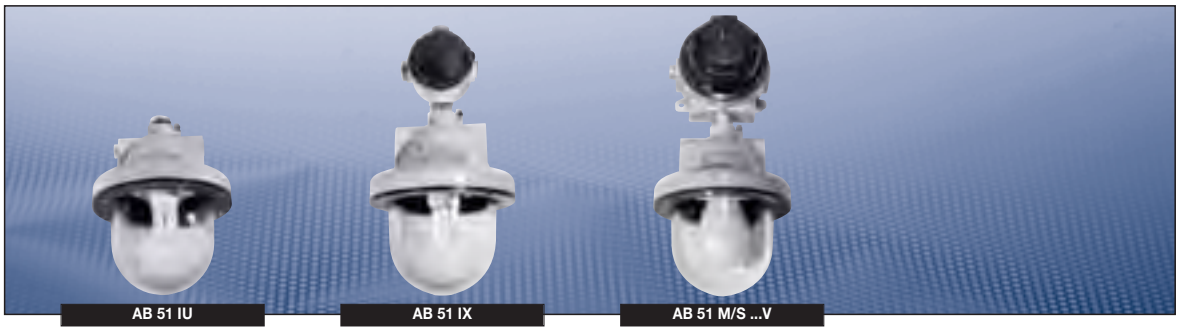
Technical data

AB 51 IU | AB 51 IX | AB 51 M/S...	
Marking to 94/9/EC	Ex II 2 G Ex de IIC T[1] (indirect entry IX) / Ex d IIC T[1] (direct entry)[1]
(new standard – applied for)	Ex II 2 D Ex tD A21 IP67 T[1] °C
EC-Type Examination Certificate	LOM 02 ATEX 2020 X
IECEx Certificate of Conformity	IECEx BKI 07.0028X
Marking acc. to IECEx	Ex d/de IIC T[1]
	Ex tD A21 IP67 T[1]
Permissible ambient temperature	-20 °C to +55 °C
	-45 °C to +55 °C (AB 51 M/S)
	-50 °C to +55 °C (option)
Rated voltage	max. 250 V (AB 51..) / 230 V AC AB 51 M/S[3]
Power factor cos φ	≥ 0.85 (AB 51 M/S)
Connecting terminals	1 x 2.5 mm² / 2 x 1.5 mm² (IU), 2 x 2.5 mm² (IX and M/S), PE ext. 2 x 6 mm²
Insulation class	I
Lamp/Illuminant	[1]
Lamp cap	E 27
Rated luminous flux[2]	[2]
Light efficiency in operation	75 %
Degree of protection accd. EN 60529	IP67
Cable glands/Gland plates/Enclosure drilling	2 x 3/4" ISO 7/1-thread (Ex-d), one plugged (UI and M/S) /
	2 x M25 x 1.5 one plugged (IX)
Dimensions (L x W x H)	260 mm x Ø 205 mm (IU), 400 x Ø 205 mm (IX), 425 x Ø 205 (M/S)
Weight	see ordering information
Type of mounting	ceiling mounting
Enclosure material	light alloy
Enclosure colour	grey
Protective cover/protective bowl	borosilicate glass

Additional lamp data

Lamp	Luminous flux[2]	Power	Temperature class II 2 G		Max. surface temp. II 2 D	
			$T_{ambient \le 40\,°C}$	$T_{ambient > 40\,°C}$	$T_{ambient \le 40\,°C}$	$T_{ambient > 40\,°C}$
Incandescent IGA 65	2200 lm	150 W	T3	T3	T 132 °C	T 147 °C
Incandescent IGA 80	3100 lm	200 W	T3	T3	T 137 °C	T 152 °C
Halogene lamp IQT	1100 lm	75 W	T5	T4	T 88 °C	T 103 °C
Halogene lamp IQT	2500 lm	150 W[4]	T4	T3	T 123 °C	T 138 °C
Compact Fuorescent Lamp TC-TSE	900/1200 lm	15 - 20 W[5]	T6	T6	T 60 °C	T 75 °C
High pressure mercury vapor mixed light HME-SB	1100 lm	100 W	T4	T4	T 110 °C	T 125 °C
High pressure mercury vapor mixed light HME-SB	3100 lm	160 W	T3	T3	T 127 °C	T 142 °C
High pressure mercury vapor HME	3800 lm	80 W	T4	T4	T 112 °C	T 127 °C
High pressure mercury vapor HME	6300 lm	125 W	T3	T3	T 127 °C	T 142 °C
High pressure sodium lamp HSE	3400 lm	50 W	T5	T4	T 86 °C	T 101 °C
High pressure sodium lamp HSE	5600 lm	70 W	T4	T4	T 97 °C	T 112 °C

[1] see table
[2] depends on lamp
[3] others on request
[4] T_{amp} max. +40 °C
[5] T_{amp} max. +30 °C



Ordering details

Type	Lamp	Entry thread	Cable gland for cable Ø	Blanking plug	Weight	Order No.
(T ambient -20 °C up to +55 °C)						
AB 51 IU (direct entry)	all	2 x 3/4"	–	1 x 3/4" Ex-d	3.6 kg	**NOR 000 115 110 396**
AB 51 IX (indirect entry)	all	2 x M25 x 1.5	–	1 x M25 Ex-e	4.5 kg	**NOR 000 115 110 437**
AB 51 M 125 V (direct entry)[2)]	125 W HME	2 x 3/4"	–	1 x 3/4" Ex-d	7.5 kg	**NOR 000 115 110 890**
AB 51 S 70 V (direct entry)[2)]	70 W HSE	2 x 3/4"	–	1 x 3/4" Ex-d	7.5 kg	**NOR 000 115 110 903**
(T ambient -50 °C up to +55 °C)						
AB 51 IU (direct entry)	all	2 x 3/4"	–	1 x 3/4" Ex-d	3.6 kg	**NOR 000 115 110 397**
AB 51 IX (indirect entry)	all	2 x M25 x 1.5	–	1 x M25 Ex-e	4.5 kg	**NOR 000 115 110 438**
(T ambient -45 °C up to +55 °C)						
AB 51 M 125 V (direct entry)[2)]	125 W HME	2 x 3/4"	–	1 x 3/4" Ex-d	7.5 kg	**NOR 000 115 110 891**
AB 51 S 70 V (direct entry)[2)]	70 W HSE	2 x 3/4"	–	1 x 3/4" Ex-d	7.5 kg	**NOR 000 115 110 870**

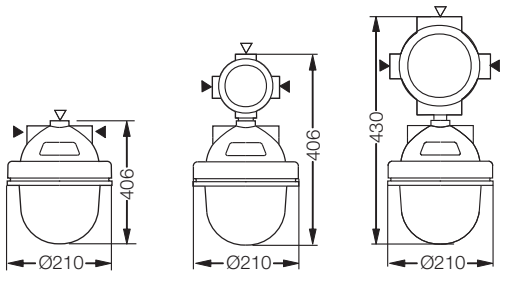
Lamps and fixing accessories are not included

[2)] including flameproof enclosure with complete control gear

Accessories

AB 51		
Content	**Application**	**Order No.**
Spare glass with metal ring	AB 51	**NOR 000 115 110 873**
Wire guard	AB 51	**NOR 000 005 110 860**
External reflector	AB 51	**NOR 000 005 110 894**
Ceiling bracket ANSI 316	AB 51	**NOR 003 165 110 000**
Eye bolt ANSI 316	AB 51	**NOR 003 165 110 001**

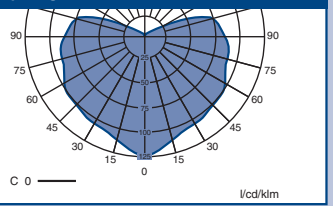
Dimensions drawing | Polar curve



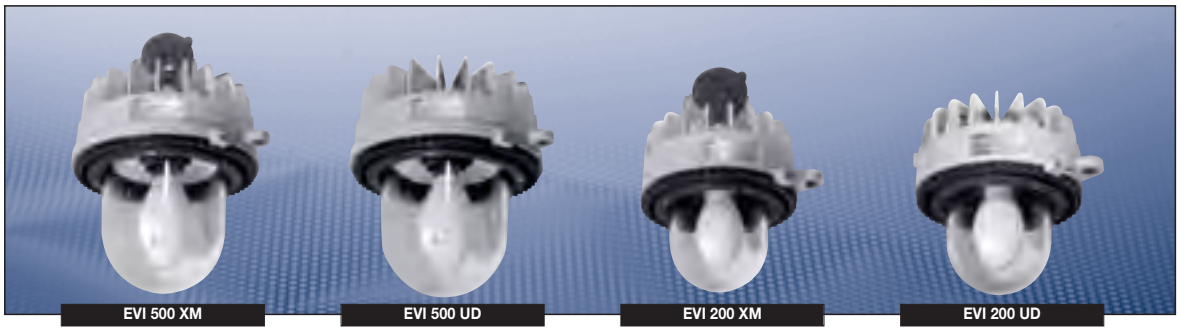
AB 51 IU **AB 51 IX** **AB 51 ..V**

▻ optional entry, on request
► entry

Polar curve AB 51 IU



Dimensions in mm



Technical data

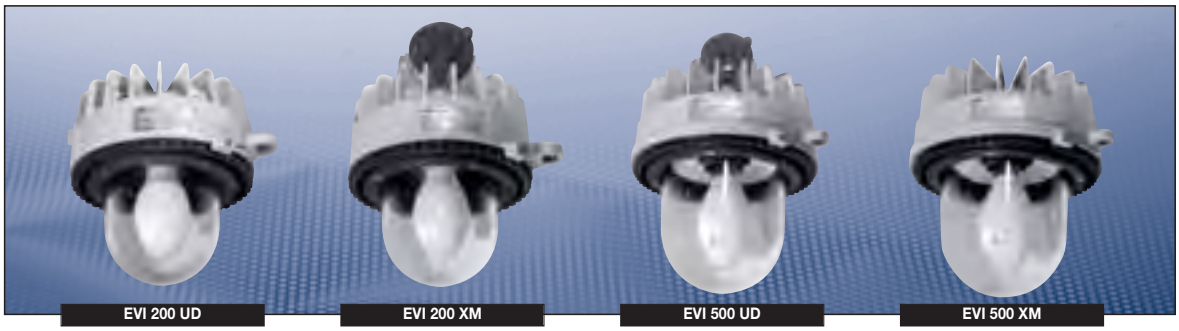
EVI 200 | EVI 500	
Marking to 94/9/EC	Ⓔx II 2 G Ex d IIC T[1] (direct entry UD)
(new standard – applied for)	Ⓔx II 2 G Ex de IIC T[1] (indirect entry XM)
	Ⓔx II 2 D Ex tD A21 IP67 T[1] °C
EC-Type Examination Certificate	LOM 02 ATEX 2012 X
IECEx Certificate of Conformity	IECEx BKI 07.0031X
Marking acc. to IECEx	Ex d / de IIC T[1]
	Ex tD A21 IP67 T[1]
Permissible ambient temperature	-20 °C to +55 °C
	-50 °C to +55 °C
Rated voltage	max. 250 V
Connecting terminals	1 x 2.5 mm² / 2 x 1.5 mm² (UD), 2 x 2.5 mm² (XM); PE ext. 2 x 6 mm²
Insulation class	I
Lamp/Illuminant	[1]
Lamp cap	E 27 (EVI 200) / E 40 (EVI 500)
Rated luminous flux	[1]
Light efficiency in operation	75 %
Degree of protection accd. EN 60529	IP67
Cable glands/Gland plates/Enclosure drilling	2 x 3/4" ISO 7/1-thread (Ex-d), one plugged (UD) / 2 x M25 x 1.5, on plugged (XM)
Dimensions (L x W x H)	280 mm x Ø 245 mm (200 UD), 400 x Ø 225 mm (200 XM)
	340 mm x Ø 300 mm (500 UD), 460 x Ø 300 mm (500 XM)
Weight	see ordering information
Type of mounting	ceiling mounting
Enclosure material	light alloy
Enclosure colour	grey
Protective cover/protective bowl	borosilicate glass

Additional lamp data

Lamp	Luminous flux[2]	Power	Type	Temperature class II 2 G		Max. surface temp. II 2 D	
				$T_{ambient \le +40\,°C}$	$T_{ambient \le +55\,°C}$	$T_{ambient \le +40\,°C}$	$T_{ambient \le +55\,°C}$
Incandescent IGA 65	2200 lm	150 W	EVI 200	T4	T4	T105 °C	T120 °C
Incandescent IGA 80	3100 lm	200 W	EVI 200	T4	T4	T115 °C	T130 °C
Incandescent IGA 90	5000 lm	300 W	EVI 500	T4	T4	T115 °C	T130 °C
Incandescent IGA 110	8400 lm	500 W	EVI 500	T3	T3	T155 °C	T170 °C
High pressure mercury vapor mixed light HME-SB	3100 lm	160 W	EVI 200	T4	T3	T125 °C	T140 °C
High pressure mercury vapor mixed light HME-SB	5600 lm	250 W	EVI 500	T4	T3	T125 °C	T140 °C
High pressure mercury vapor HME	3800 lm	80 W	EVI 200	T4	T4	T115 °C	T130 °C
High pressure mercury vapor HME	6300 lm	125 W	EVI 200	T4	T4	T115 °C	T130 °C
High pressure mercury vapor HME	13000 lm	250 W	EVI 500	T4	T3	T125 °C	T140 °C
High pressure sodium lamp HSE	5600 lm	70 W	EVI 200	T5	T4	T 95 °C	T110 °C
High pressure sodium lamp HSE	14000 lm	150 W	EVI 500	T5	T4	T 90 °C	T105 °C
High pressure sodium lamp HSE	25000 lm	250 W	EVI 500	T4	T4	T125 °C	T140 °C
High pressure Metal Halide HIE	17000 lm	250 W	EVI 500	T4	T3	T125 °C	T140 °C

[1] see table

[2] depends on lamp



Ordering details

Type[1)]	Entry thread	Cable gland for cable Ø	Blanking plug	Weight kg	Order No.
($T_{ambient}$ -20 °C to +55 °C)					
EVI 200 UD (direct entry)	2 x 3/4"	9 -14 mm Ex-d	1 x 3/4" Ex-d	8.30	**NOR 000 005 110 754**
EVI 200 UD (direct entry)	2 x 3/4"	–	1 x 3/4" Ex-d	8.20	**NOR 000 005 110 753**
EVI 500 UD (direct entry)	2 x 3/4"	9 -14 mm Ex-d	1 x 3/4" Ex-d	12.90	**NOR 000 005 110 762**
EVI 500 UD (direct entry)	2 x 3/4"	–	1 x 3/4" Ex-d	12.80	**NOR 000 005 110 761**
EVI 200 XM (indirect entry)	2 x M25 x 1.5	9 -14 mm Ex-e	1 x M25 Ex-e	9.10	**NOR 000 005 110 941**
EVI 200 XM (indirect entry)	2 x M25 x 1.5	–	1 x M25 Ex-e	9.00	**NOR 000 115 110 941**
EVI 500 XM (indirect entry)	2 x M25 x 1.5	9 -14 mm Ex-e	1 x M25 Ex-e	13.70	**NOR 000 005 110 942**
EVI 500 XM (indirect entry)	2 x M25 x 1.5	–	1 x M25 Ex-e	13.60	**NOR 000 115 110 942**
($T_{ambient}$ -50 °C to +55 °C)					
EVI 200 UD (direct entry)	2 x 3/4"	–	1 x 3/4" Ex-d	8.20	**NOR 000 115 110 753**
EVI 500 UD (direct entry)	2 x 3/4"	–	1 x 3/4" Ex-d	12.80	**NOR 000 005 110 763**
EVI 200 XM (direct entry)	2 x 3/4"	–	1 x 3/4" Ex-d	9.00	**NOR 000 115 110 943**
EVI 500 XM (direct entry)	2 x 3/4"	–	1 x 3/4" Ex-d	13.60	**NOR 000 115 110 944**

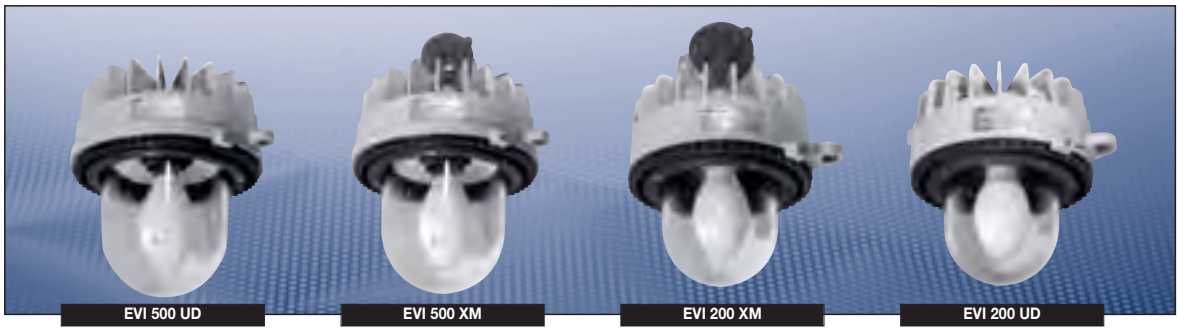
[1)] Versions for high pressure lamps (HME, HSE, HIE): flameproof ballast enclosure not included

Lamps and fixing accessories are not included

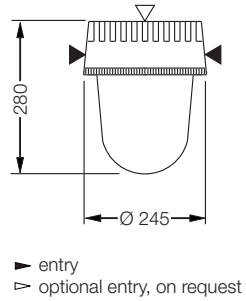
Accessories

EVI 200, EVI 500			
Type	**Content**	**Application**	**Order No.**
REP 200	Spare Glass	EVI 200	**NOR 000 005 110 969**
REP 500	Spare glass	EVI 500	**NOR 000 005 110 977**
G. EV 200	Wire Guard	EVI 200	**NOR 000 005 110 860**
G. EV 500	Wire Guard	EVI 500	**NOR 000 005 110 878**
PC. EV 200	External reflector	EVI 200 / EVQ 55	**NOR 000 005 110 894**
PC. EV 500	External reflector	EVI 500 / EVQ 85	**NOR 000 005 110 901**
KEY, EV	Lamp key	EV ...	**NOR 000 005 110 886**
CEV/AB	Eye bolt	EV ...	**NOR 000 005 110 852**
AS. EV	Ceiling bracket,adjustable	EV ...	**NOR 000 005 110 828**
SPU. EV	Wall mounting barcket	EV ...	**NOR 000 005 110 951**
BC. EV	Pole mounting bracket	EV ...	**NOR 000 005 110 836**
SP. EV 200	Wall mounting bracket	EVI 200	**NOR 000 005 110 935**
SP. EV 500	Wall mounting bracket	EVI 500	**NOR 000 005 110 943**

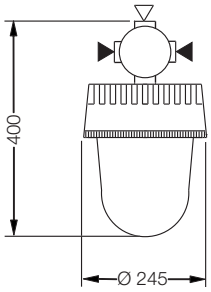
Metal cable glands see page 8.10...



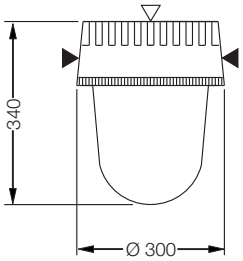
Dimensions drawing | Polar curve



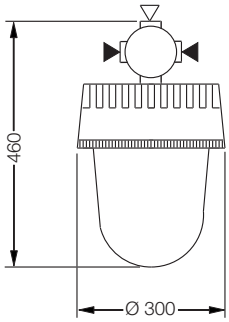
EVI 200 UD



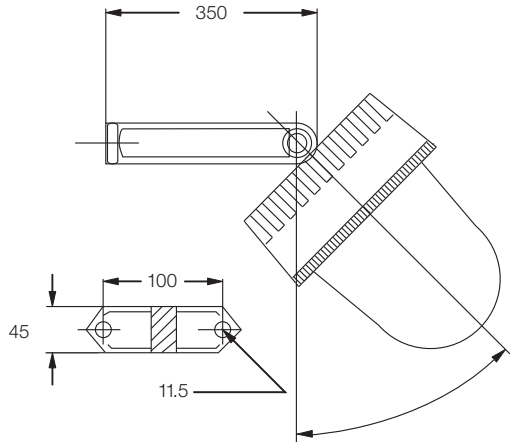
EVI 200 XM



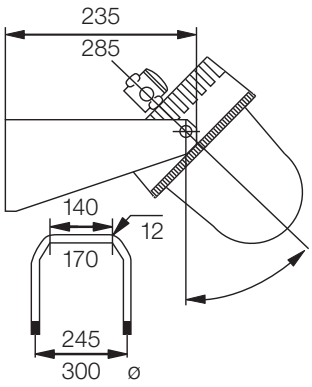
EVI 500 UD



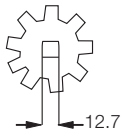
EVI 500 XM



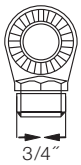
BC. EV/AB



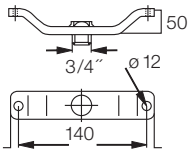
SP.EV 200/500



KEY.EV

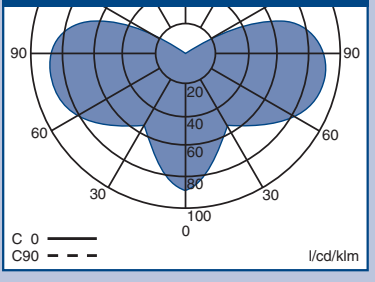


CEV/AB

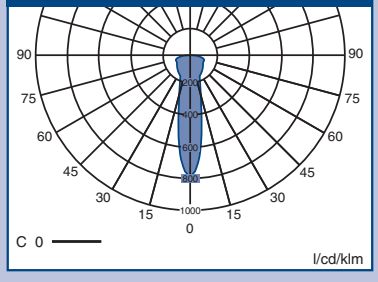


AS.EV/AB

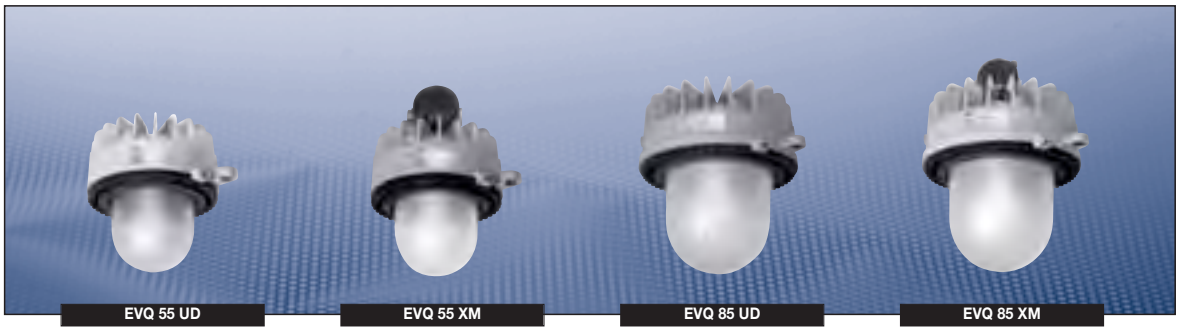
Polar curve EVI 200/500 without external reflector



Polar curve EVI 200/500 with external reflector



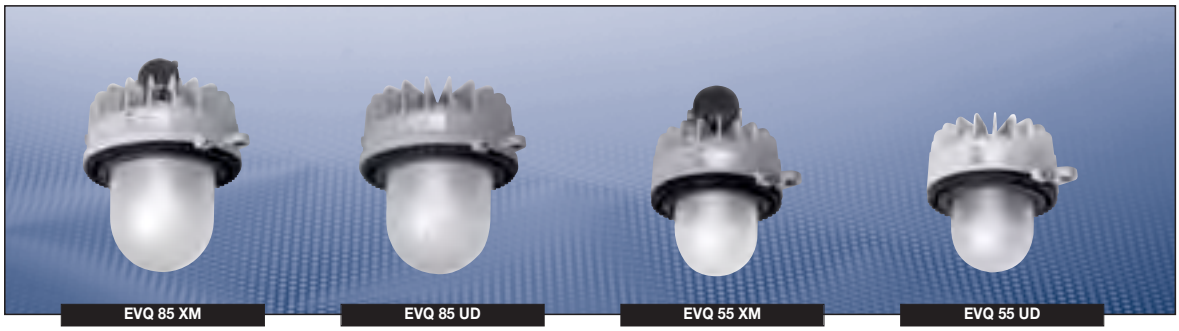
Dimensions in mm



Technical data

EVQ QL-lamps	
Marking to 94/9/EC	Ⓔx II 2 G Ex d IIC T6 (direct entry UD)
(new standard – applied for)	Ⓔx II 2 G Ex de IIC T6 (indirect entry XM)
	Ⓔx II 2 D Ex tD A21 IP67 T85 °C
EC-Type Examination Certificate	LOM 02 ATEX 2012 X
IECEx Certificate of Conformity	IECEx BKI 07.0031X
Marking acc. to IECEx	Ex d / de IIC T6
Permissible ambient temperature	-20 °C to +55 °C
Rated voltage	230 V AC/DC
Rated current	0.26 A (55 W), 0.40 A (85 W)
Frequency	50/60 Hz
Power factor cos φ	> 0.96
Circuit	electronic HF generator
Connecting terminals	1 x 2.5 mm^2 / 2 x 1.5 mm^2 (UD), 2 x 2.5 mm^2 (XM); PE ext. 2 x 6 mm^2
Insulation class	I
Lamp/Illuminant	Induction lamp 55/85 W with coupler
Rated luminous flux	55 W: 3500 lm / 85 W: 6000 lm
Light efficiency in operation	66 %
Degree of protection accd. EN 60529	IP67
Cable glands/Gland plates/Enclosure drilling	2 x 3/4" ISO 7/1-thread (Ex-d), one plugged (UD),
	2 x M25 thread (Ex-e), one plugged (XM)
Dimensions (L x W x H)	280 mm x Ø 245 mm (55 UD), 400 x Ø 225 mm (55 XM),
	340 mm x Ø 300 mm (85 UD), 460 x Ø 300 mm (85 XM),
Weight	see ordering information
Type of mounting	ceiling mounting
Enclosure material	light alloy
Enclosure colour	grey, PTFE (optional)
Protective cover/protective bowl	borosilicate glass, opaque (clear on request)

Fixing accessories are not included, included lamps and HF generator



Ordering details

Type	Entry thread	Cable gland for cable Ø	Blanking plug	Weight kg	Order No.
EVQ 55 UD (direct entry	2 x 3/4"	9 -14 mm Ex-d	1 x 3/4" Ex-d	9.10	**NOR 000 115 110 851**
EVQ 55 UD (direct entry	2 x 3/4"	–	1 x 3/4" Ex-d	9.00	**NOR 000 115 110 850**
EVQ 85 UD (direct entry	2 x 3/4"	9 -14 mm Ex-d	1 x 3/4" Ex-d	12.9	**NOR 000 115 110 853**
EVQ 85 UD (direct entry	2 x 3/4"	–	1 x 3/4" Ex-d	12.8	**NOR 000 115 110 852**
EVQ 55 XM (indirect entry	2 x M25 x 1.5	9 -14 mm Ex-e	1 x M25 Ex-e	9.90	**NOR 000 115 110 855**
EVQ 55 XM (indirect entry	2 x M25 x 1.5	–	1 x M25 Ex-e	9.80	**NOR 000 115 110 854**
EVQ 85 XM (indirect entry	2 x M25 x 1.5	9 -14 mm Ex-e	1 x M25 Ex-e	13.70	**NOR 000 115 110 857**
EVQ 85 XM (indirect entry	2 x M25 x 1.5	–	1 x M25 Ex-e	13.60	**NOR 000 115 110 856**

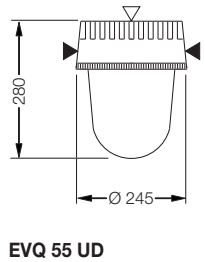
Accessories

EVQ 55, EVQ 85

Type	Content	Application	Order No.
G. EV 200	Wire Guard	EVQ 55	**NOR 000 005 110 860**
G. EV 500	Wire Guard	EVQ 85	**NOR 000 005 110 878**
PC. EV 200	External reflector	EVI 200 / EVQ 55	**NOR 000 005 110 894**
PC. EV 500	External reflector	EVI 500 / EVQ 85	**NOR 000 005 110 901**
KEY, EV	Lamp key	EV ...	**NOR 000 005 110 886**
CEV/AB	Eye bolt	EV ...	**NOR 000 005 110 852**
AS. EV	Ceiling bracket, adjustable	EV ...	**NOR 000 005 110 951**
SPU. EV	Wall mounting barcket	EV ...	**NOR 000 005 110 828**
BC. EV	Pole mounting bracket	EV ...	**NOR 000 005 110 836**
SP. EV 200	Wall mounting bracket	EVQ 55	**NOR 000 005 110 935**
SP. EV 500	Wall mounting bracket	EVQ 85	**NOR 000 005 110 943**

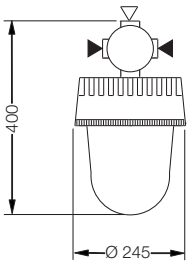
Metal cable glands see page 8.10...

Dimensions drawing | Polar curve

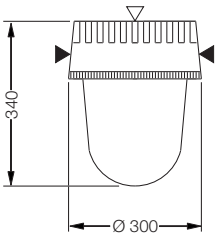


EVQ 55 UD

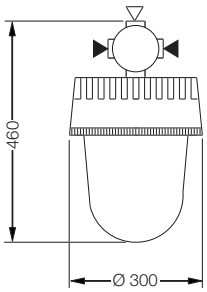
► entry
▻ optional entry, on request



EVQ 55 XM



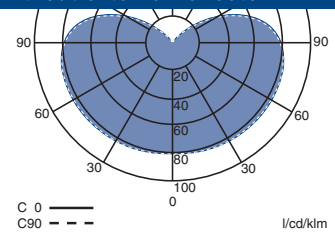
EVQ 85 UD



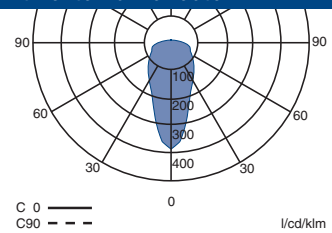
EVQ 85 XM

Dimensions for Accessories see page 5.17

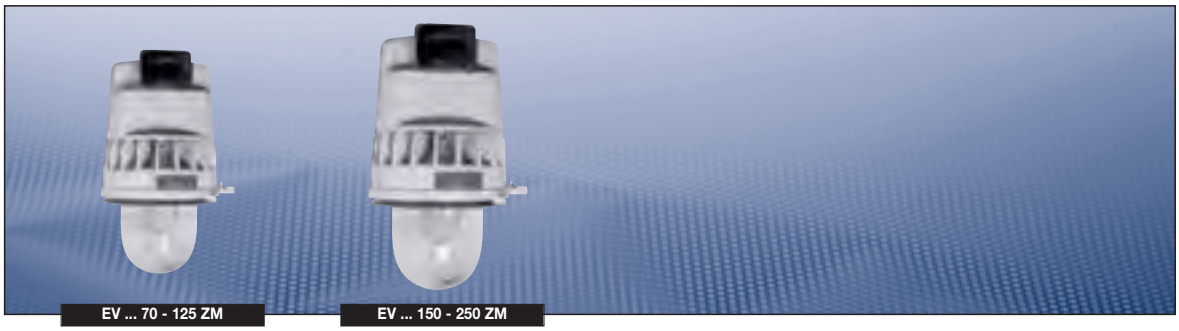
Polar curve EVQ 55/85 without external reflector



Polar curve EVQ 55/85 with external reflector



Dimensions in mm



Technical data

EVM | EVS | EVH	
Marking to 94/9/EC	Ⓔx II 2 G Ex de IIC T[1)]
(new standard – applied for)	Ⓔx II 2 D Ex tD A21 IP66 T[1)] °C
EC-Type Examination Certificate	LOM 02 ATEX 2012 X
IECEx Certificate of Conformity	IECEx BKI 07.0031X
Marking acc. to IECEx	Ex de IIC T[1)]
	Ex tD A21 IP67 T[1)]
Permissible ambient temperature	-20 °C to +55 °C
	-45 °C to +55 °C (option)
Rated voltage	230 V AC[2)]
Rated current	[1)]
Frequency	50 Hz[2)]
Power factor cos φ	> 0.85
Circuit	electromagnetic circuit
Connecting terminals	3 x (2 x 2.5 mm²); PE extern. 2 x 6 mm²
Insulation class	I
Lamp cap	E 27 (EV. 70 ... 125), E 40 (EV 150 ... 250)
Light efficiency in operation	76 %
Degree of protection accd. EN 60529	IP67
Cable glands/Gland plates/Enclosure drilling	2 x M25 threads (Ex-e), one plugged
Dimensions (L x W x H)	480 mm x Ø 245 mm (EV.. 70-125 ZM)
	560 mm x Ø 300 mm (EV.. 150-250 ZM
Weight	see ordering information
Type of mounting	ceiling mounting
Enclosure material	light alloy
Enclosure colour	grey
Protective cover/protective bowl	borosilicate glass

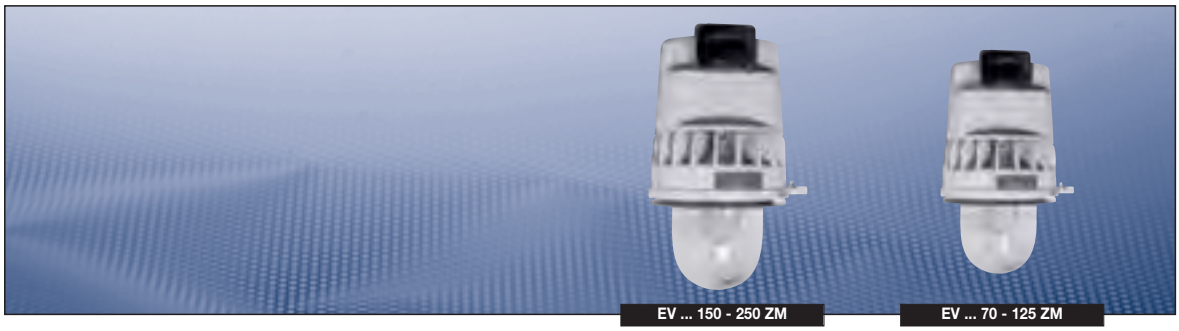
[1)] see ordering details

[2)] other voltages or frequencies on request

Additional lamp data

Lamp	Luminous flux[3)]	Power	Type	Temperature class II 2 G		Max. surface temp. II 2 D	
				$T_{ambient \le 40\,°C}$	$T_{ambient > 40\,°C}$	$T_{ambient \le 40\,°C}$	$T_{ambient > 40\,°C}$
High pressure mercury vapor HME	6300 lm	125 W	EVM 125 ZM	T4	T4	T115ºC	T130ºC
High pressure mercury vapor HME	13000 lm	250 W	EVM 250 ZM	T4	T3	T125ºC	T140°C
High pressure sodium lamp HSE	5600 lm	70 W	EVS 70 ZM	T5	T4	T95ºC	T110ºC
High pressure sodium lamp HSE	14000 lm	150 W	EVS 150 ZM	T5	T4	T90ºC	T105ºC
High pressure sodium lamp HSE	25000 lm	250 W	EVS 250 ZM	T4	T4	T115ºC	T130ºC
High pressure Metal Halide HIE	17000 lm	250 W	EVH 250 ZM	T4	T3	T125ºC	T140ºC

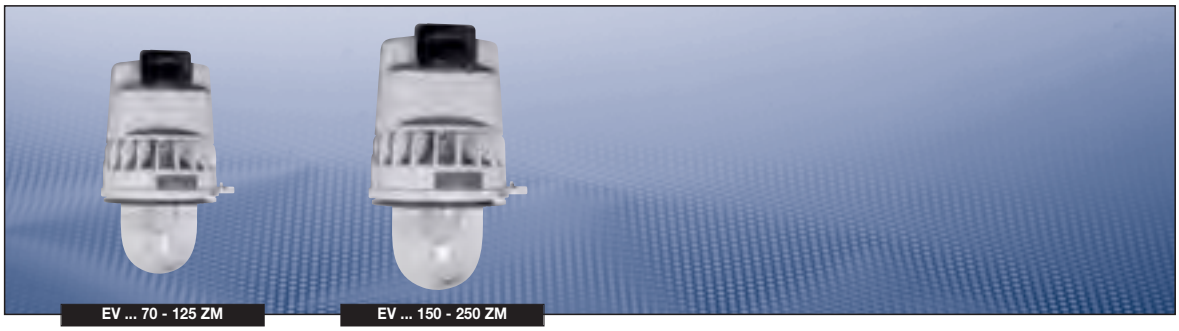
[3)] depends on used lamps



Ordering details

Type	Lamp	Rated current	Cable gland Ex-e for cable Ø	Weight kg	Order No.
(T ambient -20 °C to +55 °C)					
EVM 125 ZM	HME 125W	1.10 A	9 -14 mm	14.1	**NOR 000 115 110 079**
EVM 125 ZM	HME 125W	1.10 A	–	14.0	**NOR 000 115 110 879**
EVM 250 ZM	HME 250W	2.10 A	9 -14 mm	22.4	**NOR 000 115 110 080**
EVM 250 ZM	HME 250W	2.10 A	–	22.5	**NOR 000 115 110 881**
EVS 70 ZM	HSE 70W	0.35 A	9 -14 mm	14.1	**NOR 000 115 110 086**
EVS 70 ZM	HSE 70W	0.35 A	–	14.0	**NOR 000 115 110 880**
EVS 150 ZM	HSE 150W	0.96 A	9 -14 mm	22.4	**NOR 000 115 110 087**
EVS 150 ZM	HSE 150W	0.96 A	–	22.4	**NOR 000 115 110 883**
EVS 250 ZM	HSE 250W	1.70 A	9 -14 mm	22.4	**NOR 000 115 110 088**
EVS 250 ZM	HSE 250W	1.70 A	–	22.4	**NOR 000 115 110 882**
EVH 250 ZM	HIT 250W	1.80 A	9 -14 mm	22.4	**NOR 000 115 110 046**
EVH 250 ZM	HIT 250W	1.80 A	–	22.4	**NOR 000 115 110 945**
(T ambient -45 °C to +55 °C)					
EVM 125 ZM	HME 125 W	0.96 A	–	14.0	**NOR 000 115 110 884**
EVM 250 ZM	HME 250 W	0.96 A	–	22.4	**NOR 000 115 110 885**
EVS 70 ZM	HSE 70 W	1.70 A	–	14.0	**NOR 000 115 110 886**
EVS 150 ZM	HSE 150 W	1.70 A	–	22.4	**NOR 000 115 110 887**
EVS 250 ZM	HSE 250 W	1.80 A	–	22.4	**NOR 000 115 110 888**
EVH 250 ZM	HIT 250 W	1.80 A	–	22.4	**NOR 000 115 110 889**

Lamps and fixing accessories are not included



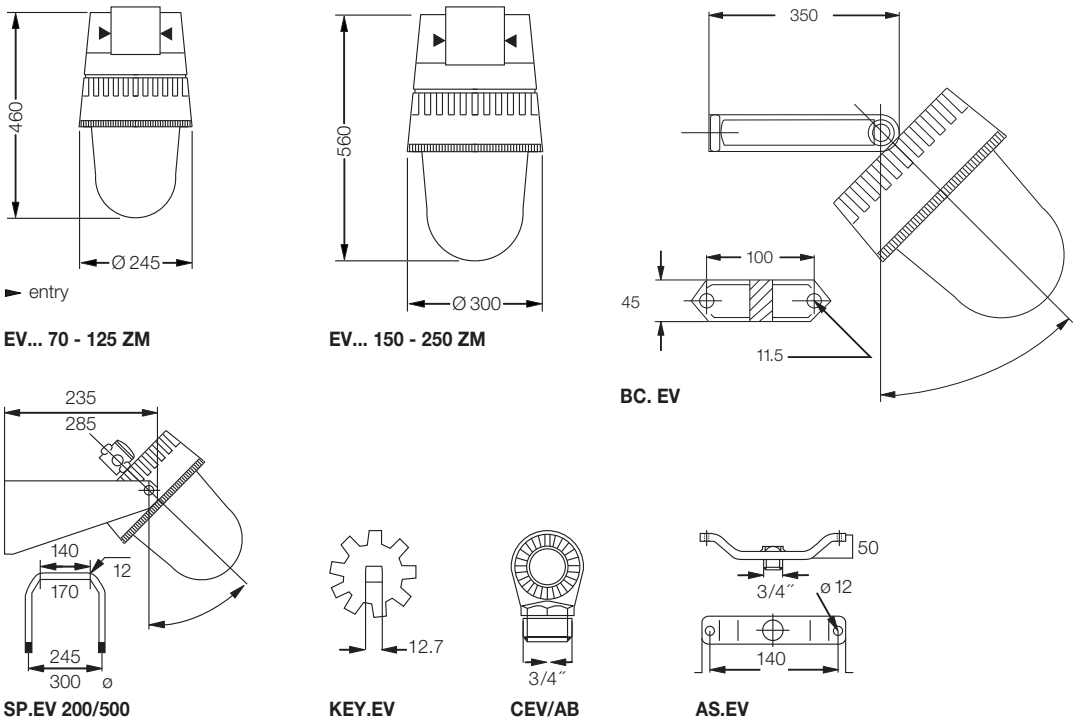
Accessories

EVM, EVS, EVH

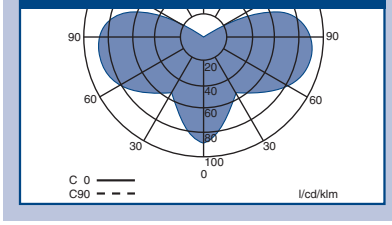
Type	Content	Application	Order No.
REP 200	Space glass	EV.. 70-125 ..	**NOR 000 005 110 969**
REP 500	Spare glass	EV.. 150-250 ..	**NOR 000 005 110 977**
G. EV 200	Wire guard	EV.. 70-125 ..	**NOR 000 005 110 860**
G. EV 500	Wire guard	EV.. 150-250 ..	**NOR 000 005 110 878**
PC. EV 200	External reflector	EV.. 70-125 ..	**NOR 000 005 110 894**
PC. EV 500	External reflector	EV.. 150-250 ..	**NOR 000 005 110 901**
KEY, EV	Lamp key	EV..	**NOR 000 005 110 886**
CEV/AB	Eye bolt	EV..	**NOR 000 005 110 852**
AS. EV	Ceiling bracket, adjustable	EV..	**NOR 000 005 110 951**
SPU. EV Ø 44 – 64 mm	Wall mounting barcket	EV..	**NOR 000 005 110 828**
BC. EV	Pole mounting bracket	EV..	**NOR 000 005 110 836**
SP. EV 200	Wall mounting bracket	EV 70..-125 ..	**NOR 000 005 110 935**
SP. EV 500	Wall mounting bracket	EV 150..-250 ..	**NOR 000 005 110 943**

Metal cable glands see page 8.10...

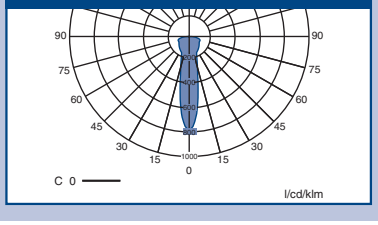
Dimensions drawing



Polar curve EV 200/500 without external reflector



Polar curve EV 200/500 with external reflector



Dimensions in mm

EX-PENDANT LIGHT FITTINGS

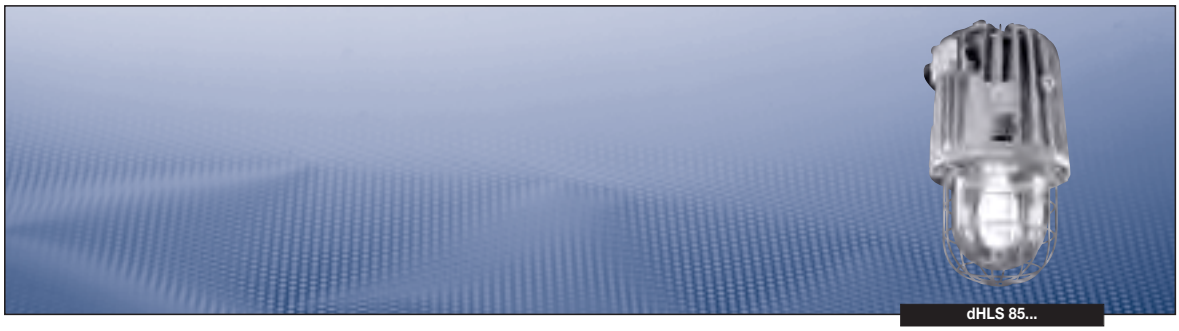
dHLS 85... for high pressure discharge lamps
Metal version for Zone 1/2

The explosion-protected pendant light fittings dHLS 85... for high pressure discharge lamps are in accordance to the ATEX-Directive 94/9/EG. They are certified for use in the Zones 1 and 2.
The housing is made of a light alloy with a powdered coating. The pressed-in thread-ring for the flameproof thread gap is made of brass. This provides for an easy lamp replacement even after a longer operating periods.

The pendant light fitting is designed for outdoor use. Due to the high safety standard it has more than proven its reliability in chemical factories and offshore platforms for illuminating large areas and selective large objects.
The light fitting is fitted with a dome-shaped glass cover and can also be fitted with an external reflector.



- **Cost-effective illumination of large objects**
- **For use in chemical factories and offshore platforms**
- **Robust light alloy housing with a powdered coating**
- **Easy lamp replacement even after extended time of operation**
- **Or with an external reflector**

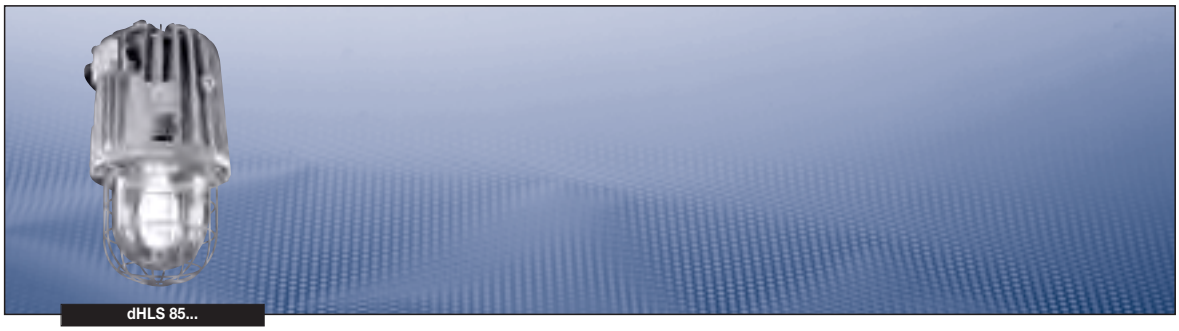


Technical data

dHLS 85250 | dHLS 85400	
Marking to 94/9/EC	Ex II 2 G Ex de IIC T3
EC-Type Examination Certificate	DMT 03 ATEX E 039
IECEx Certificate of Conformity	IECEx BKI 08.0006
Marking accd. to IECEx	Ex de IIC T3
Permissable ambient temperature	–20 °C to +50 °C / –20 °C to +55 °C (250 W) –45 °C to +55 °C (option)
Rated voltage	230 V AC
Rated current	1)
Frequency	50 Hz
Power factor cos φ	0.5 ind. / 0.9 comp.
Circuit	inductive circuit / compensated circuit
Connecting terminals	L + N + PE; 2 x 2.5 mm²
Insulation class	I
Lamp/Illuminant	high pressure mercury vapour lamp HME 250 W / 400 W high pressure sodium lamp HSE 250 W / 400 W
Lamp cap	E 40 acc. IEC 60238
Light efficiency in operation	77 % 55 % (AR)2)
Degree of protection accd. EN 60529	IP65
Cable glands/Gland plates/Enclosure drilling	1 x M25 x 1.5 for cables from Ø 8 - 17 mm 1 x M25 x 1.5 with blanking plug
Dimensions (L x W x H)	570 x Ø 320 mm (without compensation box) 780 x Ø 320 mm (with compensation box)
Weight	approx. 30 kg approx. 37 kg with compensation box
Enclosure material	light alloy with powder coating, grey
Protective cover/protective bowl	borosilicate glass

1) see table

2) AR = external reflector



Ordering details

Type	Lamp	Rated luminous flux[2)]	Rated current	Power factor cos	Order No.
dHLS 85250	250 W HME	13000 lm	2.2 A	0,5 ind.	**CGS 123 8688 P0001**
	250 W HME	13000 lm	1.1 A	0,9 comp.	**CGS 123 8688 P1001**
	250 W HSE	25000 lm	3.0 A	0,5 ind.	**CGS 123 8688 P2001**
	250 W HSE	25000 lm	1.5 A	0,9 comp.	**CGS 123 8688 P3001**
dHLS 85400	400 W HME	22000 lm	3.25 A	0,5 ind.	**CGS 123 8788 P0001**
	400 W HME	22000 lm	2.5 A	0,9 comp.	**CGS 123 8788 P1001**
	400 W HSE	47000 lm	4.4 A	0,5 ind.	**CGS 123 8788 P2001**
	400 W HSE	47000 lm	3.0 A	0,9 comp.	**CGS 123 8788 P3001**

Lamps and fixing accessories are not included

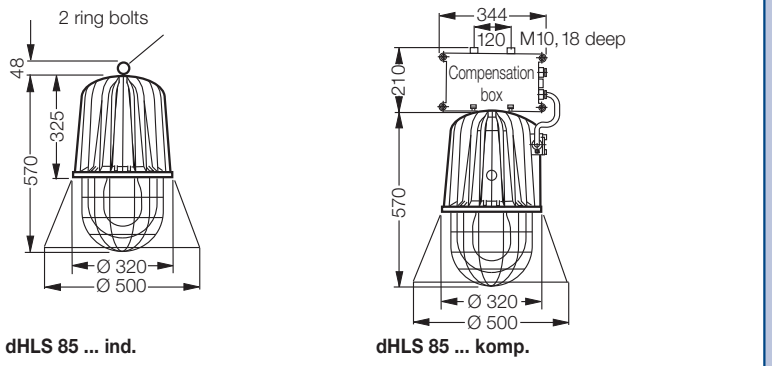
[2)] depends on used lamps

Accessories

dHLS 85250 | dHLS 85400

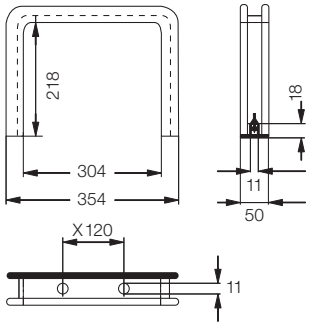
Type	Content	Order No.
EB	Eye bolt, M10 (10 pcs.) galvanized	**GHG 690 1921 R0003**
L 218	Mounting bracket for inductive version	**GHG 690 1913 R0001**
L 430	Mounting bracket for compensated version	**GHG 690 1913 R0002**
AR	External reflector, metal, white powder coated	**CGS 223 7990 P1000**

Dimensions drawing

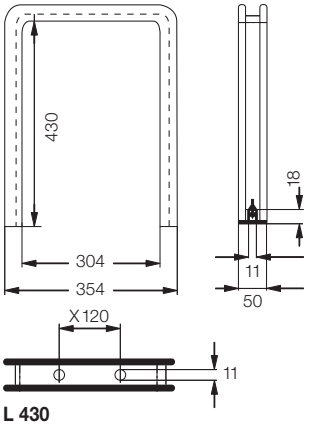


dHLS 85 ... ind.

dHLS 85 ... komp.

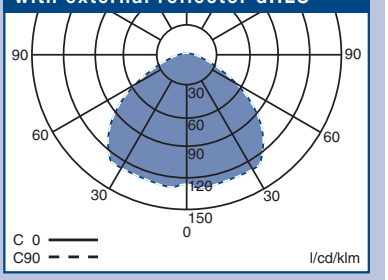


L 218

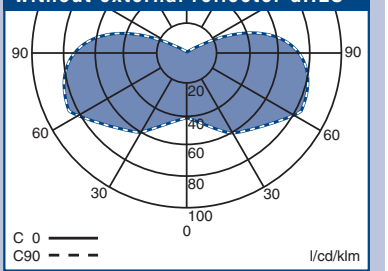


L 430

Polar curve with external reflector dHLS



Polar curve without external reflector dHLS



Dimensions in mm

E X - F L O O D L I G H T S

FZD 04 and FZD EN for
High Pressure Discharge Lamps Metal Design for Zone 1/21

The explosion-protected floodlight **FZD 04** for high-pressure discharge lamps meets the requirements of the ATEX directive 94/9/EC. The modular floodlight FZD 04 comprises an Ex-e housing for the starter and a separate mounted Ex-e enclosure with ballast and the p.f. correction capacitor. The floodlight enclosure made of high grade aluminium and stainless steel components is a light weight, which can be installed easily by a single electrician without need of a crane or other heavers.

All main components are certified separately as components. The flameproof lamp module can easily be separated from the housing once a screw has been loosened. Two sealing systems of degree of protection IP66 ensure permanently protected Ex-d contacts.

There is no need to switch off the mains voltage to separate the module from the luminaire.

This means that a simple lamp change and easy cleaning of the lamp modules possible, even outside the potentially explosive atmospheres. Optionally, the module can be used with narrow-angle and wide-angle reflectors – even retrospectively and without any complicated installation.

By simply and quickly exchanging the lamp-module, changing the lamp is not a problem, even in extreme weather or climate conditions.

The **FZD EN** combines the easy lamp replacement with a compact enclosure. All components are protected in one Ex-d enclosure. All advantages of easy re-lamping and easy maintenance are same with FZD 04.



- **Simple lamp change by the Ex-d lamp module**
- **Modular Ex-e/Ex-d housing**
- **High degree of protection IP66**
- **Internal wide-angle- or, optionally, narrow-angle reflector**
- **For low ambient temperatures of up to -45 °C**



Technical data

FZD 04		
Marking to 94/9/EC		Ⓔx II 2 G Ex demq IIC T[1)] Ⓔx II 2 D Ex tD A21 IP66 T[1)]
EC-Type Examination Certificate		PTB 02 ATEX 1158
IECEx Certificate of Conformity		IECEx BKI 07.0002
Marking accd. to IECEx		Ex de IIC T3 or T4 Ex tD A21 IP66 T[1)] °C
Permissible ambient temperature		-45 °C to +60 °C[1)]
Rated voltage		230 V AC[2)]
Rated current		[1)]
Frequency		50 Hz[2)]
Power factor cos φ		> 0.9
Circuit		compensated circuit
Insulation class		I
Degree of protection accd. EN 60529		IP66

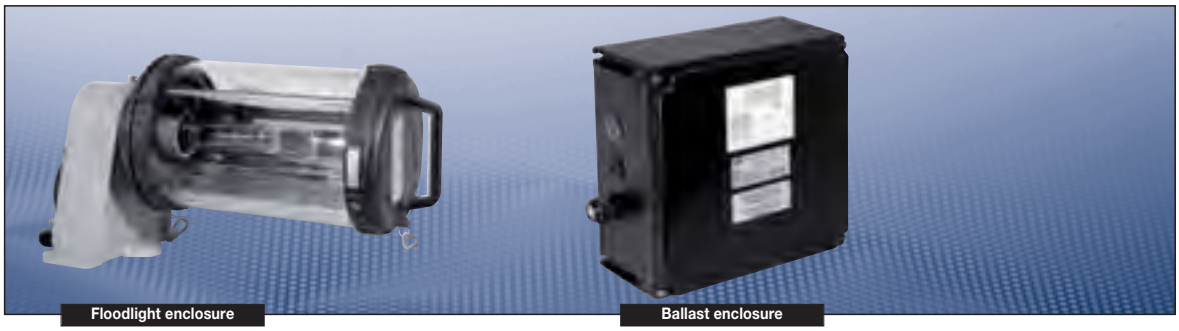
Lamp module | Floodlight enclosure		
Type of protection	Lamp module: Floodlight enclosure:	Ex d IIC Ex em IIC
Connecting terminals		2 x (2 x 2.5 mm²) + 2.5 mm² PE
Lamp/Illuminant		High pressure sodium lamp – tubular (HST) Metal halide lamp – tubular (HIT)
Lamp cap		E 40 acc. EN 60061-1
Light efficiency in operation		66 %
Cable glands/Gland plates/Enclosure drilling		1 x M25 x 1.5 with plastic cable glands Ex-e M25 for non-armoured cable Ø 8 - 17 mm [3)] option with metal thread M20, without cable gland
Weight	Lamp module lamp: Floodlight enclosure:	approx. 10.6 kg approx. 4.3 kg
Enclosure earth		2.5 mm² PE

Ballast enclosure	
Type of protection	Ex emq IIC
Connecting terminals	3 x (2 x 4 mm²) + 4 mm² PE
Cable glands/Gland plates/Enclosure drilling	3 x M25 x 1.5, 2 x M25 plastic cable grand Ex-e for cable Ø 8 - 17 mm M25 for one plugged[4)]
Weight	approx. 9 kg (polyester fiberglass) approx. 10 kg (stainless steel)
Enclosure material	Polyester reinforced fiber glass, or stainless steel[1)]

[1)] see table
[2)] other voltages or frequencies on request
[3)] Connection to the ballast enclosure
[4)] One to connect to the floodlight enclosure, the others for the mains connection
[5)] mounting position ± 135°, see instruction

Additional lamp data

Lamp	Rated current	Temperature class II 2 G			Max. surface temp. II 2 D		
		$T_{amb.}$ ≤ +40 °C	$T_{amb.}$ ≤ +50 °C	$T_{amb.}$ ≤ +60 °C	$T_{amb.}$ ≤ +40 °C	$T_{amb.}$ ≤ +50 °C	$T_{amb.}$ ≤ +60 °C
HST / HIT 150 W	0,8 A	T4	T4	T3	T 120 °C	T 130 °C	T 140 °C
HST / HIT 250 W	1,3 A	T4 [5)] /T3	T3	–	T 130 °C [5)]/T 150 °C	T 160 °C	–
HST / HIT 400 W	2,1 A	T3	–	–	T 180 °C	–	–



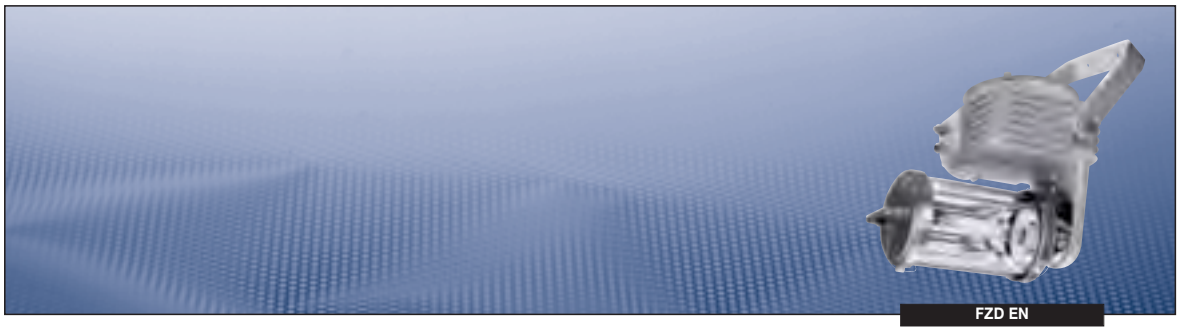
Floodlight enclosure

Ballast enclosure

Ordering details FZD 04

Lamp	Rated luminous flux[1)]	Light distribution	Order No.
Ballast enclosure made of polyester with cable gland for mains connection			
250 W HIT/HST	19000 lm / 25000 lm	narrow beam	**NOR 000 005 192 505**
250 W HIT/HST	19000 lm / 25000 lm	wide beam	**NOR 000 005 192 506**
400 W HIT	35000 lm	narrow beam	**NOR 000 005 194 105**
400 W HIT	35000 lm	wide beam	**NOR 000 005 194 106**
400 W HST	48000 lm	narrow beam	**NOR 000 005 194 005**
400 W HST	48000 lm	wide beam	**NOR 000 005 194 006**
Ballast enclosure made of stainless steel with cable gland for mains connection			
250 W HIT/HST	19000 lm / 25000 lm	narrow beam	**NOR 000 005 192 501**
250 W HIT/HST	19000 lm / 25000 lm	wide beam	**NOR 000 005 192 502**
400 W HIT	35000 lm	narrow beam	**NOR 000 005 194 101**
400 W HIT	35000 lm	wide beam	**NOR 000 005 194 102**
400 W HST	48000 lm	narrow beam	**NOR 000 005 194 001**
400 W HST	48000 lm	wide beam	**NOR 000 005 194 002**
Ballast enclosure made of polyester without cablegland for mains connection			
250 W HIT/HST	19000 lm / 25000 lm	narrow beam	**NOR 000 005 192 507**
250 W HIT/HST	19000 lm / 25000 lm	wide beam	**NOR 000 005 192 508**
400 W HIT	35000 lm	narrow beam	**NOR 000 005 194 107**
400 W HIT	35000 lm	wide beam	**NOR 000 005 194 108**
400 W HST	48000 lm	narrow beam	**NOR 000 005 194 007**
400 W HST	48000 lm	wide beam	**NOR 000 005 194 008**
Ballast enclosure made of steel without cablegland for mains connection			
250 W HIT/HST	19000 lm / 25000 lm	narrow beam	**NOR 000 005 192 503**
250 W HIT/HST	19000 lm / 25000 lm	wide beam	**NOR 000 005 192 504**
400 W HIT	35000 lm	narrow beam	**NOR 000 005 194 103**
400 W HIT	35000 lm	wide beam	**NOR 000 005 194 104**
400 W HST	48000 lm	narrow beam	**NOR 000 005 194 003**
400 W HST	48000 lm	wide beam	**NOR 000 005 194 004**

[1)] depends on used lamps



Technical data

FZD EN	
Marking to 94/9/EC	Ⓔx II 2 G Ex demq IIC T[1]
	Ⓔx II 2 D IP66 T[1]
EC-Type Examination Certificate	PTB 02 ATEX 1158
IECEx Certificate of Conformity	IECEx BKI 07.0002
Marking accd. to IECEx	Ex de IIC T3 or T4
	Ex tD A21 IP66 T[1] °C
Permissible ambient temperature	-45 °C to +50 °C[1]
Rated voltage	230 V AC[2]
Rated current	250 W: 1.3 A / 400 W: 2.1 A
Frequency	50 Hz[2]
Power factor cos φ	> 0.9
Circuit	compensated circuit
Insulation class	I
Lamp/Illuminant	High pressure sodium lamp - tubular (HST)
	Metal halide lamp - tubular (HIT) 250 W or 400 W
Lamp cap	E 40 acc. EN 60061-1
Light efficiency in operation	66 %
Degree of protection accd. EN 60529	IP66
Cable glands/Gland plates/Enclosure drilling	2 x M25 x 1.5 with plastic cable gland Ex-e M25
	for non-armoured cable Ø 8 - 17 mm, other plugged;
	option: with metal thread M20, without cable gland
Dimensions (L x W x H)	573 x 390 x 570 mm
Weight	28 kg (enclosure); 11 kg lamp module
Enclosure material	light alloy
Enclosure colour	grey
Protective cover/Protective bowl	die-cast light alloy
Options	tempered safety glass
Enclosure earth	2.5 mm² PE

[1] see table [2] other voltages or frequencies on request

Additional lamp data

Lamp	Temperature class II 2 G		Max. surface temp. II 2 D	
	$T_{ambient\ up\ to\ +40\ °C}$	$T_{ambient\ up\ to\ +50\ °C}$	$T_{ambient\ up\ to\ +40\ °C}$	$T_{ambient\ up\ to\ +50\ °C}$
HST / HIT 250 W	T4[5] /T3	T3	T 130 °C[5]/T 150 °C	T 160 °C
HST / HIT 400 W	T3	–	T 180 °C	–

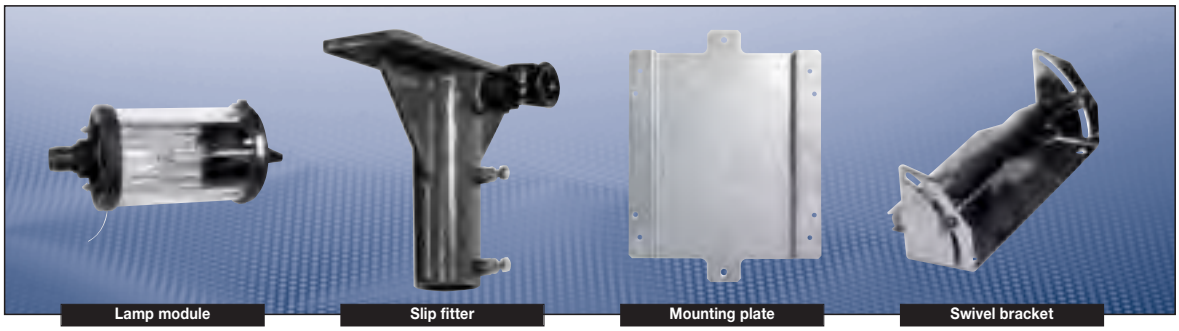
[5] mounting position ± 135°, see instruction

Ordering details

Lamp	Rated luminous flux[3]	Reflector	Order No.
FZD EN			
250 W HIT / HST	19000 lm / 25000 lm	wide-angle	**1 3041 200 012**
400 W HIT	35000 lm	wide-angle	**1 3041 210 012**
400 W HST	48000 lm	wide-angle	**1 3041 205 012**
250 W HIT / HST	19000 lm / 25000 lm	narrow-angle	**1 3041 200 011**
400 W HIT	35000 lm	narrow-angle	**1 3041 210 011**
400 W HST	48000 lm	narrow-angle	**1 3041 205 011**

[3] depends on lamp

Delivery without lamp, incl. mounting bracket



Accessories

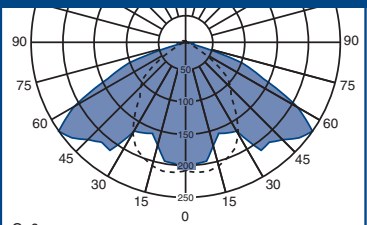
FZD 04				
Type	**Content**	**FZD 04**	**FZD EN**	**Order No.**
Lamp module	Lamp module 250 W/400 W complete with internal reflector,			
	narrow-angle reflector	X	X	**1 3041 000 011**
	wide-angle reflector	X	X	**1 3041 000 012**
Slip fitter	fitter for pole 1¼" mounting complete with fixing screws	X	–	**NOR 000 005 190 021**
Slip fitter	fitter for pole 2" mounting complete with fixing screws	X	–	**NOR 000 005 190 022**
Swivel bracket	Ajustable hinge for wall/pole mounting	X	–	**NOR 000 005 190 023**
Mounting plate	Stainless steel plate for wall or pole installation			
	(using pipe clamps, not incl.)	X	–	**NOR 000 005 190 026**
Pipe clamp	1¼" pipe clamp (1 pcs) galvanized Ø 38 - 42 mm²	X	–	**2 2480 462 000**
Pipe clamp	1¼" pipe clamp (1 pcs) stainless steel Ø 38 - 42 mm²	X	–	**2 2480 464 000**
Pipe clamp	1½" pipe clamp (1 pcs) galvanized Ø 47 - 51 mm²	X	–	**2 2480 472 000**
Pipe clamp	2" pipe clamp (1 pcs) galvanized Ø 56 - 60 mm²	X	–	**2 2480 482 000**

Lamps and fixing accessories are not included

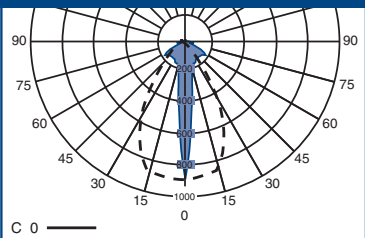
Metal cable glands see page 8.10...

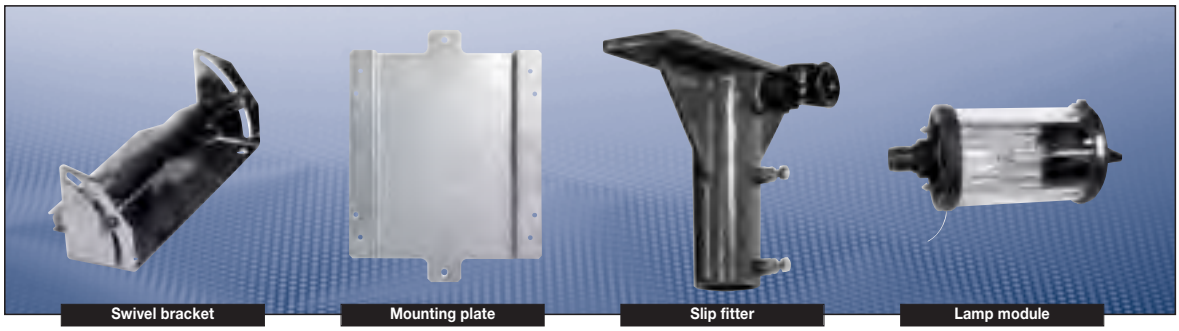
Polar curve

Polar curve
FZD ... with wide beam reflector

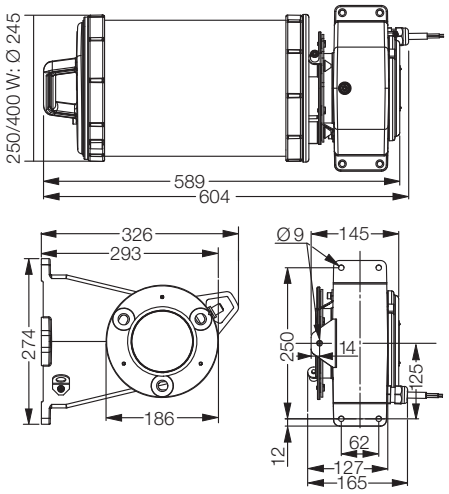


Polar curve
FZD ... with narrow beam reflector

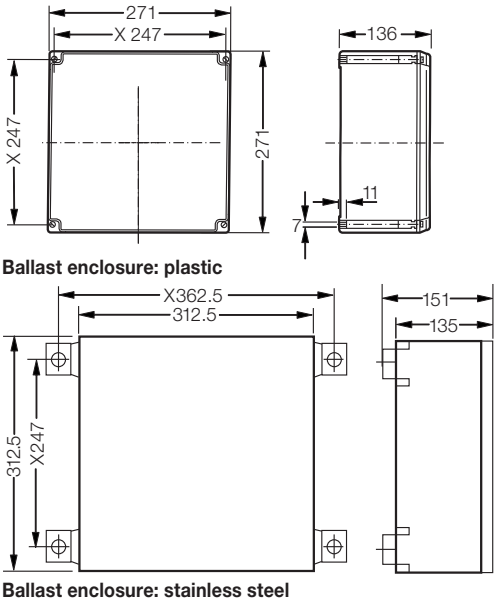




Dimensions drawing

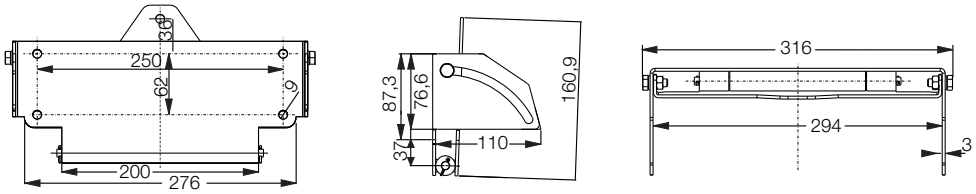


FZD 04 250/400 W

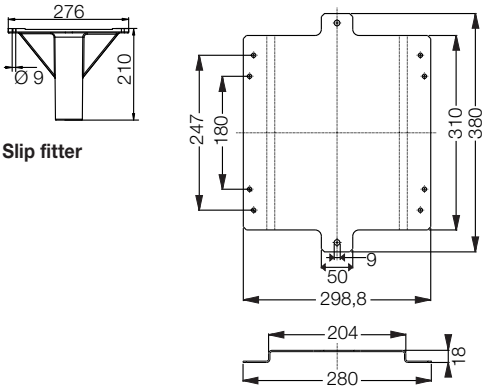


Ballast enclosure: plastic

Ballast enclosure: stainless steel

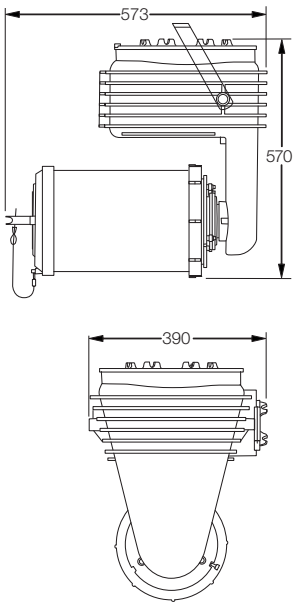


Swivel bracket



Slip fitter

Mounting plate

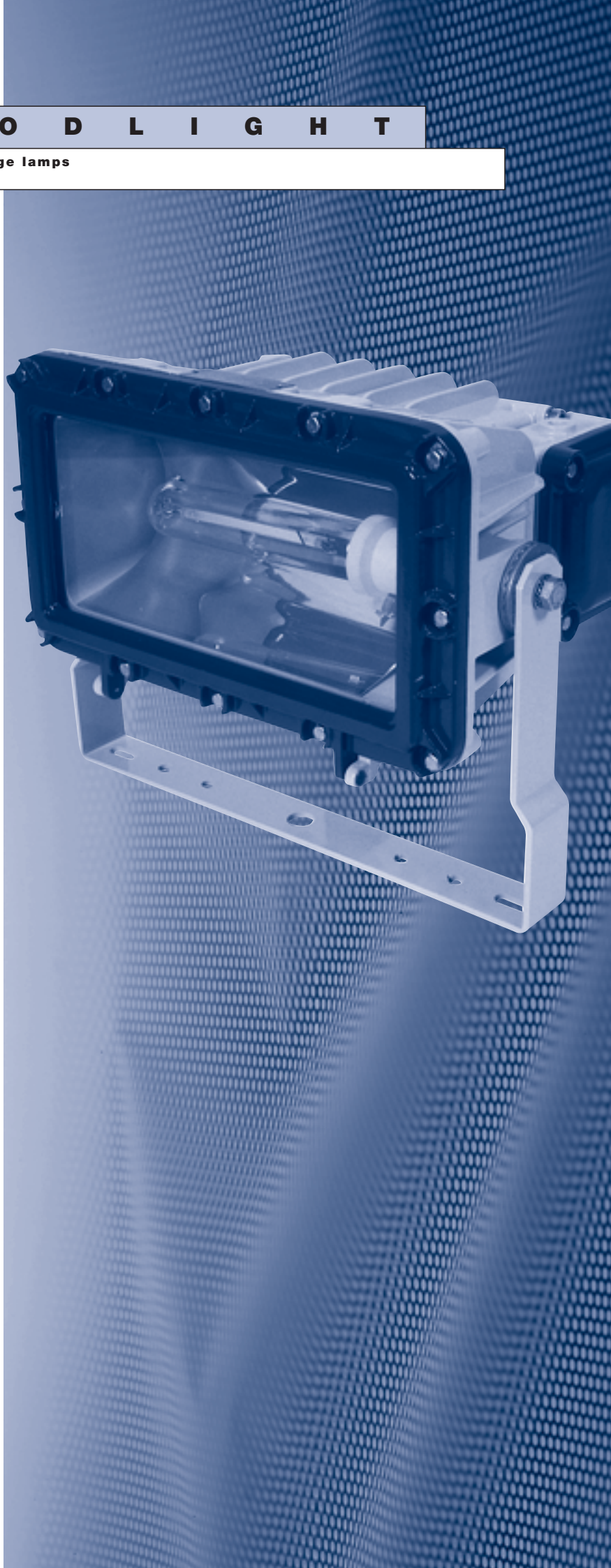


Dimensions in mm

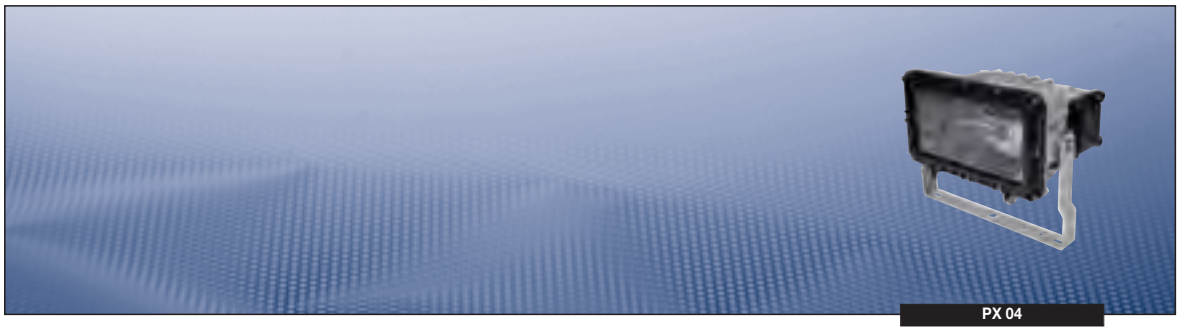
E X - F L O O D L I G H T

PX 04 for high pressure discharge lamps
Metal version for Zone 1/21

The explosion-protected floodlight PX 04 for high pressure discharge and halogen lamps are in accordance to the ATEX-Directive 94/9/EG. They are certified for use in the Zones 1, 21, 2 and 22.
The light fitting housing is made of copper-free aluminium, the glass cover of a mechanical and thermal resistant borosilicate glass. All external screws are made of stainless steel.
The electrical components are thermically separated in their own compartment and have a separate Ex-e maintenance-friendly connection compartment.
With the adjustable mounting frame an optimum on light guidance is reached. Due to the robust architecture it has more than proven its reliability in chemical factories and offshore platforms for illuminating large areas and selective large objects.



- **For environmental temperatures of up to + 55° C**
- **Degree of protection IP67**
- **Robust light alloy housing**
- **Captive screws made of stainless steel**
- **Large Ex-e connection compartment**
- **Easy to maintain**
- **Easy to install**



Technical data

PX 04...		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIB T [1]
		Ⓔx II 2 D Ex tD A21 IP67 T[1] °C
EC-Type Examination Certificate		BVS 09 ATEX E 50 X
IECEx Certificate of Conformity		IECEx BKI 07.0041
Marking accd. to IECEx		Ex de IIB T2-T4
		Ex tD A21 IP66 T85 °C - 210 °C
Permissible ambient temperature		-20 °C to +55 °C (-55 °C up to +55 °C optional)
Rated voltage	with control gear	230 V AC[2]
	without control gear	≤ 250 V AC
Rated current		[1]
Frequency		50 Hz[2]
Power factor cos φ		> 0.85
Circuit		compensated circuit
Connecting terminals		L1, N: 2 x 4 mm2; PE: 2 X 6 mm²
Insulation class		I
Lamp/Illuminant		[1]
Lamp cap		E 40 (E27 for 70 W HIT and HST, 150 HIT) acc. IEC 60238
Light efficiency in operation		62 %
Degree of protection accd. EN 60529		IP67
Cable glands/Gland plates/Enclosure drilling		Indirect entries: 2 x M25 x 1.5 with or without cablegrands (see table), one plugged
Dimensions (L x W x H)		546 x 443 x 396 mm (with control gear)
		546 x 443 x 340 mm (without control gear)
Weight		approx. 31 kg (with control gear)
		approx. 23 kg (without control gear)
Type of mounting		mounting bracket
Enclosure material		light alloy
Enclosure colour		grey
Protective cover/protective bowl		borosilicate glass
Reflector		polished aluminium reflector
Enclosure earth		2 x 6 mm²

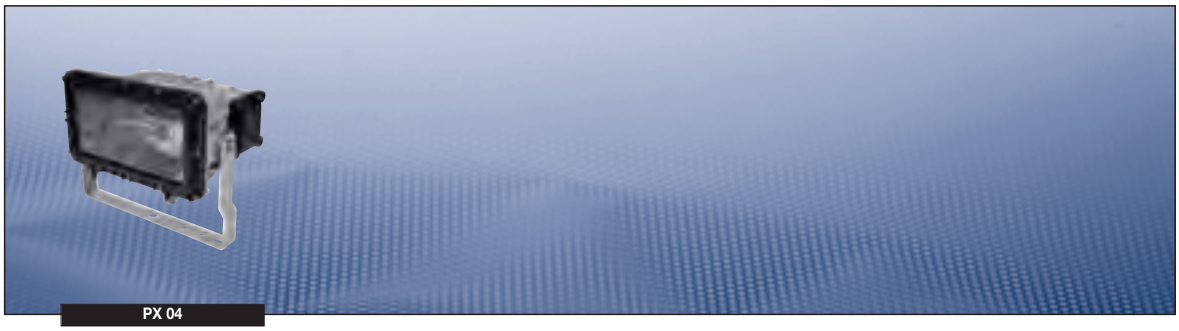
[1] see table

[2] other voltages or frequencies on request

[3] depends on lamp

Additional lamp data

Type	Rated luminous flux[3]	Temperature class II 2 G		Max. surface temp. II 2 D	
		$T_{ambient \leq +40\,°C}$	$T_{ambient \leq +55\,°C}$	$T_{ambient \leq +40\,°C}$	$T_{ambient \leq +55\,°C}$
HS_ - 70 W	6000 lm	T4	T4	T85 °C	T100 °C
HI_ - 70 W	6300 lm	T4	T4	T90 °C	T105 °C
HS_ - 150 W	17000 lm	T4	T4	T115 °C	T130 °C
HI_ - 150 W	14000 lm	T4	T4	T105 °C	T120 °C
HS_ - 250 W	33000 lm	T4	T3	T130 °C	T145 °C
HI_ - 250 W	20000 lm	T4	T3	T130 °C	T145 °C
HME - 250 W	13000 lm	T3	T3	T150 °C	T165 °C
HST - 400 W	55500 lm	T3	T3	T175 °C	T190 °C
HIT - 400 W	35000 lm	T3	T3	T170 °C	T185 °C
HME - 400 W	22000 lm	T3	T2	T186 °C	T201 °C
HST - 600 W	90000 lm	T3	T2	T195 °C	T210 °C
IQT - 500 W	10000 lm	T3	T2	T185 °C	T200 °C



Ordering details

Type	Reflector	Lamp	Lamp	Rated current	Ex-e metal cable gland for cable	Order No.
PX 0460	narrow beam	High pressure sodium lamp	HST 600 W	3.13 A	Ø 9 - 14 mm	**NOR 000 115 170 243**
PX 0460	narrow beam	High pressure sodium lamp	HST 600 W	3.13 A	–	**NOR 000 115 170 215**
PX 0460	wide beam	High pressure sodium lamp	HST 600 W	3.13 A	Ø 9 - 14 mm	**NOR 000 115 170 343**
PX 0460	wide beam	High pressure sodium lamp	HST 600 W	3.13 A	–	**NOR 000 115 170 315**
PX 0440S	narrow beam	High pressure sodium lamp	HS_ 400 W[1)]	2.02 A	Ø 9 - 14 mm	**NOR 000 115 170 244**
PX 0440S	narrow beam	High pressure sodium lamp	HS_ 400 W[1)]	2.02 A	–	**NOR 000 115 170 221**
PX 0440S	wide beam	High pressure sodium lamp	HS_ 400 W[1)]	2.02 A	Ø 9 - 14 mm	**NOR 000 115 170 344**
PX 0440S	wide beam	High pressure sodium lamp	HS_ 400 W[1)]	2.02 A	–	**NOR 000 115 170 321**
PX 0440H	narrow beam	High pressure metal halide	HI_ 400 W[2)]	1.98 A	Ø 9 - 14 mm	**NOR 000 115 170 149**
PX 0440H	narrow beam	High pressure metal halide	HI_ 400 W[2)]	1.98 A	–	**NOR 000 115 170 222**
PX 0440H	wide beam	High pressure metal halide	HI_ 400 W[2)]	1.98 A	Ø 9 - 14 mm	**NOR 000 115 170 349**
PX 0440H	wide beam	High pressure metal halide	HI_ 400 W[2)]	1.98 A	–	**NOR 000 115 170 322**
PX 0440M	narrow beam	Mercury vapor	HME 400 W		–	**NOR 000 115 170 251**
PX 0425	narrow beam	H.P. sodium lamp/Metal halide	HS_ / HI_250 W	1.35 A	Ø 9 - 14 mm	**NOR 000 115 170 245**
PX 0425	narrow beam	H.P. sodium lamp/Metal halide	HS_ / HI_250 W	1.35 A	–	**NOR 000 115 170 227**
PX 0425	wide beam	H.P. sodium lamp/Metal halide	HS_ / HI_250 W	1.35 A	Ø 9 - 14 mm	**NOR 000 115 170 345**
PX 0425	wide beam	H.P. sodium lamp/Metal halide	HS_ / HI_250 W	1.35 A	–	**NOR 000 115 170 327**
PX 0425M	narrow beam	Mercury vapor	HME 250 W		–	**NOR 000 115 170 257**
PX 0415	narrow beam	H.P. sodium lamp/Metal halide	HS_ / HI_150 W	1.05 A	Ø 9 - 14 mm	**NOR 000 115 170 246**
PX 0415	narrow beam	H.P. sodium lamp/Metal halide	HS_ / HI_150 W	1.05 A	–	**NOR 000 115 170 233**
PX 0415	wide beam	H.P. sodium lamp/Metal halide	HS_ / HI_150 W	1.05 A	Ø 9 - 14 mm	**NOR 000 115 170 346**
PX 0415	wide beam	H.P. sodium lamp/Metal halide	HS_ / HI_150 W	1.05 A	–	**NOR 000 115 170 333**
PX 0407	narrow beam	High pressure sodium lamp	HS_ 70 W	0.35 A	Ø 9 - 14 mm	**NOR 000 115 170 230**
PX 0407	narrow beam	High pressure sodium lamp	HS_ 70 W	0.35 A	–	**NOR 000 115 170 229**
PX 0405	narrow beam	Halogen IQT	500 W	2.17 A	Ø 9 - 14 mm	**NOR 000 115 170 248**
PX 0405	narrow beam	Halogen IQT	500 W	2.17 A	–	**NOR 000 115 170 209**
PX 0405	wide beam	Halogen IQT	500 W	2.17 A	Ø 9 - 14 mm	**NOR 000 115 170 348**
PX 0405	wide beam	Halogen IQT	500 W	2.17 A	–	**NOR 000 115 170 309**

[1)] Valid for lamps HI_ 400 W (4.2 A)

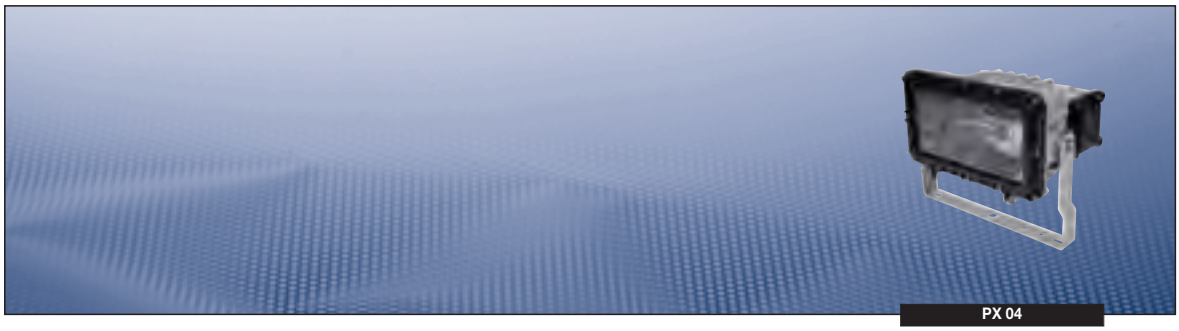
[2)] Valid for lamps HI_ 400 W (3.5 A)

Lamps and fixing accessories are not included

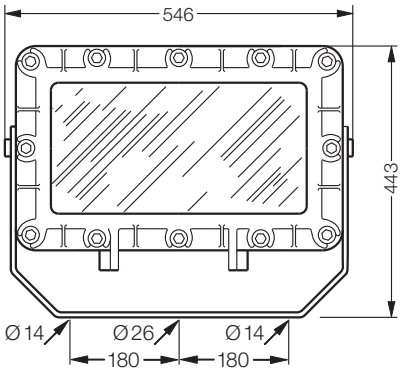
Accessories

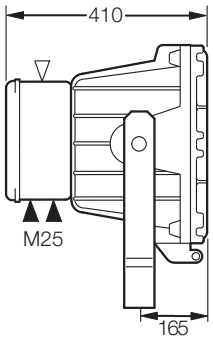
PX 04		
Type	**Content**	**Order No.**
SB	Pipe fixing Ø 48 mm to Ø 64 mm	**NOR 000 005 170 583**
ATP	Portable stand, painted steel	**NOR 000 005 170 715**
PAH	Horizontal steel shade, painted steel	**NOR 000 005 170 608**
PAV	Vertical steel shade, painted steel	**NOR 000 005 170 591**

Metal cable glands see page 8.10...



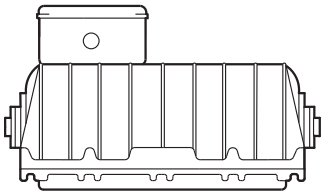
Dimensions drawing



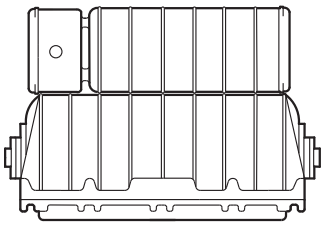


▻ optional entry, on request
► entry

PX 04

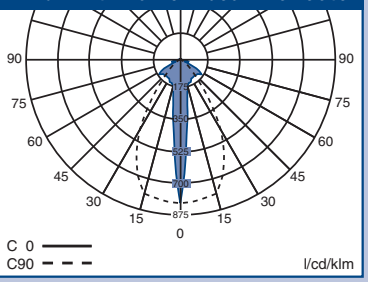


PX 04
without ballast for QT- and HME-SB-Lamps

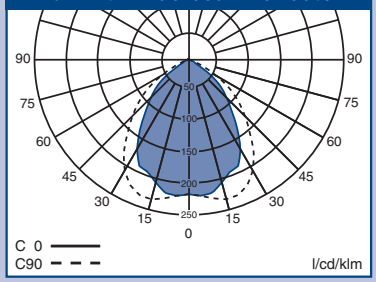


PX 04
with ballast for all high pressure discharge lamps

Polar curve
PX 04 with narrow beam reflector



Polar curve
PX 04 with wide beam reflector



Dimensions in mm

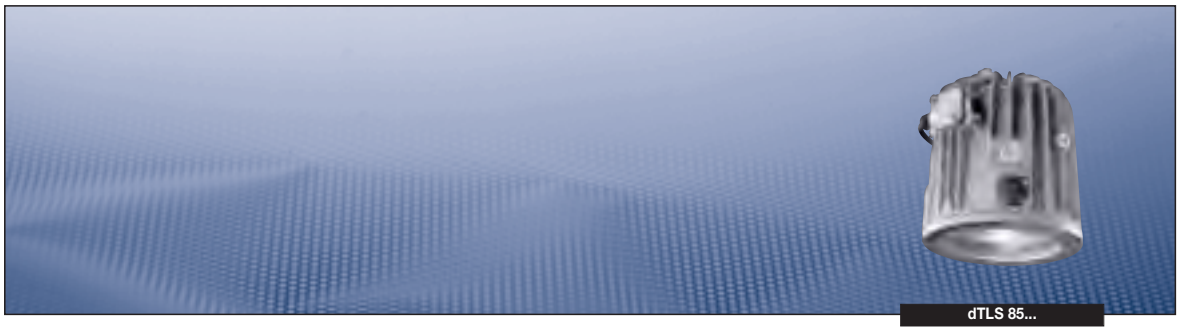
E X - F L O O D L I G H T

dTLS 85... for high pressure discharge lamps
Metal version for Zone 1/2

The explosion-protected floodlight dTLS 85... for high pressure discharge lamps is in accordance to the ATEX-Directive 94/9/EG. They are certified for use in the Zones 1 and 2.
The housing is made of a light alloy with a powdered coating. The pressed-in thread-ring for the flameproof thread gap is made of brass. This provides for an easy lamp replacement even after a longer operating periods.
The floodlight is designed for outdoor use. Due to the high safety standard it has more than proven its reliability in chemical factories and offshore platforms for illuminating large areas and selective large objects.
The vaporized reflectors are designed for various angles of dispersion.



- **Cost-effective illumination of large objects**
- **For use in chemical factories and offshore platforms**
- **Robust light alloy housing with a powdered coating**
- **Easy lamp replacement even after extended time of operation**
- **Vaporized reflector for various angles of dispersion**



Technical data

dTLS 85250 / dTLS 85070	
Marking to 94/9/EC	Ⓔx II 2 G Ex de IIC T3/T4
EC-Type Examination Certificate	DMT 03 ATEX E 039
IECEx Certificate of Conformity	IECEx BKI 08.0006
Marking accd. to IECEx	Ex de IIC T4 (70 W) Ex de IIC T3 (250 W)
Permissable ambient temperature	–20 °C to +50 °C
Permissable ambient temperature (option)	–45 °C to +50 °C (option)
Rated voltage	230 V AC[1)]
Rated current	[2)]
Frequency	50 Hz[1)]
Power factor cos φ	[2)]
Circuit	inductive circuit / compensated circuit
Connecting terminals	L + N + PE; 2 x 2.5 mm²
Insulation class	I
Lamp/Illuminant	high pressure metal-halide lamp HIT-DE high pressure sodium vapour lamp HST-DE
Lamp cap	Fc2 / Rx 7s
Rated luminous flux[1)]	HIT-DE 250 W: 19000 lm HST-DE 250 W: 25000 lm HST-DE 70 W: 6800 lm
Light efficiency in operation	72 % 46 % with diffuser lens
Degree of protection accd. EN 60529	IP65
Cable glands/Gland plates/Enclosure drilling[1)]	1 x M25 x 1.5 for cables from Ø 8 - 17 mm 1 x M25 x 1.5 with blanking plug
Weight	approx. 25 kg approx. 32 kg with compensation box
Enclosure material	light alloy with powder coating, grey
Enclosure colour	grey
Protective cover/protective bowl	borosilicate glass

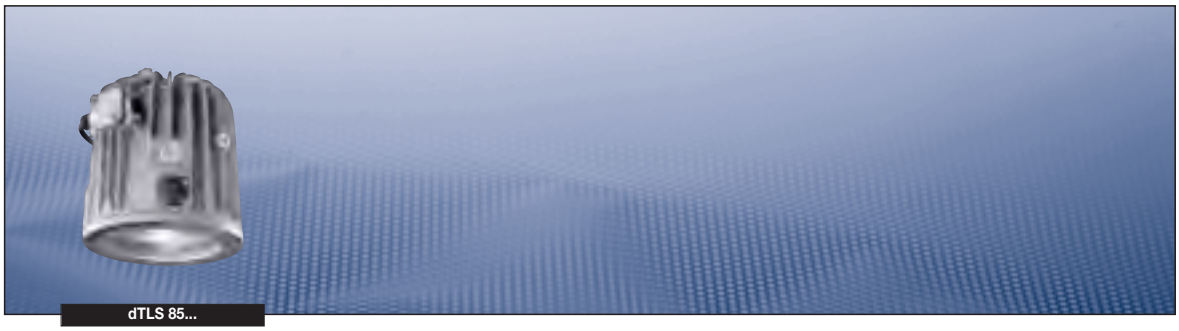
[1)] Other voltages, frequencies or entries on request

[2)] see ordering details

Ordering details

Type	Lamp	Rated current	Power factor cos φ	Temperature class	Order No.
dTLS 85250 S with diffusser lens	250 W HIT/HST	3.0 A	0.4 ind.	T3	**CGS 123 8588 P0001**
	250 W HIT/HST	1.5 A	0.9 comp.	T3	**CGS 123 8588 P1001**
dTLS 85250 P	250 W HIT/HST	3.0 A	0.4 ind.	T3	**CGS 123 8588 P0002**
with parabolic-reflector	250 W HIT/HST	1.5 A	0.9 comp.	T3	**CGS 123 8588 P1002**
dTLS 85070 P with reflector	70 W HST	0.35 A	0.95 comp.	T4	**CGS 123 8588 P0003**

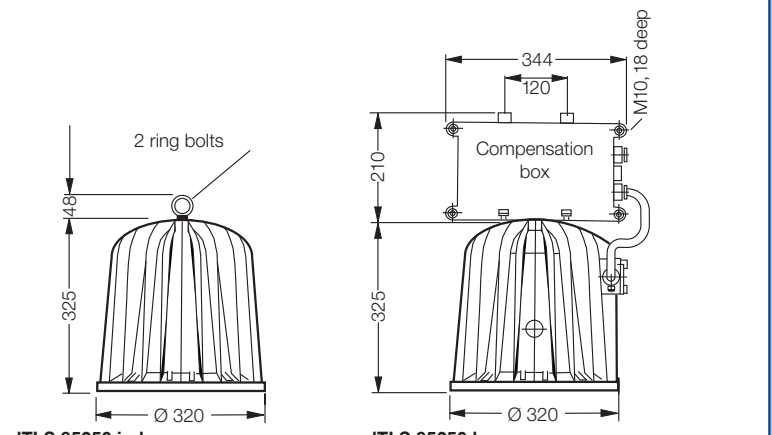
Lamps and fixing accessories are not included


dTLS 85...

Accessories

dTLS 85250		
Type	**Application**	**Order No.**
EB	Eye bolt, M10 (10 St.) galvanized	**GHG 690 1921 R0003**
L 218	Mounting bracket, for inductive version	**GHG 690 1913 R0001**
L 430	Mounting bracket, for compensated version	**GHG 690 1913 R0002**

Dimensions drawing



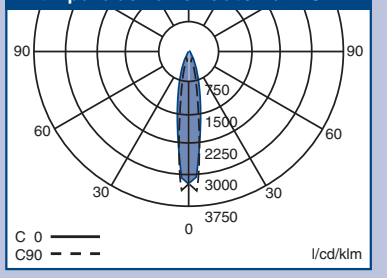
dTLS 85250 ind.

dTLS 85250 komp.

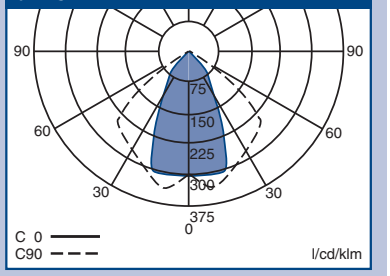
L 218

L 430

Polar curve with parabolic reflector dTLS



Polar curve with diffuser lens dTLS



Dimensions in mm

Emergency Unit

Explosion-protected, modular GHG 664 emergency lighting supply unit with explosion-protected dTLS 85070 P floodlight for high-pressure lamp

Safety for escape routes and evacuation equipment in the event of an emergency and power failure

In the event of a power failure, the new explosion-protected **GHG 664 emergency pack** enables the battery-supported operation of a 70 W sodium high-pressure lamp for the duration of 1.5 hours. When used in combination with the powerful explosion-protected **dTLS 85070 P** floodlight, escape routes and evacuation equipment (life boats, life rafts, abseiling equipment or rescue cushions, etc.) can be safely illuminated, even from larger distances. They have been designed especially for offshore use on platforms and ships.

Both the **GHG 664 emergency pack** and the **dTLS 85070 P** floodlight are in explosion-protected design in accordance with the ATEX Directive 94/9/EC and have been approved for use in Zones 1 and 2.

The **emergency pack GHG 664** features a flameproof enclosure for the electronic components and a flanged-on box in the type of protection “increased safety” that accommodates the battery and the connection terminals.

The **dTLS 85070 P** floodlight, which is mounted separately from the emergency pack, features a robust enclosure made of powder-coated aluminium with a borosilicate glass lens, a parabolic reflector for the 70 W sodium vapour high-pressure lamp.

Thus, for example, with a luminous spot height of 9 m, it is possible to illuminate an area measuring 15 x 15 m with 1 lx.

- **Suited for use on offshore platforms and ships**
- **Safe light for evacuation equipment in hazardous areas**
- **Emergency lighting duration of 1.5 hours in the event of a power failure**
- **Large Ex-e connection box to facilitate installation**
- **Maintenance-friendly due to simple replacement of lamps and batteries**
- **Continuous and standby light with switching-off device (only 220 – 240 V)**





Technical data

GHG 664	
Marking to 94/9/EC	Ex II 2 G Ex de IIC T6
EC-Type Examination Certificate	PTB 07 ATEX 2002 X
Permissable ambient temperature	–5 °C to +40 °C
Rated voltage	220 - 240 V AC / Option: 120 V AC
Rated frequency	50 - 60 Hz
Output voltage	230 V AC
Power consumption (charging operation)	< 40 VA
Nominal output	max. 80 VA
Circuit	electronic converter
Insulation class	I
Battery	2 x 12 V, 12 Ah
Rated operating duration (emergency operation)	1.5 h
Charging duration (> 90 % C)	< 24 h
Degree of protection acc. to EN 60529	IP66
Weight	approx. 48 kg (incl. battery)
Enclosure material	light alloy with powder coating, grey

Floodlight dTLS 85070 P	
Marking to 94/9/EC	Ex II 2 G Ex de IIC T4
EC-Type Examination Certificate	DMT 03 ATEX E 039
Permissable ambient temperature	–20 °C to +50 °C
Rated voltage	220 - 240 V, 50 - 60 Hz
Connecting terminals	L + N + PE; max. 2.5 mm²
Insulation class	I
Lamp/Illuminant	High pressure sodium lamp HST-DE 70 W
Lamp cap	RX7s
Rated luminous flux[1)]	6800 lm
Light efficiency in operation	72 %
Degree of protection acc. to EN 60529	IP65
Cable glands	1 x M25 x 1.5 for cables from Ø 8 - 17 mm 1 x M25 x 1.5 with blanking plug
Weight	approx. 18 kg
Enclosure material	light alloy with powder coating, grey
Light transmitting cover	Borosilicate glass

[1)] depends on lamp

Ordering details

Type	Application	Order No.
Emergency Unit GHG 664	230 - 240 V AC incl. battery plus dTLS 85070 P	**GHG 660 1915 R0001**
Emergency Unit GHG 664	120 V AC incl. battery plus dTLS 85070 P	**GHG 660 1915 R0002**

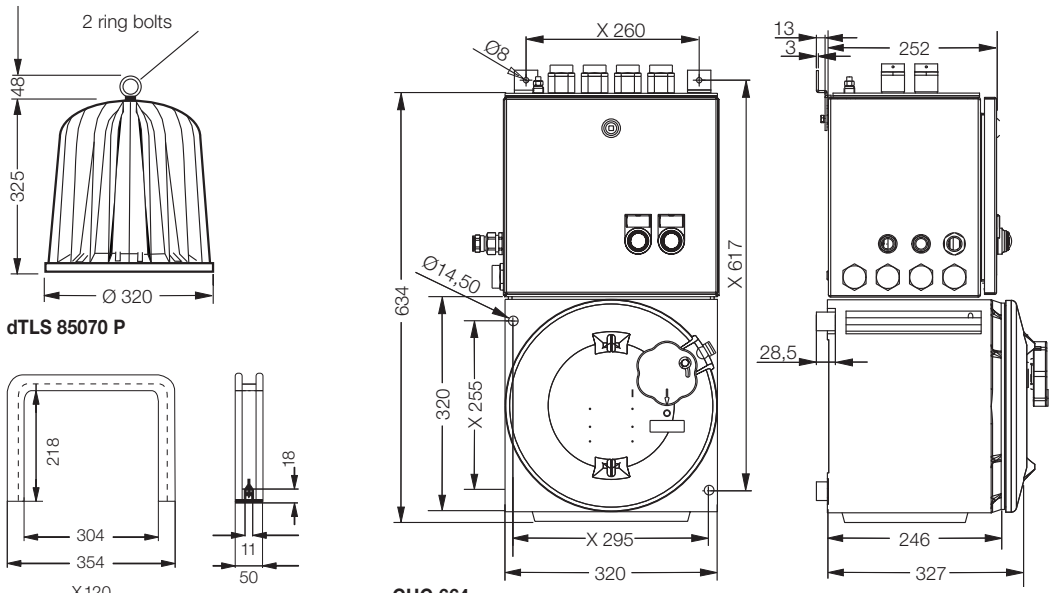
Lamps and fixing accessories are not included

Accessories

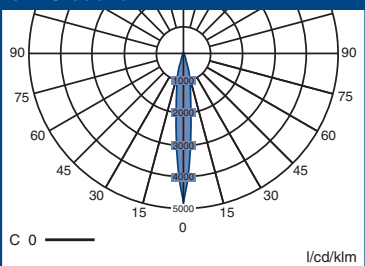
Mounting bracket L218			
Type	**Content**	**Application**	**Order No.**
L218	Mounting bracket	dTLS 85070 P	**GHG 690 1913 R0001**



Dimension drawing | Polar curve



Polar curve
dTLS 85070 P



Dimensions in mm

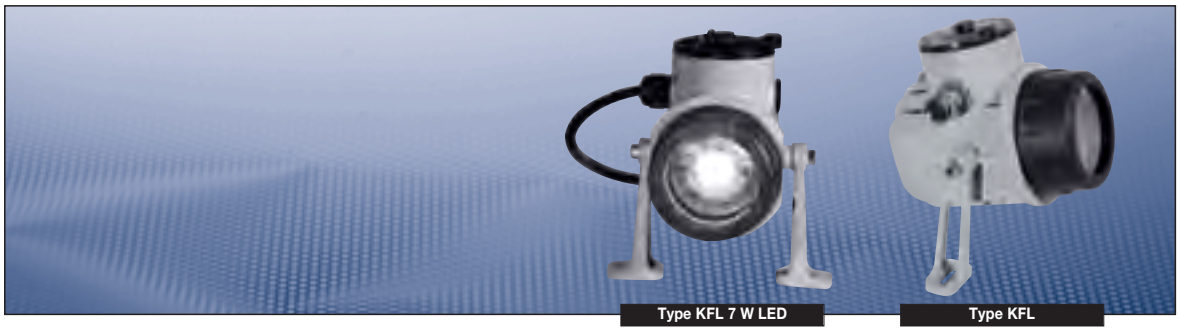
EX-VESSEL LIGHT FITTING

KFL with halogen reflector lamp or 7 W LED
Metal version for Zone 1

This explosion-protected tank light fitting KFL ... is in accordance to the ATEX-Directive 94/9/EG. It has been certified for use in the Zones 1, 21 2 and 22 areas. This powerful tank light fitting is equipped with a high output LED lamp 230 - 240 V/7 W or a high-voltage halogen reflector lamp 230 V/50 W and is especially for use as an inspection lighting at inspection windows of mixers from size DN40 up to DN200. The housing is made of a copper-free aluminium. The aluminium collar has a PTFE (Teflon) coating, additionally it has a viton sealant. Equipped with a special transporting handle the KFL 7 LED can also be used as a maintenance light fixture.
With the light fitting holder PR it can be mounted on inspection windows according to DIN 28120.



- **Compact architecture**
- **Connection ready for 230 V AC**
- **With halogen reflector incandescent lamp with 50 W or high-power LED 7 W**
- **High illumination**
- **Generously dimensioned terminal compartment**
- **Mounting onto inspection windows according to DIN 28120**



Technical data

	KFL 50	KFL 7 W LED
Marking to 94/9/EC	Ex II 2 G Ex de IIC T3	Ex II 2 G Ex de IIC T6
(new standard – applied for)	Ex II 2 D Ex tD A21 IP66 T140 °C	Ex II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	LOM 02 ATEX 2035	
IECEx Certificate of Conformity	IECEx BKI 07.0009	
Marking acc. to IECEx	Ex de IIC T3 Ex tD A21 IP67 T140 °C	
Permissable ambient temperature	–20 °C to +55 °C	–20 °C to +55 °C
Permissable ambient temperature (option)	–50 °C to +55 °C	–50 °C to +40 °C
Rated voltage	230 V, 50/60 Hz	230 - 240 V, 50/60 Hz
Rated current	0.25 A	0.065 A
Power consumption	50 VA	10 VA
Connecting terminals	2 x 2.5 mm²; PE internal and external 6 mm²	
Insulation class	I	
Lamp/Illuminant	50 W high voltage (halogen lamp type Sylvania included, others on request)	7 W PHILIPS MASTER LED
Lamp cap	GZ 10	
Degree of protection accd. EN 60529	IP66	
Cable glands/Gland plates/Enclosure drilling	2 x M25 x 1.5, one plugged	
Weight	3 kg	
Enclosure material	light alloy with powder coating	
Enclosure colour	grey	
Protective cover/protective bowl	borosilicate glass	
Options	20 W lamp (T4 / T120 °C)	

Ordering details

Type	Entry thread	Cable entry Exe for cable Ø	Blanking plug	Order No.
($T_{ambient}$ -20 °C to +55 °C)				
KFL 50 W	M25	9 - 14 mm Ex-e	1 x M25	**NOR 000 005 140 015**
KFL 50 W	M25	–	1 x M25	**NOR 000 005 140 010**
KFL 50 W TIM 230 V - 12 V	M25	9 - 14 mm Ex-e	1 x M25	**NOR 000 005 140 701**
KFL 50 W TIM 230 V - 12 V	M25	–	1 x M25	**NOR 000 005 140 897**
KFL 7 LED	M25	–	1 x M25	**NOR 000 005 140 011**
($T_{ambient}$ -50 °C to +55 °C)				
KFL 50 W	M25	–	1 x M25	**NOR 000 005 140 900**
KFL 50 W TIM 230 V - 12 V	M25	–	1 x M25	**NOR 000 005 140 919**
($T_{ambient}$ -50 °C to +40 °C)				
KFL 7 LED	M25	–	1 x M25	**NOR 000 005 140 906**

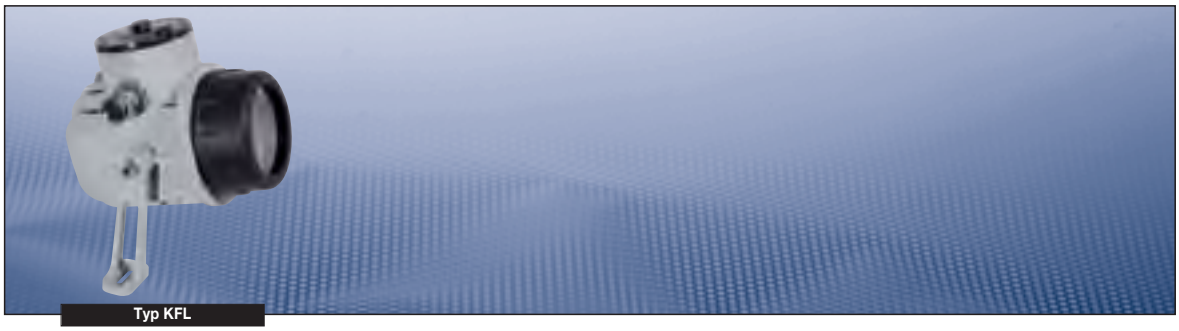
Supply with support device as standard (lamp holder PR).

Metal cable glands see page 8.10...

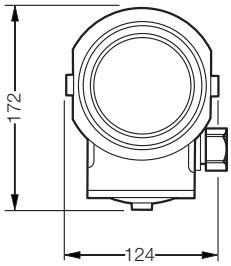
Accessories

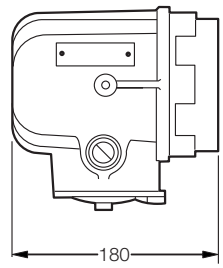
KFL 50

Type	Content	Application	Order No.
Lamp	Halogene reflector lamp 230 V/50 W	KFL 50	**NOR 000 000 514 529**
Lamp	Halogene reflector lamp 12 V/50 W	KFL 50 TIM	**NOR 000 000 514 687**
AT	transport grip	KFL..	**NOR 000 005 140 809**
PAD	antiglare shield	KFL..	**NOR 000 005 140 700**
PI	mounting legs out of center	KFL..	**NOR 000 005 140 776**
PI	mounting legs bended	KFL..	**NOR 000 005 140 776**
LED-lamp	Philips Master LED 7 W	KFL 7 W LED	**NOR 000 000 514 530**

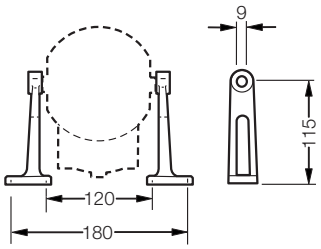

Typ KFL

Dimensions drawing

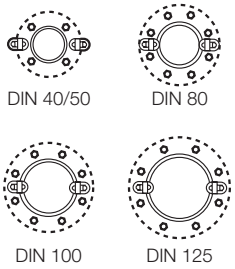




KFL 50 TIM

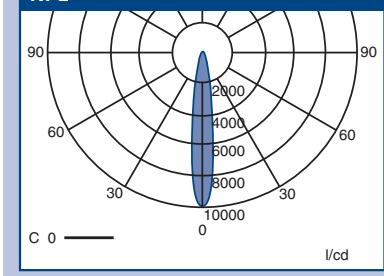


Light fixing facility PR

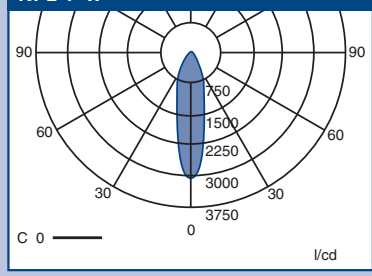


Windows, nominal width

Polar curve KFL



Polar curve KFL 7 W



Dimensions in mm

EX-PENDANT LIGHT FITTING

NVMV for high pressure discharge lamps of up to 400 W
Metal version for Zone 2/22

The explosion-protected light fittings of the NVMV series are in accordance to the ATEX-Directive 94/9/EG.
They have been built and tested according to the European Standard for Gas-Ex-Areas of Zone 2 classification as well as to EN 61241-1 for use in Dust-Ex-Areas of Zone 22.
The light fittings series NVMV with the small housing is designed for lamps with a rating of 70 W up to 150 W. The large housing is designed for lamps with a rating of 250 W up to 400 W.
The transparent part consists of a temperature stable, impact resistant glass globe that refracts the light and which is protected with a safety-guard.
The modular architecture allows for a quick and cost-effective installation of the light fittings.
For pole mounting, a thread of 11/4" BSP is integrated in the light fitting.
Apart from ceiling mounting, there are versions available for pole mounting (25° angle) and wall mounting.
A particularly durable sealing system for use under extreme climatic conditions brings additional reliability. The restricted breathing version allows a high illumination combined with a high temperature classification.



- **Ideal for installation at low or medium heights, for wall, ceiling or pole mounting**
- **Compact and light-weight**
- **Degree of protection IP66/67**
- **High corrosion resistance**
- **Restricted breathing version for temperature classes up to T4**
- **Environmental temperatures up to +55 °C**



Technical data

NVMV CHAMP for high pressure discharge lamps up to 400 W	
Marking to 94/9/EC	Ex II 3 G Ex nR IIC T[1]
	Ex II 3 D Ex tD A22 IP6X T[1]
Type Examination Certificate	applied for
Permissable ambient temperature	–20 °C up to +55 °C
Rated voltage	240 V/50 Hz (other voltage and frequencies on request)
Power factor cos	> 0.9
Connecting terminals	L, N and PE; max. 2 x 2.5 mm²
Insulation class	I
Lamp cap	E 27 (70 W HSE, 125 W HME, 150 HIE)
	E 40 (150 HSE - 400 W HSE/HME)
Light efficiency in operation	74 % (70 - 150 W)
	78 % (250 - 400 W)
Degree of protection accd. EN 60529	IP67/66
Cable glands/Gland plates)Enclosure drilling	Drilling 4 x M25 x 1.5 with blanking plug
Dimensions (L x W x H)	420 x 294 x 318 mm (70 - 150 W)
	555 x 294 x 318 mm (250 - 400 W)
Weight	see ordering details
Enclosure material	light alloy with epoxy powder coating
Enclosure colour	grey
Protective cover/protective bowl	borosilicate glass

Additional lamp data

Lamp	Power	Rated luminous flux[2]	Temperature class II 3 G -20 °C up to +55 °C	Surface temperature II 3 D -20 °C up to +55 °C
NVMV (smalling housing)				
HSE[3]	70 W	5.600 lm	T4	130 °C
HSE[3]	150 W	14.000 lm	T3	195 °C
HME[4]	125 W	6.300 lm	T3	195 °C
HIE[5]	70 W	5.100 lm	T4	130 °C
HIE[5]	150 W	11.500 lm	T3	195 °C
NVMV (large housing)				
HSE[3]	250 W	25.000 lm	T3	195 °C
HSE[3]	400 W	47.000 lm	T3	195 °C
HME[4]	250 W	13.000 lm	T3	195 °C
HIE[5]	250 W	17.000 lm	T3	195 °C
HIE[5]	400 W	31.000 lm	T2	290 °C

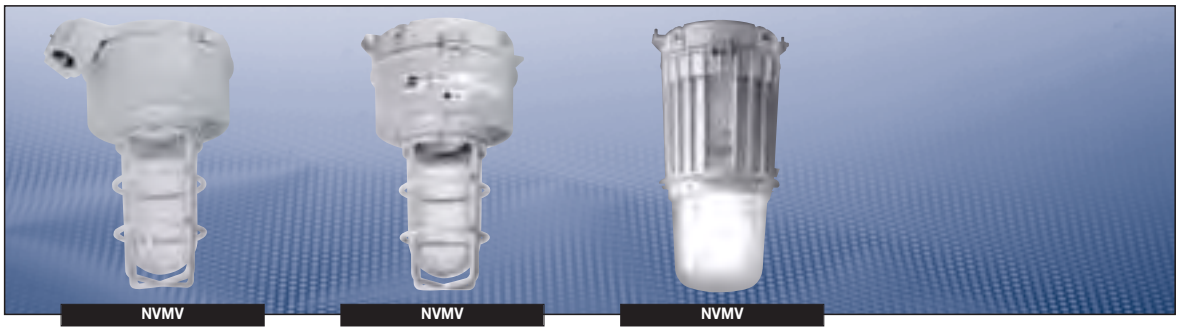
[1] see table

[2] depents on used lamps

[3] HSE = High pressure sodium lamp

[4] HME = High pressure mercury vapor

[5] HIE = High pressure metal halide lamp



Ordering details

Type	Mounting	HSE	HME	HIE	Weight (approx. kg)	Order No.
NVMV... (small enclosure)						
S2MC076P000	Ceiling	70 W			6.6	**1 2341 000 001**
S2MC156P000	Ceiling	150 W			7.0	**1 2341 000 002**
H2MC126P000	Ceiling		125 W		7.0	**1 2341 000 003**
M2MC076P000	Ceiling			70 W	6.6	**1 2341 000 004**
M2MC156P000	Ceiling			150 W	7.0	**1 2341 000 005**
S2MW076P000	Wall	70 W			6.6	**1 2341 000 051**
S2MW156P000	Wall	150 W			7.0	**1 2341 000 052**
H2MW126P000	Wall		125 W		7.0	**1 2341 000 053**
M2MW076P000	Wall			70 W	6.6	**1 2341 000 054**
M2MW156P000	Wall			150 W	7.0	**1 2341 000 055**
S4BJ076P000	Thread* 1¼", BSP	70 W			6.6	**1 2341 000 101**
S4BJ156P000	Thread* 1¼", BSP	150 W			7.0	**1 2341 000 102**
H4BJ126P000	Thread* 1¼", BSP		125 W		7.0	**1 2341 000 103**
M4BJ076P000	Thread* 1¼", BSP			70 W	6.6	**1 2341 000 104**
M4BJ156P000	Thread* 1¼", BSP			150 W	7.0	**1 2341 000 105**
NVMV... (large enclosure)						
S2MC256PL00	Ceiling	250 W			14.2	**1 2342 000 001**
S2MC406PL00	Ceiling	400 W			17.5	**1 2342 000 002**
H2MC256PL00	Ceiling		250 W		14.2	**1 2342 000 003**
M2MC256PL00	Ceiling			250 W	14.2	**1 2342 000 004**
M2MC406PL00	Ceiling			400 W	17.5	**1 2342 000 005**
S2MW256PL00	Wall	250 W			15.5	**1 2342 000 051**
S2MW406PL00	Wall	400 W			17.6	**1 2342 000 052**
H2MW256PL00	Wall		250 W		15.5	**1 2342 000 053**
M2MW256PL00	Wall			250 W	15.5	**1 2342 000 054**
M2MW406PL00	Wall			400 W	17.6	**1 2342 000 055**
S4BJ256PL00	Pole	250 W			14.4	**1 2342 000 101**
S4BJ406PL00	Pole	400 W			17.6	**1 2342 000 102**
H4BJ256PL00	Pole		250 W		14.4	**1 2342 000 103**
M4BJ256PL00	Pole			250 W	14.4	**1 2342 000 104**
M4BJ406PL00	Pole			400 W	17.6	**1 2342 000 105**

*Thread for 1¼" BSP pole mounting

Lamps and fixing accessories are not included

Accessories

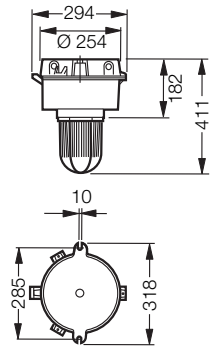
NVMV CHAMP

Type	Content	Order No.
RD 70	External reflector (70 - 150 W)	**3 2341 001 001**
RD 47	External reflector (250 - 400 W)	**3 2342 001 001**

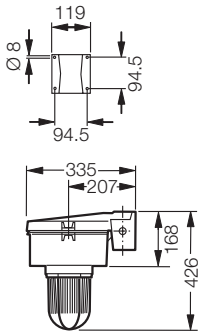
Metal cable glands see page 8.10...



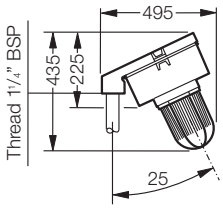
Dimensions drawing



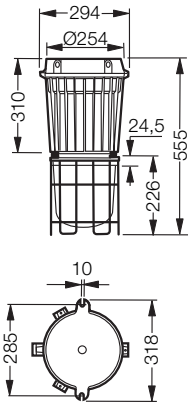
Ceiling mounting



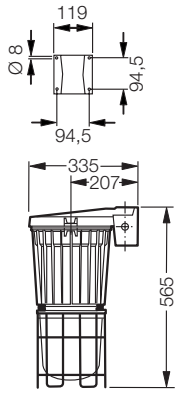
Wall mounting



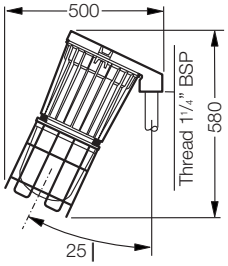
Pole mounting



NVMV Ceiling mounting

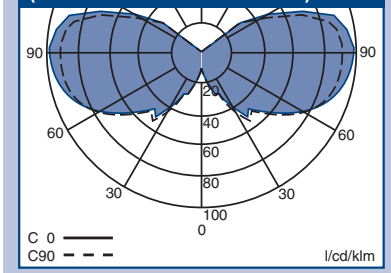


NVMV Wall mounting

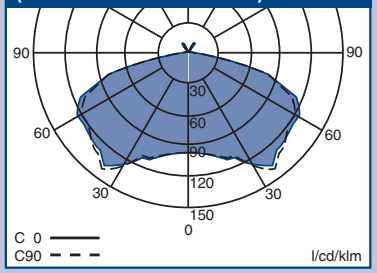


NVMV Pole mounting

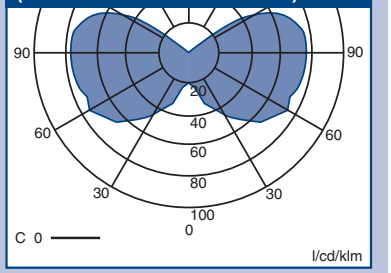
Polar curve NVMV 70 - 150 W (without external reflector)



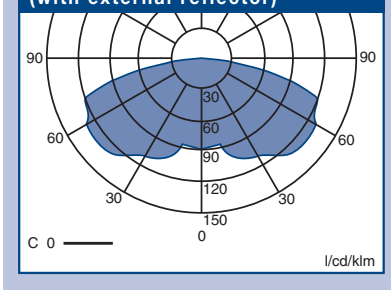
Polar curve NVMV 70 - 150 W (with external reflector)



Polar curve NVMV 250 - 400 W (without external reflector)



Polar curve NVMV 250 - 400 W (with external reflector)

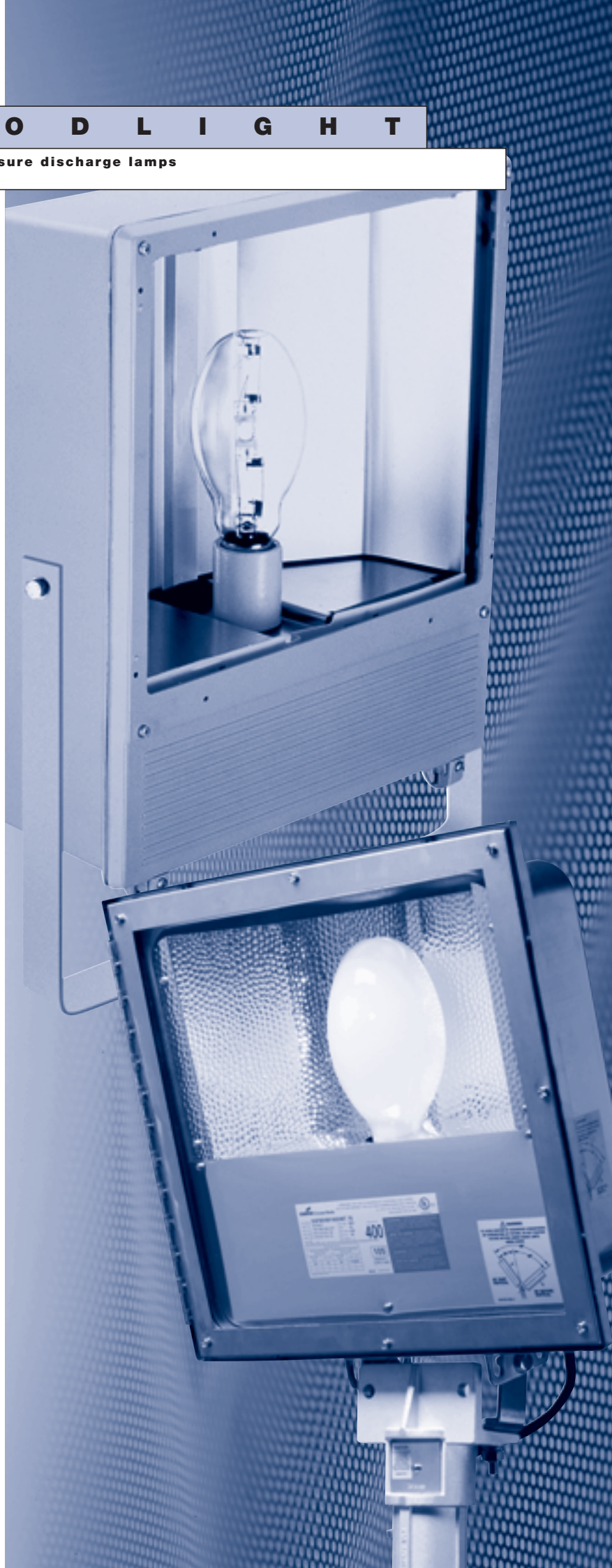


Dimensions in mm

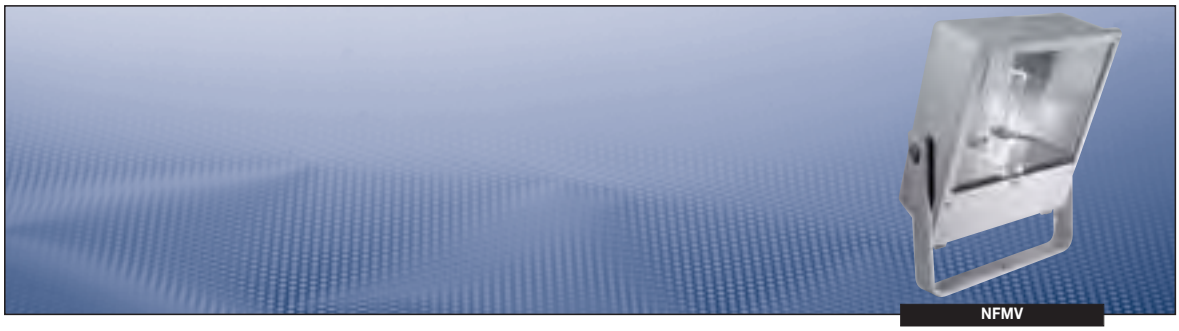
E X - F L O O D L I G H T

NFMV and NSSFMV for high pressure discharge lamps
Metal version for Zone 2/22

The floodlights NFMV and NSSFMV in accordance to the ATEX-Directive 94/9/EG. They have been built and tested according to the European Standard for Gas-Ex-Areas of Zone 2 classification as well as for use in Dust-Ex-Areas of Zone 22.
The light fitting series NFMV and NSSFMV for lamps with a rating of 250 W up to 400 W and have a high quality built-in reflector. The enclosure of the NFMV is made of light alloy with epoxy powder coating. The NSSFMV has a stainless steel enclosure. The transparent part consists of a temperature stable, impact resistant glass.
The modular architecture allows for a quick and cost-effective installation of the light fittings. Apart from the direct mounting per swivel bracket there is also a pole version available.
A particularly durable sealing system for use under extreme climatic conditions brings additional reliability.
The restricted breathing version allows a high illumination combined with a high temperature classification.



- **Rotate und swivel light fitting housing, also for pole mounting**
- **Ideal for illumination of large areas and selective individual objects**
- **Degree of protection IP66**
- **High corrosion resistance**
- **Restricted breathing version**
- **For environmental temperatures up to +55° C**



Technical data

NFMV	
Marking to 94/9/EC	Ex II 3 G Ex nR II T[1)] Ex II 3 Ex tD A22 IP66 T[1)]
Type Examination Certificate	PTB 09 ATEX 2000
Permissable ambient temperature	–20 °C to +55 °C[1)]
Rated voltage	240 V (other voltage on request)
Frequency	50 Hz (other frequencies on request)
Power factor cos	> 0.9
Connecting terminals	L, N and PE; 2 x 4 mm²
Insulation class	I
Lamp cap	E 40 acc. IEC 60238
Light efficiency in operation	45 %
Degree of protection accd. EN 60529	IP66
Cable glands/Gland plates/Enclosure drilling	2 x M20 x 1.5; 1 plugged
Dimensions (L x W x H)	660 x 430 x 175 mm
Weight	[1)]
Enclosure material	light alloy with epoxy powder coating
Enclosure colour	grey
Protective cover/protective bowl	borosilicate glass

[1)] see table

Ordering details

Type	Lamps		Rated luminous	Ta	Temperature	Max. surface	Weightt	Order No.
	HSE	HIE	flux[2)]		class	temperature	(approx. kg)	
NFMV...								
HSE 150 W	150 W		14000 lm	55 °C	T4	115 °C	15.5	**NOR 000 005 180 013**
HSE 250 W	250 W		25000 lm	50 °C	T3	150 °C	16.9	**NOR 000 005 180 014**
HSE 400 W	400 W		47000 lm	45 °C	T3	160 °C	18.6	**NOR 000 005 180 015**
HIE 250 W		250 W	17000 lm	50 °C	T3	150 °C	16.9	**NOR 000 005 180 014**
HIE 400 W		400 W	30000 lm	45 °C	T3	160 °C	18.6	**NOR 000 005 180 015**

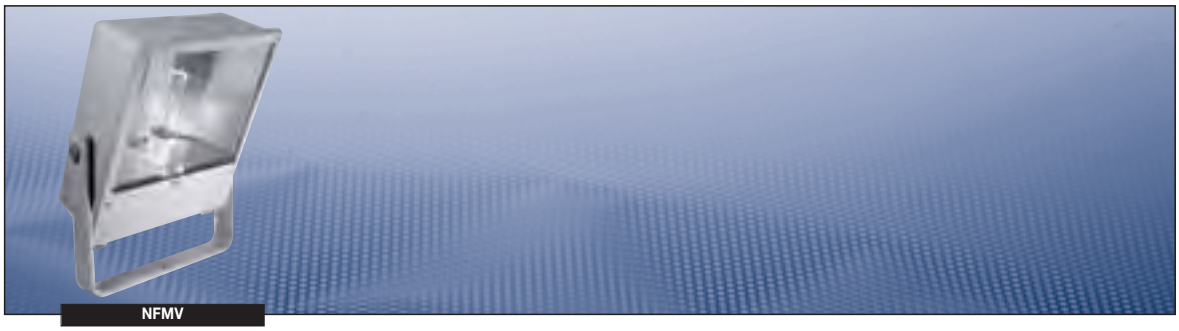
[2)] depends on used lamps

Lamps and fixing accessories are not included

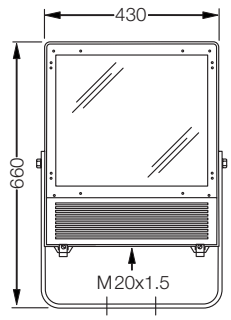
Accessories

NFMV...		
Type	**Qty.**	**Order No.**
Slipfitter adapter 2" for pole mounting	1	**3 2346 001 002**

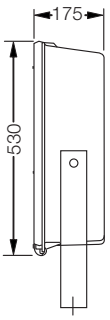
Metal cable glands see page 8.10...

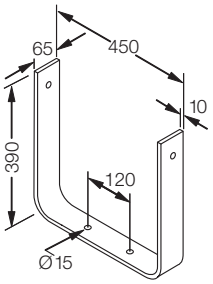


Dimensions drawing

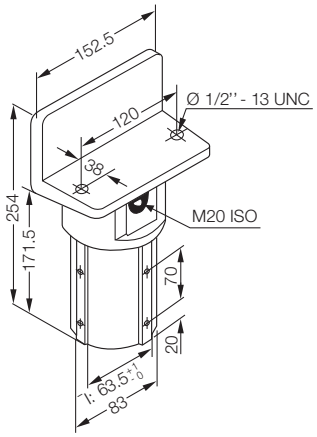


NFMV



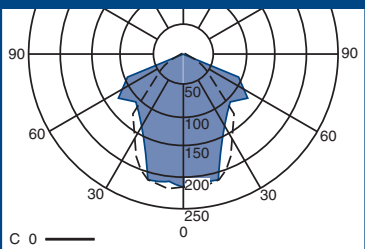


Swivel bracket

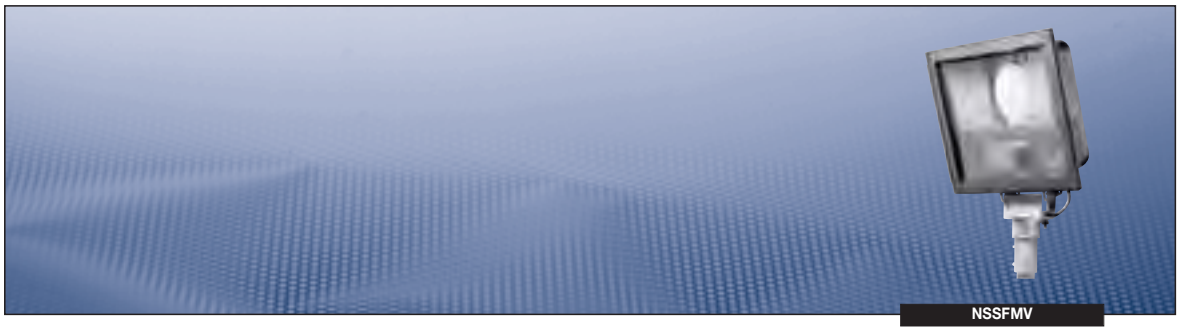


Slip fitter adaptor 2”

Polar curve NFMV



Dimensions in mm



Technical data

NSSFMV Stainless Steel Version	
Marking to 94/9/EC	Ex II 3 G Ex nR II T3/T4 Ex II 3 D Ex tD A22 IP66 T[1]
Declaration of conformity	PTB 09 ATEX 2030
Permissable ambient temperature	–20 °C to max. +55 °C
Rated voltage	230 V[2]
Frequency	50 Hz[2]
Power factor cos	> 0.9
Connecting terminals	L, N and PE; 2 x 2.5 mm²
Insulation class	I
Lamp cap	E 40 acc. IEC 60238
Light efficiency in operation	68 %
Degree of protection accd. EN 60529	IP66
Cable glands/Gland plates/Enclosure drilling	2 x M25 x 1.5, 1 plugged[2]
Dimensions (L x W x H)	536 x 592 x 195.5 mm
Weight	[1]
Type of mounting	mounting bracket, stainless steel 316
Enclosure material	stainless steel 316
Enclosure colour	natural
Protective cover/protective bowl	borosilicate glass

[1] see table

[2] other voltages, frequencies and cable glands on request

Ordering details

Type	Lamps		Rated luminous flux[3]	TA	Temp. class	Max. surface temperature	Weight (approx. kg)	Order No.
	HSE	HIE						
NSSFMV								
SY150	150 W		14000 lm	+40 °C/+55 °C	T4	130 °C	16.9	**CCL0907005**
SY250	250 W		25000 lm	+50 °C	T3	180 °C	17.5	**CCL0907021**
SY250		250 W	17000 lm	+50 °C	T3	180 °C	17.5	**CCL0907021**
SY400	400 W		47000 lm		T3	195 °C	18.6	**on request**
SY400		400 W	30000 lm		T3	195 °C	18.6	**on request**

[3] depend on oused lamps

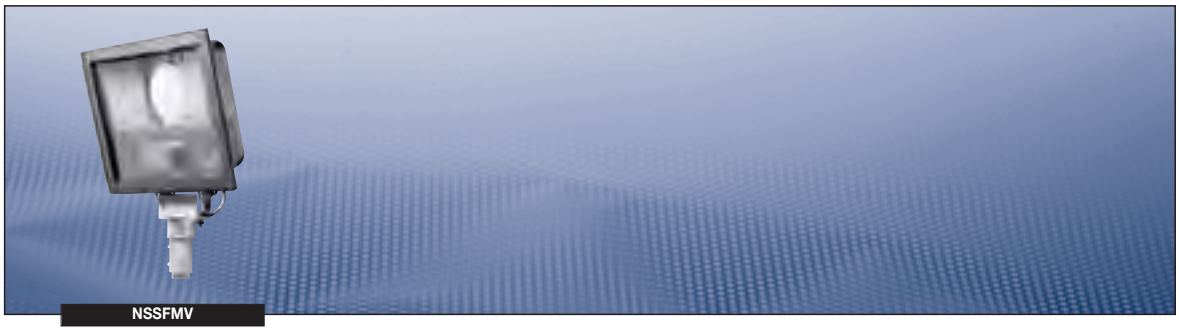
[4] at ta max. +40 °C

Lamps and fixing accessories are not included

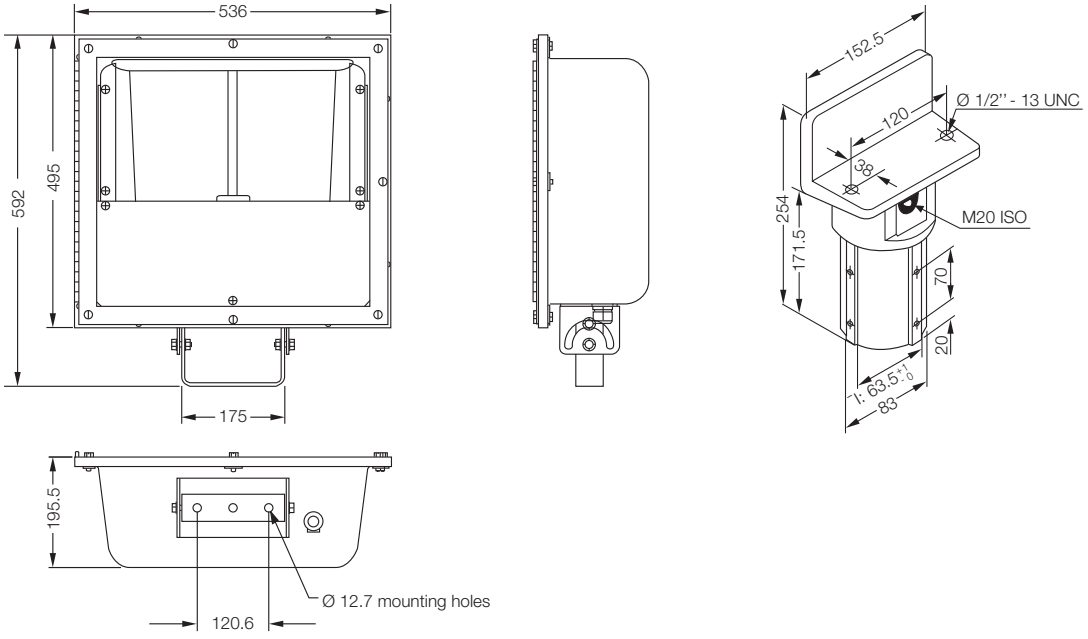
Accessories

NSSFMV	
Type	**Order No.**
Slipfitter adapter 2”	**3 2346 001 002**

Metal cable glands see page 8.10...

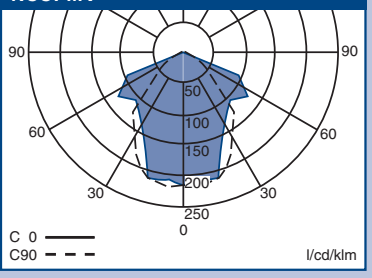


Dimensions drawing | Polar curve



NSSFMV

Polar curve
NSSFMV



Dimensions in mm

Lamps for Use in Ex-Pendant Light Fittings and Floodlights

Lamps for Ex-Pendant Light Fittings and Floodlights are normally not part of the delivery. The lamps are specified by IEC Standards and described by different Lamp Designation Systems. In Europe a standardized system was developed and introduced by the German ZVEI. This system (LBS) allows easily to name a lamp independent from the different manufacturers.

In the following table all lamps used in the Ex-pendant light fittings and floodlight are shown with the relevant short description and LBS-name.

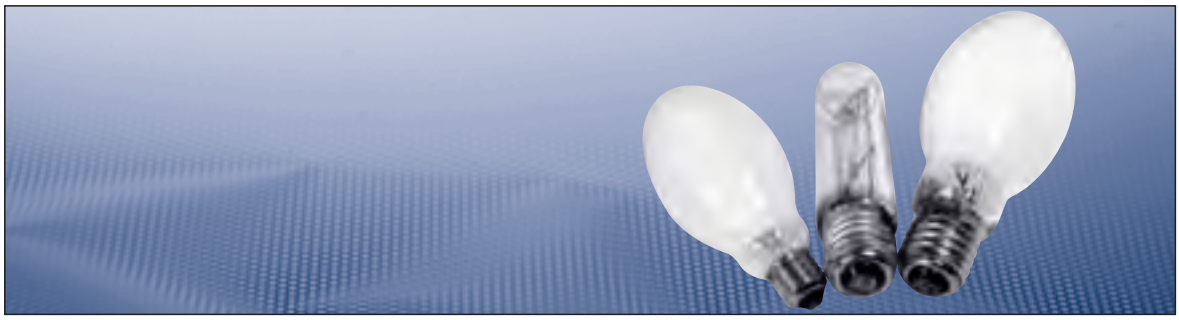
Spare Parts

As well as the above, there is also a large amount of spare parts available for maintenance and repair work. If required, please contact us, you will find that we will be more than pleased to help you.
We must point your attention to the fact that repair work done on explosive-protected products must be carried out with original spare parts only! If this is not the case and third-party parts are used, the Certification and Approval for the product will be forfitted and a possible reduction of the explosion-protection may be achieved.

Repair Service

Of course Cooper Crouse-Hinds GmbH upholds its own Repair Department where customer repairs are carried out. Our qualified and schooled personnel carry out repairs and overhauling using original spare parts, quickly and efficiently. This service also includes the end quality testing needed for explosion protected products.
With this service you have an “assured safety” as do all overhauled Ex-Lamps and products by Cooper Crouse-Hinds GmbH.





Accessories

Lamps for pendant light fittings and floodlights

For fitting	Lamp type	Lamp cap	Power	Luminous flux[10] approx. lm	Order No.
AB 05 Ex e	Incandescent IGA 60	E 27	60 W	710 lm	**on request**
AB 05 Ex d	HSE[5]	E 27	70 W	5600 lm	**3 2475 900 012**
AB 05 nR	Incandescent IGA 60	E 27	60 W/100 W	710/1360 lm	**on request**
AB 05 nR	TC-DSE 15 W	E 27	15 W	900 lm	**on request**
AB 05 nR	TC-DSE 20 W	E 27	20 W	1200 lm	**on request**
AB 05 nR	HSE[5]	E 27	70 W	5600 lm	**3 2475 900 012**
AB 80	Incandescent IGA 60	E 27	60 W/100 W	710/1360 lm	**on request**
AB 50/SPG 1N	Incandescent IGA 60	E 27	60 W/100 W	710/1360 lm	**on request**
AB 80	TC-DSE 11 W	E 27	11 W	660 lm	**on request**
AB 51	TC-DSE 15 W	E 27	15 W	900 lm	**on request**
AB 51	TC-DSE 20 W	E 27	20 W	1200 lm	**on request**
EVI AB 51	Incandescent IGA 65	E 27	150 W	2200 lm	**on request**
EVI / AB 51	Incandescent IGA 80	E 27	200 W	3100 lm	**on request**
EVI	Incandescent IGA 90	E 40	300 W	5000 lm	**on request**
EVI	Incandescent IGA 110	E 40	500 W	8400 lm	**on request**
AB 51	Halogene lamp IQT	E 27	75 W	1100 lm	**on request**
AB 51	Halogene lamp IQT	E 27	150 W	2500 lm	**on request**
AB 51	HME-SB[3]	E 27	100 W	1100 lm	**on request**
EVI	HME-SB[3]	E 27	160 W	3100 lm	**on request**
EVI	HME-SB[3]	E 40	250 W	5600 lm	**on request**
EVI	HME[4]	E 27	80 W	3800 lm	**on request**
EVI	HME[4]	E 27	125 W	6300 lm	**on request**
EVI	HME[4]	E 40	250 W	13000 lm	**CGS 323 7990 P1010**
AB 51	HSE[5]	E 27	50 W	3400 lm	**on request**
EVI	HSE[5]	E 27	70 W	5600 lm	**3 2475 900 012**
EVI	HSE[5]	E 40	150 W	14000 lm	**3 2475 900 014**
EVI	HSE[5]	E 40	250 W	25000 lm	**CGS 323 8600 P1009**
EVI	HIE[6]	E 40	250 W	17000 lm	**3 2475 900 017**
EVM	HME[4]	E 27	125 W	6300 lm	**on request**
EVM	HME[4]	E 40	250 W	13000 lm	**CGS 323 7990 P1010**
EVS	HSE[5]	E 27	70 W	5600 lm	**3 2475 900 012**
EVS	HSE[5]	E 40	150 W	14000 lm	**3 2475 900 014**
EVS	HSE[5]	E 40	250 W	25000 lm	**CGS 323 8600 P1009**
EVH	HIE[6]	E 40	250 W	17000 lm	**3 2475 900 017**
EVQ 55	Master QL[7][8]	–	55 W	3500 lm	**on request**
EVQ 85	Master QL[7][8]	–	85 W	6000 lm	**on request**

[3] HME-SB = mixed light high pressure mercury vapour lamp

[4] HME = high pressure mercury vapour lamp

[5] HSE/HST = high pressure sodium vapour lamp

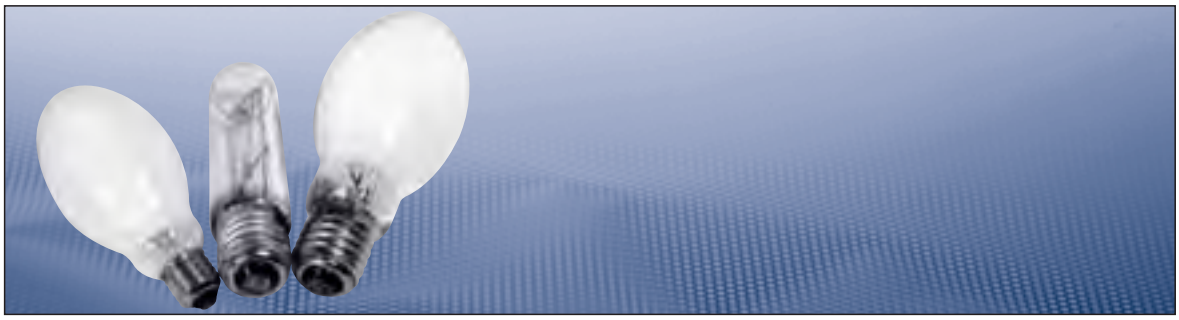
[6] HIE/HIT = High-pressure metal halide lamp

[7] Trade mark of Philips company

[8] Single components of this system as spare parts available
– Lamp QL (55 W/85 W)
– Power Coupler QL (55 W/85 W)
– HF-generator QL (55 W/85 W)

[9] QT = halogene lamp with protective bulb

[10] Diviations of lamp rated luminous flux possible depending to used product



Accessories

Lamps for pendant light fittings and floodlights

For fitting	Lamp type	Lamp cap	Power	Luminous flux[10] approx. lm	Order No.
FZD	HIT[6]	E 40	250 W	19000 lm	**CGS 323 7990 P1007**
FZD	HIT[6]	E 40	400 W	35000 lm	**CGS 323 7990 P1008**
FZD	HST[5]	E 40	250 W	27000 lm	**3 2475 900 016**
FZD	HST[5]	E 40	400 W	48000 lm	**3 2475 900 015**
dHLS 85	HME[4]	E 40	250 W	13000 lm	**CGS 323 7990 P1010**
dHLS 85	HME[4]	E 40	400 W	22000 lm	**CGS 323 7990 P1011**
dHLS 85	HSE[5]	E 40	250 W	25000 lm	**CGS 323 8600 P1009**
dHLS 85	HSE[5]	E 40	400 W	47000 lm	**CGS 323 8700 P1009**
dTLS 85	HIT-DE[6]	Fc2	250 W	19000 lm	**CGS 323 7990 P1009**
dTLS 85	HST-DE[5]	Fc2	250 W	25000 lm	**CGS 323 8500 P1009**
dTLS 85	HST-DE[5]	RX7s	70 W	6800 lm	**GHG 690 9216 P0001**
PX	HIT[6]	E 27	150 W	14000 lm	**on request**
PX	HIT[6]	E 40	250 W	20000 lm	**CGS 323 7990 P1007**
PX	HIT[6]	E 40	400 W	35000 lm	**CGS 323 7990 P1008**
PX	HST[5]	E 40	150 W	17000 lm	**on request**
PX	HST[5]	E 40	250 W	33000 lm	**3 2475 900 016**
PX	HST[5]	E 40	400 W	55500 lm	**3 2475 900 015**
PX	HST[5]	E 40	600 W	90000 lm	**on request**
PX	HME-SB[3]	E 40	500 W	14000 lm	**on request**
PX	IQT[9]	E 40	500 W	10000 lm	**on request**
KFL	Halogene reflector lamp type Sylvania-	GZ10	230 V/50 W	680 lm	**NOR 000 000 514 529**
NVMV Champ 70 - 150 W	HSE[5]	E 27	70 W	5600 lm	**3 2475 900 012**
NVMV Champ 70 - 150 W	HSE[5]	E 40	150 W	14000 lm	**3 2475 900 014**
NVMV Champ 70 - 150 W	HME[4]	E 27	125 W	6300 lm	**on request**
NVMV Champ 70 - 150 W	HIE[6]	E 27	70 W	5900 lm	**3 2475 900 010**
NVMV Champ 70 - 150 W	HIE[6]	E 27	150 W	13000 lm	**on request**
NVMV Champ 250 - 400 W	HSE[5]	E 40	250 W	25000 lm	**CGS 323 8600 P1009**
NVMV Champ 250 - 400 W	HSE[5]	E 40	400 W	47000 lm	**CGS 323 8700 P1009**
NVMV Champ 250 - 400 W	HME[4]	E 40	250 W	13000 lm	**CGS 323 7990 P1010**
NVMV Champ 250 - 400 W	HIE[6]	E 40	250 W	17000 lm	**3 2475 900 017**
NVMV Champ 250 - 400 W	HIE[6]	E 40	400 W	30000 lm	**3 2475 900 018**
NFMV	HSE[5]	E 40	150 W	14000 lm	**3 2475 900 014**
NFMV	HSE[5]	E 40	250 W	25000 lm	**CGS 323 8600 P1009**
NFMV	HSE[5]	E 40	400 W	47000 lm	**CGS 323 8700 P1009**
NFMV	HME[4]	E 40	250 W	13000 lm	**CGS 323 7990 P1010**
NFMV	HME[4]	E 40	400 W	22000 lm	**CGS 323 7990 P1011**
NFMV	HIE[6]	E 40	250 W	17000 lm	**3 2475 900 017**
NFMV	HIE[6]	E 40	400 W	30000 lm	**3 2475 900 018**

[3] HME-SB = mixed light high pressure mercury vapour lamp

[4] HME = high pressure mercury vapour lamp

[5] HSE/HST = high pressure sodium vapour lamp

[6] HIE/HIT = High-pressure metal halide lamp

[7] Trade mark of Philips company

[8] Single components of this system as spare parts available
- Lamp QL (55 W/85 W)
- Power Coupler QL (55 W/85 W)
- HF-generator QL (55 W/85 W)

[9] IQT = halogene lamp with protective bulb

[10] Diviations of lamp rated luminous flux possible depending to used product



EX-AUDIO/VISUAL-SIGNALLING EQUIPMENT

SIGNALLING IN HAZARDOUS AREAS 5.2

EX-MANUAL CALL POINTS 5.4

EX-STATUS LAMPS 5.12

EX-BEACONS AND STROBES 5.20

EX-SOUNDERS AND HORNS 5.50

EX-SPEAKERS 5.60

EX-HEAT DETECTORS 5.68





Visual and Audible Signalling Devices as tough as your environment.



Why Cooper Products?

- The broadest line of harsh and hazardous signalling, alarm and communication products available in both IEC and NEC designs and certifications.
- A new line of hazardous area call points (fire alarm or emergency notification devices) provides you a unique product offering unequalled by any other manufacturer of hazardous location signalling products.
- Worldwide listings with UL, cUL, ATEX, GOST, CSA and CQST (Chinese) approvals provide customer solutions that the competition can't match.
- Superior enclosure materials providing unmatched ingress protection and corrosion resistance from the harshest conditions.
- A unique signalling product offering integral visual and audible signalling capability pre-wired for simultaneous output activation.
- A new line of heat detectors for early indication of potential processing problems.

Applications Include:

Petrochemical Facilities
Manufacturing Areas
Waste Water Treatment
Food Processing Facilities
Paper and Pulp Operations
Pharmaceutical Manufacturing

ALARM, SIGNAL AND CONTROLL EQUIPMENT FOR HAZARDOUS AREAS

A powerful Member of the Cooper Group: MEDC Ltd.



Designers and manufacturers of Alarm, Signal and Control Equipment since 1975, MEDC have developed a range of products specifically designed for use in areas where **harsh environmental conditions** prevail and where there is a **risk of explosion** due to the presence of flammable atmospheres.

MEDC are renowned throughout the world for their exacting quality standards and reliability as **a leading manufacturer of Explosion Proof Equipment.**

MEDC has also recently developed a range of equipment for use in industrial, marine, commercial and leisure applications.

MEDC specialises in custom finished products to specific requirements. The full product range totals over 100 items, all of which are appropriately certified to internationally recognised standards, eg **ATEX/CENELEC, UL, CSA, FM, SGS, GOST R & K, SAA, Chinese (CQST), PTB.**

MEDC holds the **International Quality Assurance Standard, ISO9001,** which covers all company activities from design and development, to manufacture, sales and after sales service.

In addition to the above certification, MEDC products have **approval from The Ministry of Defence, British Gas and UK Coal Mining.**

– International Certifications
ATEX/CENELEC, UL, CSA, FM, GOST R & K, SAA, Chinese (CQST), PTB
– Highest degree of protection IP66/IP67

For more detailed information please visit the web-side: **www.medc.com** or contact your local MEDC representative.

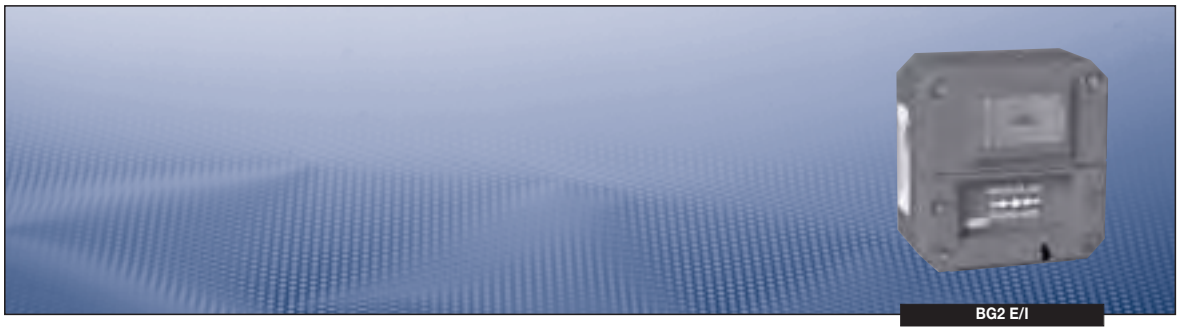
EX-MANUAL CALL POINTS

Explosion protected units for Zone 0, 1, 2, 22, Class I and Div 1 & 2

The BG3 manual fire alarm call point is designed in accordance with the latest draft European Call Point Standard (EN54-11). Weatherproof to IP66 and IP67 and available certified intrinsically safe, simple apparatus or uncertified, the units are manufactured from glass reinforced polyester (GRP) which provides a robust, corrosion free construction and ensures effective and reliable operation in harsh industrial and offshore environments. Units are supplied in self coloured GRP or painted to customer specification.
The BG3 'Burning House' duty label is provided as standard, other duty and tag labels may be supplied to customer specification.



- **Zone 0, 1, 2, 21 and Zone 22 use**
- **Chinese (CQST) certified**
- **Designed in accordance with EN54-11**
- **IP66 and IP67**
- **Certified temperature -55°C to +55°C**
- **Corrosion free GRP**
- **Optional in line/end of line resistors/diodes**
- **Optional LED indicator**
- **Optional lift flap**
- **Optional flush installation**
- **Optional glass substitute element**
- **Key operated test facility**
- **Various body colours available**


BG2 E/I

Technical data

Type BG2 E/I		
EC-Type Examination Certificate	BG2 E	BAS 02 ATEX 2105 X
	BG2 I	Baseefa 03 ATEX 0084 X
Marking to 94/9/EC	BG2 E	Ⓔx II 2G/D Ex edm IIC T4 T135 °C
		Ⓔx II 2G/D Ex ed IIC T6 T85 °C
	BG2 I	Ⓔx II 1G/D Ex ia IIC T4 T135 °C
Enclosure material		U.V. resistant glass-fibre reinforced polyester
Finish		Self coloured red
Optional indicator		A red high intensity LED can be fitted for alarm indication
Rated voltage	BG2 E	up to 250 V (switch only)/up to 24 V (resist. + switch)
	BG2 I	up to 28 V (IS)
Rated current only BG 2E		DC 0- 30 V: 5 A (resistive)/3 A (inductive)
		DC 30- 50 V: 1 A
		AC 0-250 V: 5 A
Circuits		Switch only / End of Line Resistor/Diode
		In Line Resistor/Diode / In Line & End of Line Resistor/Diode
Entries		2 x M20 bottom
Weight		1.2 kg
Rated terminal cross section		6 x 2.5 mm²
Protection category to EN 60529		IP66/IP67
Permissible ambient temperature		-20 °C to +50 °C (BG2 E) / -40 °C to +50 °C (BG2 I)
Resistor values		470 Ω min./39 kΩ max. (DC and IS only)

Ordering details

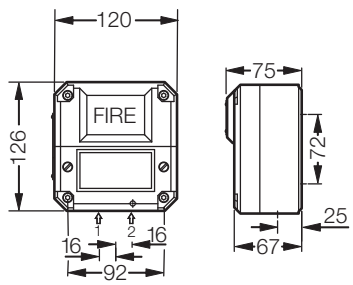
Catalogue No.	Certification	Description	Ordering Code
BG2EDC1N	ATEX Ex II 2GD	Explosion protected, Zone 0, 1 & 2, DC, 2 x M20 bottom entries, single break glass switch latching, red finish	**PX 800004**
BG2INN1N	ATEX Ex II 1GD	Explosion protected, Zone 0, 1 & 2, DC, 2 x M20 bottom entries, single break glass switch latching, red finish	**PX 800005**

Ordering options*

Unit Type	Model	Code	Wiring Diagram	Code	Lift Flap	Code	Finish	Code
BG2	BG2W – AC or DC	**BG2WNN**	Switch only	**1**	Fitted	**F**	Natual red	**N**
	BG2I – Up to 28 V (I.S.)	**BG2INN**	End of line resistor	**2**	Not fitted	**N**	Red Painted	**R**
	BG2E – DC	**BG2EDC**	In line resistor	**3**				
	BG2E – AC	**BG2EAC**	In line and end of line resistor	**4**				
			Diode (specify location & value)	**5**				

* For more options see www.medc.com or contact your local representative

Dimension drawing



BG2 E/I

Dimensions in mm



PB.../BG...

Technical data

Type BGE, PBE, BGI, PBI, BGUL, PBUL	
Enclosure material	anti static U.V. resistant glass reinforced polyester
Finish	Red epoxy painted finish as standard
Optional indicator	A red high intensity LED can be fitted to indicate operation on versions up to 24 V and all “IS“ versions
Rated current only BG/PB E	DC 0- 30 V: 5 A (resistive)/3 A (inductive) DC 30- 50 V: 1 A / AC 0-250 V: 5 A
Circuits	single changeover or double changeover
Entries	Up to 4 entries, M16 or M20 top and bottom / 1/2” NPT
Weight	1.2 kg (varies with model & entries)
Rated terminal cross section	7 x 2.5 mm^2/9 x 2.5 mm^2 optional u to 60 V only
Protection category to EN 60529	IP66/IP67
Resistor values	Various configurations available on versions up to 24 V and all “IS“ versions (min. value 470 Ω)

Type BGE, PBE	
EC-Type Examination Certificate	BAS 02 ATEX 2105 X
Marking to 94/9/EC	Ⓔx II 2G/D Ex edm IIC T4 T135 °C (switch only) Ⓔx II 2G/D Ex ed IIC T6 T85 °C (other versions)
GOST ’R’ Certification	Ex edm IIC T6 (switch only) / Ex edm IIC T4 (other version) Russian Fire Approved (VNIIPO)
Chinese Certification	CQST Ex ed IIC T6 (switch only) / CQST Ex edm IIC T4 (other versions)
Rated voltage	up to 250 V
Permissible ambient temperature	-20 °C to +50 °C

Type BGI, PBI	
EC-Type Examination Certificate	BAS 03 ATEX 0084 X
Marking to 94/9/EC	Ⓔx II 1G/D Ex ia IIC T4 T135 °C
CSA Certification to C22.2 (PBI only)	Nos. 0-M, 0.4-M, 25, 30-M, 94, 142-M1987, 157-M1987, 157-92, Enclosure Type 4. T4A Class I Groups A, B, C & D
Cert. No.	79120
GOST ’R’ Certification (PBI & BGI)	Ex ia IIC Russian Fire Approved (VNIIPO)
GOST ’K’ Certification (PBI only)	Ex ia IIC T4
Chinese Certification (PBI & BGI)	CQST - Ex ia IIC T4
Rated voltage	up to 28 V (IS)
Permissible ambient temperature	ATEX -40 °C to +70 °C (PBI) Z ATEX -40 °C to +50 °C (BGI) CSA -50 °C to +40 °C (PBI only)

Type BGUL, PBUL	
UL-Listed	Class I, Div 2, Groups A-D
Listing No.	E186629
Rated voltage	up to 240 V
Permissible ambient temperature	-25 °C to +55 °C



Ordering details

Catalogue No.	Certification	Description	Ordering Code
BGEB4B6B1DSN6R	ATEX Ex II 2GD	Explosion protected Ex II 2GD, Exed, IIC, T6, Zone 1 & 2, DC, 2 x M20 bottom entries, single break glass switch latching, red finish	**PX 800003**
BGIB4B6B1DSN6R	ATEX Ex II 1GD	Explosion protected, Zone 0, 1 & 2, DC, 2 x M20 bottom entries, single break glass switch latching, single switch, red finish	**PX 800002**
BGUL4C6C1DSN6R	UL Listed, Class I, Div 2, Groups A, B, C, D, Zone 2	Explosion protected, 2 x 1/2" NPT bottom entries, single break glass switch latching, painted red GRP finish	**PX 869101**

Ordering options*

Unit Type	Certification	Code	Entries	Code	Labels	Code	Switches	Code	Features	Code	Terminals	Code	Finish	Code
BG	ATEX – Exe	**EB**	16 mm	**A**[2]	None	**0**	Single change-over	**S**[3]	None	**N**	7 x 2.5 mm²	**7**	Red (Standard)	**R**
PB	ATEX – Exi	**IB**	20 mm	**B**[2]	Glass label	**1**			LED	**A**	9 x 2.5 mm²	**9**	Natural	
	CSA – Exi (PBI only)	**IC**	1/2" NPT	**C**[2]	Glass label	**2**			Lift flap (BG only)	**B**			Black	**N**
	UL – Class I, Div 2	**UL**			Glass label	**3**			Resistor Series	**C**[4]			Blue	**B**
	GOST 'R'[1] – Exi	**IG**			Duty label reqd.	**4**			Resistor EOL	**D**[4]			Yellow	**Y**
	GOST 'R'[1] – Exe	**EG**			Tag label	**5**			Diode†	**E**			Grey	**G**
	GOST 'K' – Exi (PBI only)	**IK**							Earth Continuity	**F**			Yellow/Black Stripes	**X**
	Chinese – Exe	**EQ**							Turn & Push (PB only)	**T**			Other specify	**S**
	Chinese – Exi	**IQ**							Self reset (PB only)	**M**				
									Resistor Series & EOL †	**S**[4]				
									Plastic element replaces Break glass	**P**				

* For more options see www.medc.com or contact your local representative

[1] VNIIPO approved as standard.

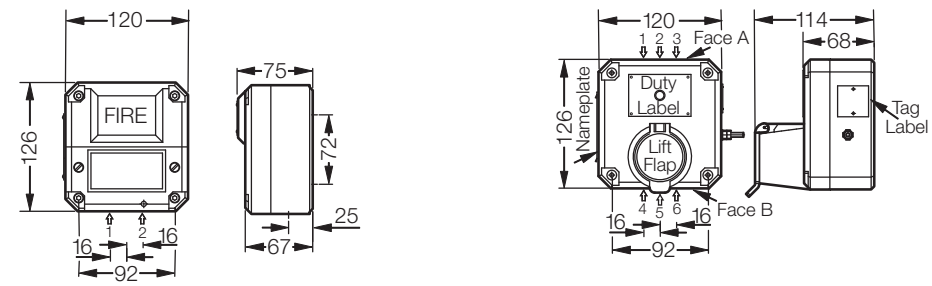
[2] Prefix entry size (see diagram above) with entry position code e.g. 1A, 2A. UL & CSA versions only available with 1/2" NPT entries.

[3] Prefix with voltage A for A.C. – D for D.C. except for BGI.

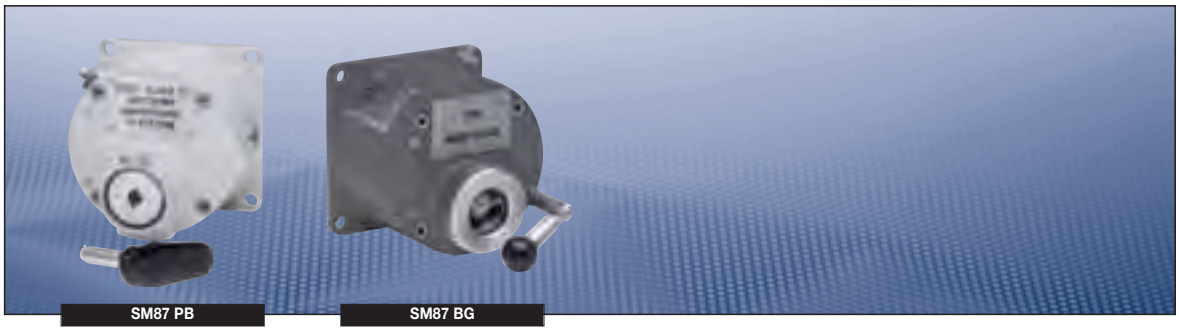
[4] Specify values

†Not available for UL/CSA

Dimension drawing



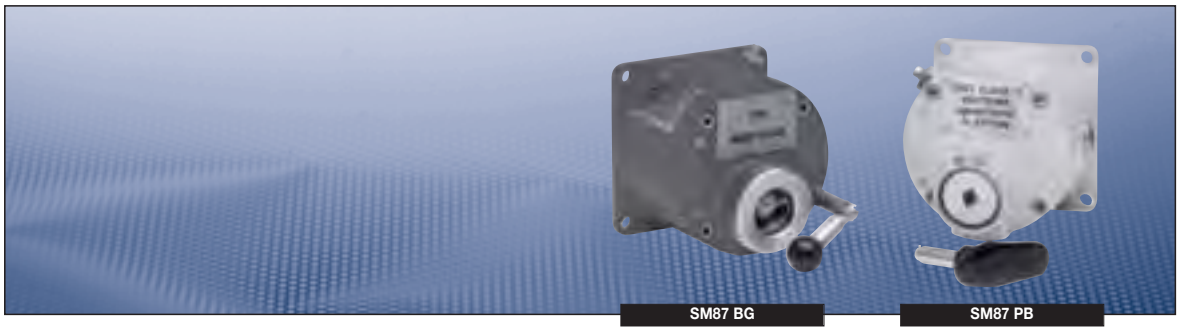
Dimensions in mm



Technical data

SM87 BG | SM87 PB		
EC-Type Examination Certificate	Ex "i"	Baseefa 02 ATEX 0152 X
	Ex "d"	Baseefa 03 ATEX 0075
Marking to 94/9/EC	Ex "i"	Ⓔx II 1G Ex ia IIC T4
	Ex "d"	Ⓔx II 2G/D Ex d IIC T5/T6
UL listed		Class I, Div 1 Groups C & D (PBL only)
Listing No.		186629
CSA Certification		Class I Groups A-D (I.S. version only PBI)
		Class I, Div 1 & 2, Group D (Ex-d PB, BG only)
GOST 'R' Certification		1 Ex ib IIC T4 / 1 Ex d IIC T4 / Russian Fire Approved (VNIIPO)
GOST 'K' Certification		Ex ib IIC T4
Chinese Certification CQST		Ex ia IIC T4 / Ex d IIC T5/T6
Enclosure material		Grade 316 ANC4B Stainless Steel or LM 25 TF Marine Grade Alloy
Finish		Epoxy paint finish as standard or to customer's specification
Optional indicator		A red high intensity LED can be fitted for alarm indication
Rated voltage		Ex d: 24 V AC/DC / Ex i: 28 V
Rated current		2 A
Switches		2 pole c/o wired to terminals, optional up to 4 pole
Entries		up to 4 x 20 mm or 25 mm ISO / up to 4 x 1/2" or 3/4" NPT
Weight		3.8 kg (steel) / 2.5 kg (alloy)
Rated terminal cross section		2 – 5 mm^2
Protection category to EN 60529		IP66/IP67/IP68 (SM87 PB)
Insulation class		I
Permissible ambient temperature		Ex d/Ex-i* –55 °C to +70 °C
		LED version* –20 °C to +55 °C
		UL –55 °C to +70 °C
		UL LED version –20 °C to +55 °C
		CSA Exd –50 °C to +55 °C
		CSA Exe –50 °C to +40 °C
Resistor values		470 Ω minimum (DC and IS only)

* inlcudes ATEX, GOST and Chinese



Ordering details

Catalogue No.	Certification	Description	Ordering Code
SM87BGLAD1B1NNR	ATEX Ex II 2GD	Break glass call point, Ex II 2GD, Exd IIC T6, IP66 & 67, 1 x M20 bottom entries, duty label, "Fire Breakglass", alloy material, red finish	**PX 562444**
SM87PBLAUL3T3B3NNR	UL, CSA, Class I, Div 1, Groups C & D, Zone 1	Explosion protected, 2 x 1/2" NPT entries, duty label "Fire-Press Here", single push button switch-latching, marine grade alloy, red finish	**PX 36200102**

Ordering options*

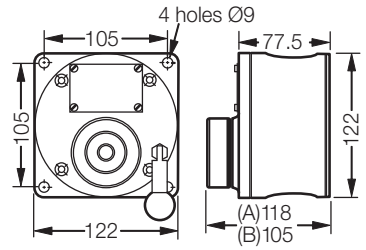
Unit Type	Model	Code	Material	Code	Cert.	Code	Entries	Code	Duty label	Code	Tag label	Code	Features	Code	Finish	Code
SM 87	Breakglass unit, latching	**BGL**	SS 316	**S**	Ex ia IIC T4	**I**	20 mm	**1**	Fire-Break-glass	**1**	required	**Y**	Not required	**N**	Red	**R**
	Lift flap Breakglass latching	**LBGL**	Alloy	**A**	Ex d IIC T6	**D**	25 mm	**2**	not required	**N**			LED	**A**	Blue	**B**
	Push Button Latching key reset	**PBL**			UL	**UL**	1/2" NPT	**3**					Resistor Series	**G**	Yellow	**Y**
	Push Button self reset	**PBM**			CSA – Exd	**DC**	3/4" NPT	**4**					Resistor EOL	**H**	Yellow/ Black Stripes	**X**
					CSA – Exi	**IC**	Top	**T[1)]**	Push-Button	**2**			Diode	**D[2)]**	Special Finish	**S**
					GOST 'K' Exi	**IK**	Bottom	**B[1)]**	Button	**3**			3 pole c/o switch	**T**		
					GOST 'R' Exi	**IG**	RHS	**R[1)]**	Fire-push Button	**4**			4 pole c/o switch	**F**		
					GOST 'R' Exd	**DG**	LHS	**L[1)]**	Other	**O**						
					Chinese Exi	**IQ**			None	**N**						
					Chinese Exd	**DQ**										

[1)] prefix position with size code (1T, 1B, 1R, 1L) e.g. 1T 1B = 20 mm Top and Bottom

[2)] Specify values

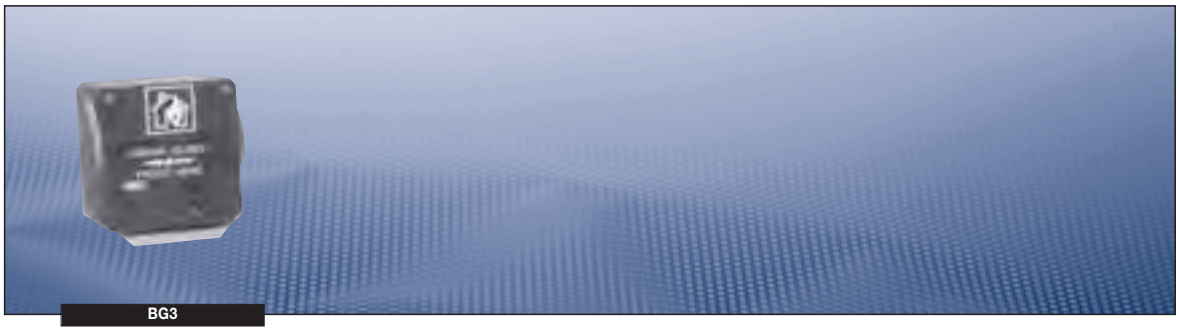
* For more options see www.medc.com or contact your local representative

Dimension drawing



(A) Pushbutton version
(B) Breakglass version

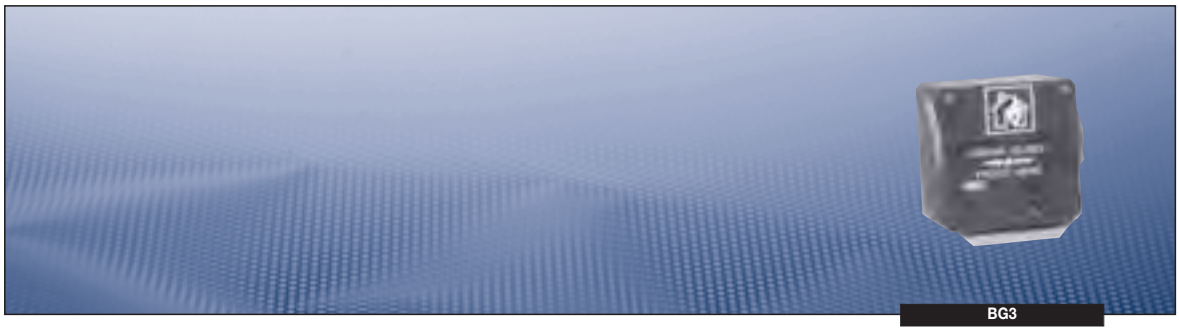
Dimensions in mm



BG3

Technical data

BG3	
EC-Type Examination Certificate	BAS 00 ATEX 1067X
Marking to 94/9/EC	Ex II 1G Ex ia IIC T4
Chinese Certification	CQST Ex ia IIC T4
Enclosure material	UV resistant glass reinforced polyester
Finish	Natural Red GRP or painted*
Optional indicator	A red high intensity LED can be fitted to indicate operation on versions up to 24 V and all "IS" versions
Rated voltage	up to 28 V (IS)
Entries	2 x M20 bottom
Weight	0.5 kg
Rated terminal cross section	6 x 4.0 mm^2
Protection category to EN 60529	IP66/IP67
Permissible ambient temperature	–55 °C to +55 °C (BGE)
Resistor values	470 Ω min.



Ordering details

Catalogue No.	Certification	Description	Ordering Code
BG3I1NBN	ATEX Ex II 1G	Explosion protected, Zone 0, 1 & 2, DC, standard models are surface mount version, have 2 x M20 bottom entries, single break glass switch latching, duty label "Burning House", red GRP finish	**PX 800007**

Ordering options*

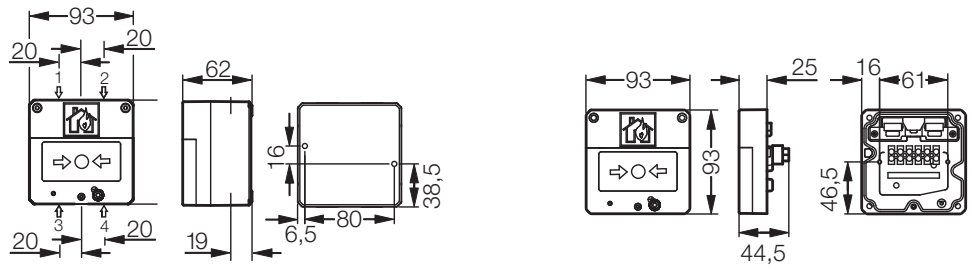
Model	Certification	Code	Label type[1]	Code	Features	Code	Entries	Code	Body colour	Code
BG3I	Ex ia	**I**	Fire break glass		None	**N**	2 x 20 mm		Natural red*	**N**
	CQST	**Q**	"Press here"	**1**	Resistor series	**S**	(bottom)	**B**[2]	Red paint	**R**
			Break glass		Resistor EOL	**E**	2 x 20 mm		Blue	**B**
			"Press here"	**2**	Diode	**D**	(top)	**T**[2]	Green	**G**
			Special	**3**	Polycarbonat lift flap	**F**			White	**W**
			European		Stainless steel lift flap	**C**			Yellow	**Y**
			Standard (draft)		LED	**L**			Special	**S**
			⇨◯⇦	**4**	Double changeover	**T**				
			Duty label (special)		Flush Mounting (weatherproof only)	**M**				
			(Burning house		Plastic element					
			as standard)	**5**	(replaces break glass)	**P**				
			Tag label	**6**						

[3] Specify wording on '3', '5' & '6'

[2] For blanking plugs add "P" to code.

* For more options see www.medc.com or contact your local representative

Dimension drawing



Surface mount unit

Panel/flush mount unit

Dimensions in mm

E X - S T A T U S L A M P S

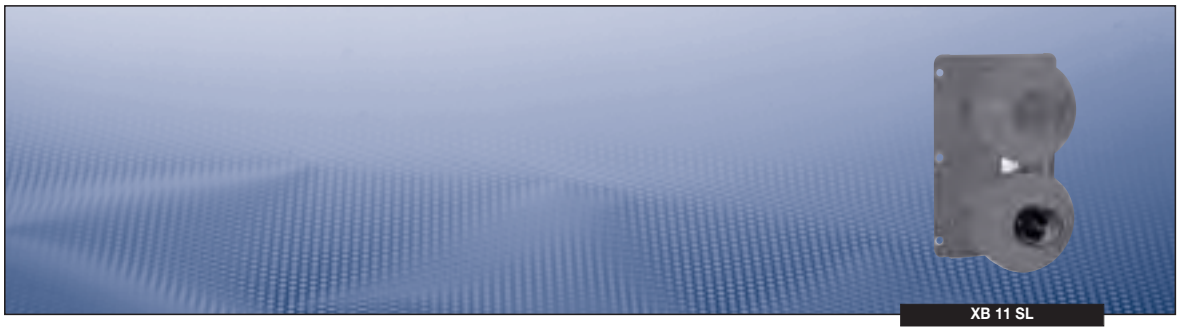
Explosion protected units for Zone 0, 1, 2 and 22

Theses ranges of versatile status lights have been designed to suit various offshore and onshore applications. Available as LED, xenon, filament and fluorescent beacons.The SM87 SL range is manufactured in marine grade alloy and the XB11/XB 12 SL in corrosion-free GRP to provide a wide range of status lights to suit clients' requirements.All units can be supplied as 1, 2, 3, 4 or 5 way.

A long life, high intensity, LED version is now available.



- **Zone 1 and Zone 2 use**
- **BASEEFA certified**
- **UL listed for USA and Canada – Class I, Div. 1 & 2, Groups C & D. – Class I, Zone 1, AExd IIB T6**
- **CSA certified**
- **GOST 'R' & 'K' certified**
- **Chinese (CQST) certified**
- **IP66 & 67**
- **Certified temperature –55°C to +70°C**
- **LED, xenon, fluorescent, filament**
- **Marine grade alloy or GRP**
- **Close-coupled and pre-wired to customer's requirements**



Technical data

XB 11 SL Range		
EC-Type Examination Certificate	BAS 99 ATEX 2195X	
Marking to 94/9/EC	Ⓔx II 2G/D Ex d IIB T*	
UL Listed for USA and Canada	Class I, Div 2, Groups C & D / Class I, Zones 1 & 2	
Listing No.	E187894	
Chinese Certified	Ex d IIB T5/T6	
Enclosure material	UV stable, glass reinforced polyester	
Finish	Natural Black or Epoxy paint to customers specification	
Lens	Glass	
Lamp types	Xenon 5 joules maximum	
	Fluorescent 10 W or 5 W	
	Filament 10 W maximum	
Rated voltage	Xenon	24 V DC/110, 240 V AC
	Filament Voltages	24, 48 V DC/110, 220, 240, 254 V AC
	Fluorescent Voltages	24 V DC, 240 V AC
Lamp Colours	Red, amber, yellow, green, blue or clear	
Light module	1 to 5 ways	
Entries	1 x M20	
Rated terminal cross section	max. 2.5 mm^2	
Protection category to EN 60529	IP66/IP67	
Insulation class	I	
Permissible ambient temperature	-55 °C to +70 °C	

* see table below

Ordering details

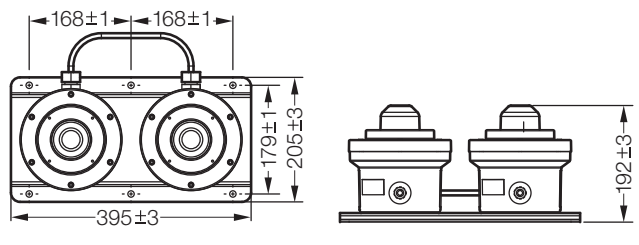
Catalogue No.	Certification	Description	Ordering Code
XB11SL3	UL Listed, Class I, Div 2, Groups C & D	Explosion protected, 3 stack, one 1/2" NPT entry on bottom, 24V DC, green incandescent on top, yellow xenon flashing in middle, red xenon flashing on bottom, no lens guards, red finish	**PX 42500005**

Temperature classifications

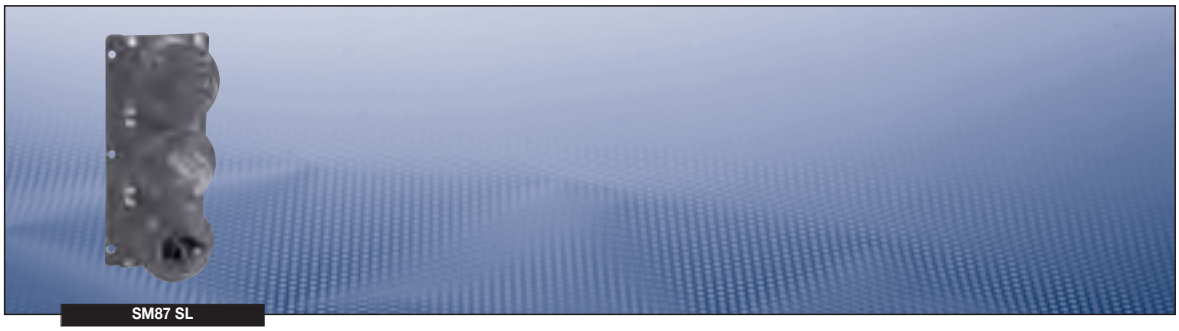
Type ...	Lamp	Ambient temperature		Temperature Classification (G/D) at Tamb.		
		–55 °C	–20 °C	+40 °C	+55 °C	+70 °C
XB11SL	Filament	X	X	T6/T 85 °C	T5/T 100 °C	–
XB11SL	Fluorescent	–	X	T5/T 100 °C	T4/T 135 °C	–
XB11SL	Xenon	X	X	T6/T 85 °C	T5/T 100 °C	T4/T 135 °C

* For more options see www.medc.com or contact your local representative

Dimension drawing



Dimensions in mm



SM87 SL

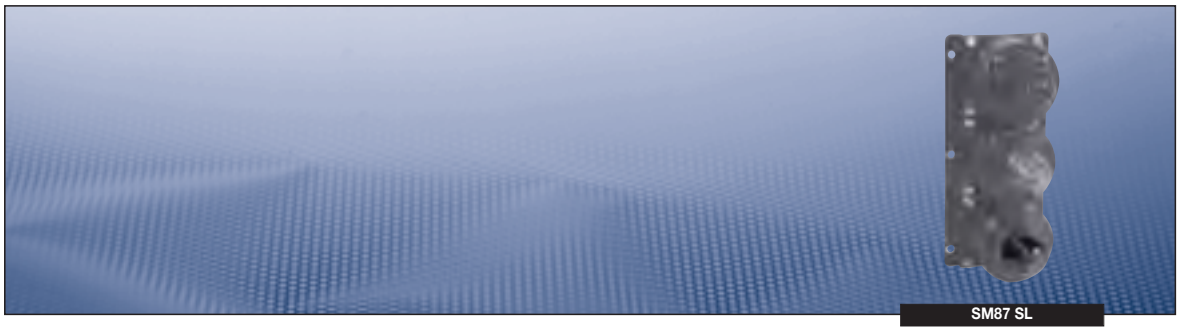
Technical data

SM87 SL		
EC-Type Examination Certificate	Baseefa 03 ATEX 0222X	
Marking to 94/9/EC	Ⓔx II 2G/D Ex d IIC T*	
UL Listed	Class I, Div 1, Groups C & D	
	Class I, Zone 1, AExd IIB T6	
Listing No.	E187894	
CSA Certified	Class I, Div 1	
GOST 'R' & 'K'	Certified – Zones 1 & 2 IP66 & 67	
NEMA	4 x 6	
Enclosure material	LM 25 TF Marine Grade Alloy	
Finish	Epoxy paint finish as standard or to customer's specification	
Lens	Glass	
Lamp types	Xenon 5 joules maximum	
	Fluorescent 10 W or 5 W	
	Filament 40 W maximum	
Rated voltage	Xenon	24, 48 V DC/110, 120, 240, 254 V AC
	Filament Voltages	12, 24, 48 V DC/110, 220, 240, 254 V AC
	Fluorescent Voltages	12, 24, 48 V, 220, 240, 254 V AC
Lamp Colours	Red, amber, yellow, green, blue or clear	
Light module	1 to 5 ways	
Entries	Up to 3 x M20 or M25 / 3 x 1/2" or 3/4" NPT	
Rated terminal cross section	max. 2.5 mm^2	
Protection category to EN 60529	IP66/IP67	
Permissible ambient temperature	LED and fluorescent	-25 °C to +55 °C*
	Xenon & filament	-55 °C to +70 °C

* see table below

Temperature classifications

Type	Lamp	Voltage	Watts	Temperature Classification (G/D) at Tamb. -25 °C to +... °C		
				+40 °C	+55 °C	+70 °C
SM 87 SL	Filament	240 AC	48	T4/T 135 °C	T3/T 200 °C	–
SM 87 SL	Fluorescent	254 AC				
		240 AC	10	T5/T 100 °C	T4/T 135 °C	–
		110/120 AC		T6/T 85 °C	T5/T 100 °C	–
		12, 24, 48 DC	5		T6/T 85 °C	–
SM 87 SL	Xenon	110, 240, 254 AC				
		12, 24, 30, 48 DC	11	T6/T 85 °C	T4/T 135 °C	T4/T 135 °C

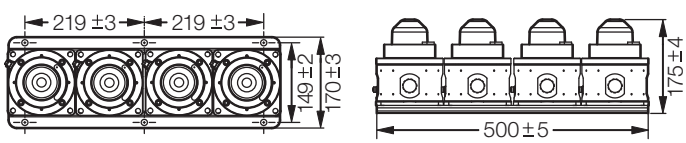


Ordering details

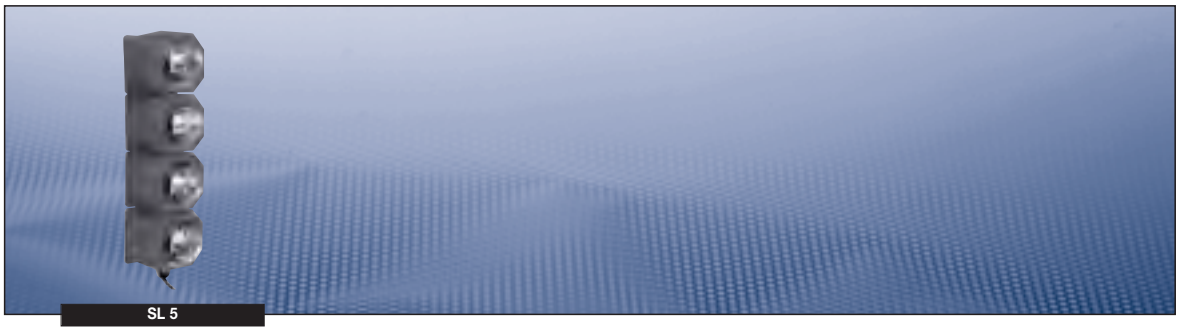
Catalogue No.	Certification	Description	Ordering Code
SM87SL2	UL, cUL Listed, Class I, Div 1, Groups C & D	Xenon status lamp, two stack 5 joule beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, one 1/2" NPT entry in the bottom unit for customer connection	**PX 26200055**
SM87SL2	UL, cUL Listed, Class I, Div 1, Groups C & D	Incandescent status lamp, two stack 40 watt beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, one 1/2" NPT entry in the bottom unit for customer connection	**PX 26200056**
SM87SL2	UL, cUL Listed, Class I, Div 1, Groups C & D	Fluorescent status lamp, two stack 5 watt beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, one 1/2" NPT entry in the bottom unit for customer connection	**PX 26200057**
SM87SL2	UL, cUL Listed, Class I, Div 1, Groups C & D	Xenon status lamp, two stack 5 joule beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, one 1/2" NPT entry in the bottom unit for customer connection	**PX 26200058**
SM87SL3	UL, cUL Listed, Class I, Div 1, Groups C & D	Explosion protected, 3 stack, one 1/2" NPT entry on bottom, no lens guards, xenon strobe with red, green, and clear lens	**PX 26200043**
SM87SL3	UL, cUL Listed, Class I, Div 1, Groups C & D	Xenon status lamp, three stack 5 joule beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, one 1/2" NPT entry in the bottom unit for customer connection	**PX 26200059**
SM87SL3	UL, cUL Listed, Class I, Div 1, Groups C & D	Incandescent status lamp, three stack 40 watt beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, one 1/2" NPT entry in the bottom unit for customer connection	**PX 26200060**
SM87SL3	UL, cUL Listed, Class I, Div 1, Groups C & D	Fluorescent status lamp, three stack 5 watt beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, one 1/2" NPT entry in the bottom unit for customer connection	**PX 26200061**
SM87SL3	UL, cUL Listed, Class I, Div 1, Groups C & D	Xenon status lamp, three stack 5 joule beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, one 1/2" NPT entry in the bottom unit for customer connection	**PX 26200062**
SM87SL3	UL, cUL Listed, Class I, Div 1, Groups C & D	Fluorescent status lamp, three stack 5 watt beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, one 1/2" NPT entry in the bottom unit for customer connection	**PX 26200063**

* For more options see www.medc.com or contact your local representative

Dimension drawing



Dimensions in mm

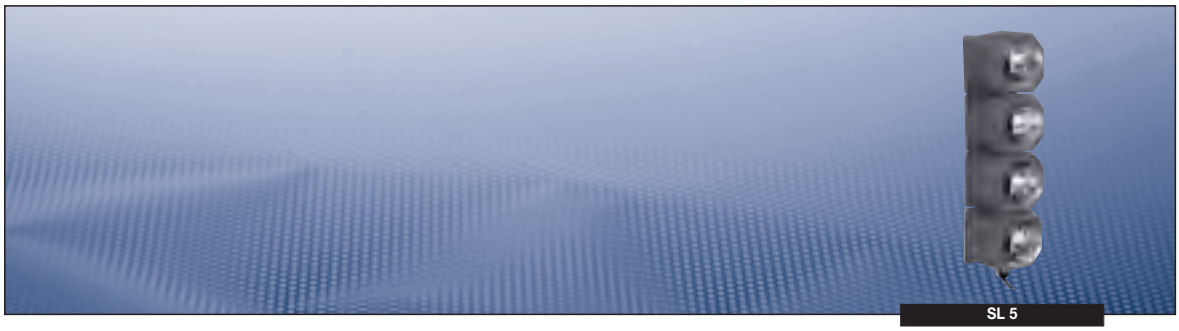


SL 5

Technical data

SL 5		
EC-Type Examination Certificate	BAS 02 ATEX 2108X	
Marking to 94/9/EC	Ⓔx II 2G Ex e*	
Chinese (CQST)	Exem II T4, LED	
	Exe II T3, Filament	
	Exem II T4, Xenon	
Enclosure material	UV stable, glass reinforced polyester	
Finish	Body natural black or painted to client specifications	
Lens	Polycarbonate	
Lamp types	Xenon 1 joules maximum / Fluorescent 2 x 5 W	
	Filament 400 W maximum	
Rated voltage	Xenon	24, 48 V DC
	Filament Voltages	12, 24, 48 V DC/110, 220, 240, 254, 260 V AC
	LED	12, 24 V AC
Lamp Colours	Filament and Xenon	Red, amber, yellow, green, blue or clear
	LED	Red, amber or green
Light module	1 to 5 ways	
Entries	max. 2 x M16 or M20/max. 1 x M20/M32	
Rated terminal cross section	max. 12 x 4 mm^2/16 x 2.5 mm^2	
Protection category to EN 60529	IP66/IP67	
Insulation class	I	
Permissible ambient temperature	LED	-40 °C to +45 °C*
	Xenon & filament	-40 °C to +55 °C

* see table temperature classifications page 5.17



Temperature classifications

Type	Lamp	Voltage	Watts	Temperature Classification (G/D) at Tamb. -25 °C to +... °C		
				+40 °C	+55 °C	+70 °C
SL 5	Filament	240 AC	48	T4/T 135 °C	T3/T 200 °C	–
SL 5	Fluorescent	254 AC				
		240 AC	10	T5/T 100 °C	T4/T 135 °C	–
		110/120 AC		T6/T 85 °C	T5/T 100 °C	–
		12, 24, 48 DC	5		T6/T 85 °C	–
SL 5	Xenon	24, 48 DC	11	T6/T 85 °C	T4/T 135 °C	T4/T 135 °C
SL 5	LED		4			
	LED blue	24, 48 DC	5, 6	T6/T 85 °C	T4/T 135 °C	–

Ordering options*

Unit	Type	Code	Lamp Type Position[1] V W X Y V Z	Code	Voltage	Code	Cable entries	Code	Duty/Tag label	Code	Finish	Code
SL5	Exe(m)	**E**	Filament	**1**	12 V DC	**012**	M16	**A**[2]	Duty label	**D**[3]	Natural Black	**N**
	Chinese		Xenon	**2**	24 V DC	**024**	M20	**B**[2]	Tag	**T**[3]	Special	**S**[4]
	(CQST)	**Q**	LED	**3**	48 V DC	**048**	M25	**C**[2]	None	**N**[3]		
			LED flashing	**4**	110 V DC	**110**	M32	**D**[2]				
			Suffixed by colour required		220 V DC	**220**						
			Red	**R**	240 V AC	**240**						
			Amber	**A**	254 V AC	**254**						
			Yellow	**Y**	260 V AC	**260**						
			Blue	**B**								
			Green	**G**								
			Clear	**C**								

[1] Select lamp type and lens colour for each position e.g. V W X Y Z
2R 2G 2Y -- --

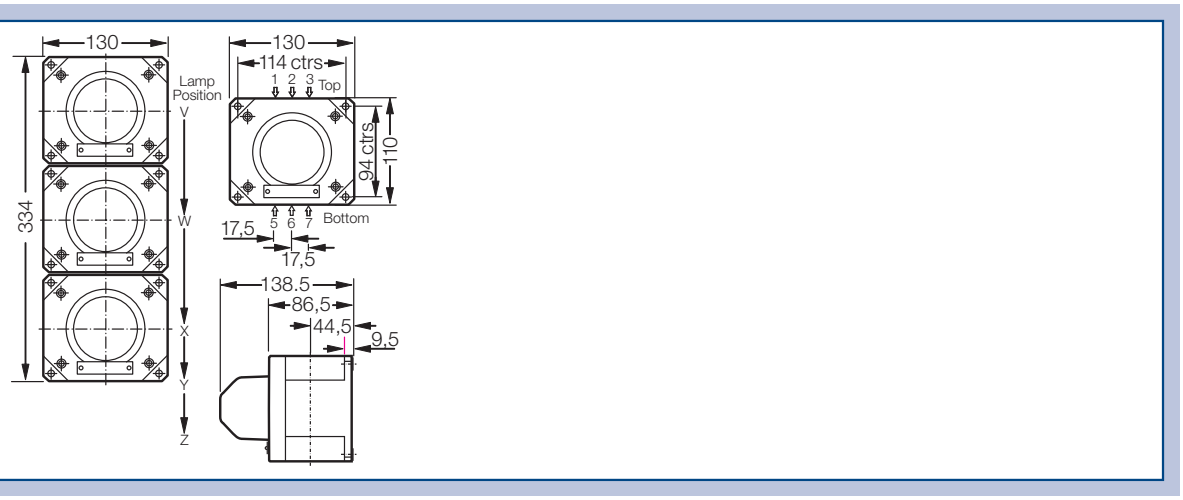
[2] Prefix with cable entry position

[3] Specify wording

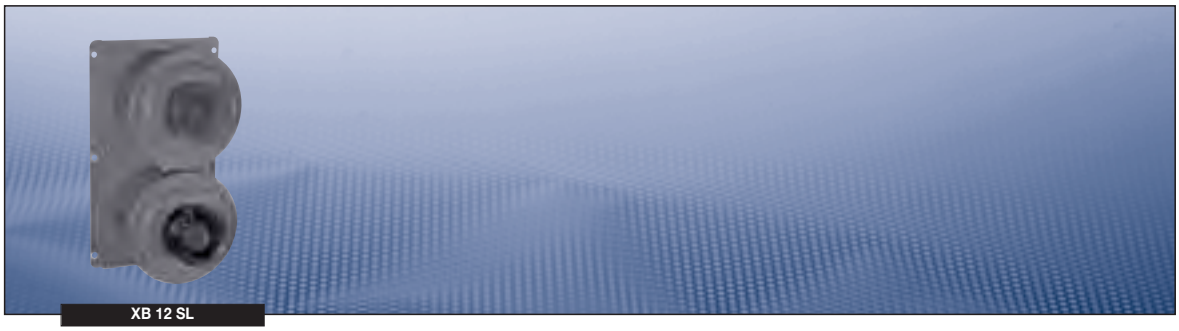
[4] Please specify

* For more options see www.medc.com or contact your local representative

Dimension drawing



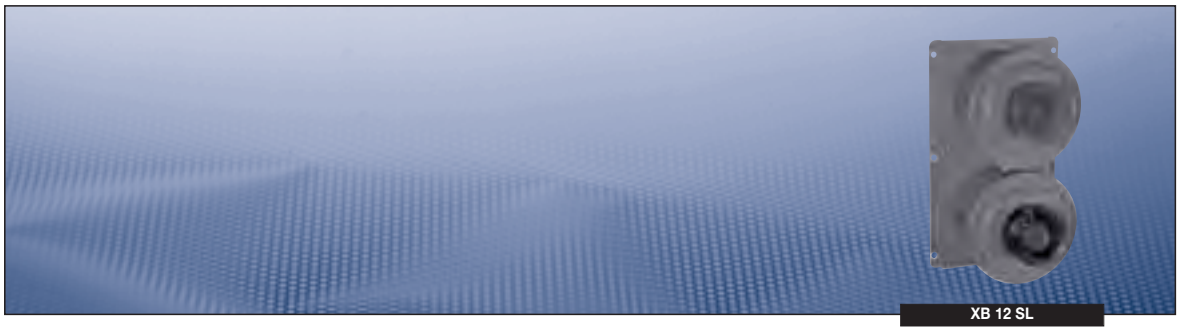
Dimensions in mm


XB 12 SL

Technical data

XB 12 SL Range		
EC-Type Examination Certificate		BAS 99 ATEX 2196
Marking to 94/9/EC		Ⓔx II 2G Ex d IIB T*
UL Listed for USA and Canada		Class I, Div 2, Groups C & D
		Class I, Zones 1 & 2
		AExd IIB T4/T5
Listing No.		E187894
Enclosure material		UV stable, glass reinforced polyester
Finish		Natural Black or Epoxy paint to customers specification
Lens		Glass
Lamp types		Xenon 21 joules maximum
		Filament 60 W maximum
Rated voltage	Xenon	24 V DC/110, 240 V AC
	Filament Voltages	110, 240 V AC
Lamp Colours		Red, amber, yellow, green, blue or clear
Light module		1 to 5 ways
Entries		2 x M20 / 1 x 1/2" NPT
Rated terminal cross section		max. 2.5 mm^2
Protection category to EN 60529		IP66/IP67
Insulation class		I
Permissible ambient temperature		-55 °C to +70 °C

* see table below



Ordering details

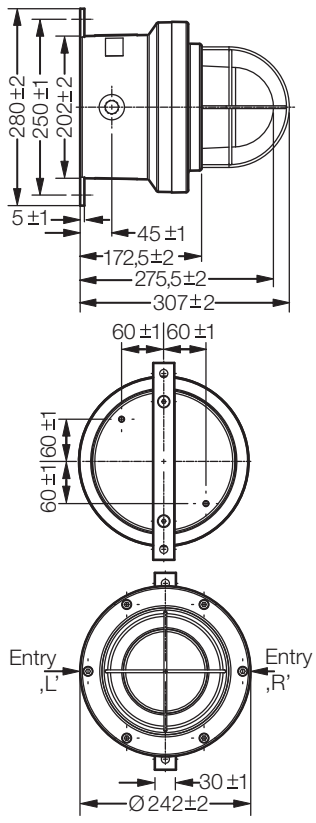
Catalogue No.	Certification	Description	Ordering Code
XB12SL2	UL Listed, Class I, Div 2, Groups C & D	24V DC xenon status lamp, two stack 21 joule beacons interconnected on a painted red stainless steel baseplate, one red and one green lens color, 1/2" NPT entry	**PX 42600007**
XB12SL3	UL Listed, Class I, Div 2, Groups C & D	110V AC, explosion protected, three stack, one 1/2" NPT entries, red xenon flashing on top, amber xenon flashing in middle, clear xenon flashing on bottom; no lens guards, red finish	**PX 42600001**
XB12SL3	UL Listed, Class I, Div 2, Groups C & D	24V DC xenon status lamp, three stack 21 joule beacons interconnected on a painted red stainless steel baseplate, one red, one amber and one green lens color, 1/2" NPT	**PX 42600009**

Temperature classifications

Type ...	Lamp	Ambient temperature		Temperature Classification (G/D) at Tamb.		
		–55 °C	–20 °C	+40 °C	+55 °C	+70 °C
XB12SL	Filament	X	X	T5	T4	–
XB12SL	Xenon	X	X	T5	T5	T4

* For more options see www.medc.com or contact your local representative

Dimension drawing



Dimensions in mm

EX-BEACONS AND STROBES

Explosion protected units for Zone 0, 1, 2, 22, Class I and Div 1 & 2

These certified beacons have been designed for use in harsh environmental conditions. The stainless steel or marine grade alloy enclosures are suitable for use offshore or onshore, where light weight combined with corrosion resistance and strength is required.

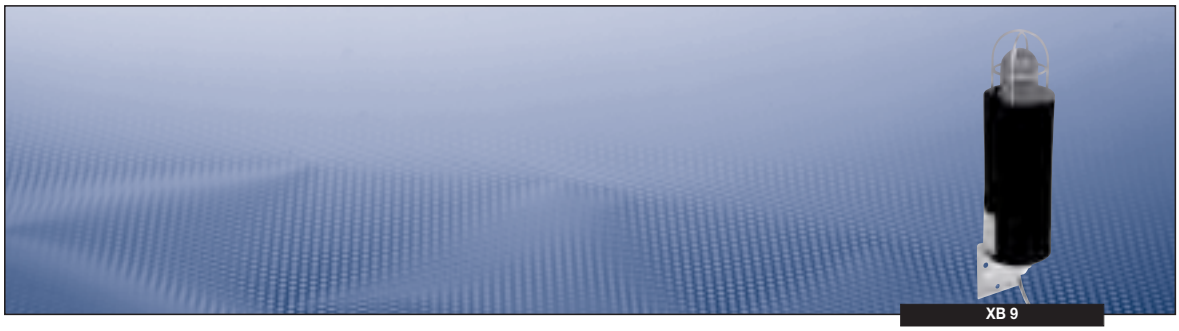
The glass reinforced polyester enclosures are suitable for use offshore or onshore, where light weight combined with corrosion resistance is required.

Units can be painted to customer specification and fitted with identification labels. LED version available, offering extended lifetimes.

Stainless Steel screws and mounting bracket are incorporated ensuring a totally corrosion free unit. Units can be painted to customer specification and supplied with identification labels.



- **IP66 and IP67**
- **Certified Temperature -55°C to +55°C**
- **Corrosion Free GRP**
- **UL Listed for USA and Canada – Hazardous locations: Class I, Div 1 & 2, Groups C & D. Class I, Zones 1 & 2, AExd IIB T4/T5. – Ordinary locations: Visual-Signal Device**
- **Australian (SAA) certified**
- **Chinese (CQST) certified**
- **NEMA 4x, & 6**
- **Various lens colours**
- **Optional lens guard**
- **Optional gland plus cable tail**
- **Stainless steel mounting bracket on request**
- **Replaceable tube**



Technical data

XB 9	
EC-Type Examination Certificate	BAS 00 ATEX 2031
Marking to 94/9/EC	Ⓔx II 2G/D Ex d IIC T5/T6 T100 °C/T 135 °C
Enclosure material	Corrosion-free GRP
Lens material	Toughened glass
Finish	Natural black or painted to customer specification
Rated voltage	12 - 48 V DC/110 - 254 V AC 50/60 Hz
Power consumption	DC 12 V 9 mA / DC 24 V 8 mA / DC 48 V 9 mA
	AC 110 V 11 mA / AC 240 V 15 mA / AC 254 V 15 mA
Flash rate	1 Hz
Entries	1 entry, M20
Weight	1.6 kg
Rated terminal cross section	3 x 2.5 mm²
Protection category to EN 60529	IP66/IP67
Insulation class	I
Permissible ambient temperature	from -55 °C to +55 °C

Ordering details

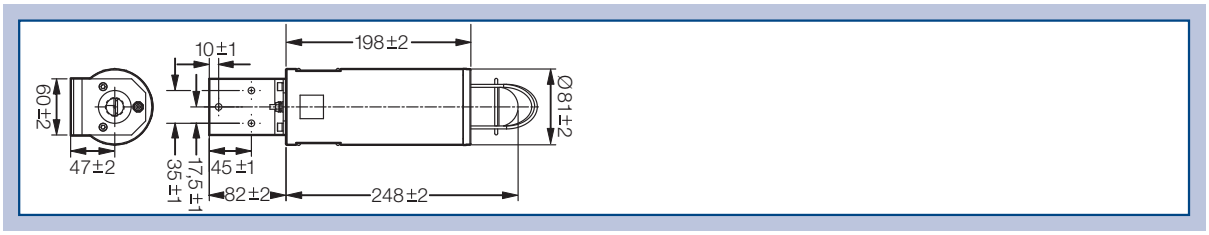
Catalogue No.	Certification	Description	Ordering Code
XB9D02406RYNCBN	ATEX Approved	5 joules, 24 V DC, red lens, lens guard, S/S mounting bracket,	
	Ex II 2G, Exd, IIC, T5	GRP body, 1 x M20 entry + 3 m cable, 60 flashes/min., no labels	**PX 819105**
XB9D02406AYNCBN	ATEX Approved	5 joules, 24 V DC, amber lens, lens guard, S/S mounting bracket,	
	Ex II 2G, Exd, IIC, T5	GRP body, 1 x M20 entry + 3 m cable, 60 flashes/min., no labels	**PX 819106**
XB9D24006RYNCBN	ATEX Approved	5 joules, 240 V AC, red lens, lens guard, S/S mounting bracket,	
	Ex II 2G, Exd, IIC, T5	GRP body, 1 x M20 entry + 3 m cable, 60 flashes/min., no labels	**PX 819107**
XB9D24006AYNCBN	ATEX Approved	5 joules, 240 V AC, amber lens, lens guard, S/S mounting bracket,	
	Ex II 2G, Exd, IIC, T5	GRP body, 1 x M20 entry + 3 m cable, 60 flashes/min., no labels	**PX 819108**

Ordering options*

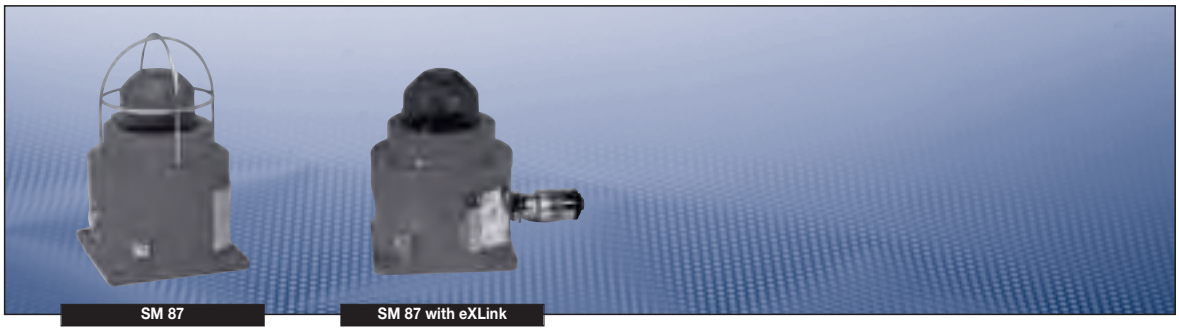
Model	Voltage	Code	Flash rate	Code	Lens colour	Code	Lens guard	Code	Tag/Duty label	Code	Entries/ cable tail	Code	Finish	Code
XB9D	DC 12 V	**012**	60/min.	**06**	Red	**R**	None	**N**	None	**N**	1 x M20	**1B**	Natural Black	**N**
	DC 24 V	**024**			Blue	**B**	Yes	**Y**	Yes	**Y**	1 x PG 13.5	**1P**	Red	**R**
	DC 48 V	**048**			Green	**G**					3 m cable	**CB**	Blue	**B**
	AC 110 V	**110**			Yellow	**Y**							Yellow	**Y**
	AC 240 V	**240**			Amber	**A**							Grey	**G**
	AC 254 V	**254**			Clear	**C**							White	**W**
													Special finish	**S**

* For more options see www.medc.com or contact your local representative

Dimension drawing



Dimensions in mm



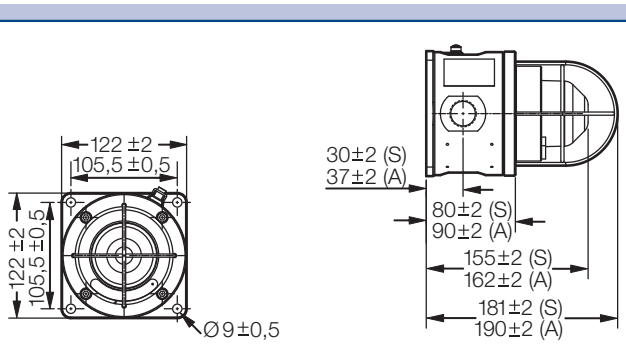
SM 87 | SM 87 with eXLink

Technical data

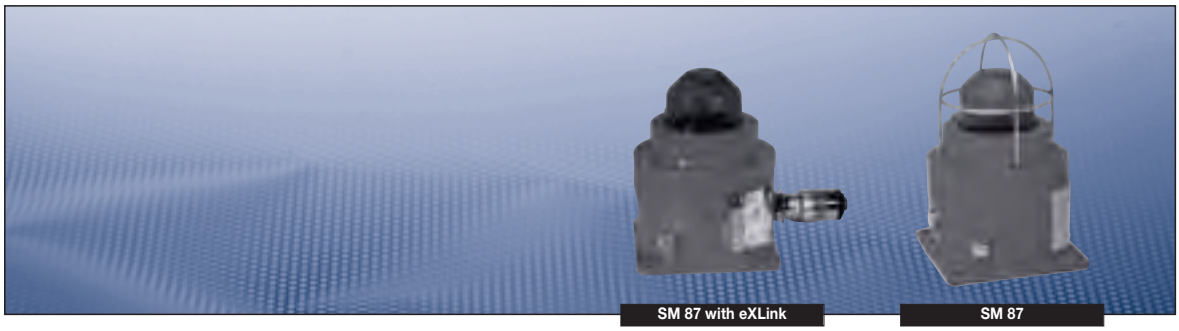
SM 87			
EC-Type Examination Certificate	Baseefa 03 ATEX 0222		
Marking to 94/9/EC	Ⓔx II 2G/D Ex d IIC T4/T6 T85 °C/T 135 °C		
CSA Certification to	C22.2 Nos. 0, 0.4, 0.5, 9, 30-M1986,		
	94-M91, 137-M-1981		
	Class I, Div 1, Group D, Enclosure 3/4		
Cert. No.	96406 (HXB only)		
UL Listed for USA & Canada	Class I, Div 1, Groups C & D		
	Class I, Zone 1 (HXB & XBT only)		
Listing No.	E187894		
GOST 'R' Certification	1Exd IIC T4 (HXB only)		
	Russian Fire Approved (VNIIPO)		
GOST 'K' Certification	Exd IIC T4		
Chinese (CQST) Certification	Exd IIC T4/T6 (HXB only)		
Enclosure material	Marine Grade Alloy or Stainless Steel		
Lens material	Glass*		
Finish	Red epoxy painted finish as standard		
Rated voltage	24 V - 48 V DC/110 - 254 V AC 50/60 Hz		
Power consumption	DC 24 V 7.2 W / DC 48 V 7.6 W		
tube 5 joule	AC 110 V 25 W / AC 120 V 27 W / AC 220 V 25 W		
	AC 240 V 27 W / AC 254 V 35 W		
Initiation	Telephone or relays initiated		
Entries	up to 4 entries, M20 or M25 / up to 4 x 1/2" or 3/4" NPP		
Rated terminal cross section	6 x 2.5 mm²		
Protection category to EN 60529	IP66/IP67		
Insulation class	I		
Permissible ambient temperature	ATEX	HXB	–55 °C to +70 °C
		LED	–20 °C to +40 °C
		XBT (High temp.)	–40 °C to +85 °C
	CSA Certified		–50 °C to +40 °C
	UL	HXB	–55 °C to +70 °C
		XBT (High temp.)	–40 °C to +85 °C
	GOST 'R'	HXB	–55 °C to +55 °C

* Optional with lens guard

Dimension drawing



Dimensions in mm



Ordering details

Catalogue No.	Certification	Description	Ordering Code
SM87HXBAB024AN1R1LNNR	ATEX EX II 2GD Ex d IIC	5 joules, 24 V DC, amber lens, 2 x M20 Entries, 29 Cd	**PX 813006**
SM87HXBAB024RN1R1LNNR	ATEX EX II 2GD Ex d IIC	5 joules, 24 V DC, red lens, 2 x M20 Entries, 29 Cd	**PX 813005**
SM87HXBAB240AN1R1LNNR	ATEX EX II 2GD Ex d IIC	7 joules, 240 V AC, amber lens, 2 x M20 Entries, 39 Cd	**PX 813008**
SM87HXBAB240RN1R1LNNR	ATEX EX II 2GD Ex d IIC	7 joules, 240 V AC, red lens, 2 x M20 Entries, 39 Cd	**PX 813007**
SM87LEDAB024RN1R1LNNR	ATEX EX II 2GD	24 V DC, red lens, 2 x M20 entries, 192 Cd	**PX 813009**
SM87HXBAUL024AN3R3LNNR	UL, cUL Listed, Class I, Div 1, Groups C & D	Standard models are in alloy, red body color, no tag or duty labels, 2 x 1/2" NPT entries, 29 Cd	**PX 869162**
SM87HXBAUL024RN3R3LNNR	UL, cUL Listed, Class I, Div 1, Groups C & D	Standard models are in alloy, red body color, no tag or duty labels, 24 V DC , red lens, 2 x 1/2" NPT entries, 29 Cd, 60 flashes per minute	**PX 869161**
SM87HXBAUL110AN3R3LNNR	UL, cUL Listed, Class I, Div 1, Groups C & D	Standard models are in alloy, red body color, no tag or duty labels, 110 V AC, amber lens, 2 x 1/2" NPT entries, 32 Cd, AExd IIB	**PX 869166**
SM87HXBAUL110RN3R3LNNR	UL, cUL Listed, Class I, Div 1, Groups C & D	Standard models are in alloy, red body color, no tag or duty labels, 110 V AC, red lens, 2 x 1/2" NPT entries, 32 Cd, AExd IIB	**PX 869165**

Ordering options*

Model SM87	Code	Certification	Code	Voltage	Code	Lens colour	Code	Lens guard	Code	Entries	Code	Tag/ duty label	Code	Initiate Option	Code	Finish	Code
Xenon (stainless steel)	**HXBS**	ATEX	**B**	DC 24 V	**024**	Red	**R**	None	**N**	20 mm	**1**	None	**N**	Telephone	**T**	Red	**R**
Xenon (alloy)	**HXBA**	UL	**UL**	DC 48 V	**048**	Blue	**B**	Yes	**Y**	25 mm	**2**	Yes	**Y**	Relay	**R**	Blue	**B**
Xenon High Temp. (alloy)	**XBTA**	CSA	**C**	AC 110 V	**110**	Green	**G**			1/2" NPT	**3**			EOL Resistor	**E**	Yellow	**Y**
Xenon High Temp. (stainless steel)	**XBTS**	GOST 'R'[1]	**G**	AC 120 V	**120**	Amber	**A**			3/4" NPT	**4**			None	**N**	Yellow/ Black stripe	**X**
LED Ex d (stainless steel)	**LEDS**	GOST 'K'	**K**	AC 230 V	**230**	Yellow (not LED)	**Y**			Top	**T**[2]					Grey	**G**
LED Ex d (alloy)	**LEDA**	Chinese (CQST)	**Q**	AC 240 V	**240**	Clear (not LED)	**C**			Bottom	**B**[2]					White	**W**
				AC 254 V	**254**					RHS	**R**[2]					Special finish	**S**
										LHS	**L**[2]						

[1] Only HXBS is available CSA certified. Only HXBA & XBTA is available UL certified.

[2] Prefix position with entry size code. e.g. 1R1B = 20 mm Right and Bottom entries.

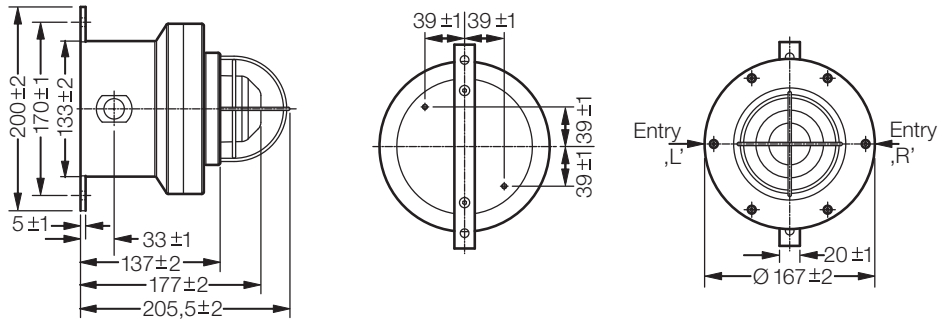
* For more options see www.medc.com or contact your local representative



Technical data

XB 11	
EC-Type Examination Certificate	BAS 99 ATEX 2195X/3
Marking to 94/9/EC	Ⓔx II 2G/D Ex d IIB T4*
UL Listed for USA and Canada	Class I, Div 2, Groups C & D
	Class I, Zones 1 & 2
	AExd IIB T4/T5
UL Listing No	E187894
GOST 'R' Certification	1Exd IIB T4/T5//T6
Chinese (CSQT) Certification	Exd IIB T5/T6
Enclosure material	Corrosion-free GRP
Lens material	Glass
Finish	Natural black or painted to customer specification
Rated voltage	24 V DC/110 - 240 V AC 50/60 Hz
Power consumption tube 5 joule	DC 24 V 8 W / AC 110 V 11 W / AC 240 V 18 W
Initiation	Optional telephone or relays initiated
Entries	up to 2 x M20 / up to 2 x 1/2" NPT
Weight	2.5 kg
Rated terminal cross section	6 x 2.5 mm²
Protection category to EN 60529	IP66/IP67
Permissible ambient temperature*	T6 T85 °C: -55 °C to +40 °C
	T5 T100 °C: -55 °C to +55 °C
	T4 T135 °C: -55 °C to +70 °C

Dimension drawing



Dimensions in mm



Ordering details

Catalogue No.	Certification	Description	Ordering Code
XB11B02406ANBNNNN	ATEX EX II 2GD Ex d IIB	GRP, natural black body, no tag or duty labels, backstrap mounting, 24 V DC, amber lens2 x M20 entries, 60 flashes per minute	**PX 811102**
XB11B02406RNBNNNN	ATEX EX II 2GD Ex d IIB	GRP, natural black body, no tag or duty labels, backstrap mounting, 240 AC, red lens, 2 x M20 entries, 60 flashes per minute	**PX 811101**
XB11B24006ANBNNNN	ATEX EX II 2GD Ex d IIB	GRP, natural black body, no tag or duty labels, backstrap mounting, 240 V AC, amber lens, 2 x M20 entries, 60 flashes per minute	**PX 811104**
XB11UL02406ANBNNNR	UL, cUL Listed, Class I, Div 2, Groups C & D	No tag or duty labels, , 24 V DC, amber lens, 2 x 1/2" NPT entries, 60 flashes per minute, black finish	**PX 869172**
XB11UL02406CNBNNNN	UL, cUL Listed, Class I, Div 2, Groups C & D	No tag or duty labels, 24 V DC, clear lens, 2 x 1/2" NPT entries, 60 flashes per minute, black finish	**PX 869173**
XB11UL02406CNBNNNR	UL, cUL Listed, Class I, Div 2, Groups C & D	No tag or duty labels, 24 V DC, clear lens, 2 x 1/2" NPT entries, 60 flashes per minute, red finish	**PX 869174**
XB11UL02406RNBNNNR	UL, cUL Listed, Class I, Div 2, Groups C & D	No tag or duty labels, 24 V DC, red lens, 2 x 1/2" NPT entries, 60 flashes per minute, red finish	**PX 869171**
XB11UL11006RNBNNNR	UL, cUL Listed, Class I, Div 2, Groups C & D	No tag or duty labels, 110 V AC, red lens, 2 x 1/2" NPT entries, 60 flashes per minute, red finish	**PX 869175**

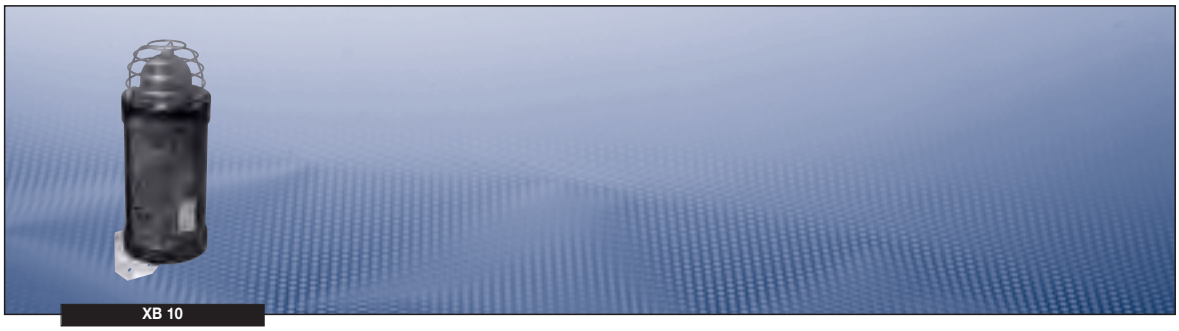
Ordering options*

Model	Certification	Code	Voltage	Code	Flash rate	Code	Lens colour	Code	Lens guard	Code
XB11	ATEX	**B**	DC 24 V	**024**	60/min.	**06**	Red	**R**	None	**N**
	UL	**UL**	DC 48 V	**048**			Blue	**B**	Yes	**Y**
	ATEX/UL		AC 110 V	**110**			Green	**G**		
	Dual Listed	**AU**	AC 230 V	**230**			Amber	**A**		
	GOST 'R'	**G**	AC 240 V	**240**			Yellow	**Y**		
	Chinese (CQST)	**Q**					Clear	**C**		

Ordering options*

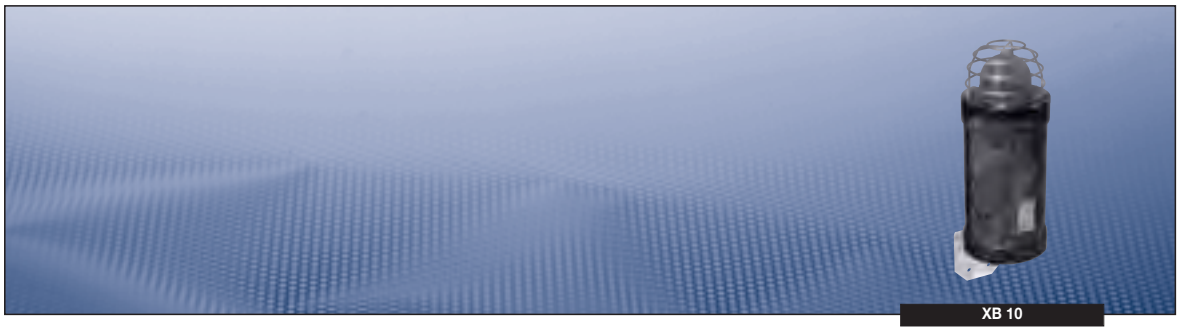
Unit fixing	Code	Earth continuity	Code	Tag/Duty label	Code	Options	Code	Finish	Code
Direct mounting	**D**	None	**N**	None	**N**	Telephone initiate	**T**	Natural Black	**N**
Backstrap	**B**	Yes	**Y**	Yes	**Y**	Blanking plug	**P**	Red	**R**
						None	**N**	Blue	**B**
								Yellow	**Y**
								Grey	**G**
								White	**W**
								Special finish	**S**

* For more options see www.medc.com or contact your local representative



Technical data

XB 10	
Marking to 94/9/EC	Ⓔx II 2G Ex d IIB T4
	Ⓔx II 2G Ex de IIB T4
EC-Type Examination Certificate	BAS 00 ATEX 2204X (Ex d)
	BAS 00 ATEX 2226X (Ex ed)
GOST 'R' Certification	1Exd IIB T4/2Exde IIB T4
	Russian Fire Alarm Approved (VNIIPO)
Permissible ambient temperature	from -55 °C to +40 °C (Ex d)/from -50 °C to +40 °C (Ex de)
Rated voltage	24 - 48 V DC/110 - 254 V AC 50/60 Hz
Power consumption (tube energy 15 joule)	DC 24 V 16.8 mA / DC 48 V 26.8 mA
	AC 110 V 33 mADC / AC 220 - 254 V 34.8 mA
Flash rate	1 Hz
Entries	2 entries, M20 (Ex d)/3 entries, M20 (Ex de)
Rated terminal cross section	4 x 2.5 mm^2 (DC)/6 x 2.5 mm^2 (AC)
Protection category to EN 60529	IP66/IP67
Weight	2.8 kg (Ex d)/3.6 kg (Ex de)
Enclosure material	Corrosion-free GRP
Lens material	Toughened glass with lens guard
Finish	Natural black or painted to customer specification
Initiation	Optional telephone or relays initiated



Ordering details

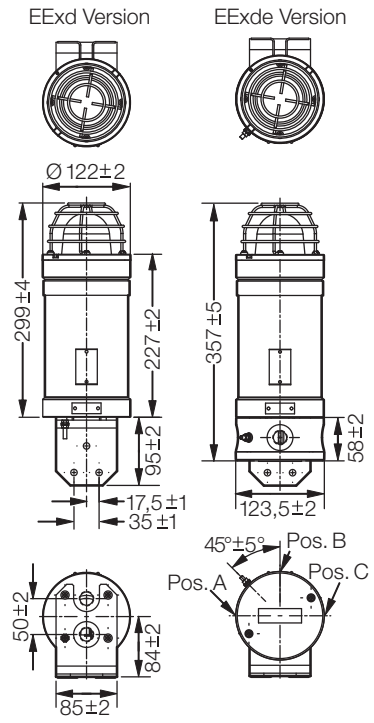
Catalogue No.	Certification	Description	Ordering Code
XB10D024FRNN2BN	ATEX Approved Ex II 2G, Exd, IIB, T5	15 joules, 24 V DC, red lens, bracket mounting, 2 x M20 Entries, black body, GRP body, 60 flashes/min., no labels	**PX 811050**
XB10D024FANN2BN	ATEX Approved Ex II 2G, Exd, IIB, T5	15 joules, 24 V DC, amber lens, bracket mounting, 2 x M20 Entries, black body, GRP body, 60 flashes/min., no labels	**PX 811051**
XB10D240FRNN2BN	ATEX Approved Ex II 2G, Exd, IIB, T5	15 joules, 240 V DC, red lens, bracket mounting, 2 x M20 Entries, black body, GRP body, 60 flashes/min., no labels	**PX 811052**
XB10D240FANN2BN	ATEX Approved Ex II 2G, Exd, IIB, T5	15 joules, 240 V DC, amber lens, bracket mounting, 2 x M20 Entries, black body, GRP body, 60 flashes/min., no labels	**PX 811053**

Ordering options*

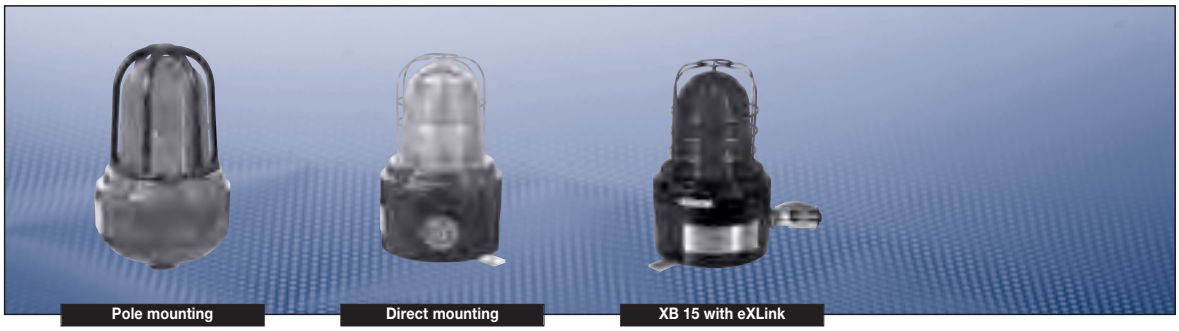
Model	Certification	Code	Voltage	Code	Power	Code	Lens Colour	Code	Labels	Code	Options	Code	Entries	Code	Finish	Code
XB10	Ex d	**D**	DC 24 V	**024**	10J	**T**	Red	**R**	None	**N**	Telephone		1 x M20	**1B**	Natural Black	**N**
	Ex de	**E**	DC 48 V	**048**	15J	**F**	Blue	**B**	Yes	**Y**	Initiate	**T**	1 x PG13.5	**1P**	Red	**R**
	GOST 'R' Exd	**DG***	AC 110 V	**110**			Green	**G**			Earth		2 x M20	**2B**	Blue	**B**
	GOST 'R' Exe	**EG***	AC 220 V	**220**			Yellow	**Y**			continuity	**E**	3 x M20	**3B**	Yellow	**Y**
			AC 240 V	**240**			Amber	**A**			3 m cable				Grey	**G**
			AC 254 V	**254**			Clear	**C**			tail	**G**			White	**W**
											None	**N**			Special finish	**S**

* For more options see www.medc.com or contact your local representative

Dimension drawing



Dimensions in mm



Pole mounting | Direct mounting | XB 15 with eXLink

Technical data

XB 15	
Marking to 94/9/EC	Ⓔx II 2G/D Ex d IIC T*
EC-Type Examination Certificate	Baseefa 04 ATEX 0009X
UL Listed for USA and Canada	Class I, Div 2, Groups A, B, C & D
	Class I, Zone 1, AExd IIC T4/T5
UL listing No.	E187894
Permissible ambient temperature*	T6 T85 °C: -55 °C to +40 °C
	T5 T100 °C: -55 °C to +55 °C
	T4 T135 °C: -55 °C to +70 °C
Rated voltage	24 - 48 V DC/110 - 254 V AC 50/60 Hz
Rated current	DC 12 V 1.4 A
(tube energy 15 joule)	DC 24 V 1.1 A
	DC 48 V 0.4 A
	AC 110 - 120 V 0.4 A
	AC 230 - 240 V 0.2 A
	AC 254 V 0.17 A
Flash rate	60 fpm, 80 fpm, 120 fpm
Insulation class	I
Protection category to EN 60529	IP66/IP67
Weight	3.0 kg
Enclosure material	Corrosion-free GRP
Lens material	Glass
Entries	2 entries M20 (standard) / up to 2 x 1/2" or 3/4" NPT
Finish	Natural black or painted to customer specification
Initiation	Optional telephone or relays initiated
Rated terminal cross section	12 x 2.5 mm^2 (direct mount)/8 x 2.5 mm^2 (pipe mount)

Ordering options*

Model	Certification	Code	Voltage	Code	Lens flashrate	Code	Lens colour	Code	Unit guard	Code	Fixing	Code	Unit options	Code	Finish	Code
XB 15	ATEX	**B**	DC 12 V	**012**	60	**06**	Red	**R**	None	**N**	Pipe mount	**P**	None	**N**	Natural black	**N**
	UL	**UL**	DC 24 V	**024**	80	**08**	Blue	**B**	Cast	**C**	Direct mount	**D**	Tag label	**T**	Red	**R**
			DC 48 V	**048**	120	**12**	Green	**G**	Wire	**W**	Direct w.		Duty label	**D**	Blue	**B**
			AC 110 V	**110**			Amber	**A**			backstrap	**B**	Relay initiate	**R**	Yellow	**Y**
			AC 120 V	**120**			Yellow	**Y**					Telephone		Green	**G**
			AC 230 V	**230**			Clear	**C**					initiate	**I**	White	**W**
			AC 240 V	**240**									Blanking		Special finish	**S**
			AC 254 V	**254**									plug	**P**		

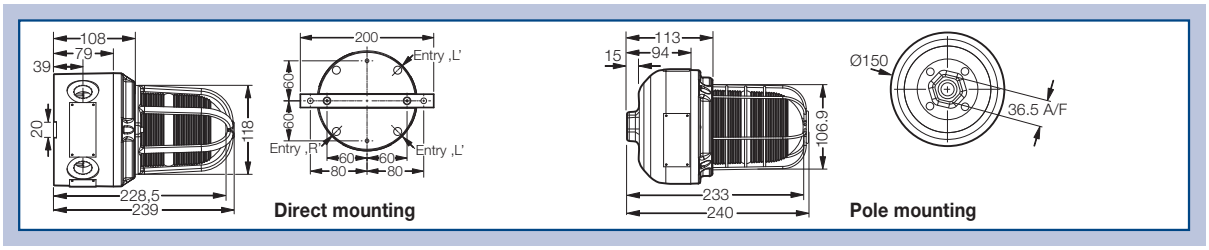
* For more options see www.medc.com or contact your local representative



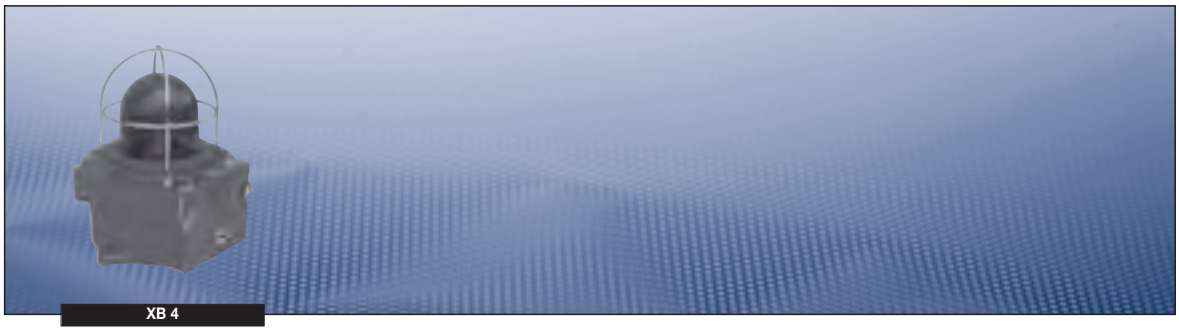
Ordering details

Catalogue No.	Certification	Description	Ordering Code
XB15UL02406AWBNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	24 V DC, 60 flashes per minute, wire guard, backstrap, 2 x 1/2" NPT entries, natural black enclosure, amber lens	**PX 27600046**
XB15UL02406AWPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	24 V DC, 60 flashes per minute, wire guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure, amber lens	**PX 27600051**
XB15UL02406BWBNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	24 V DC, 60 flashes per minute, wire guard, backstrap, 2 x 1/2" NPT entries, natural black enclosure, blue lens	**PX 27600044**
XB15UL02406BWPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	24 V DC, 60 flashes per minute, wire guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure, blue lens	**PX 27600049**
XB15UL02406CWBNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	24 V DC, 60 flashes per minute, wire guard, backstrap, 2 x 1/2" NPT entries, natural black enclosure, clear lens	**PX 27600042**
XB15UL02406CWPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	24 V DC, 60 flashes per minute, wire guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure, clear lens	**PX 27600047**
XB15UL02406GWBNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	24 V DC, 60 flashes per minute, wire guard, backstrap, 2 x 1/2" NPT entries, natural black enclosure, green lens	**PX 27600043**
XB15UL02406GWPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	24 V DC, 60 flashes per minute, wire guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure, green lens	**PX 27600048**
XB15UL02406RWBNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	24 V DC, 60 flashes per minute, wire guard, backstrap, 2 x 1/2" NPT entries, natural black enclosure, red lens	**PX 27600045**
XB15UL02406RWPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	24 V DC, 60 flashes per minute, wire guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure, red lens	**PX 27600050**
XB15UL12006AWBNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	120 V AC, 60 flashes per minute, wire guard, backstrap, 2 x 1/2" NPT entries, natural black enclosure, amber lens	**PX 27600056**
XB15UL12006AWPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	120 V AC, 60 flashes per minute, wire guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure, amber lens	**PX 27600060**
XB15UL12006BWBNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	120 V AC, 60 flashes per minute, wire guard, backstrap, 2 x 1/2" NPT entries, natural black enclosure, blue lens	**PX 27600054**
XB15UL12006BWPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	120 V AC, 60 flashes per minute, wire guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure, blue lens	**PX 27600059**
XB15UL12006CWBNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	120 V AC, 60 flashes per minute, wire guard, backstrap, 2 x 1/2" NPT entries, natural black enclosure, clear lens	**PX 27600052**
XB15UL12006CWPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	120 V AC, 60 flashes per minute, wire guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure, clear lens	**PX 27600057**
XB15UL12006GWBNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	120 V AC, 60 flashes per minute, wire guard, backstrap, 2 x 1/2" NPT entries, natural black enclosure, green lens	**PX 27600053**
XB15UL12006GWPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	120 V AC, 60 flashes per minute, wire guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure, green lens	**PX 27600058**
XB15UL12006RWBNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	120 V AC, 60 flashes per minute, wire guard, backstrap, 2 x 1/2" NPT entries, natural black enclosure, red lens	**PX 27600055**
XB15UL12006RWPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	120 V AC, 60 flashes per minute, wire guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure, red lens	**PX 27600029**

Dimension drawing



Dimensions in mm

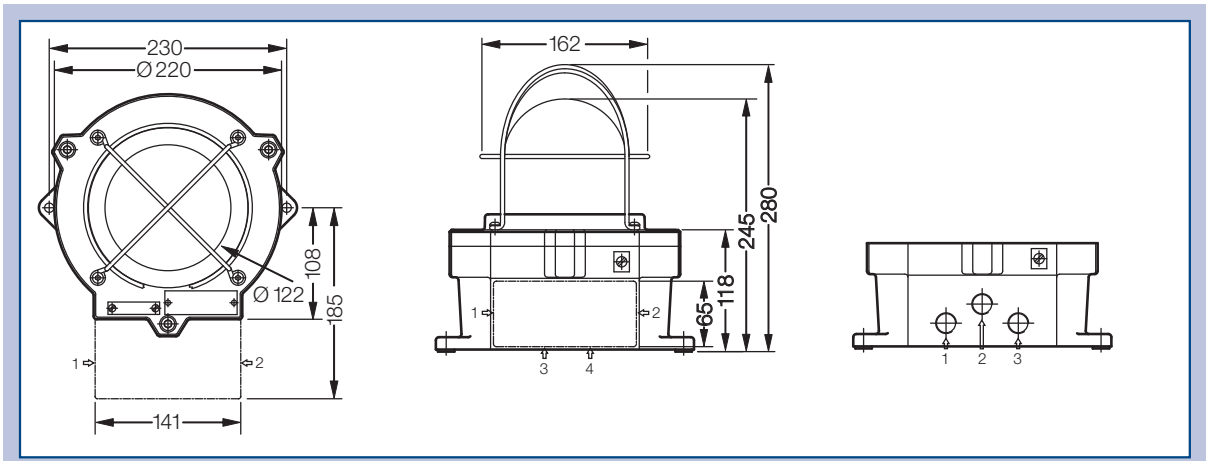


Technical data

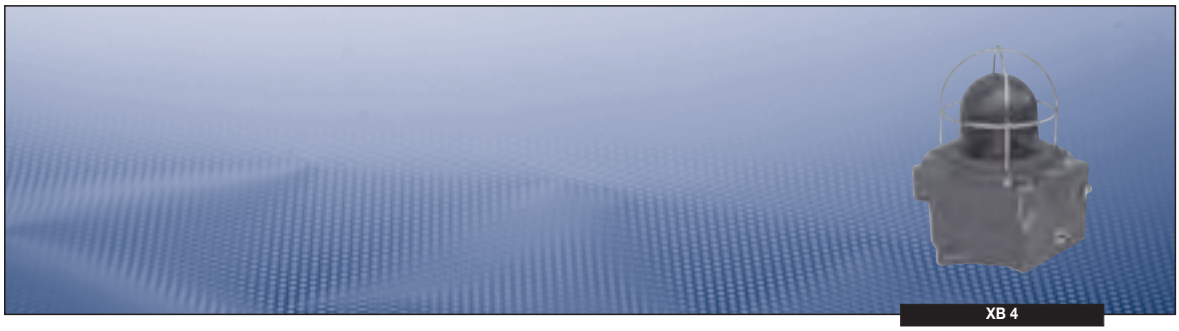
XB 4		
Marking to 94/9/EC	Ⓔx II 2G Ex d IIC T5	
EC-Type Examination Certificate	Baseefa 02 ATEX 0224X	
UL Listed for USA and Canada	Class I, Div 1, Groups C-D	
	Class I, Zone 1	
Listing No.	E187894	
GOST 'R' Certification	1 Exd IIC T4	
	Russian Fire Approved (VNIIPO)	
Permissible ambient temperature	UL	-25 °C to +70 °C
	ATEX & GOST	-50 °C to +55 °C (Exde)
		-55 °C to +55 °C (Exd)
Rated voltage	24 - 110 V DC/110 - 254 V AC 50/60 Hz	
Rated current	DC 24 V	1.4 A
(tube energy 21 joule)	DC 48 V	0.54 A
	DC 110 V	0.24 A
	AC 110 V	0.35 A
	AC 120 V	0.45 A
	AC 220 V	0.24 A
	AC 240 V	0.185 A
	AC 254 V	0.21 A
Protection category to EN 60529	IP66/IP67	
Finish	Red epoxy painted finish as standard	
Initiation	Optional telephone or relays initiated	
Flash rate	60 fpm, 120 fpm, 240 fpm	
Entries	up to 3 entries, M20 or 2 entries M25 / 1/2" or 3/4" NPT	
Weight	6.6 kg	
Enclosure material	Marine grade alloy or stainless steel	
Lens material	Toughened glass	
Rated terminal cross section	8 x 10 mm²	

* Optional with lens guard

Dimension drawing



Dimensions in mm



Ordering details

Catalogue No.	Certification	Description	Ordering Code
XB4BB8D2B3B06AN0RN1R	ATEX Approved Ex II 2G	21 joules, 24 V DC, red lens, 2 x M20 entries, 355Cd, 60 flashes per minute, no labels, red finish	**PX 814001**
XB4BH8D2B3B06AN0RN1R	ATEX Approved Ex II 2G	21 joules, 240 V AC, red lens, 2 x M20 entries, 355Cd, 60 flashes per minute, no labels, red finish	**PX 814002**
XB4ULB8D2E3E06ANAN1R	UL, cUL Listed, Class I, Div 1, Groups C & D	Marine grade alloy, 24 V DC, amber lens, 2 x 3/4" NPT entries, no lens guard, 60 flashes per minute, red finish	**PX 869122**
XB4ULB8D2E3E06ANRN1R	UL, cUL Listed, Class I, Div 1, Groups C & D	Marine grade alloy, 24 V DC, red lens, 2 x 3/4" NPT entries, no lens guard, 60 flashes per minute, red finish	**PX 869121**
XB4ULE8D2E3E06ANAN1R	UL, cUL Listed, Class I, Div 1, Groups C & D	Marine grade alloy, 110 V AC, amber lens, 2 x 3/4" NPT entries, no lens guard, 60 flashes per minute, red finish	**PX 869126**
XB4ULE8D2E3E06ANRN1R	UL, cUL Listed, Class I, Div 1, Groups C & D	Marine grade alloy, 110 V AC, red lens, 2 x 3/4" NPT entries, no lens guard, 60 flashes per minute, red finish	**PX 869125**

Ordering options*

Model	Certification	Code	Voltage	Code	Terminals	Code	Cable entries	Code	Lens flashrate	Code
XB 04	ATEX	**B**	DC 24 V	**B**	6 x 6 mm²	**6E**	20 mm	**B**	60	**06**
	UL	**UL**[1)]	DC 48 V	**C**	8 x 10 mm²	**8D**	25 mm		80	**08**
	GOST 'R'	**G**	DC 110 V	**D**			1/2" NPT	**D**[2)]	120	**12**
			AC 110 V	**E**			3/4" NPT	**E**[2)]		
			AC 120 V	**F**						
			AC 230 V	**G**						
			AC 240 V	**H**						
			AC 254 V	**J**						

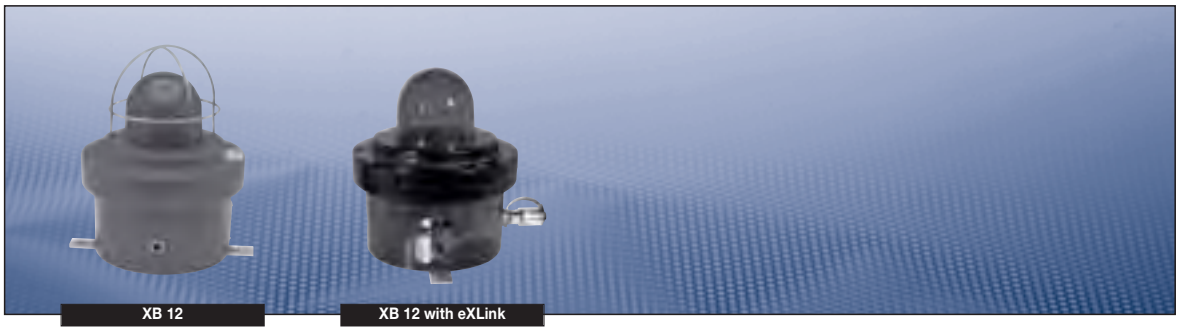
Ordering options*

Initiate options	Code	Lens colour	Code	Tag/Duty label	Code	Material	Code	Finish	Code
None	**A**	Red	**R**	None	**N**	Stainless steel	**0**	Red	**R**
Telephone	**B**	Blue	**B**	Yes	**Y**	Alloy	**1**	Blue	**B**
Telephone &		Green	**G**					Yellow	**Y**
2. beacon Relay	**D**	Amber	**A**					Green	**G**
Relay & 2. beacon	**E**	Yellow	**Y**					White	**W**
		Clear	**C**					Special finish	**S**

* For more options see www.medc.com or contact your local representative

[1)] UL – available alloy or stainless steel. 24V DC, 110 V AC; 240 V AC only.

[2)] Prefix entry size with entry position code e.g. 1B2B.

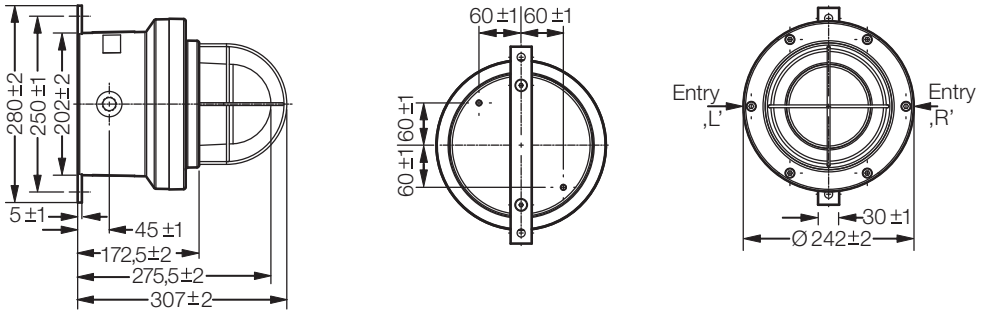


Technical data

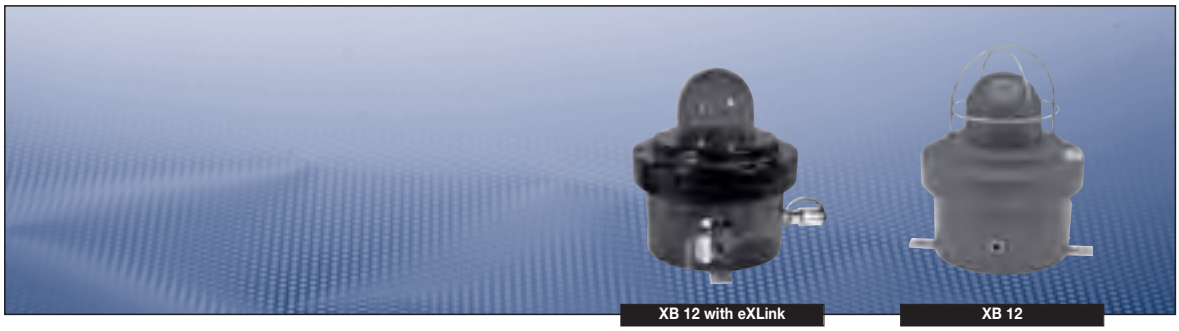
XB 12	
Marking to 94/9/EC	Ⓔx II 2G Ex d IIB T4/T5 T135 °C/T100 °C
EC-Type Examination Certificate	BAS 99 ATEX 2196/3
UL Listed for USA and Canada	Class I, Div 2, Groups C & D
	Class I, Zones 1 & 2
	AExd IIB T4 & T5
UL Listing No.	E187894
GOST 'R' Certification	1Exd IIB T4/T5
GOST 'K' Certification	Ex d IIB T4/T5
Chinese (CQST) Certification	Ex d IIB T4/T5
Permissible ambient temperature	Certified Exd -55 °C to +70 °C (T4)
	-55 °C to +40 °C (T5)
	Temperature UL -55 °C to +70 °C
Rated voltage	24 V DC/110 - 240 V AC 50/60 Hz
Rated current tube 21 joule	DC 24 V 1.4 A
	AC 48 V 0.35 A
	AC 240 V 0.185 A
Protection category to EN 60529	IP66/IP67
Weight	7 kg
Enclosure material	Corrosion-free GRP
Lens material	Glass
Finish	Natural black or painted to customer specification
Initiation	Optional telephone or relays initiated
Flash rate	60 fpm
Entries	up to 2 entries M20 / 1/2" NPT
Rated terminal cross section	6 x 6 mm²

[1] Optional with lens guard

Dimension drawing



Dimensions in mm



Ordering details

Catalogue No.	Certification	Description	Ordering Code
XB12B02406ANBNNNN	ATEX Approved Ex II 2G	24 V DC, 60 flashes per minute, amber lens, no wire guard, backstrap mounting, no labels, black body	**PX 812102**
XB12B02406RNBNNNN	ATEX Approved Ex II 2G	24 V CD, 60 flashes per minute, red lens, no wire guard, backstrap mounting, no labels, black body	**PX 812101**
XB12B24006ANBNNNN	ATEX Approved Ex II 2G	240 V AC, 60 flashes per minute, amber lens, no wire guard, backstrap mounting, no labels, black body	**PX 812104**
XB12B24006RNBNNNN	ATEX Approved Ex II 2G	240 V AC, 60 flashes per minute, red lens, no wire guard, backstrap mounting, no labels, black body	**PX 812103**
XB12UL02406ANBNNNR	UL, cUL Listed, Class I, Div 2, Groups C & D	24 V DC, 60 flashes per minute, amber lens, no wire guard, backstrap mounting, no labels, red painted GRP	**PX 869182**
XB12UL02406RNBNNNR	UL, cUL Listed, Class I, Div 2, Groups C & D	24 V DC, 60 flashes per minute, amber lens, no wire guard, backstrap mounting, no labels, red painted GRP	**PX 869181**
XB12UL11006ANBNNNR	UL, cUL Listed, Class I, Div 2, Groups C & D	110 V AC, 60 flashes per minute, amber lens, no wire guard, backstrap mounting, no labels, red painted GRP	**PX 869186**
XB12UL11006RNBNNNR	UL, cUL Listed, Class I, Div 2, Groups C & D	110 V AC, 60 flashes per minute, red lens, no wire guard, backstrap mounting, no labels, red painted GRP	**PX 869185**

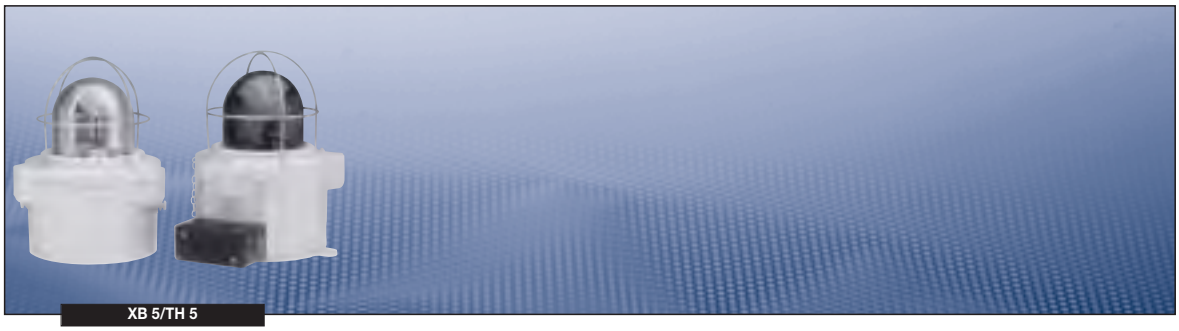
Ordering options*

Model	Certification	Code	Voltage	Code	Lens flashrate	Code	Lens colour	Code	Lens guard	Code
XB 12	ATEX	**B**	DC 24 V	**24**	60	**06**	Red	**R**	None	**N**
	UL	**UL**	AC 110 V	**110**			Blue	**B**	Yes	**Y**
	GOST 'R'	**G**	AC 240 V	**240**			Green	**G**		
	GOST 'K'	**K**					Amber	**A**		
	Chinese						Yellow	**Y**		
	(CQST)	**Q**					Clear	**C**		

Ordering options*

Unit fixing	Code	Earth continuity	Code	Tag/Duty label	Code	Options	Code	Finish	Code
Direct mounting	**D**	None	**N**	None	**N**	Telephone	**T**	Natural black	**N**
Backstrap	**B**	Yes	**Y**	Yes	**Y**	Blanking plug	**P**	Red	**R**
						None	**N**	Blue	**B**
								Yellow	**Y**
								Green	**G**
								White	**W**
								Special finish	**S**

* For more options see www.medc.com or contact your local representative



XB 5/TH 5

Technical data

XB 5 | TH 5		
Marking to 94/9/EC		Ⓔx II 2G Ex d IIB T* / Ⓔx II 2G Ex de IIB T*
EC-Type Examination Certificate		Baseefa 00 ATEX 0225X
Permissible ambient temperature*	XB5 T6	-20 °C to +40 °C
	TH5 T4	-20 °C to +55 °C
Rated voltage		
XB 5 (5 W flashing Xenon tubes)		24 - 110 V DC; 110 - 254 V AC 50/60 Hz
TH 5 (55/70 W rotating mirror)		12 - 24 V DC; 110 - 240 V AC 50/60 Hz
Peak current consumption XB 5		DC 24 V 1.3 A / DC 48 V 0.65 A
(5 W flashing Xenon tube)		DC 110 V 0.3 A / AC 110 V 0.5 A
		AC 120 V 0.45 A / AC 220 V 0.24 A
		AC 240 V 0.23 A / AC 254 V 0.21 A
Insulation class		I
Rated terminal cross section		6 x 6 mm² (Ex e & Ex d)
Protection category to EN 60529		IP66/IP67/IP68
Enclosure material		Marine grade alloy and GRP (Ex e terminal chamber)
Lens material		Toughened glass[1]
Weight		XB 5 (Ex d) 14.6 kg / XB 5 (Ex de) 15.6 kg
		TH 5 (Ex d) 14.9 kg / TH 5 (Ex de) 15.9 kg
Finish		Epoxy paint finish as standard or specified
Power consumption TH 5		DC 12 V 55 W
Rotating mirror		DC 24 V 70 W
		DC 110 - 240 V 70 W
Entries		up to 3 x M20 or 2 x M25 (Ex d) or up to 4 x M20 or M25 (Ex e)

[1] Optional with lens guard

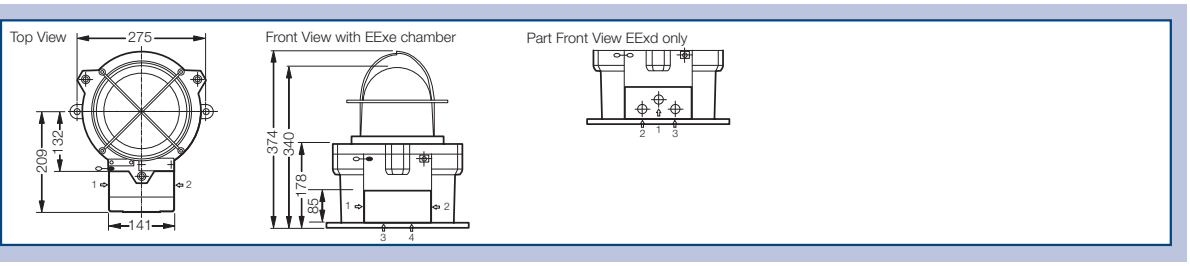
Ordering options*

Model	Speed	Code	Terminal chamber	Code	Voltage	Code	Cable entries	Code	Lens colour	Code	Tag label	Code	Guard	Code	Finish	Code
XB 5	60 rpm	**1**	Ex d	**D**	12 V DC	**A**	20 mm	**B**	Red	**R**	None	**N**	None	**0**	Grey	**G**
TH 5	120 rpm	**2**	Ex e	**E**	24 V DC	**B**	25 mm	**C**	Blue	**B**	Yes	**Y**	Guard	**1**	Red	**R**
	180 rpm	**3**[1]			48 V DC	**C**			Green	**G**					Blue	**B**
					110 V DC	**D**			Yellow	**Y**					Yellow	**Y**
					110 V AC	**E**			Amber	**A**					White	**W**
					120 V AC	**F**			Clear	**C**					Special finish	**S**
					220 V AC	**G**										
					240 V AC	**H**										
					254 V AC	**J**[2]										

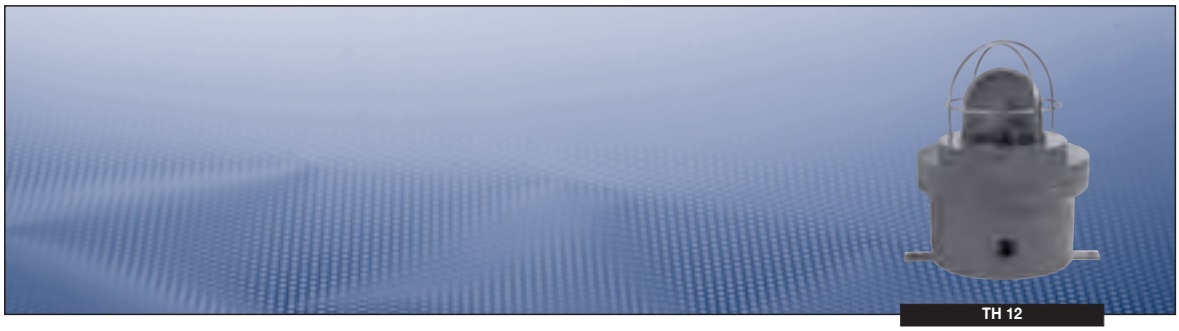
* For more options see www.medc.com or contact your local representative

[1] not for 110 V [2] not for TH 5

Dimension drawing



Dimensions in mm



Technical data

TH 12	
Marking to 94/9/EC	Ex II 2G Ex d IIB T4/T5 T135 °C/T100 °C*
EC-Type Examination Certificate	Baseefa 99 ATEX 2196/3
GOST 'R' Certified	1Exd IIB T4/T5
Permissible ambient temperature*	T4: from -55 °C to +70 °C / T5: from -55 °C to +40 °C
Rated voltage	12 - 24 V DC/110 - 240 V AC 50/60 Hz
Rated wattage	DC 12 V 55 W H1 tungsten halogen bulb
	DC 24 V 70 W H1 tungsten halogen bulb
	AC 110 V 70 W H1 tungsten halogen bulb
	AC 240 V 70 W H1 tungsten halogen bulb
Protection category to EN 60529	IP66/IP67
Rated terminal cross section	6 x 6 mm²
Enclosure material	Corrosion-free GRP
Lens material	Glass[1)]
Finish	Natural black or painted to customer specification
Rotating beacon speed	60 r.p.m., 120 r.p.m., 180 r.p.m.
Entries	up to 2 x M20
Weight	7.6 kg

[1)] Optional with lens guard

Ordering details

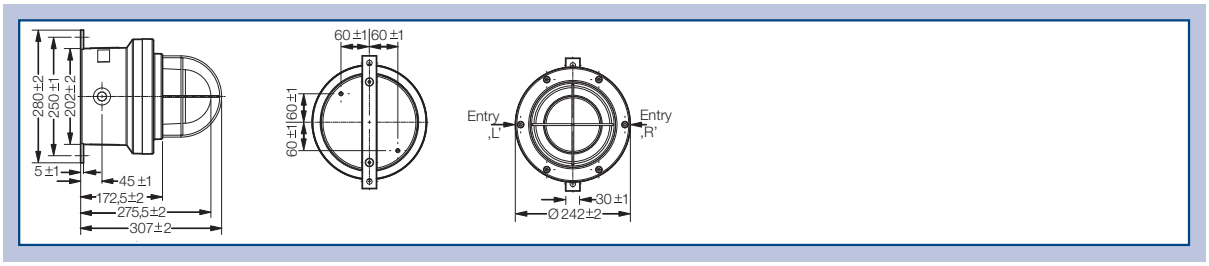
Catalogue No.	Certification	Description	Ordering Code
TH12B024RNBNN	ATEX Approved Ex II 2G, Ex d IIB T4/T5, Zone 1 & 2	GRP Body black, 70W Rotating Tungsten Halogen Lamp, 60 rpm., 24V DC, 503 Cd, Red lens, no lens guard Backstrap mounting	**PX 815010**

Ordering options*

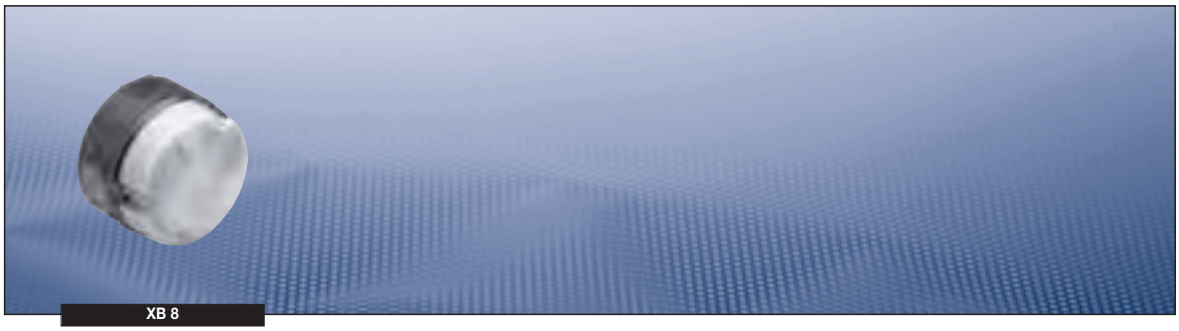
Model	Certification	Code	Speed	Code	Voltage	Code	Lens colour	Code	Lens guard	Code	Unit fixing	Code	Options	Code	Finish	Code
TH 12	ATEX	**B**	60 rpm	**A**	DC 12 V	**012**	Red	**R**	None	**N**	Direct		Tag label	**T**	Natural black	**N**
	GOST 'R'	**G**	120 rpm	**B**	DC 24 V	**024**	Blue	**B**	Yes	**Y**	mounting	**D**	Duty label	**D**	Red	**R**
			180 rpm	**C**	AC 110 V	**110**	Green	**G**			Backstrap	**B**	Earth		Blue	**B**
					AC 240 V	**240**	Amber	**A**					continuity	**E**	Yellow	**Y**
							Yelllow	**Y**					None	**N**	Green	**G**
							Clear	**C**							White	**W**
															Special finish	**S**

* For more options see www.medc.com or contact your local representative

Dimension drawing



Dimensions in mm



Technical data

XB 8	
Marking to 94/9/EC	Ⓔx II 1G Ex ia IIB or Ex II 1G Ex ia IIC T4
EC-Type Examination Certificate	BAS 00 ATEX 1258X
GOST 'R' Certification	0EX ia IIB T4
	0Ex ia IIC T4
Cert. No.	A-0757
Permissible ambient temperature	from -55 °C to +60 °C
Rated voltage	12 - 24 V DC via suitable barrier
Power consumption	DC 12 V 52 mA max. nom. (IIB & IIC)
(tube energy 0.5 joule)	DC 24 V 55 mA max. nom. (IIC)/71 mA max. nom. (IIB)
Insulation class	
Protection category to EN 60529	IP66/IP67
Weight	1.4 kg
Enclosure material	Corrosion-free GRP
Lens material	Polycarbonate, clear
Finish	Natural red
Flash rate	1 Hz
Entries	3 entries, M20 via knockouts
Rated terminal cross section	8 x 2.5 mm²

Ordering details

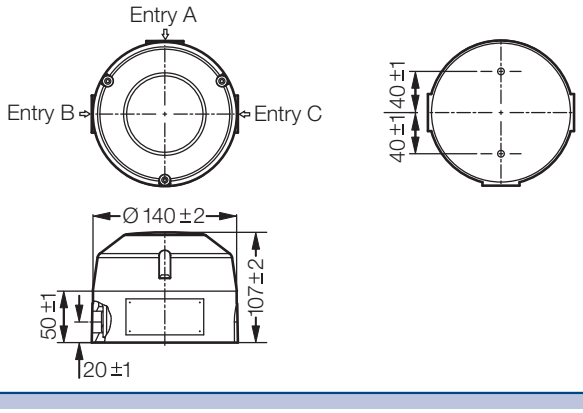
Catalogue No.	Description	Ordering Code
XB8CNR	Intrinsic safe IIB, 24 V DC, lens colour clear	**818002**

Ordering options*

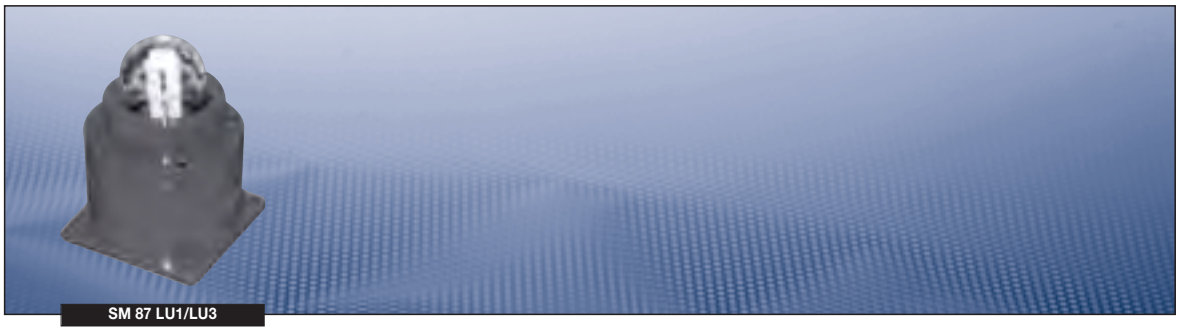
Model	Certification	Code	Voltage	Code	Lens colour	Code	Tag/duty label	Code	Finish	Code
XB 8	ATEX IIB	**BB**	12 V	**12**	Clear	**C**	Duty	**D**	Natural red	**N**
	ATEX IIC	**BC**	24 V	**24**	Special	**S**	Tag	**T**	Special	**S**
	GOST 'R' IIB	**GB**					None	**N**		
	GOST 'R' IIC	**GC**								

* For more options see www.medc.com or contact your local representative

Dimension drawing



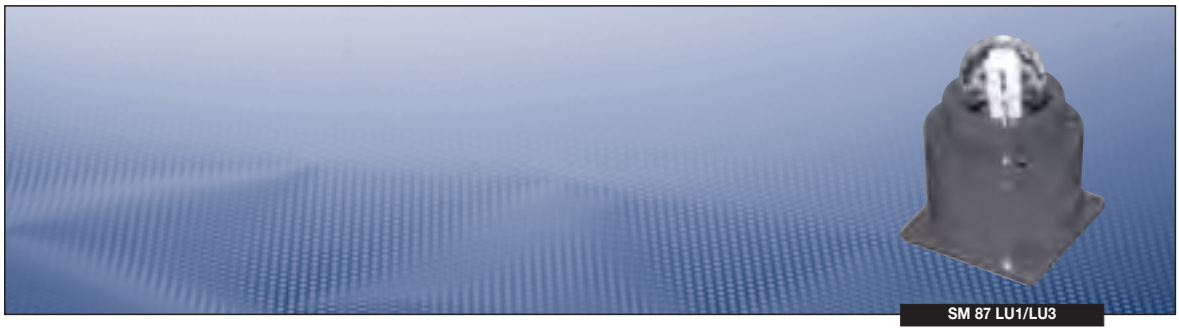
Dimensions in mm



SM 87 LU1/LU3

Technical data

SM 87 LU1/LU3			
Marking to 94/9/EC			Ⓔx II 2G/D Ex d IIC[1)]
EC-Type Examination Certificate			Baseefa 03 ATEX 0222
UL Listed for USA & Canada			Class I, Div. 1, Groups C & D
			Class I, Zone 1
Listing No.			E187894
SM87LU1 & LU3 – CSA Certified			Class 1, Div. 1 & 2, Group D
Certification No.			96406
CSA Certification to C22.2			Nos. 0, 0.4, 0.5, 9, 30–M1986, 94–M91, 137–M1981,
			Class 1, Group D, Enclosure 3/4
Cert. No.			96406
GOST 'R' Certification			1 Exd IIC T4
Certification No.			A-0756 (SM87 Alloy only)
Chinese (CQST) Certification			Exd IIC T4/T5/T6 (LU1 & LU3 only)
Permissible ambient temperature	LU3	T4 (135 °C)	-55 °C to +40 °C
		T3 (200 °C)	-55 °C to +55 °C
	LU1	T6 (85 °C)	-55 °C to +40 °C
		T5 (5 W)	-55 °C to +55 °C
		T4 (10 W)	-55 °C to +55 °C
Rated voltage			24 - 48 V DC/110 - 254 V AC 50/60 Hz
Rated terminal cross section			4 x 2.5 mm²
Power consumption	LU3		10 W (Filament lamp)
Power consumption	LU1		DC 24 V - 110 V 5 W (Fluorescent lamp)
			AC 240 V - 254 V 10 W (Fluorescent lamp)
Protection category to EN 60529			IP66/IP67
Entries			LU3: up to 4 x M20 or M25/LU1: up to 3 x M20 or M25
Weight			Alloy: 2.5 kg / Stainless steel: 3.8 kg
Enclosure material			Marine grade alloy or stainless steel
Lens material			Glass
Finish			Red epoxy painted finish as standard
Initiation			Telephone or relays initiated



Ordering details

Catalogue No.	Certification	Description	Ordering Code
SM87LU1AUL024GN4T4BNR	UL, cUL Listed, Class I, Div 1, Groups C & D	24V DC, green lens, 10 W fluorescent bulb, marine grade alloy, red finish	**PX 46200052**
SM87LU1AUL024RN4T4BNR	UL, cUL Listed, Class I, Div 2, Groups C & D	24V DC, red lens, 2 x 3/4" NPT entries, no labels, red finish	**PX 46200054**
SM87LU3AUL024GN3T3BNR	UL, cUL Listed, Class I, Div 1, Groups C & D	24V DC, green lens, 10 W incandescent bulb, marine grade alloy, red finish	**PX 46200096**
SM87LU3AUL024RN3R3LNR	UL, cUL Listed, Class I, Div 2, Groups C & D	24V DC, red lens, 2 x 1/2" NPT entries, no labels, red finish	**PX 762311**

Ordering options*

Model SM 87...	Code	Certification	Code	Voltage	Code	Lens colour	Code	Lens guard	Code	Cable entries	Code	Tag/duty label	Code	Finish	Code
Fluorescent Ex d	**LU1A**	ATEX	**B**	DC 24 V	**024**	Red	**R**	None	**N**	20 mm	**1**	None	**N**	Red	**R**
Fluorescent Ex d		UL Listed	**UL**	DC 48 V	**048**	Blue	**B**	Yes	**Y**	25 mm	**2**	Yes	**Y**	Blue	**B**
(Stainless steel)	**LU1S**[2]	CSA Certified	**C**	AC 110 V	**120**	Green	**G**			Other	**3**			Yellow	**Y**
Filament Ex d	**LU3A**[3]	GOST 'R'		AC 220 V	**220**	Amber	**A**			Top	**T**			Yellow/	
(Alloy)		Certified	**G**	AC 240 V	**240**	Yellow	**Y**			Bottom	**B**			black	
Filament Ex d		Chinese (CQST)	**Q**	AC 254 V	**254**	Clear	**C**			RHS	**R**[1]			stripes	**X**
(Stainless steel)	**LU3S**[2]									LHS	**L**			Green	**G**
														White	**W**
														Special finish	**S**

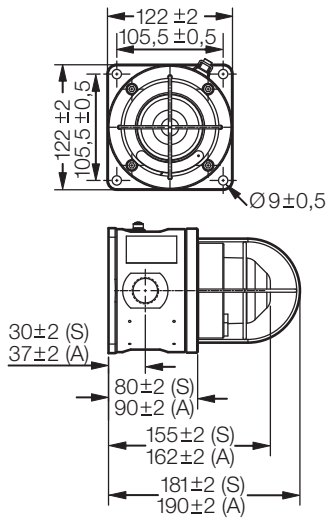
* For more options see www.medc.com or contact your local representative

[1] not available on SM 87 LU1

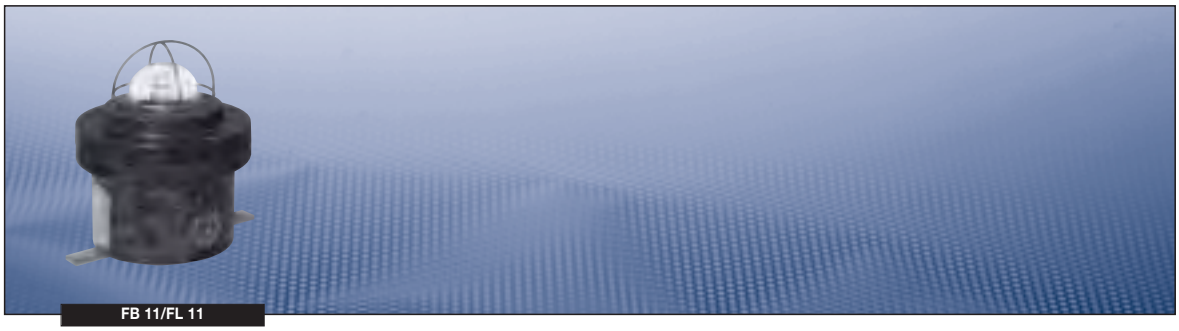
[2] not available UL or GOST certified

[3] not available CSA certified

Dimension drawing



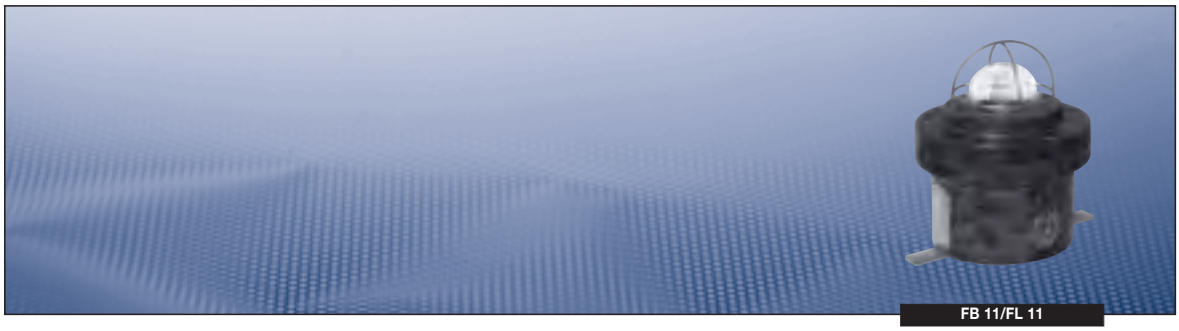
Dimensions in mm



FB 11/FL 11

Technical data

FB 11 | FL 11		
Marking to 94/9/EC		Ⓔx II 2G/D Ex d IIB T[1)]
EC-Type Examination Certificate		BAS 99 ATEX 2195X
UL Listed for USA and Canada		Class I, Div. 2, Groups C & D and
(FB only)		Class I, Zone 1, AExd IIB T4/T5
UL Listing No.		E187814
GOST 'R'		1Ex d IIB (for T ratings see table)
Permissible ambient temperature[1)]	FB 11 (T100 °C)	T5 -55 °C to +40 °C
	(T135 °C)	T4 -55 °C to +55 °C
	FL 11 (T100 °C)	T5 -20 °C to +40 °C
	(T135 °C)	T4 -20 °C to +55 °C
Rated voltage		24 - 48 V DC/110 - 240 V AC 50/60 Hz
Rated lamp type	FB 11	10 W (Filament lamp)
Rated lamp type	FL 11	DC 24 V 5 W lamp
		AC 254 V 10 W lamp
Protection category to EN 60529		IP66/IP67
Weight		2.5 kg
Enclosure material		Corrosion-free GRP
Lens material		Glass
Finish		Natural black or painted to customer specification
Entries		up to 2 x M20 / 2 x 1/2" NPT
Rated terminal cross section		4 x 2.5 mm^2 (FL 11 AC)/6 x 2.5 mm^2 (FL 11 DC & FB 11)



Ordering details

Catalogue No.	Certification	Description	Ordering Code
FB11B02410RNBNNN	ATEX	24 V DC, 10 W incandescent beacon, red lens, mounting bracket, natural black finish	**PX 32500004**
FB11UL02410GNBNNR	UL, cUL Listed, Class I, Div 2, Groups C & D	10 W incandescent beacon, 24 V DC, green lens, no lens guard, 2 x 1/2" NPT entries, painted red enclosure	**PX 32500028**
FB11UL11010GNBNNR	UL, cUL Listed, Class I, Div 2, Groups C & D	10 W incandescent beacon, 110 V AC, green lens, no lens guard, 2 x 1/2" NPT, painted red enclosure	**PX 32500029**

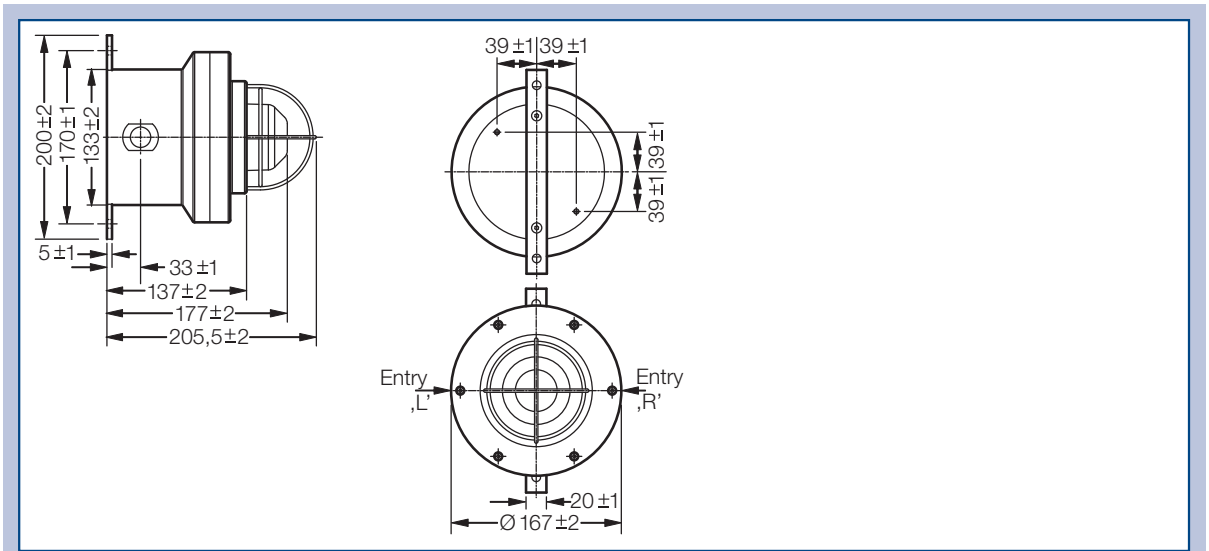
Ordering options*

Model	Certification	Code	Voltage	Code	Lamp wattage	Code	Lens colour	Code	Lens guard	Code	Unit fixing	Code	Earth continuity	Code	Tag/ duty label	Code	Finish	Code
FB 11	ATEX	**B**	DC 24 V	**024**	FL 5 W DC	**5**	Red	**R**	None	**N**	Direct		None	**N**	None	**N**	Red	**R**
FL 11	UL		DC 48 V	**048**	FL 10 W AC	**10**	Blue	**B**	Yes	**Y**	mounting	**D**	Yes	**Y**	Yes	**Y**	Blue	**B**
	Listed[1]	**UL**	AC 110 V	**110**	FB 10 W AC	**10**	Green	**G**			Backstrap	**B**					Yellow	**Y**
	GOST		AC 120 V	**120**			Amber	**A**									Yellow/black stripes	**X**
	"R"	**R**	AC 220 V	**220**			Yellow	**Y**									Green	**G**
			AC 240 V	**240**			Clear	**C**									White	**W**
			AC 254 V	**254**													Special finish	**S**

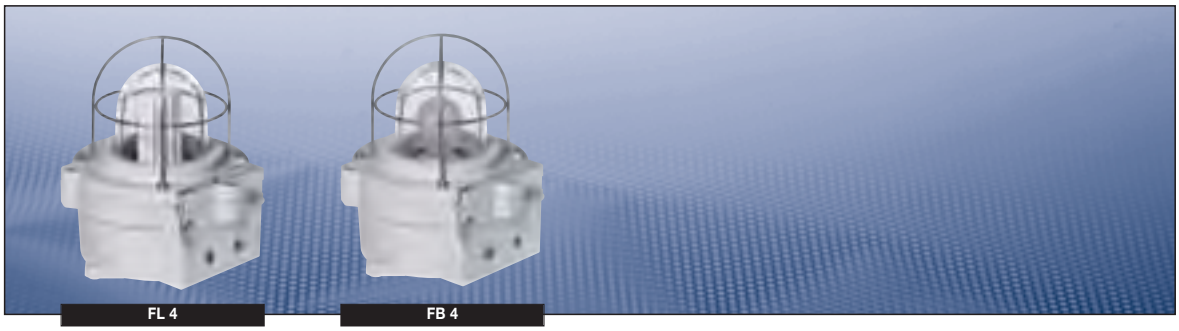
* For more options see www.medc.com or contact your local representative

[1] UL listed only available FB11

Dimension drawing

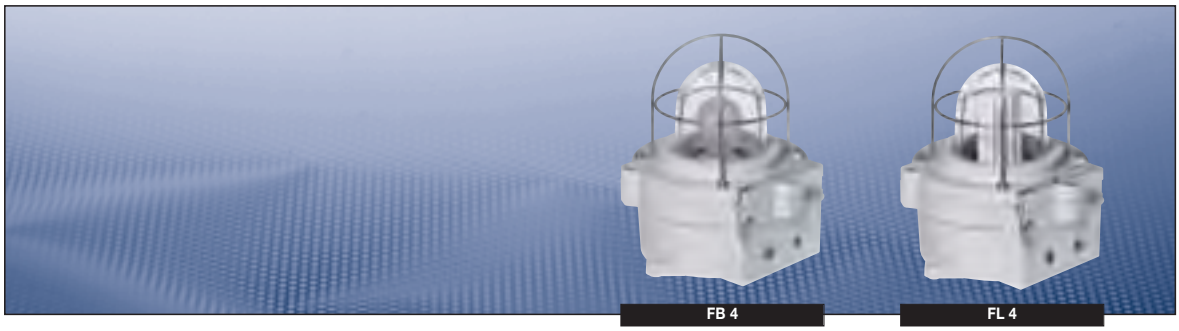


Dimensions in mm



Technical data

FB 4 | FL 4		
EC-Type Examination Certificate		Baseefa 02 ATEX 0224X
Marking to 94/9/EC		Ex II 2G Ex d IIC T[1)]
		Ex II 2G Ex e IIC T[1)]
UL Listed for USA and Canada		Class I, Div. 1, Groups C & D
		Class I, Zone 1
		AExd IIB T4/T5
Listing No.		E187894
GOST 'R' Certified		1Ex d IIC T3/T4/T5
Enclosure material		Marine grade alloy or stainless steel and GRP (Ex e terminal chamber)
Lens material		Toughened glass
Finish		Grey epoxy paint finish as standard
Rated voltage		24 - 110 V DC/110 - 254 V AC 50/60 Hz
Lamps	FL 4	up to 3 x 13 W PL compact fluorescent lamps
	FB 4	up to 100 W GLS filament lamps, E 27 holder as standard
	Entries	up to 3 x M20 (Ex d) or up to 4 x M20 (Ex e)
Weight	FL 4 (Ex d)	Alloy: 6.5 - 7.9 kg / Stainless steel: approx. 8.4 kg
	FL 4 (Ex de)	Alloy: 7.5 - 8.9 kg / Stainless steel: approx. 8.4 kg
	FB 4 (Ex d)	Alloy: 6.4 kg / Stainless steel: approx. 8.4 kg
	FB 4 (Ex de)	Alloy: 7.4 kg / Stainless steel: approx. 8.4 kg
Rated terminal cross section		6 x 6 mm^2 or 10 x 2.5 mm^2 (Ex e), 8 x 10 mm^2 (Ex d)
Protection category to EN 60529		IP66/IP67
Permissible ambient temperature[1)]	FL 4	DC T5 -20 °C to +55 °C
		AC T4 -20 °C to +55 °C
	FB 4	60 W T4 -55 °C to +40 °C (Ex d) / -50 °C to +40 °C (Ex e)
		100 W T3 -55 °C to +55 °C (Ex d) / -50 °C to +40 °C (Ex e)



Ordering details

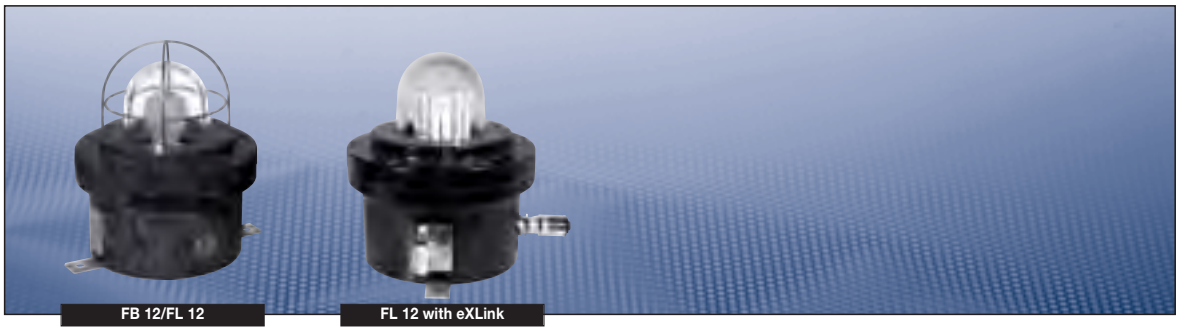
Catalogue No.	Certification	Description	Ordering Code
FB4EUL8U1N100B1N1G	UL, cUL Listed, Class I, Div 2, Groups C & D	Marine grade alloy, 120 V AC, 100 W bulb (not included), blue lens, lens guard, no labels, gray finish	**PX 17800002**
FL4BUL8U2M3M13R1N1RZ	UL Listed, Class I, Div 2, Groups C & D	Marine grade alloy, 24 V DC, 2 x 1/2" NPT entries, 13W tube (not included), red lens, lens guard, red finish, one certified plug	**PX 27800006**

Ordering options*

Model	Certification	Code	Voltage	Code	Terminals	Code	Cable entries	Code	Lamp wattage	Code	Lens colour	Code	Guard	Code	Options	Code	Material	Code	Finish	Code
FB 4	ATEX	**B**	DC 24 V	**BB**	6 x 6 mm²	**6E**	20 mm	**B**	**FL 4**		Red	**R**	None	**0**	Duty	**D**	Stainless		Grey	**G**
FL 4	UL	**UL**	DC 48 V	**CB**	8 x 10 mm²	**8D**	25 mm	**C**	1 x 13 W	**13**	Blue	**B**	Guard	**Y**	Tag	**T**	steel	**0**	Red	**R**
	GOST		DC 110 V	**DB**			1/2" NPT	**M**[1)]	2 x 13 W	**26**	Green	**G**			None	**N**	Alloy	**1**	Blue	**B**
	'R'	**G**	AC 110 V	**EB**			3/4" NPT	**N**[1)]	3 x 13 W	**39**	Amber	**A**							Yellow	**Y**
			AC 120 V	**FB**					**FB 4**		Yellow	**Y**							White	**W**
			AC 230 V	**GB**					60 W	**60**	Clear	**C**							Special	
			AC 240 V	**HB**					100 W	**100**									finish	**S**
			AC 254 V	**IB**																

* For more options see www.medc.com or contact your local representative

[1)] UL certified only



FB 12/FL 12 | FL 12 with eXLink

Technical data

FB 12 | FL 12			
Marking to 94/9/EC			Ⓔx II 2G/D Ex d IIB T
EC-Type Examination Certificate			BAS 99 ATEX 2196
UL Listed for USA and Canada			Class I, Div. 2, Groups C & D and
(FB12 only)			Class I, Zone 1, AExd IIB T4/T5
UL Listing No.			E187814
GOST 'R'			1Exd IIB (for T ratings see table)
Permissible ambient temperature			
	FB 12	60 W T5:	-55 °C to +40 °C
		T4:	-55 °C to +55 °C
		100 W T3:	-55 °C to +30 °C
	FL 12	13 W AC/DC T6:	-20 °C to +40 °C
		13 W AC T5:	-20 °C to +55 °C
		26 W AC T5:	-20 °C to +40 °C
		16 W AC T4:	-20 °C to +55 °C
		39 W AC T4:	-20 °C to +40 °C
Rated voltage			24 V DC/110 - 240 V AC 50/60 Hz
Rated lamp type	FB 12		60 W filament lamp
			100 W filament lamp
Rated lamp type	FL 12		13 W fluorescent lamp
Rated terminal cross section			6 x 6 mm²
Enclosure material			Corrosion-free GRP
Protection category to EN 60529			IP66/IP67
Weight			7.2 kg (FL 12) / 7.6 kg (FB 12)
Lens material			Glass
Finish			Natural black or painted to customer specification
Entries			up to 2 entries, M20 / 2 x 1/2" NPT



Ordering details

Catalogue No.	Certification	Description	Ordering Code
FB12UL02460GNBNNR	UL, cUL Listed, Class I, Div 2, Groups C & D	60W incandescent beacon, 24V DC, green lens, no lens guard, 2 x 1/2" NPT entries, painted red enclosure	**PX 32600036**
FB12UL120100GNBNNR	UL, cUL Listed, Class I, Div 2, Groups C & D	100W incandescent beacon, 24V DC, green lens, no lens guard, 2 x 1/2" NPT entries, painted red enclosure	**PX 32600037**
FB12UL12060CNBNNN	UL, cUL Listed, Class I, Div 2, Groups C & D	120V AC, 60W incandescent beacon, clear lens, mounting bracket, no labels, natural black finish	**PX 326023**
FB12UL12060GNBNNR	UL, cUL Listed, Class I, Div 2, Groups C & D	60W incandescent beacon, 120V AC, green lens, no lens guard, 2 x 1/2" NPT entries, painted red enclosure	**PX 32600035**

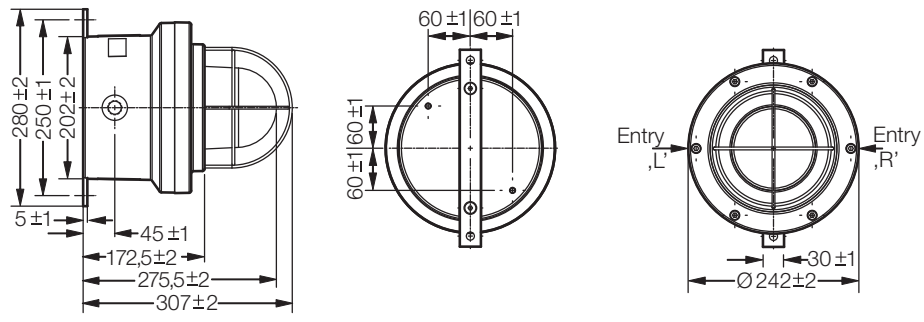
Ordering options*

Model	Certification	Code	Voltage	Code	Lamp wattage	Code	Lens colour	Code	Lens guard	Code	Unit fixing	Code	Earth continuity	Code	Tag/ duty label	Code	Finish	Code
FB 12	ATEX	**B**	DC 24 V	**024**	FL 1 x 13 W	**13**	Red	**R**	None	**N**	Direct		None	**N**	None	**N**	Red	**R**
FL 12	UL		DC 48 V	**048**	FL 2 x 13 W	**26**	Blue	**B**	Yes	**Y**	mounting	**D**	Yes	**Y**	Yes	**Y**	Blue	**B**
	Listed[1]	**UL**	AC 110 V	**110**	FL 3 x 13 W	**39**	Green	**G**			Backstrap	**B**					Yellow	**Y**
	GOST		AC 120 V	**120**	FB 60 W	**60**	Amber	**A**									Yellow/black stripes	**X**
	"R"	**R**	AC 220 V	**220**	FB 100 W	**100**	Yellow	**Y**									Green	**G**
			AC 240 V	**240**			Clear	**C**									White	**W**
			AC 254 V	**254**													Special finish	**S**

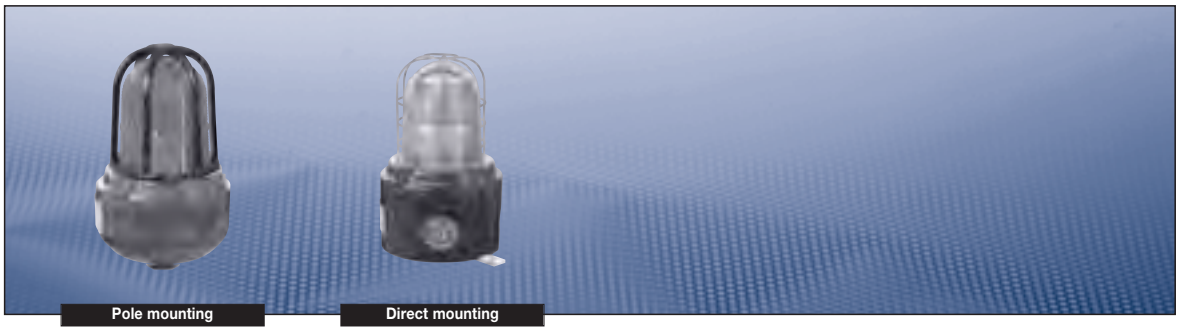
* For more options see www.medc.com or contact your local representative

[1] UL listed only available FB11

Dimension drawing



Dimensions in mm

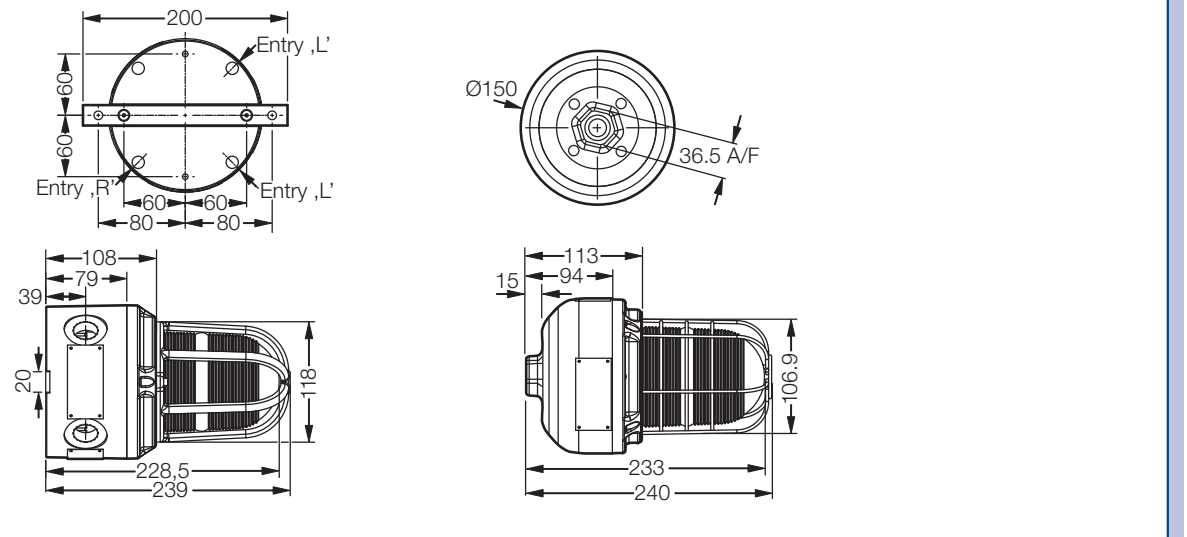


Technical data

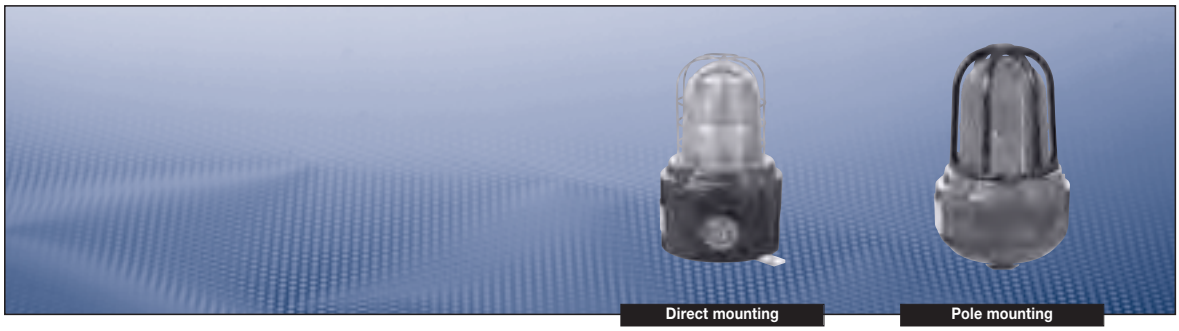
FB 15		
Marking to 94/9/EC		Ⓔx II 2G/D Ex d IIC T[1)]
EC-Type Examination Certificate		BAS 04 ATEX 0009X
UL Listed for USA and Canada		Class I, Div 2, Groups A, B, C & D
		Class I, Zone 1
		AExd IIC T3/T4
UL listing No.		E187894
Permissible ambient temperature	60 W (T135 °C)	T4 -55 °C to +55 °C
	60 W (T200 °C)	T3 -55 °C to +70 °C
	100 W (T135 °C)	T4 -55 °C to +40 °C
Rated voltage		24 - 48 V DC/110 - 254 V AC 50/60 Hz
Power consumption		60 W/100 W filament
Rated terminal cross section		12 x 2.5 mm²
Protection category to EN 60529		IP66/IP67
Entries		up to 3 x M20 or M25 (standard = 2 x M20)
Weight		3.0 kg
Enclosure material		Corrosion-free GRP
Lens material		Glass[1)]
Finish		Natural black or painted to customer specification

[1)] Optional with lens guard

Dimension drawing



Dimensions in mm



Ordering details

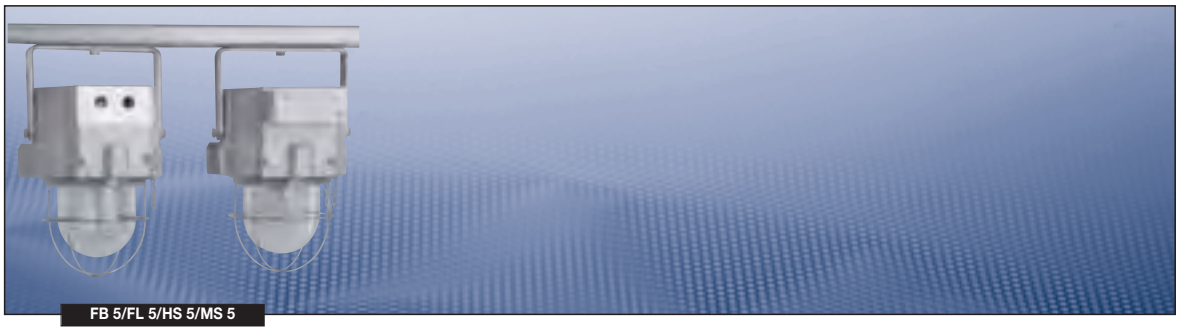
Catalogue No.	Certification	Description	Ordering Code
FB15UL024100ANPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	100 W incandescent beacon, 24 V DC, amber lens, no lens guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure	**PX 47600025**
FB15UL024100BNPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	100 W incandescent beacon, 24 V DC, blue lens, no lens guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure	**PX 47600029**
FB15UL024100CNPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	100 W incandescent beacon, 24 V DC, clear lens, no lens guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure	**PX 47600028**
FB15UL024100GNPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	100 W incandescent beacon, 24 V DC, green lens, no lens guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure	**PX 47600027**
FB15UL024100RNPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	100 W incandescent beacon, 24 V DC, red lens, no lens guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure	**PX 47600026**
FB15UL120100ANPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	100 W incandescent beacon, 120 V AC, amber lens, no lens guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure	**PX 47600020**
FB15UL120100BNPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	100 W incandescent beacon, 120 V AC, blue lens, no lens guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure	**PX 47600024**
FB15UL120100CNPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	100 W incandescent beacon, 120 V AC, clear lens, no lens guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure	**PX 47600023**
FB15UL120100GNANR	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	120 V AC, 100W incandescent beacon, green lens, mounting bracket, no labels, red finish	**PX 47600001**
FB15UL120100GNPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	100 W incandescent beacon, 120 V AC, green lens, no lens guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure	**PX 47600022**
FB15UL120100RNPNN	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	100 W incandescent beacon, 120 V AC, red lens, no lens guard, pipe mounting, 1 x 3/4" NPT entry, natural black enclosure	**PX 47600021**

Ordering options*

Model	Certification	Code	Voltage	Code	Lamp wattage	Code	Lens colour	Code	Lens guard	Code	Unit fixing	Code	Tag/duty label	Code	Finish	Code
FB 15	ATEX	**B**	DC 24 V	**024**	60 W	**60**	Red	**R**	None	**N**	Pipe mount	**P**[1)]	None	**N**	Natural black	**N**
	UL	**UL**	DC 48 V	**048**	100 W	**100**	Blue	**B**	Cast	**C**	Direct mount	**D**	Tag label	**T**	Red	**R**
			AC 110 V	**110**			Green	**G**	Wire	**W**	Direct w/ backstrap	**B**	Duty label	**D**	Blue	**B**
			AC 120 V	**120**			Amber	**A**					Blanking plug	**P**	Yellow	**Y**
			AC 220 V	**220**			Yellow	**Y**							Green	**G**
			AC 240 V	**240**			Clear	**C**							White	**W**
			AC 254 V	**254**											Special finish	**S**

* For more options see www.medc.com or contact your local representative

[1)] Not available on ATEX version



FB 5/FL 5/HS 5/MS 5

Technical data

FB 5 | FL 5 | HS 5 | MS 5		
Marking to 94/9/EC		Ⓔx II 2G Ex d IIB[1)] Ⓔx II 2G Ex de IIB[1)]
EC-Type Examination Certificate		Baseefa 02 ATEX 0225X
CSA certified		Class I, Zone 1
		Ex d IIB T4
CSA certification to		E79-0-95, E-79-1-95, C22.2 Nos. 9.0-96
Certification No.		LR96406 (HS5 only)
Permissible ambient temperature	FL5 T4:	-20 °C to +50 °C
	FB5 T3:	-20 °C to +30 °C
	MF5 T3:	-20 °C to +40 °C
	HS5 T4:	-20 °C to +40 °C
Rated voltage		220 - 254 V AC 50/60 Hz
Rated terminal cross section		6 x 6 mm² (Ex de), 8 x 10 mm² (Ex d)
Lamps	FL 5	up to 4 x 13 W PL compact fluorescent lamps
	FB 5	up to 200 W GLS filament lamps, E 27 cap as standard
	MF 5	up to 80 W mercury fluorescent lamp
	HS 5	up to 70 W high pressure sodium lamp
Protection category to EN 60529		IP66/IP67
Entries		up to 3 x M20 or M25 (Ex d) or up to 4 x M20 or M25 (Ex e)
Weight	FL 4 (Ex d)	Alloy: 6.5 - 7.9 kg / Stainless steel: add. 8.4 kg
	FL 4 (Ex de)	Alloy: 7.5 - 8.9 kg / Stainless steel: add. 8.4 kg
	FB 4 (Ex d)	Alloy: 6.4 kg / Stainless steel: add. 8.4 kg
	FB 4 (Ex de)	Alloy: 7.4 kg / Stainless steel: add. 8.4 kg
Enclosure material		Marine grade alloy or stainless steel and GRP (Ex e terminal chamber)
Lens material		Toughened glass (coloured if required)
Finish		Grey epoxy paint finish as standard

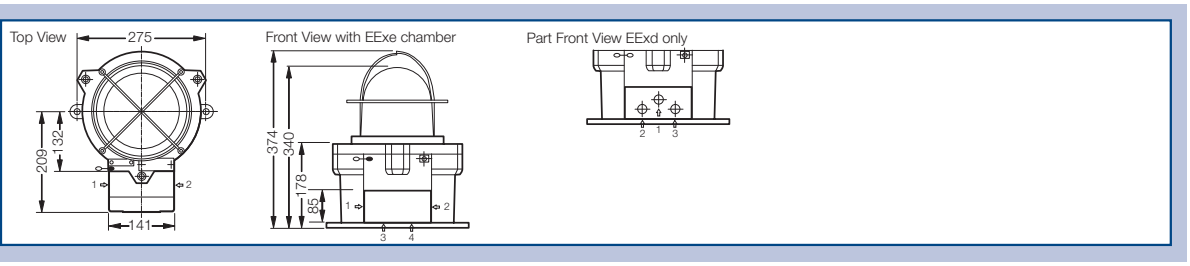
[1)] Optional with lens guard

Ordering options*

Model	Terminal chamber	Code	Voltage	Code	Fixing	Code	Cable entries	Code	Lens guard	Code	Tag label	Code	Material	Code	Finish	Code
FB 5	Ex d	**D**	220 V AC	**G**	Backstrap	**B**	20 mm	**B**	None	**0**	None	**N**	Stainless steel	**0**	Grey	**G**
FL 5	Ex de	**E**	240 V AC	**H**	Stirrup	**S**	25 mm	**C**	Guard	**1**	Yes	**Y**	Alloy	**1**	Red	**R**
MF 5			254 V AC	**J**											Blue	**B**
HS 5															Yellow	**Y**
															White	**W**
															Special finish	**S**

* For more options see www.medc.com or contact your local representative

Dimension drawing



Dimensions in mm

EX-SOUNDERS AND HORNS

Explosion protected units for Zone 0, 1, 2, 22, Class I, Div 1 & 2, GOST 'R' & 'K'

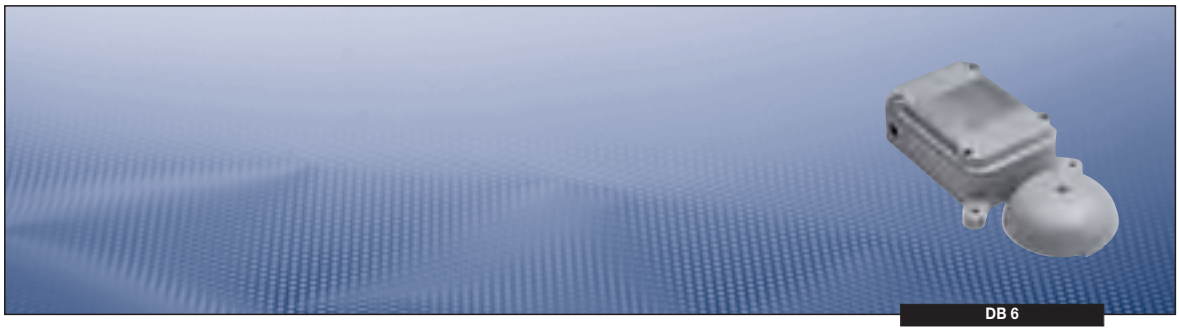
This range of light weight, flameproof Sounders has been designed with a high weatherproof rating to cope with the harsh environmental conditions found offshore and onshore in the oil, gas and petrochemical industries.

New electronic circuitry allows the DB1P and DB1HP to be switched between two selectable tones by either reversing the supply polarity, or connecting a second voltage supply. The higher output DB1H and DB1HP are particularly suitable for noisy environments.

The flamepaths, flare and the body, are manufactured completely from a UV stable glass reinforced polyester. Stainless steel screws and sinter are incorporated thus ensuring a corrosion free product. A tapered flamepath is used to overcome the problems of assembly of parallel spigot flamepaths. An optional Ex e terminal chamber is available.



- **Optional Exe terminal chamber**
- **UL Listed for USA and Canada –**
  Hazardous locations:
  Class I, Div 2, Groups A-D. Class I, Zones 1 & 2, AExd IIC T4.
  – Ordinary locations: Audible-Signal Device.
- **GOST 'R' & 'K' certified**
- **Chinese (CQST) certified**
- **Australian (SAA) certified**
- **IP66 and IP67**
- **Certified temperature –55°C to +70°C**
- **All GRP corrosion free flamepaths**
- **Up to 118dBA output**



Technical data

DB 6	
Marking to 94/9/EC	Ex II 2G Ex d IIB T5
EC-Type Examination Certificate	Baseefa 03 ATEX 0257
Permissible ambient temperature	-20 °C to +55 °C
Rated voltage and Rated current	24 V DC 8 mA 200/254 V AC 3/5 mA 40 Hz/60 Hz
Contact spring	Phosphor bronze
Contacts	Silver
Coil	Bakelite former
Magnet	Laminated iron
Finish	Grey epoxy paint finish as standard or to customer's specification
Max. sound levels	24 V DC 98 ± 3 db(A) 200/254 V AC 106 ± 3 db(A)
Protection category to EN 60529	IP65
Entries	2 x M20 mm ISO with one Ex d blank fitted
Weight	11 kg
Enclosure material	Cast iron
Rated terminal cross section	4 x 4 mm²

Ordering details

Catalogue No.	Description	Ordering Code
DB6BNR	Cast iron 98 dB(A) output, red	**PX806003**

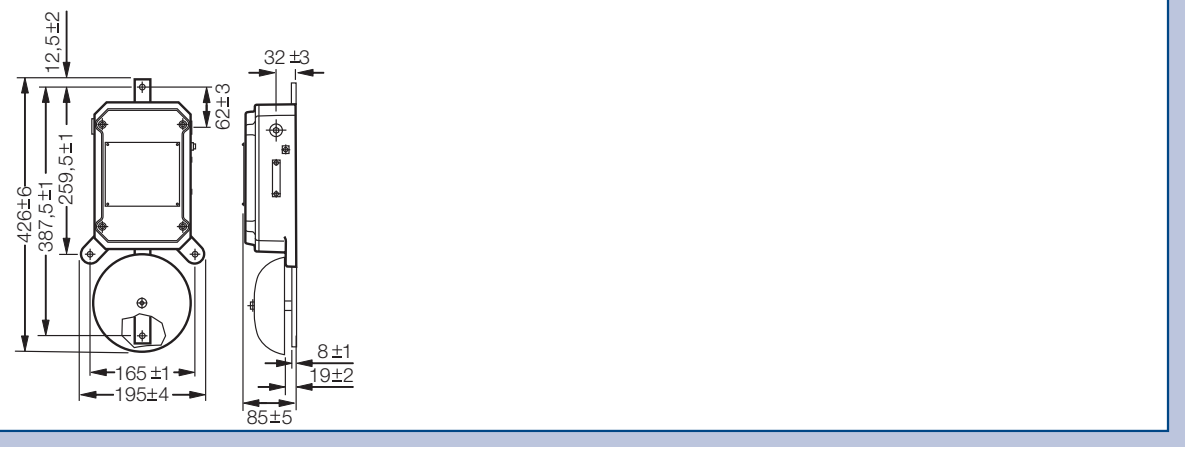
Ordering options*

Unit Type	Voltage	Code	Label	Code	Finish	Code
DB 6	24 V DC	**B**	None	**N**	Red	**R**
	240 V AC	**H**	Yes	**Y**	Grey	**G**
					Special finish	**S**[1)]

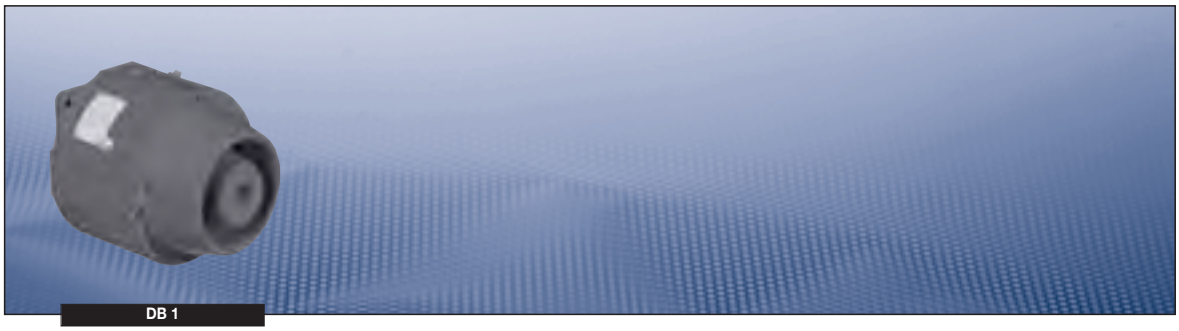
[1)] Please specify

* For more options see www.medc.com or contact your local representative

Dimension drawing



Dimensions in mm

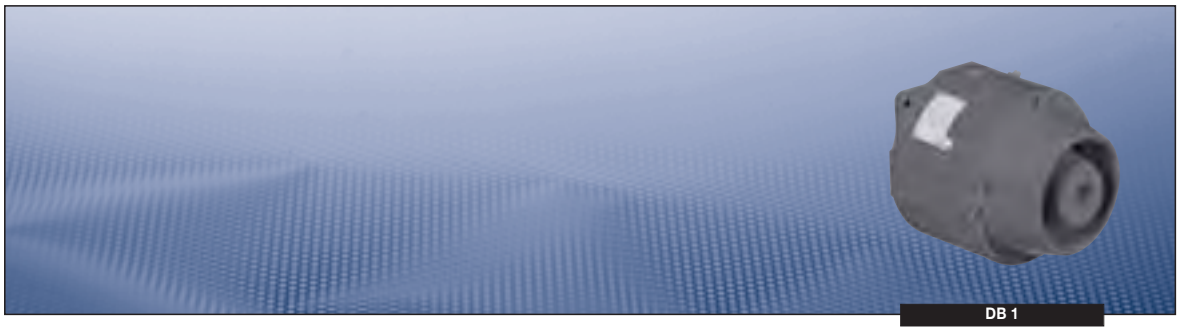


DB 1

Technical data

DB 1						
Marking to 94/9/EC		Ⓔx II 2G Ex d IIB T3				
EC-Type Examination Certificate	DB 1 (P)	Baseefa 02 ATEX 0207				
	DB 1 H (P)	Baseefa 02 ATEX 0209				
UL Listing		Class I, Div. 1, Groups C & D				
Listing No.		E187688				
GOST 'R' Certification		1Exd IIB T4 (DB1 & DB1P only)				
Permissible ambient temperature	DB1 & DB1P	-20 °C to +55 °C				
	DB1 H & DB1HP	-20 °C to +70 °C				
Rated voltage and Rated current		DC			AC	
	DB 1 (P)	12 V	24 V	48 V	120 V	240 V
	DB 1 H (P)	125 mA	250 mA	250 mA	60 mA	50 mA
		900 mA	700 mA	–	200 mA	100 mA
Resistor values		470 Ω minimum (DC only)				
Max. sound levels		103 ± 3 db(A) DB1 (P)				
		96 ± 3 db(A) DB1 (P) 12 V				
		110 ± 3 db(A) at 1 m.[1] DB1 H (P)				
Protection category to EN 60529		IP66				
Weight	DB1 & DB1P	3.5 kg (alloy), 8.3 kg (stainless)				
	DB1 H & DB1HP	5.6 kg (alloy), 12.7 kg (stainless)				
Enclosure material		Stainless Steel or corrosion resistant alloy, ABS flare				
Finish		Epoxy paint finish as standard or to customer's specification				
Entries		up to 3 x 20 mm or 25 mm ISO				
Rated terminal cross section		up to 4 mm²				

[1] Sound level is dependent upon the tone selection


DB 1

Ordering details

Catalogue No.	Certification	Description	Ordering Code
DB1BA024A1A3NNNR	ATEX approved Ex II 2GD	103 dB(A), 24 V DC, 2 x M20 entries, choice of 6 tones, red body finish	**PX 801001**
DB1HPULA024D1D2NNNR	UL Listed, Class I, Div 2, Groups C & D	Up to 103dB(A) at 10ft., two-stage alarms, with 26 tones, 24 V DC, alloy, red body finish, no tag or duty labels, 2 x 3/4" NPT entries	**PX 869115**
DB1PULA024D1D2NNNR	UL Listed, Class I, Div 2, Groups C & D	Up to 96dB(A) at 10ft., two-stage alarms, with 26 tones, 24 V DC, alloy, red body finish, no tag or duty labels, 2 x 3/4" NPT entries	**PX 869111**
DB1PULA110C1C3NNNR	UL Listed, Class I, Div 2, Groups C & D	Up to 96 dB(A) at 10ft., sounder, 110 V AC, 2 x 1/2" NPT entries, red body finish	**PX 17300108**

Ordering options*

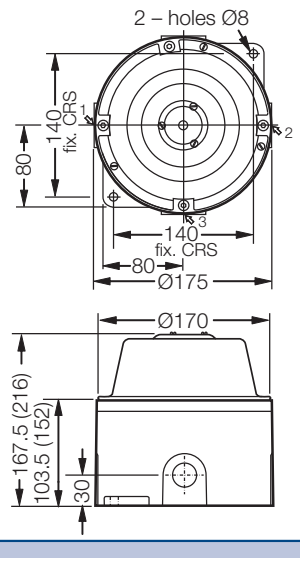
Unit Type	Certification	Code	Material	Code	Voltage	Code	Entries[2]	Code	Duty label	Code	Tag label	Code	Features	Code	Finish	Code
DB 1	ATEX/CENELEX	**B**	SS 316	**S**	12 V DC	**012**	20 mm	**A**	None	**N**	Required	**T**	Not required	**N**	Red	**R**
DB 1 H	UL		Alloy	**A**	24 V DC	**024**	25 mm	**B**	Required	**D**	Not		Telephone		Grey	**G**
DB 1 P	(DBIP & IHP only)	**UL**			48 V DC	**048**	1/2" NPT				required	**N**	initiate	**T**	Special	
DB 1 P2	GOST 'R'				110 V DC	**110**	(UL only)	**C**					Relay initiate	**R**	finish	**S**
DB 1 HP	(DBI & DBIP only)	**G**			240 V DC	**240**	3/4" NPT						Remote	**S**		
							(UL only)	**D**					End of line			
							LHS	**1**					resistor	**E**[3]		
							RHS	**2**								
							Bottom	**3**								

[1] UL – Available Alloy only

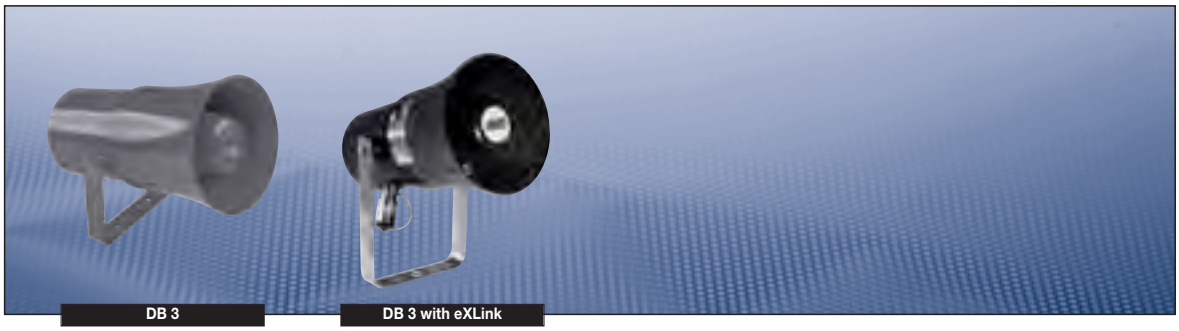
[2] Features not available on DB1P and DB1 HP

* For more options see www.medc.com or contact your local representative

Dimension drawing



Dimensions in mm

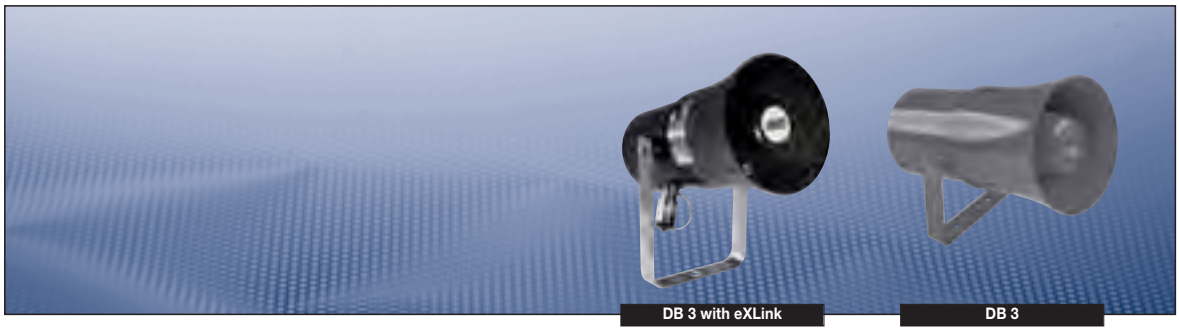


DB 3 | DB 3 with eXLink

Technical data

DB 3						
Marking to 94/9/EC		Ⓔx II 2G/D Ex d IIC T[1)]				
		Ⓔx II 2G Ex de IIC T[1)]				
EC-Type Examination Certificate						
	Type DB 3/DB 4 Ex d IIC	Baseefa 00 ATEX 2097X				
	Type DB 3/DB 4 Ex de IIC	Baseefa 00 ATEX 2098X				
UL Listed for USA and Canada		Class I, Div. 2, Groups A-D				
		Class I, Zones 1 & 2, AExd IIC T4				
Listing No.		E203310				
GOST 'R' Certification		1Ex d IIC T4 & 1Exde IIC T4				
		Russian Fire Alarm (VNIIPO) Approved				
GOST 'K' Certification		Ex d IIC T4				
Chinese (CQST) Certification		Ex d IIC T4				
Enclosure material	Body and horn	glass reinforced polyester				
	Swivel bracket	stainless steel				
Finish		Epoxy paint finish as standard or to customer's specification				
Max. sound levels	Long flare	= 115 ± 3 db(A) (tone dependent)				
	Short flare	= 108 ± 3 db(A) (tone dependent)				
Rated voltage and Rated current		12 V DC 760 mA	24 V DC 380 mA	48 V DC 190 mA		
		110 V AC 135 mA	120 V AC 124 mA	220 V AC 68 mA		
		230 V AC 65 mA	240 V AC 62 mA	254 V AC 59 mA		
Entries		up to 2 x 20 mm	up to 2 x 1/2" NPT			
Weight		Ex d IIC: 6.0 kg	Ex de IIC: 6.5 kg			
Rated terminal cross section		4 x 2.5 mm² (AC)	6 x 2.5 mm² (DC)			
Protection category to EN 60529		IP66 and IP67				
Permissible ambient temperature		Ex d		Ex de		
	DB3 & DB3P	-20 °C to +70 °C (T4)		-20 °C to +45 °C (T5/T100 °C)		
	DB3 L & DB3LP	-55 °C to +55 °C (T5)		-55 °C to +70 °C (T4/T135 °C)		
	UL	GOST 'R' (Ex d)				
	DB3 & DB3P	-55 °C to +70 °C		-20 °C to +50 °C		
	DB3 L & DB3LP	n/a		-55 °C to +55 °C		
	GOST 'R' (Ex de)	CQST				
	DB3 & DB3P	-20 °C to +40 °C		-20 °C to +55 °C		
	DB3 L & DB3LP	-55 °C to +55 °C		n/a		

[1)] depends on ambient temperature



Ordering details

Catalogue No.	Certification	Description	Ordering Code
DB3D048N2BNRZ	ATEX Ex II 2GD	27 tones, no tag or duty labels, 12-48 V DC, 2 x M20 entries with one certified plug fitted, red finish	**PX 803123**
DB3PD048N2BNNZ	ATEX Ex II 2GD	27 tones, no tag or duty labels, 12-48 V DC, 2 x M20 entries with one certified plug fitted, black finish	**PX 803121**
DB3D240N2BNNZ	ATEX Ex II 2GD	27 tones, no tag or duty labels, 240 V AC, 2 x M20 entries with one certified plug fitted, black finish	**PX 803122**
DB3D240N2BNRZ	ATEX Ex II 2GD	27 tones, no tag or duty labels, 240 V AC, 2 x M20 entries with one certified plug fitted, red finish	**PX 803124**
DB3PUL048N2CNRZ	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	27 tones, two stage, no tag or duty labels, 108 dB(A) output, NEMA 4X & 6, 12-48 V DC, 2 x 1/2" NPT entries with certified plug, red finish	**PX 869132**
DB3UL048N2CNRZ	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	27 tones, no tag or duty labels, 108 dB(A) output, NEMA 4X & 6, 12-48 V DC, 2 x 1/2" NPT entries with certified plug, red finish	**PX 869131**
DB3UL110N2CNRZ	UL, cUL Listed, Class I, Div 2, Groups A, B, C, D	27 tones, no tag or duty labels, 108 dB(A) output, NEMA 4X & 6, 110 V AC, 2 x 1/2" NPT entries with certified plug, red finish	**PX 869135**

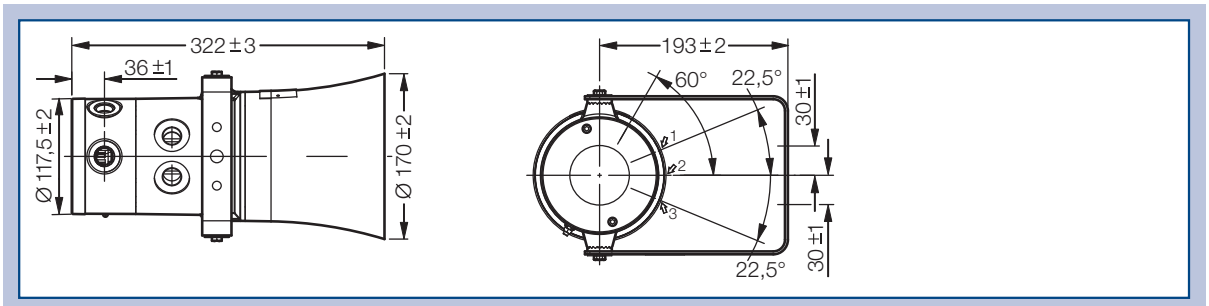
Ordering options*

Unit Type	Details	Certification	Code	Voltage	Code	Label	Code	Entries	Code	Features	Code	Finish	Code
DB 3	Standard unit	Ex d	**D**	12 - 48 V DC	**048**	Duty	**D**	1 x 20 mm		Not required	**N**	Natural	
DB 3 P	Two stage (DC only)	Ex de	**E**	110 V AC	**110**	Tag	**T**	(Ex d)	**1B**	End of line		Black	**N**
DB 3 L*	Low temp. standard unit	UL Listed	**UL**	120 V AC	**120**	None	**N**	2 x 20 mm		resistor	**E**	Red	**R**
DB 3 LP*	Low temp. two stage	ATEX/UL		220 V AC	**220**			(Ex d/Ex de)	**2B**	Special tone	**S**	Special	
	(DC only)	Dual Listed	**AU**	230 V AC	**230**			1 x 1/2" NPT				finish	**S**[1)]
		GOST 'R' Exd	**DG**	240 V AC	**240**			(UL only)	**1C**				
		GOST 'R' Exde	**EG**	254 V AC	**254**			2 x 1/2" NPT					
		GOST 'K' Exd	**DK**					(UL only)	**2C**				
		Chinese (CQST)	**Q**										

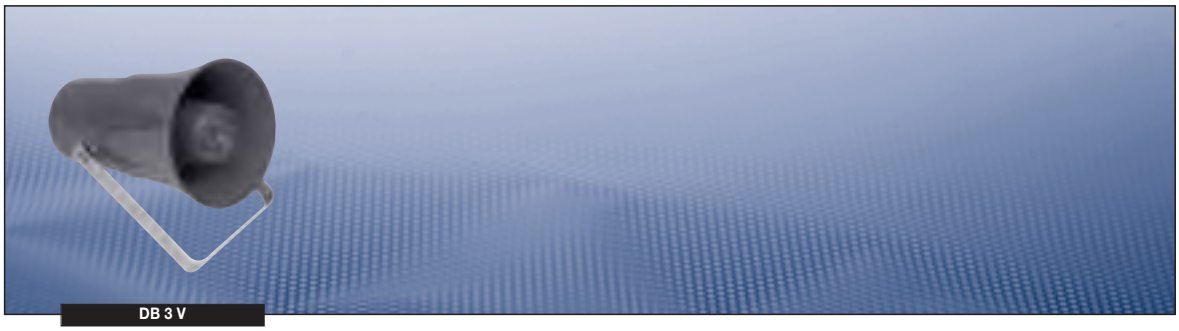
[1)] Customer to specify

* For more options see www.medc.com or contact your local representative

Dimension drawing

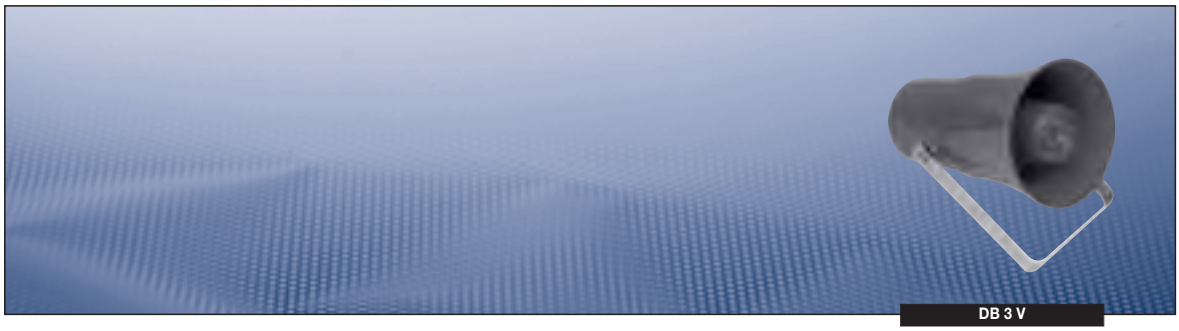


Dimensions in mm



Technical data

DB 3 V				
Marking to 94/9/EC			Ⓔx II 2G/D Ex d IIC T[1)] Ⓔx II 2G Ex de IIC T[1)]	
EC-Type Examination Certificate				
	Type DB 3/DB 4 Ex d IIC		Baseefa 00 ATEX 2097X	
	Type DB 3/DB 4 Ex de IIC		Baseefa 00 ATEX 2098X	
GOST 'R' Certification			1Ex d IIC T4 & 1Ex de IIC T4	
			Russian Fire Alarm (VNIIPO) Approved	
GOST 'K' Certification			Ex d IIC T4	
Chinese (CQST) Certification			Ex d IIC T4	
Permissible ambient temperature[1)]			Ex d	Ex de
		DB3 V	-20 °C to +70 °C (T4)	-20 °C to +45 °C (T5/T100 °C)
		DB3 LV	-55 °C to +55 °C (T5)	-55 °C to +70 °C (T4/T135 °C)
			GOST 'R' & 'K' Exd	GOST 'R' Exde
		DB3 V	-20 °C to +55 °C	-20 °C to +40 °C
		DB3 LV	-55 °C to +55 °C	-55 °C to +55 °C
			Chinese Exd	
		DB3 V	-20 °C to +55 °C	
		DB3 LV	n/a	
Rated voltage and Rated current			12 V DC 1200 mA 24 V DC 600 mA 48 V DC 300 mA	
Rated terminal cross section			6 x 2.5 mm² (DC)	
Voice recording			up to 20 sec.	
Max. sound levels			= 110 ± 3 db(A) (tone dependant) (controlled by potentiometer)	
Protection category to EN 60529			IP66 and IP67	
Entries			up to 2 x 20 mm	
Weight			6.0 kg	
Enclosure material	Body and horn		glass reinforced polyester	
	Swivel bracket		stainless steel	
Finish			Epoxy paint finish as standard or to customer's specification	



Ordering options*

Unit Type	Details	Certification	Code	Label	Code	Entries	Code	Finish	Code
DB 3 V	Voice unit	ATEX Ex d	**D**	Duty	**D**[2]	1 x 20 mm (Ex d)	**1B**	Natural Black	**N**
DB 3 LV[1]	Low temp. voice unit	ATEX Ex de	**E**	Tag	**T**[2]	2 x 20 mm (Ex d/Ex de)	**2B**	Red	**R**
		GOST 'R'	**DG**	End of resistor	**E**[3]			Special finish	**S**[4]
		GOST 'K'	**DK**	Message	**M**				
		Chinese (CQST)	**Q**	Bell tone	**O**				
				None	**N**				

[1] Available unpainted only

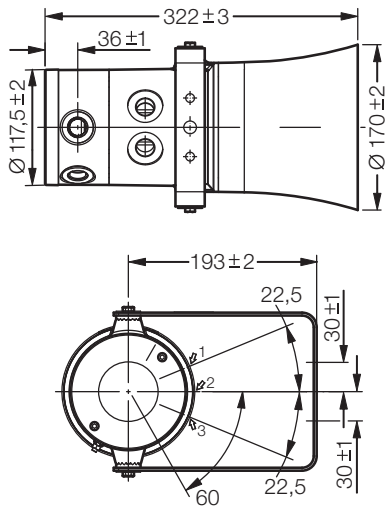
[2] Please specify wording

[3] _ state value

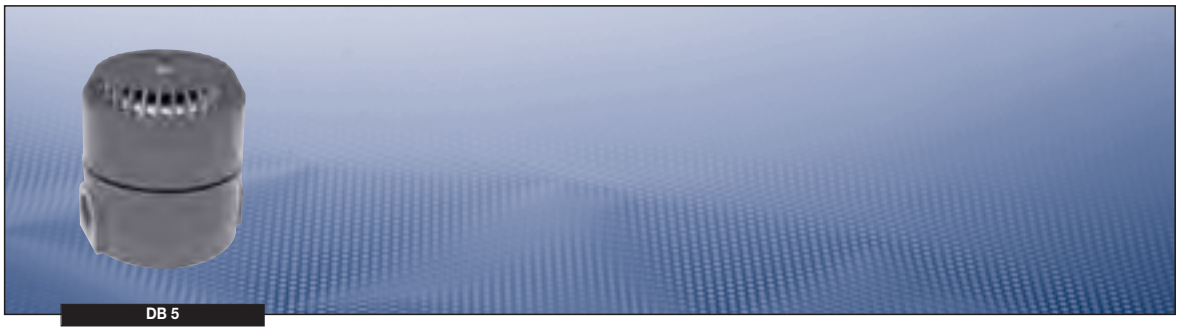
[4] Please specify

* For more options see www.medc.com or contact your local representative

Dimension drawing



Dimensions in mm



Technical data

DB 5		
Marking to 94/9/EC		Ⓔx II 1G Ex ia IIC T4
EC-Type Examination Certificate		Baseefa 00 ATEX 1259
HSE(M) to EN50014, EN50020 and EN50303		Ex ia 1
Cert. No.		MECS01ATEX4260 (unit) and 94Y7095 (system)
FM Approved		Class I, Div. 1 groups A, B, C, and D. J.I. 3008604
CSA to		C22.2 Nos. 0, 0.4, 0.5, 25, 30, 205
		Class 1, Groups A, B, C and D
Permissible ambient temperature		-20 °C to +55 °C
Rated voltage and Rated current	DB5B012NR	12 V DC 12 mA
	DB5B024NR	24 V DC 14 mA
Max. sound levels		100 ± 3 db(A) (tone dependant)
Rated terminal cross section		6 x 2.5 mm² (DC)
Protection category to EN 60529		IP65
Entries		up to 1 x 21 mm each side or 1 x 21 mm rear
Weight		0.3 kg
Enclosure material		Acrylonitrile butadiene styrene
Finish		Red as standard

Ordering details

Catalogue No.	Certification	Description	Ordering Code
DB5B012NR	ATEX Approved Ex II 1G	Intrinsically safe, 26 tones, 93 dB(A) output, 12 V DC, up to 3 x M20 entries via knockouts, no labels, natural red finish	**PX 805001**
DB5B024NR	ATEX Approved Ex II 1G	Intrinsically safe, up to 3 x M20 entries via knockouts, 24 V DC up to 3 x M20 entries via knockouts, no labels, natural red finish	**PX 805002**
DB5FM024NR	FM Approved for Class I, Div 1 & 2, Groups A, B, C, D	Intrinsically safe, 26 tones, 93 dB(A) output, no tag or duty labels, 24 V DC, 2 x 13/16" entries via knockouts, natural red finish	**PX 869150**

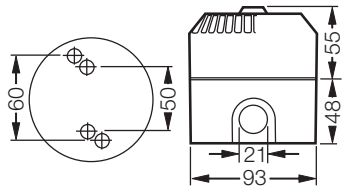
Ordering options*

Unit Type	Certification	Code	Voltage	Code	Label	Code	Finish	Code
DB 5	BASEEFA GP 1 (12 V only)	**M**	12 V	**012**	None	**N**	Red	**R**
	BASEEFA GP 2	**B**	24 V	**024**	Yes	**Y**	Special finish	**S**[1)]
	FM	**FM**						

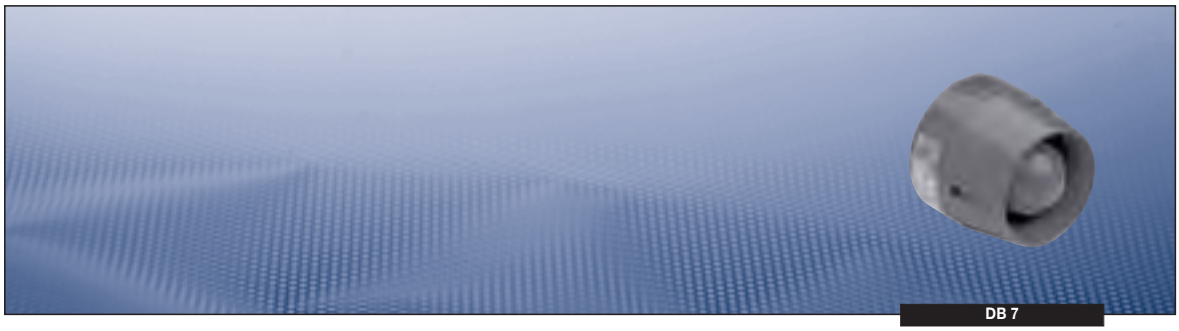
[1)] Please specify

* For more options see www.medc.com or contact your local representative

Dimension drawing



Dimensions in mm



Technical data

DB 7	
Marking to 94/9/EC	Ex II 1G Ex ia IIB T4 Ex II 1G Ex ia IIC T4
EC-Type Examination Certificate	Baseefa 00 ATEX 1260
GOST 'R' Certification	0Exia IIC T4, 0Exia IIB T4
Permissible ambient temperature	-55 °C to +70 °C
Rated voltage and Rated current	12 V DC 25 mA to 55 mA 24 V DC 34 mA to 68 mA
Rated terminal cross section	8 x 2.5 mm²
Max. sound levels	12 V/24 V IIB 107 ± 3 db(A) at 1 metre 12 V/24 V IIC 103 ± 3 db(A) at 1 metre
Protection category to EN 60529	IP65
Entries	up to 3 x M20
Weight	1.0 kg
Enclosure material	Glass reinforced polyester
Finish	Self coloured red as standard or epoxy coated to customer's specification

Ordering details

Catalogue No.	Certification	Description	Ordering Code
DB7PBB024NR	ATEX Approved Ex II 1G, Exia, IIB & IIC, T4	110 dB(A) output, GRP, 24 V DC, up to 3 x M20 entries via knockouts, no labels, choice of 26 tones, natural red	**PX 807006**

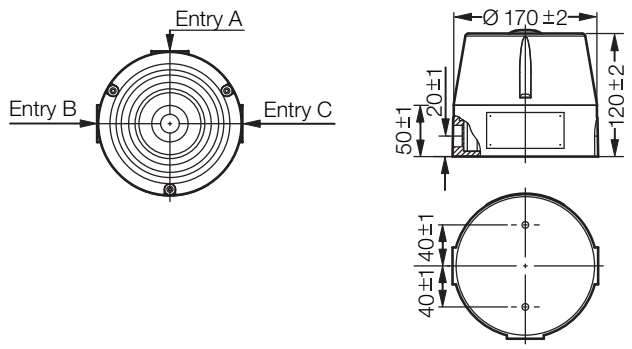
Ordering options*

Unit Type	Certification	Code	Voltage	Code	Label	Code	Finish	Code
DB 7P	ATEX IIB	**BB**	12 V	**012**	Duty	**D**[1)]	Red	**N**
	ATEX IIC	**BC**	24 V	**024**	Tag	**T**[1)]	Special finish	**S**
	GOST 'R' IIB	**GB**			None	**N**		
	GOST 'R' IIC	**GC**						

[1)] Please specify

* For more options see www.medc.com or contact your local representative

Dimension drawing



Dimensions in mm

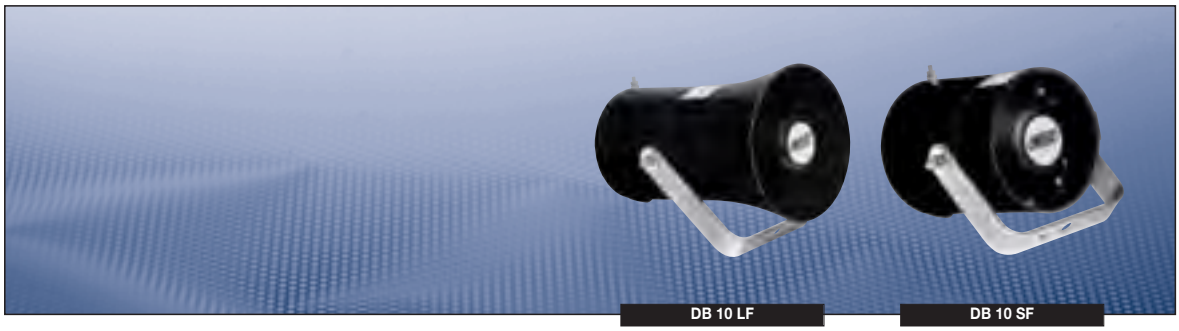
E X - S P E A K E R S

Explosion protected units for Zone 0, 1, 2, 22, Class I, Div 2, GOST

This range of loudspeakers, intended for use in potentially explosive gas and dust atmospheres, can here a power rating of up to 30 watts and is suitable for use in all gas groups including hydrogen. The flamepaths, are and the body, are manufactured completely from a UV stable glass reinforced polyester. Stainless steel screws and sinter are incorporated thus ensuring a corrosion free product. A tapered flamepath is used to overcome the problems of assembly of parallel spigot flamepaths. An optional Ex-e terminal chamber is available on some units. An uncertified version is available for use in non-explosive atmospheres. Models compliant to BS 5839, part 8 are available.



- **UL listed for USA and Canada:**
  – Class I, Div 2, Groups A-D –
  Class I, Zones 1 & 2, AEcd IIC, T4
  GOST 'R' & 'K' certified.
- **Australian (SAA) certified.**
- **Optional Ex-e terminal chamber**
- **IP66 and IP67**
- **Certified temperature -55 °C to +70 °C**
- **GRP corrosion-free flamepaths**
- **Up to 122 dBA at 30 watts at 1 metre**
- **BS 5839, part 8 compliant versions available**
- **Addressable capability**
- **Power tappings, via integral transformer**
- **Ratcheted swivel bracket**
- **Stainless steel sinter**
- **Stainless steel mounting bracket**



Technical data

DB 10		
Marking to 94/9/EC		Ⓔx II 2G Ex d IIB +H2 T[1]
EC-Type Examination Certificate		BAS 02 ATEX 2086X
GOST 'R' Certification		2 Exde IIB + H2 T4/T5/T6
GOST 'K' Certification		Exde IIB + H2 T4/T5/T6
Chinese (CQST) Certification		Exde IIB + H2 T4/T5/T6
Permissible ambient temperature[1]		T6: –55 °C to +40 °C T5: –55 °C to +55 °C T4: –55 °C to +70 °C
Rated power		8 or 15 W RMS continuous at +25 °C
Rated terminal cross section		8 x 2.5 mm² or 4 x 2.5 mm²
Output	long flare (15 W)	maximum output at 1 W/1 m at 2 kHz is 105 dBA
		maximum output at 15 W/1 m at 2 kHz is 115 dBA
	short flare (8 W)	maximum output at 1 W/1 m at 2 kHz is 98 dBA
		maximum output at 8 W/1 m at 2 kHz is 107 dBA
Frequency range		400 Hz to 8 kHz
Voice coil impedance		8 Ω
Transformer		100 V line as standard
Protection category to EN 60529		IP66/IP67
Entries		1 x M20 Ex d/2 x M20 ISO Ex e
Weight		15 W 3.0 kg / 8 W 2.5 kg
Enclosure material		Anti-static, UV stable, glass reinforced polyester, mounting stirrup and fixtures in stainless steel
Finish		All natural or body and horn can be painted to client's requirements

Ordering details

Type	Description	Ordering Code
DB10B8XN2BPN	8 Watt (short flare), 100 V transformer, 2 x M20 entries with 1 certified plug fitted, natural black	**PX 807908**
DB10B15XN2BPN	15 Watt (short flare), 100 V transformer, 2 x M20 entries with 1 certified plug fitted, natural black	**PX 807915**

Ordering options*

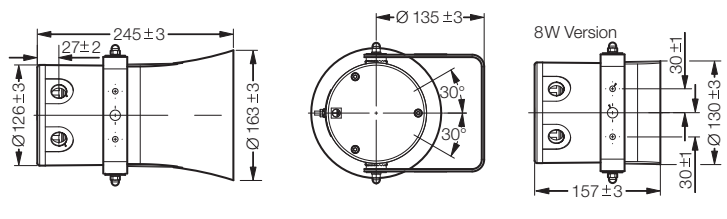
Unit Type	Certification	Code	max. rated Power	Code	Transformer	Code	Options	Code	Entries	Code	Colour	Code
DB 10[1]	ATEX	**B**	8 W	**8**	Yes	**X[2]**	Duty	**D**	1 x M20	**1B**	Natural black	**N**
	GOST 'R'	**R**	15 W	**15**	8 Ω version	**N**	Tag	**T**	2 x M20	**2B**	Red	**R**
	GOST 'K'	**K**					None	**N**	2 x M20 entries	**2BP[3]**	Special	**S**
	Chinese (CQST)	**Q**										

[1] For more options see www.medc.com or contact your local representative.

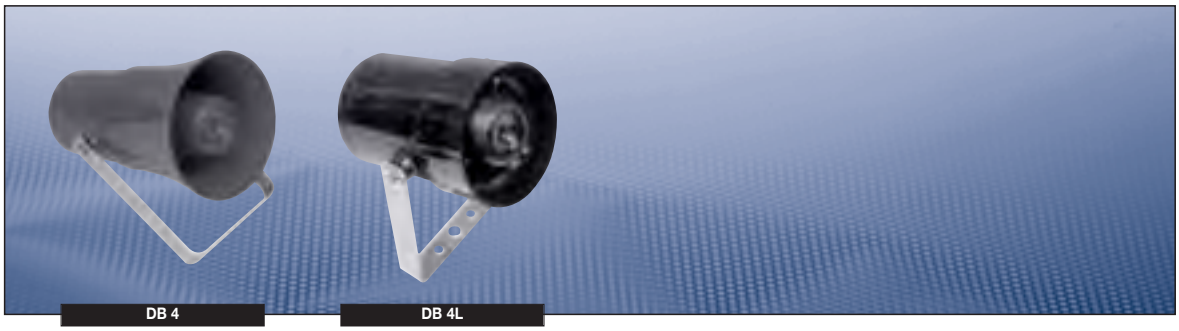
[2] Std. 100 V, other values are available

[3] With one certified plug fitted.

Dimension drawing

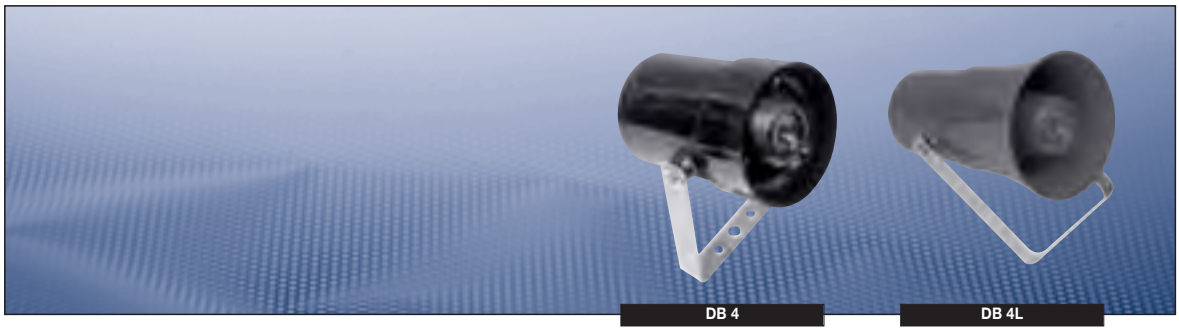


Dimensions in mm



Technical data

DB 4 | DB 4L		
Marking to 94/9/EC		Ⓔx II 2G/D Ex d IIC T4 T135 °C
EC-Type Examination		Ex d BAS 00 ATEX 2097X
Certificate		Ex ed BAS 00 ATEX 2098X
UL listed for USA and Canada		Class I, Div 2, Groups A-D
		Class I, Zones 1 & 2, AExd IIC T4
GOST 'R' Certification		1Exd IIC T4 & 1Exde IIC T4
		Russian Fire Alarm (VNIIPO) approved
GOST 'K' Certification		Exd IIC T4
Permissible ambient temperature	DB 4 ≤ 15 W	-20 °C to +70 °C
	DB 4 > 15 W	-20 °C to +55 °C
	DB 4L ≤ 15 W	-55 °C to +70 °C
	DB 4L > 15 W	-55 °C to +55 °C
Rated power		8 W, 15 W, 20 W or 25 W RMS continuous at +25 °C
Rated terminal cross section		8 x 2.5 mm^2
Frequency range		400 Hz to 8 kHz
Voice coil impedance		8 Ω
Transformer		100 V line as standard
Protection category to EN 60529		IP66/IP67
Entries		max. 2 x M20 Ex d/2 x M20 into Ex e chamber
Weight	Ex d	5.0 kg, depends on model
	Ex de	+0.5 kg
Enclosure material		Anti-static, UV stable, glass reinforced polyester;
		swivel bracket in stainless steel;
		captive cover screws in stainless steel
Finish		All natural or body and horn can be painted to client's requirements
Output	long flare (>8 W)	maximum output at 1 W/1 m is 107 dBA
		maximum output at 25 W/1 m is 119 dBA
	short flare (8 W)	maximum output at 1 W/1 m is 100 dBA
		maximum output at 8 W/1 m is 109 dBA



Ordering details

Catalogue No.	Certification	Description	Ordering Code
DB415DXN2BNZ	ATEX Approved Ex II 1G	15 watt 100 V line transformer, no labels, 2 x M20, one certified plug, flameproof enclosure, natural black finish	**PX 804215**
DB425DXN2BNZ	ATEX Approved Ex II 1G	25 watt 100 V line transformer, no labels, 2 x M20, one certified plug, flameproof enclosure, natural black finish	**PX 804225**
DB425ULNT2CRZ	UL, cUL Listed Class I, Div 2, Groups A, B, C, D	25 watt high-output version, direct connection 8 Ohm, Label = ABS Approved, 2 x 1/2" NPT entries, red finish	**PX 869145**
DB425ULXN2CR	UL, cUL Listed Class I, Div 2, Groups A, B, C, D	25 watt 100 V line transformer, no labels, 2 x 1/2" NPT entries, red finish	**PX 869142**
DB425ULXN2CR	UL, cUL Listed Class I, Div 2, Groups A, B, C, D	25 watt 70 V line transformer, no labels, 2 x 1/2" NPT entries, red finish	**PX 869144**

Ordering options*

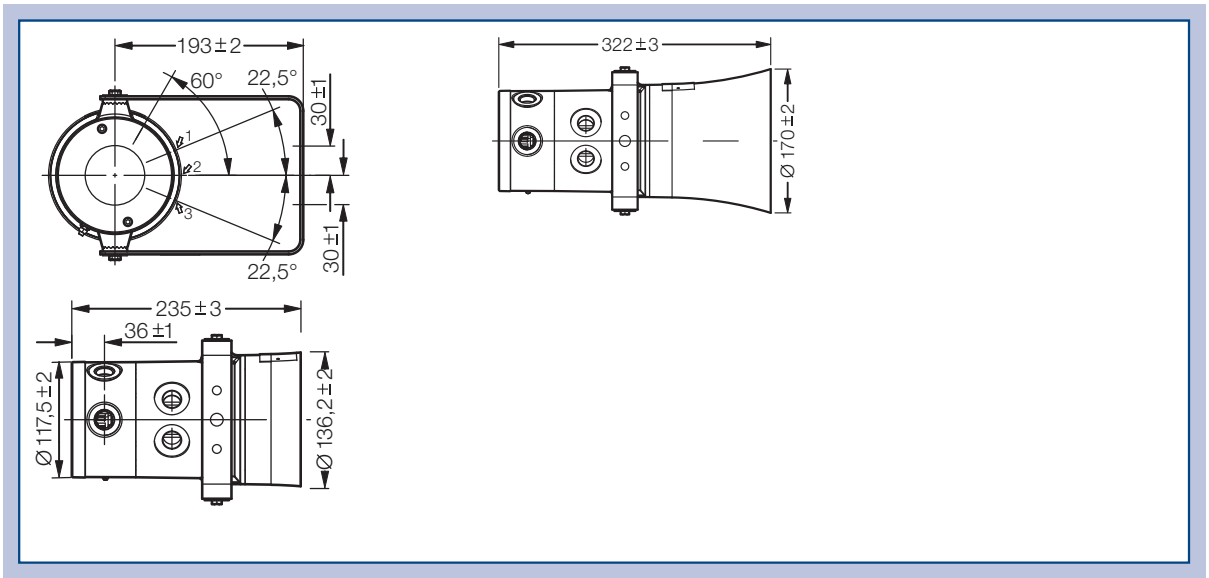
Unit Type	max. rated Power	Code	Certification	Code	Transformer	Code	Options	Code	Entries	Code	Colour	Code
DB 4	8 W	**8**	Ex d	**D**	Yes	**X**[1]	Duty	**D**	1 x M20 Ex d	**1B**	Natural Black	**N**
DB 4L	15 W	**15**	Ex de	**E**	8 Ω version	**N**	Tag	**T**	2 x M20 Ex d/		Red	**R**
	20 W	**20**	UL listed	**UL**			Earth continuity	**E**	Ex e	**2B**	Special	**S**[2]
	25 W	**25**	Exd BS 5839 part 8	**D8**			None	**N**				
			GOST 'R' Exd	**GD**								
			GOST 'R' Exde	**GE**								
			GOST 'K' Exd	**KD**								

[1] Std. 100 V, other values are available

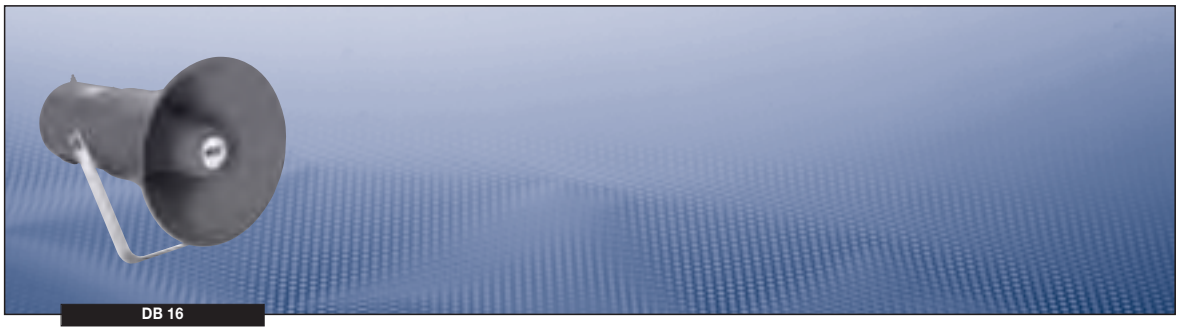
[2] Please specify

* For more options see www.medc.com or contact your local representative

Dimension drawing

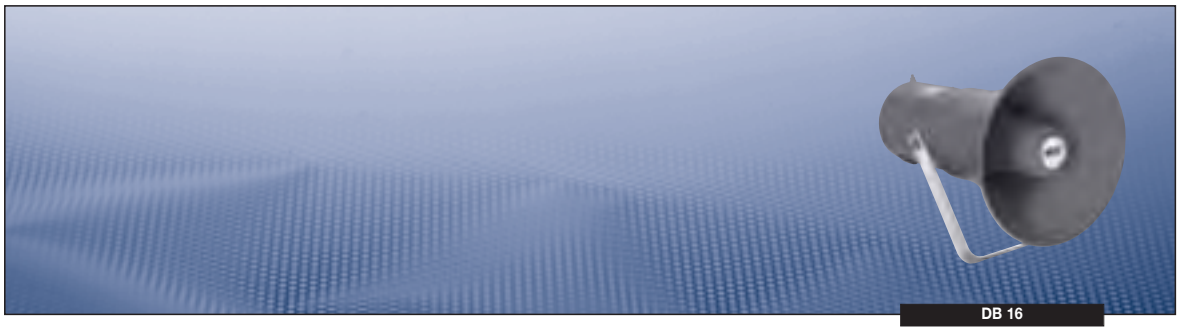


Dimensions in mm



Technical data

DB 16		
Marking to 94/9/EC	Ex IIB	Ⓔx II 2G Ex de IIB T3
	Ex IIC	Ⓔx II 2G/D Ex de IIC T4 T110 °C IP6X
EC-Type Examination	Ex IIB	Baseefa 04 ATEX 0167X
Certificate	Ex IIC	Baseefa 04 ATEX 0166X
UL Listed for USA and Canada		Class I, Div 2, Groups C & D
		Class I, Zone 1
		AExde IIB T3
		Class I, Div 2, Groups A-D
		Class I, Zone 1
		AExde IIC T110 °C
GOST 'K' Certification		1Exde IIC T4/IIB T3
Permissible ambient temperature	30 W version	-50 °C to +40 °C
	25 W version	-50 °C to +65 °C
Rated power		30 W RMS continuous at +25 °C
Frequency range		370 Hz to 8 kHz
Voice coil impedance		8 Ω
Transformer		100 V line as standard
Protection category to EN 60529		IP66/IP67
Entries		max. 2 x M20/2 x M25 into Ex e chamber
Weight		5.5 kg approx.
Enclosure material		Body & horn in anti-static, UV stable, glass reinforced polyester
		Mounting stirrup and fixtures in stainless steel
Finish		All natural or body and horn can be painted to client's requirements
Output	IIB version	maximum output at 1 W/1 m is 117 dBA
		maximum output at 25 W/1 m is 121 dBA
		maximum output at 30 W/1 m is 122 dBA
	IIC version	maximum output at 1 W/1 m is 107 dBA
		maximum output at 25 W/1 m is 118 dBA
		maximum output at 30 W/1 m is 119 dBA
Rated terminal cross section		8 x 2.5 mm^2



Ordering details

Catalogue No.	Certification	Description	Ordering Code
DB16UCXN2MPN	UL, cUL Listed, Class I, Div 2, Groups C & D	Unit suitable for gas Groups A, B, C, D, 70V line transformer, 2 x 1/2" NPT, one certified plug, natural black finish	PX 28600006

Ordering options*

Unit Type	Certification	Code	max. rated Power	Code	Transformer	Code	Options	Code	Entries	Code	Colour	Code
DB 16	ATEX IIB	**BB**	25 W	**25**	Yes	**X**[3]	Duty	**D**	1 x M20	**1B**[4]	Natural black	**N**
	ATEX IIC	**BC**	30 W	**30**	8 Ω version	**N**	Tag	**T**	2 x M20	**2B**[4]	Red	**R**
	UL (C & D)1)	**UB**					Earth continuity	**E**	1 x M25	**1C**[4]	Special	**S**[5]
	UL (A-D)2)	**UC**					Earth stud	**B**	2 x M25	**2C**[4]		
	GOST 'K' IIB	**KB**					None	**N**				
	GOST 'K' IIC	**KC**										

[1] Suitable for gas groups C & D

[2] Suitable for gas groups A – D

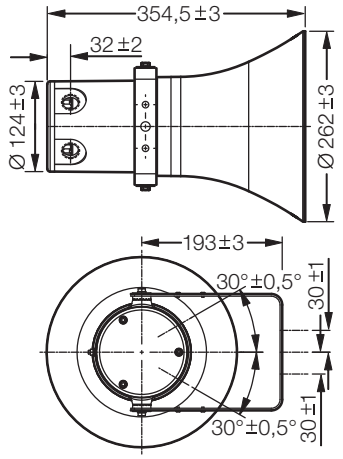
[3] Std. 100 V, other values are available

[4] To specify certified plug, suffix appropriate code with "P"

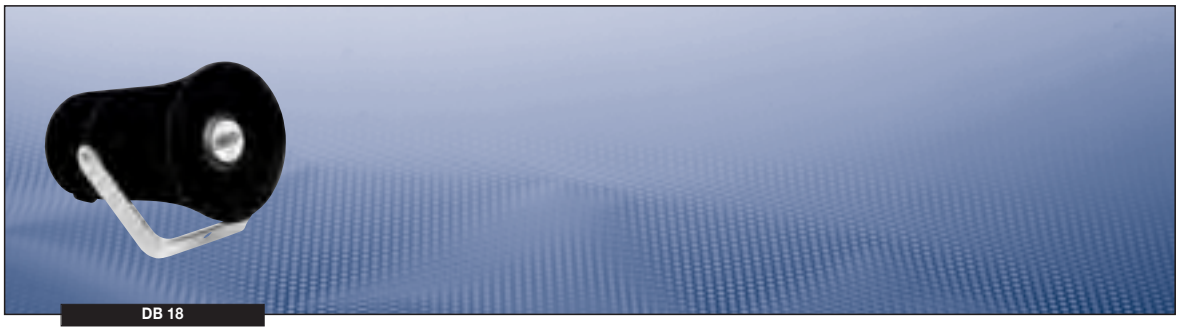
[5] Please specify

* For more options see www.medc.com or contact your local representative

Dimension drawing



Dimensions in mm



Technical data

DB 18	
Marking to 94/9/EC	Ⓔx II 3G/D Ex nA II T135 °C
Compliance	CENELEC EN 50014, EN 50021
Permissible ambient temperature	-55 °C to +55 °C
Rated power	15 W RMS continuous at +25 °C
Rated terminal cross section	8 x 2.5 mm²
Frequency range	400 Hz to 7 kHz
Voice coil impedance	8 Ω
Transformer	100 V line as standard
Protection category to EN 60529	IP66/IP67
Entries	max. 2 x M20 Ex d/1 x M20 into Ex e chamber
Weight	2.6 kg
Enclosure material	Anti-static, UV stable, glass reinforced polyester; swivel bracket in stainless steel; captive cover screws in stainless steel
Finish	All natural or body and horn can be painted to client's requirements
Output	maximum output at 1 W/1 m at 900 Hz is 107 dBA maximum output at 15 W/1 m at 900 Hz is 117 dBA

Ordering details

Catalogue No.	Certification	Description	Ordering Code
DB18XNN	ATEX approved Ex II 3G/D	15 Watt, 100 V line transformer, 2 x M20 entries, natural black finish	**PX 808401**

Ordering options*

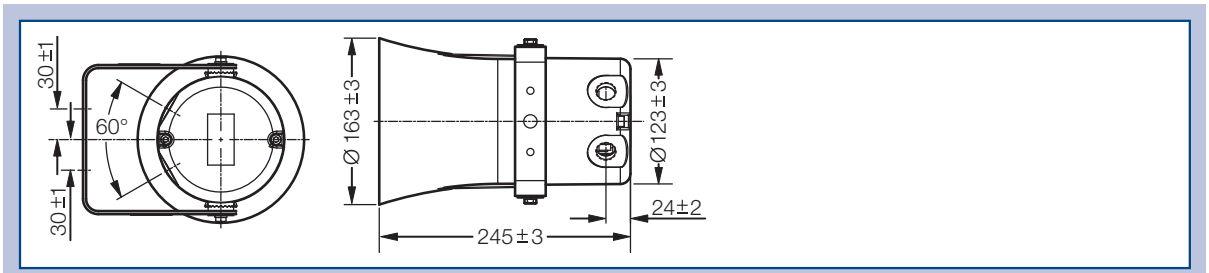
Unit Type	Transformer	Code	Options	Code	Entries	Code	Colour	Code
DB 18	Yes	**X**[1)]	Duty	**D**	1 x M20 Ex d	**1B**	Natural black	**N**
	Transf. and 8 Ω terminals	**X8**	Tag	**T**	2 x M20 Ex d/Ex e	**2B**	Red	**R**
	8 Ω version	**N**	Earth continuity	**E**			Special	**S**[2)]
			Blanking plug	**P**				
			None	**N**				

[1)] Std. 100 V, other values are available

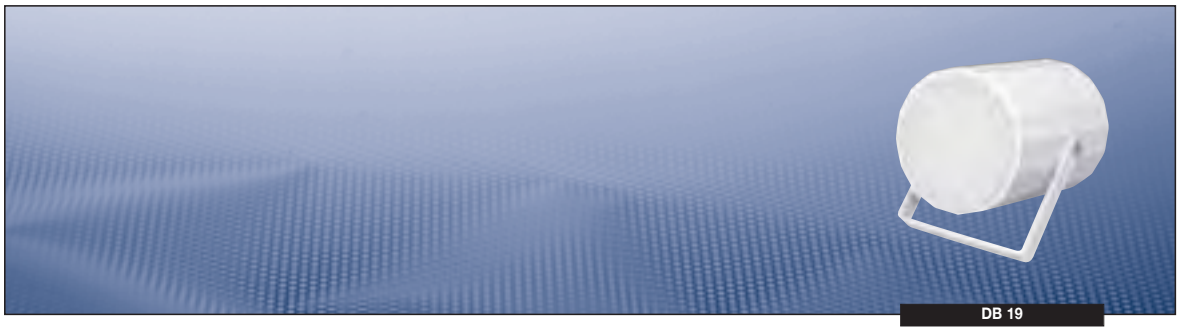
[2)] Please specify

* For more options see www.medc.com or contact your local representative

Dimension drawing



Dimensions in mm



Technical data

DB 19	
Marking to 94/9/EC	Ⓔx II 3G/D Ex nA II T135 °C
Compliance	CENELEC EN 50014, EN 50021
Permissible ambient temperature	-55 °C to +55 °C
Rated power	15 W RMS continuous at +25 °C
Frequency range	120 Hz to 20 kHz
Voice coil impedance	12.5 k, 7.7 k, 3.7 k, 2.5 k, 1.3 kΩ, 666 Ω
Transformer	100 V line as standard
Protection category to EN 60529	IP54
Entries	M20 gland
Weight	2.6 kg
Enclosure material	Body in aluminium Mounting stirrup and fixtures in stainless steel
Finish	Powder coated white to RAL 9010 as standard – can be painted to clients requirements
Output	maximum output at 1 W/1 m at 900 Hz is 92 dBA maximum output at 15 W/1 m at 900 Hz is 104 dBA
Rated terminal cross section	4 x 2.5 mm²

Ordering details

Catalogue No.	Certification	Description	Ordering Code
DB19XNN	ATEX approved Ex II 3G/D	15 Watt, 100 V line transformer, white to RAL 9010	**PX 808501**

Ordering options*

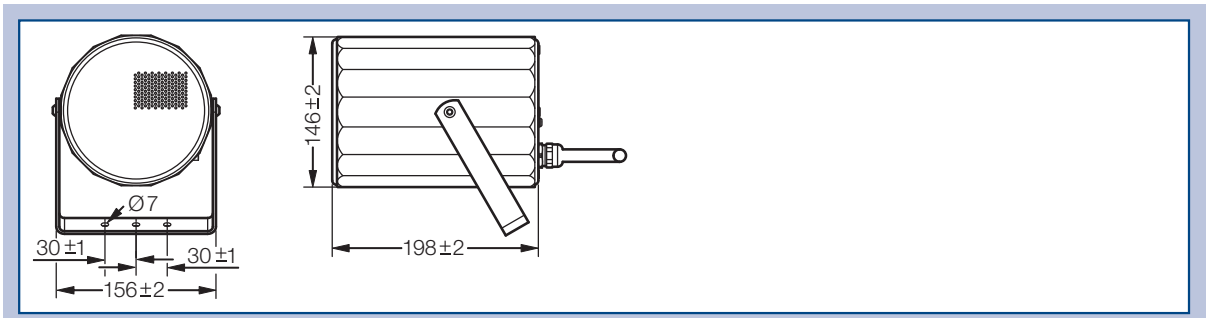
Unit Type	Transformer	Code	Colour	Code
DB 19	Yes	**X**[1)]	Natural black	**N**
	8 Ω version	**N**	Red	**R**
			Special	**S**[2)]

[1)] Std. 100 V, other values are available

[2)] Please specify

* For more options see www.medc.com or contact your local representative

Dimension drawing

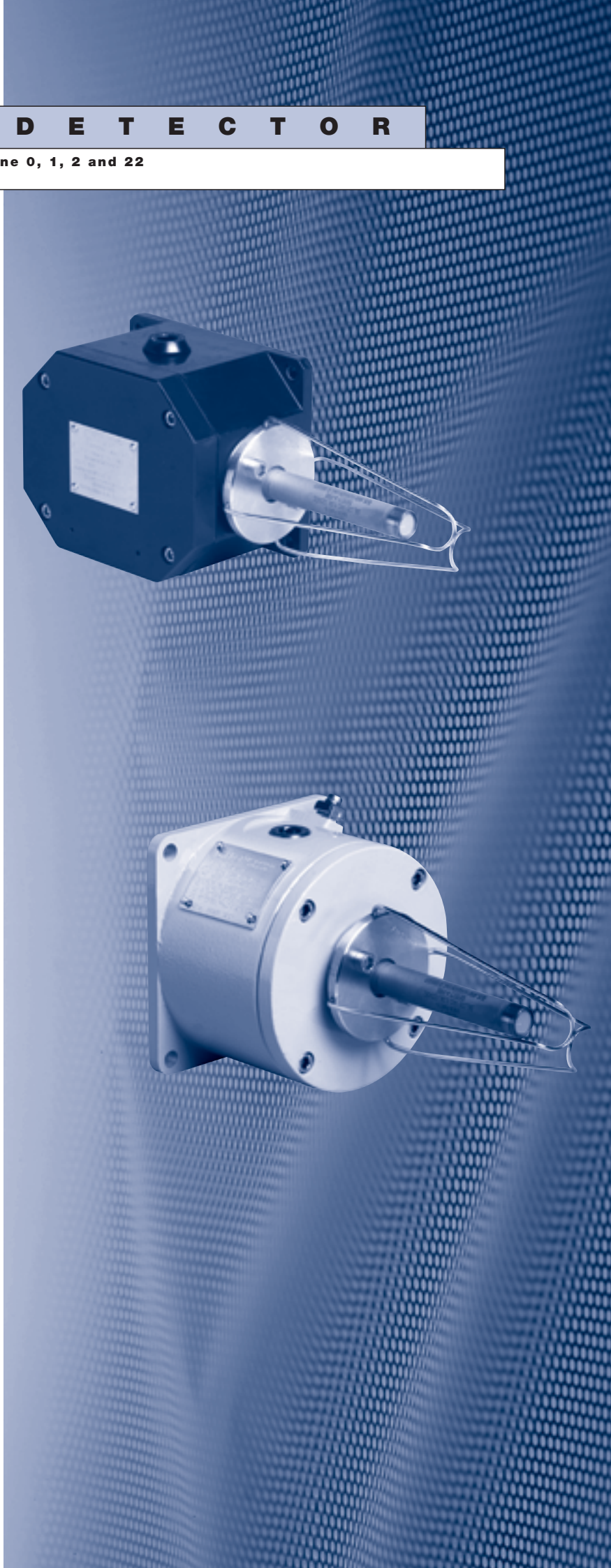


Dimensions in mm

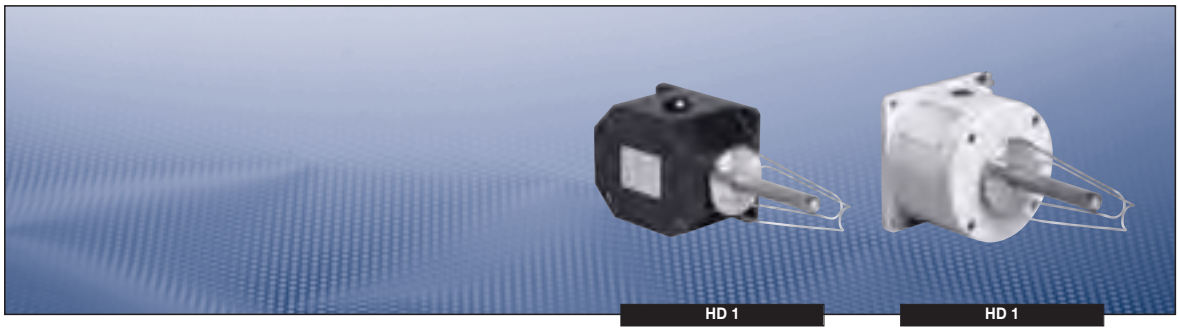
EX-HEAT DETECTOR

Explosion protected units for Zone 0, 1, 2 and 22

The MEDC-Hawco heat detector has been designed for use in hazardous environments. These units are suitable for fire alarm and/or suppression systems in offshore and onshore applications including paint spray booths, flammable material stores, turbine rooms, extract ductwork and other hazardous areas throughout the oil & gas, petrochemical and process industries. Comprising a Fenwal rate-compensated detector with all-stainless steel external construction, mounted to either a type SM87 marine grade alloy enclosure (Ex d version) or JB10 corrosion-free GRP enclosure (Ex ia, Ex em/UL versions). The contact in the detector CLOSES at alarm temperature.

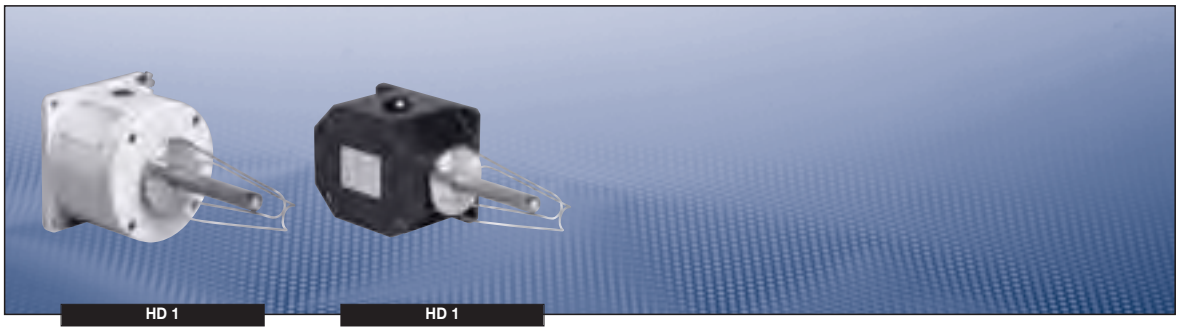


- **UL listed for USA and Canada – Class I, Div 2, Groups A-D**
- **GOST 'R' & 'K' certifi ed.**
- **Chinese (CQST) certifi ed.**
- **IP66 & IP67**
- **Certifi ed temperature:**
  –20°C to +125°C (Exd).
  –20°C to +55°C (Exem/UL).
  –55°C to +55°C (Exia)
- **Stainless steel probe**
- **Detector temperature settings:**
  60°C to 385°C, (140°F to 725°F)*
- **Marine grade alloy or GRP enclosure**
- **Optional guard**



Technical data

HD 1		
Marking to 94/9/EC		Ⓔx II 2G Ex em II T6
		Ⓔx II 1G Ex ia II T6
		Ⓔx II 2G Ex d IIB T6
Listed temperature settings/Colour Code[1)]		60 ± 4 °C (140 °F) black / 71 ± 4 °C (160 °F) black
		88 ± 4 °C (190 °F) white / 107 ± 4 °C (225 °F) white
		135 ± 6 °C (275 °F) blue / 163 ± 6 °C (325 °F) red
		182 ± 6 °C (360 °F) red / 232 ± 8 °C (450 °F) green
		316 ± 11 °C (600 °F) orange / 385 ± 14 °C (725 °F) orange
EC-Type Examination Certificate		Baseefa 03 ATEX 0447
UL listed for USA and Canada		Class I, Div 2, Groups A, B, C & D
UL Listing No.		E252920
GOST 'R' & 'K' Certification		Exd, Exi & Exem versions
		Russian Fire Alarm (VNIIPO) approved
Chinese Certification CQST		Exd, Exi & Exem versions
Permissible ambient	Ex d T3	-20 °C to +125 °C
temperature	T6	-20 °C to +55 °C
	T4	-55 °C to +55 °C
Rated terminal cross section		6 x 4 mm²
Operation		NO contact – CLOSES on alarm temperature
Contact rating	Ex d/Ex em	125 V AC – 5A, 125 V DC – 0.5A, 48 V DC – 1A
	Ex ia	30 V – 300 mA
Resistor		Series & EOL resistor (Maximum total 2) minimum value (Each)
		470 Ω – only available in Exd, Exi & UL versions
Protection category to EN 60529		IP66/IP67
Entries		2 x M20
Weight		Ex d: 2.0 kg / Ex ia/Ex em: 1.1 kg
Detector material		316 stainless steel
Enclosure material		Ex d: LM25 marine grade alloy
		Ex ia/Ex em/UL – GRP (anti static): stainless steel cover screws
Finish	Detector	Sand blasted
	Enclosures	Ex d - Epoxy painted grey as standard or to customer's specification
		Ex ia/Ex em/UL – Self coloured black or epoxy painted to customer's specification



Ordering details

Catalogue No.	Certification	Description	Ordering Code
HD1ULE140GN	UL, cUL, Class I, Div 2, Groups A, B, C, D Class I, Zone 2, IIC	Temperature setting 140° F, 60° C, black detector tip, tolerance +7/-8° F, ±4° C	**PX 46500152**
HD1ULE160GN	UL, cUL, Class I, Div 2, Groups A, B, C, D Class I, Zone 2, IIC	Temperature setting 160° F, 71° C, black detector tip, tolerance +7/-8° F, ±4° C	**PX 46500153**
HD1ULE190GN	UL, cUL, Class I, Div 2, Groups A, B, C, D Class I, Zone 2, IIC	Temperature setting 190° F, 88° C, white detector tip, tolerance +7/-8° F, ±4° C	**PX 46500154**
HD1ULE225GN	UL, cUL, Class I, Div 2, Groups A, B, C, D Class I, Zone 2, IIC	Temperature setting 225° F, 107° C, white detector tip, tolerance +7/-8° F, ±4° C	**PX 46500155**
HD1ULE275GN	UL, cUL, Class I, Div 2, Groups A, B, C, D Class I, Zone 2, IIC	Temperature setting 275° F, 135° C, blue detector tip, tolerance ±10° F, ±6° C	**PX 46500156**
HD1ULE325GN	UL, cUL, Class I, Div 2, Groups A, B, C, D Class I, Zone 2, IIC	Temperature setting 325° F, 163° C, red detector tip, tolerance ±10° F, ±6° C	**PX 46500157**
HD1ULE360GN	UL, cUL, Class I, Div 2, Groups A, B, C, D Class I, Zone 2, IIC	Temperature setting 360° F, 182° C, red detector tip, tolerance ±10° F, ±6° C	**PX 46500158**
HD1ULE450GN	UL, cUL, Class I, Div 2, Groups A, B, C, D Class I, Zone 2, IIC	Temperature setting 450° F, 232° C, green detector tip, tolerance ±15° F, ±8° C	**PX 46500159**

Ordering options*

Model	Certification	Code	Cert. Type	Code	Temperatur settings[1]	Code	Options	Code	Enclosure Finish	Code
HD 1	ATEX	**B**	Ex d	**D**[3]	140 °F	**140**	Duty label	**D**	Natural black	**N**
	UL listed	**UL**	Ex em	**E**	.	**.**	Tag label	**T**	Grey	**G**
	ATEX/UL dual listed	**AU**	Ex i	**I**	.	**.**	Guard	**G**	Red	**R**
	GOST 'R'2)	**G**	UL	**U**	.	**.**	Resistor EOL	**E**	Blue	**B**
	GOST 'K'	**K**			.	**.**	Resistor series	**S**	Yellow	**Y**
	Chinese (CQST)	**Q**			.	**.**	Diode(s)	**I**[4]	Special finish	**S**
					.	**.**	Blanking plug	**P**		
					725 °F	**725**	None	**N**		

[1] See technical data

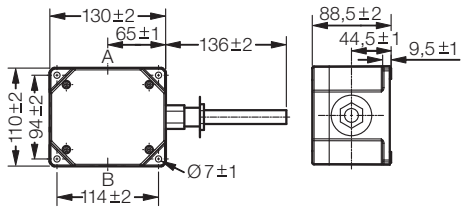
[2] VNIIPO approved as standard

[3] Not available UL or ATEX/UL dual listed

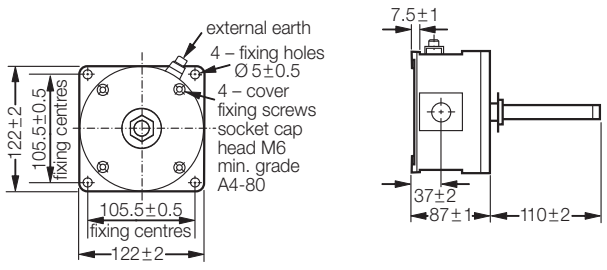
[4] Only available in ATEX/Exd

* For more options see www.medc.com or contact your local representative

Dimension drawing



Ex ia/Ex em UL-Version



Exd Version

Dimensions in mm



ELECTRICAL CONNECTIVITY

EXLINK 4-POLE/4-POLE + PE 6.6

EXLINK ETHERNET/USB 6.24

EXLINK 6-POLE+PE 6.28

MULTI-PURPOSE TERMINAL 6.52

PLUGS AND RECEPTACLES FOR ZONE 1 10 – 125 A 6.58

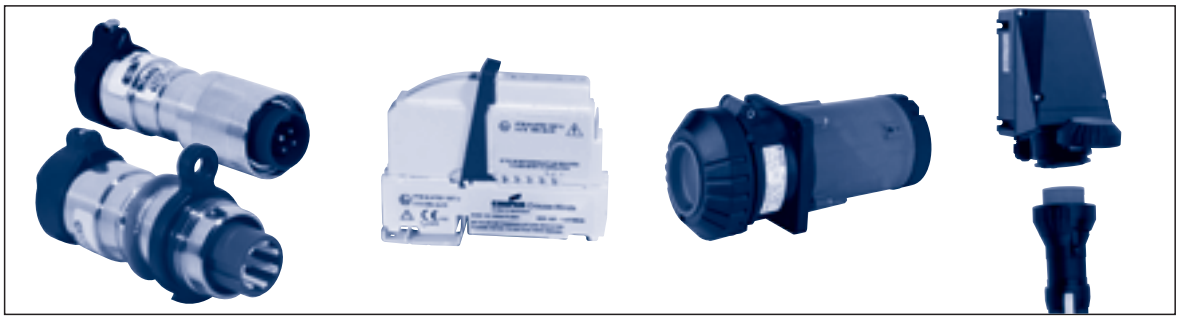
PLUGS AND RECEPTACLES FOR ZONE 2 16 – 125 A 6.86

PLUGS AND RECEPTACLES FOR INDUSTRIAL APPLICATION 6.102

EX-REPAIR AND MAINTENANCE SOCKETS 6.118

EX-REPAIR AND MAINTENANCE SOCKET DISTRIBUTIONS 6.126

EX-PORTABLE MULTI-OUTLET DISTRIBUTIONS AND CABLE REELS 6.128



From Ethernet connection to 125 A 3-phase Motors

Connectivity solutions needs various requirements:

- high-frequency low current for BUS or Ethernet connections
- low voltage with rated current up to 16 A
- rated voltage from 250 V to 750 V and rated current up to 125 A

these are only the most visible differences in product design.
Even more requirements have been taken into account while designing and manufacturing connectivity products for use in hazardous areas.
Chemical resistance as well as mechanical strength – thermal behaviour and extended lifetime – products with the trade mark **"CEAG"** will adhere to this challenges. Product families like **eXLink®, Ex-Therm** and **plugs & receptacles GHG 5...** will serve most of the upcoming market requirements.

Cooper Crouse-Hinds: Always a reliable contact



The principal feature is the pin and sleeve contact point. It determines the overall quality of the plug and receptacle system; special designed contacts mean low insertion and with - drawal forces, reliable contact-making, low transition resistances and low themal loads. The explosion protection stands and falls with these features. The self-cleaning Ex-e multicontact connections are made of louver-like punched and specially treated copper beryllium band. A large number of contact points ensure a perfect and durable electrical connection with low insertion and withdrawal forces – and this has been the case for decades, since this kind of contact technique has been standard at CEAG products since 1985.

Corrosion, no thank you!

Electrical equipment in the offshore area is often strongly attacked by aggressive chemicals or salt water.
In order to ensure that our plugs and receptacles remain in good working order, even after long-term use in an aggressive atmosphere, we have provided the plug pins with a high-grade nickel plating. All other exterior metal parts are made of high quality stainless steel. It goes without saying that the enclosures are made of corrosion-free, extreme temperature conditions and impact resistant plastics.

Short circuit protection

It's better to be on the safe side – should a fault occur in the connected electrical apparatus, the plug and socket must maintain the explosion protection. No problem, because, in conjunction with an external back-up fuse that can be so generously rated that during the normal start-up of a three-phase current motor with separate thermal protection no tripping occurs, the explosion protection and the function of the switch are not affected, even in the event of a direct short-circuit.

Switching under full capacity

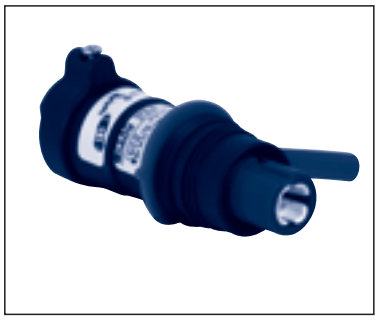
Functionality even at the top-end. The integrated interlocked switch warranties not only a voltage free connection of the contacts but also an AC-3 motor switching capability. Meaning even when you plug in an appliance that is switched on, you have no problems. This means that even electric motors can be switched on and off and up to full capacity without damaging the interlock switch.

Well connected

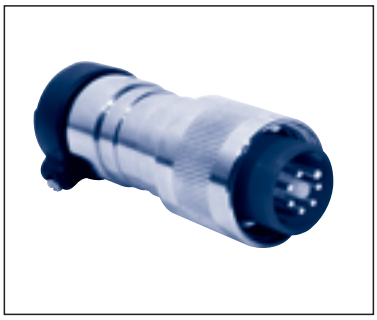
Practice shows that a hundred percent electrical connection is not the only feature marking a high-quality plug and socket system. In particular, in the often very harsh industrial environments mechanical strength is of great importance. In addition to a good electrical connection, the patented plug-in-and-turn switching of the plug and socket also guarantees a rugged mechanical connection. Even if you pull hard, it won't come apart. The integrated switch is giving an easy to clean design too and offers the possibility to design and tíntegrate the 16A & 32A receptacle into nearly any ex-e enclosure.

On request with auxiliary contacts

Auxiliary contacts are a fine thing. With them, you can hand-on selective messages. For example during a routine maintenance, when you want to know which plug sockets are momentarily in use. The auxiliary contact can be fitted in all 4- and 5-pole wall sockets, also at a later date.







What is eXLink?



eXLink is a complete system for connecting and disconnecting products electrically. This system is available in different versions for different applications: 4-pole, 4-pole + PE, 6-pole + PE and 7-pole.

It is necessary to distinguish between active components (couplers/ receptacles) that, due to the design of the live parts (contact sockets in IP 30), can also be live when open, and passive components (plugs/inlets) that, due to the exposed plug pins, must not be live.

A solution for every environment

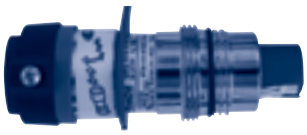
Depending upon the field of application, the components of the **eXLink connector system** are available in different versions:



- **Moulded plastic**
  The material used is a heavy-duty, impact resistant polyamide that, even in the event of extreme fluctuations in temperature, retains its high material properties.



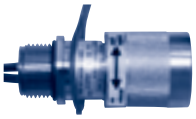
- **Nickel-plated brass**
  The use of this material has been proven very successful for inlets and receptacles in flameproof apparatus. Thanks to its insensitivity to severe ambient conditions, it is particularly well suited for use in atmospheres with a particularly high content of harmful and aggressive substances.



- **AISI 316L stainless steel**
  This material is used if aggressive environmental influences, such as salt water, acids, alkalis, place particularly high demands on the corrosion resistance and mechanical stress of a component. Stainless steel receptacles and inlets are also used for the connection of flameproof apparatus.

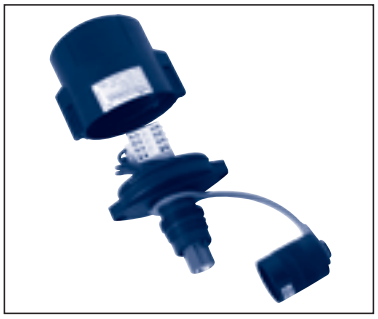


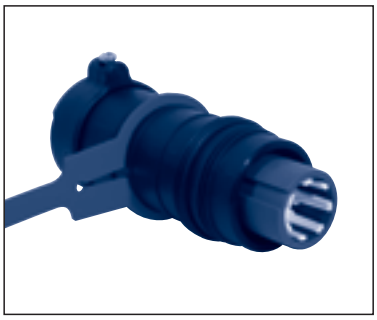
- **Option for the connection of armoured cables:**
  In order to be able to provide a solution for the connection of armoured, braided or screened cables, we have developed a metal version with a universal armouring clamp. This allows the use of many commonly used armoured cables. An external strain relief provides protection against strong external forces. This solution is available in nickel-plated brass and stainless steel for plugs and couplers.



- **Threads:**
  The 4-pole and 4-pole + PE inlets and receptacles feature an integral M20 or NPT 1/2" thread.
  The 6-pole + PE and 7-pole inlets and receptacles have an integral M25 or NPT 3/4" thread. NPT-metallic only.







Components

Different applications need individual solutions, who can be reached by the combination of well-suited components.



- **Plug:**
  Suitable as a cable end – with plug pins (in line male cable connector), must not be live when disconnected **(passive component).**



- **Connector:**
  Suitable as a cable end – with contact sockets (in line female cable connector), can be live when disconnected **(active component).**



- **Receptacle:**
  Suitable for installation with thread in products – with contact sockets (female), can be live when disconnected **(active component).**



- **Inlet:**
  Suitable for installation with thread in products – with plug pins (male), must not be live when disconnected **(passive component).**



- **Y-adaptor Junction-box:**
  Suitable for connecting field devices to a data line – two cable entries and optional one **eXLink** receptacle or inlet with contact sockets **(active component)** or inlet with plug pins **(passive component).**



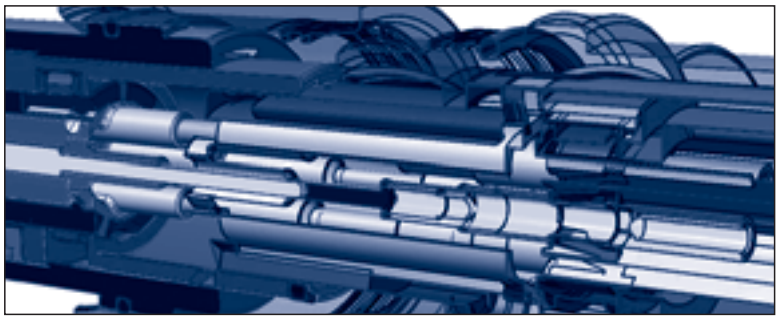
- **Y-adaptor Junction-unit:**
  Suitable for connecting field devices to a data line – 3 **eXLink**, optional receptacle with contact sockets **(active component)** or inlet with plug pins **(passive component).**



- **Elbow:**
  90° elbow to facilitate installation of an inlet or a receptacle into a device when it is not possible to lay the cables in a straight line. The direction of the elbow can be aligned in 12 directions (30° turns).



- **Locking device:**
  A two-part system which, when **eXLink** is installed on the connector/inlet, plug/receptacle or connector/plug, allows a padlock to be attached to prevent **eXLink** from being disconnected by unauthorised person.





Function

The self-cleaning Ex-e multi-contact conducting pins provide permanent faultless electrical connection. To ensure that the contact system remains fully functional even during long-term use in aggressive environments all conducting pins are silver-plated. The quality of the connection means that the system is suitable for current in the mA range up to 16 A continuously.

Coding

Male and female connectors are coded using a similar timetable according IEC 60309 standard, where voltage and current types have their own „time of day“ to ensure that the correct connection is made.

3-/4-pole:

- 2 h Bus connections
- 4 h 110 V AC 2-pole + PE
- 5 h 24 V AC 4-pole + PE
- 6 h 230 V AC 2-pole + PE
- 8 h 24 V DC 4-pole
- 10 h 230 V AC 4-pole + PE
- 12 h 24 V AC 2-pole + PE

6+1-pole:

- 4 h 110 V AC 6-pole + PE
- 6 h 230 V AC 6-pole + PE
- 8 h 24 V DC 7-pole
- 10 h 400 V AC 6-pole + PE
- 12 h 24 V AC 6-pole + PE

However, individual combinations can also be coded if required by customers. The time code can be read on the connector. The location of PE/PA in relation to the keyway determines the name (e.g. 6 h = PE/PA bottom). By the time-setup it is protected to connect apparatus to the wrong outlet.

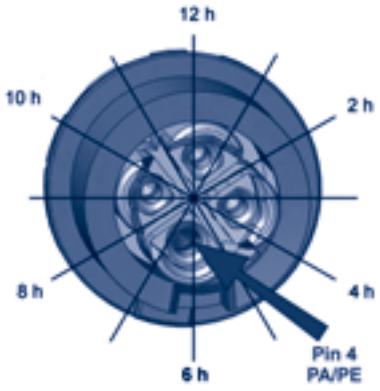
Connection types

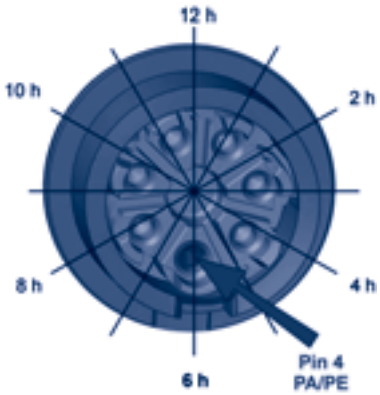
The **eXLink** is available in two connection types:

- **Crimp connection**
  The conductors are crimped directly into the contact pins. The crimp connection is suitable for all cables from 0.25 mm² - 0.5 mm², 0.75 mm² - 1.5 mm² or in a third version for 2.5 mm².
  Smaller cables can be soldered.
- **Cage clamp terminal**
  This solution allows conductors between 0.5 and 1.0 mm² to be installed easily as the conductors do not have to be crimped into the contact pins. All plugs and couplers up to and including the 4-pole version can be delivered with cage clamp terminals. The 6-pole+PE and the 7-pole versions are available as cage clamp versions too.

Extended ambient temperature range

The system is approved for a standard ambient temperature range of –55 °C to +75 °C. The use of moulded plastic versions is restricted in mechanical strength from –55 °C to –25 °C. Above +40 °C up to +75 °C the rated current have to be decreased.





eXLink

eXLink 4-pole/4-pole + PE for Zone 1 and Zone 21

Providing flexible power supply and BUS-connection there, where it is needed – even in hazardous areas for the Zones 1, 2, 21 and 22.

The eXLink 4-pole/4+1 pole is a complete system for connecting and disconnecting products electrically. Supplying from low voltage BUS signals up to 250 V AC / 10 A electrical power the full range of connectors and receptacles are available with moulded plastic enclosure as well as nickel-plated brass or stainless steel enclosures.

A time coding, following the IEC 60309 system secures from misconnections of non-compatible voltage levels. Only connectors and plugs with the same voltage level can be plugged together.

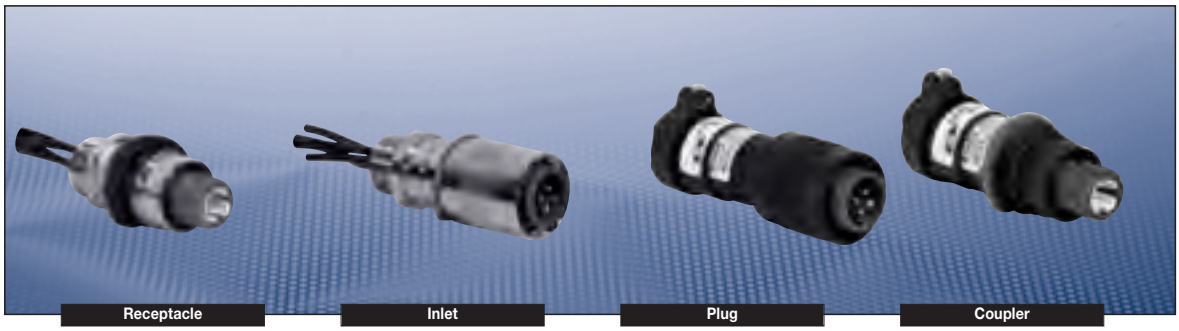
The well-known and reliable bonding technique “crimp connection” for wire size of 0.25 mm^2 up to 0.5 mm^2, 0.75 mm^2 up to 1.5 mm^2 and optional 2.5 mm^2 is used for wire connection to the pins. Additionally a screw-less technique “cage clamp” can be used for selected types.
A special plug and connector for the use of armoured cable with armouring diameter up to 1.5 mm is available.

The Receptacle and the Inlet are equipped with metric thread M20 x 1.5 or ½” NPT thread to screw directly into electrical apparatus. The factory potted metal versions can be used directly into Ex-d enclosures without additionally certification to be applied.

All eXLink plugs, inlets, receptacle and connectors are designed for hot swapping of apparatus in hazardous areas without disconnecting terminals, without shutting down circuits and without a “hot work permit”!



- **Hot swap**
- **Standard IP protection IP66/IP68**
- **Permissible ambient temperature form –55 to +70 °C**
- **Up to 250 V 10 A**
- **Stainless steel or nickel plated brass enclosures for highest mechanical protection**
- **Max. 4 pole + PE connections**
- **World wide certifications**
- **Mining (EX I M2) certified**



Technical data

eXLink 4-pole / 4-pole + PE		
Marking to 94/9/EC		Ex II 2 G Ex de IIC T6 Ex II 2 D tD A21 IP66 T52 °C
EC-Type Examination Certificate		PTB 03 ATEX 1016 X
IECEx Certification of Conformity		IECEx BKI 06.0005X
Type of protection (IECEx)		Ex ed IIC T6 / Ex ia/ib IIC T6 Ex tD A21 IP66 T52 °C
Permissible ambient temperature		–55 °C up to +40 °C (Rated current 10 A) –55 °C up to +75 °C (Rated current 2 A) –20 °C up to +40 °C (Elbow, plastic)
Store temperature in original wrapping		–55 °C up to +80 °C
Frequency range		0-100 MHz, fast Ethernet compatible
Transmission performance acc. to TIA/EIA-568-B.2		Category 5e up to 100 Mbaud
Rated voltage		AC up to 250 V, 50/60 Hz / DC up to 60 V
Rated current		max. 10 A
Switching capacity acc. EN 61 984	AC: DC:	250 V / 10 A 60 V / 2.5 A
Rated making-/rated breaking capacity accd. to EN 60947-4-1	AC-3: DC-3:	U_e 250 V / I_e 1 A U_e 60 V / I_e 0,5 A
External back-up fuse max. without thermal protection		10 A
External back-up fuse max. with thermal protection		20 A gL
Insulation class acc. EN 60598		II: plastic / I: metal
Terminal cross section		
Plug, coupler	Crimp 0.5 mm²: Crimp 1.5 mm²: Crimp 2.5 mm²: Cage clamp[1]:	0.25 - 0.5 mm² 0.75 - 1.5 mm² / Solder: 0.34 - 1.0 mm² 2.5 mm² 0.5 - 1.0 mm² multi wire, 0.5 - 1.5 mm² single wire
Inlet, receptacle in plastic	Crimp 0.5 mm²: Crimp 1.5 mm²: Crimp 2.5 mm²:	0.25 - 0.5 mm² 0.75 - 1.5 mm² / Solder: 0.34 - 1.0 mm² 2.5 mm² / 30 cm multi wire 1.5 mm²/2.5 mm²
Inlet, receptacle in metal	30 cm multi wire[2]:	1.5 mm² / 2.5 mm²
Cable entry plug and coupler		Ø 4 - 7.5 mm / Ø 7.5 - 11.0 mm
Cable entry plug and coupler for armoured cables		external isol. Ø 12 - 21 mm / internal isol. Ø 8.5 - 16 mm / armouring 0 - 1.5 mm
Mounting thread inlet and receptacle		M20 x 1.5 / 1/2″ NPT[3]
Degree of protection EN 60529		IP66/IP68 with closed and locked protective caps or duly plugged and locked components
Enclosure material		
Plug, coupler, inlet < 2000 cm³ and receptacle		Polyamide, nickel plated brass or stainless steel AISI 316L
Inlet > 2000 cm³ and plug/coupler for armoured cables		Nickel plated brass or stainless steel AISI 316L

[1] not for 4-pole + PE

[2] other lenght on request

[3] NPT for metal versions only

Ordering key eXLink 4-pole/4-pole + PE

1. Version
- 1 = 4-pole
- 4 = 4-pole + PE[1)]

2. Type
- 1 = Elbow
- 3 = Coupler
- 6 = Inlet > 2000 cm³
- 7 = Plug
- 8 = Receptacle
- 9 = Inlet

3. Connection technology
- 1 = Crimp up to 1.5 mm²
- 2 = Crimp up to 2.5 mm²
- 6 = Cage clamp

Option: Crimp up to 0.5 mm²

4. Coding
- 01 = 1 h / Ethernet[1)]
- 02 = 2 h / Bus
- 03 = 3 h / Special code[1)]
- 04 = 4 h / 110 V AC 2p + PE
- 05 = 5 h / 24 V DC 4p + PE[1)]
- 06 = 6 h / 230 V AC 2p + PE
- 07 = 7 h / Special code[1)]
- 08 = 8 h / 24 V DC 4p
- 09 = 9 h / Special code[1)]
- 10 = 10 h / 230 V AC 4p + PE[1)]
- 11 = 11 h / Special code[1)]
- 12 = 12 h / 24 V AC 2p + PE

[1)] only crimp version

GHG 57X XXXX RXX0X

5. Material
- 0 = Plastic
- 1 = Stainless steel AISI 316L
- 2 = Stainless steel AISI 316L for armoured cables
- 3 = Nickel-plated brass
- 4 = Nickel-plated brass for armoured cables
- 5 = Stainless steel AISI 316L NPT
- 6 = Nickel-plated brass NPT

6. Accessories
- 0 = without locking device
- 8 = Protection cap for plug
- 9 = with locking device

7. Diameter of connection cable (plug and coupler)
- 1 = 4 – 7,5 mm/12 – 21 mm[2)]
- 2 = 7,5 – 11 mm

[2)] Version for armoured cables

8. Connection (inlet and receptacle)

Connecting wire	Plastic	Nickel plate brass	Stainless steel
Crimp	...R0XX1	n.a.	n.a.
30 cm	...R0XX2	...R3XX1	...R1XX1
50 cm	...R0XX3	...R3XX2	...R1XX2
75 cm	...R0XX4	...R3XX3	...R1XX3
150 cm	...R0XX5	...R3XX4	...R1XX4

Version for possible configurations

	Plastic	Nickel-plated brass	Stainless steel	Crimp 0.5 mm²	Crimp 1.5 mm²	Crimp 2.5 mm²	Solder	Cage clamp	15 cm multi wire 1.5 mm²	15 cm multi wire 2.5 mm²	30 cm multi wire 1.5 mm²	30 cm multi wire 2.5 mm²	xx cm multi wire[3)]	Cable entries Ø 4 - 7.5 mm	Cable entries Ø 7.5 - 11 mm	Cable entries Ø 12 - 21 mm	M20 x 1.5	1/2" NPT
Plug 4-pole	x	x	x	x	x	x	x	x						x	x			
Plug 4-pole + PE	x	x	x	x	x	x	x							x	x			
Coupler 4-pole	x	x	x	x	x	x	x	x						x	x			
Coupler 4-pole + PE	x	x	x	x	x	x	x							x	x			
Plug for armoured cables 4-pole		x	x	x	x	x	x	x								x		
Plug for armoured cables 4-pole + PE		x	x	x	x	x	x									x		
Coupler for armoured cables 4-pole		x	x	x	x	x	x	x								x		
Coupler for armoured cables 4-pole + PE		x	x	x	x	x	x									x		
Inlet for Ex e enclosure	x	x	x	x	x	x	x		x	x	x	x	x				x	
Inlet for Ex d enclosure < 2000 cm³		x	x						x	x	x	x	x				x	x
Inlet for Ex d enclosure > 2000 cm³		x	x						x	x	x	x	x				x	x
Receptacle for Ex e enclosure	x	x	x	x	x	x	x		x	x	x	x	x				x	
Receptacle for Ex d enclosure (no restriction on free volume)		x	x						x	x	x	x	x				x	x
Elbow for Ex e enclosure	x	x	x														x	
Elbow for Ex d enclosure		x	x														x	x

[3)] on customers request

For customers who wants to configure the needed eXLink easily and fast
Cooper Crouse-Hinds offers via the Internet separate tool to select the right type
and order No.: http://www.internezzo.de/sd_ceag/index.html



From a selection of nearly 2000 variants of eXLink connector products you will find **YOUR eXLink** product fast, reliable and easy using our new product configurator.

Click h e r e try and use the new tool







Ordering key eXLink plug 4-pole

GHG 571 7XXX RXX0X

1. Connection technology	2. Coding	3. Material	4. Accessories	5. Diameter of connection cable
1 = Crimp up to 1.5 mm²	02 = 2 h	0 = Plastic	0 = without locking device	1 = 4 – 7.5 mm
2 = Crimp up to 2.5 mm²	04 = 4 h	1 = Stainless steel AISI 316L	8 = with protection cap	2 = 7.5 – 11 mm
6 = Cage-clamp	06 = 6 h	3 = Nickel-plated brass	9 = with locking device	
Option: Crimp up to 0.5 mm²	08 = 8 h			
	12 = 12 h			

Ordering details

Voltage	No. of poles	Coding	Connection	Diameter of connection cable 4 – 7.5 mm Order No.	Diameter of connection cable 7.5 – 11 mm Order No.
Plug made of plastic					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm²	**GHG 571 7102 R0001**	**GHG 571 7102 R0002**
BUS	3-pol + PA	2 h	Cage clamp	**GHG 571 7602 R0001**	**GHG 571 7602 R0002**
110 V AC	2-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 571 7104 R0001**	**GHG 571 7104 R0002**
110 V AC	2-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 571 7204 R0001**	**GHG 571 7204 R0002**
110 V AC	2-pol + PE	4 h	Cage clamp	**GHG 571 7604 R0001**	**GHG 571 7604 R0002**
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 571 7106 R0001**	**GHG 571 7106 R0002**
230 V AC	2-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 571 7206 R0001**	**GHG 571 7206 R0002**
230 V AC	2-pol + PE	6 h	Cage clamp	**GHG 571 7606 R0001**	**GHG 571 7606 R0002**
24 V DC	4-pol	8 h	Crimp up to 1.5 mm²	**GHG 571 7108 R0001**	**GHG 571 7108 R0002**
24 V DC			up to 2.5 mm²	**GHG 571**	**R0002**
Plug made of nickel-plated brass					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm²	**GHG 571 7102 R3001**	**GHG 571 7102 R3002**
BUS	3-pol + PA	2 h	Cage clamp	**GHG 571 7602 R3001**	**GHG 571 7602 R3002**
110 V AC	2-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 571 7104 R3001**	**GHG 571 7104 R3002**
110 V AC	2-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 571 7204 R3001**	**GHG 571 7204 R3002**
110 V AC	2-pol + PE	4 h	Cage clamp	**GHG 571 7604 R3001**	**GHG 571 7604 R3002**
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 571 7106 R3001**	**GHG 571 7106 R3002**
230 V AC	2-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 571 7206 R3001**	**GHG 571 7206 R3002**
230 V AC			clamp	**GHG 571**	**R3002**
Plug made of stainless steel					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm²	**GHG 571 7102 R1001**	**GHG 571 7102 R1002**
BUS	3-pol + PA	2 h	Cage clamp	**GHG 571 7602 R1001**	**GHG 571 7602 R1002**
110 V AC	2-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 571 7104 R1001**	**GHG 571 7104 R1002**
110 V AC	2-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 571 7204 R1001**	**GHG 571 7204 R1002**
110 V AC	2-pol + PE	4 h	Cage clamp	**GHG 571 7604 R1001**	**GHG 571 7604 R1002**
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 571 7106 R1001**	**GHG 571 7106 R1002**
230 V AC			up to 2.5 mm²	**GHG 571**	**R1002**

Example



Ordering key eXLink plug 4-pole + PE

GHG 574 7XXX RXX0X

1. Connection technology	2. Coding	3. Material	4. Accessories	5. Diameter of connection cable
1 = Crimp up to 1.5 mm²	01 = 1 h	0 = Plastic	0 = without locking device	1 = 4 – 7.5 mm
2 = Crimp up to 2.5 mm²	05 = 5 h	1 = Stainless steel AISI 316L	8 = with protection cap	2 = 7.5 – 11 mm
Option: Crimp up to 0.5 mm²	10 = 10 h	3 = Nickel-plated brass	9 = with locking device	

Ordering details

Voltage	No. of poles	Coding	Connection	Diameter of connection cable 4 – 7,5 mm Order No.	Diameter of connection cable 7,5 – 11 mm Order No.
Plug made of plastic version					
Ethernet/Bus	4 pol + PA	1 h	Crimp up to 1.5 mm²	**GHG 574 7101 R0001**	**GHG 574 7101 R0002**
24 V DC	4 pol + PE	5 h	Crimp up to 1.5 mm²	**GHG 574 7105 R0001**	**GHG 574 7105 R0002**
24 V DC	4 pol + PE	5 h	Crimp up to 2.5 mm²	**GHG 574 7205 R0001**	**GHG 574 7205 R0002**
230 V AC	4 pol + PE	10 h	Crimp up to 1.5 mm²	**GHG 574 7110 R0001**	**GHG 574 7110 R0002**
230 V AC	4 pol + PE	10 h	Crimp up to 2.5 mm²	**GHG 574 7210 R0001**	**GHG 574 7210 R0002**
Plug made of nickel-plated brass					
Ethernet/Bus	4 pol + PA	1 h	Crimp up to 1.5 mm²	**GHG 574 7101 R3001**	**GHG 574 7101 R3002**
24 V DC	4 pol + PE	5 h	Crimp up to 1.5 mm²	**GHG 574 7105 R3001**	**GHG 574 7105 R3002**
24 V DC	4 pol + PE	5 h	Crimp up to 2.5 mm²	**GHG 574 7205 R3001**	**GHG 574 7205 R3002**
230 V AC	4 pol + PE	10 h	Crimp up to 1.5 mm²	**GHG 574 7110 R3001**	**GHG 574 7110 R3002**
230 V AC	4 pol + PE	10 h	Crimp up to 2.5 mm²	**GHG 574 7210 R3001**	**GHG 574 7210 R3002**
Plug made of stainless steel					
Ethernet/Bus	4 pol + PA	1 h	Crimp up to 1.5 mm²	**GHG 574 7101 R1001**	**GHG 574 7101 R1002**
24 V DC	4 pol + PE	5 h	Crimp up to 1.5 mm²	**GHG 574 7105 R1001**	**GHG 574 7105 R1002**
24 V DC	4 pol + PE	5 h	Crimp up to 2.5 mm²	**GHG 574 7205 R1001**	**GHG 574 7205 R1002**
230 V AC	4 pol + PE	10 h	Crimp up to 1.5 mm²	**GHG 574 7110 R1001**	**GHG 574 7110 R1002**
230 V AC	4 pol + PE	10 h	Crimp up to 2.5 mm²	**GHG 574 7210 R1001**	**GHG 574 7210 R1002**



Ordering key eXLink coupler 4-pole

GHG 571 3XXX RXX0X

1. Connection technology	2. Coding	3. Material	4. Accessories	5. Diameter of connection cable
1 = Crimp up to 1.5 mm²	02 = 2 h	0 = Plastic	0 = without locking device	1 = 4 – 7.5 mm
2 = Crimp up to 2.5 mm²	04 = 4 h	1 = Stainless steel AISI 316L	9 = with locking device	2 = 7.5 – 11 mm
6 = Cage-clamp	06 = 6 h	3 = Nickel-plated brass		
Option: Crimp up to 0.5 mm²	08 = 8 h			
	12 = 12 h			

All versions including protection cap.

Ordering details

Voltage	No. of poles	Coding	Connection	Diameter of connection cable	
				4 – 7.5 mm Order No.	7.5 – 11 mm Order No.
Coupler made of plastic					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm²	**GHG 571 3102 R0001**	**GHG 571 3102 R0002**
BUS	3-pol + PA	2 h	Cage clamp	**GHG 571 3602 R0001**	**GHG 571 3602 R0002**
110 V AC	2-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 571 3104 R0001**	**GHG 571 3104 R0002**
110 V AC	2-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 571 3204 R0001**	**GHG 571 3204 R0002**
110 V AC	2-pol + PE	4 h	Cage clamp	**GHG 571 3604 R0001**	**GHG 571 3604 R0002**
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 571 3106 R0001**	**GHG 571 3106 R0002**
230 V AC	2-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 571 3206 R0001**	**GHG 571 3206 R0002**
230 V AC	2-pol + PE	6 h	Cage clamp	**GHG 571 3606 R0001**	**GHG 571 3606 R0002**
24 V DC	4-pol	8 h	Crimp up to 1.5 mm²	**GHG 571 3108 R0001**	**GHG 571 3108 R0002**
24 V DC			up to 2.5 mm²	**GHG**	
Coupler made of nickel-plated brass					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm²	**GHG 571 3102 R3001**	**GHG 571 3102 R3002**
BUS	3-pol + PA	2 h	Cage clamp	**GHG 571 3602 R3001**	**GHG 571 3602 R3002**
110 V AC	2-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 571 3104 R3001**	**GHG 571 3104 R3002**
110 V AC	2-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 571 3204 R3001**	**GHG 571 3204 R3002**
110 V AC	2-pol + PE	4 h	Cage clamp	**GHG 571 3604 R3001**	**GHG 571 3604 R3002**
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 571 3106 R3001**	**GHG 571 3106 R3002**
230 V AC	2-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 571 3206 R3001**	**GHG 571 3206 R3002**
230 V AC	2-pol + PE	6 h	Cage clamp	**GHG 571 3606 R3001**	**GHG 571 3606 R3002**
24 V DC	4-pol	8 h	Crimp up to 1.5 mm²	**GHG 571 3108 R3001**	**GHG 571 3108 R3002**
24 V DC			up to 2.5 mm²	**GHG**	
Coupler made of stainless-steel					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm²	**GHG 571 3102 R1001**	**GHG 571 3102 R1002**
BUS	3-pol + PA	2 h	Cage clamp	**GHG 571 3602 R1001**	**GHG 571 3602 R1002**
110 V AC	2-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 571 3104 R1001**	**GHG 571 3104 R1002**
110 V AC	2-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 571 3204 R1001**	**GHG 571 3204 R1002**
110 V AC	2-pol + PE	4 h	Cage clamp	**GHG 571 3604 R1001**	**GHG 571 3604 R1002**
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 571 3106 R1001**	**GHG 571 3106 R1002**
230 V AC			up to 2.5 mm²	**GHG**	

Example



Ordering key eXLink coupler 4-pole + PE

GHG 574 3XXX RXX0X

1. Connection technology	2. Coding	3. Material	4. Accessories	5. Diameter of connection cable
1 = Crimp up to 1.5 mm²	01 = 1 h	0 = Plastic	0 = without locking device	1 = 4 – 7.5 mm
2 = Crimp up to 2.5 mm²	05 = 5 h	1 = Stainless steel AISI 316L	9 = with locking device	2 = 7.5 – 11 mm
Option: Crimp up to 0.5 mm²	10 = 10 h	3 = Nickel-plated brass		

All versions including protection cap.

Ordering details

Voltage	No. of poles	Coding	Connection	Diameter of connection cable	
				4 – 7.5 mm Order No.	7.5 – 11 mm Order No.
Coupler made of plastic					
Ethernet/Bus	4-pol + PA	1 h	Crimp up to 1.5 mm²	**GHG 574 3101 R0001**	**GHG 574 3101 R0002**
24 V DC	4-pol + PE	5 h	Crimp up to 1.5 mm²	**GHG 574 3105 R0001**	**GHG 574 3105 R0002**
24 V DC	4-pol + PE	5 h	Crimp up to 2.5 mm²	**GHG 574 3205 R0001**	**GHG 574 3205 R0002**
230 V AC	4-pol + PE	10 h	Crimp up to 1.5 mm²	**GHG 574 3110 R0001**	**GHG 574 3110 R0002**
230 V AC	4-pol + PE	10 h	Crimp up to 2.5 mm²	**GHG 574 3210 R0001**	**GHG 574 3210 R0002**
Coupler made of nickel-plated brass					
Ethernet/Bus	4-pol + PA	1 h	Crimp up to 1.5 mm²	**GHG 574 3101 R3001**	**GHG 574 3101 R3002**
24 V DC	4-pol + PE	5 h	Crimp up to 1.5 mm²	**GHG 574 3105 R3001**	**GHG 574 3105 R3002**
24 V DC	4-pol + PE	5 h	Crimp up to 2.5 mm²	**GHG 574 3205 R3001**	**GHG 574 3205 R3002**
230 V AC	4-pol + PE	10 h	Crimp up to 1.5 mm²	**GHG 574 3110 R3001**	**GHG 574 3110 R3002**
230 V AC	4-pol + PE	10 h	Crimp up to 2.5 mm²	**GHG 574 3210 R3001**	**GHG 574 3210 R3002**
Coupler made of stainless steel					
Ethernet/Bus	4-pol + PA	1 h	Crimp up to 1.5 mm²	**GHG 574 3101 R1001**	**GHG 574 3101 R1002**
24 V DC	4-pol + PE	5 h	Crimp up to 1.5 mm²	**GHG 574 3105 R1001**	**GHG 574 3105 R1002**
24 V DC	4-pol + PE	5 h	Crimp up to 2.5 mm²	**GHG 574 3205 R1001**	**GHG 574 3205 R1002**
230 V AC	4-pol + PE	10 h	Crimp up to 1.5 mm²	**GHG 574 3110 R1001**	**GHG 574 3110 R1002**
230 V AC	4-pol + PE	10 h	Crimp up to 2.5 mm²	**GHG 574 3210 R1001**	**GHG 574 3210 R1002**



Ordering key eXLink receptacle 4-pole

Metal version also for Ex-d applications without restriction of volume

GHG 571 8XXX RXX0X — X = Count No.

1. Connection technology

1 = Crimp[1]/30 cm multi wire up to 1.5 mm²
2 = Crimp[1]/30 cm multi wire up to 2.5 mm²

[1] Crimp only plastic version

Option: Crimp 0.5 mm²

2. Coding

02 = 2 h
04 = 4 h
06 = 6 h
08 = 8 h
12 = 12 h

3. Material

0 = Plastic
1 = Stainless steel AISI 316L with M20 thread
3 = Nickel-plated brass with M20 thread
5 = Stainless steel AISI 316L with 1/2" NPT thread
6 = Nickel-plated brass with 1/2" NPT thread

4. Accessories

0 = without locking device
9 = with locking device

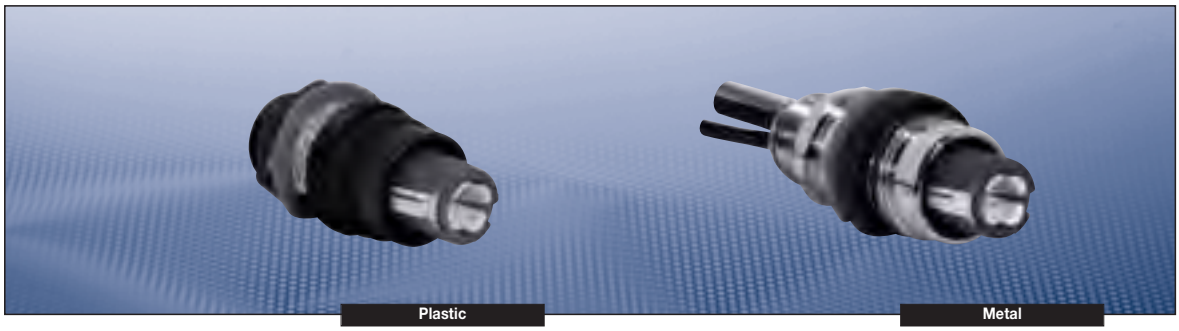
Metal version only potted with multi-wire.

All versions including protection cap.

Ordering details

Voltage	No. of poles	Coding	Connection	Thread	
				M20 x 1.5 Order No.	1/2" NPT Order No.
Receptacle made of plastic					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm²	**GHG 571 8102 R0001**	
110 V AC	2-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 571 8104 R0001**	
110 V AC	2-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 571 8204 R0001**	
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 571 8106 R0001**	
230 V AC	2-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 571 8206 R0001**	Only available in metal version!
24 V DC	4-pol	8 h	Crimp up to 1.5 mm²	**GHG 571 8108 R0001**	
24 V DC	4-pol	8 h	Crimp up to 2.5 mm²	**GHG 571 8208 R0001**	
24 V AC	2-pol + PE	12 h	Crimp up to 1.5 mm²	**GHG 571 8112 R0001**	
24 V AC	2-pol + PE	12 h	Crimp up to 2.5 mm²	**GHG 571 8212 R0001**	
BUS	3-pol + PA	2 h	30 cm multi wire 1.5 mm²	**GHG 571 8102 R0002**	
110 V AC	2-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 571 8104 R0002**	
110 V AC	2-pol + PE	4 h	30 cm multi wire 2.5 mm²	**GHG 571 8204 R0002**	
230 V AC	2-pol + PE	6 h	11 cm multi wire 1.5 mm²	**GHG 571 8106 R0002**	
230 V AC	2-pol + PE	6 h	30 cm multi wire 1.5 mm²	**GHG 571 8106 R0003**	Only available in metal version!
230 V AC	2-pol + PE	6 h	30 cm multi wire 2.5 mm²	**GHG 571 8206 R0002**	
24 V DC	4-pol	8 h	30 cm multi wire 1.5 mm²	**GHG 571 8108 R0002**	
24 V DC	4-pol	8 h	30 cm multi wire 2.5 mm²	**GHG 571 8208 R0002**	
24 V AC	2-pol + PE	12 h	30 cm multi wire 1.5 mm²	**GHG 571 8112 R0002**	
24 V AC	2-pol + PE	12 h	30 cm multi wire 2.5 mm²	**GHG 571 8212 R0002**	
Receptacle made of nickel-plated brass					
BUS	3-pol + PA	2 h	30 cm multi wire 1.5 mm²	**GHG 571 8102 R3001**	**GHG 571 8102 R6001**
110 V AC	2-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 571 8104 R3001**	**GHG 571 8104 R6001**
110 V AC	2-pol + PE	4 h	30 cm multi wire 2.5 mm²	**GHG 571 8204 R3001**	**GHG 571 8204 R6001**
230 V AC			multi wire 1.5 mm²	**GHG 571**	**R6001**
Receptacle made of stainless steel					
BUS	3-pol + PA	2 h	30 cm multi wire 1.5 mm²	**GHG 571 8102 R1001**	**GHG 571 8102 R5001**
110 V AC	2-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 571 8104 R1001**	**GHG 571 8104 R5001**
110 V AC			multi wire 2.5 mm²	**GHG 571**	**R5001**

Example



Ordering key eXLink receptacle 4-pole + PE

Metal version also for Ex-d applications without restriction of volume

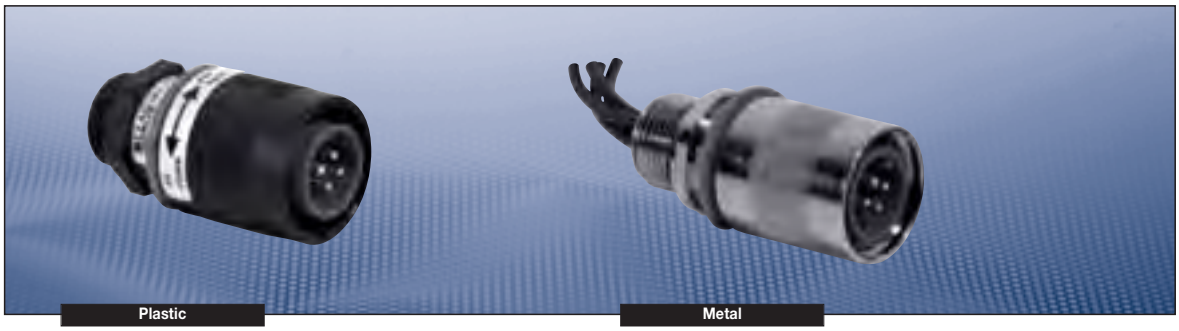
GHG 574 8XXX RXX0X — X = Count No.

1. Connection technology	2. Coding	3. Material	4. Accessories
1 = Crimp[1]/30 cm multi wire up to 1.5 mm²	01 = 1 h	0 = Plastic	0 = without locking device
2 = Crimp[1]/30 cm multi wire up to 2.5 mm²	05 = 5 h	1 = Stainless steel AISI 316L with M20 thread	9 = with locking device
[1] Crimp only plastic version	10 = 10 h	3 = Nickel-plated brass with M20 thread	
Option: Crimp 0.5 mm²		5 = Stainless steel AISI 316L with 1/2" NPT thread	
		6 = Nickel-plated brass with 1/2" NPT thread	

Metal version only potted with multi-wire.
All versions including protection cap.

Ordering details

Voltage	No. of poles	Coding	Connection	Thread M20 x 1.5 Order No.	Thread 1/2" NPT Order No.
Receptacle made of plastic					
Ethernet/Bus	4-pol + PA	1 h	Crimp up to 1.5 mm²	**GHG 574 8101 R0001**	Only available in metal version!
24 V DC	4-pol + PE	5 h	Crimp up to 1.5 mm²	**GHG 574 8105 R0001**	
24 V DC	4-pol + PE	5 h	Crimp up to 2.5 mm²	**GHG 574 8205 R0001**	
230 V AC	4-pol + PE	10 h	Crimp up to 1.5 mm²	**GHG 574 8110 R0001**	
230 V AC	4-pol + PE	10 h	Crimp up to 2.5 mm²	**GHG 574 8210 R0001**	
Ethernet/Bus	4-pol + PA	1 h	30 cm multi wire 1.5 mm²	**GHG 574 8101 R0002**	Only available in metal version!
24 V DC	4-pol + PE	5 h	30 cm multi wire 1.5 mm²	**GHG 574 8105 R0002**	
24 V DC	4-pol + PE	5 h	30 cm multi wire 2.5 mm²	**GHG 574 8205 R0002**	
230 V AC	4-pol + PE	6 h	30 cm multi wire 1.5 mm²	**GHG 574 8106 R0002**	
230 V AC	4-pol + PE	10 h	30 cm multi wire 1.5 mm²	**GHG 574 8110 R0002**	
230 V AC	4-pol + PE	10 h	30 cm multi wire 2.5 mm²	**GHG 574 8210 R0002**	
Receptacle made of nickel-plated brass					
Ethernet/Bus	4-pol + PA	1 h	30 cm multi wire 1.5 mm²	**GHG 574 8101 R3001**	**GHG 574 8101 R6001**
24 V DC	4-pol + PE	5 h	30 cm multi wire 1.5 mm²	**GHG 574 8105 R3001**	**GHG 574 8105 R6001**
24 V DC	4-pol + PE	5 h	30 cm multi wire 2.5 mm²	**GHG 574 8205 R3001**	**GHG 574 8205 R6001**
230 V AC	4-pol + PE	10 h	30 cm multi wire 1.5 mm²	**GHG 574 8110 R3001**	**GHG 574 8110 R6001**
230 V AC	4-pol + PE	10 h	30 cm multi wire 2.5 mm²	**GHG 574 8210 R3001**	**GHG 574 8210 R6001**
Receptacle made of stainless steel					
Ethernet/Bus	4-pol + PA	1 h	30 cm multi wire 1.5 mm²	**GHG 574 8101 R1001**	**GHG 574 8101 R5001**
24 V DC	4-pol + PE	5 h	30 cm multi wire 1.5 mm²	**GHG 574 8105 R1001**	**GHG 574 8105 R5001**
24 V DC	4-pol + PE	5 h	30 cm multi wire 2.5 mm²	**GHG 574 8205 R1001**	**GHG 574 8205 R5001**
230 V AC	4-pol + PE	10 h	30 cm multi wire 1.5 mm²	**GHG 574 8110 R1001**	**GHG 574 8110 R5001**
230 V AC	4-pol + PE	10 h	30 cm multi wire 2.5 mm²	**GHG 574 8210 R1001**	**GHG 574 8210 R5001**



Ordering key eXLink inlet 4-pole

Metal version also for Ex-d applications with free volume < 2000 cm³

GHG 571 9XXX RXX0X — X = Count No.

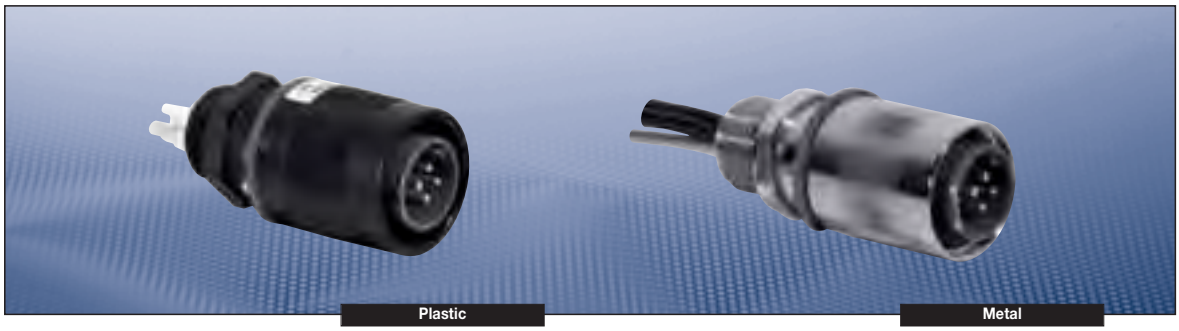
1. Connection technology	2. Coding	3. Material	4. Accessories
1 = Crimp[1]/30 cm multi wire up to 1.5 mm²	02 = 2 h	0 = Plastic	0 = without locking device
2 = Crimp[1]/30 cm multi wire up to 2.5 mm²	04 = 4 h	1 = Stainless steel AISI 316L with M20 thread	9 = with locking device
[1] Crimp only in plastic version	06 = 6 h	3 = Nickel-plated brass with M20 thread	
Option: Crimp 0.5 mm²	08 = 8 h	5 = Stainless steel AISI 316L with 1/2" NPT thread	
	12 = 12 h	6 = Nickel-plated brass with 1/2" NPT thread	

Metal version only potted with multi-wire. All versions including protection cap.

Ordering details

Voltage	No. of poles	Coding	Connection	Thread	
				M20 x 1.5 Order No.	1/2" NPT Order No.
Inlet made of plastic					
Ethernet/Bus	3-pol + PA	2 h	Crimp up to 1.5 mm²	**GHG 571 9102 R0001**	
110 V AC	2-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 571 9104 R0001**	
110 V AC	2-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 571 9204 R0001**	
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 571 9106 R0001**	Only available in metal version!
230 V AC	2-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 571 9206 R0001**	
24 V DC	4-pol	8 h	Crimp up to 1.5 mm²	**GHG 571 9108 R0001**	
24 V DC	4-pol	8 h	Crimp up to 2.5 mm²	**GHG 571 9208 R0001**	
24 V AC	2-pol + PE	12 h	Crimp up to 1.5 mm²	**GHG 571 9112 R0001**	
24 V AC	2-pol + PE	12 h	Crimp up to 2.5 mm²	**GHG 571 9212 R0001**	
Ethernet/Bus	3-pol + PA	2 h	30 cm multi wire 1.5 mm²	**GHG 571 9102 R0002**	
110 V AC	2-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 571 9104 R0002**	
110 V AC	2-pol + PE	4 h	30 cm multi wire 2.5 mm²	**GHG 571 9204 R0001**	
230 V AC	2-pol + PE	6 h	15 cm multi wire 1.5 mm²	**GHG 571 9106 R0003**	
230 V AC	2-pol + PE	6 h	30 cm multi wire 1.5 mm²	**GHG 571 9106 R0002**	
230 V AC	2-pol + PE	6 h	30 cm multi wire 2.5 mm²	**GHG 571 9206 R0002**	Only available in metal version!
24 V DC	4-pol	8 h	21 cm multi wire 1.5 mm²	**GHG 571 9108 R0002**	
24 V DC	4-pol	8 h	30 cm multi wire 1.5 mm²	**GHG 571 9108 R0003**	
24 V DC	4-pol	8 h	30 cm multi wire 2.5 mm²	**GHG 571 9208 R0002**	
24 V AC	2-pol + PE	12 h	11 cm multi wire 0.75 mm²	**GHG 571 9112 R0002**	
24 V AC	2-pol + PE	12 h	30 cm multi wire 1,0 mm²	**GHG 571 9112 R0003**	
24 V AC	2-pol + PE	12 h	30 cm multi wire 1.5 mm²	**GHG 571 9112 R0004**	
24 V AC	2-pol + PE	12 h	30 cm multi wire 2.5 mm²	**GHG 571 9212 R0002**	
Inlet made of nickel-plated brass V < 2000 cm³					
Ethernet/Bus	3-pol + PA	2 h	30 cm multi wire 1.5 mm²	**GHG 571 9102 R3001**	**GHG 571 9102 R6001**
110 V AC	2-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 571 9104 R3001**	**GHG 571 9104 R6001**
110 V AC			multi wire 2.5 mm²		
Inlet made of stainless steel V < 2000 cm³					
Ethernet/Bus	3-pol + PA	2 h	30 cm multi wire 1.5 mm²	**GHG 571 9102 R1001**	**GHG 571 9102 R5001**
110 V AC	2-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 571 9104 R1001**	**GHG 571 9104 R5001**
110 V AC			multi wire 2.5 mm²		

Example



Ordering key eXLink inlet 4-pole + PE

Metal version for Ex-d applications with free volume < 2000 cm³

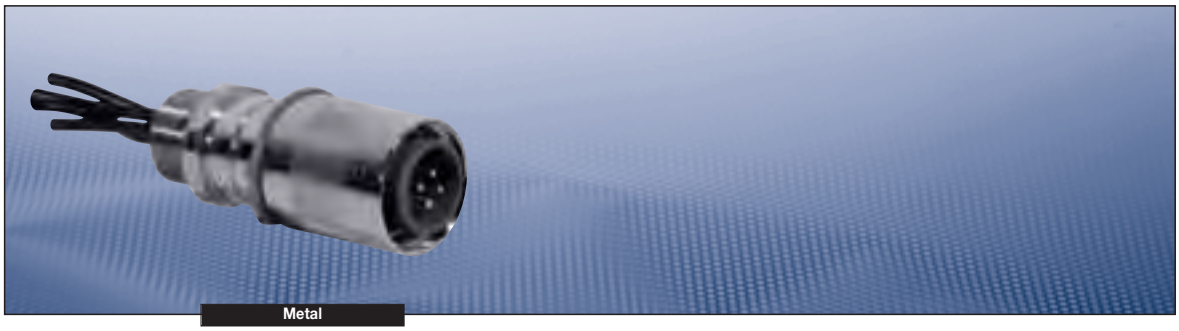
GHG 574 9XXX RXX0X — X = Count No.

1. Connection technology	2. Coding	3. Material	4. Accessories
1 = Crimp[1]/30 cm multi wire up to 1.5 mm²	01 = 1 h	0 = Plastic	0 = without locking device
2 = Crimp[1]/30 cm multi wire up to 2.5 mm²	05 = 5 h	1 = Stainless steel AISI 316L with M20 thread	9 = with locking device
[1] Crimp only in plastic version	10 = 10 h	3 = Nickel-plated brass with M20 thread	
		5 = Stainless steel AISI 316L with 1/2" NPT thread	
		6 = Nickel-plated brass with 1/2" NPT thread	

Metal version only potted with multi-wire. All versions including protection cap.

Ordering details

Voltage	No. of poles	Coding	Connection	Thread	
				M20 x 1.5 Order No.	1/2" NPT Order No.
Inlet made of plastic					
Ethernet/Bus	4-pol + PA	1 h	Crimp up to 1.5 mm²	**GHG 574 9101 R0001**	
24 V DC	4-pol + PE	5 h	Crimp up to 1.5 mm²	**GHG 574 9105 R0001**	
24 V DC	4-pol + PE	5 h	Crimp up to 2.5 mm²	**GHG 574 9205 R0001**	Only available in metal version!
230 V AC	4-pol + PE	10 h	Crimp up to 1.5 mm²	**GHG 574 9110 R0001**	
230 V AC	4-pol + PE	10 h	Crimp up to 2.5 mm²	**GHG 574 9210 R0001**	
Ethernet	4-pol + PE	1 h	30 cm multi wire 1.5 mm²	**GHG 574 9101 R0002**	
24 V AC	4-pol + PE	5 h	30 cm multi wire 1.0 mm²	**GHG 574 9105 R0002**	Only available in metal version!
230 V AC	4-pol + PE	10 h	30 cm multi wire 1.5 mm²	**GHG 574 9110 R0002**	
230 V AC	4-pol + PE	10 h	30 cm multi wire 2.5 mm²	**GHG 574 9210 R0002**	
Inlet made of nickel-plated brass V < 2000 cm³					
Ethernet/Bus	4-pol + PA	1 h	30 cm multi wire 1.5 mm²	**GHG 574 9101 R3001**	**GHG 574 9101 R6001**
24 V DC	4-pol + PE	5 h	30 cm multi wire 1.5 mm²	**GHG 574 9105 R3001**	**GHG 574 9105 R6001**
24 V DC	4-pol + PE	5 h	30 cm multi wire 2.5 mm²	**GHG 574 9205 R3001**	**GHG 574 9205 R6001**
230 V AC	4-pol + PE	10 h	30 cm multi wire 1.5 mm²	**GHG 574 9110 R3001**	**GHG 574 9110 R6001**
230 V AC	4-pol + PE	10 h	30 cm multi wire 2.5 mm²	**GHG 574 9210 R3001**	**GHG 574 9210 R6001**
Inlet made of stainless steel V < 2000 cm³					
Ethernet/Bus	4-pol + PA	1 h	30 cm multi wire 1.5 mm²	**GHG 574 9101 R1001**	**GHG 574 9101 R5001**
24 V DC	4-pol + PE	5 h	30 cm multi wire 1.5 mm²	**GHG 574 9105 R1001**	**GHG 574 9105 R5001**
24 V DC	4-pol + PE	5 h	30 cm multi wire 2.5 mm²	**GHG 574 9205 R1001**	**GHG 574 9205 R5001**
230 V AC	4-pol + PE	10 h	30 cm multi wire 1.5 mm²	**GHG 574 9110 R1001**	**GHG 574 9110 R5001**
230 V AC	4-pol + PE	10 h	30 cm multi wire 2.5 mm²	**GHG 574 9210 R1001**	**GHG 574 9210 R5001**



Metal

Ordering key eXLink inlet 4-pole

Metal version for Ex-d applications with free volume > 2000 cm³

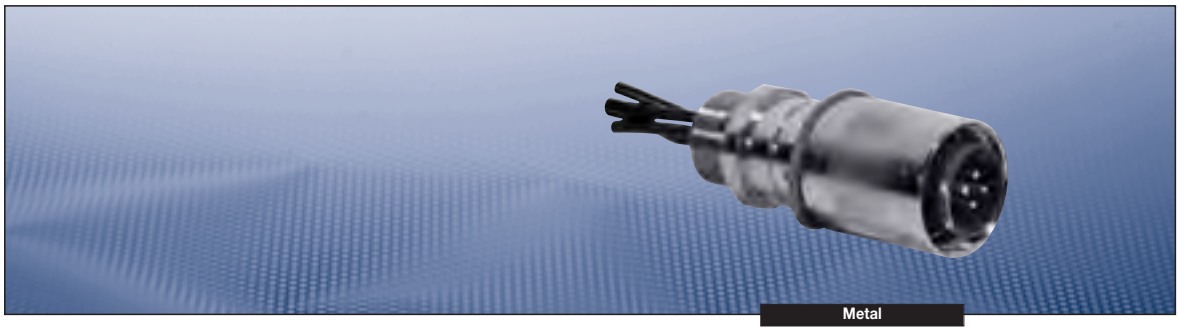
GHG 571 6XXX RXX01

1. Connection technology	2. Coding	3. Material	4. Accessories
1 = 30 cm multi wire 1.5 mm²	02 = 2 h	1 = Stainless steel AISI 316L with M20 thread	0 = without locking device
2 = 30 cm multi wire 2.5 mm²	04 = 4 h	3 = Nickel-plated brass with M20 thread	9 = with locking device
	06 = 6 h	5 = Stainless steel AISI 316L with 1/2" NPT thread	
	08 = 8 h	6 = Nickel-plated brass with 1/2" NPT thread	
	12 = 12 h		

Metal version only potted with multi-wire.
All versions including protection cap.

Ordering details

Voltage	No. of poles	Coding	Connection	Thread	
				M20 x 1.5 Order No.	1/2" NPT Order No.
Receptacle made of stainless steel for V > 2000 cm³					
BUS	3-pol + PA	2 h	30 cm multi wire 1.5 mm²	**GHG 571 6102 R1001**	**GHG 571 6102 R5001**
110 V AC	2-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 571 6104 R1001**	**GHG 571 6104 R5001**
110 V AC	2-pol + PE	4 h	30 cm multi wire 2.5 mm²	**GHG 571 6204 R1001**	**GHG 571 6204 R5001**
230 V AC	2-pol + PE	6 h	30 cm multi wire 1.5 mm²	**GHG 571 6106 R1001**	**GHG 571 6106 R5001**
230 V AC	2-pol + PE	6 h	30 cm multi wire 2.5 mm²	**GHG 571 6206 R1001**	**GHG 571 6206 R5001**
24 V DC	4-pol	8 h	30 cm multi wire 1.5 mm²	**GHG 571 6108 R1001**	**GHG 571 6108 R5001**
24 V DC	4-pol	8 h	30 cm multi wire 2.5 mm²	**GHG 571 6208 R1001**	**GHG 571 6208 R5001**
24 V AC	2-pol + PE	12 h	30 cm multi wire 1.5 mm²	**GHG 571 6112 R1001**	**GHG 571 6112 R5001**
24 V AC	2-pol + PE	12 h	30 cm multi wire 2.5 mm²	**GHG 571 6212 R1001**	**GHG 571 6212 R5001**
Inlet made of nickel-plated brass V > 2000 cm³					
BUS	3-pol + PA	2 h	30 cm multi wire 1.5 mm²	**GHG 571 6102 R3001**	**GHG 571 6102 R6001**
110 V AC	2-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 571 6104 R3001**	**GHG 571 6104 R6001**
110 V AC	2-pol + PE	4 h	30 cm multi wire 2.5 mm²	**GHG 571 6204 R3001**	**GHG 571 6204 R6001**
230 V AC	2-pol + PE	6 h	30 cm multi wire 1.5 mm²	**GHG 571 6106 R3001**	**GHG 571 6106 R6001**
230 V AC	2-pol + PE	6 h	30 cm multi wire 2.5 mm²	**GHG 571 6206 R3001**	**GHG 571 6206 R6001**
24 V DC	4-pol	8 h	30 cm multi wire 1.5 mm²	**GHG 571 6108 R3001**	**GHG 571 6108 R6001**
24 V DC	4-pol	8 h	30 cm multi wire 2.5 mm²	**GHG 571 6208 R3001**	**GHG 571 6208 R6001**
24 V AC	2-pol + PE	12 h	30 cm multi wire 1.5 mm²	**GHG 571 6112 R3001**	**GHG 571 6112 R6001**
24 V AC	2-pol + PE	12 h	30 cm multi wire 2.5 mm²	**GHG 571 6212 R3001**	**GHG 571 6212 R6001**



Ordering key eXLink inlet 4-pole + PE

Metal version for Ex-d applications with free volume > 2000 cm³

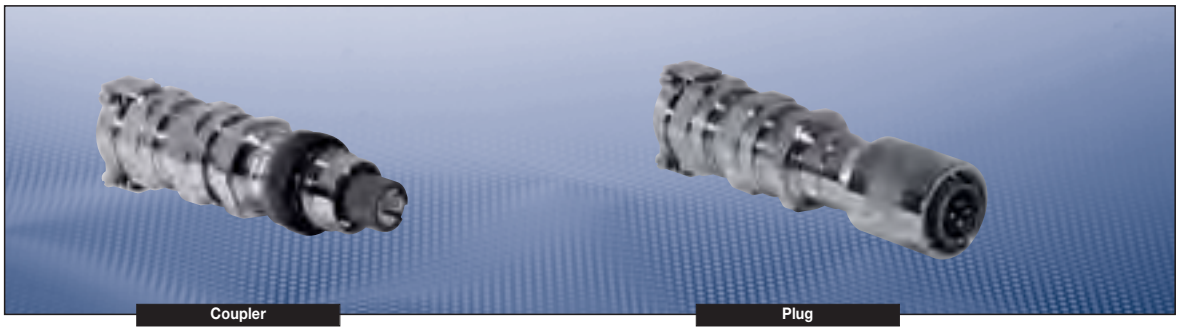
GHG 574 6XXX RXX01

1. Connection technology	2. Coding	3. Material	4. Accessories
1 = 30 cm multi wire 1.5 mm²	01 = 1 h	1 = Stainless steel AISI 316L with M20 thread	0 = without locking device
2 = 30 cm multi wire 2.5 mm²	05 = 5 h	3 = Nickel-plated brass with M20 thread	9 = with locking device
	10 = 10 h	5 = Stainless steel AISI 316L with 1/2" NPT thread	
		6 = Nickel-plated brass with 1/2" NPT thread	

Metal version only potted with multi-wire.
All versions including protection cap.

Ordering details

Voltage	No. of poles	Coding	Connection	Thread M20 x 1.5 Order No.	Thread 1/2" NPT Order No.
Inlet made of stainless steel for V > 2000 cm²					
Ethernet/Bus	4-pol + PA	1 h	30 cm multi wire 1.5 mm²	**GHG 574 6101 R1001**	**GHG 574 6101 R5001**
24 V DC	4-pol + PE	5 h	30 cm multi wire 1.5 mm²	**GHG 574 6105 R1001**	**GHG 574 6105 R5001**
24 V DC	4-pol + PE	5 h	30 cm multi wire 2.5 mm²	**GHG 574 6205 R1001**	**GHG 574 6205 R5001**
230 V AC	4-pol + PE	10 h	30 cm multi wire 1.5 mm²	**GHG 574 6110 R1001**	**GHG 574 6110 R5001**
230 V AC	4-pol + PE	10 h	30 cm multi wire 2.5 mm²	**GHG 574 6210 R1001**	**GHG 574 6210 R5001**
Inlet made of nickel-plated brass V > 2000 cm²					
Ethernet/Bus	4-pol + PA	1 h	30 cm multi wire 1.5 mm²	**GHG 574 6101 R3001**	**GHG 574 6101 R6001**
24 V DC	4-pol + PE	5 h	30 cm multi wire 1.5 mm²	**GHG 574 6105 R3001**	**GHG 574 6105 R6001**
24 V DC	4-pol + PE	5 h	30 cm multi wire 2.5 mm²	**GHG 574 6205 R3001**	**GHG 574 6205 R6001**
230 V AC	4-pol + PE	10 h	30 cm multi wire 1.5 mm²	**GHG 574 6110 R3001**	**GHG 574 6110 R6001**
230 V AC	4-pol + PE	10 h	30 cm multi wire 2.5 mm²	**GHG 574 6210 R3001**	**GHG 574 6210 R6001**



Ordering key eXLink plug/coupler for armoured cables 4-pole

GHG 571 XXXX RXX01

1. Version	2. Connection technology	3. Coding	4. Material	5. Accessories
3 = Coupler	1 = Crimp up to 1.5 mm²	02 = 2 h	2 = Stainless steel AISI 316L[1]	0 = without locking device
7 = Plug	2 = Crimp up to 2.5 mm²	04 = 4 h	4 = Nickel-plated brass	8 = Plug with protection cap
		06 = 6 h		9 = with locking device
		08 = 8 h		
		12 = 12 h		

[1] Strain relief in nickel-plated brass

Coupler including protective cap.

Ordering details

Voltage	No. of poles	Coding	Connection	Diameter of connection cable 12 - 21 mm	
				Plug Order No.	Coupler Order No.
Plug/coupler made of stainless steel for armoured cables[1]					
Bus	3-pol + PA	2 h	Crimp up to 1.5 mm²	**GHG 571 7102 R2001**	**GHG 571 3102 R2001**
110 V AC	2-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 571 7104 R2001**	**GHG 571 3104 R2001**
110 V AC	2-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 571 7204 R2001**	**GHG 571 3204 R2001**
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 571 7106 R2001**	**GHG 571 3106 R2001**
230 V AC	2-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 571 7206 R2001**	**GHG 571 3206 R2001**
24 V DC	4-pol	8 h	Crimp up to 1.5 mm²	**GHG 571 7108 R2001**	**GHG 571 3108 R2001**
24 V DC	4-pol	8 h	Crimp up to 2.5 mm²	**GHG 571 7208 R2001**	**GHG 571 3208 R2001**
24 V AC	2-pol + PE	12 h	Crimp up to 1.5 mm²	**GHG 571 7112 R2001**	**GHG 571 3112 R2001**
24 V AC	2-pol + PE	12 h	Crimp up to 2.5 mm²	**GHG 571 7212 R2001**	**GHG 571 3212 R2001**
Plug/coupler made of nickel-plated brass for armoured cables					
Bus	3-pol + PA	2 h	Crimp up to 1.5 mm²	**GHG 571 7102 R4001**	**GHG 571 3102 R4001**
110 V AC	2-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 571 7104 R4001**	**GHG 571 3104 R4001**
110 V AC	2-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 571 7204 R4001**	**GHG 571 3204 R4001**
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 571 7106 R4001**	**GHG 571 3106 R4001**
230 V AC	2-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 571 7206 R4001**	**GHG 571 3206 R4001**
24 V DC	4-pol	8 h	Crimp up to 1.5 mm²	**GHG 571 7108 R4001**	**GHG 571 3108 R4001**
24 V DC	4-pol	8 h	Crimp up to 2.5 mm²	**GHG 571 7208 R4001**	**GHG 571 3208 R4001**
24 V AC	2-pol + PE	12 h	Crimp up to 1.5 mm²	**GHG 571 7112 R4001**	**GHG 571 3112 R4001**
24 V AC	2-pol + PE	12 h	Crimp up to 2.5 mm²	**GHG 571 7212 R4001**	**GHG 571 3212 R4001**

[1] Strain relief in nickel-plated brass



Ordering key eXLink plug/coupler for armoured cables 4-pole + PE

GHG 574 XXXX RXX01

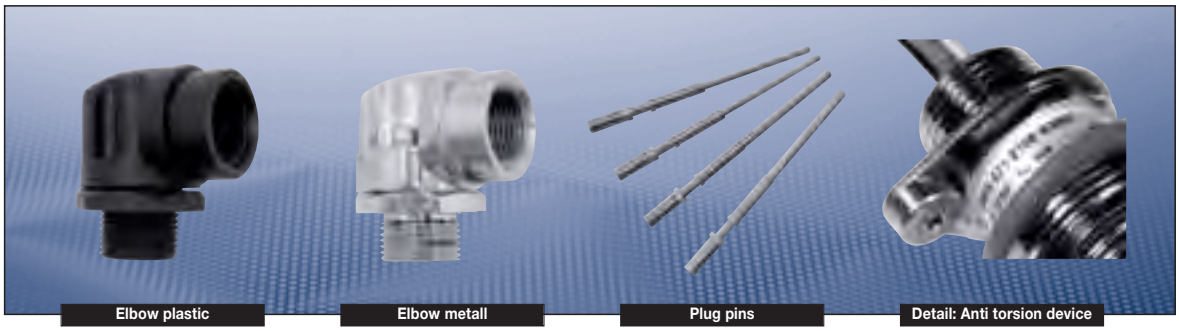
1. Version	2. Connection technology	3. Coding	4. Material	5. Accessories
3 = Coupler	1 = Crimp up to 1.5 mm²	01 = 1 h	2 = Stainless steel AISI 316L[1]	0 = without locking device
7 = Plug	2 = Crimp up to 2.5 mm²	05 = 5 h	4 = Nickel-plated brass	8 = Plug with protection cap
	Option: Crimp 0.5 mm²	10 = 10 h	[1] Strain relief in nickel-plated brass	9 = with locking device

Coupler including protective cap.

Ordering details

Voltage	No. of poles	Coding	Connection	Diameter of connection cable 12 - 21 mm	
				Plug Order No.	Coupler Order No.
Plug/coupler made of stainless steel for armoured cables[1]					
Ethernet/Bus	4-pol + PA	1 h	Crimp up to 1.5 mm²	**GHG 574 7101 R2001**	**GHG 574 3101 R2001**
24 V DC	4-pol + PE	5 h	Crimp up to 1.5 mm²	**GHG 574 7105 R2001**	**GHG 574 3105 R2001**
24 V DC	4-pol + PE	5 h	Crimp up to 2.5 mm²	**GHG 574 7205 R2001**	**GHG 574 3205 R2001**
230 V AC	4-pol + PE	10 h	Crimp up to 1.5 mm²	**GHG 574 7110 R2001**	**GHG 574 3110 R2001**
230 V AC	4-pol + PE	10 h	Crimp up to 2.5 mm²	**GHG 574 7210 R2001**	**GHG 574 3210 R2001**
Plug/coupler made of nickel-plated brass for armoured cables					
Ethernet/Bus	4-pol + PA	1 h	Crimp up to 1.5 mm²	**GHG 574 7101 R4001**	**GHG 574 3101 R4001**
24 V DC	4-pol + PE	5 h	Crimp up to 1.5 mm²	**GHG 574 7105 R4001**	**GHG 574 3105 R4001**
24 V DC	4-pol + PE	5 h	Crimp up to 2.5 mm²	**GHG 574 7205 R4001**	**GHG 574 3205 R4001**
230 V AC	4-pol + PE	10 h	Crimp up to 1.5 mm²	**GHG 574 7110 R4001**	**GHG 574 3110 R4001**
230 V AC	4-pol + PE	10 h	Crimp up to 2.5 mm²	**GHG 574 7210 R4001**	**GHG 574 3210 R4001**

[1] Strain relief in nickel-plated brass



Ordering key eXLink elbow

GHG 571 1000 RX001

Material

0 = Plastic
1 = Stainless steel AISI 316L
3 = Nickel-plated brass

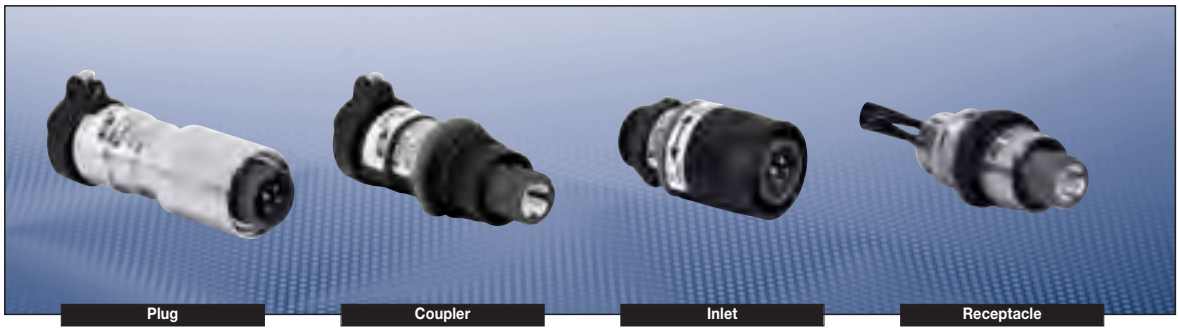
Ordering details

Type	Material	Order No.
Elbow M20[1)]	Plastic	**GHG 571 1000 R0001**
Elbow M20[1)]	Stainless steel AISI 316L	**GHG 571 1000 R1001**
Elbow M20[1)]	Nickel-plated brass	**GHG 571 1000 R3001**

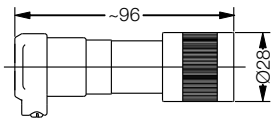
[1)] Usage depends on wire cross section and number of wires

Accessories

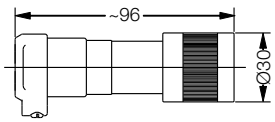
Type	BE	Version			Order No.
		3+PE	4 pol.	4+PE	
Set of socket contacts 0.5 mm², 4-pole	1	X	X	–	**GHG 570 1905 R0007**
Set of socket contacts 1.5 mm², 4-pole	1	X	X	–	**GHG 570 1905 R0001**
Set of socket contacts 2.5 mm², 4-pole	1	X	X	–	**GHG 570 1905 R0002**
Set of socket contacts 1.5 mm², 4-pole + PE contact	1	–	–	X	**GHG 570 1905 R0003**
Set of socket contacts 2.5 mm², 4-pole + PE contact	1	–	–	X	**GHG 570 1905 R0004**
Crimp tool for eXLink	1	X	X	X	**GHG 570 1902 R0001**
Plastic protection cap connector/receptacle	1	X	X	X	**GHG 570 1903 R0001**
Plastic protection cap plug/inlet	1	X	X	X	**GHG 570 1903 R0002**
Brass protection cap connector/receptacle	1	X	X	X	**GHG 570 1903 R0003**
Brass protection cap plug/inlet	1	X	X	X	**GHG 570 1903 R0004**
Set of plug pins 0.5 mm², 3-pole + PE (PE leading AC)	1	X	–	–	**GHG 570 1904 R0012**
Set of plug pins 0.5 mm², 4-pole (lagging DC)	1	–	X	–	**GHG 570 1904 R0011**
Set of plug pins 1.5 mm², 3-pole + PE (PE leading AC)	1	X	–	–	**GHG 570 1904 R0003**
Set of plug pins 1.5 mm², 4-pole (lagging DC)	1	–	X	–	**GHG 570 1904 R0001**
Set of plug pins 2.5 mm², 3-pole + PE (PE leading AC)	1	X	–	–	**GHG 570 1904 R0004**
Set of plug pins 2.5 mm², 4-pole (lagging DC)	1	–	X	–	**GHG 570 1904 R0002**
Set of plug pins 1.5 mm², 4-pole + PE-spring clip	1	–	–	X	**GHG 570 1904 R0005**
Set of plug pins 2.5 mm², 4-pole + PE-spring clip	1	–	–	X	**GHG 570 1904 R0006**
Scew driver for cage clamp	1	X	X	–	**GHG 570 1908 R0001**
Strain relief and seal 4 - 7.5 mm	1	X	X	X	**GHG 570 1907 R0001**
Strain relief and seal 7.5 - 11 mm	1	X	X	X	**GHG 570 1907 R0002**
Anti torsion device M20	1	X	X	X	**GHG 570 1901 R0001**



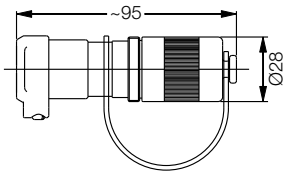
Dimension drawing eXLink



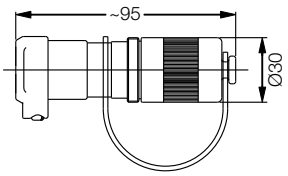
Plug metal version



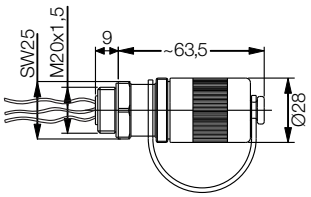
Plug plastic version



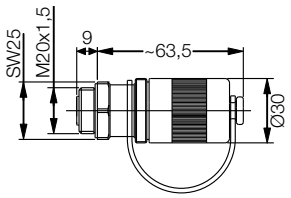
Coupler metal version



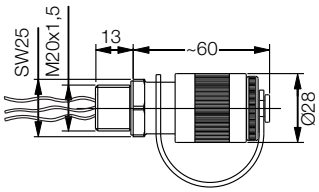
Coupler plastic version



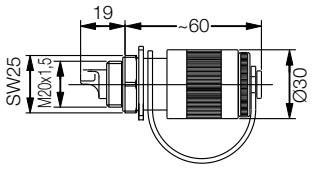
Receptacle metal version



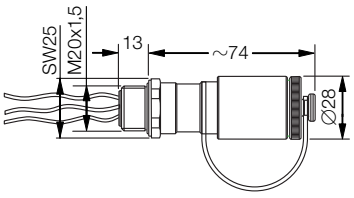
Receptacle plastic version



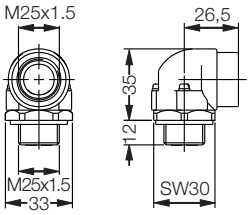
Inlet metal version: V < 2000 cm³



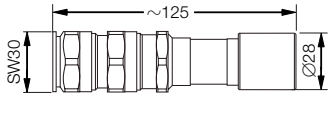
Inlet plastic version



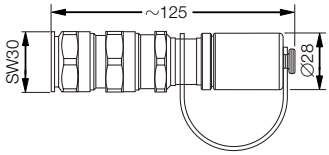
Inlet metal version: V > 2000 cm³



Elbow



Plug for armoured cable



Coupler for armoured cable

Dimensions in mm

eXLink Ethernet/USB

eXLink 4-pole + PA for Zone 1 and Zone 21

The inlets and receptacles **eXLink Ethernet** and **eXLink USB** extend the proven connector series **eXLink** for hazardous areas. They can be used for plug-in connection for industrial LAN/Ethernet and USB applications with each other in areas with an explosion hazard. The normally used electrical isolation of an intrinsically safe interface is no longer necessary. The Ex-de technology of the connectors allows the use of full industrial Ethernet power without barriers. This increases the efficiency of the bus architecture and reduces the susceptibility to faults and therefore the costs.

The sockets of the inlets and receptacles designed with Ex-de degree of protection have the proven CEAG contacts of shutter-like, punched and specially treated copper-beryllium band which provides a perfect electrical connection continuously with its large number of contact points. An Ex-d space around each plug pin provides a reliable ex-d chamber for explosion protection during connection and disconnection of the connectors in zones 1, 2, 21 and 22. To rule out incorrect assignment, the inlets and receptacles are coded according to time similar to the IEC 60309 system.

In accordance with the requirements of a contemporary, safe and time-saving assembly, all the components are equipped with earthing cables, cable stub and pre-assembled RJ plug male/female or USB plug male/female.

With the M20 screw-in thread the nickel-plated brass components (optionally stainless steel) can be integrated in all flameproof design enclosures, allowing the use of industrial Ethernet cards/instruments inside without limits.



- **Hot swap**
- **Compact design**
- **High degree of protection IP66 / IP68**
- **Simple assembly**
- **Frequency range up to 100 MHz or USB 2.0**
- **Transfer rate up to 100 MBaud (Ethernet)**
- **Available for 10 BASE-T, 100 BASE-T**



Innovative connectors for Ethernet systems

Combine the safety of an innovative explosion-protected connector system with the advantages of a homogeneous communication structure between the host, control and process level! With **eXLink Ethernet** and **eXLink USB** you can also use efficient, Ethernet-based communication systems in the hazardous areas. This enables you to use a modern information architecture at the same time as efficiently satisfying all criteria for explosion protection.

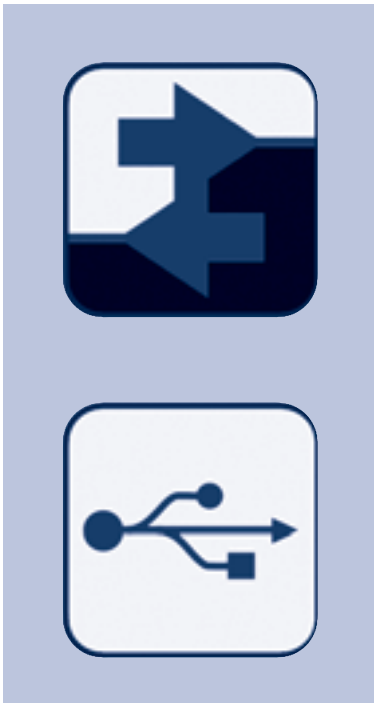
Conventional field bus systems are designed exclusively for data communication with the process and production control. With Ethernet as a communication medium you can implement a homogeneous infrastructure from the host level via the control level to the process level. In the industrial environment, **eXLink** connector systems replace the familiar connectors of the IT office world. Therefore this systems also offers you the real time performance of Ethernet networks – hot swap – in addition to high safety standards in areas with an explosion hazard.

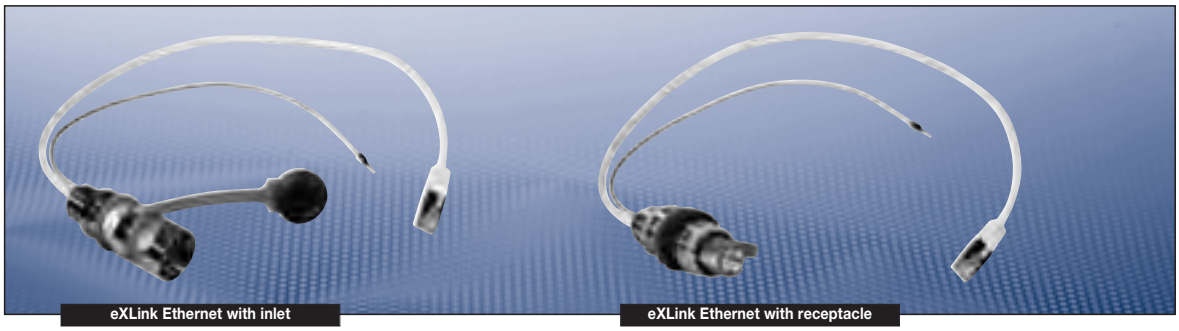
Adapt your control to the changing production processes. Child's play with **eXLink** connectors because Ethernet components and explosion protection have a modular structure. This means that you can update your information architecture without having to change your explosion-protected installation by simply changing the components in their pressurised enclosures. You can use conventional industrial components because the explosion-protected connection to your network is provided by the **eXLink** installed in the enclosure which also enables hot swapping of your terminating equipment without isolating and without hot work permit.

The **eXLink** also put your data transmission on the safe side. Independent measurements of a well-known laboratory have classified the use of the **eXLink 4-pole + PA** up to 100 MHz and with transfer rates up to 100 Mbaud according to the requirements layed out in TIA/EIA-568-B.2 Category 5e as safe. The **eXLink 4-pole + PA** system can therefore be used in **Fast Ethernet®** or **Ethernet®** networks as well as for the implementation of explosion-protected USB interfaces such as hard disk driver.



Advanced technology with eXLink available by now





eXLink Ethernet with inlet

eXLink Ethernet with receptacle

Technical data

eXLink Ethernet 4-pole + PA	
Marking to 94/9/EC	Ex II 2 G Ex de IIC T6 / Ex II 2 D tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 03 ATEX 1016 X
IECEx-Certificate of Conformity	IECEx BKI 06.0005X
Marking accd. to IECEx	Ex ed IIC T6 / Ex ia/ib IIC T6
	Ex tD A21 IP66 T52 °C
Permissible ambient temperature	-55 °C up to +40 °C
Store temperature in original wrapping	-55 °C up to +80 °C
Rated voltage	BUS
Rated current	max. 1 A
Frequency range	0-100 MHz, Fast Ethernet® compatible
Terminal cross section	Ethernet-cable 300 mm CAT 5e with plug RJ 45 male/female[1)]
Insulation class acc. EN 60598	I
Transmission performance acc. to TIA/EIA-568-B.2	Category 5e up to 100 Mbaud
Degree of protection EN 60529	IP66/IP68 with closed and locked protective caps
	or duly plugged and locked components
Enclosure material	Nickel plated brass / stainless steel 316L
Coding	1 h
Cable entry inlet and receptacle	M20 x 1.5 / ½" NPT
Accessories (option)	Locking device

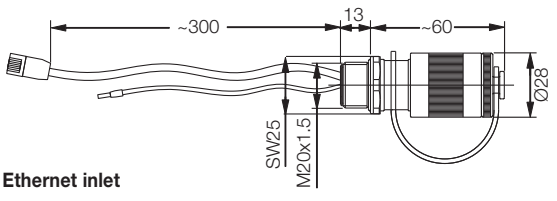
Ordering details

Scope of delivery	Order No.
eXLink Ethernet inlet with cable and RJ plug male (nickel plated brass)	**GHG 574 9101 R3002**
eXLink Ethernet inlet with cable and RJ plug female (nickel plated brass)	**GHG 574 9101 R3004**
eXLink Ethernet receptacle with cable and RJ plug male (nickel plated brass)	**GHG 574 8101 R3002**
eXLink Ethernet receptacle with cable and RJ plug female (nickel plated brass)	**GHG 574 8101 R3004**

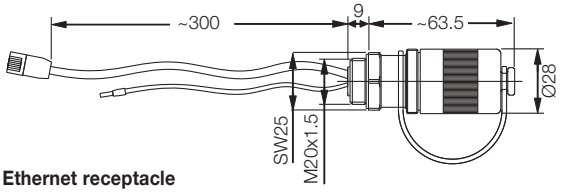
[1)] other cable length on request

all versions including protective caps

Dimension drawing



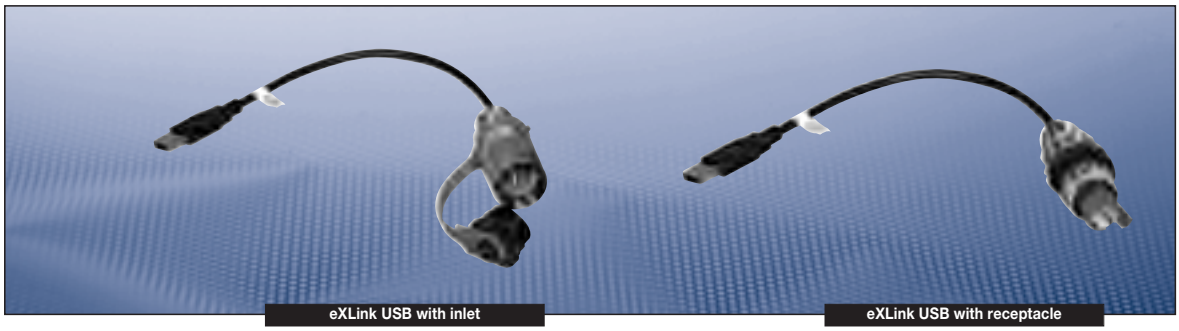
Ethernet inlet



Ethernet receptacle

Pin allocation eXLink:
Pin 1: white/green
Pin 2: white/orange
Pin 3: green
Pin 4: orange

Dimensions in mm



eXLink USB with inlet

eXLink USB with receptacle

Technical data

eXLink USB 4-pole	
Marking to 94/9/EC	Ex II 2 G Ex de IIC T6 / Ex II 2 D tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 03 ATEX 1016 X
IECEx-Certificate of Conformity	IECEx BKI 06.0005X
Marking accd. to IECEx	Ex ed IIC T6 / Ex ia/ib IIC T6
	Ex tD A21 IP66 T52 °C
Permissible ambient temperature	-55 °C up to +40 °C
Store temperature in original wrapping	-55 °C up to +80 °C
Rated voltage	BUS
Rated current	max. 1 A
Frequency range	USB 2.0
Terminal cross section	data cable 200 mm with USB plug/coupler male/female[1)]
Insulation class acc. EN 60598	I
Degree of protection EN 60529	IP66/IP68 with closed and locked protective caps
	or duly plugged and locked components
Enclosure material	Nickel plated brass / stainless steel 316L
Coding	2 h
Cable entry inlet and receptacle	M20 x 1,5 / ½" NPT
Accessories (option)	locking device

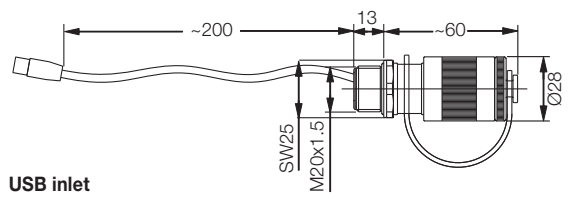
Ordering details

Scope of delivery	Order No.
eXLink Inlet with cable and USB plug male (nickel plated brass)	**GHG 571 9102 R3003**
eXLink Inlet with cable and USB coupler female (nickel plated brass)	**GHG 571 9102 R3004**
eXLink Receptacle with cable and USB plug female (nickel plated brass)	**GHG 571 8102 R3003**
eXLink Receptacle with cable and USB plug male (nickel plated brass)	**GHG 571 8102 R3004**

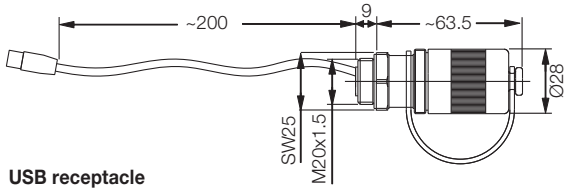
[1)] other cable length on request

all versions including protective caps

Dimension drawing



USB inlet



USB receptacle

Pin allocation eXLink:
Pin 1: white/green
Pin 2: white/orange
Pin 3: green
Pin 4: orange

Dimensions in mm

eXLink

eXLink 7-pole / 6-pole + PE for Zone 1 and Zone 21

Providing flexible power supply and signal – connection there, where it is needed – even in hazardous areas for the Zones 1and 2.

The eXLink 7 pole / 6- pole + PE is a complete system for connecting and disconnecting product electrically. Supplying from low voltage BUS signals up to 400 V AC / 16 A electrical power the full range of connectors and receptacles are available with moulded plastic enclosures as well as nickel-plated brass or stainless steel enclosures materials.

A coding system following to IEC 60309 system secures from misconnections of non-compatible voltage levels. Only connectors and plugs with the same voltage level can be plugged into.

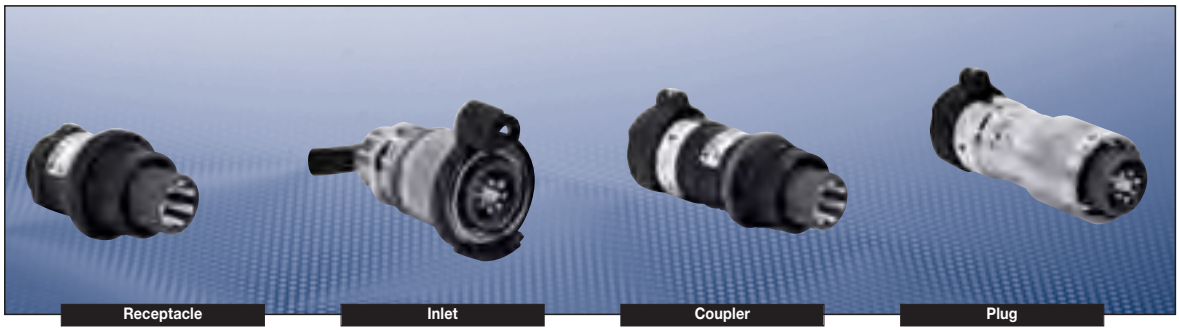
The well-known and reliable bonding technique “crimp connection” for wire size of 0.75 mm^2 up to 1.5 mm^2 and optional 2.5 mm^2 is used for wire connection to the pins. Additionally a screw-less technique “cage clamp” can be used for selected types. A special plug and connector for the use of armoured cable is available.

The Receptacle and the Inlet are equipped with metric thread M25 x 1.5 or $^3/_4$” NPT thread to screw directly into electrical apparatus. The factory potted metal versions can be used directly into Ex-d enclosures without additionally certification to be applied.

All eXLink plugs, inlets, receptacle and connectors are designed for hot swapping of apparatus in hazardous areas without disconnecting terminals, without shutting down circuits and without a “hot work permit”!



- **Hot swap**
- **Standard IP protection IP66/IP68**
- **Permissible ambient temperature from -55 to +70 °C**
- **Up to 400 V 16 A**
- **Stainless steel or nickel plated brass enclosures for highest mechanical protection**
- **Max. 7-pole (6-pole + PE) connections**
- **Mining (EX I M2) certified**



Technical data

eXLink 6+1-pole / 7-pole		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC T6 Ex ia/ib IIC T6 / Ⓔx II 3 D Ex tD A22 IP 5x T80 °C
EC-Type Examination Certificate		PTB 06 ATEX 1031 X
IECEx-Certificate of Conformity		IECEx BKI 06.0005X
Marking accd. to IECEx		Ex ed IIC T6 / Ex ia/ib IIC T6 Ex tD A21 IP66 T52 °C
Permissible ambient temperature		–20 °C up to +40 °C (Rated current 16 A)
Extended temperature range		–55 °C up to +75 °C (Metal version, rated current 1 A)
Store temperature in original wrapping		–55 °C up to +80 °C
Rated voltage		AC up to 400 V, 50/60 Hz / DC up to 60 V
Rated current		max. 3 x 16 A
Rated making/rated breaking capacity	AC-3:	U_e 400 V / I_e 1 A
acc. EN 60 947-4	DC-3:	U_e 60 V / I_e 0.5 A
External back-up fuse max. without thermal protection		16 A
External back-up fuse max. with thermal protection		20 A gL
Insulation class acc. EN 60598		II: plastic / I: metal
Terminal cross section		
Plug, coupler		Crimp 1.5 mm²: 0.75 - 1.5 mm²/ Solder: 0.34 - 1.0 mm² Crimp 2.5 mm²: 2.5 mm² Cage clamp: 0.5 - 1.0 mm² multi wire, 0.5 - 1.5 mm² single wire
Inlet, receptacle in plastic		Crimp 1.5 mm²: 0.75 - 1.5 mm²/ Solder: 0.34 - 1.0 mm² Crimp 2.5 mm²: 2.5 mm²
Inlet, receptacle in metal		30 cm multi wire[1]: 1.5 mm² / 2.5 mm²
Cable entry plug and coupler		Ø 7 - 11 mm / Ø 11 - 15 mm
Cable entry plug and coupler for armoured cables		external isol. Ø 16- 26 mm / internal isol. Ø 8.5 - 16 mm / armouring 0 - 1.5 mm
Cable entry inlet and receptacle		M25 x 1.5 / 3/4" NPT
Degree of protection EN 60529		IP66/IP68 with closed and locked protective caps or duly plugged and locked components
Enclosure material		
Plug, coupler, inlet < 2000 cm³ and receptacle		Polyamide, nickel plated brass or stainless steel AISI 316L
Inlet > 2000 cm² and plug/coupler for armoured cables		Nickel plated brass or stainless steel AISI 316L

[1] other length on request

Ordering key eXLink 6+1-pole

1. Type

- 1 = Elbow
- 3 = Coupler
- 6 = Inlet > 2000 cm³
- 7 = Plug
- 8 = Receptacle
- 9 = Inlet

2. Connection technology

- 1 = Crimp up to 1.5 mm²
- 2 = Crimp up to 2.5 mm²
- 6 = Cage clamp

3. Coding

- 04 = 4 h / 110 V AC 6p + PE
- 06 = 6 h / 230 V AC 6p + PE
- 08 = 8 h / 24 V DC 7p
- 10 = 10 h / 400 V AC 6p + PE
- 12 = 12 h / 24 V AC 6p + PE

GHG 572 XXXX RXX0X

4. Material

- 0 = Plastic
- 1 = Stainless steel AISI 316L
- 2 = Stainless steel AISI 316L for armoured cables
- 3 = Nickel-plated brass
- 4 = Brass for armoured cables
- 5 = Stainless steel AISI 316L NPT
- 6 = Nickel-plated brass NPT

5. Accessories

- 0 = without locking device
- 8 = Protection cap for plug
- 9 = with locking device

6. Diameter of connection cable (plug and coupler)

- 1 = 7 – 11 mm/16 – 26 mm[1)]
- 2 = 11 – 15 mm

[1)] Version for armoured cables

7. Connection (inlet and receptacle)

Connecting wire	Plastic	Nickel plate brass	Stainless steel
Crimp	...R0XX1	n.A.	n.A.
30 cm	...R0XX2	...R3XX1	...R1XX1
50 cm	...R0XX3	...R3XX2	...R1XX2
75 cm	...R0XX4	...R3XX3	...R1XX3
150 cm	...R0XX5	...R3XX4	...R1XX4

Overview for possible configurations

	Plastic	Nickel-plated brass	Stainless steel	Crimp 1.5 mm²	Crimp 2.5 mm²	Solder	Cage clamp	30 cm multi wire 1.5 mm²	30 cm multi wire 2.5 mm²	Cable entries Ø 7 - 11 mm	Cable entries Ø 11 - 15 mm	Cable entries Ø 16 - 26 mm	M25 x 1.5	3/4" NPT
Plug	x	x	x	x	x	x	x			x	x			
Coupler	x	x	x	x	x	x	x			x	x			
Plug for armoured cables		x	x	x	x	x	x					x		
Coupler for armoured cables		x	x	x	x	x	x					x		
Inlet for Ex e enclosure	x	x	x	x	x			x[2)]	x[2)]				x	x
Info for Ex d enclosure < 2000 cm³		x	x					x[2)]	x[2)]				x	x
Info for Ex d enclosure > 2000 cm³		x	x					x[2)]	x[2)]				x	x
Receptacle for Ex e enclosure	x	x	x	x	x			x[2)]	x[2)]				x	x
Receptacle for Ex d enclosure (no restriction on free volume)		x	x					x[2)]	x[2)]				x	x
Elbow for Ex e enclosure	x	x	x										x	x
Elbow for Ex d enclosure		x	x										x	x

[2)] on customers request available with cable length 500/750/1500 mm

For customers who wants to configure the needed eXLink easily and fast
Cooper Crouse-Hinds offers via the Internet separate tool to select the right type
and order No.: http://www.internezzo.de/sd_ceag/index.html

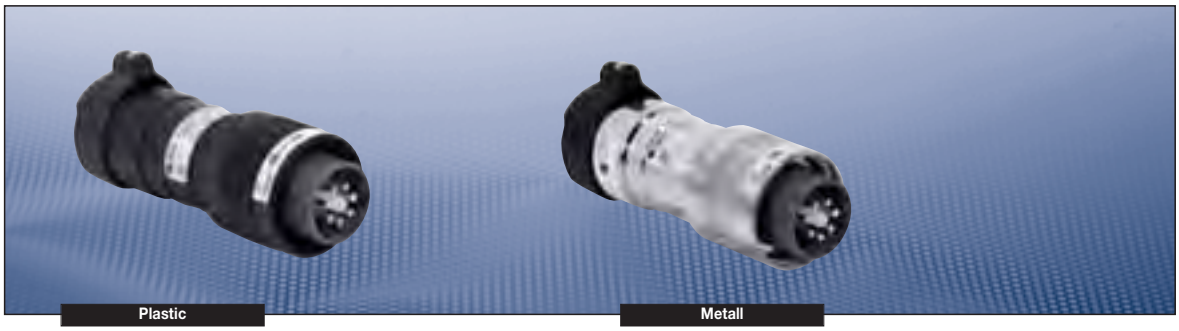


From a selection of nearly 2000 variants of eXLink connector products you will find **YOUR eXLink** product fast, reliable and easy using our new product configurator.

Click h e r e try and use the new tool







Ordering key eXLink Plug 6+1-pole/7-pole

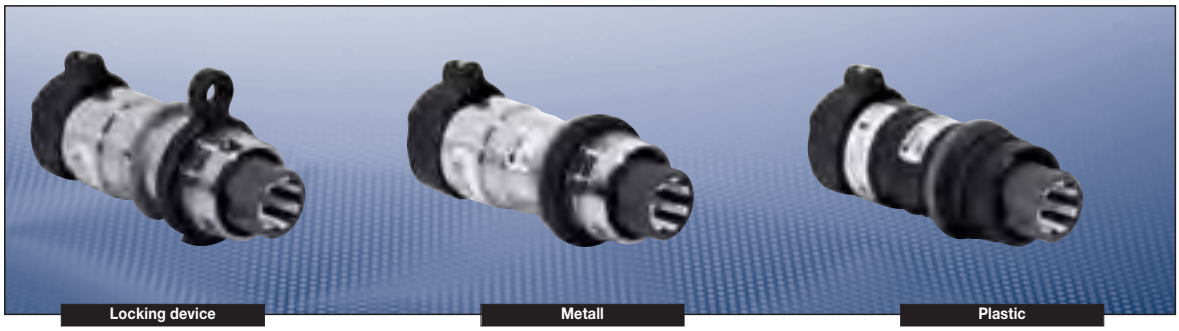
GHG 572 7XXX RXX0X

1. Connection technology	2. Coding	3. Material	4. Accessories	5. Diameter of connection cable
1 = Crimp up to 1.5 mm²	04 = 4 h	0 = Plastic	0 = without locking device	1 = 7 – 11 mm
2 = Crimp up to 2.5 mm²	08 = 8 h	1 = Stainless steel AISI 316L	8 = with protection cap	2 = 11 – 15 mm
6 = Cage-clamp	10 = 10 h	3 = Nickel-plated brass	9 = with locking device	
	12 = 12 h			

Ordering details

Voltage	No. of poles	Coding	Connection	Diameter of connection cable 7 -11 mm Order No.	Diameter of connection cable 11 - 15 mm Order No.
Plug made of plastic					
110 V AC	6-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 572 7104 R0001**	**GHG 572 7104 R0002**
110 V AC	6-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 572 7204 R0001**	**GHG 572 7204 R0002**
110 V AC	6-pol + PE	4 h	Cage clamp	**GHG 572 7604 R0001**	**GHG 572 7604 R0002**
230 V AC	6-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 572 7106 R0001**	**GHG 572 7106 R0002**
230 V AC	6-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 572 7206 R0001**	**GHG 572 7206 R0002**
230 V AC	6-pol + PE	6 h	Cage clamp	**GHG 572 7606 R0001**	**GHG 572 7606 R0002**
24 V DC	7-pol	8 h	Crimp up to 1.5 mm²	**GHG 572 7108 R0001**	**GHG 572 7108 R0002**
24 V DC			up to 2.5 mm²	**GHG**	
Plug made of nickel-plated brass					
110 V AC	6-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 572 7104 R3001**	**GHG 572 7104 R3002**
110 V AC	6-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 572 7204 R3001**	**GHG 572 7204 R3002**
110 V AC	6-pol + PE	4 h	Cage clamp	**GHG 572 7604 R3001**	**GHG 572 7604 R3002**
230 V AC	6-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 572 7106 R3001**	**GHG 572 7106 R3002**
230 V AC	6-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 572 7206 R3001**	**GHG 572 7206 R3002**
230 V AC			clamp	**GHG**	
Plug made of stainless steel					
110 V AC	6-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 572 7104 R1001**	**GHG 572 7104 R1002**
110 V AC	6-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 572 7204 R1001**	**GHG 572 7204 R1002**
110 V AC	6-pol + PE	4 h	Cage clamp	**GHG 572 7604 R1001**	**GHG 572 7604 R1002**
230 V AC	6 pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 572 7106 R1001**	**GHG 572 7106 R1002**
230 V AC	6 pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 572 7206 R1001**	**GHG 572 7206 R1002**
230 V AC	2-pol + PE	6 h	Cage clamp	**GHG 572 7606 R1001**	**GHG 572 7606 R1002**
24 V DC	7-pol	8 h	Crimp up to 1.5 mm²	**GHG 572 7108 R1001**	**GHG 572 7108 R1002**
24 V DC	7-pol	8 h	Crimp up to 2.5 mm²	**GHG 572 7208 R1001**	**GHG 572 7208 R1002**
24 V DC	7-pol.	8 h	Cage clamp	**GHG 572 7608 R1001**	**GHG 572 7608 R1002**
400 V AC	6-p + PE	10 h	Crimp up to 1.5 mm²	**GHG 572 7110 R1001**	**GHG 572 7110 R1002**
400 V AC	6-p + PE	10 h	Crimp up to 2.5 mm²	**GHG 572 7210 R1001**	**GHG 572 7210 R1002**
24 V AC	6-p + PE	12 h	Crimp up to 1.5 mm²	**GHG 572 7112 R1001**	**GHG 572 7112 R1002**
24 V AC	6-p + PE	12 h	Crimp up to 2.5 mm²	**GHG 572 7212 R1001**	**GHG 572 7212 R1002**

Example



Ordering key eXLink coupler 6+1-pole/7-pole

GHG 572 3XXX RXX0X

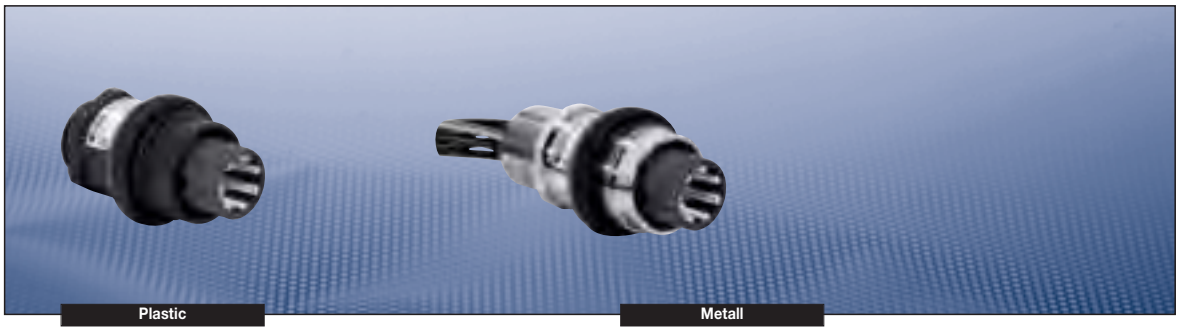
1. Connection technology	2. Coding	3. Material	4. Accessories	5. Diameter of connection cable
1 = Crimp up to 1.5 mm²	04 = 1 h	0 = Plastic	0 = without locking device	1 = 7 – 11 mm
2 = Crimp up to 2.5 mm²	06 = 5 h	1 = Stainless steel AISI 316L	9 = with locking device	2 = 11 – 15 mm
6 = Cage-clamp	08 = 6 h	3 = Nickel-plated brass		
	10 = 10 h			
	12 = 12 h			

All versions including protection cap.

Ordering details

Voltage	No. of poles	Coding	Connection	Diameter of connection cable 7 – 11 mm Order No.	Diameter of connection cable 11 – 15 mm Order No.
Coupler made of plastic version					
110 V AC	6-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 572 3104 R0001**	**GHG 572 3104 R0002**
110 V AC	6-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 572 3204 R0001**	**GHG 572 3204 R0002**
110 V AC	6-pol + PE	4 h	Cage clamp	**GHG 572 3604 R0001**	**GHG 572 3604 R0002**
230 V AC	6-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 572 3106 R0001**	**GHG 572 3106 R0002**
230 V AC	6-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 572 3206 R0001**	**GHG 572 3206 R0002**
230 V AC	6-pol + PE	6 h	Cage clamp	**GHG 572 3606 R0001**	**GHG 572 3606 R0002**
24 V DC	7-pol	8 h	Crimp up to 1.5 mm²	**GHG 572 3108 R0001**	**GHG 572 3108 R0002**
24 V DC			up to 2.5 mm²	**GHG**	
Coupler made of nickel-plated brass					
110 V AC	6-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 572 3104 R3001**	**GHG 572 3104 R3002**
110 V AC	6-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 572 3204 R3001**	**GHG 572 3204 R3002**
110 V AC	6-pol + PE	4 h	Cage clamp	**GHG 572 3604 R3001**	**GHG 572 3604 R3002**
230 V AC	6-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 572 3106 R3001**	**GHG 572 3106 R3002**
230 V AC	6-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 572 3206 R3001**	**GHG 572 3206 R3002**
230 V AC			clamp	**GHG**	
Coupler made of stainless steel					
110 V AC	6-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 572 3104 R1001**	**GHG 572 3104 R1002**
110 V AC	6-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 572 3204 R1001**	**GHG 572 3204 R1002**
110 V AC	6-pol + PE	4 h	Cage clamp	**GHG 572 3604 R1001**	**GHG 572 3604 R1002**
230 V AC	6-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 572 3106 R1001**	**GHG 572 3106 R1002**
230 V AC	6-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 572 3206 R1001**	**GHG 572 3206 R1002**
24 V DC	7-pol	8 h	Crimp up to 1.5 mm²	**GHG 572 3108 R1001**	**GHG 572 3108 R1002**
24 V DC	7-pol	8 h	Crimp up to 2.5 mm²	**GHG 572 3208 R1001**	**GHG 572 3208 R1002**
400 V AC	6p + PE	10 h	Crimp up to 1.5 mm²	**GHG 572 3110 R1001**	**GHG 572 3110 R1002**
400 V AC	6p + PE	10 h	Crimp up to 2.5 mm²	**GHG 572 3210 R1001**	**GHG 572 3210 R1002**
24 V AC	6p + PE	12 h	Crimp up to 1.5 mm²	**GHG 572 3112 R1001**	**GHG 572 3112 R1002**
24 V AC	6p + PE	12 h	Crimp up to 2.5 mm²	**GHG 572 3212 R1001**	**GHG 572 3212 R1002**

Example



Ordering key eXLink receptacle 6+1-pole/7-pole

Metal version for Ex-d application for volume >2000 cm³

GHG 572 8XXX RXX0X — X = Count No.

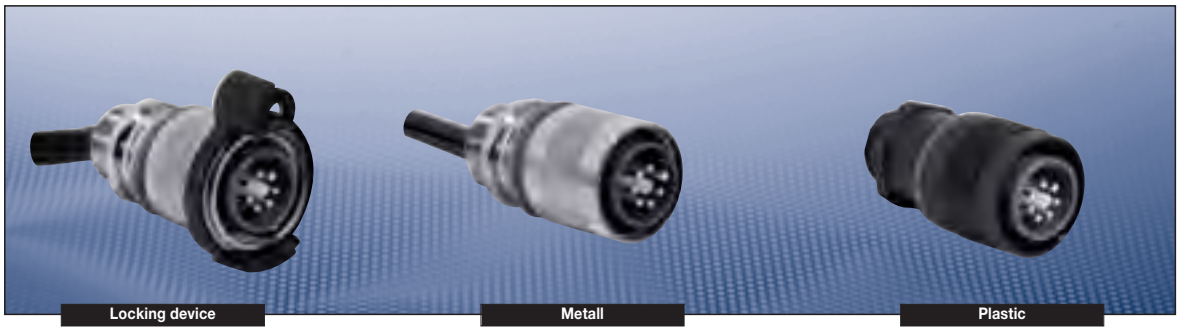
1. Connection technology	2. Coding	3. Material	4. Accessories
1 = Crimp[1]/30 cm multi wire up to 1.5 mm²	04 = 4 h	0 = Plastic	0 = without locking device
2 = Crimp[1]/30 cm multi wire up to 2.5 mm²	06 = 6 h	1 = Stainless steel AISI 316L with M25 thread	9 = with locking device
[1] Crimp only in plastic version	08 = 8 h	3 = Nickel-plated brass with M25 thread	
	10 = 10 h	5 = Stainless steel AISI 316L with 3/4" NPT thread	
	12 = 12 h	6 = Nickel-plated brass with 3/4" NPT thread	

Metal version only potted with multi-wire.
All versions including protection cap.

Ordering details

Voltage	No. of poles	Coding	Connection	Thread M25 x 1.5 Order No.	Thread 3/4" NPT Order No.
Receptacle made of plastic version					
110 V AC	6-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 572 8104 R0001**	
110 V AC	6-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 572 8204 R0001**	
230 V AC	6-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 572 8106 R0001**	
230 V AC	6-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 572 8206 R0001**	
24 V DC	7-pol	8 h	Crimp up to 1.5 mm²	**GHG 572 8108 R0001**	Only available in metal version!
24 V DC	7-pol	8 h	Crimp up to 2.5 mm²	**GHG 572 8208 R0001**	
400 V AC	6p + PE	10 h	Crimp up to 1.5 mm²	**GHG 572 8110 R0001**	
400 V AC	6p + PE	10 h	Crimp up to 2.5 mm²	**GHG 572 8210 R0001**	
24 V AC	6-pol + PE	12 h	Crimp up to 1.5 mm²	**GHG 572 8112 R0001**	
24 V AC	6-pol + PE	12 h	Crimp up to 2.5 mm²	**GHG 572 8212 R0001**	
110 V AC	6-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 572 8104 R0002**	
110 V AC	6-pol + PE	4 h	30 cm multi wire 2.5 mm²	**GHG 572 8204 R0002**	Only available in metal version!
230 V AC	6-pol + PE	6 h	30 cm multi wire 1.5 mm²	**GHG 572 8106 R0002**	
230 V AC	6-pol + PE	6 h	30 cm multi wire 2.5 mm²	**GHG 572 8206 R0002**	
24 V DC	7-pol	8 h	30 cm multi wire 1.5 mm²	**GHG 572 8108 R0002**	
24 V DC			multi wire 2.5 mm²	**GHG 57**	
Receptacle made of nickel-plated brass					
110 V AC	6-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 572 8104 R3001**	**GHG 572 8104 R6001**
110 V AC	6-pol + PE	4 h	30 cm multi wire 2.5 mm²	**GHG 572 8204 R3001**	**GHG 572 8204 R6001**
230 V AC	6-pol + PE	6 h	30 cm multi wire 1.5 mm²	**GHG 572 8106 R3001**	**GHG 572 8106 R6001**
230 V AC			multi wire 2.5 mm²	**GHG 57**	**6001**
Receptacle made of stainless steel					
110 V AC	6-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 572 8104 R1001**	**GHG 572 8104 R5001**
110 V AC	6-pol + PE	4 h	30 cm multi wire 2.5 mm²	**GHG 572 8204 R1001**	**GHG 572 8204 R5001**
230 V AC	6-pol + PE	6 h	30 cm multi wire 1.5 mm²	**GHG 572 8106 R1001**	**GHG 572 8106 R5001**
230 V AC			multi wire 2.5 mm²	**GHG 57**	**5001**

Example



Ordering key eXLink inlet 6+1-pole/7-pole < 2000 cm³

Metal version also for Ex-d application with free volume < 2000 cm³

GHG 572 9XXX RXX0X — X = Count No.

see page 6.30 point 7

1. Connection technology	2. Coding	3. Material	4. Accessories
1 = Crimp[1]/30 cm multi wire up to 1.5 mm²	04 = 4 h	0 = Plastic	0 = without locking device
2 = Crimp[1]/30 cm multi wire up to 2.5 mm²	06 = 6 h	1 = Stainless steel AISI 316L with M25 thread	9 = with locking device
[1] Crimp only in plastic version	08 = 8 h	3 = Nickel-plated brass with M25 thread	
	10 = 10 h	5 = Stainless steel AISI 316L with 3/4" NPT thread	
	12 = 12 h	6 = Nickel-plated brass with 3/4" NPT thread	

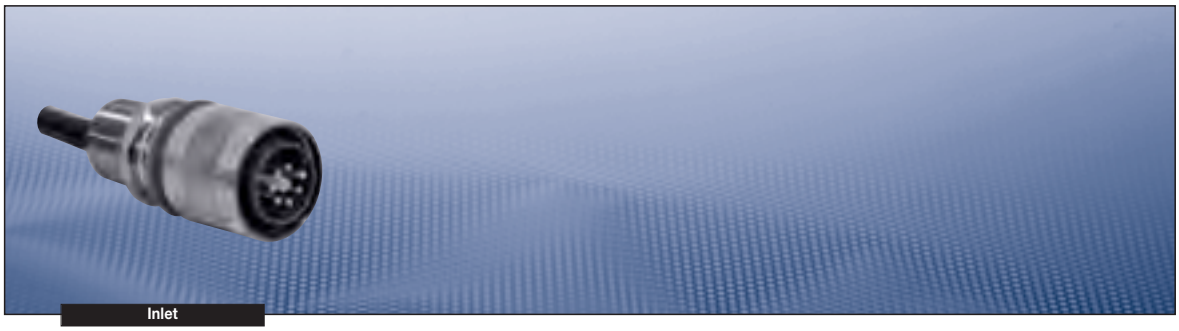
Metal version only potted with multi-wire.

All versions including protection cap.

Ordering details

Voltage	No. of poles	Coding	Connection	Thread M25 x 1.5 Order No.	Thread 3/4" NPT Order No.
Inlet made of plastic					
110 V AC	6-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 572 9104 R0001**	
110 V AC	6-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 572 9204 R0001**	
230 V AC	6-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 572 9106 R0001**	
230 V AC	6-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 572 9206 R0001**	
24 V DC	7-pol	8 h	Crimp up to 1.5 mm²	**GHG 572 9108 R0001**	Only available in metal version!
24 V DC	7-pol	8 h	Crimp up to 2.5 mm²	**GHG 572 9208 R0001**	
400 V AC	6-pol + PE	10 h	Crimp up to 1.5 mm²	**GHG 572 9110 R0001**	
400 V AC	6-pol + PE	10 h	Crimp up to 2.5 mm²	**GHG 572 9210 R0001**	
24 V AC	6-pol + PE	12 h	Crimp up to 1.5 mm²	**GHG 572 9112 R0001**	
24 V AC	6-pol + PE	12 h	Crimp up to 2.5 mm²	**GHG 572 9212 R0001**	
110 V AC	6-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 572 9104 R0002**	Only available in metal version!
110 V AC	6-pol + PE	4 h	30 cm multi wire 2.5 mm²	**GHG 572 9204 R0002**	
230 V AC	6-pol + PE	6 h	30 cm multi wire 1.5 mm²	**GHG 572 9106 R0002**	
230 V AC	6-pol + PE	6 h	30 cm multi wire 2.5 mm²	**GHG 572 9206 R0002**	
24 V DC	7-pol	8 h	30 cm multi wire 1.5 mm²	**GHG 572 9108 R0002**	
24 V DC			multi wire 2.5 mm²	GHG 572	
Inlet made of nickel-plated brass					
110 V AC	6-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 572 9104 R3001**	**GHG 572 9104 R6001**
110 V AC	6-pol + PE	4 h	30 cm multi wire 2.5 mm²	**GHG 572 9204 R3001**	**GHG 572 9204 R6001**
230 V AC	6-pol + PE	6 h	30 cm multi wire 1.5 mm²	**GHG 572 9106 R3001**	**GHG 572 9106 R6001**
230 V AC			multi wire 2.5 mm²	GHG 572	6001
Inlet made of stainless steel					
110 V AC	6-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 572 9104 R1001**	**GHG 572 9104 R5001**
110 V AC	6-pol + PE	4 h	30 cm multi wire 2.5 mm²	**GHG 572 9204 R1001**	**GHG 572 9204 R5001**
230 V AC	6-pol + PE	6 h	30 cm multi wire 1.5 mm²	**GHG 572 9106 R1001**	**GHG 572 9106 R5001**
230 V AC			multi wire 2.5 mm²	GHG 572	5001

Example


Inlet

Ordering key eXLink inlet 6+1-pole/7-pole > 2000 cm³

Metal version for Ex-d application with free volume > 2000 cm³

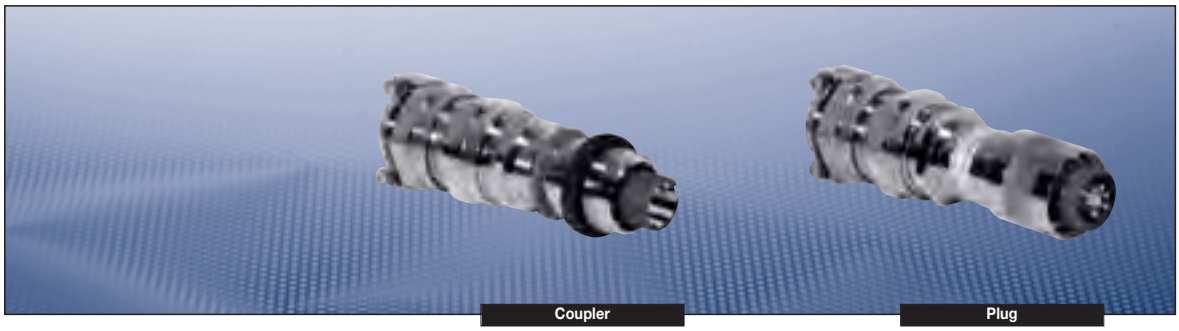
GHG 572 6XXX RXX0X

1. Connection technology	2. Coding	3. Material	4. Accessories	5. Wire
1 = multi wire 1.5 mm²	04 = 4 h	1 = Stainless steel AISI 316L with M25 thread	0 = without locking device	1 = multi wire 30 cm
2 = multi wire 2.5 mm²	06 = 6 h	3 = Nickel-plated brass with M25 thread	9 = with locking device	2 = multi wire 50 cm
	08 = 8 h	5 = Stainless steel AISI 316L with 3/4" NPT thread		3 = multi wire 75 cm
	10 = 10 h	6 = Nickel-plated brass with 3/4" NPT thread		4 = multi wire 150 cm
	12 = 12 h			

Metal version only potted with multi-wire.
All versions including protection cap.

Ordering details

Voltage	No. of poles	Coding	Connection	Thread	
				M25 x 1.5 Order No.	3/4" NPT Order No.
Inlet made of stainless steel for V > 2000 cm³					
110 V AC	6-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 572 6104 R1001**	**GHG 572 6104 R5001**
110 V AC	6-pol + PE	4 h	30 cm multi wire 2.5 mm²	**GHG 572 6204 R1001**	**GHG 572 6204 R5001**
230 V AC	6-pol + PE	6 h	30 cm multi wire 1.5 mm²	**GHG 572 6106 R1001**	**GHG 572 6106 R5001**
230 V AC	6-pol + PE	6 h	30 cm multi wire 2.5 mm²	**GHG 572 6206 R1001**	**GHG 572 6206 R5001**
24 V DC	7-pol	8 h	30 cm multi wire 1.5 mm²	**GHG 572 6108 R1001**	**GHG 572 6108 R5001**
24 V DC	7-pol	8 h	30 cm multi wire 2.5 mm²	**GHG 572 6208 R1001**	**GHG 572 6208 R5001**
400 V AC	6-pol + PE	10 h	30 cm multi wire 1.5 mm²	**GHG 572 6110 R1001**	**GHG 572 6110 R5001**
400 V AC	6-pol + PE	10 h	30 cm multi wire 2.5 mm²	**GHG 572 6210 R1001**	**GHG 572 6210 R5001**
24 V AC	6-pol + PE	12 h	30 cm multi wire 1.5 mm²	**GHG 572 6112 R1001**	**GHG 572 6112 R5001**
24 V AC	6-pol + PE	12 h	30 cm multi wire 2.5 mm²	**GHG 572 6212 R1001**	**GHG 572 6212 R5001**
Inlet made of nickel-plated brass V > 2000 cm³					
110 V AC	6-pol + PE	4 h	30 cm multi wire 1.5 mm²	**GHG 572 6104 R3001**	**GHG 572 6104 R6001**
110 V AC	6-pol + PE	4 h	30 cm multi wire 2.5 mm²	**GHG 572 6204 R3001**	**GHG 572 6204 R6001**
230 V AC	6-pol + PE	6 h	30 cm multi wire 1.5 mm²	**GHG 572 6106 R3001**	**GHG 572 6106 R6001**
230 V AC	6-pol + PE	6 h	30 cm multi wire 2.5 mm²	**GHG 572 6206 R3001**	**GHG 572 6206 R6001**
24 V DC	7-pol	8 h	30 cm multi wire 1.5 mm²	**GHG 572 6108 R3001**	**GHG 572 6108 R6001**
24 V DC	7-pol	8 h	30 cm multi wire 2.5 mm²	**GHG 572 6208 R3001**	**GHG 572 6208 R6001**
400 V AC	6-pol + PE	10 h	30 cm multi wire 1.5 mm²	**GHG 572 6110 R1001**	**GHG 572 6110 R6001**
400 V AC	6-pol + PE	10 h	30 cm multi wire 2.5 mm²	**GHG 572 6210 R1001**	**GHG 572 6210 R6001**
24 V AC	6-pol + PE	12 h	30 cm multi wire 1.5 mm²	**GHG 572 6112 R3001**	**GHG 572 6112 R6001**
24 V AC	6-pol + PE	12 h	30 cm multi wire 2.5 mm²	**GHG 572 6212 R3001**	**GHG 572 6212 R6001**



Ordering key eXLink plug/coupler for armoured cables

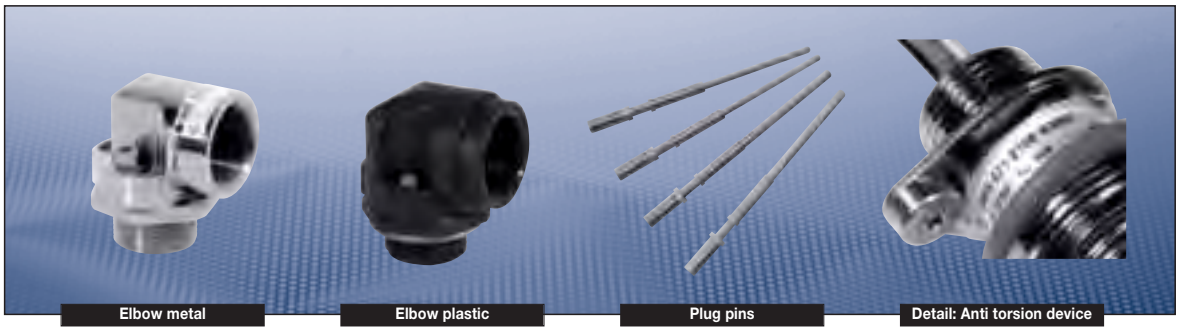
GHG 572 XXXX RXX01

1. Version	2. Connection technology	3. Coding	4. Material	5. Accessories
3 = Coupler	1 = Crimp up to 1.5 mm²	04 = 4 h	2 = Stainless steel AISI 316L*	0 = without locking device
7 = Plug	2 = Crimp up to 2.5 mm²	06 = 6 h	4 = Nickel-plated brass	8 = Plug with protection cap
		08 = 8 h	* Strain relief in nickel-plated brass	9 = with locking device
		10 = 10 h		
		12 = 12 h		

Coupler including protective cap

Ordering details

Voltage	No. of poles	Coding	Connection	Diameter of connection cable 16 - 26 mm	
				Plug Order No.	Coupler Order No.
Plug/coupler made of stainless steel for armoured cables					
110 V AC	6-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 572 7104 R2001**	**GHG 572 3104 R2001**
110 V AC	6-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 572 7204 R2001**	**GHG 572 3204 R2001**
230 V AC	6-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 572 7106 R2001**	**GHG 572 3106 R2001**
230 V AC	6-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 572 7206 R2001**	**GHG 572 3206 R2001**
24 V DC	7-pol	8 h	Crimp up to 1.5 mm²	**GHG 572 7108 R2001**	**GHG 572 3108 R2001**
24 V DC	7-pol	8 h	Crimp up to 2.5 mm²	**GHG 572 7208 R2001**	**GHG 572 3208 R2001**
400 V AC	6-pol + PE	10 h	Crimp up to 1.5 mm²	**GHG 572 7110 R2001**	**GHG 572 3110 R2001**
400 V AC	6-pol + PE	10 h	Crimp up to 2.5 mm²	**GHG 572 7210 R2001**	**GHG 572 3210 R2001**
24 V AC	6-pol + PE	12 h	Crimp up to 1.5 mm²	**GHG 572 7112 R2001**	**GHG 572 3112 R2001**
24 V AC	6-pol + PE	12 h	Crimp up to 2.5 mm²	**GHG 572 7212 R2001**	**GHG 572 3212 R2001**
Plug/coupler made of nickel-plated brass for armoured cables					
110 V AC	6-pol + PE	4 h	Crimp up to 1.5 mm²	**GHG 572 7104 R4001**	**GHG 572 3104 R4001**
110 V AC	6-pol + PE	4 h	Crimp up to 2.5 mm²	**GHG 572 7204 R4001**	**GHG 572 3204 R4001**
230 V AC	6-pol + PE	6 h	Crimp up to 1.5 mm²	**GHG 572 7106 R4001**	**GHG 572 3106 R4001**
230 V AC	6-pol + PE	6 h	Crimp up to 2.5 mm²	**GHG 572 7206 R4001**	**GHG 572 3206 R4001**
24 V DC	7-pol	8 h	Crimp up to 1.5 mm²	**GHG 572 7108 R4001**	**GHG 572 3108 R4001**
24 V DC	7-pol	8 h	Crimp up to 2.5 mm²	**GHG 572 7208 R4001**	**GHG 572 3208 R4001**
400 V AC	6-pol + PE	10 h	Crimp up to 1.5 mm²	**GHG 572 7110 R4001**	**GHG 572 3110 R4001**
400 V AC	6-pol + PE	10 h	Crimp up to 2.5 mm²	**GHG 572 7210 R4001**	**GHG 572 3210 R4001**
24 V AC	6-pol + PE	12 h	Crimp up to 1.5 mm²	**GHG 572 7112 R4001**	**GHG 572 3112 R4001**
24 V AC	6-pol + PE	12 h	Crimp up to 2.5 mm²	**GHG 572 7212 R4001**	**GHG 572 3212 R4001**



Ordering key eXLink elbow

GHG 572 1000 RX001

Material

0 = Plastic
1 = Stainless steel AISI 316L
3 = Nickel-plated brass

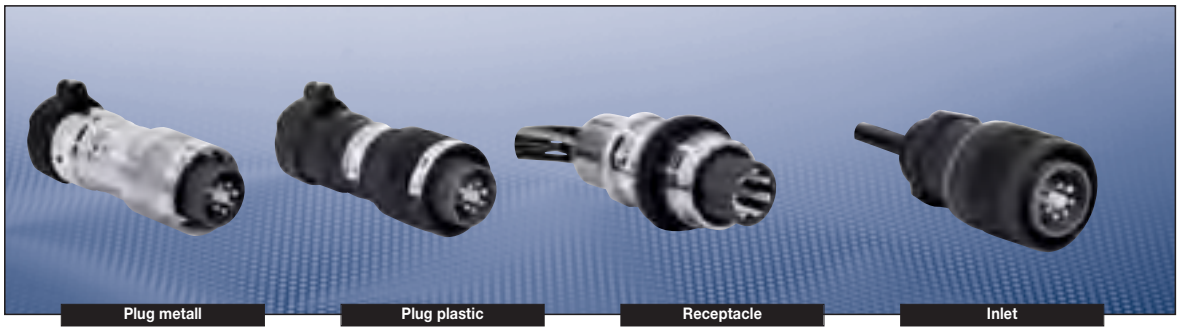
Ordering details

Type	Material	Order No.
Elbow M25[1)]	Plastic	**GHG 572 1000 R0001**
Elbow M25[1)]	Stainless steel AISI 316L	**GHG 572 1000 R1001**
Elbow M25[1)]	Nickel-plated brass	**GHG 572 1000 R3001**

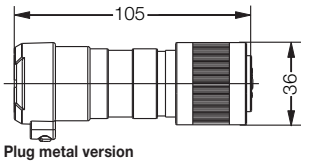
[1)] Usage depends on wire cross section and number of wires

Accessories

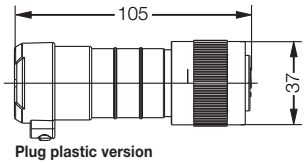
Type	BE	Order No.
Set of socket contacts 0.5 mm², 7-pole	1	**GHG 570 1905 R0008**
Set of socket contacts 1.5 mm², 7-pole	1	**GHG 570 1905 R0005**
Set of socket contacts 2.5 mm², 7-pole	1	**GHG 570 1905 R0006**
Crimp tool for eXLink	1	**GHG 570 1902 R0001**
Plastic protection cap connector/receptacle 7-pole	1	**GHG 570 1903 R0005**
Plastic protection cap plug/inlet 7-pole	1	**GHG 570 1903 R0006**
Brass protection cap connector/receptacle 7-pole	1	**GHG 570 1903 R0007**
Brass protection cap plug/inlet 7-pole	1	**GHG 570 1903 R0008**
Set of plug pins 0.5 mm², 6-pole + PE (PE leading AC)	1	**GHG 570 1904 R0013**
Set of plug pins 0.5 mm², 7-pole (lagging DC)	1	**GHG 570 1904 R0014**
Set of plug pins 1.5 mm², 6-pole + PE (PE leading AC)	1	**GHG 570 1904 R0007**
Set of plug pins 1.5 mm², 7-pole (lagging DC)	1	**GHG 570 1904 R0008**
Set of plug pins 2.5 mm², 6-pole + PE (PE leading AC)	1	**GHG 570 1904 R0009**
Set of plug pins 2.5 mm², 7-pole (lagging DC)	1	**GHG 570 1904 R0010**
Screw driver for cage clamp	1	**GHG 570 1908 R0001**
Strain relief and seal 7 - 11 mm	1	**GHG 570 1907 R0003**
Strain relief and seal 11 - 15 mm	1	**GHG 570 1907 R0004**
Strain relief and seal + PE connection 7 - 11	1	**GHG 570 1907 R0005**
Strain relief and seal + PE connection 11-15	1	**GHG 570 1907 R0006**
Anti torsion device M25	1	**GHG 570 1901 R0002**



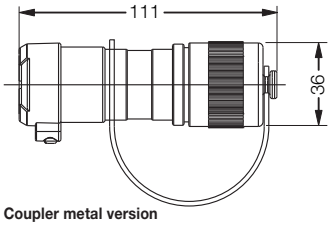
Dimension drawings eXLink 6+1-pole



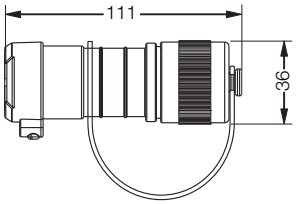
Plug metal version



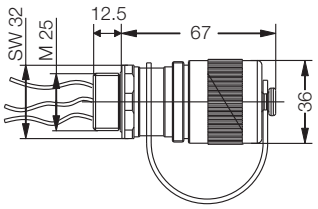
Plug plastic version



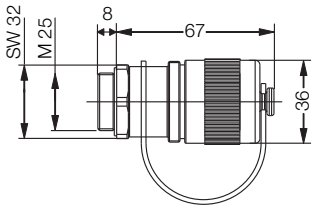
Coupler metal version



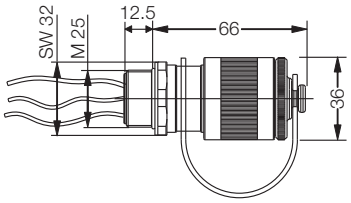
Coupler plastic version



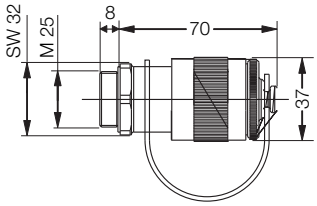
Receptacle metal version



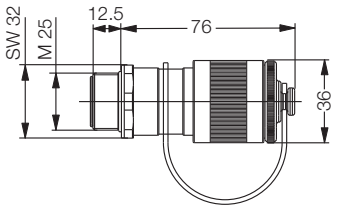
Receptacle plastic version



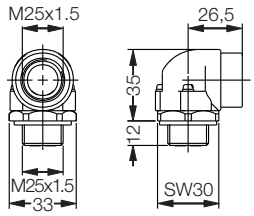
Inlet metal version: V < 2000 cm³



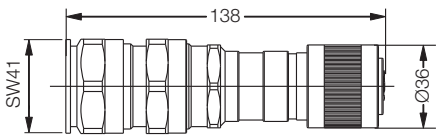
Inlet plastic version



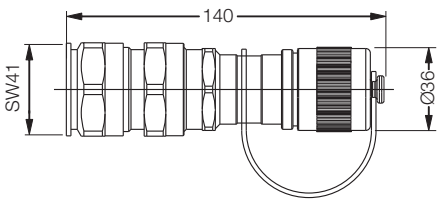
Inlet metal version: V > 2000 cm³



Elbow



Plug for armoured cable



Coupler for armoured cable

Dimensions in mm



Technical data

Y-Junction-box / Y-Adaptor		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC T6/T5 / Ⓔx II 2D Ex tD A21 T80 °C/ T95 °C
EC-Type Examination Certificate		PTB 05 ATEX 1084
IECEx-Certificate of Conformity		IECEx BKI 06.0005X
Marking accd. to IECEx		Ex ed IIC T6 / Ex ia/ib IIC T6
		Ex tD A21 IP66 T52 °C
Permissible ambient temperature		– 20 °C up to + 40 °C
Store temperature in original wrapping		– 55 °C up to + 80 °C
Rated voltage		AC up to 250 V, 50/60 Hz / DC up to 60 V
Rated current		
with terminal block		AC - max. 9.3 A DC - max. 2.5 A
without terminal block		AC - max. 10.0 A DC - max. 2.5 A
Frequency range		0-100 MHz, fast Ethernet compatible
Transmission performance acc. to TIA/EIA-568-B.2		Category 5e up to 100 Mbaud
External back-up fuse max. without thermal protection		10 A
External back-up fuse max. with thermal protection		20 A gL
Breaking capacity acc. to EN 61 984:		AC - 250 V / 10.0 A DC - 60 V/ 2.5 A
Rated making/rated breaking capacity	AC-3	U_e 250 V / I_e 1.0 A
acc. to EN 60 947-4	DC-3	U_e 60 V / I_e 0.5 A
Insulation class acc. EN 60598		II / I
Wire cross section Y-junction box		
multi wire		0.34 mm^2 - 1.5 mm^2
extra fine wire		0.34 mm^2 - 0.75 mm^2
Cable entry Y-adaptor		Ø 4 - 7.5 mm / Ø 7.5 - 11 mm
Degree of protection EN 60529		IP66/IP68 with closed and locked protective caps
		or duly plugged and locked components
Enclosure material		Polyamide (PA)

Y-junction-box

2 x cable glands



Inlet or receptacle

Y-Adaptor

3 x Inlet or receptacle



Ordering key Y-junction-box

7. Diameter of connection cable[1)]

1 = 4.0 – 7.5 mm
2 = 7.5 – 11 mm

GHG 57X X6XX RXX0X

1. Pole No.	2. Type	4. Coding	5. Material[1)]	6. Locking device
5 = 4-pole	1 = Y-junction box inlet with cable entry	01 = 1 h	0 = eXLink in plastic version	0 = without
6 = 4-pole + PE	2 = Y-junction box receptacle with cable entry	02 = 2 h	1 = eXLink in stainless steel version	9 = with
		04 = 4 h	3 = eXLink in nickel-plated brass version	
		05 = 5 h		
		06 = 6 h		
		08 = 8 h		
		10 = 10 h		
		12 = 12 h		

[1)] Enclosure material made of plastic (PA)

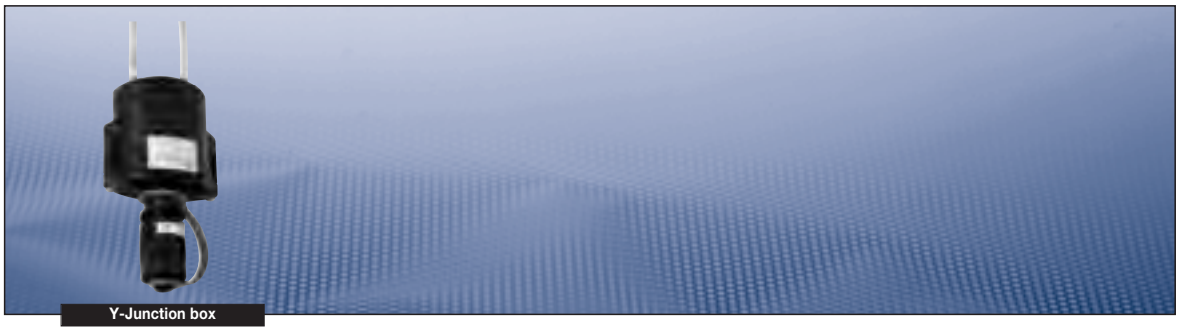
Ordering key Y-Adaptor

GHG 57X XXXXX RXXXX

1. Pole No.	2. Type	3. Coding	4. Material[1)]	5. Locking device
5 = 4-pole	8 = Y-Adaptor	Pos. A - B - C: 01 = 1 h	0 = eXLink in plastic version	0 = without
6 = 4-pole + PE	Inlet (A)	Pos. A - B - C: 02 = 2 h	1 = eXLink in stainless steel version	1 = A / – / –
	Receptacle (B)	Pos. A - B - C: 04 = 4 h	3 = eXLink in nickel-plated version	2 = – / B / –
	Receptacle (C)	Pos. A - B - C: 05 = 5 h		3 = – / – / C
	9 = Y-Adaptor	Pos. A - B - C: 06 = 6 h		4 = A / B / C
	Receptacle (A)	Pos. A - B - C: 08 = 8 h		5 = A / B / –
	Inlet (B)	Pos. A - B - C: 10 = 10 h		6 = A / – / C
	Receptacle (C)	Pos. A - B - C: 12 = 12 h		7 = – / B / C

[1)] Enclosure material made of plastic (PA)

All versions with protective caps


Y-Junction box

7. Diameter of connection cable[1)]
- 1 = 4.0 – 7,5 mm
- 2 = 7.5 – 11 mm

GHG 57X X6XX RXX0X

1. Pole No.	2. Type	4. Coding	5. Material[1)]	6. Locking device
5 = 4-pole	1 = Y-Junction box inlet with cable entry	01 = 1 h	0 = eXLink in plastic version	0 = without
6 = 4-pole + PE	2 = Y-Junction box receptacle with cable entry	02 = 2 h	1 = eXLink in stainless steel version	9 = with
		04 = 4 h	3 = eXLink in nickel-plated brass version	
		05 = 5 h		
		06 = 6 h		
		08 = 8 h		
		10 = 10 h		
		12 = 12 h		

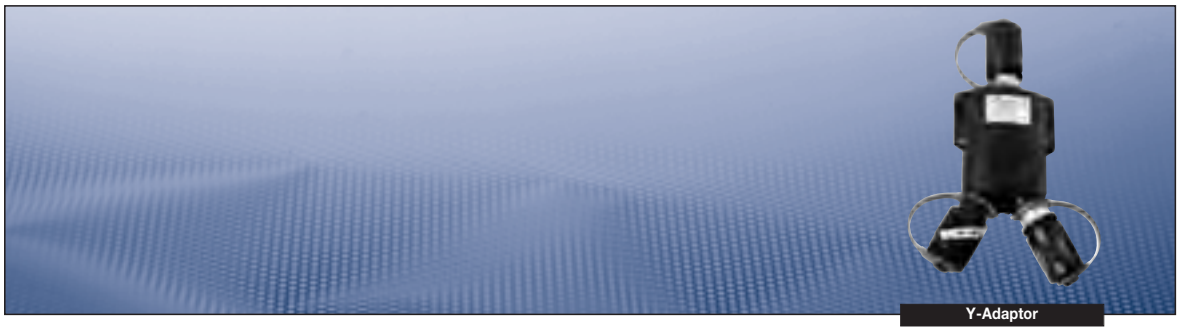
All versions with protective caps

[1)] Enclosure material made of plastic (PA)

Ordering details Y-Junction-box

Voltage	No. of poles	Coding	Connection	Diameter of connection cable 4.0 – 7.5 mm Order No.	Diameter of connection cable 7.5 – 11 mm Order No.
Y-Junction-box with eXLink inlet made of plastic version					
Ethernet/Bus	4-pol + PA	1 h	Cage clamp 1.5 mm²	**GHG 576 1601 R0001**	**GHG 576 1601 R0002**
110 V AC	2-pol + PE	4 h	Cage clamp 1.5 mm²	**GHG 575 1604 R0001**	**GHG 575 1604 R0002**
110 V AC	2-pol + PE	4 h	Cage clamp 2.5 mm²	**GHG 575 1604 R0001**	**GHG 575 1604 R0002**
24 V DC	4-pol + PA	5 h	Cage clamp 1.5 mm²	**GHG 576 1605 R0001**	**GHG 576 1605 R0002**
24 V DC	4-pol + PA	5 h	Cage clamp 2.5 mm²	**GHG 576 1605 R0001**	**GHG 576 1605 R0002**
230 V AC	2-pol + PE	6 h	Cage clamp 1.5 mm²	**GHG 575 1606 R0001**	**GHG 575 1606 R0002**
230 V AC	2-pol + PE	6 h	Cage clamp 2.5 mm²	**GHG 575 1606 R0001**	**GHG 575 1606 R0002**
24 V DC	4-pol	8 h	Cage clamp 1.5 mm²	**GHG 575 1608 R0001**	**GHG 575 1608 R0002**
24 V DC	4-pol	8 h	Cage clamp 2.5 mm²	**GHG 575 1608 R0001**	**GHG 575 1608 R0002**
230 V AC	4-pol + PE	10 h	Cage clamp 1.5 mm²	**GHG 576 1610 R0001**	**GHG 576 1610 R0002**
230 V AC	4-pol + PE	10 h	Cage clamp 2.5 mm²	**GHG 576 1610 R0001**	**GHG 576 1610 R0002**
24 V AC	2-pol + PE	12 h	Cage clamp 1.5 mm²	**GHG 575 1612 R0001**	**GHG 575 1612 R0002**
24 V AC			2.5 mm²	**GHG**	
Y-Junction-box with eXLink inlet made of stainless steel version					
Ethernet/Bus	4-pol + PA	1 h	Cage clamp 1.5 mm²	**GHG 576 1601 R1001**	**GHG 576 1601 R1002**
110 V AC	2-pol + PE	4 h	Cage clamp 1.5 mm²	**GHG 575 1604 R1001**	**GHG 575 1604 R1002**
110 V AC	2-pol + PE	4 h	Cage clamp 2.5 mm²	**GHG 575 1604 R1001**	**GHG 575 1604 R1002**
24 V DC	4-pol + PA	5 h	Cage clamp 1.5 mm²	**GHG 576 1605 R1001**	**GHG 576 1605 R1002**
24 V DC	4-pol + PA	5 h	Cage clamp 2.5 mm²	**GHG 576 1605 R1001**	**GHG 576 1605 R1002**
230 V AC			1.5 mm²	**GHG**	
Y-Junction-box receptacle made of plastic version					
Ethernet/Bus	4-pol + PA	1 h	Cage clamp 1.5 mm²	**GHG 576 2601 R0001**	**GHG 576 2601 R0002**
110 V AC	2-pol + PE	4 h	Cage clamp 1.5 mm²	**GHG 575 2604 R0001**	**GHG 575 2604 R0002**
110 V AC	2-pol + PE	4 h	Cage clamp 2.5 mm²	**GHG 575 2604 R0001**	**GHG 575 2604 R0002**
24 V DC	4-pol + PA	5 h	Cage clamp 1.5 mm²	**GHG 576 2605 R0001**	**GHG 576 2605 R0002**
24 V DC	4-pol + PA	5 h	Cage clamp 2.5 mm²	**GHG 576 2605 R0001**	**GHG 576 2605 R0002**
230 V AC			1.5 mm²	**GHG**	

Example


Y-Adaptor

GHG 57X XXXXX RXXXX

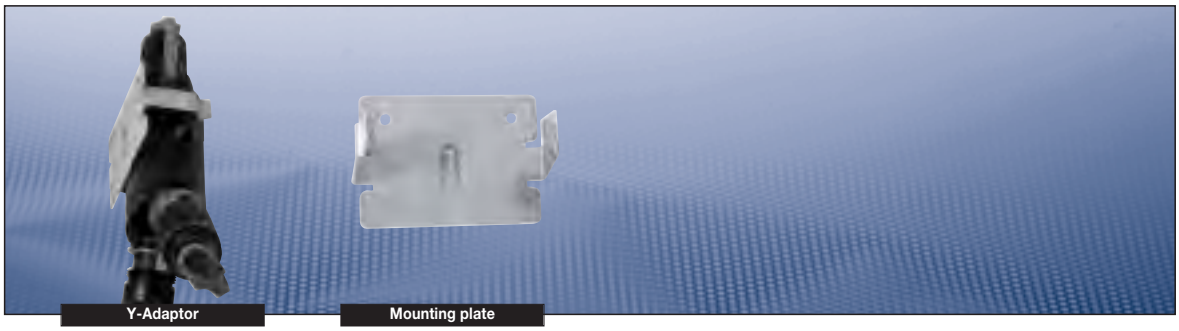
1. Pole No.	2. Type	3. Coding	4. Material	5. Locking device
5 = 4-pole	8 = Y-Adaptor with	Pos. A - B - C: 01 = 1 h	0 = eXLink in	0 = without
6 = 4-pole + PE	Inlet (A)	Pos. A - B - C: 02 = 2 h	plastic	1 = A / – / –
	Receptacle (B)	Pos. A - B - C: 04 = 4 h	version	2 = – / B / –
	Receptacle (C)	Pos. A - B - C: 05 = 5 h	1 = eXLink in	3 = – / – / C
	9 = Y-Adaptor with	Pos. A - B - C: 06 = 6 h	stainless	4 = A / B / C
	Receptacle (A)	Pos. A - B - C: 08 = 8 h	steel version	5 = A / B / –
	Inlet (B)	Pos. A - B - C: 10 = 10 h	3 = eXLink in	6 = A / – / C
	Receptacle (C)	Pos. A - B - C: 12 = 12 h	nickel-plated	7 = – / B / C
			version	

All versions with protective caps

Ordering details Y-Adaptor

Voltage	No. of poles	Coding	Pos. A/Pos. B – Pos. C Inlet/receptacle-receptacle Order No.	Pos. A/Pos. B – Pos. C Receptacle/inlet-receptacle Order No.
Y-adaptor with eXLink 4-pole/4-pole + PE components made of plastic				
Ethernet/Bus	4-pol. + PA	1 h	**GHG 576 80101 R0100**	**GHG 576 90101 R0100**
110 V AC	2-pol. + PE	4 h	**GHG 575 80404 R0400**	**GHG 575 90404 R0400**
24 V DC	4-pol. + PA	5 h	**GHG 576 80505 R0500**	**GHG 576 90505 R0500**
230 V AC	2-pol. + PE	6 h	**GHG 575 80606 R0600**	**GHG 575 90606 R0600**
24 V DC	4-pol.	8 h	**GHG 575 80808 R0800**	**GHG 575 90808 R0800**
230 V AC	4-pol. + PE	10 h	**GHG 576 81010 R1000**	**GHG 576 91010 R1000**
24 V AC			**GHG 57[illegible] R1200**	
Y-adaptor with eXLink 4-pole/4-pole + PE components made of stainless steel				
Ethernet/Bus	4-pol. + PA	1 h	**GHG 576 80101 R0110**	**GHG 576 90101 R0110**
110 V AC	2-pol. + PE	4 h	**GHG 575 80404 R0410**	**GHG 575 90404 R0410**
24 V DC	4-pol. + PA	5 h	**GHG 576 80505 R0510**	**GHG 576 90505 R0510**
230 V AC	2-pol. + PE	6 h	**GHG 575 80606 R0610**	**GHG 575 90606 R0610**
24 V DC	4-pol.	8 h	**GHG 575 80808 R0810**	**GHG 575 90808 R0810**
230 V AC	4-pol. + PE	10 h	**GHG 576 81010 R1110**	**GHG 576 91010 R1110**
24 V AC			**GHG 57[illegible] R1210**	
Y-Adapter with eXLink 4-pole/4-pole + PE components made of nickel-plated brass				
Ethernet/Bus	4-pol. + PA	1 h	**GHG 576 80301 R0130**	**GHG 576 90301 R0130**
110 V AC	2-pol. + PE	4 h	**GHG 575 80404 R0430**	**GHG 575 90404 R0430**
24 V DC	4-pol. + PA	5 h	**GHG 576 80505 R0530**	**GHG 576 90505 R0530**
230 V AC	2-pol. + PE	6 h	**GHG 575 80606 R0630**	**GHG 575 90606 R0630**
24 V DC	4-pol.	8 h	**GHG 575 80808 R0830**	**GHG 575 90808 R0830**
230 V AC	4-pol. + PE	10 h	**GHG 576 83030 R1130**	**GHG 576 93030 R1130**
24 V AC			**GHG 57[illegible] R1230**	

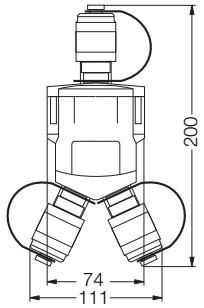
Example



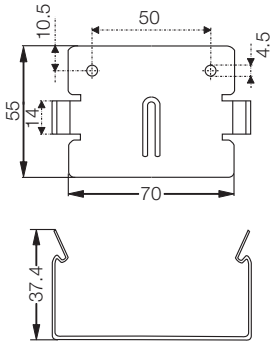
Accessories

Type	OU	Version 3+PE	4 pol.	4+PE	Order No.
Plastic protection cap connector/receptacle	1	X	X	X	**GHG 570 1903 R0001**
Plastic protection cap plug/inlet	1	X	X	X	**GHG 570 1903 R0002**
Brass protection cap connector/receptacle	1	X	X	X	**GHG 570 1903 R0003**
Brass protection cap plug/inlet	1	X	X	X	**GHG 570 1903 R0004**
Strain relief and seal 4 - 7.5 mm	1	X	X	X	**GHG 570 1907 R0001**
Strain relief and seal 7.5 - 11 mm	1	X	X	X	**GHG 570 1907 R0002**
Mounting plate	1	X	X	X	**GHG 570 1914 R0001**

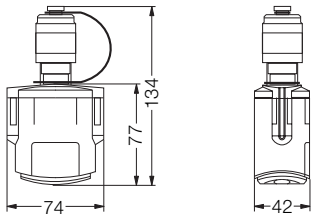
Dimension drawings



Y-Adaptor



Mounting plate



Y-Junction box

Dimensions in mm


eXLink®
safe solutions

INSTALLATION TECHNOLOGY MADE EASY –

Pre-assembled branching/terminal boxes for Zone 1 and Zone 21

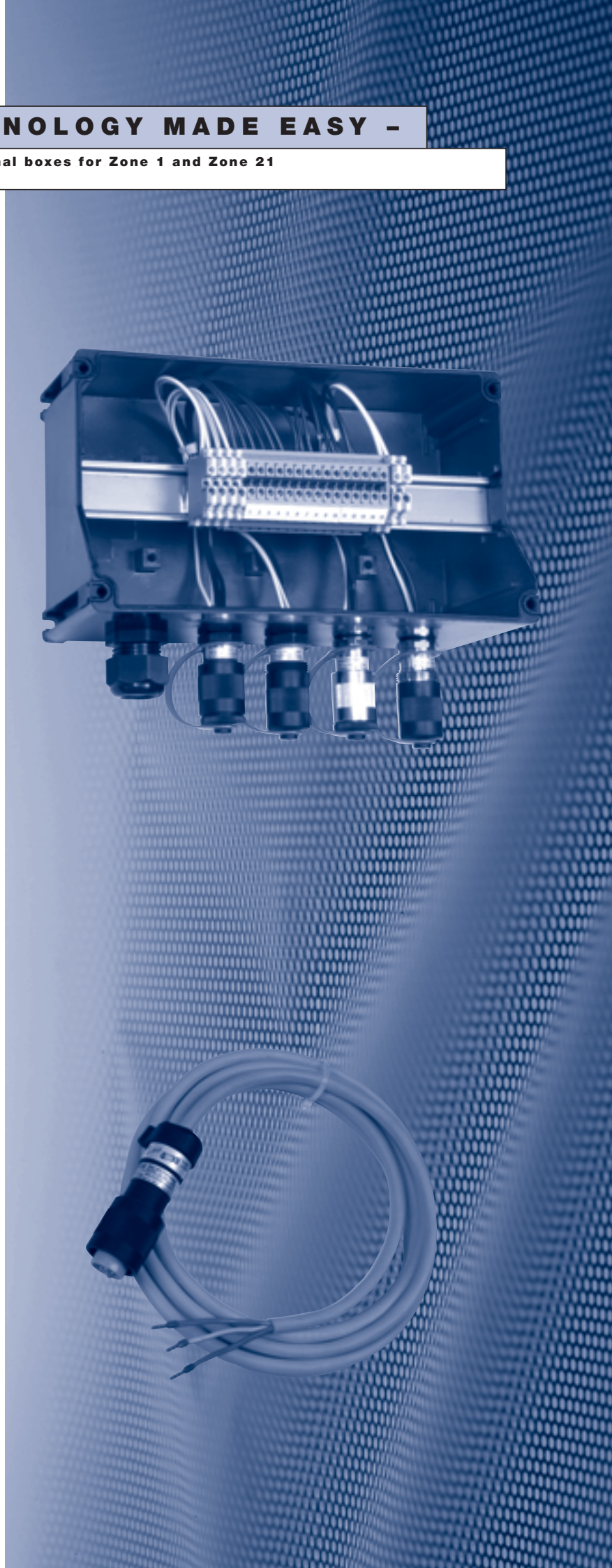
Each user can enjoy the benefits of the **eXLink** with the pre-assembled branching boxes without having to first perform additional wiring work.

Typical applications such as energy distribution, power supply for modules or bus technology can be performed at a reasonable price. For example, a control unit can be quickly and safely connected to a pre-assembled **eXLink** branching box and disconnected using **eXLink** plugs, leading to cost and time savings during service- and repair work. An additional switch is no longer required.

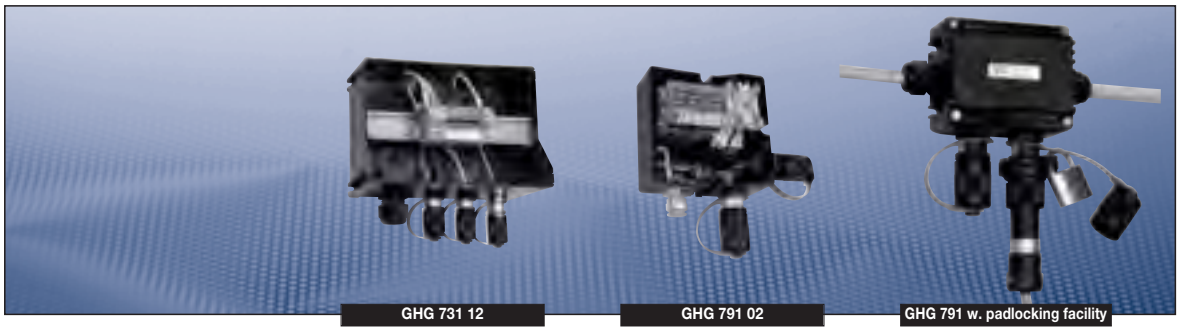
All connectors can be plugged or disconnect during operation (“hot swap”).

If terminal boxes are used for distributing bus cables, these can also be plugged during operation "hot swap" with **eXLink.** No re-boot or shut-down of the system is necessary. This makes diagnosis or re-configuration much easier. There is no need to waste time isolating devices, and possibly having to shut down a machine in the process.

Cables with **eXLink** plugs and coupler can be ordered ready made according your requirements in different lengths and versions. This is a tremendous cost reduction factor for your commissioning of the system. You can plug together all necessary bus lines, power supply systems and monitoring lines without commissioning of cables, terminals and connectors. No additional cost for re-assembling of cables, re-wiring of connections and testing procedures will arise.



- **Hot swap**
- **Customized solutions**
- **Pre-assembled eXLink connectors wired on terminals**
- **for all standard connection types up to 7-pole**
- **Nominal current up to 16 A per connector**
- **Compatible with Ethernet® and Fast Ethernet®-Bus**



GHG 731 12 | GHG 791 02 | GHG 791 w. padlocking facility

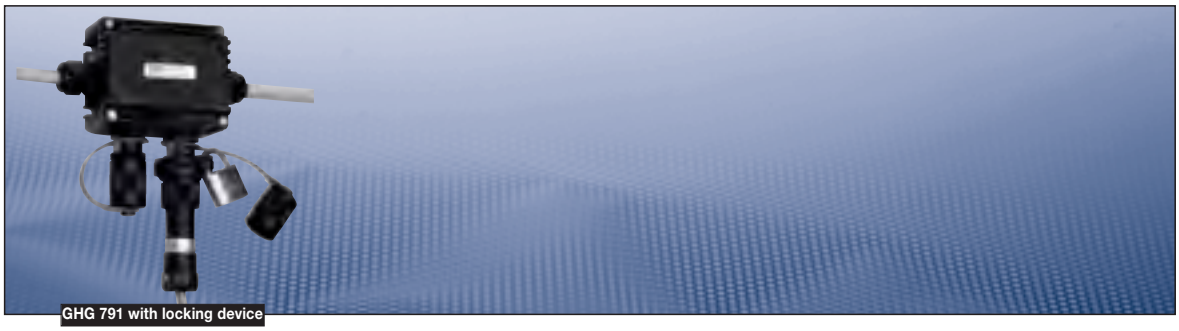
Technical data

Type 791 01 | Type 791 02	
Marking to 94/9/EC	Ex II 2 G Ex dem ia IIC T6
	Ex II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 00 ATEX 3108
Permissible ambient temperatur	–20 °C to +40 °C
	–55 °C to +40 °C (option)
Rated voltage	690 V / 250 V eXLink
Rated current	limited by terminal arrangement and eXLink
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure material	Polyamide

Type 791 01	
Connecting terminals	up to 4 mm²
Cable glands/enclosure drilling	max. 2 x M25 or 1 x M25 + 2 x M12
Dimensions (L x W x H)	81.5 x 100 x 61 mm
Weight	approx. 0.5 kg

Type 791 02	
Connecting terminals	up to 6 mm²
Cable glands/enclosure drilling	max. 2 x M25 or 1 x M32 + 1 x M25 or 1 x M25 + 4 x M12
Dimensions (L x W x H)	117.5 x 113.5 x 73.5 mm
Weight	approx. 0.7 kg

Type 731 11	
Marking to 94/9/EC	Ex II 2 G Ex de ia/ib [ia/ib] m IIC T4
	Ex II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1044
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	690 V / 250 V eXLink
Rated current	limited by terminal arrangement and eXLink
Connecting terminals	up to 16 mm²
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure material	Glass-fibre reinforced polyester
Dimensions (L x W x H)	140 x 120 x 95 mm
Weight	approx. 1.2 kg

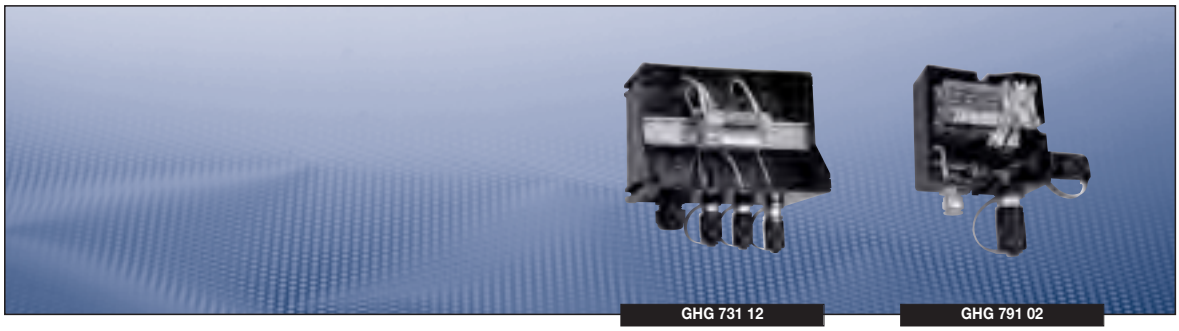


GHG 791 with locking device

Ordering details

Coding Hour	Components	Cable gland	Terminals	Order No.
Ordering details for ready made, prewired terminal boxes GHG 791 01				
230 V AC 10h	2 x Receptacle GHG 574 8110 R000x	2 x M20	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5006**
230 V AC 10h	2 x Receptacle GHG 574 8110 R300x	2 x M20	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5106**
24 V DC 08h	1 x Receptacle GHG 571 8108 R000x	2 x M20 1 x M20 screw plug	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5201**
24 V DC 08h	1 x Receptacle GHG 571 8108 R000x	1 x M20	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5202**
230 V AC 10h	1 x Receptacle GHG 574 8110 R000x	1 x M25	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5203**
24 V AC 12h	1 x Receptacle GHG 571 8212 R000x	1 x M20	2 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5204**
230 V AC 06h	1 x Receptacle GHG 571 8106 R000x	2 x M20 1 x M20 screw plug	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5206**
24 V DC 08h	1 x Receptacle GHG 571 8208 R000x	2 x M20 1 x M20 screw plug	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5208**
230 V AC 10h	1 x Receptacle lockable GHG 574 8110 R090x	1 x M25	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5210**
24 V AC 12h	1 x Receptacle GHG 571 8112 R000x	1 x M20 1 x M20 screw plug	2 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5212**
24 V DC 08h	1 x Receptacle GHG 571 8108 R000x	1 x M20	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5213**
230 V AC 06h	1 x Receptacle GHG 571 8106 R000x	1 x M20	2 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5214**
24 V DC 05h	1 x Receptacle GHG 574 8105 R000x	1 x M25	6 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5215**
230 V AC 06h	1 x Receptacle GHG 571 8106 R000x	1 x M20	2 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5216**
24 V DC 08h	1 x Receptacle GHG 571 8208 R000x	1 x M25	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5217**
24 V DC 08h	1 x Inlet GHG 571 9108 R300x	2 x M12	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5218**
230V AC 06h	1 x Inlet GHG 571 9106 R000x	1 x M20	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5219**
BUS Ex-i 02h	1 x Receptacle GHG 571 8102 R300x	1 x M20 Ex-i	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5220**
BUS Ex-i 08	1 x Receptacle GHG 571 8108 R300x	1 x M20 Ex-i	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5221**
24V DC 08h	1 x Inlet GHG 571 9108 R000x	1 x M20	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5222**
24V DC 05h	1 x Inlet GHG 574 9105 R000x	2 x M16	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5223**
BUS Ex-i 08	1 x Receptacle GHG 571 8108 R000x	1 x M20 Ex-i	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5224**

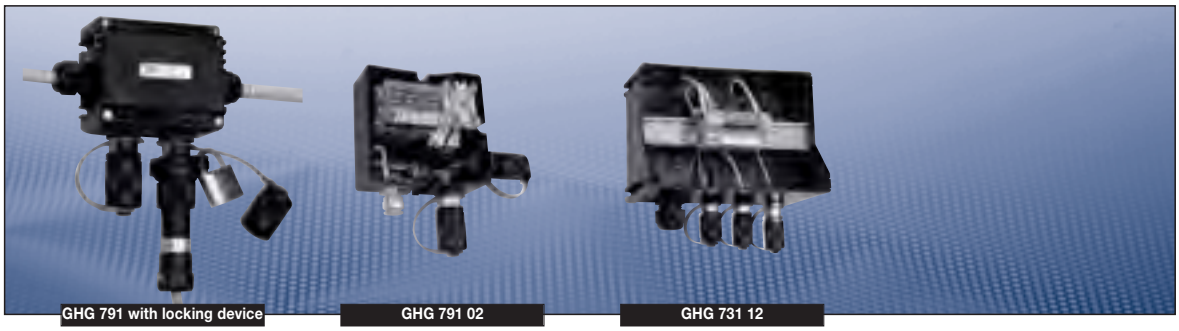
Other types on request



Ordering details

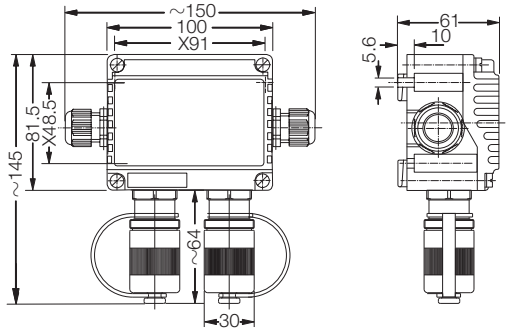
Coding Hour	Components	Cable gland	Terminals	Order No.
Ordering details for ready made, prewired terminal boxes GHG 791 01				
02h / 08h	1 x Receptacle GHG 571 8102 R300x 1 x Receptacle GHG 571 8108 R300x	2 x M20	8 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5226**
BUS 02h	1 x Receptacle GHG 571 8102 R000x	2 x M20 1 x M20 screw plug	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5227**
BUS Ethernet 01h	1 x Receptacle GHG 574 8101 R000x 1 x plug (enclosed) GHG5747101R0001	1 x M12	2 x 2.5 mm² 1 x PE/PA	**GHG 791 0101 R5228**
Ordering details for ready made, prewired terminal boxes GHG 791 02				
230 V AC 06h	3 x Receptacle GHG 571 8106 R 000x	1 x M25	5 x 2.5 mm² 2 x PE/PA	**GHG 791 0201 R5001**
24 V DC 08h 24 V DC 12h	1 x Receptacle GHG 571 8108 R000x 1 x Receptacle GHG 571 8112 R000x	1 x M20 Ex-i	12 x 2.5 mm² 1 x PE/PA	**GHG 791 0201 R5002**
230 V AC 10h	1 x Receptacle GHG 574 8210 R000x	3 x M25	12 x 2.5 mm² 2 x PE/PA	**GHG 791 0201 R5003**
230 V AC 10h	1 x Receptacle GHG 574 8210 R000x	1 x M25 1 x M25 screw plug	4 x 2.5 mm² 1 x PE/PA	**GHG 791 0201 R5004**
230 V AC 06h	2 x Receptacle GHG 571 8106 R000x	2 x M20 trompet shape 2 x M20 screw plug	6 x 2.5 mm² 2 x PE/PA	**GHG 791 0201 R5005**
230 V AC 10h	2 x Receptacle GHG 574 8110 R300x	2 x M25	8 x 2.5 mm² 2 x PE/PA	**GHG 791 0201 R5006**
230 V AC 06h	2 x Receptacle GHG 571 8206 R000x	2 x M25	4 x 2.5 mm² 2 x PE/PA	**GHG 791 0201 R5007**
24 V DC 08h	1 x Receptacle GHG 572 8108 R300x	2 x M16	12 x 2.5 mm² 2 x PE/PA	**GHG 791 0201 R5008**
24V AC 12h	1 x Receptacle GHG 571 8112 R000x 1 x Receptacle GHG 572 8112 R000x	1 x M20 1 x M25	8 x 2.5 mm² 1 x PE/PA	**GHG 791 0201 R5009**
24V DC 08h	1 x Receptacle GHG 571 8108 R000x	1 x M16 Ex-i 1 x M16 screw plug 1 x M20 Ex-i	6 x 2.5 mm² 1 x PE/PA	**GHG 791 0201 R5011**
Ordering details for ready made, prewired terminal boxes GHG 731 12				
24 V DC 8h	3 x Receptacle GHG 571 8108 R000x	1 x M25 Ex-i	12 x 2.5 mm²	**GHG 731 1201 R5001**
230 V AC 6h 230 V AC 10h	1 x Inlet GHG 574 9103 R000x 1 x Inlet GHG 574 9110 R000x	2 x M20	8 x 2.5 mm² 2 x PE/PA	**GHG 731 1201 R5002**

Other types and sizes on request

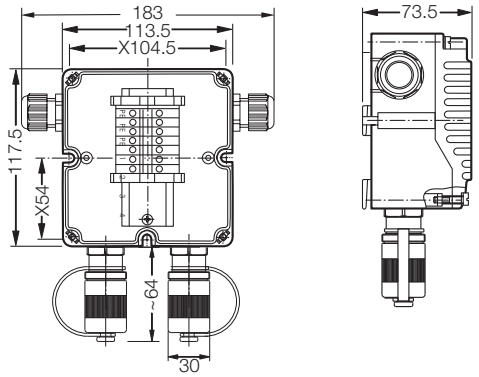


GHG 791 with locking device | GHG 791 02 | GHG 731 12

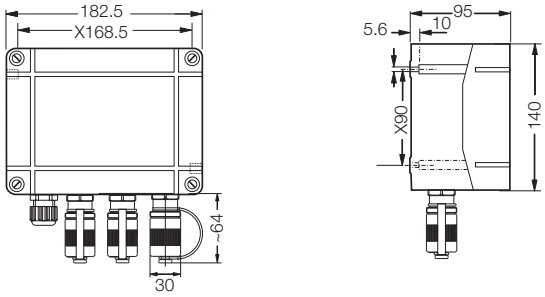
Dimension drawings eXLink



Type 791 01



Type 791 02



Type 731 12

X = fixing dimensions

Dimensions in mm


eXLink®
safe solutions

MULTI PURPOSE TERMINAL

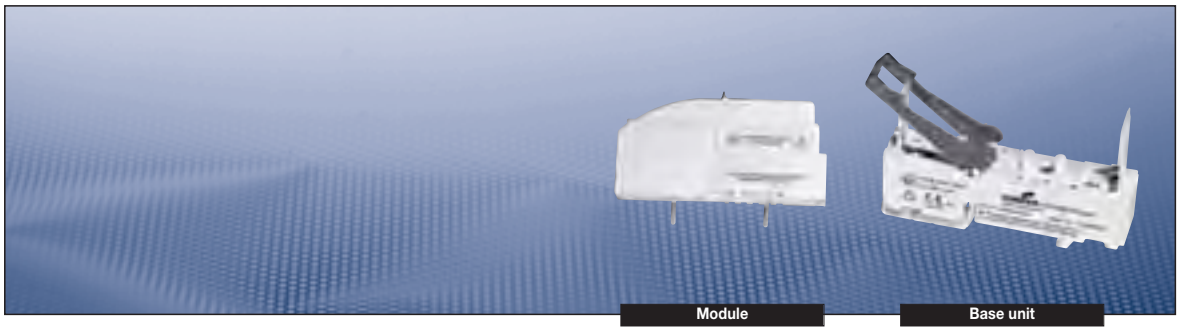
Multi Purpose Terminal more power for Zone 1

Neither sparks nor hot surfaces may cause explosion hazards in areas where flammable gases, vapours, or mists may occasionally exist. Electrical apparatus for use in these areas must contain protection methods to prevent this. In the past this meant that you had to obtain a hot work permit when you wanted to carry out maintenance work on these circuits. Alternatively the circuits would have to be intrinsically safe. The new multi purpose terminal employs a 2-step removal process to ensure that possible high energy sparks will be kept inside the flame proof enclosure of the terminals. The red removal lever of the terminals (see photo) separates the electrical circuits. The metal pins of the module remain within the flame proof area until the module is removed manually. At this point sparks will have been extinguished already and the module will be volt free.

Common Data
maximum voltage 400 V
maximum current 6.3 A
permissible wire diameter 0.8 ... 2.5 mm²



- **Hot Swap in Zone 1 or Zone 2**
- **More power without hot work permits**
- **Applications:**
  fusing of Ex-d valves, signal lamps, sounders etc.
  can be fitted with simple 2-pole or 4-pole components such as resistors, fuses, relays etc.
  diode separation of supply circuits
  simple OR gate for Zone 1 mounting
  visible disconnect of field devices
  relay switch for power circuits
  Bus termination
  current limitation
  opto coupler etc.
- **Time savings during maintenance**
- **International approvals**



Technical data

Model ExTerm	
Marking to 94/9/EC	Ⓔx II G Ex de IIC
EC-Type Examination Certificate	PTB 04 ATEX 1007 U
Application temperature[1)]	–55 °C up to +55 °C
Rated voltage	400 V
Rated current	6.3 A
Rated cross section	max. 2.5 mm²
Dimensions (L x W x H)	93 x 17.5 x 80 mm
Weight	115 g
Contact material	gold-plated
	silver alloy
	nickel plated brass

Model ExTerm – R | ExTerm – 2R Resistor	
Resistance range	1 Ω ... 22 MΩ 0.5 W

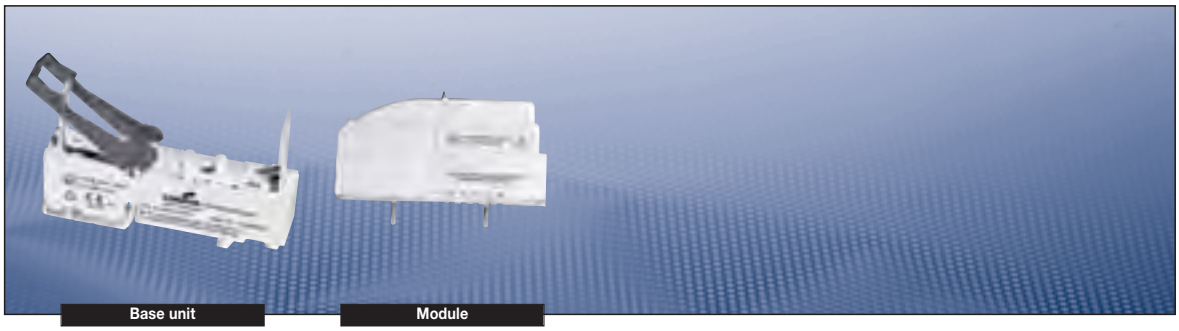
Model ExTerm – T-Terminator for foundation Fieldbus or Profibus PA	
Fieldbus	Foundation Fieldbus (Profibus PA) IEC 1158-2 (Profibus MBP)

Model ExTerm – K Relays	
Rated switching capability (ohmic load)	6 A, 250 V AC
Max. switched load	1500 VA
Max. switched voltage	400 V AC
	300 V DC
Max. switched current	6 A (AC)
Contact resistance at 6 V - 1 A	100 mΩ
Coil turn on power (at 25 °C, 50 % humidity)	170 mW
Isolation resistance	min. 1000 mΩ at 500 V DC
Isolation voltage	1000 Vms between contacts
	4000 Vms between contacts and coil
Response time	ca. 5 ms, max. 8 ms
Off delay	ca. 2.5 ms, max. 4 ms
Life expendency mechachical	5 x 10^6
Life expendency electrical	Normally open contact: 5 x 10^4
	Normally closed contact: 3 x 10^4
Contact material	Silver alloy

Model ExTerm – F Fuse	
Fuse rating	see table

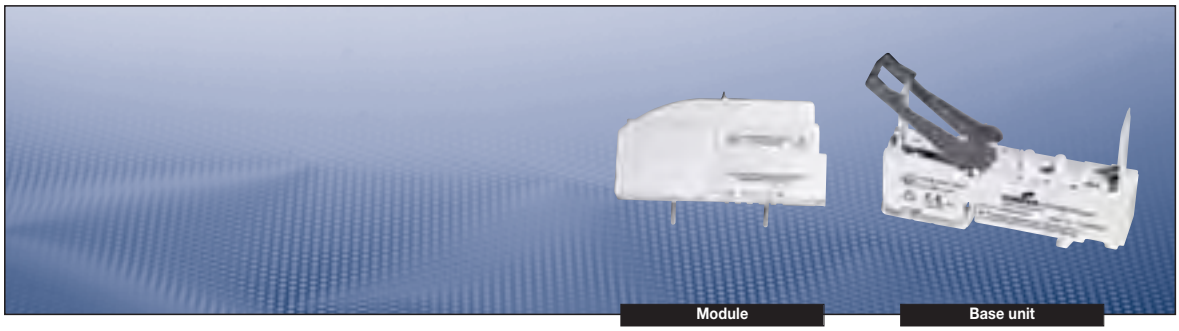
Model ExTerm – D Diode	
Diode rating	1 A, 250 V

[1)] depends on installation conditions



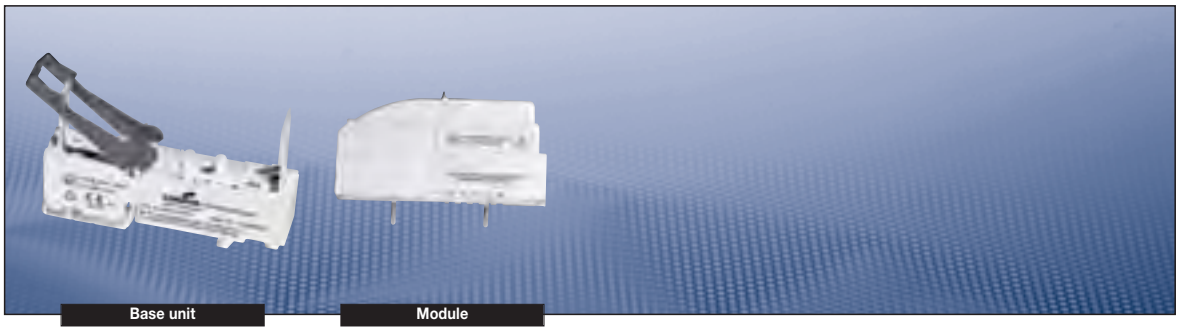
Ordering details

Resistor values	Module	Base unit	Min. order quantity	Order No.
1 x 1 R 00	X		25	**GHG 101 0031 R1001**
1 x 1 R 5	X		25	**GHG 101 0031 R1501**
1 x 2 R 21	X		25	**GHG 101 0031 R2211**
1 x 3 R 32	X		25	**GHG 101 0031 R3321**
1 x 4 R 75	X		25	**GHG 101 0031 R4751**
1 x 6 R 81	X		25	**GHG 101 0031 R6811**
1 x 10 R 0	X		25	**GHG 101 0031 R1002**
1 x 15 R 0	X		25	**GHG 101 0031 R1502**
1 x 22 R 1	X		25	**GHG 101 0031 R2212**
1 x 33 R 2	X		25	**GHG 101 0031 R3322**
1 x 47 R 5	X		25	**GHG 101 0031 R4572**
1 x 68 R 1	X		25	**GHG 101 0031 R6812**
1 x 100 R	X		1	**GHG 101 0031 R1003**
1 x 150 R	X		25	**GHG 101 0031 R1503**
1 x 221 R	X		25	**GHG 101 0031 R2213**
1 x 332 R	X		25	**GHG 101 0031 R3323**
1 x 475 R	X		25	**GHG 101 0031 R4753**
1 x 681 R	X		25	**GHG 101 0031 R6813**
1 x 1 K 0	X		25	**GHG 101 0031 R1004**
1 x 1 K 50	X		25	**GHG 101 0031 R1504**
1 x 2 K 21	X		25	**GHG 101 0031 R2214**
1 x 3 K 32	X		25	**GHG 101 0031 R3324**
1 x 4 K 75	X		25	**GHG 101 0031 R4754**
1 x 6 K 81	X		25	**GHG 101 0031 R6814**
1 x 10 K	X		1	**GHG 101 0031 R1005**
1 x 15 K	X		25	**GHG 101 0031 R1505**
1 x 22 K 1	X		25	**GHG 101 0031 R2215**
1 x 33 K 2	X		25	**GHG 101 0031 R3325**
1 x 47 K 5	X		25	**GHG 101 0031 R4755**
1 x 68 K 1	X		25	**GHG 101 0031 R6815**
1 x 100 K	X		25	**GHG 101 0031 R1006**
1 x 150 K	X		25	**GHG 101 0031 R1506**
1 x 221 K	X		25	**GHG 101 0031 R2216**
1 x 332 K	X		25	**GHG 101 0031 R3326**
1 x 475 K	X		25	**GHG 101 0031 R4756**
1 x 681 K	X		25	**GHG 101 0031 R6816**
1 x 1 M	X		25	**GHG 101 0031 R1007**
1 x 1 M 50	X		25	**GHG 101 0031 R1507**
1 x 2 M 21	X		25	**GHG 101 0031 R2217**
1 x 3 M 32	X		25	**GHG 101 0031 R3327**
1 x 4 M 75	X		25	**GHG 101 0031 R4757**
1 x 6 M 81	X		25	**GHG 101 0031 R6817**
1 x 10 M	X		25	**GHG 101 0031 R1008**
1 x 22 M 1	X		25	**GHG 101 0031 R2218**
Accessories: 2 pole base unit		X	25	**GHG 101 0002 R0001**



Ordering details

Resistor values	Module	Base unit	Min. order quantity	Order No.
2 x 1 R 00	X		1	**GHG 101 0032 R1001**
2 x 1 R 5	X		25	**GHG 101 0032 R1501**
2 x 2 R 21	X		25	**GHG 101 0032 R2211**
2 x 3 R 32	X		25	**GHG 101 0032 R3321**
2 x 4 R 75	X		25	**GHG 101 0032 R4751**
2 x 6 R 81	X		25	**GHG 101 0032 R6811**
2 x 10 R 0	X		25	**GHG 101 0032 R1002**
2 x 15 R 0	X		25	**GHG 101 0032 R1502**
2 x 22 R 1	X		25	**GHG 101 0032 R2212**
2 x 33 R 2	X		25	**GHG 101 0032 R3322**
2 x 47 R 5	X		25	**GHG 101 0032 R4572**
2 x 68 R 1	X		25	**GHG 101 0032 R6812**
2 x 100 R	X		1	**GHG 101 0032 R1003**
2 x 150 R	X		25	**GHG 101 0032 R1503**
2 x 221 R	X		25	**GHG 101 0032 R2213**
2 x 332 R	X		25	**GHG 101 0032 R3323**
2 x 475 R	X		25	**GHG 101 0032 R4753**
2 x 681 R	X		1	**GHG 101 0032 R6813**
2 x 1 K 0	X		25	**GHG 101 0032 R1004**
2 x 1 K 50	X		25	**GHG 101 0032 R1504**
2 x 2 K 21	X		25	**GHG 101 0032 R2214**
2 x 3 K 32	X		1	**GHG 101 0032 R3324**
2 x 4 K 75	X		25	**GHG 101 0032 R4754**
2 x 6 K 81	X		25	**GHG 101 0032 R6814**
2 x 10 K	X		1	**GHG 101 0032 R1005**
2 x 15 K	X		25	**GHG 101 0032 R1505**
2 x 22 K 1	X		25	**GHG 101 0032 R2215**
2 x 33 K 2	X		25	**GHG 101 0032 R3325**
2 x 47 K 5	X		25	**GHG 101 0032 R4755**
2 x 68 K 1	X		25	**GHG 101 0032 R6815**
2 x 100 K	X		25	**GHG 101 0032 R1006**
2 x 150 K	X		25	**GHG 101 0032 R1506**
2 x 221 K	X		25	**GHG 101 0032 R2216**
2 x 332 K	X		25	**GHG 101 0032 R3326**
2 x 475 K	X		25	**GHG 101 0032 R4756**
2 x 681 K	X		25	**GHG 101 0032 R6816**
2 x 1 M	X		25	**GHG 101 0032 R1007**
2 x 1 M 50	X		25	**GHG 101 0032 R1507**
2 x 2 M 21	X		25	**GHG 101 0032 R2217**
2 x 3 M 32	X		25	**GHG 101 0032 R3327**
2 x 4 M 75	X		25	**GHG 101 0032 R4757**
2 x 6 M 81	X		25	**GHG 101 0032 R6817**
2 x 10 M	X		25	**GHG 101 0032 R1008**
2 x 22 M 1	X		25	**GHG 101 0032 R2218**
Accessories: 4 pole base unit		X	1	**GHG 101 0004 R0001**



Ordering details

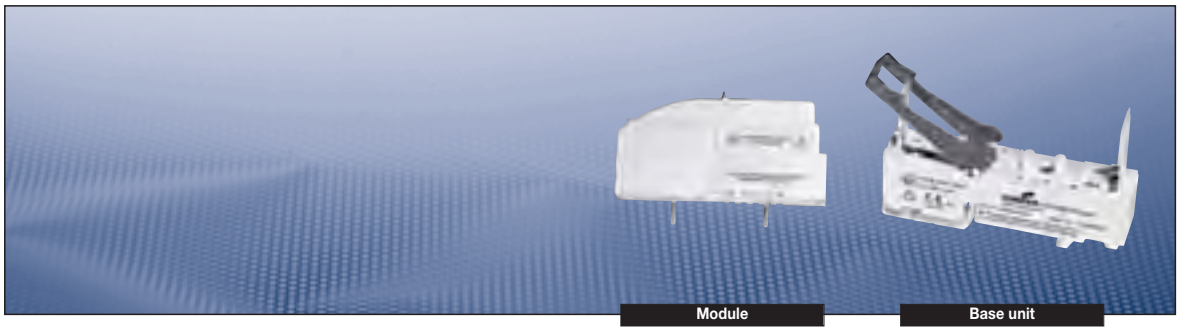
Function			Min. order quantity	Order No.
Model ExTerm – T Terminator for foundation fieldbus or profibus PA for Zone 1 or Zone 2 mounting				
ExTerm – T Bus Terminator			1	**GHG 101 0005 R0000**
Accessories: 4 pole base unit			1	**GHG 101 0004 R0001**
Model ExTerm – K relay-component				
1 NO contact			1	**GHG 101 0041 R0000**
1 NC contact			1	**GHG 101 0042 R0000**
Accessories: 4 pole base unit			1	**GHG 101 0004 R0001**
Model ExTerm – F 1 fuse (slow)				
1 x 0.032 A 2-pole	2 x 0.032 A 4-pole	1 x 0.032 A / 1 x wire 4-pole	25	**GHG 101 001_ R0032**
1 x 0.050 A 2-pole	2 x 0.050 A 4-pole	1 x 0.050 A / 1 x wire 4-pole	25	**GHG 101 001_ R0050**
1 x 0.063 A 2-pole	2 x 0.063 A 4-pole	1 x 0.063 A / 1 x wire 4-pole	25	**GHG 101 001_ R0063**
1 x 0.080 A 2-pole	2 x 0.080 A 4-pole	1 x 0.080 A / 1 x wire 4-pole	25	**GHG 101 001_ R0080**
1 x 0.100 A 2-pole	2 x 0.100 A 4-pole	1 x 0.100 A / 1 x wire 4-pole	25	**GHG 101 001_ R0100**
1 x 0.125 A 2-pole	2 x 0.125 A 4-pole	1 x 0.125 A / 1 x wire 4-pole	25	**GHG 101 001_ R0125**
1 x 0.160 A 2-pole	2 x 0.160 A 4-pole	1 x 0.160 A / 1 x wire 4-pole	25	**GHG 101 001_ R0160**
1 x 0.200 A 2-pole	2 x 0.200 A 4-pole	1 x 0.200 A / 1 x wire 4-pole	25	**GHG 101 001_ R0200**
1 x 0.250 A 2-pole	2 x 0.250 A 4-pole	1 x 0.250 A / 1 x wire 4-pole	25	**GHG 101 001_ R0250**
1 x 0.315 A 2-pole	2 x 0.315 A 4-pole	1 x 0.315 A / 1 x wire 4-pole	1	**GHG 101 001_ R0315**
1 x 0.400 A 2-pole	2 x 0.400 A 4-pole	1 x 0.400 A / 1 x wire 4-pole	25	**GHG 101 001_ R0400**
1 x 0.500 A 2-pole	2 x 0.500 A 4-pole	1 x 0.500 A / 1 x wire 4-pole	1	**GHG 101 001_ R0500**
1 x 0.630 A 2-pole	2 x 0.630 A 4-pole	1 x 0.630 A / 1 x wire 4-pole	25	**GHG 101 001_ R0630**
1 x 0.800 A 2-pole	2 x 0.800 A 4-pole	1 x 0.800 A / 1 x wire 4-pole	1	**GHG 101 001_ R0800**
1 x 1.000 A 2-pole	2 x 1.000 A 4-pole	1 x 1.000 A / 1 x wire 4-pole	1	**GHG 101 001_ R1000**
1 x 1.250 A 2-pole	2 x 1.250 A 4-pole	1 x 1.250 A / 1 x wire 4-pole	25	**GHG 101 001_ R1250**
1 x 1.600 A 2-pole	2 x 1.600 A 4-pole	1 x 1.600 A / 1 x wire 4-pole	25	**GHG 101 001_ R1600**
1 x 2.000 A 2-pole	2 x 2.000 A 4-pole	1 x 2.000 A / 1 x wire 4-pole	1	**GHG 101 001_ R2000**
1 x 2.500 A 2-pole	2 x 2.500 A 4-pole	1 x 2.500 A / 1 x wire 4-pole	1	**GHG 101 001_ R2500**
1 x 3.150 A 2-pole	2 x 3.150 A 4-pole	1 x 3.150 A / 1 x wire 4-pole	1	**GHG 101 001_ R3150**
1 x 4.000 A 2-pole		1 x 4.000 A / 1 x wire 4-pole	1	**GHG 101 001_ R4000**[1]
1 x 5.000 A 2-pole		1 x 5.000 A / 1 x wire 4-pole	1	**GHG 101 001_ R5000**[1]
1 x 6.300 A 2-pole		1 x 6.300 A / 1 x wire 4-pole	1	**GHG 101 001_ R6300**[1]

1 = 1 x Fuse
2 = 2 x Fuse
3 = 1 x Fuse, 1 x Wire

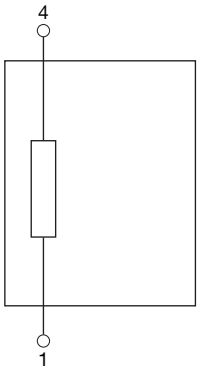
Accessories			
2-pole base unit	1 fuse	1	**GHG 101 0002 R0001**
4-pole base unit	2 fuse, 1 fuse, 1 wire	1	**GHG 101 0004 R0001**

Model ExTerm – D		
1 Diode	1	**GHG 101 0021 R0000**
Accessories: 2 pole base unit	1	**GHG 101 0002 R0001**
2 Diodes	1	**GHG 101 0022 R0000**
Accessories: 4 pole base unit	1	**GHG 101 0004 R0001**

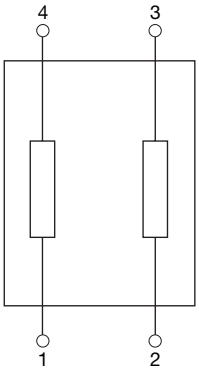
Note: Modules will be supplied without base unit.
Please order separately.
[1] not for 4.0 A, 5.0 A, 6.3 A



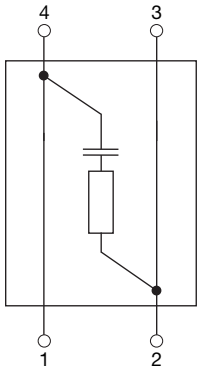
Internal wiring / Dimension drawing



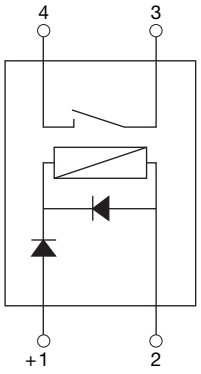
Model ExTerm – R
1 x resistor



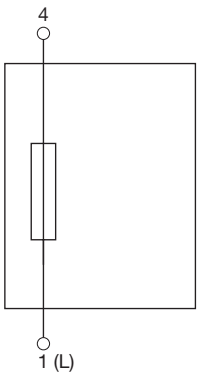
Model ExTerm – 2R
2 x resistor



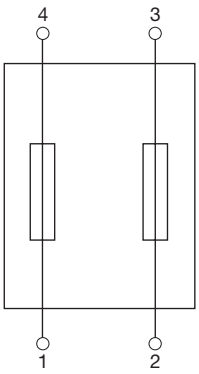
Model ExTerm – T
termination resistor



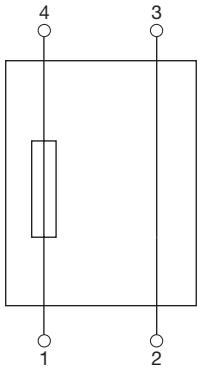
Model ExTerm – K
relay



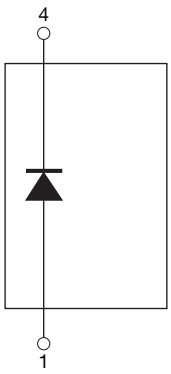
Model ExTerm – F
1 x fuse



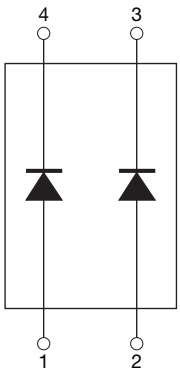
Model ExTerm – F
2 x fuse



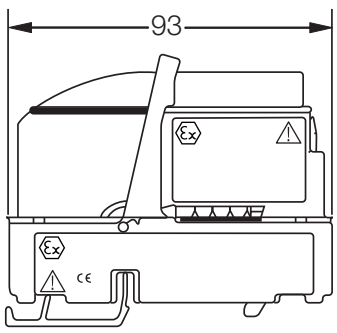
Model ExTerm – F
1 x fuse, 1 x wire

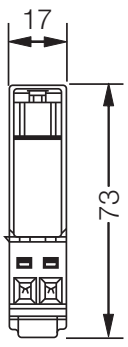


Model ExTerm – D
1 x diode



Model ExTerm – D
2 x diode





Dimensions in mm

EX-PLUGS AND RECEPTACLES

10 A to 125 A
Plastic version for Zone 1 and Zone 21

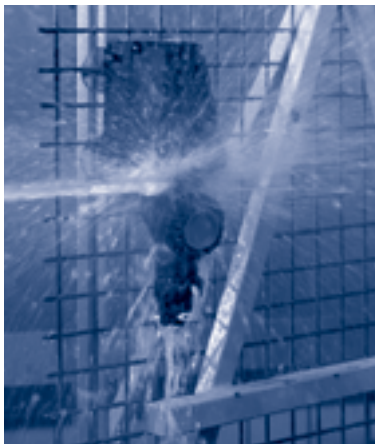


A good connection

Providing electrical energy there, where it is most needed – even in hazardous areas for the Zones 1, 2, 21 and 22.
Non-stationary electrical apparatus have generally high requirements on the energy/power supply. Robust plugs and receptacles as well as a high chemical resistance are at the first glance very important. Electrical reliability is a must not only for all connectivity products.
A high safety standard, a steady hold and faultless contacting even under vibration or the effects of an aggressive atmospheric environment are the basis for a secure and reliable utilisation
CEAG plugs and receptacles offer more, apart from the proven technology, this product series is defined by its innovative details. For example, the very efficient cable strain relief or the new coding system of the various versions offers different solutions for a secure and problem free utilization in all areas. Just to round the product off, the user in the normal industrial sector becomes exactly the same product advantages. Robust industrial versions fulfil all requirements appertaining to mechanical and chemical durability. For the stationary repair power supplying in hazardous explosive areas, there is a specially conceived version available that fulfils all the necessary safety requirements. Used in a module sense, individual solutions are no problem at all.
The CEAG wall socket for instance can be mounted on to the pre-installed mounting frame without having to use tools – installation without a hot work permit.
Apart from the plugs and receptacles for the European market, we also have plugs and sockets extra for the US market, which are in accordance to all of the necessary standards UL and safety protection systems used there. The available standard range used here, are the 20 A, 30 A, 60 A and 100 A.

International approvals.

- **Nickel-plated contacts**
- **Low insertion force**
- **Safety standard IP66 applies also in the plugged-in state**
- **Full AC-3 switching ability**
- **Self-cleaning lamellar contacts, low transition resistance**
- **All-pole on/off switching**
- **Easy plugging**

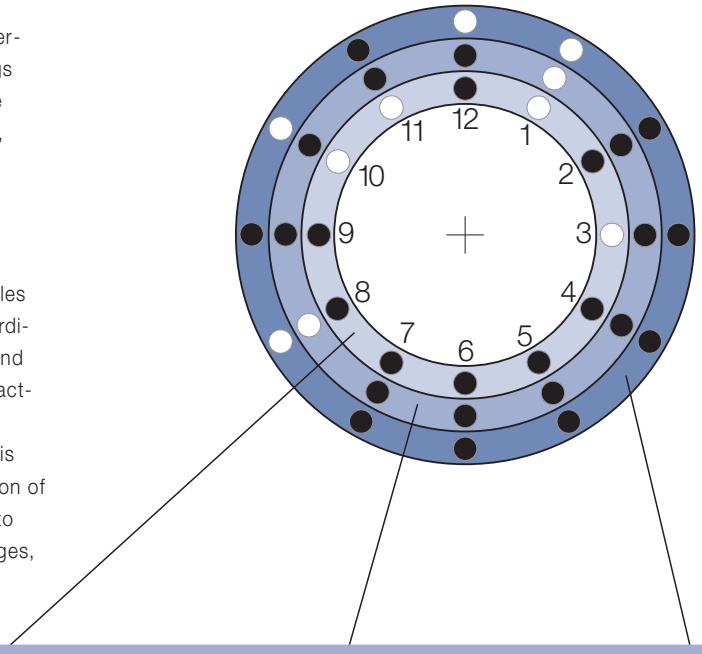


High ingress protection

The new plugs and receptacles reliably supply electrical power, even under the most difficult circumstances. From minus 20°C to plus 55°C there are no problems due to the ingress of water or dirt, because when the plug has been withdrawn, the sockets and couplers fulfil the requirements for the degree of protection IP66; and thanks to the type of bayonet ring, the degree of protection IP66 is also ensured when the plug is inserted and energized – we have tested it!

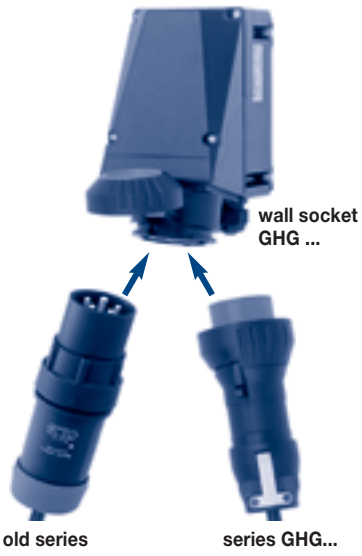
CEE plugs and receptacles

A first step towards creating an international standard for industrial plugs and receptacles was taken with the IEC 60309 and CEE Publication 17, “Requirements for Plugs and Receptacles for Industrial Use”. “IEC” stands for “INTERNATIONAL ELECTRICAL COMMISSION”. When selecting plugs and receptacles from the existing ranges for standardization, preference was given to round plugs and receptacles, as the contact-making insert can be arranged in various positions (hours of day). This allows a high degree of differentiation of plugs and receptacles with regard to the various types of currents, voltages, frequencies, etc.

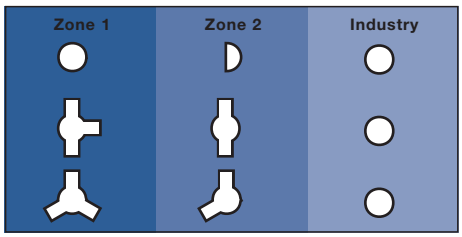


Ground pin location	Number of pins (P = Power, N = Neutral, PE = Earth or Ground)		
	2 P + PE P + N + PE	3 P + PE	3 P + N + PE
2h	>50 V, 300 - 500 Hz, only 16 A/32 A green housing	>50 V, 300 - 500 Hz, only 16 A/32 A green housing	>50 V, 300 - 500 Hz, only 16 A/32 A green housing
3h	–	380 V, 50 Hz, nur 16 A/32 A 440 V, 60 Hz, nur 16 A/32 A [1] red housing	220/380 V, 50 Hz, only 16 A/32 A 250/440 V, 60 Hz, only 16 A/32 A [1] red housing
4h	100 - 130 V, 50–60 Hz yellow housing	100 - 130 V, 50–60 Hz yellow housing	57/100 - 75/130 V, 50–60 Hz yellow housing
5h	277 V, 60 Hz grey housing	600 - 690 V, 50/60 Hz black housing	347/600 - 400/690 V, 50/60 Hz black housing
6h	200 - 250 V, 50–60 Hz blaues Gehäuse	380 - 415 V, 50/60 Hz red housing	200/346 - 240/415 V, 50/60 Hz red housing
7h	480 - 500 V, 50–60 Hz grey housing	480 - 500 V, 50/60 Hz grey housing	277/480 - 288/500 V, 50/60 Hz grey housing
8h	> 250 V Gleichspannung grey housing	–	–
9h	380 - 415 V, 50–60 Hz red housing	200 - 250 V, 50/60 Hz blue housing	120/208 - 144/250 V, 50/60 Hz blue housing
10h	–	> 50 V, 100 - 300 Hz green housing	–
11h	–	440 - 460 V, 60 Hz [2] red housing	250/400 - 265/460 V, 60 Hz [2] red housing
12h	50 - 60 Hz [3] grey housing	50/60 Hz [3] grey housing	–

[1] for reefer container; [2] for ships; [3] Output of an isolation transformer with more than 50V



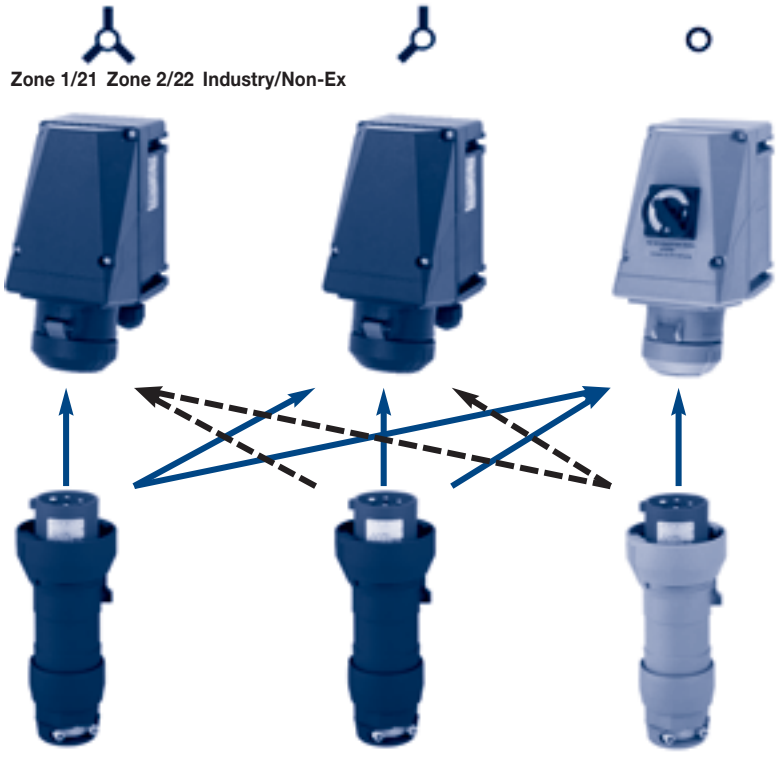


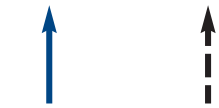


Coding of the plugs and receptacles

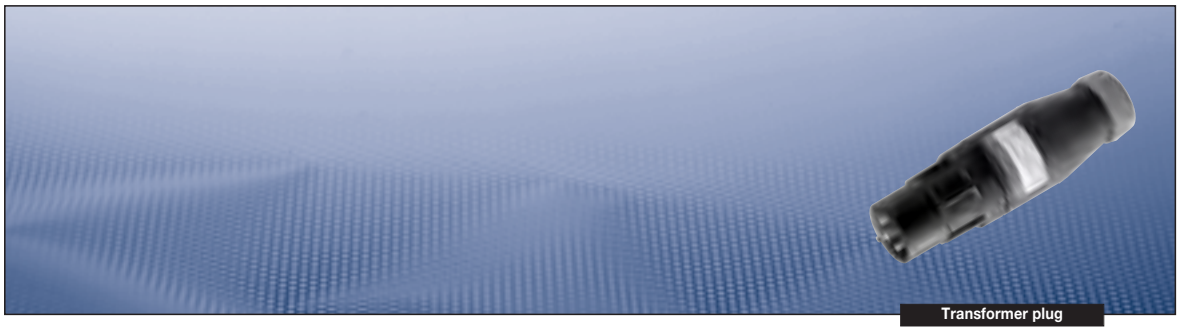
The key to safety

Plugs and receptacles with a cleverness:
The innovative coding of apparatus allows plugs used for Zone 1 to be used in receptacles for Zone 2 and/or for usage with industrial receptacles as well. Hence, plugs and receptacles for Zone 1 can be used anywhere. However, by the same token, the coding ensures that Zone 2 plugs cannot be operated in sockets with Zone 1 coding. That guarantees safety with an enormous flexibility in their usage.
Speaking of flexibility: It goes without saying that the plugs of the existing range also fit into the new receptacles.





Combination of possible/not possible connections of plug/wall socket


Transformer plug

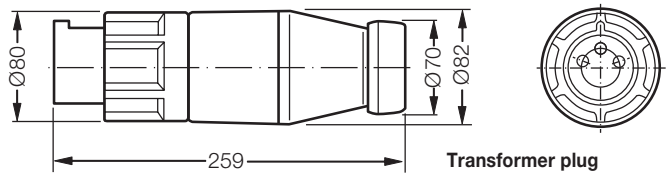
Technical data

Ex-transformer plug acc. to IEC 60309-1/2, up to 415 V	
Marking to 94/9/EC	Ex II 2 G Ex ed IIC T5
EC-Type Examination Certificate	PTB 99 ATEX 1039
IECEx type of protection	Ex ed [ia] IIC T6/T5
IECEx certification of conformity	IECEx BKI 04.0002
Permissible ambient temperature	-20 °C to + 40 °C
Rated voltage primary	415 V AC
Rated voltage secondary	12 V, 24 V, 36 V, 42 V or 230 V~
Frequency	50 - 60 Hz
Power consumption	max. 65 VA
Back up fuse, internal	0.5 A mT, replaceable
Connecting terminals	1 x 1 - 4 mm²
Insulation class	I
Degree of protection to EN 60529	IP54
Cable glands	Ø 10 - 20 mm
Enclosure material	Glass-fibre reinforced polyester, polyamide

Ordering details

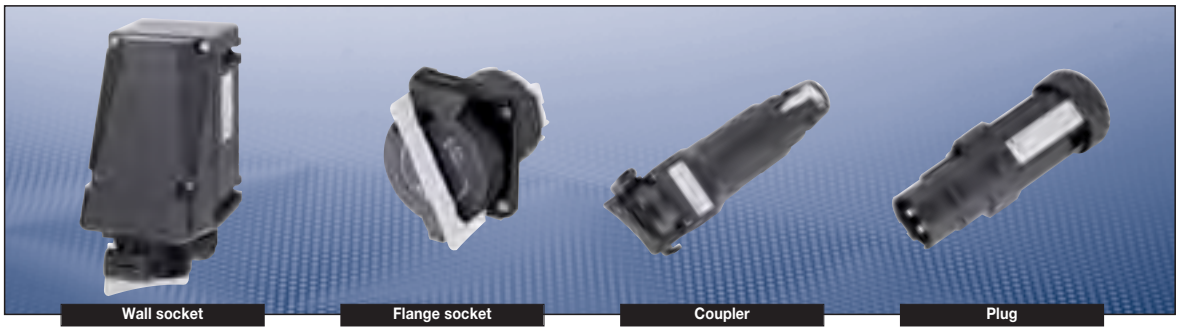
Voltage	h	Type	Weight approx.	Sec voltage	Order No.
16 A transformer plug 4-pole					
200-250 V	 9	Transformer plug 65 VA	2.3 kg	42 V	**GHG 531 6469 V0000**
		Transformer plug 65 VA	2.3 kg	24 V	**GHG 531 6469 V5005**
		Transformer plug 65 VA	2.3 kg	12 V	**GHG 531 6469 V5025**
16 A transformer plug 5-pole					
380-415 V	 6	Transformer plug 65 VA	2.3 kg	42 V	**GHG 531 6566 V0000**
		Transformer plug 65 VA	2.3 kg	24 V	**GHG 531 6566 V5005**
		Transformer plug 65 VA	2.3 kg	12 V	**GHG 531 6566 V5025**
		Transformer plug 65 VA	2.3 kg	230 V	**GHG 531 6566 V5023**
Plug with fuse					
200-250 V	 6	Plug with fuse max. 6.3 A	1.3 kg	–	**GHG 531 7536 V0000**
Accessories					
Plug cap 3/4 pole					**GHG 530 1935 R0002**
Plug cap 5 pole					**GHG 530 1935 R0005**

Dimension drawing



Transformer plug

Dimensions in mm



Technical data

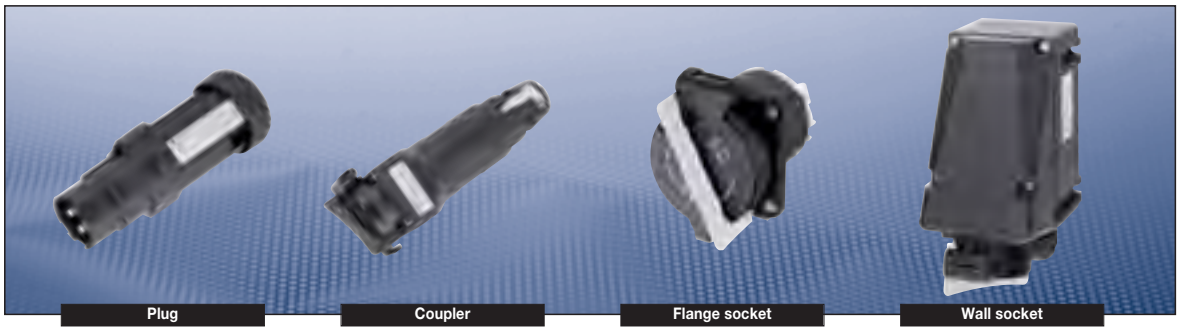
Ex-plugs and receptacles for low voltage, 2- and 3-pole acc. to IEC 60309-1/2	
Marking to 94/9/EC	Ex II 2 G Ex de [ia] IIC T6/T5
EC-Type Examination Certificate	Wall socket, plug and coupler: PTB 99 ATEX 1039
	Flange socket: PTB 99 ATEX 1063 U
IECEx certification of conformity	IECEx BKI 04.0002
IECEx type of protection	Ex ed [ia] IIC T6/T5
Permissible ambient temperature	–55 °C to +55 °C
Rated voltage	up to 50 V
Rated current	16 A
Frequency	up to 400 Hz
Rated making/rated breaking capacity AC-3 accd. EN 60947-3	U_e 50 V / I_e 16 A
External back-up fuse, max.	without therm. protection: 16 A / with therm. protection: 35 A
Degree of protection to EN 60529	IP54 (IP 66 optional)

Wall socket	
Cable glands	1 x M25 Ø 8 - 17 mm, 1 x M25 Ex-screw plug plastic (bottom) or
	2 x metal thread M20 with Ex-screw plug plastic
Connecting terminals	2 x 1.5 - 4 mm²
Enclosure material	Glass-fibre reinforced polyester

Plug	
Cabel glands	Ø 9 - 17 mm
Connecting terminals	1.0 - 4 mm²
Enclosure material	Polyamide

Coupler	
Cabel glands	Ø 9 - 17 mm
Connecting terminals	1.5 - 4 mm²
Enclosure material	Polyamide

Flange socket	
Connecting terminals	1.5 - 4 mm²
Enclosure material	Polyamide



Ordering details

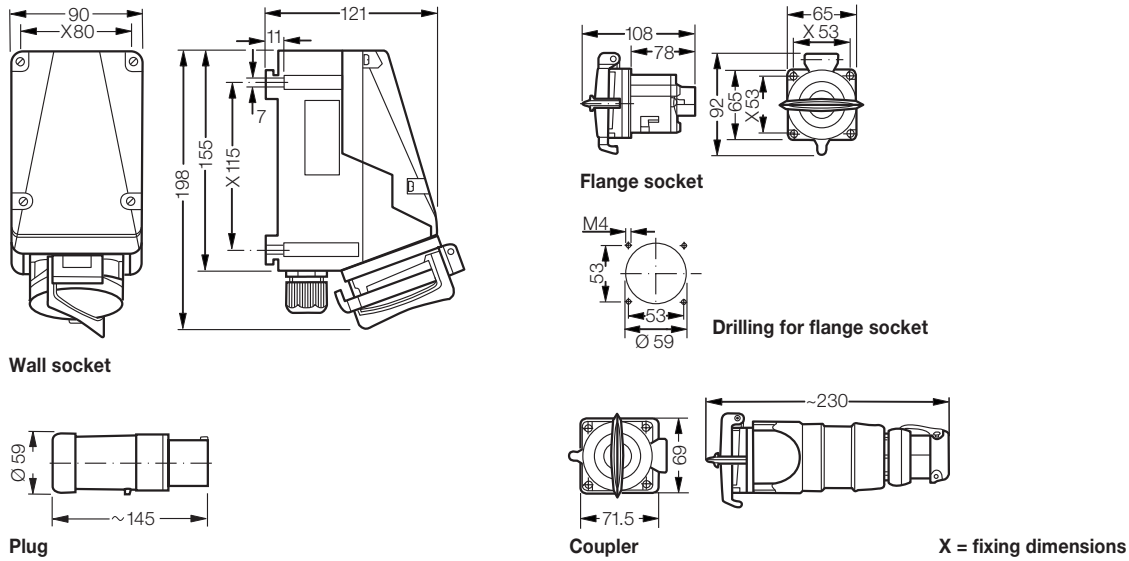
Voltage	h	Type	Cable entries	Weight approx.	Order No.
Type 2-pole low voltage					
≤ 24 V	 no aux. keyway	Wall socket	M25 KU	1.2 kg	**GHG 513 4200 R0001**
		Flange socket		0.4 kg	**GHG 542 5200 V0000**
		Coupler		0.7 kg	**GHG 513 3200 R0001**
		Plug		0.35 kg	**GHG 542 2200 V0000**
42 V	 12	Wall socket	M25 KU	1.2 kg	**GHG 513 4212 R0001**
		Flange socket		0.4 kg	**GHG 542 5212 V0000**
		Coupler		0.7 kg	**GHG 513 3212 R0001**
		Plug		0.35 kg	**GHG 542 2212 V0000**
Type 3-pole low voltage					
≤ 24 V	 no aux. keyway	Wall socket	M25 KU	1.2 kg	**GHG 513 4300 R0001**
		Flange socket		0.4 kg	**GHG 542 5300 V0000**
		Coupler		0.7 kg	**GHG 513 3300 R0001**
		Plug		0.35 kg	**GHG 542 2300 V0000**
42 V	 12	Wall socket	M25 KU	1.2 kg	**GHG 513 4312 R0001**
		Flange socket		0.4 kg	**GHG 542 5312 V0000**
		Coupler		0.7 kg	**GHG 513 3312 R0001**
		Plug		0.35 kg	**GHG 542 2312 V0000**

Other voltage ranges and versions available on request

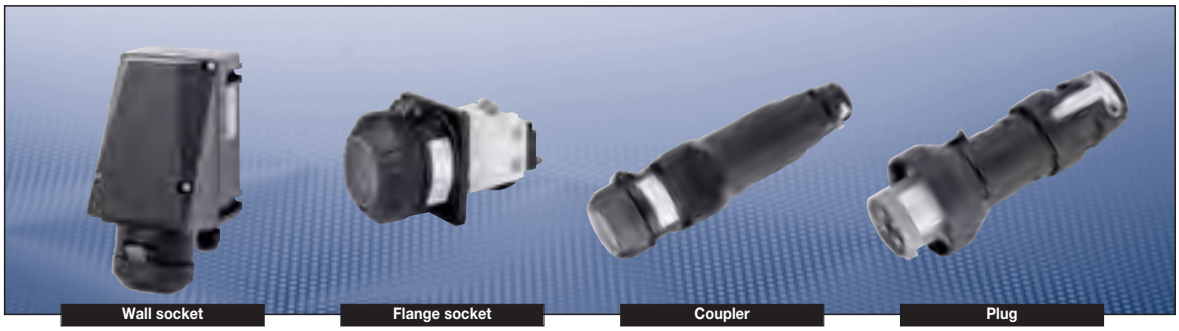
Accessories

Type	Application	Fixing method	Order No.
Mounting plate size 4	wall mounting	snap on for GHG 531 4/5 pole	**GHG 610 1953 R0151**
Mounting plate size 4	wall mounting	snap on for GHG 531 3 pole	**GHG 610 1953 R0152**
Protective canopy size 4		puggable	**GHG 610 1955 R0107**

Dimension drawing



Dimensions in mm



Technical data

Ex-plugs and receptacles acc. to IEC 60309-1/2 16A	
Marking to 94/9/EC	Ex II 2 G Ex ed IIC T6 / Ex II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	Wall socket, plug and coupler: PTB 99 ATEX 1039
	Flange socket: PTB 99 ATEX 1040 U
IECEx certification of conformity	IECEx BKI 04.0002
IECEx type of protection	Ex ed [ia] IIC T6/T5
Permissible ambient temperature	-20°C to +40°C[1)]
Rated voltage	up to 400 V (3-pole) / 690 V (4-pole) / 500 V (5-pole) AC
Rated current	16 A
Frequency	up to 400 Hz
Rated making/rated breaking capacity AC-3 accd. EN 60947-3	U_e 690 V / I_e 16 A
External back-up fuse, max.	without therm. protection: 16 A
	with therm. protection: 35 A gL (rated current 16 A set to)
Insulation class	I
Degree of protection to EN 60529	IP66

Wall socket	
Cable glands	1 x M25 Ø 8 - 17 mm, 1 x M25 Ex-screw plug plastic or
	2 x metal thread M20 with Ex-screw plug plastic
Connecting terminals	2 x 1 - 4 mm²
Enclosure material	Glass-fibre reinforced polyester

Plug	
Cable glands	Ø 8 - 19 mm (3-pole) / Ø 8 - 21 mm (4-pole) / 12 - 21 mm (5-pole)
Connecting terminals	1 x 1.0 - 2.5 mm²
Enclosure material	polyamide

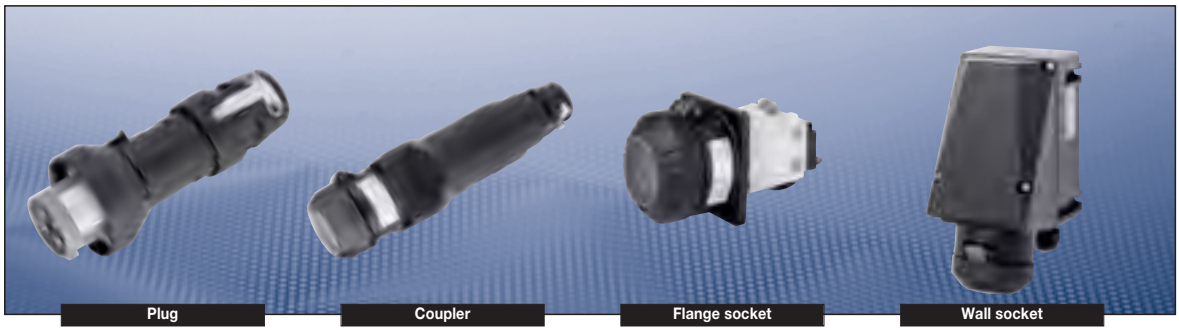
Coupler	
Cable glands	Ø 8 - 19 mm (3-pole) / Ø 8 - 21 mm (4-pole) / 12 - 21 mm (5-pole)
Connecting terminals	2 x 1 - 4 mm²
Enclosure material	polyamide

Flange socket	
Connecting terminals	2 x 1 - 4 mm²
Enclosure material	polyamide

[1)] extended temperature range on request

Ordering details

Voltage	h	Type	Auxiliary contact	Cable entries	Weight approx.	Order No.
Type 16 A 3-pole						
110-130 V		Wall socket	–	M25 KU	1.2 kg	**GHG 511 4304 R0001**
		Wall socket	–	M20 GE	1.2 kg	**GHG 511 4304 R0002**
		Wall socket	–	M20 ME	1.3 kg	**GHG 511 4304 R3001**
		Wall socket	–	M20 GM	1.3 kg	**GHG 511 4304 R3003**
	4	Flange socket			0.4 kg	**GHG 511 8304 R0001**
		Coupler			0.7 kg	**GHG 511 3304 R0001**
		Plug			0.35 kg	**GHG 511 7304 R0001**



Ordering details

Voltage	h	Type	Auxiliary contact	Cable entries	Weight approx.	Order No.
Type 16 A 3-pole						
200-250 V		Wall socket	–	M25 KU	1.2 kg	**GHG 511 4306 R0001**
		Wall socket	–	M20 GE	1.2 kg	**GHG 511 4306 R0002**
		Wall socket	–	M20 ME	1.3 kg	**GHG 511 4306 R3001**
		Wall socket	–	M20 GM	1.3 kg	**GHG 511 4306 R3003**
	6	Flange socket			0.4 kg	**GHG 511 8306 R0001**
		Coupler			0.7 kg	**GHG 511 3306 R0001**
		Plug			0.35 kg	**GHG 511 7306 R0001**
Type 16 A 4-pole						
200-250 V		Wall socket	–	M25 KU	1.8 kg	**GHG 511 4409 R0001**
		Wall socket	–	M20 ME	1.9 kg	**GHG 511 4409 R3001**
		Flange socket			1.0 kg	**GHG 511 8409 R0001**
		Coupler			1.7 kg	**GHG 511 3409 R0001**
	9	Plug			0.7 kg	**GHG 511 7409 R0001**
380-415 V		Wall socket	–	M25 KU	1.8 kg	**GHG 511 4406 R0001**
		Wall socket	–	M20 ME	1.9 kg	**GHG 511 4406 R3001**
		Wall socket	yes	M25 KH	1.8 kg	**GHG 511 4406 R0501**
		Flange socket			1.0 kg	**GHG 511 8406 R0001**
	6	Coupler			1.7 kg	**GHG 511 3406 R0001**
		Plug			0.7 kg	**GHG 511 7406 R0001**
480-500 V		Wall socket	–	M25 KU	1.8 kg	**GHG 511 4407 R0001**
		Wall socket	–	M20 ME	1.9 kg	**GHG 511 4407 R3001**
		Wall socket	yes	M25 KH	1.8 kg	**GHG 511 4407 R0501**
		Flange socket			1.0 kg	**GHG 511 8407 R0001**
	7	Coupler			1.7 kg	**GHG 511 3407 R0001**
		Plug			0.7 kg	**GHG 511 7407 R0001**
600-690 V		Wall socket	–	M25 KU	1.8 kg	**GHG 511 4405 R0001**
		Wall socket	–	M20 ME	1.9 kg	**GHG 511 4405 R3001**
		Wall socket	yes	M25 KH	1.8 kg	**GHG 511 4405 R0501**
		Flange socket			1.0 kg	**GHG 511 8405 R0001**
	5	Coupler			1.7 kg	**GHG 511 3405 R0001**
		Plug			0.7 kg	**GHG 511 7405 R0001**
Type 16 A 5-pole						
200-250 V 380-415 V		Wall socket	–	M25 KU	1.8 kg	**GHG 511 4506 R0001**
		Wall socket	–	M20 ME	1.9 kg	**GHG 511 4506 R3001**
		Wall socket	yes	M25 KH	1.8 kg	**GHG 511 4506 R0501**
		Flange socket			1.0 kg	**GHG 511 8506 R0001**
	6	Coupler			1.7 kg	**GHG 511 3506 R0001**
		Plug			0.7 kg	**GHG 511 7506 R0001**

Other voltage ranges and versions available on request.

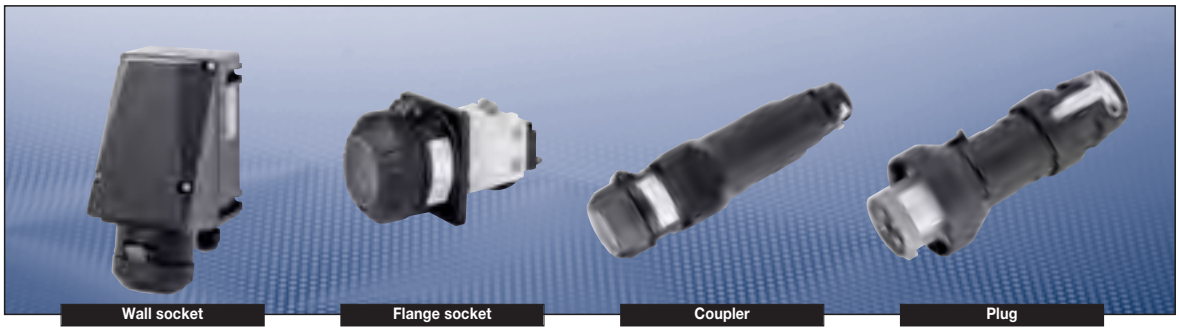
KU = 1 x plastic cable glands M25 for Ø 8 -17 mm, 1 x M25 Ex-screw plug plastic

KH = 2 x plastic cable glands M25 for Ø 8 - 17 mm, auxiliary contact, 1 NO

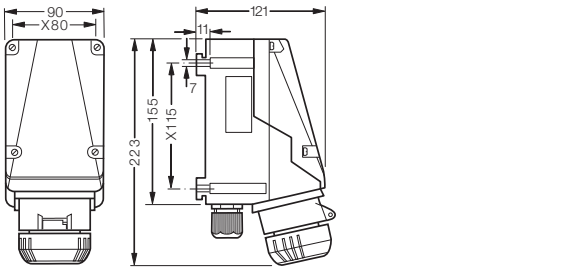
ME = 2 x metal thread M20 with Ex-screw plug plastic

GE = 2 x plastic thread M20 without cable gland/screw plug

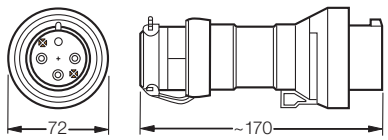
GM = 2 x metal thread M20 without cable gland/screw plug



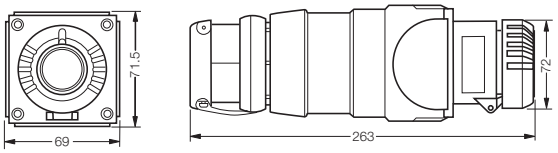
Dimension drawing | Wiring diagram



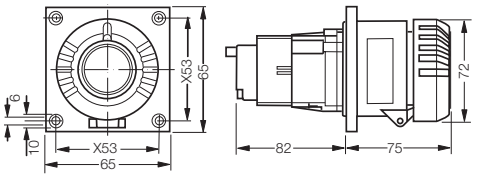
Wall socket 3-pole



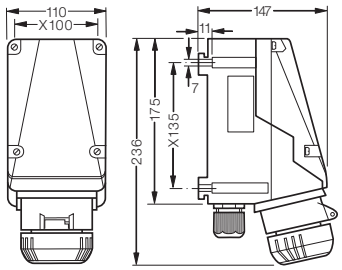
Plug 3-pole



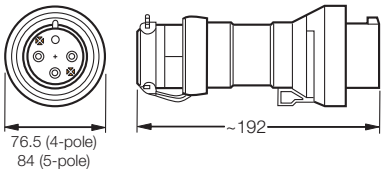
Coupler 3-pole



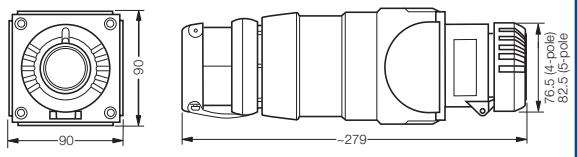
Flange socket 3-pole



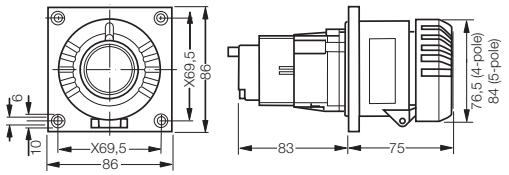
Wall socket 4/5-pole



Plug 4/5-pole

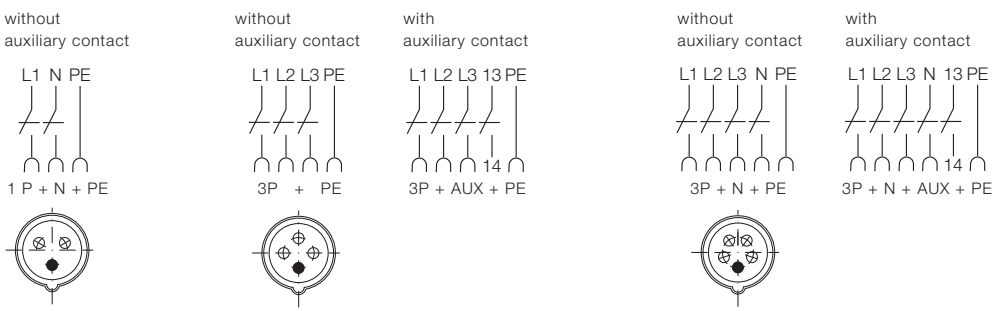


Coupler 4/5-pole

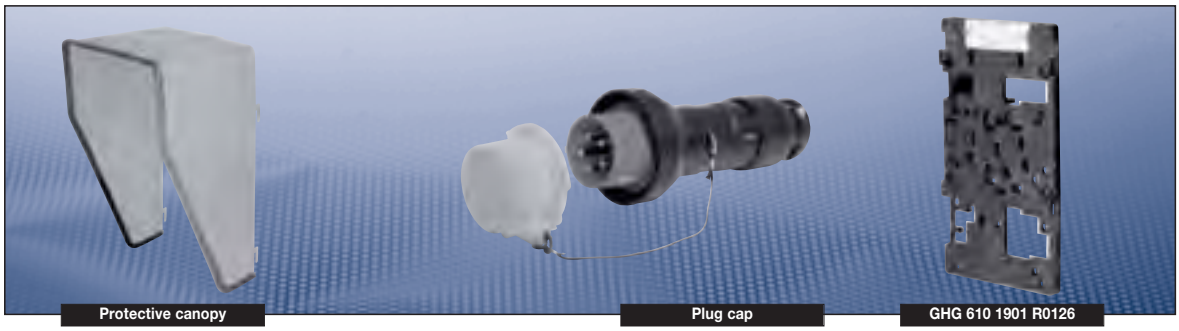


Flange socket 4/5-pole

X = fixing dimensions



Dimensions in mm



Accessories

Mounting plates for wall sockets 16 A			
Type	Application	Fixing method	Order No.
Size 4	for wall mounting	snapped on	**GHG 610 1953 R0126**
Size 4	for trellis mounting	snapped on	**GHG 610 1953 R0126**
Size 4	for pipe mounting	snapped on	**GHG 610 1953 R0130**

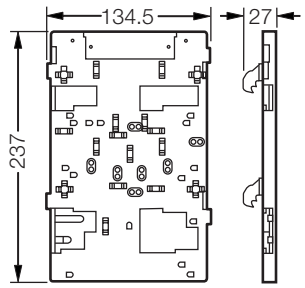
Plug cap for plugs 16 A	
Type	Order No.
Plug 16 A 3-pole	**GHG 510 1901 R0001**
Plug 16 A 4-pole	**GHG 510 1901 R0002**
Plug 16 A 5-pole	**GHG 510 1901 R0003**

Accessories for mounting plates		
Type	OU	Order No.
Mounting set for pipes 1" (Ø 27 - 30 mm) for mounting plates with pipe fixing	10	**GHG 610 1953 R0020**

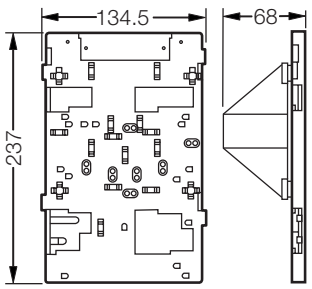
Please pay attention to that only order units (OU) according to the ordering details can be delivered.

Protective canopy for mounting plate		
Type	Application	Order No.
Size 4	for mounting plate size 4 plugable	**GHG 610 1955 R0107**

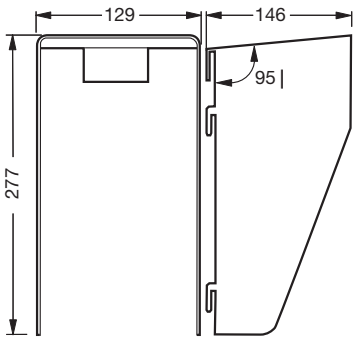
Dimension drawing



Mounting plate size 4 for wall/trellis mounting



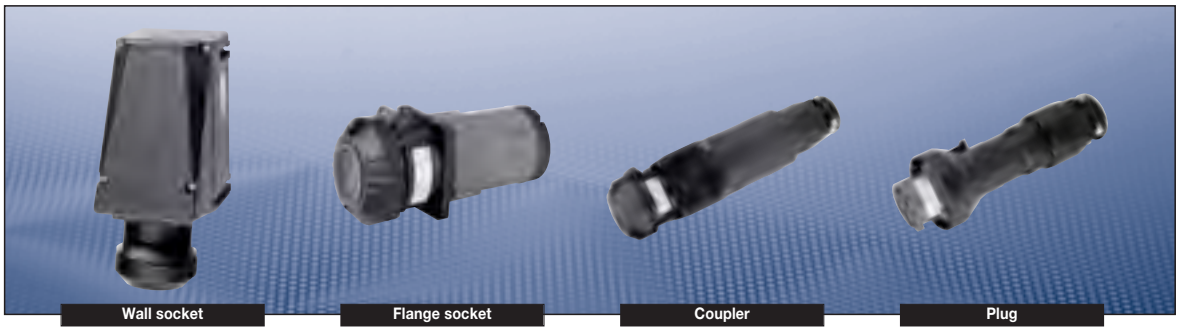
Mounting plate size 4 for pipe mounting



Protective canopy size 4

Dimensions in mm

32A 4-pole up to 690 V
32A 5-pole up to 415 V



Technical data

Ex-plugs and receptacles accd. to IEC 60309-1/2	
Marking to 94/9/EC	Ⓔx II 2 G Ex de (ia) IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T60 °C
EC-Type Examination Certificate	Wall socket, plug and coupler: PTB 99 ATEX 1041
	Flange socket: PTB 99 ATEX 1042 U
IECEx certification of conformity	IECEx BKI 04.0006
IECEx type of protection	Ex ed [ia] IIC T6/T5
Permissible ambient temperature	-20 °C to +40 °C[1)]
Rated voltage	up to 750 V (AC)
Rated current	32 A
Frequency	up to 400 Hz
Rated making/rated breaking capacity AC-3 accd. EN 60947-3	U_e 690 V / I_e 32 A
External back-up fuse	without therm. protection: 35 A
	with therm. protection: 50 A gL (rated current 32 A set to
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure colour	black

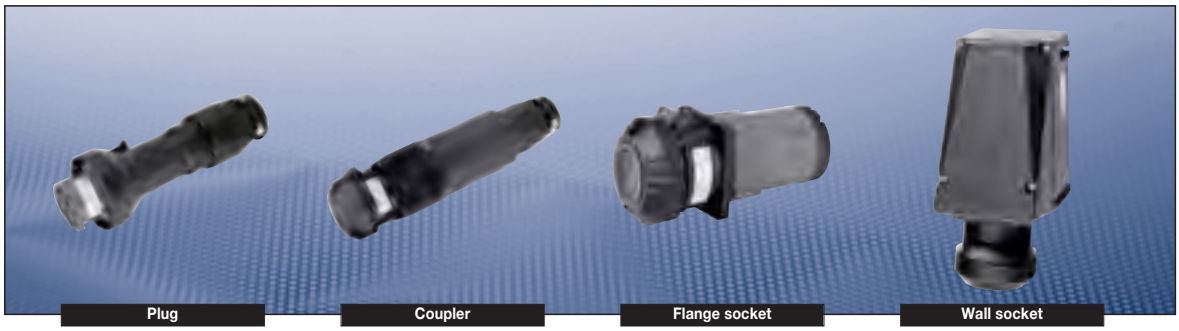
Wall socket	
Cable glands/enclosure drilling	1 x M40 Ø 17 - 28 mm, 1 x M40 Ex-screw plug plastic or
	2 x M32 metal thread with 2 Ex-screw plug plastic
Connecting terminals	2 x 4 - 10 mm²
Enclosure material	Glass-fibre reinforced polyester

Plug	
Cabel glands	Ø 17 - 28 mm
Connecting terminals	1.0 - 6 mm²
Enclosure material	Polyamide

Coupler	
Cabel glands	Ø 17 - 28 mm
Connecting terminals	2 x 4 - 10 mm²
Enclosure material	Polyamide

Flange socket	
Connecting terminals	2 x 4 - 10 mm²
Enclosure material	Polyamide

[1)] extended temperature range on request



Ordering details

Voltage	h	Type	Auxiliary contact	Cable entries	Weight approx.	Order No.
Type 32 A 4-pole						
200-250 V		Wall socket	–	KU	1.8 kg	**GHG 512 4409 R0001**
		Wall socket	–	ME	1.9 kg	**GHG 512 4409 R3001**
		Flange socket			1.0 kg	**GHG 512 8409 R0001**
		Coupler			1.7 kg	**GHG 512 3409 R0001**
	9	Plug			0.7 kg	**GHG 512 7409 R0001**
380-415 V		Wall socket	–	KU	1.8 kg	**GHG 512 4406 R0001**
		Wall socket	–	ME	1.9 kg	**GHG 512 4406 R3001**
		Wall socket	yes	KH	1.8 kg	**GHG 512 4406 R0501**
		Flange socket			1.0 kg	**GHG 512 8406 R0001**
	6	Coupler			1.7 kg	**GHG 512 3406 R0001**
		Plug			0.7 kg	**GHG 512 7406 R0001**
480-500 V		Wall socket	–	KU	1.8 kg	**GHG 512 4407 R0001**
		Wall socket	–	ME	1.9 kg	**GHG 512 4407 R3001**
		Wall socket	yes	KH	1.8 kg	**GHG 512 4407 R0501**
		Flange socket			1.0 kg	**GHG 512 8407 R0001**
	7	Coupler			1.7 kg	**GHG 512 3407 R0001**
		Plug			0.7 kg	**GHG 512 7407 R0001**
600-690 V		Wall socket	–	KU	1.8 kg	**GHG 512 4405 R0001**
		Wall socket	–	ME	1.9 kg	**GHG 512 4405 R3001**
		Wall socket	yes	KH	1.8 kg	**GHG 512 4405 R0501**
		Flange socket			1.0 kg	**GHG 512 8405 R0001**
	5	Coupler			1.7 kg	**GHG 512 3405 R0001**
		Plug			0.7 kg	**GHG 512 7405 R0001**
Type 32 A 5-pole						
200-250 V 380-415 V		Wall socket	–	KU	1.8 kg	**GHG 512 4506 R0001**
		Wall socket	–	ME	1.9 kg	**GHG 512 4506 R3001**
		Wall socket	yes	KH	1.8 kg	**GHG 512 4506 R0501**
		Flange socket			1.0 kg	**GHG 512 8506 R0001**
	6	Coupler			1.7 kg	**GHG 512 3506 R0001**
		Plug			0.7 kg	**GHG 512 7506 R0001**

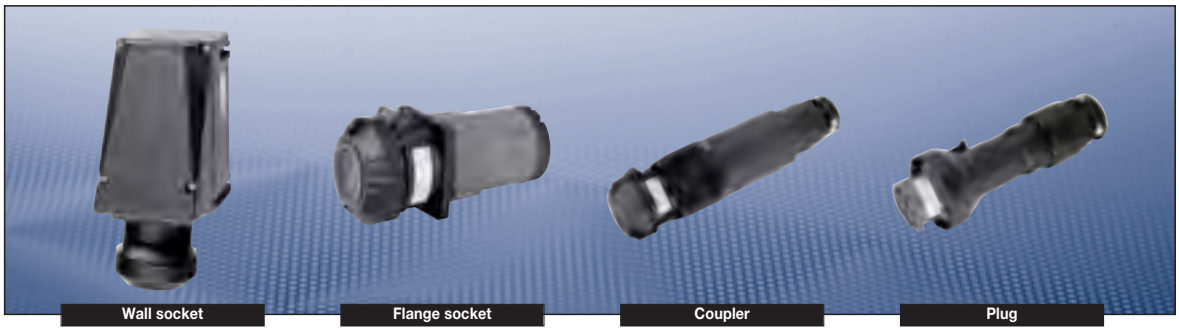
Other voltage ranges and versions available on request.

KU = 1 x plastic cable glands M40 for Ø 17-28 mm, 1 x M40 Ex-screw plug plastic

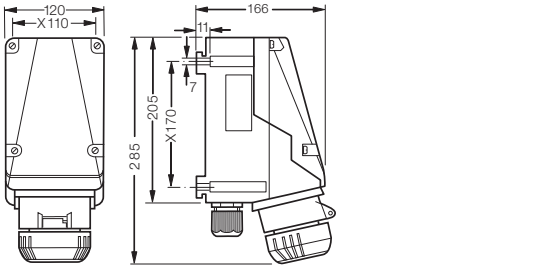
KH = 1 x plastic cable glands M40 for Ø 16-28 mm,
1 x plastic cable glands M25 for Ø 8 - 17 mm, with auxiliary contact

ME = 2 x metal thread M32 with Ex-screw plug plastic

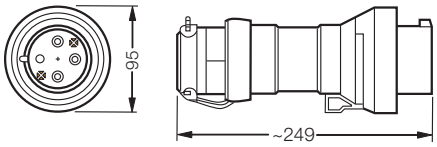
32A 4-pole up to 690 V
32A 5-pole up to 415 V



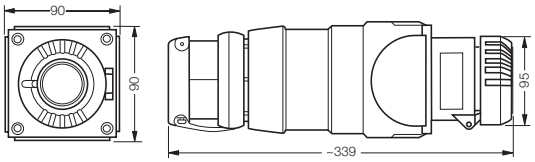
Dimension drawing | Wiring diagram



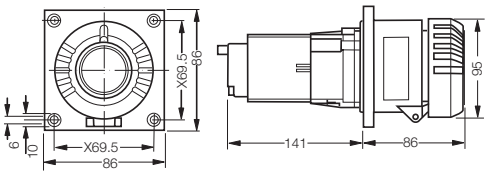
Wall socket 4-pole



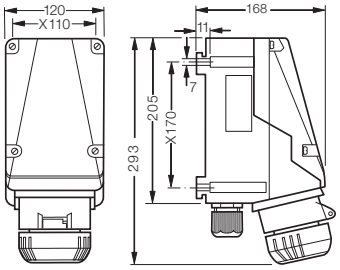
Plug 4-pole



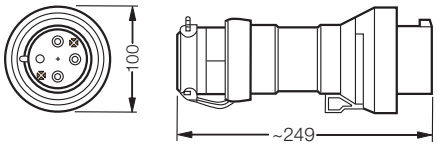
Coupler 4-pole



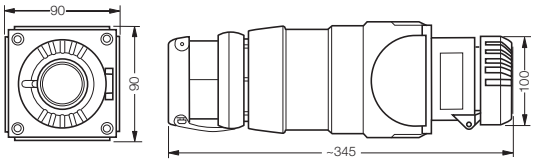
Flange socket 4-pole



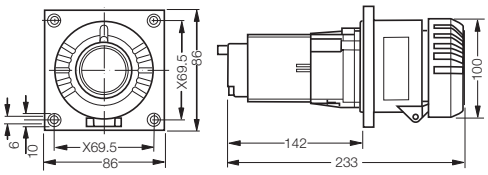
Wall socket 5-pole



Plug 5-pole



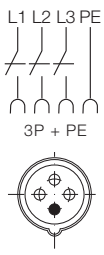
Coupler 5-pole



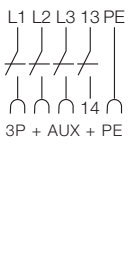
Flange socket 5-pole

X = fixing dimensions

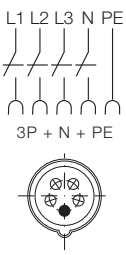
without auxiliary contact



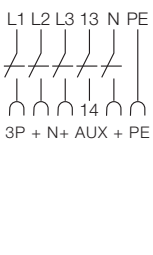
with auxiliary contact



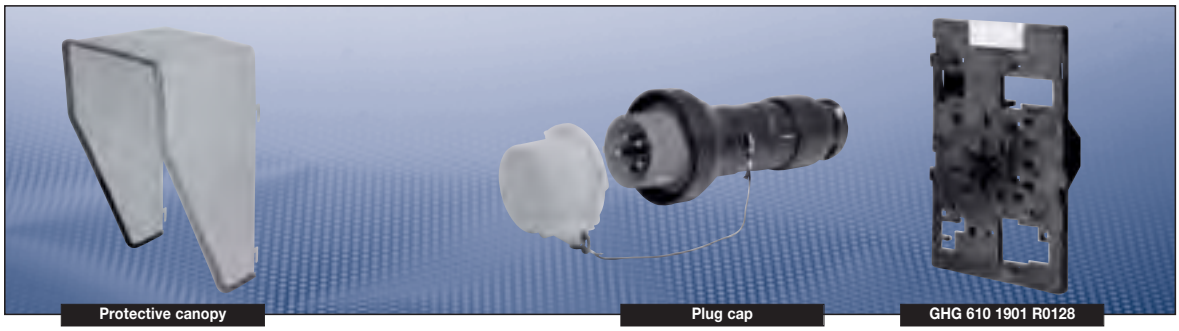
without auxiliary contact



with auxiliary contact



Dimensions in mm



Accessories

Mounting plates for wall sockets 32 A			
Type	Application	Fixing method	Order No.
Size 5	for wall mounting	snapped on	**GHG 610 1953 R0128**
Size 5	for trellis mounting	snapped on	**GHG 610 1953 R0128**
Size 5	for pipe mounting	snapped on	**GHG 610 1953 R0132**

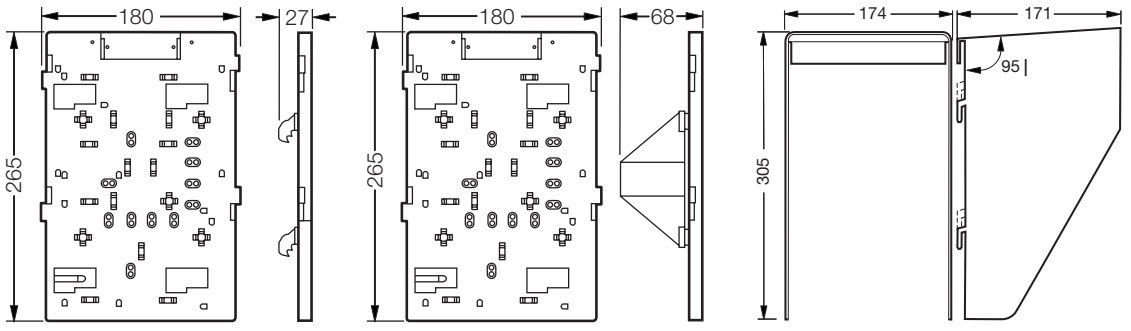
Plug cap for plugs 32 A	
Type	Order No.
Plug 32 A 3-pole/4-pole	**GHG 510 1901 R0004**
Plug 32 A 5-pole	**GHG 510 1901 R0005**

Accessories for mounting plates		
Type	OU	Order No.
Mounting set for pipes 1" (Ø 27 - 30 mm) for mounting plates with pipe fixing	10	**GHG 610 1953 R0020**

Please pay attention to that only order units (OU) according to the ordering details can be delivered.

Protective canopy for mounting plate		
Type	Application	Order No.
Size 5	for mounting plate size 5, plugable	**GHG 610 1955 R0108**

Dimension drawing



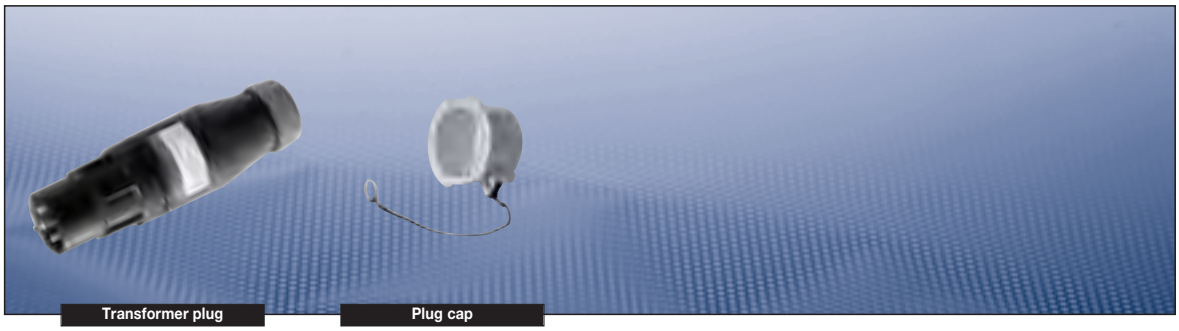
Mounting plate size 5 for wall/trellis mounting

Mounting plate size 5 for pipe mounting

Protective canopy size 5

Dimensions in mm

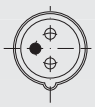
32A 4-/5-pole Transformer plug
Plug with fuse



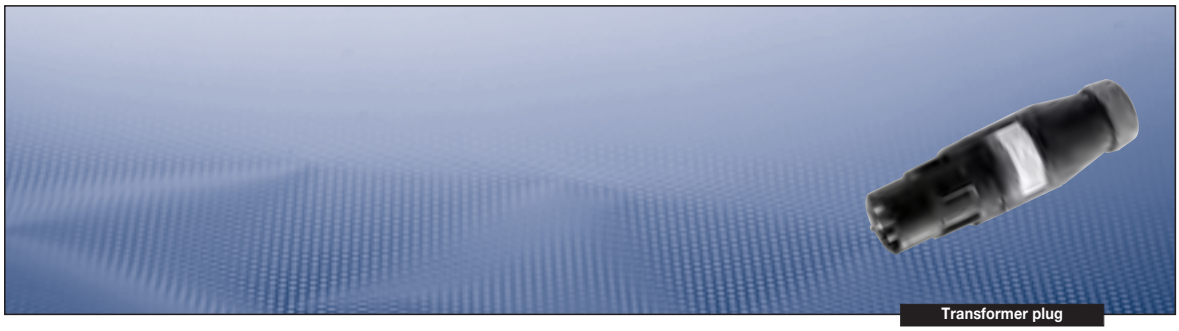
Technical data

Ex-transformer plug accd. to IEC 60309-1/2, up to 415 V	
Marking to 94/9/EC	Ex II 2 G Ex de IIC T5
EC-Type Examination Certificate	PTB 99 ATEX 1041
IECEx certification of conformity	IECEx BKI 04.0006
IECEx type of protection	Ex ed [ia] IIC T6/T5
Permissible ambient temperature	-20 °C to + 40 °C[1)]
Rated voltage primary	250 V AC
Rated voltage secondary	24 V, 36 V or 42 V/230 V (AC)
Frequency	50/60 Hz
Power consumption	max. 65 VA
Back up fuse, internal	0.5 A mT, replaceable
Connecting terminals	1 x 1 - 4 mm²
Insulation class	I
Degree of protection to EN 60529	IP54
Enclosure material	Glass-fibre reinforced polyester, polyamide

Ordering details

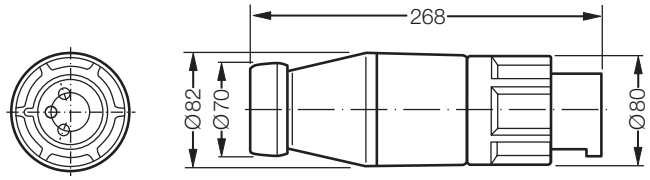
Voltage	h	Type	Weight approx.	Sec voltage	Order No.
32 A transformer plug 4-pole					
200-250 V	 9	Transformer plug 65 VA	2.3 kg	42 V	**GHG 532 6469 V0000**
		Transformer plug 65 VA	2.3 kg	24 V	**GHG 532 6469 V5005**
32 A transformer plug 5-pole					
380-415 V	 6	Transformer plug 65 VA	2.3 kg	42 V	**GHG 532 6566 V0000**
		Transformer plug 65 VA	2.3 kg	24 V	**GHG 532 6566 V5005**
		Transformer plug 65 VA	2.3 kg	12 V	**GHG 532 6566 V5025**
		Transformer plug 65 VA	2.3 kg	230 V	**GHG 532 6566 V5023**
Plug with fuse					
200-250 V	 6	Plug with fuse max. 6.3 A	1.3 kg		**GHG 532 7536 V0000**
Accessories					
Plug cap 4 pole					**GHG 530 1935 R0002**
Plug cap 5 pole					**GHG 530 1935 R0005**

[1)] extended temperature range on request



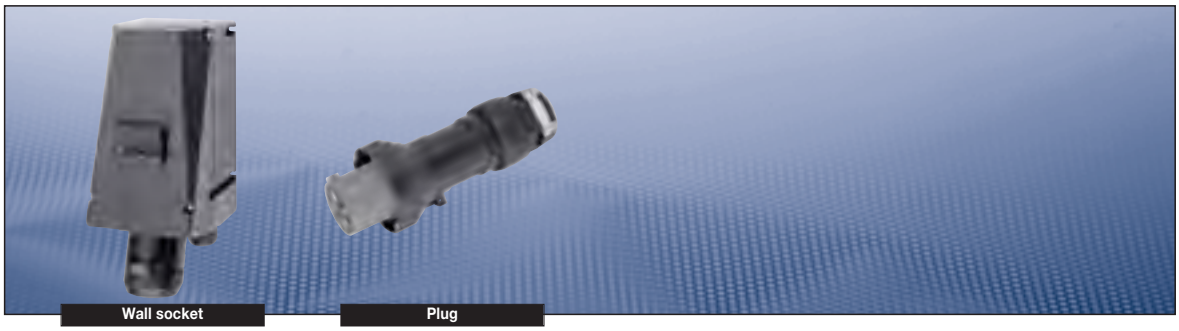
Transformer plug

Dimension drawing



Transformer plug

Dimensions in mm



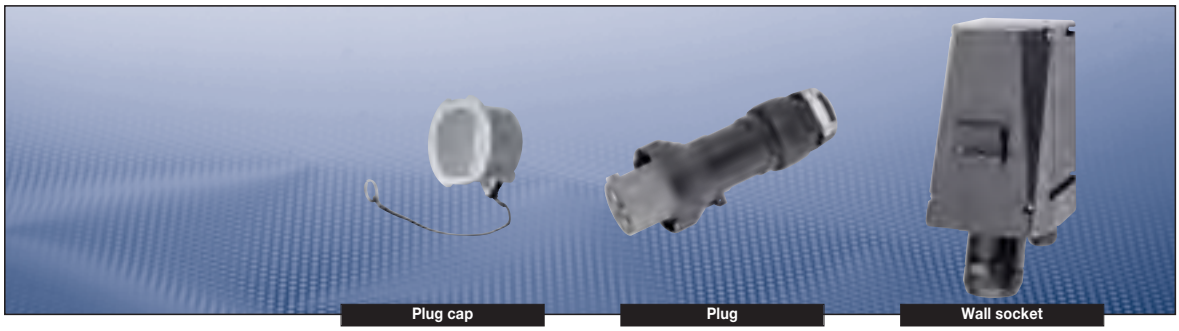
Technical data

Ex-plugs and receptacles accd. to IEC 60309-1/2	
Marking to 94/9/EC	Ex II 2 G Ex de IIC T5/T6 / Ex II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 00 ATEX 1070
IECEx certification of conformity	IECEx BKI 04.0004
IECEx type of protection	Ex ed IIC T6
Permissible ambient temperature	-20 °C to + 40 °C[1)]
Rated voltage	690 V (AC)
Rated current	63 A
Frequency	up to 400 Hz
Rated making/rated breaking capacity AC-3	
accd. EN 60947-3	U_e 690 V / I_e 63 A
External back up fuse	without therm. protection: 63 A
	with therm. protection: 80 A gL (rated currrent 63 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure colour	Black

Wall socket	
Cable glands/enclosure drilling	1 x M50 Ø 22 - 35 mm, 1 x M50 Ex-screw plug plastic or
	2 x M40 metal thread with 2 Ex-screw plug plastic
Connecting terminals	2 x 4 - 25 mm² / with cable lug 1 x 35 mm²
Enclosure material	Glass-fibre reinforced polyester

Plug	
Cabel glands	Ø 19 - 34 mm
Connecting terminals	1 x 4 - 16 mm² / pin-cable lug[2)] 1 x 25 mm²
Enclosure material	Polyamide

[1)] extended temperature range on request



Ordering details

Voltage	h	Type	Auxiliary contact	Cable entries	Weight approx.	Order No.
Type 63 A 4-pole						
200-250 V	 9	Wall socket	–	KU	8.1 kg	**GHG 514 4409 R0001**
		Wall socket	–	ME	8.2 kg	**GHG 514 4409 R3001**
		Plug			0.75 kg	**GHG 514 7409 R0001**
380-415 V	 6	Wall socket	–	KU	8.1 kg	**GHG 514 4406 R0001**
		Wall socket	–	ME	8.2 kg	**GHG 514 4406 R3001**
		Wall socket	yes	KH	8.2 kg	**GHG 514 4406 R0501**
		Plug			0.75 kg	**GHG 514 7406 R0001**
480-500 V	 7	Wall socket	–	KU	8.1 kg	**GHG 514 4407 R0001**
		Wall socket	–	ME	8.2 kg	**GHG 514 4407 R3001**
		Wall socket	yes	KH	8.2 kg	**GHG 514 4407 R0501**
		Plug			0.75 kg	**GHG 514 7407 R0001**
600-690 V	 5	Wall socket	–	KU	8.1 kg	**GHG 514 4405 R0001**
		Wall socket	–	ME	8.1 kg	**GHG 514 4405 R3001**
		Wall socket	yes	KH	8.2 kg	**GHG 514 4405 R0501**
		Plug			0.75 kg	**GHG 514 7405 R0001**
Type 63 A 5-pole						
200-250 V 380-415 V	 6	Wall socket	–	KU	8.1 kg	**GHG 514 4506 R0001**
		Wall socket	–	ME	8.1 kg	**GHG 514 4506 R3001**
		Wall socket	yes	KH	8.2 kg	**GHG 514 4506 R0501**
		Plug			0.75 kg	**GHG 514 7506 R0001**

Accessories

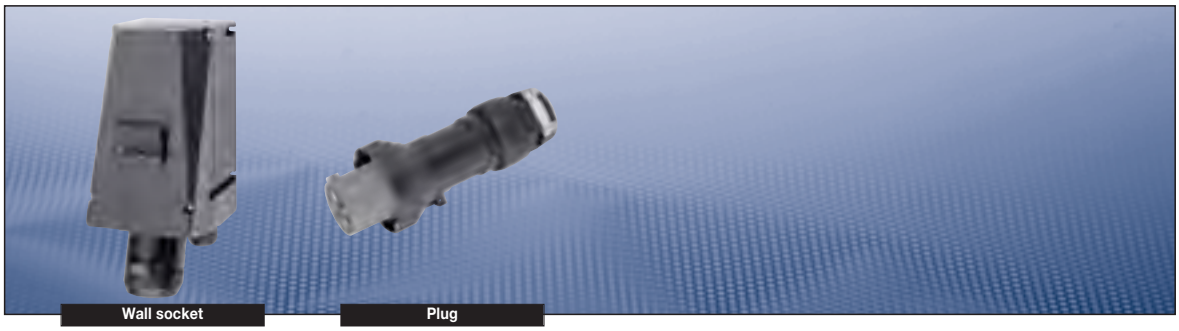
Plug cap for plugs		
Type	**OU**	**Order No.**
Plug cap 4-pole/5-pole	1	**GHG 510 1901 R0006**
Pin cable lug 25 mm²	5	**GHG 510 1916 R0001**

Other voltage ranges and versions available on request.

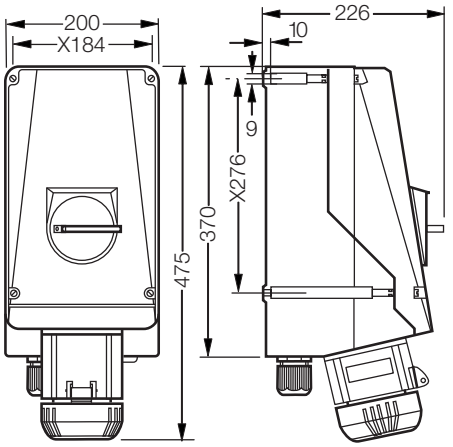
KU = 1 x plastic cable glands M40 for Ø 17-28 mm, 1 x M40 Ex-screw plug plastic

KH = 1 x plastic cable glands M40 for Ø 16-28 mm,
1 x plastic cable glands M25 for Ø 8 - 17 mm, with auxiliary contact

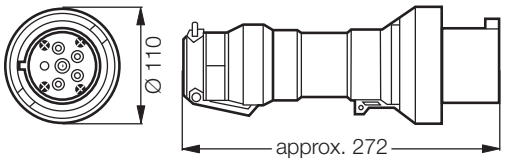
ME = 2 x metal thread M32 with Ex-screw plug plastic



Dimension drawing | Wiring diagram

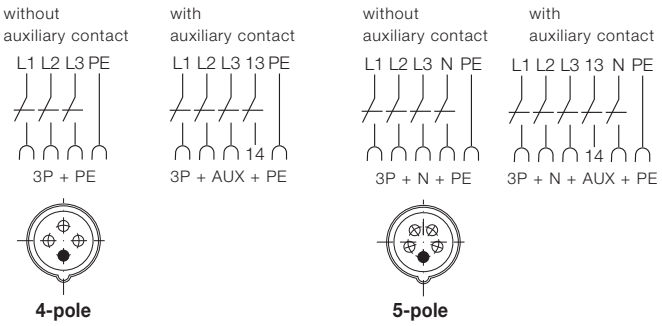


Wall socket 4/5-pole

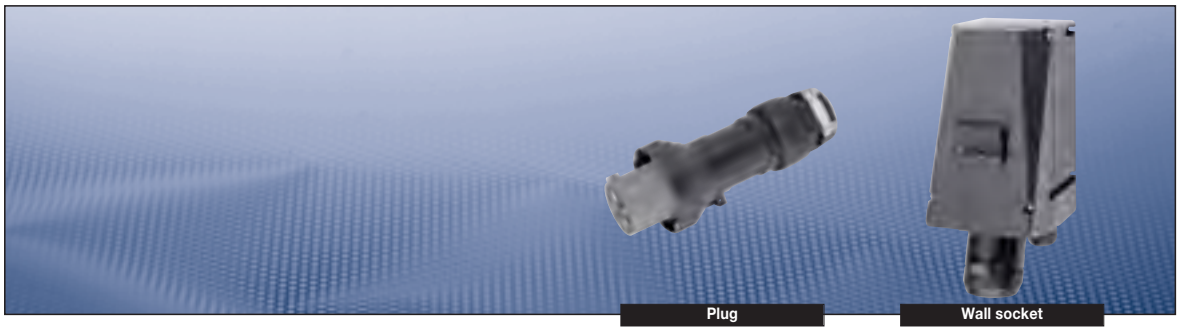


Plug 4/5-pole

X = fixing dimensions



Dimensions in mm



Technical data

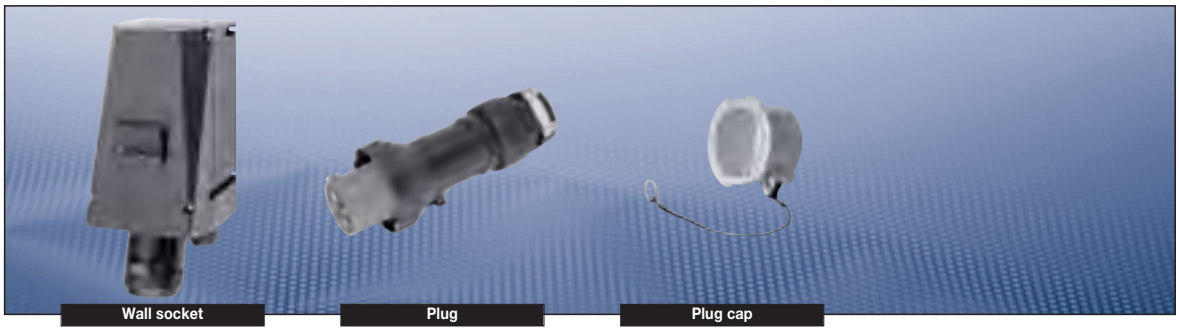
Ex-plugs and receptacles accd. to IEC 60309-1/2	
Marking to 94/9/EC	Ex II 2 G Ex de IIC T6 / Ex II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 01 ATEX 1069
IECEx certification of conformity	IECEx BKI 04.0005
IECEx type of protection	Ex ed IIC T6
Permissible ambient temperature	-20 °C to + 40 °C[1]
Rated voltage	690 V (AC)
Rated current	125 A (AC)
Frequency	up to 400 Hz
Rated making/rated breaking capacity AC-3	
accd. EN 60947-3	U_e 690 V / I_e 125 A
External back up fuse	without therm. protection: 125 A
	with therm. protection: 160 A gL (rated currrent 125 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure colour	Black

Wall socket	
Cable glands/enclosure drilling	1 x M63 Ø 27 - 48 mm, 1 x M63 Ex-screw plug plastic or
	2 x M50 metal thread with 2 Ex-screw plug plastic
Connecting terminals	2 x 4 - 50 mm² / with cable lug[1] 1 x 120 mm²
Enclosure material	Glass-fibre reinforced polyester

Plug	
Cabel glands	Ø 31 - 55 mm
Connecting terminals	1 x 4 - 35 mm² / with pin cable lug[2] 1 x 50 mm²
Enclosure material	Polyamide

[1] extended temperature range on request

[2] use only delivered cable lug



Ordering details

Voltage	h	Type	Auxiliary contact	Cable entries	Weight approx.	Order No.
Type 125 A 4-pole						
200-250 V	 9	Wall socket	–	KU	12.3 kg	**GHG 515 4409 R0001**
		Wall socket	–	ME	12.5 kg	**GHG 515 4409 R3001**
		Wall socket	yes	KH	12.5 kg	**GHG 515 4409 R0501**
		Plug			0.9 kg	**GHG 515 7409 R0001**
380-415 V	 6	Wall socket	–	KU	12.3 kg	**GHG 515 4406 R0001**
		Wall socket	–	ME	12.5 kg	**GHG 515 4406 R3001**
		Wall socket	yes	KH	12.5 kg	**GHG 515 4406 R0501**
		Plug			0.9 kg	**GHG 515 7406 R0001**
480-500 V	 7	Wall socket	–	KU	12.3 kg	**GHG 515 4407 R0001**
		Wall socket	–	ME	12.5 kg	**GHG 515 4407 R3001**
		Wall socket	yes	KH	12.5 kg	**GHG 515 4407 R0501**
		Plug			0.9 kg	**GHG 515 7407 R0001**
600-690 V	 5	Wall socket	–	KU	12.3 kg	**GHG 515 4405 R0001**
		Wall socket	–	ME	12.5 kg	**GHG 515 4405 R3001**
		Wall socket	yes	KH	12.5 kg	**GHG 515 4405 R0501**
		Plug			0.9 kg	**GHG 515 7405 R0001**
Type 125 A 5-pole						
200-250 V 380-415 V	 6	Wall socket	–	KU	13.0 kg	**GHG 515 4506 R0001**
		Wall socket	–	ME	13.2 kg	**GHG 515 4506 R3001**
		Wall socket	yes	KH	13.2 kg	**GHG 515 4506 R0501**
		Plug			1.2 kg	**GHG 515 7506 R0001**

Accessories

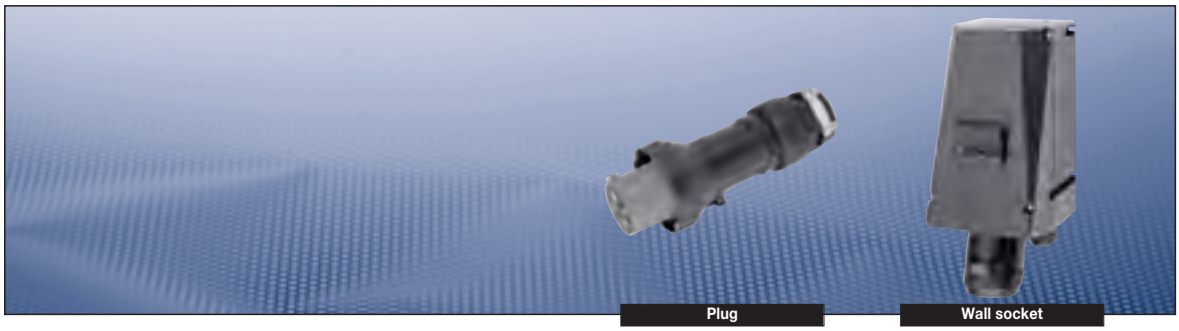
Type	OU	Order No.
Plug cap 4-pole/5-pole	1	**GHG 510 1901 R0007**
Cable lug 50 mm²	5	**GHG 260 1911 R0004**

Other voltage ranges and versions available on request.

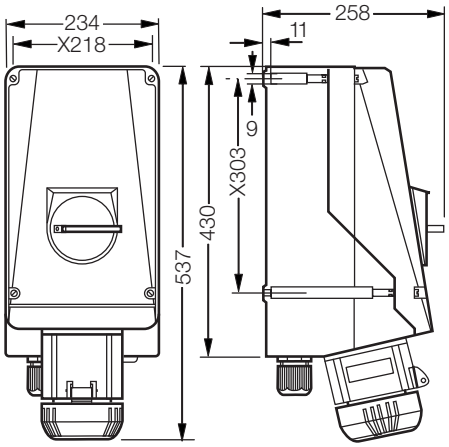
KU = 1 x plastic cable glands M40 for Ø 17-28 mm, 1 x M40 Ex-screw plug plastic

KH = 1 x plastic cable glands M40 for Ø 16-28 mm,
1 x plastic cable glands M25 for Ø 8 - 17 mm, with auxiliary contact

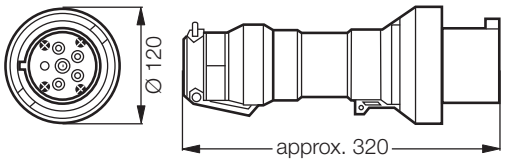
ME = 2 x metal thread M32 with Ex-screw plug plastic



Dimension drawing | Wiring diagram

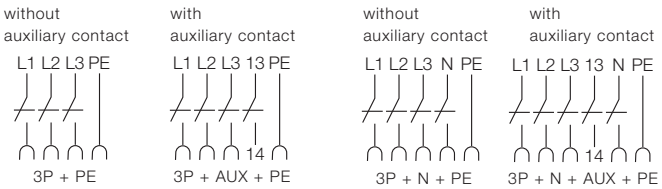


Wall socket 4/5-pole



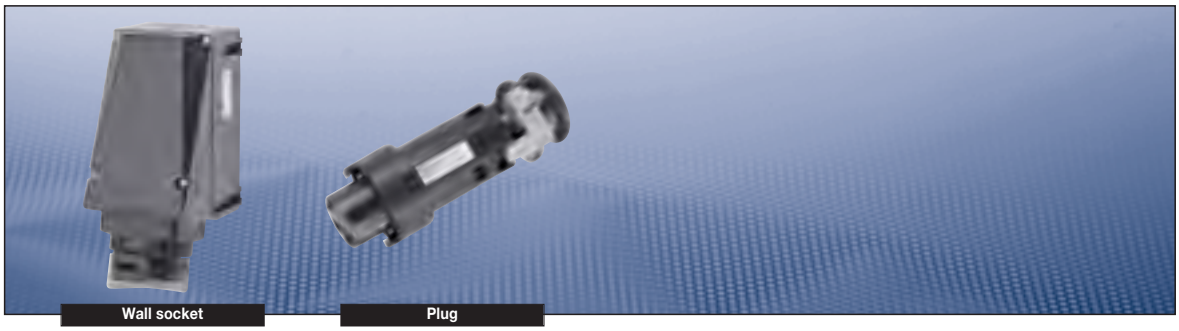
Plug 4/5-pole

X = fixing dimensions



4-pole **5-pole**

Dimensions in mm



Technical data

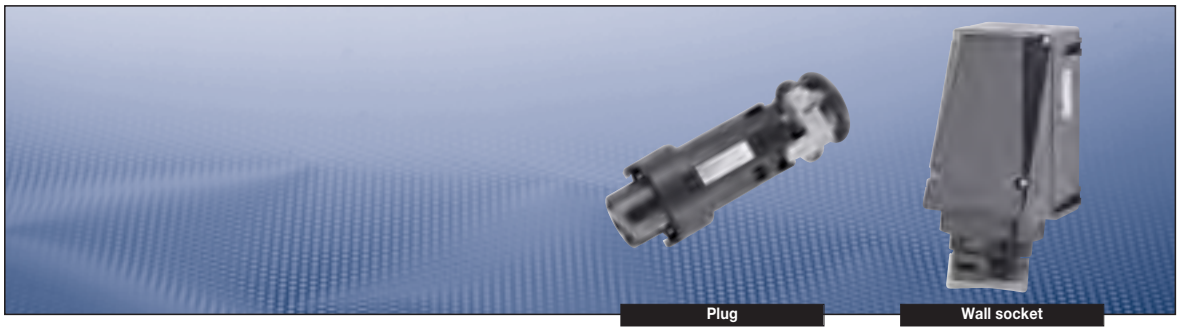
Ex-plugs and receptacles, 21-pole	
Marking to 94/9/EC	Ex II 2 G Ex e II T6 / Ex II 3 D Ex tD A22 IP54 T80 °C[1)]
EC-Type Examination Certificate	PTB 00 ATEX 1109
Permissible ambient temperature	-20 °C to + 40 °C
Rated voltage	250 V AC
Rated current	10 A
Frequency	up to 400 Hz
External back up fuse	without therm. protection: 10 A
	with therm. protection: 16 A gL (rated current 10 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP65
Enclosure colour	Black

Wall socket	
Cable glands/enclosure drilling	1 x M40 Ø 17 - 28 mm, 1 x M32 metal thread with Ex-screw plugs plastic
Connecting terminals	1 x 1.0 - 2.5 mm^2
Enclosure material	Glass-fibre reinforced polyester

Plug	
Cabel glands	Ø 19 - 28 mm
Connecting terminals	1 x 1.0 - 2.5 mm^2 crimp or solder connection[2)]
Enclosure material	Polyamide

[1)] See manufactuers declaration 091 for non conductive dusts

[2)] Please use appropriate crimp tool



Ordering details

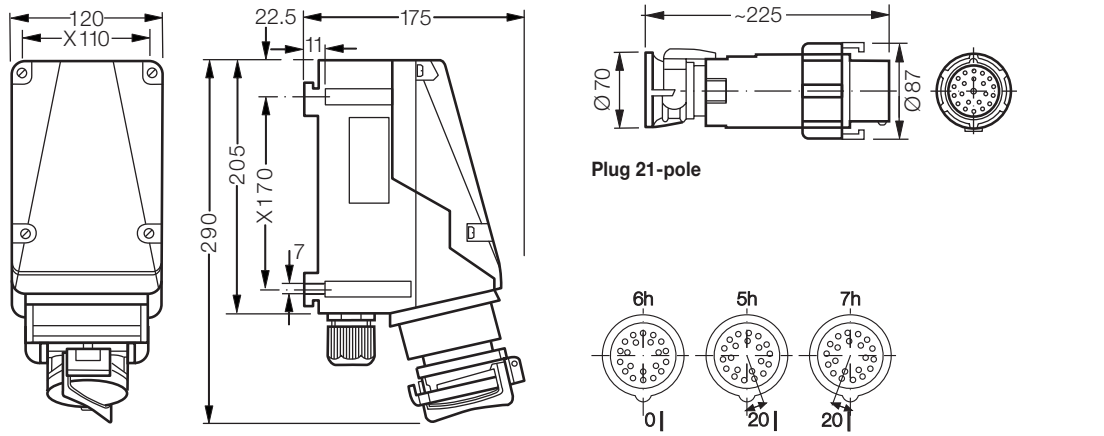
Type	h	Cable entry	Weight	Order No.
Type 10 A 21-pole				
Wall socket	5 h	KU	1.8 kg	**GHG 511 4905 R0001**
Wall socket	5 h	ME	1.9 kg	**GHG 511 4905 R3001**
Plug	5 h		0.7 kg	**GHG 591 2201 R0001**
Wall socket	6 h	KU	1.8 kg	**GHG 511 4906 R0001**
Wall socket	6 h	ME	1.9 kg	**GHG 511 4906 R3001**
Plug	6 h		0.7 kg	**GHG 591 2201 R0002**
Wall socket	7 h	KU	1.8 kg	**GHG 511 4907 R0001**
Wall socket	7 h	ME	1.9 kg	**GHG 511 4907 R3001**
Plug	7 h		0.7 kg	**GHG 591 2201 R0003**

Type	Application	Fixing method	Order No.
Accessories			
Plug cap 21-pole			**GHG 530 1935 R0008**
Mounting plate size 5	for wall mounting	snapp on	**GHG 610 1953 R0128**
Mounting plate size 5	for trellis mounting	snapp on	**GHG 610 1953 R0128**
Mounting plate size 5	for pipe mounting	snapp on	**GHG 610 1953 R0132**
Socket bushes 1 set = 7 pcs.			**GHG 590 1301 R0102**
Plug pins 1 set = 7 pcs.			**GHG 590 1302 R0102**
Ex-Crimping tool for sockets and pins			**GHG 590 1902 R0001**
Dismanteling tool for sockets and pins			**GHG 590 1903 R0001**

KU = 1 x plastic cable glands M40 for Ø 17-28 mm

ME = 1 x metal thread M32 with Ex-screw plug plastic

Dimension drawing | Coding

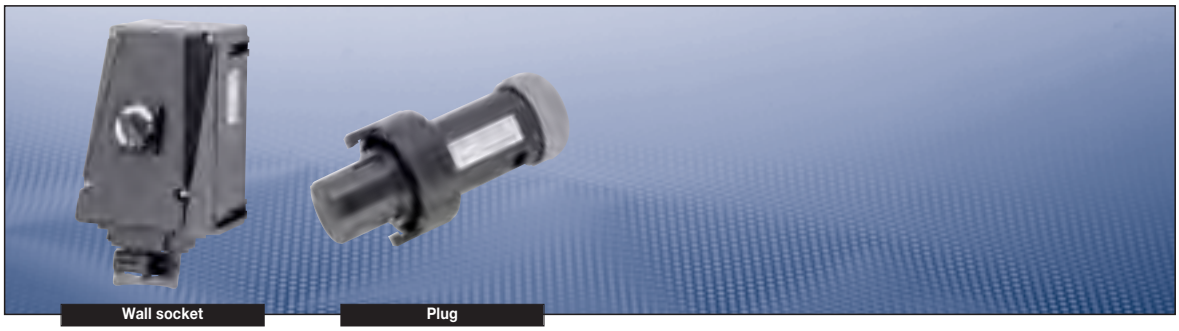


Plug 21-pole

Wall socket

X = fixing dimensions

Dimensions in mm



Technical data

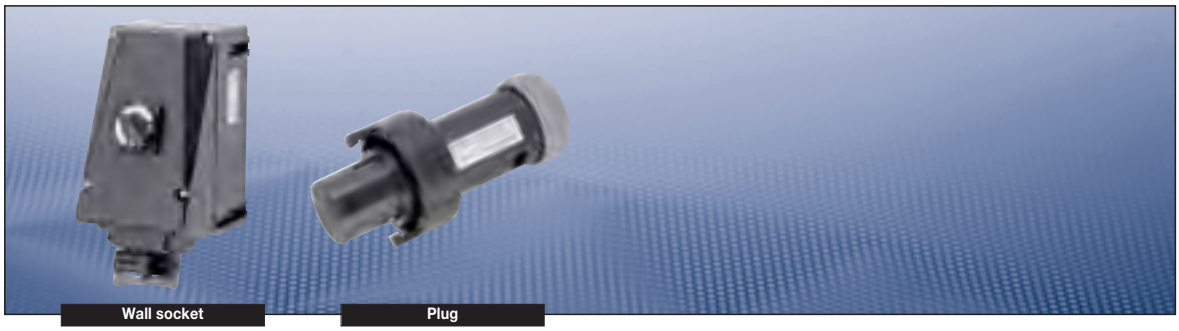
Ex-plugs and receptacles, 7-pole	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6/T5 / Ⓔx II 3 D Ex tD A22 IP54 T80 °C[1)]
EC-Type Examination Certificate	PTB 00 ATEX 1109
Permissible ambient temperature	-20 °C to + 40 °C
Rated voltage	500 V
Rated current	16 A (T6) / 20 A (T5)
Frequency	up to 400 Hz
Rated making/rated breaking capacity AC-3	U_e 500 V / I_e 10 A
accd. EN 60947-3	U_e 250 V / I_e 16 A
External back up fuse	without therm. protection: 16 A
	with therm. protection: 25 A gL (rated currrent 16/20 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure colour	Black

Wall socket	
Cable glands/enclosure drilling	2 x M40 Ø 17 - 28 mm, 1 Ex screw plugs plastic or
	2 x M32 metal thread with 2 Ex screw plugs plastic
Connecting terminals	2 x 1.5 - 4 mm²
Enclosure material	Glass-fibre reinforced polyester

Plug	
Cabel glands	Ø 9 - 17 mm
Connecting terminals	1 x 1.0 - 2.5 mm² crimped or soldered connection[2)]
Enclosure material	Polyamide

[1)] See manufactuers declaration 091 for non conductive dusts

[2)] Please use appropriate crimp tool



Ordering details

Type	h	Cable entry	Weight	Order No.
Type 20 A 7-pole				
Wall socket 7-pole	6 h	KU	2.2 kg	**GHG 511 4706 R0001**
Wall socket 7-pole	6 h	ME	2.3 kg	**GHG 511 4706 R3001**
Plug 7-pole	6 h		0.3 kg	**GHG 592 2001 R0002**
Wall socket 6-pole + PE	7 h	KU	2.2 kg	**GHG 511 4707 R0003**
Wall socket 6-pole + PE	7 h	ME	2.3 kg	**GHG 511 4707 R3003**
Plug 6-pole + PE	7 h		0.3 kg	**GHG 592 2001 R0022**

Type	Application	Fixing method	Order No.
Accessories			
Plug cap 7-pole			**GHG 540 1935 R0002**
Mounting plate size 5	for wall mounting	snapp on	**GHG 610 1953 R0128**
Mounting plate size 5	for trellis mounting	snapp on	**GHG 610 1953 R0128**
Mounting plate size 5	for pipe mounting	snapp on	**GHG 610 1953 R0132**
Socket bushes 1 set = 7 pcs.			**GHG 590 1301 R0102**
Plug ins 1 set = 7 pcs.			**GHG 590 1302 R0102**
Crimping tool for sockets and pins			**GHG 590 1902 R0001**
Dismanteling tool for sockets and pins			**GHG 590 1903 R0001**

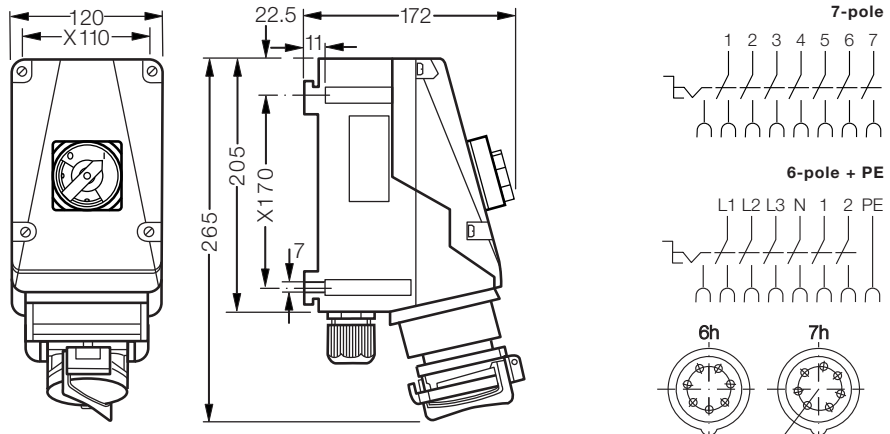
Other voltage ranges and versions available on request.

KU = 1 x plastic cable glands M40 Ø 17-28 mm, 1 x M40 with Ex-screw plug plastic

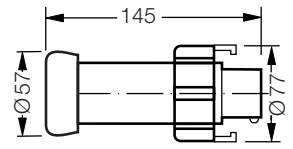
ME = 2 x metal thread M32 with Ex-screw plug plastic

Fixing material and accessories see page 6.94 pp.

Dimension drawing | Wiring diagram



Wall socket 7-pole



Plug 7-pole

X = fixing dimensions

Dimensions in mm

EX-PLUG AND RECEPTACLE

16 A
Metallic Design for Zone 1

The explosion-protected light metal plug and receptacle devices can be used in the areas of Zone 1 and Zone 2 at no risk of explosion. Extremely harsh conditions of use in the hazardous area requires the devices to have highest mechanical strength. The explosion-protected CEAG plug and socket devices can be used to supply the appropriate energy to portable electrical equipment in these harsh conditions.

The robust plug and receptacle devices with high-quality cast aluminium housings can be connected to a large connecting room via explosion-proof conduits or explosion-proof screwed connections.

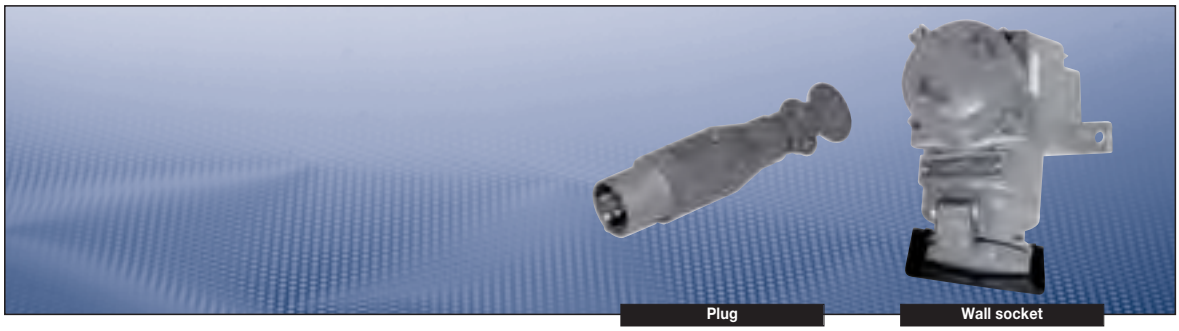
Unused flameproof threads for cable glands have to be closed with certified plugs.

The light metal plug and socket devices have an outside earthing connection.

The explosion-protected plug can be plugged into an industrial sockets if their contact disposibility is acc. to IEC 60309 connecting terminals are in an Ex-e chamber, all other parts are Ex-d protected.



Ex-d enclosure
High mechanical, chemical and thermal resistance conduit
Connecting technology



Technical data

Ex-protected plug and socket Ex d	
Marking to 94/9/EC	Ex II 2 G Ex de IIC T6
EC-Type Examination Certificate	LOM 03 ATEX 2019
Permissible ambient temperature	–20 °C up to +55 °C
Rated voltage	see ordering details
Rated current	16 A
Frequency	50/60 Hz
Rated making/rated breaking capacity AC-3	
accd. EN 60947-3	U_e 415 V / I_e 16 A
External back-up fuse, max.	without therm. protection: 16 A / with therm. protection: 35 A gL
Degree of protection to EN 60529	IP65
Enclosure material	Light alloy, polyester paint finish

Wall socket	
Cable glands	2 x 3/4", ISO 7/1, one plugged
Connecting terminals	2 x 1.0 - 2.5 mm²

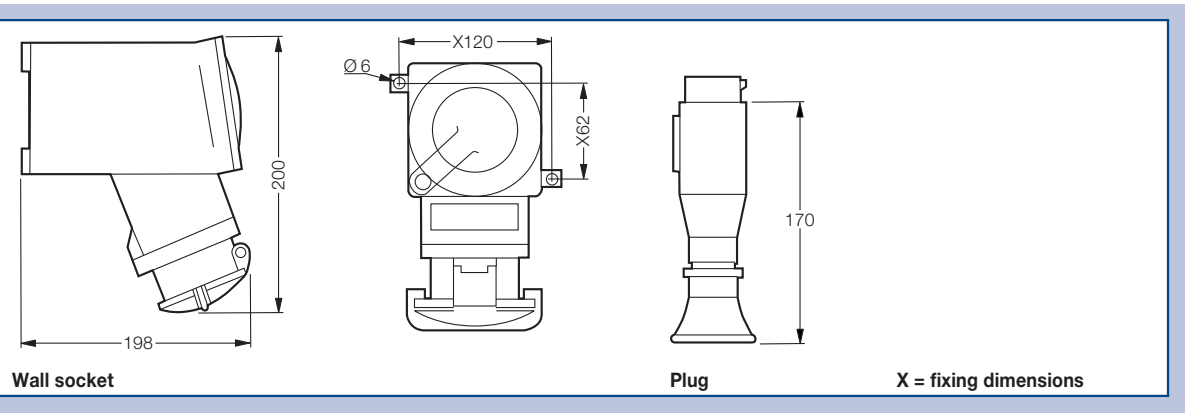
Plug	
Cabel glands	Ø 8.5 - 13.5 mm
Connecting terminals	1 x 1.0 - 2.5 mm² / PE: 1 x 1.5 - 6 mm²

Ordering details

Voltage[1]	h	Type	Weight approx.	Order No.
Type 16 A 3-pole				
220 - 250 V	6	Wall socket	2.7 kg	**NOR 000 003 230 016**
	6	Plug	0.55 kg	**NOR 000 003 230 058**
Type 16 A 4-pole				
380 - 415 V	6	Wall socket	2.7 kg	**NOR 000 003 230 024**
	6	Plug	0.55 kg	**NOR 000 003 230 066**
Type 16 A 5-pole				
380 - 415 V	6	Wall socket	2.7 kg	**NOR 000 003 230 032**
	6	Plug	0.7 kg	**NOR 000 003 230 074**

[1] Other voltages on request

Dimension drawing



Wall socket | Plug | X = fixing dimensions

Dimensions in mm

EX-PLUGS AND RECEPTACLES

16 A to 125 A
Plastic version for Zone 2

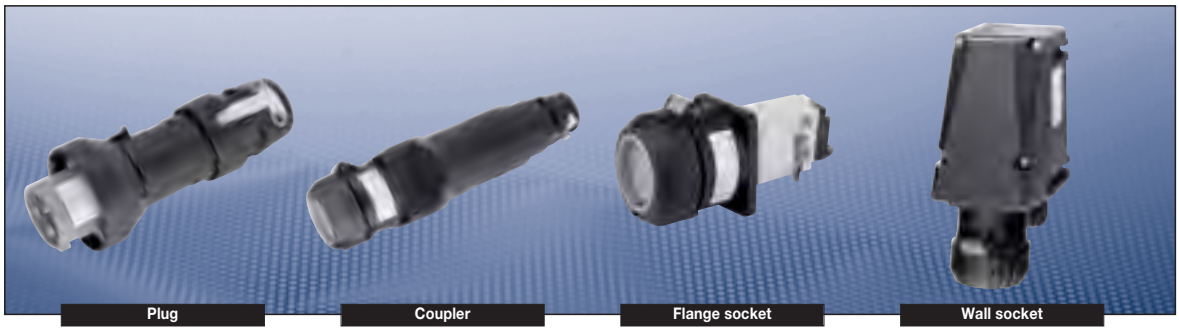


A good connection

Providing electrical energy there, where it is most needed – even in hazardous areas for Zone 2 and Zone 22.
Non-stationary electrical apparatus have generally high requirements on the energy/power supply. Robust plugs and receptacles as well as a high chemical resistance are at the first glance very important. Electrical reliability is a must not only for all connectivity products.
A high safety standard, a steady hold and faultless contacting even under vibration or the effects of an aggressive atmospheric environment are the basis for a secure and reliable utilisation
CEAG plugs and receptacles offer more, apart from the proven technology, this product series is defined by its innovative details. For example, the very efficient cable strain relief or the new coding system of the various versions offers different solutions for a secure and problem free utilization in all areas. Just to round the product off, the user in the normal industrial sector becomes exactly the same product advantages. Robust industrial versions fulfil all requirements appertaining to mechanical and chemical durability. For the stationary repair power supplying in hazardous explosive areas, there is a specially conceived version available that fulfils all the necessary safety requirements. Used in a module sense, individual solutions are no problem at all.
The CEAG wall socket for instance can be mounted on to the pre-installed mounting frame without having to use tools – installation without a hot work permit.
Apart from the plugs and receptacles for the European market, we also have plugs and sockets extra for the US market, which are in accordance to all of the necessary standards UL and safety protection systems used there.
The available standard range used here, are the 20 A, 30 A, 60 A and 100 A.

International approvals.

- **Safety standard IP66 applies also in the plugged-in state**
- **Full AC-3 switching ability**
- **Self-cleaning lamellar contacts, low transition resistance**
- **All-pole on/off switching**
- **Easy plugging**



Technical data

Ex-plugs and receptacles accd. to IEC 60309-1/2 16A	
Marking to 94/9/EC	Ex II 3 G Ex nC IIC T5/T6
EC-Type Examination Certificate	PTB 99 ATEX 1115
Permissible ambient temperature	-20°C to +40°C[1)]
Rated voltage	up to 400 V (3-pole) / 750 V (4-pole) / 500 V (5-pole) (AC)
Rated current	up to 16 A
Frequency	up to 400 Hz
Rated making/rated breaking capacity AC-3	
accd. EN 60947-3	U_e 400 V / I_e 16 A
External back-up fuse, max.	without therm. protection: 16 A with therm. protection: 35 A gL (rated current 16 A set to)
Insulation class	I
Degree of protection to EN 60529	IP66

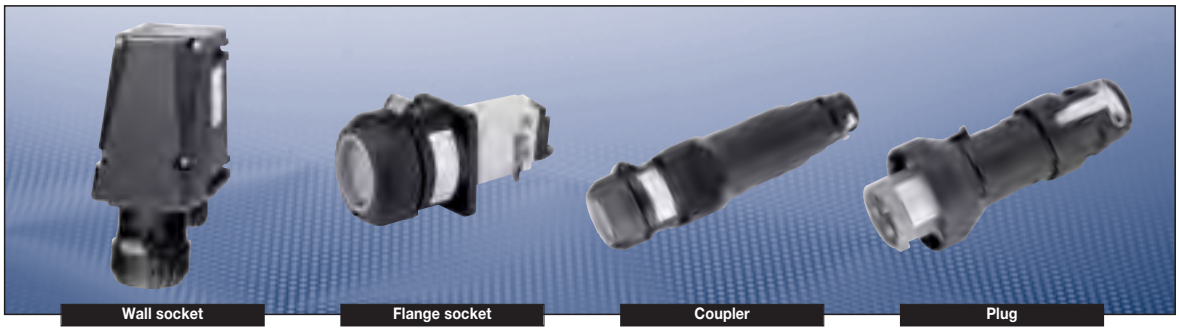
Wall socket	
Cable glands	1 x M25 Ø 8 - 17 mm, 1 x M25 Ex-screw plug plastic or 2 x metal thread M20 with Ex-screw plug plastic
Connecting terminals	2 x 1.5 - 4 mm²
Enclosure material	Glass-fibre reinforced polyester

Plug	
Cable glands	Ø 8 - 19 mm (3-pole) / Ø 8 - 21 mm (4-pole) / 12 - 21 mm (5-pole)
Connecting terminals	1 x 1.0 - 2.5 mm²
Enclosure material	Polyamide

Coupler	
Cable glands	Ø 8 - 19 mm (3-pole) / Ø 8 - 21 mm (4-pole) / 12 - 21 mm (5-pole)
Connecting terminals	2 x 1.5 - 4 mm²
Enclosure material	Polyamide

Flange socket	
Connecting terminals	2 x 1 - 4 mm²
Enclosure material	Polyamide

[1)] extended temperature range on request



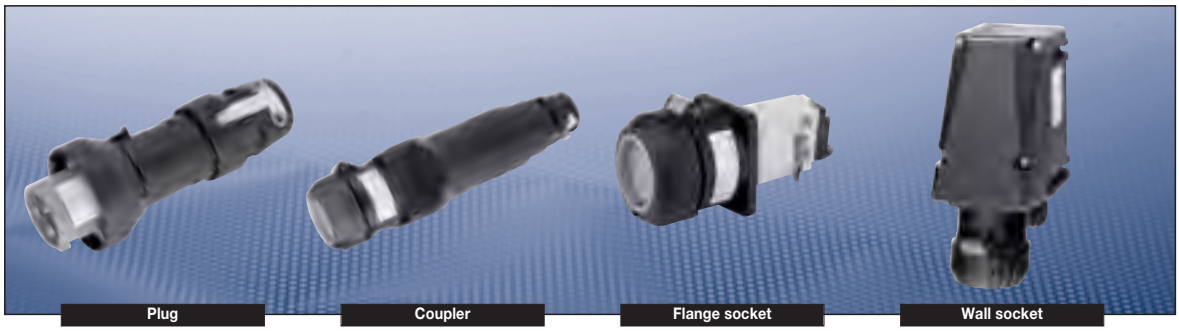
Ordering details

Voltage	h	Type	Cable entry	Weight approx.	Order No.
Type 16 A 3-pole					
110-130 V		Wall socket	KU	1.2 kg	**GHG 516 4304 R0001**
		Wall socket	ME	1.3 kg	**GHG 516 4304 R3001**
		Flange socket		0.4 kg	**GHG 516 8304 R0001**
		Coupler		0.7 kg	**GHG 516 3304 R0001**
	4	Plug		0.35 kg	**GHG 516 7304 R0001**
200-250 V		Wall socket	KU	1.2 kg	**GHG 516 4306 R0001**
		Wall socket	ME	1.3 kg	**GHG 516 4306 R3001**
		Flange socket		0.4 kg	**GHG 516 8306 R0001**
		Coupler		0.7 kg	**GHG 516 3306 R0001**
	6	Plug		0.35 kg	**GHG 516 7306 R0001**
Type 16 A 4-pole					
200-250 V		Wall socket	KU	1.8 kg	**GHG 516 4409 R0001**
		Wall socket	ME	1.9 kg	**GHG 516 4409 R3001**
		Flange socket		1.0 kg	**GHG 516 8409 R0001**
		Coupler		1.7 kg	**GHG 516 3409 R0001**
	9	Plug		0.7 kg	**GHG 516 7409 R0001**
380-415 V		Wall socket	KU	1.8 kg	**GHG 516 4406 R0001**
		Wall socket	ME	1.9 kg	**GHG 516 4406 R3001**
		Flange socket		1.0 kg	**GHG 516 8406 R0001**
		Coupler		1.7 kg	**GHG 516 3406 R0001**
	6	Plug		0.7 kg	**GHG 516 7406 R0001**
480-500 V		Wall socket	KU	1.8 kg	**GHG 516 4407 R0001**
		Wall socket	ME	1.9 kg	**GHG 516 4407 R3001**
		Flange socket		1.0 kg	**GHG 516 8407 R0001**
		Coupler		1.7 kg	**GHG 516 3407 R0001**
	7	Plug		0.7 kg	**GHG 516 7407 R0001**
600-690 V		Wall socket	KU	1.8 kg	**GHG 516 4405 R0001**
		Wall socket	ME	1.9 kg	**GHG 516 4405 R3001**
		Flange socket		1.0 kg	**GHG 516 8405 R0001**
		Coupler		1.7 kg	**GHG 516 3405 R0001**
	5	Plug		0.7 kg	**GHG 516 7405 R0001**
Type 16 A 5-pole					
200-250 V 380-415 V		Wall socket	KU	1.8 kg	**GHG 516 4506 R0001**
		Wall socket	ME	1.9 kg	**GHG 516 4506 R3001**
		Flange socket		1.0 kg	**GHG 516 8506 R0001**
		Coupler		1.7 kg	**GHG 516 3506 R0001**
	6	Plug		0.7 kg	**GHG 516 7506 R0001**

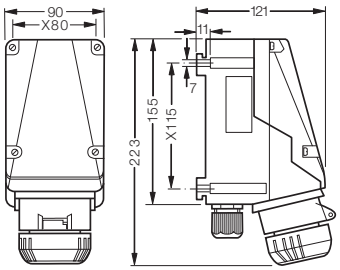
Other voltage ranges and versions for example with auxiliary contact available on request

KU = 1 x plastic cable glands M25 Ø 8-17 mm, 1 x M25 Ex-screw plug plastic

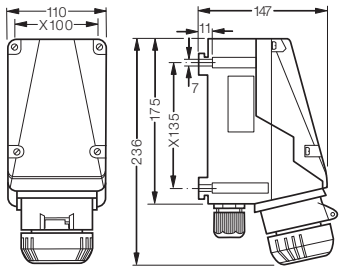
ME = 2 x metal thread M20 with Ex-screw plug plastic



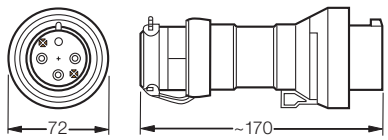
Dimension drawing | Wiring diagram



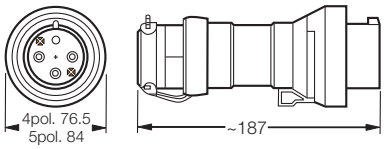
Wall socket 3-pole



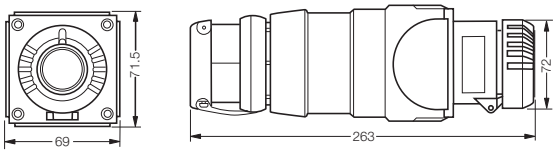
Wall socket 4/5-pole



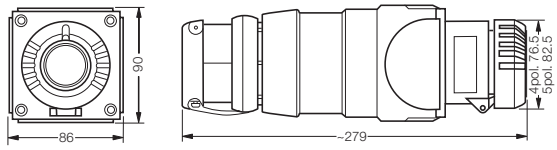
Plug 3-pole



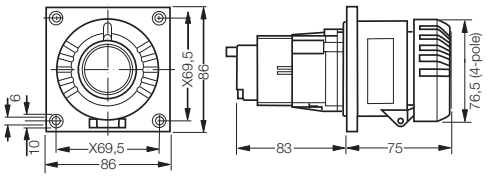
Plug 4/5-pole



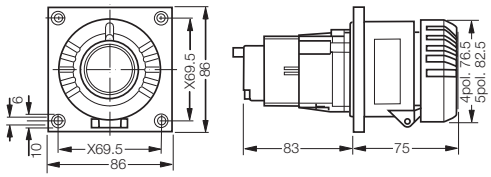
Coupler 3-pole



Coupler 4/5-pole

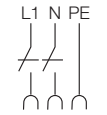


Flange socket 3-pole

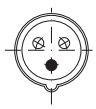


Flange socket 4/5-pole

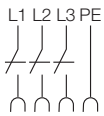
X = fixing dimensions



1P + N + PE



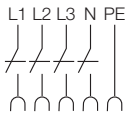
3-pole



3P + PE



4-pole

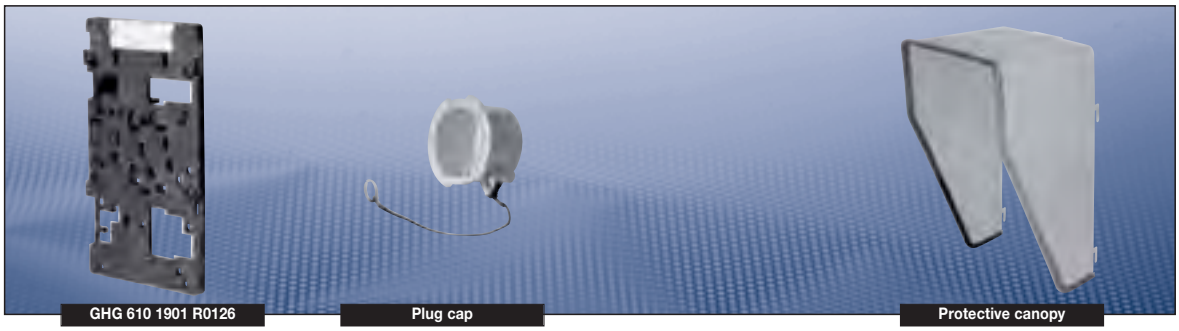


3P + N + PE



5-pole

Dimensions in mm



Accessories

Mounting plates for wall sockets 16 A			
Type	Application	Fixing method	Order No.
Size 4	for wall mounting	snap on	**GHG 610 1953 R0126**
Size 4	for trellis mounting	snap on	**GHG 610 1953 R0126**
Size 4	for pipe mounting	snap on	**GHG 610 1953 R0130**

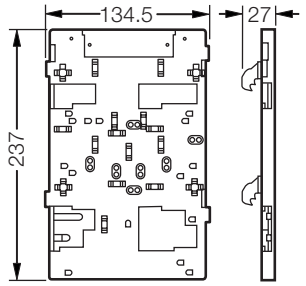
Plug cap for plugs 16 A	
Type	Order No.
Plug 16 A 3-pole	**GHG 510 1901 R0001**
Plug 16 A 4-pole	**GHG 510 1901 R0002**
Plug 16 A 5-pole	**GHG 510 1901 R0003**

Accessories for mounting plates		
Type	OU	Order No.
Mounting set for pipes 1" (Ø 27 - 30 mm) for mounting plates with pipe fixing	10	**GHG 610 1953 R0020**

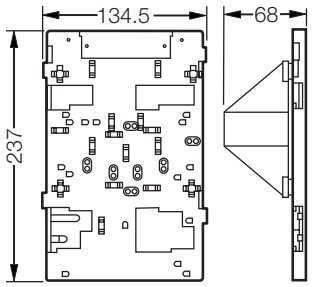
Please pay attention that only order units (OU) according to the ordering details can be delivered.

Protective canopy for mounting plate		
Type	Application	Order No.
Size 4	for mounting plate size 4, plugable	**GHG 610 1955 R0107**

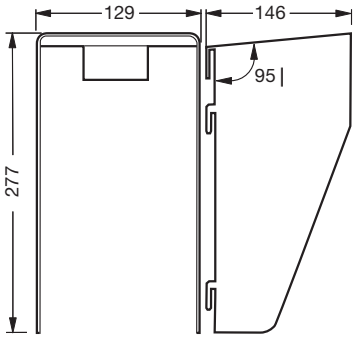
Dimension drawing



Mounting plate size 4 for wall/trellis mounting

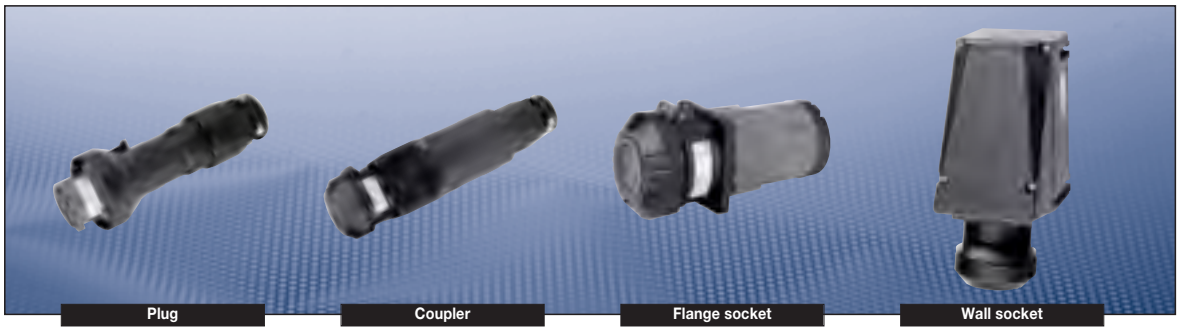


Mounting plate size 4 for pipe mounting



Protective canopy size 4

Dimensions in mm



Technical data

Ex-plugs and receptacles accd. to IEC 60309-1/2	
Marking to 94/9/EC	Ex II 3 G Ex nC IIC T6
EC-Type Examination Certificate	PTB 99 ATEX 1115
Permissible ambient temperature	–20 °C to +40 °C[1)]
Rated voltage	690 V (AC)
Rated current	up to 32 A
Frequency	up to 400 Hz
Rated making/rated breaking capacity AC-3	
accd. EN 60947-3	U_e 690 V / I_e 32 A
External back-up fuse	without therm. protection: 35 A with therm. protection: 50 A gL (rated current 32 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure colour	Black

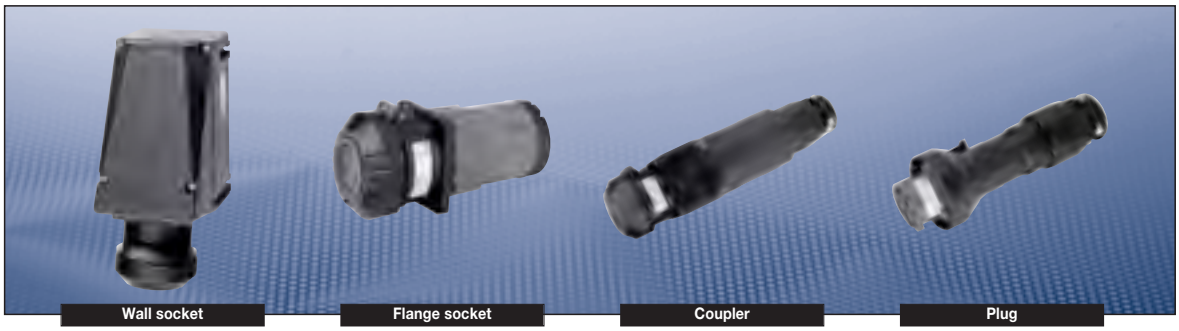
Wall socket	
Cable glands/enclosure drilling	1 x M40 Ø 17 - 28 mm, 1 x M40 Ex-screw plug plastic or 2 x M32 metal thread with 2 Ex-screw plug plastic
Connecting terminals	2 x 4 - 10 mm²
Enclosure material	Glass-fibre reinforced polyester

Plug	
Cabel glands	Ø 17 - 28 mm
Connecting terminals	1 x 1.0 - 6 mm²
Enclosure material	Polyamide

Coupler	
Cabel glands	Ø 17 - 28 mm
Connecting terminals	2 x 4 - 10 mm²
Enclosure material	Polyamide

Flange socket	
Connecting terminals	2 x 4 - 10 mm²
Enclosure material	Polyamide

[1)] extended temperature range on request



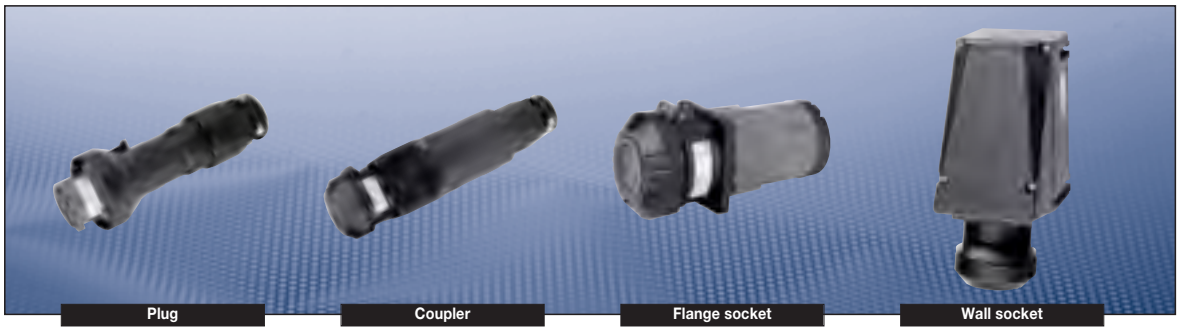
Ordering details

Voltage	h	Type	Cable entries	Weight approx.	Order No.
Type 32 A 4-pole					
200-250 V		Wall socket	KU	1.8 kg	**GHG 517 4409 R0001**
		Wall socket	ME	1.9 kg	**GHG 517 4409 R3001**
		Flange socket		1.0 kg	**GHG 517 8409 R0001**
		Coupler		1.7 kg	**GHG 517 3409 R0001**
	9	Plug		0.7 kg	**GHG 517 7409 R0001**
380-415 V		Wall socket	KU	1.8 kg	**GHG 517 4406 R0001**
		Wall socket	ME	1.9 kg	**GHG 517 4406 R3001**
		Flange socket		1.0 kg	**GHG 517 8406 R0001**
		Coupler		1.7 kg	**GHG 517 3406 R0001**
	6	Plug		0.7 kg	**GHG 517 7406 R0001**
480-500 V		Wall socket	KU	1.8 kg	**GHG 517 4407 R0001**
		Wall socket	ME	1.9 kg	**GHG 517 4407 R3001**
		Flange socket		1.0 kg	**GHG 517 8407 R0001**
		Coupler		1.7 kg	**GHG 517 3407 R0001**
	7	Plug		0.7 kg	**GHG 517 7407 R0001**
600-690 V		Wall socket	KU	1.8 kg	**GHG 517 4405 R0001**
		Wall socket	ME	1.9 kg	**GHG 517 4405 R3001**
		Flange socket		1.0 kg	**GHG 517 8405 R0001**
		Coupler		1.7 kg	**GHG 517 3405 R0001**
	5	Plug		0.7 kg	**GHG 517 7405 R0001**
Type 32 A 5-pole					
200-250 V 380-415 V		Wall socket	KU	1.8 kg	**GHG 517 4506 R0001**
		Wall socket	ME	1.9 kg	**GHG 517 4506 R3001**
		Flange socket		1.0 kg	**GHG 517 8506 R0001**
		Coupler		1.7 kg	**GHG 517 3506 R0001**
	6	Plug		0.7 kg	**GHG 517 7506 R0001**

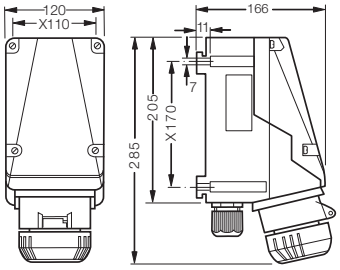
Other voltage ranges and versions with auxiliary contact available on request

KU = 1 x plastic cable glands M40 Ø 17-28 mm, 1 x M40 Ex-screw plug plastic

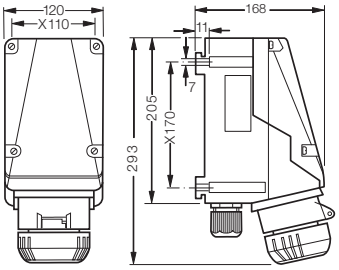
ME = 2 x metal thread M32 with Ex-screw plug plastic



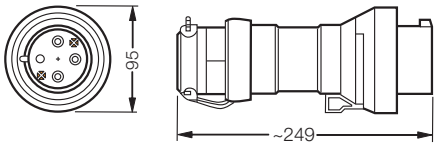
Dimension drawing | Wiring diagram



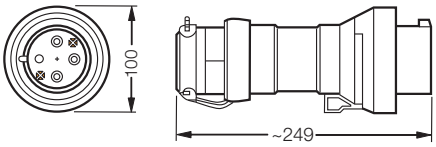
Wall socket 4-pole



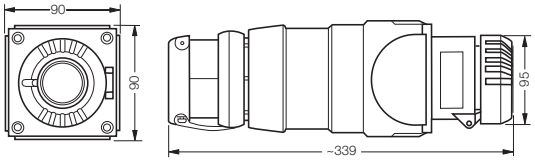
Wall socket 5-pole



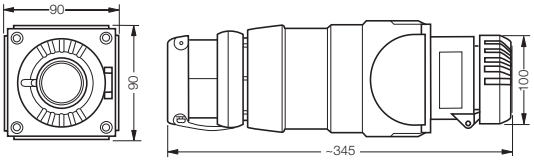
Plug 4-pole



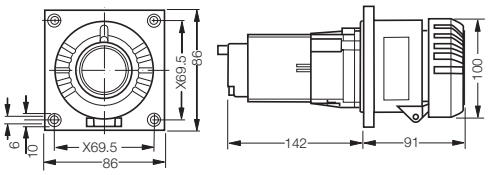
Plug 5-pole



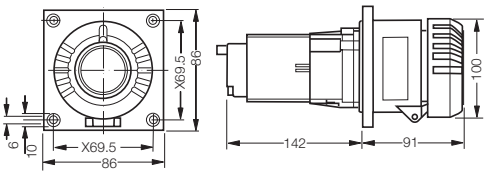
Coupler 4-pole



Coupler 5-pole

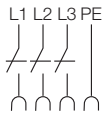


Flange socket 4-pole

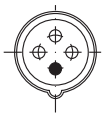


Flange socket 5-pole

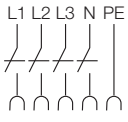
X = fixing dimensions



3P + PE



4-pole

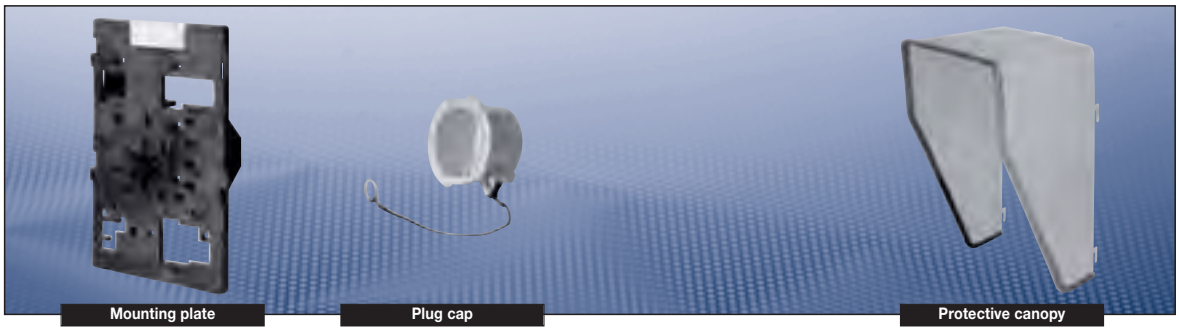


3P + N + PE



5-pole

Dimensions in mm



Accessories

Mounting plates for wall sockets 32 A			
Type	Application	Fixing method	Order No.
Size 5	for wall mounting	snap on	**GHG 610 1953 R0128**
Size 5	for trellis mounting	snap on	**GHG 610 1953 R0128**
Size 5	for pipe mounting	snap on	**GHG 610 1953 R0132**

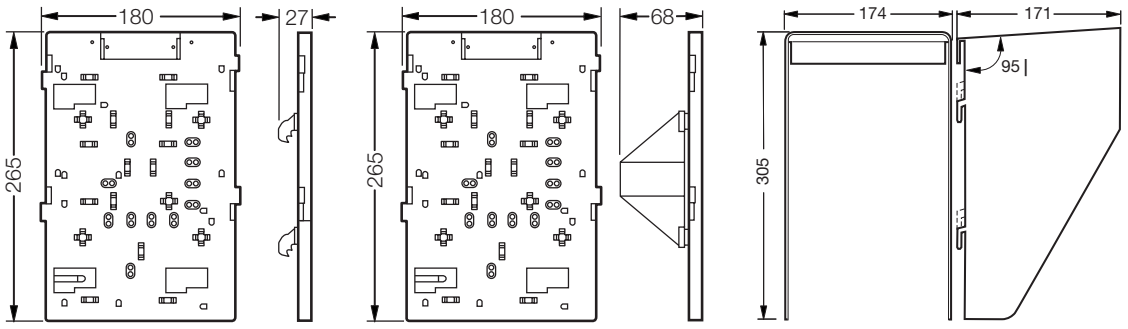
Plug cap for plugs 32 A	
Type	Order No.
Plug 32 A 3-pole/4-pole	**GHG 510 1901 R0004**
Plug 32 A 5-pole	**GHG 510 1901 R0005**

Accessories for mounting plates		
Type	OU	Order No.
Mounting set for pipes 1" (Ø 27 - 30 mm) for mounting plates with pipe fixing	10	**GHG 610 1953 R0020**

Please pay attention that only order units (OU) according to the ordering details can be delivered.

Protective canopy for mounting plate		
Type	Application	Order No.
Size 5	for mounting plate size 5 plugable	**GHG 610 1955 R0108**

Dimension drawing

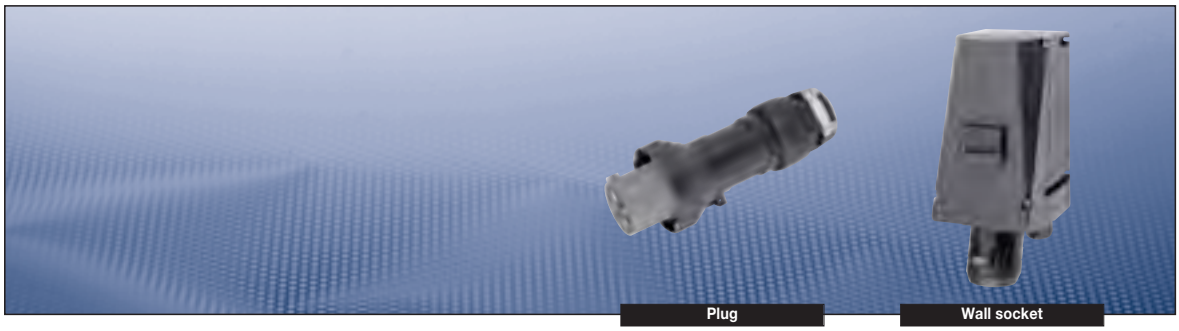


Mounting plate size 5 for wall/trellis mounting

Mounting plate size 5 for pipe mounting

Protective canopy size 5

Dimensions in mm



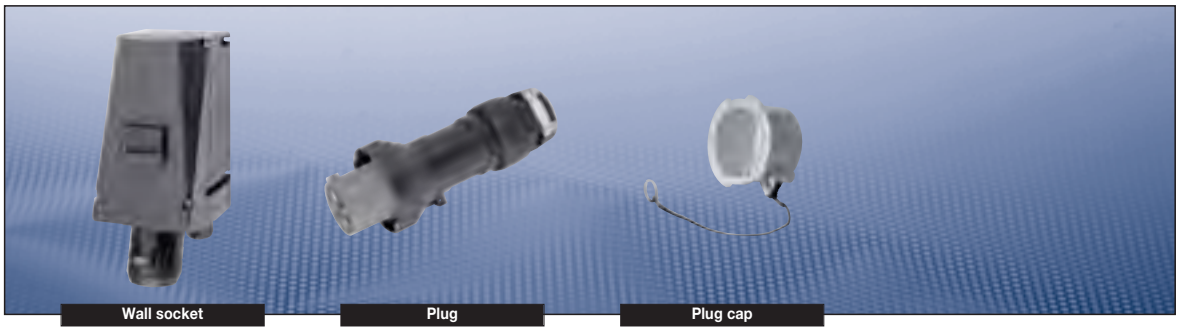
Technical data

Ex-plugs and receptacles accd. to IEC 60309-1/2 up to 690 V	
Marking to 94/9/EC	Ex II 3 G Ex nC IIC T6
EC-Type Examination Certificate	PTB 99 ATEX 1115
Permissible ambient temperature	-20 °C to + 40 °C[1)]
Rated voltage	690 V
Rated current	63 A
Frequency	up to 400 Hz
Rated making/rated breaking capacity AC-3	
accd. EN 60947-3	U_e 690 V / I_e 63 A
External back up fuse	without therm. protection: 63 A with therm. protection: 80 A gL (rated current 63 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure colour	Black

Wall socket	
Cable glands/enclosure drilling	1 x M50 Ø 22 - 35 mm, 1 x M50 Ex-screw plug plastic or 2 x M40 metal thread with Ex-screw plug plastic
Connecting terminals	2 x 4 - 25 mm² / with cable lug[1)] 1 x 35 mm²
Enclosure material	Glass-fibre reinforced polyester

Plug	
Cabel glands	Ø 19 - 34 mm
Connecting terminals	1 x 4 - 16 mm² / with cable lug 1 x 25 mm²
Enclosure material	Polyamide

[1)] extended temperature range on request



Ordering details

Voltage	h	Type	Cable entries	Weight approx.	Order No.
Type 63 A 4-pole					
200-250 V	 9	Wall socket Wall socket Plug	KU ME	8.1 kg 8.2 kg 0.75 kg	**GHG 518 4409 R0001** **GHG 518 4409 R3001** **GHG 518 7409 R0001**
380-415 V	 6	Wall socket Wall socket Plug	KU ME	8.1 kg 8.2 kg 0.75 kg	**GHG 518 4406 R0001** **GHG 518 4406 R3001** **GHG 518 7406 R0001**
480-500 V	 7	Wall socket Wall socket Plug	KU ME	8.1 kg 8.2 kg 0.75 kg	**GHG 518 4407 R0001** **GHG 518 4407 R3001** **GHG 518 7407 R0001**
600-690 V	 5	Wall socket Wall socket Plug	KU ME	8.1 kg 8.2 kg 0.75 kg	**GHG 518 4405 R0001** **GHG 518 4405 R3001** **GHG 518 7405 R0001**
Type 63 A 5-pole					
200-250 V 380-415 V	 6	Wall socket Wall socket Plug	KU ME	8.15 kg 8.25 kg 0.75 kg	**GHG 518 4506 R0001** **GHG 518 4506 R3001** **GHG 518 7506 R0001**

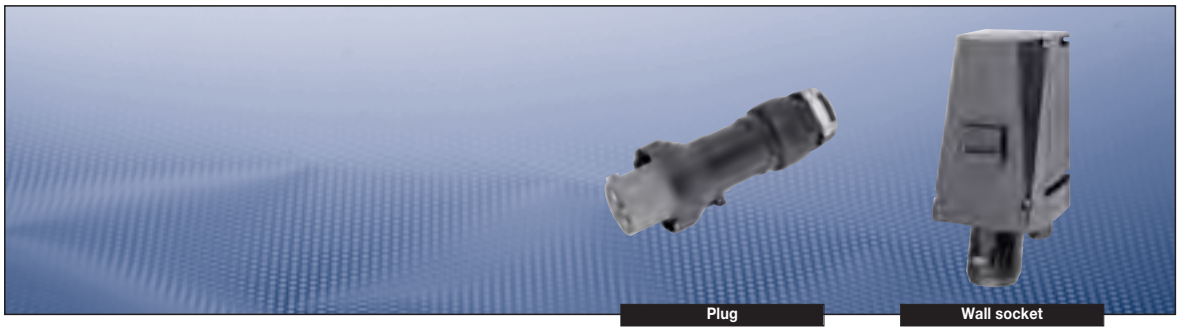
Accessories

Plug cap for plugs		
Type	OU	Order No.
Plug cap 4-pole/5-pole	1	**GHG 510 1901 R0006**
Pin cable lug 25 mm²	5	**GHG 510 1916 R0001**

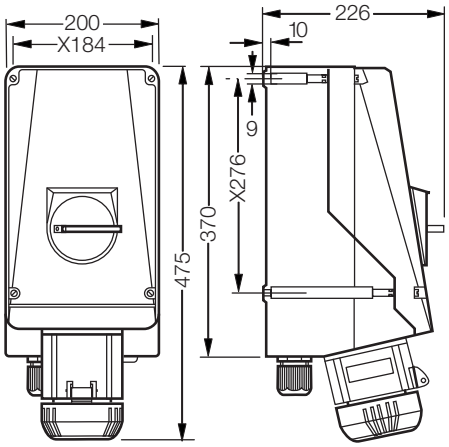
Other voltage ranges and versions with auxiliary contact available on request

KU = 1 x plastic cable glands M40 Ø 17-28 mm, 1 x M40 Ex-screw plug plastic

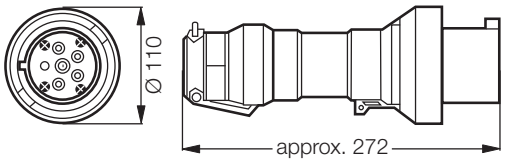
ME = 2 x metal thread M32 with Ex-screw plug plastic



Dimension drawing | Wiring diagram

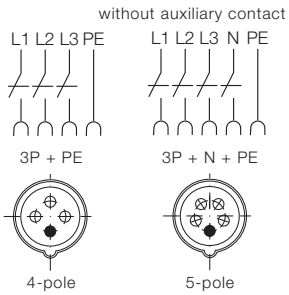


Wall socket 4/5-pole

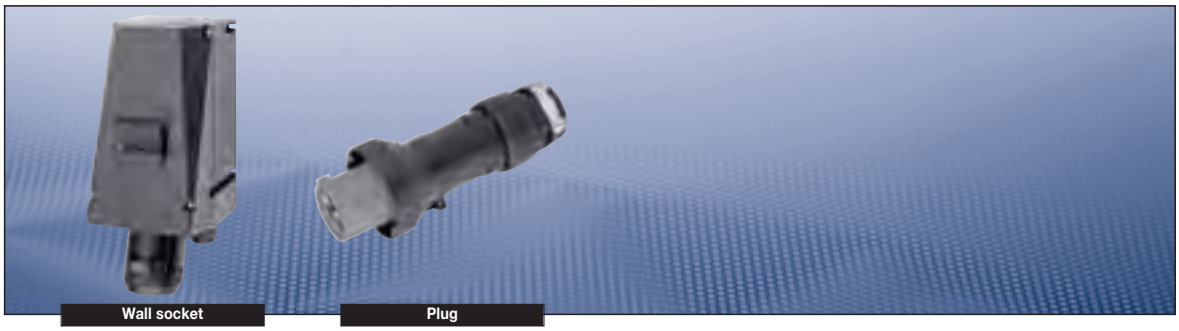


Plug 4/5-pole

X = mounting dimensions



Dimensions in mm



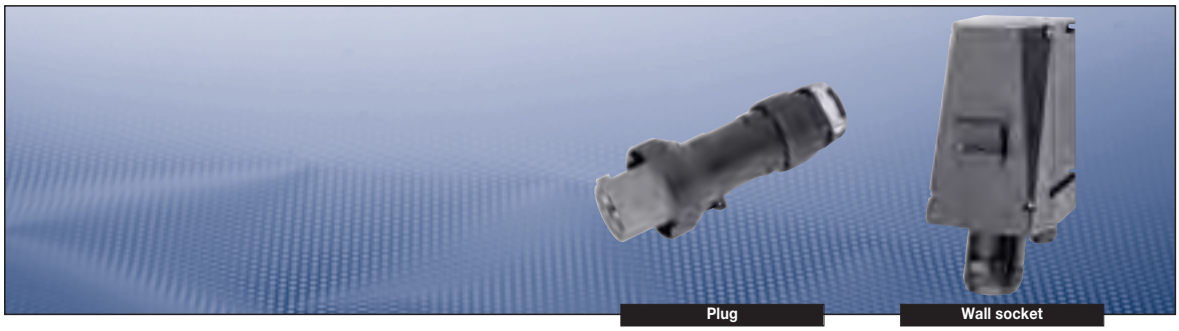
Technical data

Ex-plugs and receptacles accd. to IEC 60309-1/2 to 690 V	
Marking to 94/9/EC	Ex II 3 G EX de IIC T6
EC-Type Examination Certificate	PTB 99 ATEX 1115
Permissible ambient temperature	-20 °C to + 40 °C[1)]
Rated voltage	690 V
Rated current	125 A
Frequency	up to 400 Hz
Rated making/rated breaking capacity AC-3	
accd. EN 60947-3	U_e 690 V / I_e 125 A
External back up fuse	without therm. protection: 125 A with therm. protection: 160 A gL (rated currrent 125 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure colour	Black

Wall socket	
Cable glands/enclosure drilling	1 x M63 Ø 27 - 48 mm, 1 x M63 Ex-screw plug plastic or 1 x M50 Ø 21 - 35 mm, 1 x M50 Ex-screw plug plastic
Connecting terminals	2 x 4 - 50 mm² / with cable lug[1)] 1 x 120 mm²
Enclosure material	Glass-fibre reinforced polyester

Plug	
Cabel glands	Ø 31 - 58 mm
Connecting terminals	1 x 4 - 35 mm² / with pin cable lug 1 x 50 mm²
Enclosure material	Polyamide

[1)] extended temperature range on request



Ordering details

Voltage	h	Type		Cable entry	Weight approx.	Order No.
Type 125 A 4-pole						
200-250 V	 9	Wall socket Wall socket Plug		KU ME	12.3 kg 12.5 kg 0.9 kg	**GHG 519 4409 R0001** **GHG 519 4409 R3001** **GHG 519 7409 R0001**
380-415 V	 6	Wall socket Wall socket Plug		KU ME	12.3 kg 12.5 kg 0.9 kg	**GHG 519 4406 R0001** **GHG 519 4406 R3001** **GHG 519 7406 R0001**
480-500 V	 7	Wall socket Wall socket Plug		KU ME	12.3 kg 12.5 kg 0.9 kg	**GHG 519 4407 R0001** **GHG 519 4407 R3001** **GHG 519 7407 R0001**
600-690 V	 5	Wall socket Wall socket Plug		KU ME	12.3 kg 12.5 kg 0.9 kg	**GHG 519 4405 R0001** **GHG 519 4405 R3001** **GHG 519 7405 R0001**
Type 125 A 5-pole						
200-250 V 380-415 V	 6	Wall socket Wall socket Plug		KU ME	13 kg 13.2 kg 1.2 kg	**GHG 519 4506 R0001** **GHG 519 4506 R3001** **GHG 519 7506 R0001**

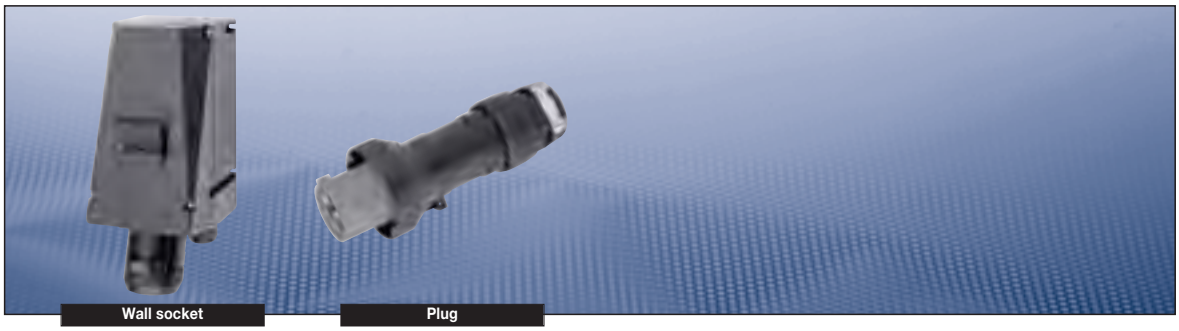
Accessories

Type	OU	Order No.
Plug cap 4-pole/5-pole	1	**GHG 510 1901 R0007**
Cable lug 50 mm²	5	**GHG 260 1911 R0004**

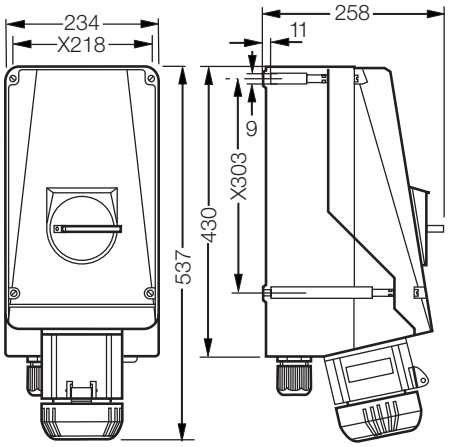
Other voltage ranges and versions with auxiliary contact available on request

KU = 1 x plastic cable glands M40 Ø 17-28 mm, 1 x M40 Ex-screw plug plastic

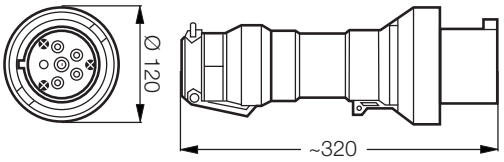
ME = 2 x metal thread M32 with Ex-screw plug plastic



Dimension drawing | Wiring diagram

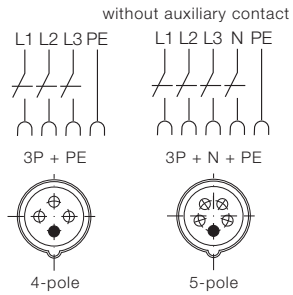


Wall socket 4/5-pole



Plug 4/5-pole

X = fixing dimensions



Dimensions in mm

16 A up to 125 A
Plastic version for industrial use



Not explosion-protected, but in CEAG quality

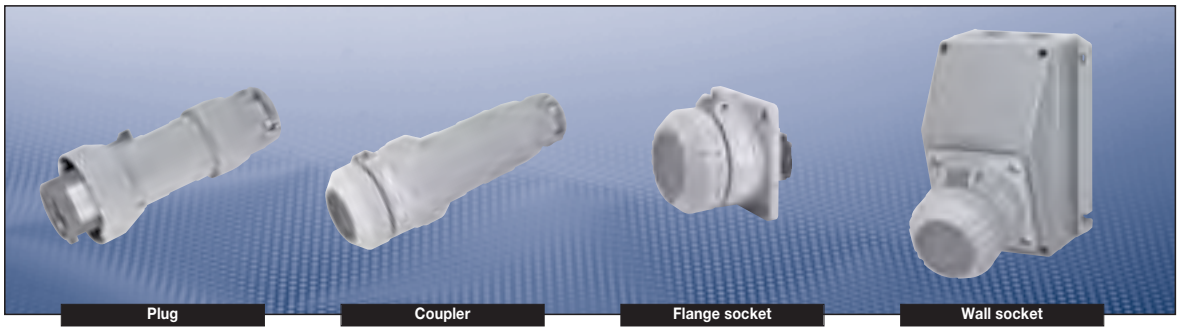
CEAG plugs and receptacles are not only robust, they are also very reliable. In the “normal” industrial environment plugs and receptacles are exposed to similar conditions (chemical and mechanical) as their explosion-protected counterparts. With the introduction of the new plug and receptacle generation Cooper Crouse-Hinds has now a complete program for industrial usage. The wall sockets can simply be clipped-onto pre-installed mounting plates without having to use tools. These high quality plugs and receptacles warrantee even in harsh industrial environments a safe and reliable utilization. The long years of experience in the explosion-protection field has naturally contributed to this new plug and receptacle generation.

Plugs and receptacles of the 16 A to 125 A range fulfil (even when they are plugged-in) the high safety standard of IP66 and have as standard the maintenance-free and proven lamellar contacts. The variable cable entries in connection with the generously dimensioned connection terminals allow for an economical use.

Apart from the IEC 60309 Series I coded versions we also have coded versions of the Series II especially for the US and Nort American market.

International approvals

- **High impact resistant**
- **Low engaging force**
- **Safety standard IP66 applies also in plugged-in condition**
- **Self-cleaning lamellar contacts, low transition resistance**
- **Fibre-glass reinforced polyester housings**
- **Interlocking switch**



Technical data

Plugs and receptacles – Industry accd. to IEC 60309-1/2 up to 690 V	
Permissible ambient temperature	-20°C to +40°C / -45 °C to +45 °C (optional)[1]
Rated voltage	415 V (3-pole) / 690 V (4-/5-pole)
Rated current	16 A
Frequency	50/60 Hz
External back-up fuse, max.	without therm. protection: 16 A
Insulation class	I
Degree of protection to EN 60529	IP66

Wall socket with interlock switch	
Rated making/rated breaking capacity AC-3 accd. EN 60947	
for wall socket with switch	U_e 500 V / I_e 20 A
Cable glands	1 x M25 Ø 8 - 17 mm, 1 x M25 thread plug plastic
Connecting terminals	2 x 1.5 – 4 mm²
Enclosure material	Glass-fibre reinforced polyester

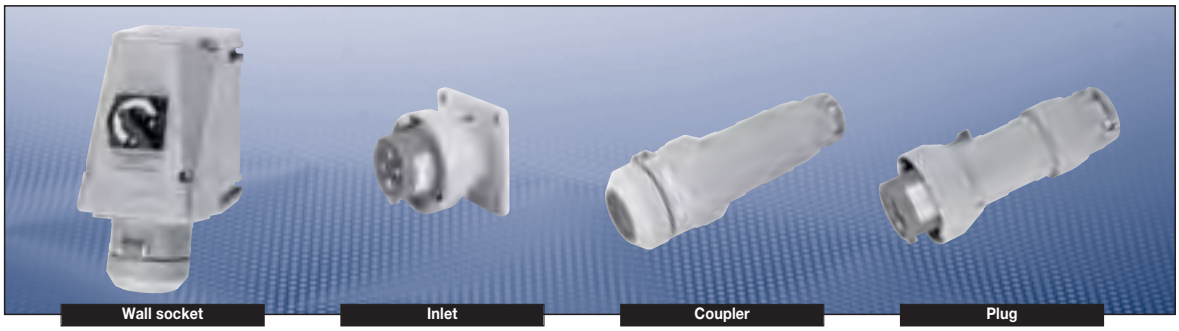
Wall socket without switch	
Cable glands	2 x PG 16 top, 2 x PG 16 bottom
Connecting terminals	2 x 1.5 – 4.0 mm²
Enclosure material	Polyamide

Plug	
Cable glands	Ø 8 - 19 mm (3-pole) / Ø 8 - 21 mm (4-pole) / 12 - 21 mm (5-pole)
Connecting terminals	1 x 1.0 – 2.5 mm²
Enclosure material	Polyamide

Coupler	
Cable glands	Ø 8 - 19 mm (3-pole) / Ø 8 - 21 mm (4-pole) / 12 - 21 mm (5-pole)
Connecting terminals	2 x 1.5 – 4 mm²
Enclosure material	Polyamide

Flange socket/inlet	
Connecting terminals	2 x 1.5 – 4 mm²
Enclosure material	Polyamide

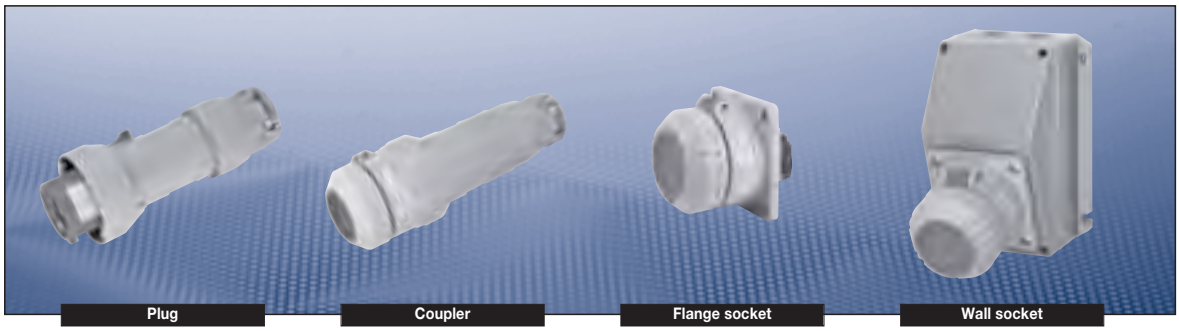
[1] extended temperature range on request



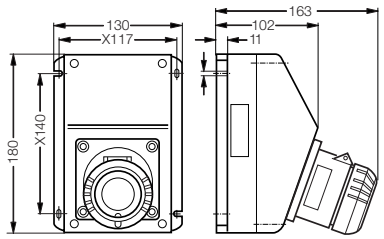
Ordering details

Voltage	h	Type	Weight approx.	Order No.
Type 16 A 3-pole				
110-130 V		Wall socket	0.8 kg	**GHG 521 2304 R0001**
		Plug	0.32 kg	**GHG 521 7304 R0001**
		Coupler	0.5 kg	**GHG 521 3304 R0001**
		Flange socket	0.37 kg	**GHG 521 8304 R0001**
	4	Inlet	0.26 kg	**GHG 521 9304 R0001**
200-250 V		Wall socket	0.8 kg	**GHG 521 2306 R0001**
		Plug	0.32 kg	**GHG 521 7306 R0001**
		Coupler	0.5 kg	**GHG 521 3306 R0001**
		Flange socket	0.37 kg	**GHG 521 8306 R0001**
	6	Inlet	0.26 kg	**GHG 521 9306 R0001**
Type 16 A 4-pole				
200-250 V		Wall socket	0.85 kg	**GHG 521 2409 R0001**
		Wall socket with interlock switch	1.60 kg	**GHG 521 4409 R0001**
		Plug	0.39 kg	**GHG 521 7409 R0001**
		Coupler	0.65 kg	**GHG 521 3409 R0001**
	9	Flange socket	0.42 kg	**GHG 521 8409 R0001**
		Inlet	0.31 kg	**GHG 521 9409 R0001**
380-415 V		Wall socket	0.85 kg	**GHG 521 2406 R0001**
		Wall socket with interlock switch	1.60 kg	**GHG 521 4406 R0001**
		Plug	0.39 kg	**GHG 521 7406 R0001**
		Coupler	0.65 kg	**GHG 521 3406 R0001**
	6	Flange socket	0.42 kg	**GHG 521 8406 R0001**
		Inlet	0.31 kg	**GHG 521 9406 R0001**
480-500 V		Wall socket	0.85 kg	**GHG 521 2407 R0001**
		Wall socket with interlock switch	1.60 kg	**GHG 521 4407 R0001**
		Plug	0.39 kg	**GHG 521 7407 R0001**
		Coupler	0.65 kg	**GHG 521 3407 R0001**
	7	Flange socket	0.42 kg	**GHG 521 8407 R0001**
		Inlet	0.31 kg	**GHG 521 9407 R0001**
600-690 V		Wall socket	0.85 kg	**GHG 521 2405 R0001**
		Wall socket with interlock switch	1.60 kg	**GHG 521 4405 R0001**
		Plug	0.39 kg	**GHG 521 7405 R0001**
		Coupler	0.65 kg	**GHG 521 3405 R0001**
	5	Flange socket	0.42 kg	**GHG 521 8405 R0001**
		Inlet	0.31 kg	**GHG 521 9405 R0001**
Type 16 A 5-pole				
200-250 V 380-415 V		Wall socket	0.90 kg	**GHG 521 2506 R0001**
		Wall socket with interlock switch	1.65 kg	**GHG 521 4506 R0001**
		Plug	0.42 kg	**GHG 521 7506 R0001**
		Coupler	0.75 kg	**GHG 521 3506 R0001**
	6	Flange socket	0.47 kg	**GHG 521 8506 R0001**
		Inlet	0.34 kg	**GHG 521 9506 R0001**

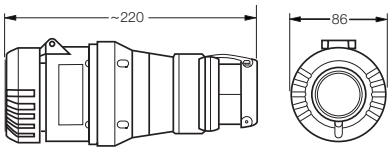
Other voltage ranges and versions available on request



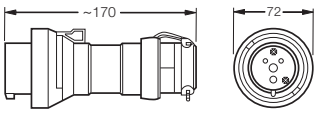
Dimension drawing



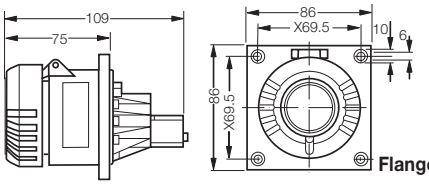
Wall socket 3-pole



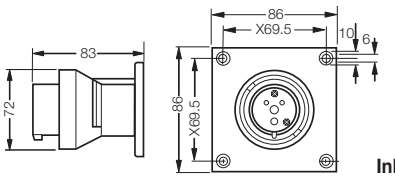
Coupler 3-pole



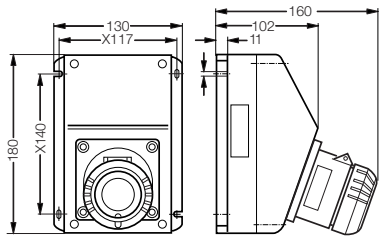
Plug 3-pole



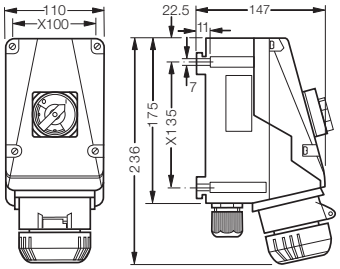
Flange socket 3-pole



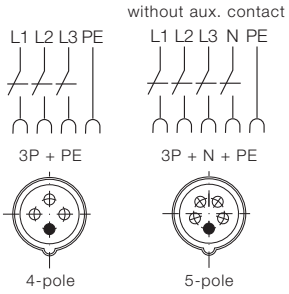
Inlet 3-pole

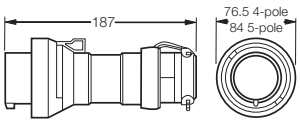


Wall socket 4-pole with switch

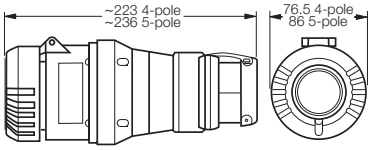


Wall socket 4-pole with switch

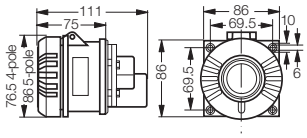




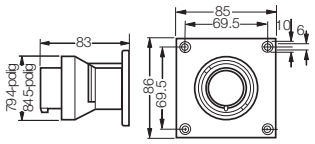
Plug 4/5-pole



Coupler 4/5-pole



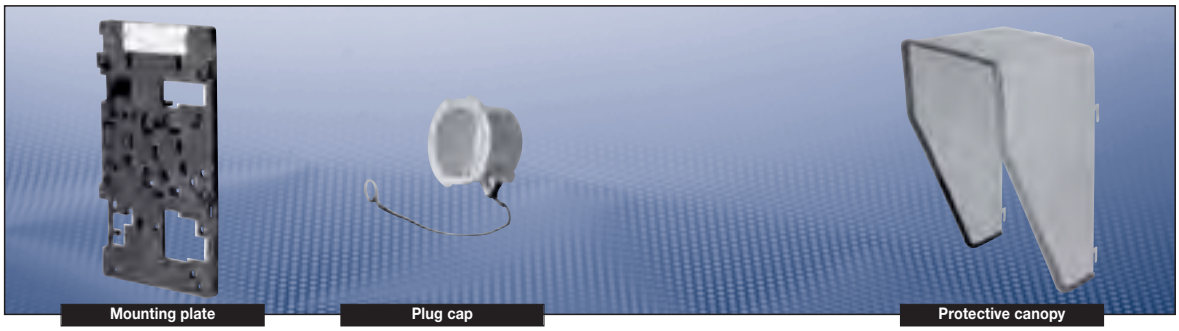
Flange socket 4/5-pole



Plug 4/5-pole

X = fixing dimensions

Dimensions in mm



Accessories

Mounting plates for wall sockets 16 A			
Type	Application	Fixing method	Order No.
Size 4	for wall mounting	snap on	**GHG 610 1953 R0126**
Size 4	for trellis mounting	snap on	**GHG 610 1953 R0126**
Size 4	for pipe mounting	snap on	**GHG 610 1953 R0130**

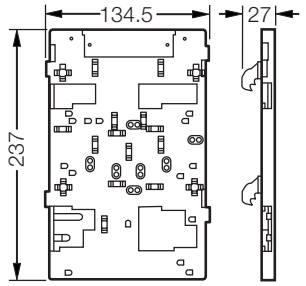
Plug cap for plugs 16 A	
Type	Order No.
Plug 16 A 3-pole	**GHG 510 1901 R0001**
Plug 16 A 4-pole	**GHG 510 1901 R0002**
Plug 16 A 5-pole	**GHG 510 1901 R0003**

Accessories for mounting plates		
Type	OU	Order No.
Mounting set for pipes 1" (Ø 27 - 30 mm) for mounting plates with pipe fixing	10	**GHG 610 1953 R0020**

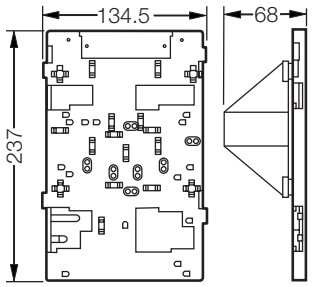
Please pay attention that only order units (OU) according to the ordering details can be delivered.

Protective canopy for mounting plate		
Type	Application	Order No.
Size 4	for mounting plate size 4 plugable	**GHG 610 1955 R0107**

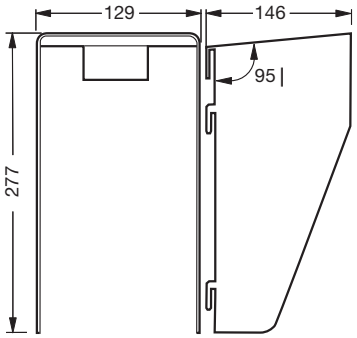
Dimension drawing



Mounting plate size 4 for wall/trellis mounting

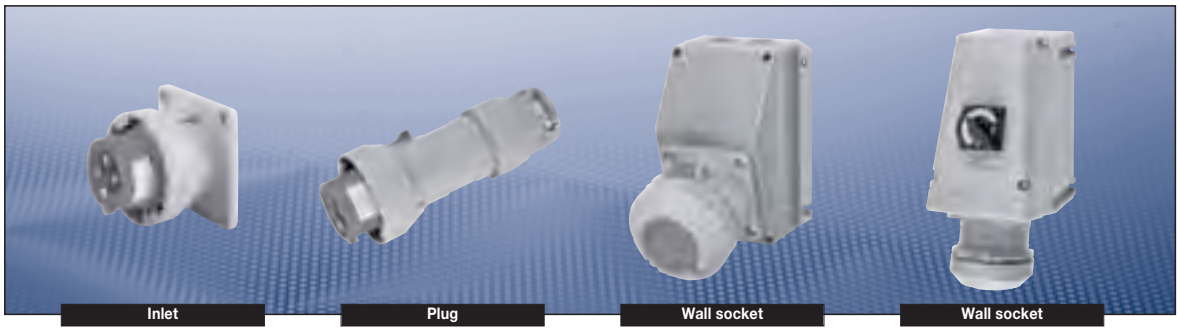


Mounting plate size 4 for pipe mounting



Protective canopy size 4

Dimensions in mm



Technical data

Plugs and receptacles – Industry accd. to IEC 60309-1/2 up to 690 V	
Permissible ambient temperature	-20°C to +40°C / -45 °C to +45 °C (optional)[1]
Rated voltage	690 V
Rated current	32 A
Frequency	50/60 Hz
External back-up fuse, max.	without therm. protection: 32 A
Insulation class	I
Degree of protection to EN 60529	IP66

Wall socket with interlock switch	
Rated making/rated breaking capacity AC-3 accd. EN 60947	
for wall socket with switch	U_e 500 V / I_e 20 A
Cable glands	1 x M40 Ø 17 - 28 mm, 1 x M40 thread plug plastic
Connecting terminals	2 x 4 – 10 mm²
Enclosure material	Glass-fibre reinforced polyester

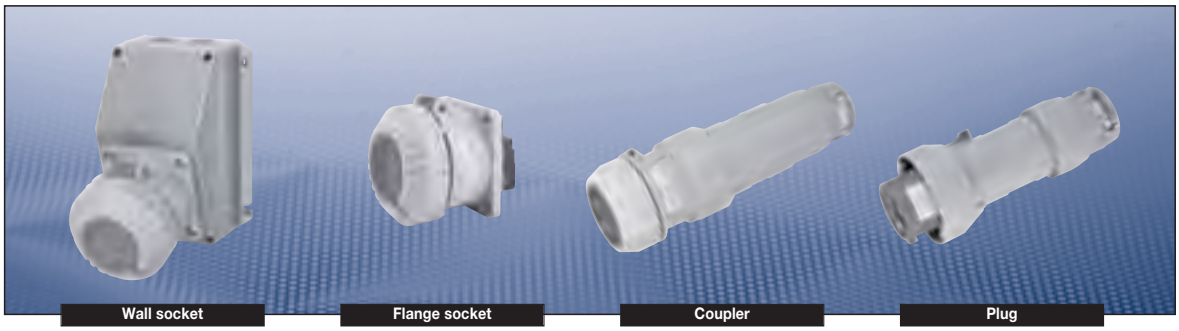
Wall socket without switch	
Cable glands	2 x PG 21 top, 2 x PG 21 bottom
Connecting terminals	1 x 4 – 10 mm²
Enclosure material	Polyamide

Plug	
Cable glands	Ø 17 - 28 mm
Connecting terminals	1 x 1 – 6 mm²
Enclosure material	Polyamide

Coupler	
Cable glands	Ø 17 - 28 mm
Connecting terminals	2 x 4 – 10 mm²
Enclosure material	Polyamide

Flange socket/inlet	
Connecting terminals	2 x 4 – 10 mm²
Enclosure material	Polyamide

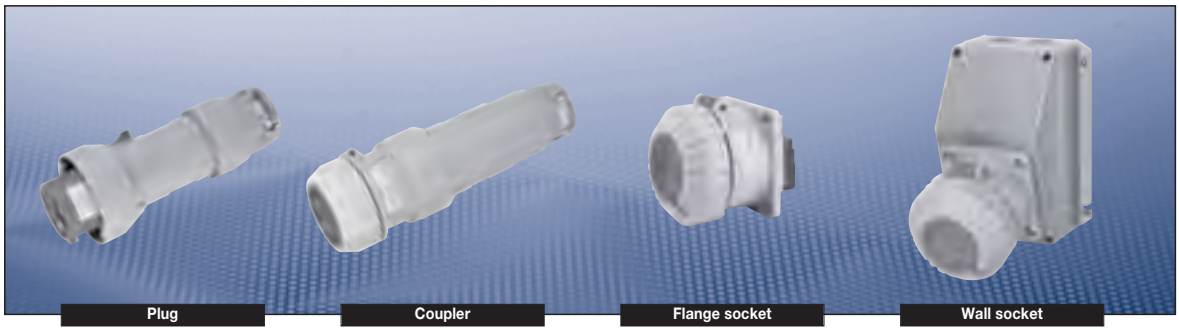
[1] extended temperature range on request



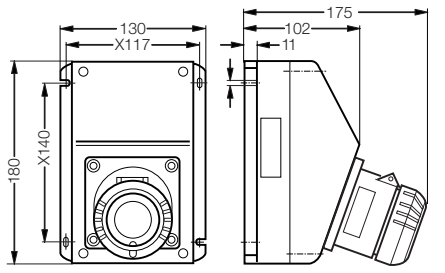
Ordering details

Voltage	h	Type	Weight approx.	Order No.
Type 32 A 4-pole				
200-250 V		Wall socket	1.0 kg	**GHG 522 2409 R0001**
		Wall socket with interlock switch	2.15 kg	**GHG 522 4409 R0001**
		Plug	0.6 kg	**GHG 522 7409 R0001**
		Coupler	1.5 kg	**GHG 522 3409 R0001**
	9	Flange socket	0.5 kg	**GHG 522 8409 R0001**
		Inlet	0.32 kg	**GHG 522 9409 R0001**
380-415 V		Wall socket	1.0 kg	**GHG 522 2406 R0001**
		Wall socket with interlock switch	2.15 kg	**GHG 522 4406 R0001**
		Plug	0.6 kg	**GHG 522 7406 R0001**
		Coupler	1.5 kg	**GHG 522 3406 R0001**
	6	Flange socket	0.5 kg	**GHG 522 8406 R0001**
		Inlet	0.32 kg	**GHG 522 9406 R0001**
480-500 V		Wall socket	1.0 kg	**GHG 522 2407 R0001**
		Wall socket with interlock switch	2.15 kg	**GHG 522 4407 R0001**
		Plug	0.6 kg	**GHG 522 7407 R0001**
		Coupler	1.5 kg	**GHG 522 3407 R0001**
	7	Flange socket	0.5 kg	**GHG 522 8407 R0001**
		Inlet	0.32 kg	**GHG 522 9407 R0001**
600-690 V		Wall socket	1.0 kg	**GHG 522 2405 R0001**
		Wall socket with interlock switch	2.15 kg	**GHG 522 4405 R0001**
		Plug	0.6 kg	**GHG 522 7405 R0001**
		Coupler	1.5 kg	**GHG 522 3405 R0001**
	5	Flange socket	0.5 kg	**GHG 522 8405 R0001**
		Inlet	0.32 kg	**GHG 522 9405 R0001**
Type 32 A 5-pole				
200-250 V 380-415 V		Wall socket	1.1 kg	**GHG 522 2506 R0001**
		Wall socket with interlock switch	2.25 kg	**GHG 522 4506 R0001**
		Plug	0.65 kg	**GHG 522 7506 R0001**
		Coupler	1.6 kg	**GHG 522 3506 R0001**
	6	Flange socket	0.51 kg	**GHG 522 8506 R0001**
		Inlet	0.33 kg	**GHG 522 9506 R0001**

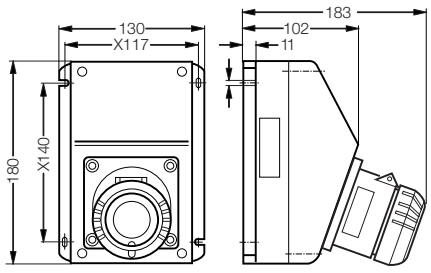
Other voltage ranges and versions available on request



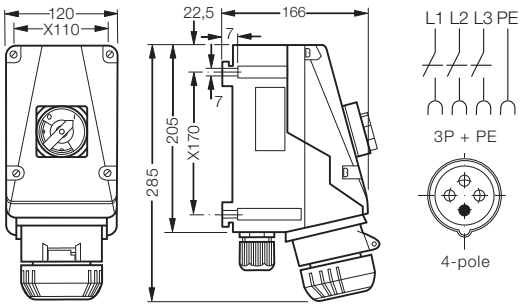
Dimension drawing



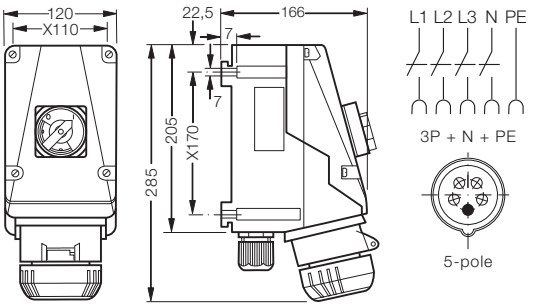
Wall socket 4-pole



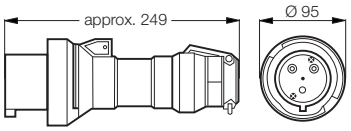
Wall socket 5-pole



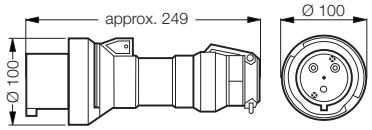
Wall socket with interlock switch 4-pole



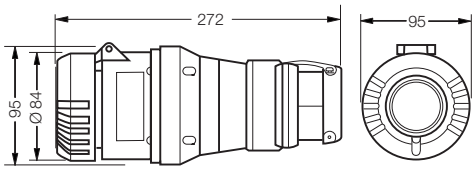
Wall socket with interlock switch 5-pole



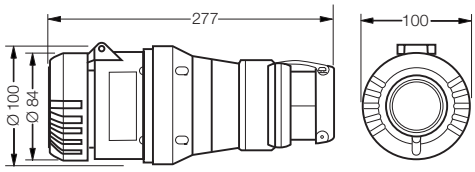
Plug 4-pole



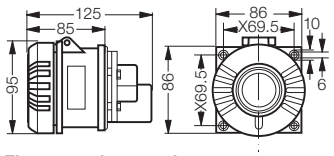
Plug 5-pole



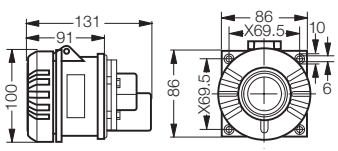
Coupler 4-pole



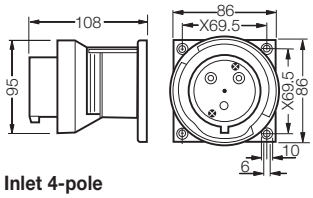
Coupler 5-pole



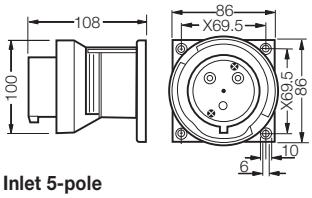
Flange socket 4-pole



Flange socket 5-pole



Inlet 4-pole



Inlet 5-pole

X = fixing dimensions

Dimensions in mm



Accessories

Mounting plates for wall sockets 32 A			
Type	Application	Fixing method	Order No.
Size 5	for wall mounting	snap on	**GHG 610 1953 R0128**
Size 5	for trellis mounting	snap on	**GHG 610 1953 R0128**
Size 5	for pipe mounting	snap on	**GHG 610 1953 R0132**

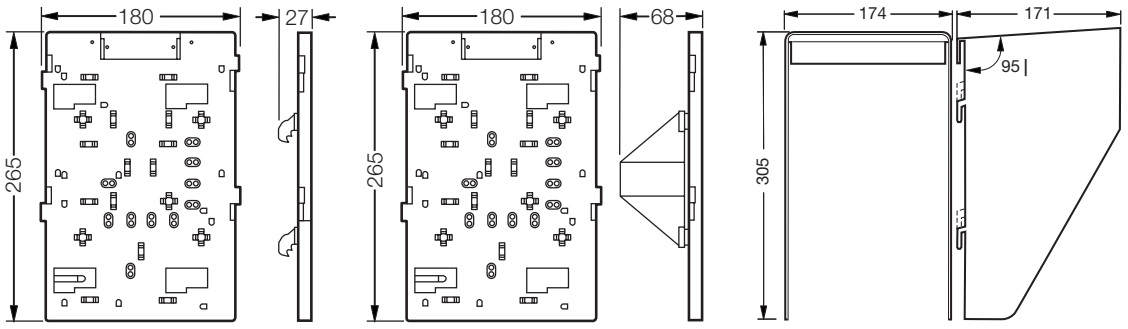
Plug cap for plugs 32 A	
Type	Order No.
Plug 32 A 3-pole/4-pole	**GHG 510 1901 R0004**
Plug 32 A 5-pole	**GHG 510 1901 R0005**

Accessories for mounting plates		
Type	OU	Order No.
Mounting set for pipes 1" (Ø 27 - 30 mm) for mounting plates with pipe fixing	10	**GHG 610 1953 R0020**

Please pay attention that only order units (OU) according to the ordering details can be delivered.

Protective canopy for mounting plate		
Type	Application	Order No.
Size 5	for mounting plate size 5, plugable	**GHG 610 1955 R0108**

Dimension drawing

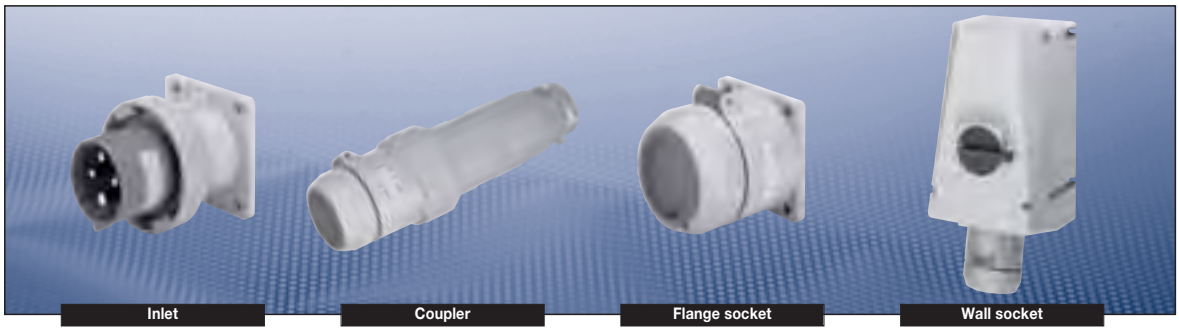


Mounting plate size 5 for wall/trellis mounting

Mounting plate size 5 for pipe mounting

Protective canopy size 5

Dimensions in mm



Technical data

Plugs and receptacles – Industry accd. to IEC 60309-1/2 up to 690 V	
Permissible ambient temperature	-20°C to +40°C[1] / -40 °C to +40 °C (optional)
Rated voltage	690 V
Rated current	63 A
Frequency	50/60 Hz
External back-up fuse, max.	without therm. protection: 63 A
Insulation class	I
Degree of protection to EN 60529	IP66

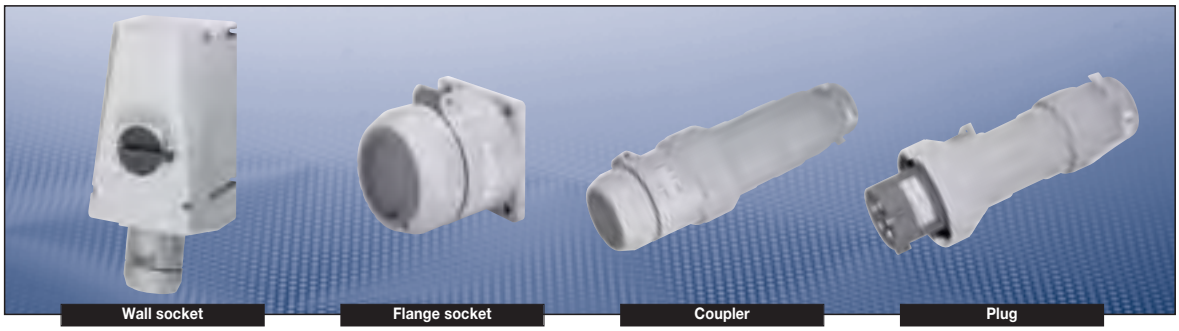
Wall socket with interlock switch	
Rated making/rated breaking capacity AC-3 accd. EN 60947	
for wall socket with switch	U_e 500 V / I_e 58 A
Cable glands	1 x M50 Ø 22 - 35 mm, 1 x M50 thread plug plastic
Connecting terminals	2 x 4 – 25 mm² with switch 2 x 4 – 35 mm² without switch
Enclosure material	Glass-fibre reinforced polyester

Plug	
Cable glands	Ø 19 - 34 mm
Connecting terminals	1 x 4 – 16 mm² / 1 x 25 mm² with pin calbe lug
Enclosure material	Polyamide

Coupler	
Cable glands	Ø 19 - 34 mm
Connecting terminals	1 x 2.5 – 35 mm²
Enclosure material	Polyamide

Flange socket/inlet	
Connecting terminals	1 x 2.5 – 35 mm²
Enclosure material	Polyamide

[1] extended temperature range on request



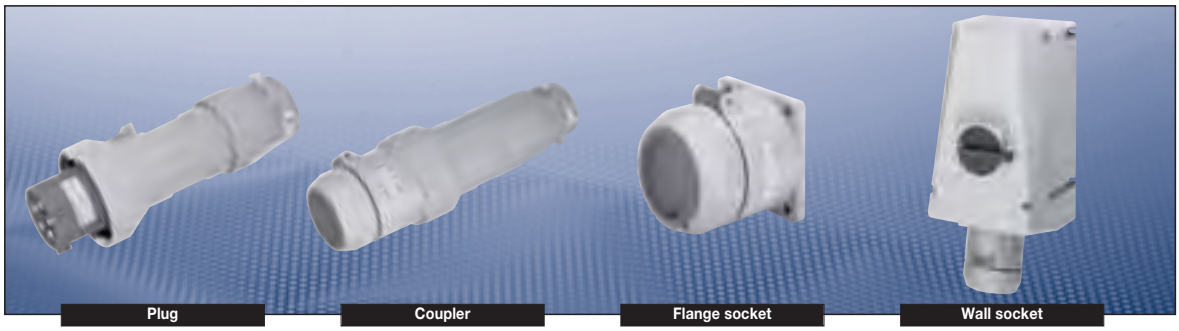
Ordering details

Voltage	h	Type	Weight approx.	Order No.
Type 63 A 4-pole				
200-250 V		Wall socket with interlock switch	5.5 kg	**GHG 524 4409 R0001**
		Plug	0.75 kg	**GHG 524 7409 R0001**
		Coupler	1.2 kg	**GHG 524 3409 R0001**
		Flange socket	1.3 kg	**GHG 524 8409 R0001**
	9	Inlet	0.9 kg	**GHG 524 9409 R0001**
380-415 V		Wall socket with interlock switch	5.5 kg	**GHG 524 4406 R0001**
		Plug	0.75 kg	**GHG 524 7406 R0001**
		Coupler	1.2 kg	**GHG 524 3406 R0001**
		Flange socket	1.3 kg	**GHG 524 8406 R0001**
	6	Inlet	0.9 kg	**GHG 524 9406 R0001**
480-500 V		Wall socket with interlock switch	5.5 kg	**GHG 524 4407 R0001**
		Plug	0.75 kg	**GHG 524 7407 R0001**
		Coupler	1.2 kg	**GHG 524 3407 R0001**
		Flange socket	1.3 kg	**GHG 524 8407 R0001**
	7	Inlet	0.9 kg	**GHG 524 9407 R0001**
600-690 V		Wall socket with interlock switch	5.5 kg	**GHG 524 4405 R0001**
		Plug	0.75 kg	**GHG 524 7405 R0001**
		Coupler	1.2 kg	**GHG 524 3405 R0001**
		Flange socket	1.3 kg	**GHG 524 8405 R0001**
	5	Inlet	0.9 kg	**GHG 524 9405 R0001**
Type 63 A 5-pole				
200/250 V up to 380/415 V		Wall socket with interlock switch	5.6 kg	**GHG 524 4506 R0001**
		Plug	0.8 kg	**GHG 524 7506 R0001**
		Coupler	1.3 kg	**GHG 524 3506 R0001**
		Flange socket	1.4 kg	**GHG 524 8506 R0001**
	6	Inlet	1.0 kg	**GHG 524 9506 R0001**

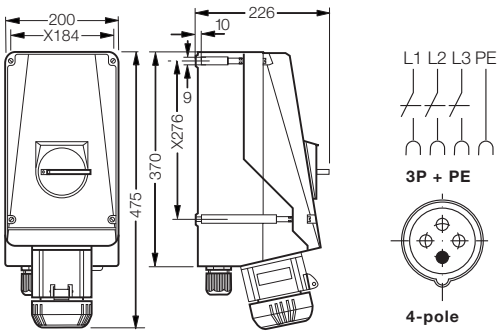
Other voltage ranges and versions available on request

Accessories

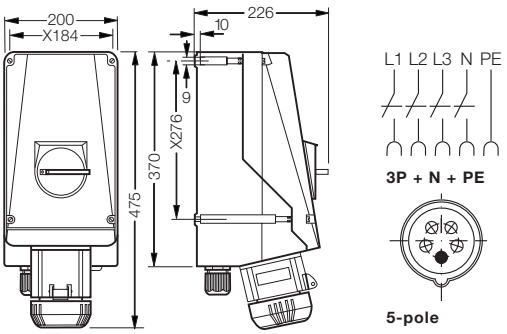
Plug cap for plugs		
Type	OU	Order No.
Plug cap 4-pole/5-pole	1	**GHG 510 1901 R0006**
Pin cable lug 25 mm²	5	**GHG 510 1916 R0001**



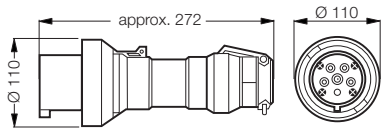
Dimension drawing | Wiring diagram



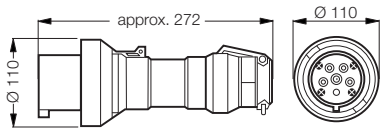
Wall socket 4-pole



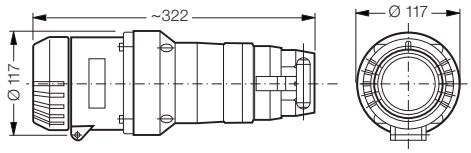
Wall socket 5-pole



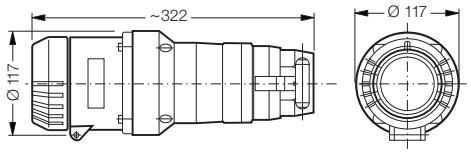
Plug 4-pole



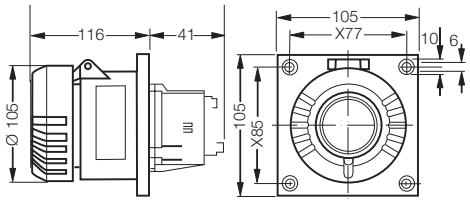
Plug 5-pole



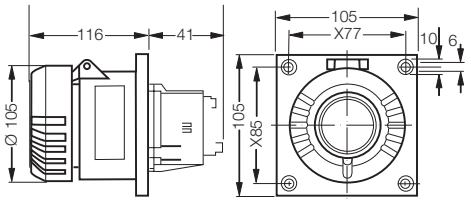
Coupler 4-pole



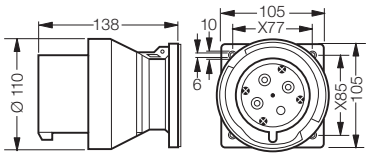
Coupler 5-pole



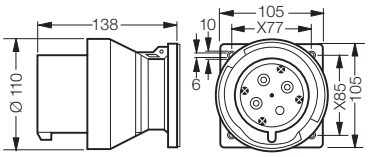
Flange socket 4-pole



Flange socket 5-pole



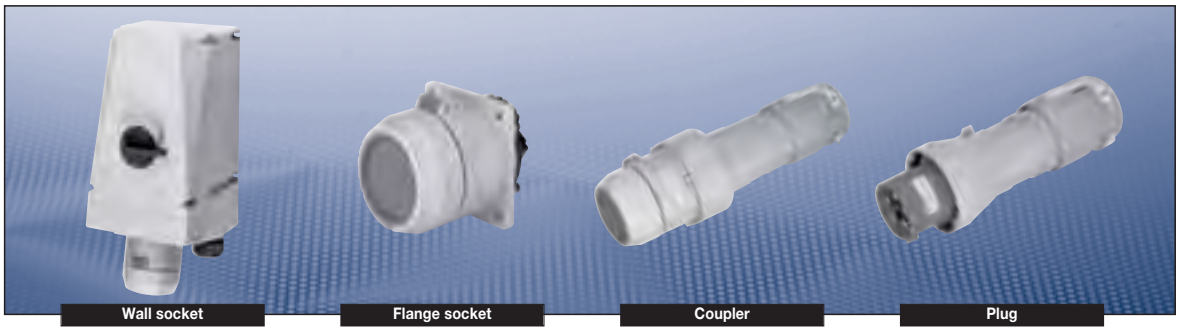
Inlet 4-pole



Inlet 5-pole

X = fixing dimensions

Dimensions in mm



Technical data

Plugs and receptacles – Industry accd. to IEC 60309-1/2 up to 690 V	
Permissible ambient temperature	–20°C to +40°C / -40 °C to +40 °C (optional)[1]
Rated voltage	690 V~
Rated current	125 A
Frequency	50/60 Hz
External back-up fuse, max.	without therm. protection: 125 A
Insulation class	I
Degree of protection to EN 60529	IP66

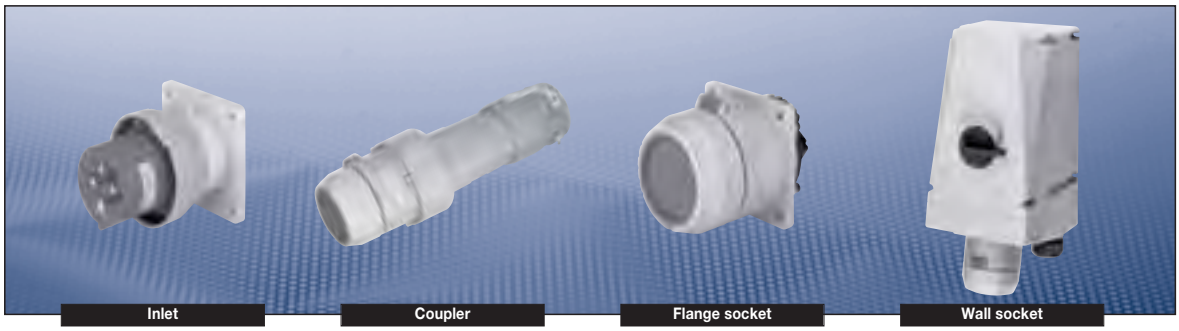
Wall socket with interlock switch	
Rated making/rated breaking capacity AC-23 accd. EN 60947	
for wall socket with switch	U_e 500 V / I_e 70 A
Cable glands	1 x M63 Ø 27 - 48 mm, 1 x M63 thread plug plastic
Connecting terminals	2 x 10 – 70 mm²
Enclosure material	Glass-fibre reinforced polyester

Plug	
Cable glands	Ø 31 - 58 mm
Connecting terminals	1 x 2.5 – 35 mm²
Enclosure material	Polyamide

Coupler	
Cable glands	Ø 31 - 58 mm
Connecting terminals	1 x 16 – 35 mm²
Enclosure material	Polyamide

Flange socket	
Connecting terminals	1 x 2.5 – 35 mm²
Enclosure material	Polyamide

[1] extended temperature range on request



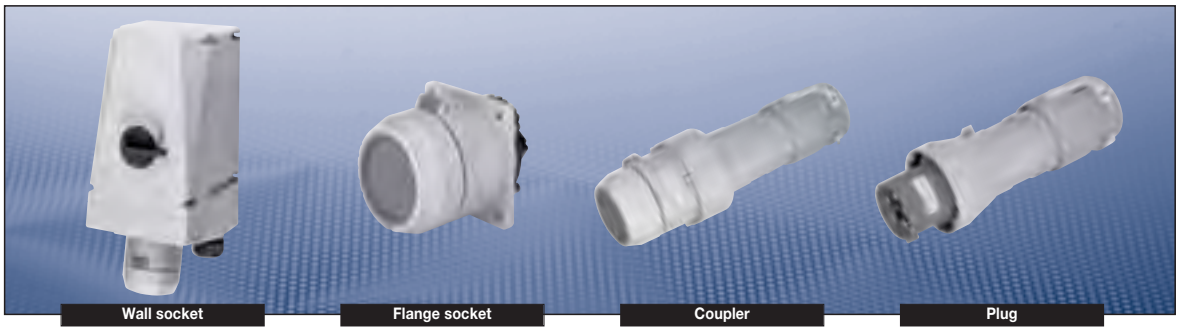
Ordering details

Voltage	h	Type	Weight approx.	Order No.
Type 125 A 4-pole				
200-250 V		Wall socket with interlock switch	8.6 kg	**GHG 525 4409 R0001**
		Plug	1.3 kg	**GHG 525 7409 R0001**
		Coupler	2.1 kg	**GHG 525 3409 R0001**
		Flange socket	1.4 kg	**GHG 525 8409 R0001**
	9	Inlet	0.9 kg	**GHG 525 9409 R0001**
380-415 V		Wall socket with interlock switch	8.6 kg	**GHG 525 4406 R0001**
		Plug	1.3 kg	**GHG 525 7406 R0001**
		Coupler	2.1 kg	**GHG 525 3406 R0001**
		Flange socket	1.4 kg	**GHG 525 8406 R0001**
	6	Inlet	0.9 kg	**GHG 525 9406 R0001**
480-500 V		Wall socket with interlock switch	8.6 kg	**GHG 525 4407 R0001**
		Plug	1.3 kg	**GHG 525 7407 R0001**
		Coupler	2.1 kg	**GHG 525 3407 R0001**
		Flange socket	1.4 kg	**GHG 525 8407 R0001**
	7	Inlet	0.9 kg	**GHG 525 9407 R0001**
600-690 V		Wall socket with interlock switch	8.6 kg	**GHG 525 4405 R0001**
		Plug	1.3 kg	**GHG 525 7405 R0001**
		Coupler	2.1 kg	**GHG 525 3405 R0001**
		Flange socket	1.4 kg	**GHG 525 8405 R0001**
	5	Inlet	0.9 kg	**GHG 525 9405 R0001**
Type 125 A 5-pole				
200-250 V 380-415 V		Wall socket with interlock switch	8.8 kg	**GHG 525 4506 R0001**
		Plug	1.4 kg	**GHG 525 7506 R0001**
		Coupler	2.2 kg	**GHG 525 3506 R0001**
		Flange socket	1.5 kg	**GHG 525 8506 R0001**
	6	Inlet	1.1 kg	**GHG 525 9506 R0001**

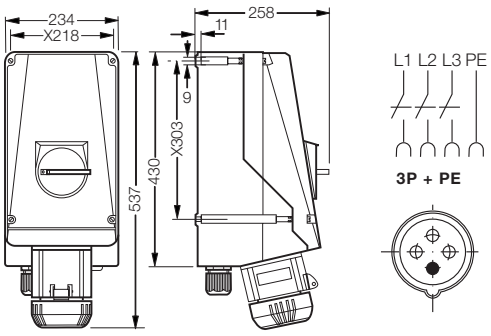
Other voltage ranges and versions available on request

Accessories

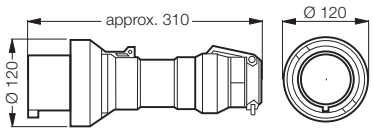
Plug cap for plugs	
Type	Order No.
Plug cap 4-pole/5-pole	**GHG 510 1901 R0007**



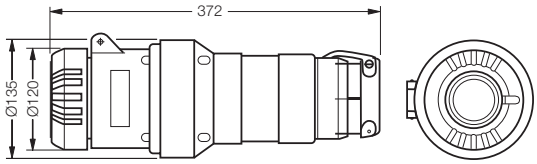
Dimension drawing | Wiring diagram



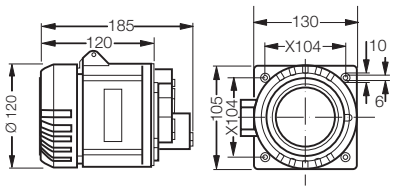
Wall socket 4-pole



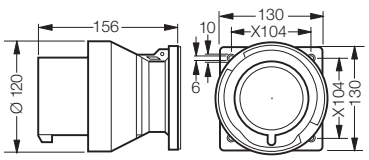
Plug 4-pole



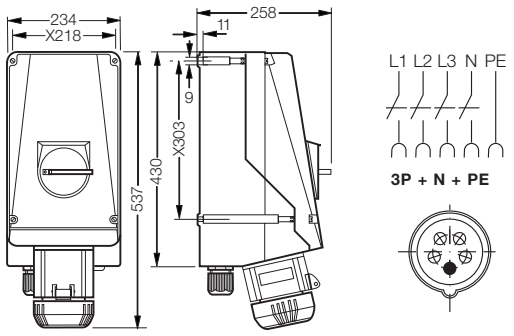
Coupler 4-pole



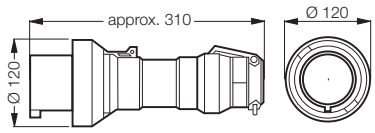
Flange socket 4-pole



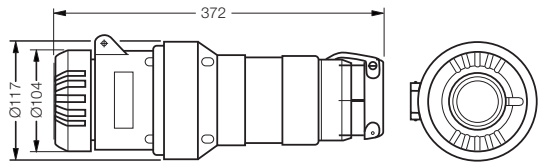
Inlet 4-pole



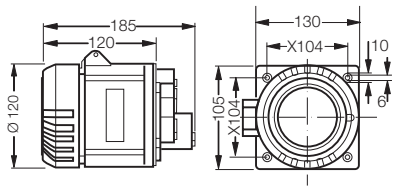
Wall scket 5-pole



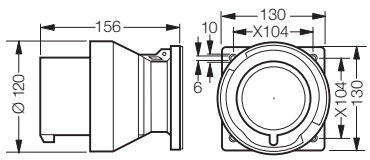
Plug 5-pole



Coupler 5-pole



Flange socket 5-pole



Inlet 5-pole

X = fixing dimensions

Dimensions in mm

EX-REPAIR AND MAINTENANCE RECEPTACLES

16 A – 63 A
Plastic version for Zone 1/21

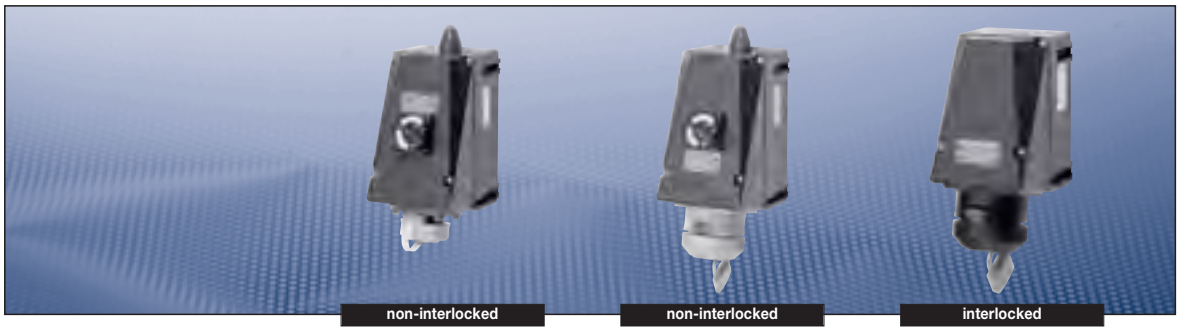
For maintenance, repair and upgrading work, appliances such as drills, welding transformers, hand grinders and such are needed but are not in accordance to the explosion-protection regulations.

To be able to use these appliances in the Zone 1, Zone 2, Zone 21 or Zone 22 explosion-protected areas a hot work permit has to be issued. For the duration of the repair or maintenance work, the environment has to be free of all explosive hazardous atmospheres.
The CEAG explosion-protected repair and maintenance receptacles are in accordance to regulations that in parts require a stationary installation.
With the interlocking and lockable switch or the lockable cover the utilization of the repair and maintenance receptacles is selectively possible after a hot work permit has been issued.
The CEAG repair and maintenance receptacles with and without an interlocking switch can be used with both industry and Ex-plugs.
Interlocked repair and maintenance receptacles have an internal switch who prevents that a plug can be pulled out while power is on.
The interlock is activated by turning the plug.
Repair and maintenance sockets without an interlocking switch have a red signal lamp on the top side of the housing showing the actual state of power.

International approvals



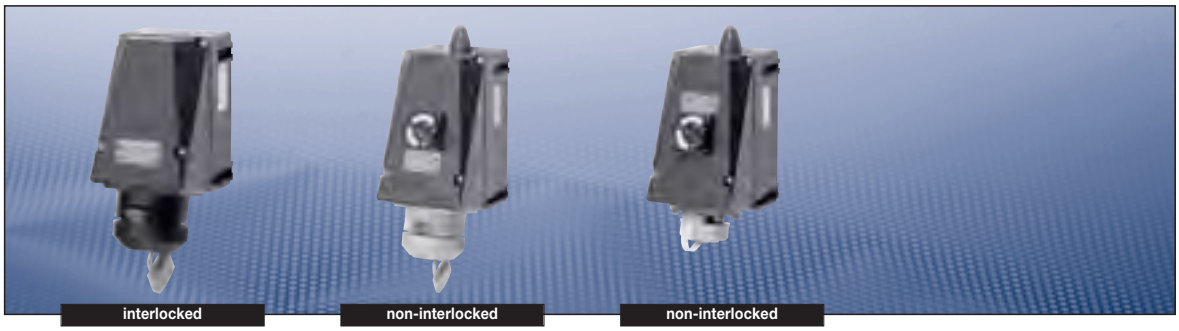
- **Commercially available industrial apparatus can be used with a “hot work permit”**
- **Sockets with lamellar contacts for a secure connection**
- **Switch and/or socket cover are lockable**
- **High mechanical, chemical and thermal stability**



Technical data

Ex-receptacles accd. to IEC 60309-1/2	
Marking to 94/9/EC	Ex II 2 G Ex ed IIC T6 / Ex II 2 D Ex tD A21 IP66 T80 °C/T95 °C
EC-Type Examination Certificate	PTB 00 ATEX 1032 X
Permissible ambient temperature	–20°C to +40°C[1)]
Rated voltage	up to 440 V (AC)
Rated current	16 A (AC)
Frequency	50/60 Hz
Rated making/rated breaking capacity AC-3	
accd. EN 60947-3	U_e 415 V / I_e 16 A
External back-up fuse, max.	without therm. protection: 16 A with therm. protection: 35 A gL (rated current 16 A set to)
Insulation class	I
Degree of protection to EN 60529	IP66
Cable glands	1 x M25 Ø 8 - 17 mm, 1 x M25 Ex-thread plug plastic or 2 x metal thread M20 with Ex-screw plug plastic
Connecting terminals	2 x 1.5 - 4 mm²
Enclosure material	Glass-fibre reinforced polyester

[1)] extended temperature range on request



Ordering details

Voltage	h	Type	Cable entry	Weight approx.	Order No.
Type CEE 16 A 3-pole, interlocked					
200-250 V	 6	Wall socket	KU	1.1 kg	**GHG 511 4306 R0901**
		Wall socket	ME	1.2 kg	**GHG 511 4306 R3901**
		Wall socket	GM	1.2 kg	**GHG 511 4306 R3902**
		Plug			**GHG 511 7306 R0001**
Type CEE 16 A 3-pole, non-interlocked					
200-250 V	 6	Wall socket	KU	1.2 kg	**GHG 511 4306 R0903**
		Wall socket	ME	1.3 kg	**GHG 511 4306 R3905**
		Wall socket	GM	1.3 kg	**GHG 511 4306 R3906**
		Plug			**GHG 511 7306 R0001**
Type 16 A 2-pole, non-interlocked „PE-contact“					
230 V		Wall socket[1)]	KU	1.2 kg	**GHG 511 4306 R0902**
		Wall socket[1)]	ME	1.3 kg	**GHG 511 4306 R3903**
		Wall socket[1)]	GM	1.3 kg	**GHG 511 4306 R3904**
		Plug with PE contact[1)]			

Voltage	h	Type	Aux. contact	Cable entry	Weight approx.	Order No.
Type CEE 16 A 5-pole, interlocked						
380-415 V	 6	Wall socket	–	KU	1.6 kg	**GHG 511 4506 R0901**
		Wall socket	–	ME	1.7 kg	**GHG 511 4506 R3901**
		Wall socket	yes	KH	1.6 kg	**GHG 511 4506 R0903**
		Plug				**GHG 511 7506 R0001**
Type CEE 16 A 5-pole, non-interlocked						
380-415 V	 6	Wall socket	–	KU	1.8 kg	**GHG 511 4506 R0902**
		Wall socket	–	ME	1.9 kg	**GHG 511 4506 R3902**
		Wall socket	yes	KH	1.8 kg	**GHG 511 4506 R0904**
		Plug				**GHG 511 7506 R0001**

Other voltage ranges and versions available on request

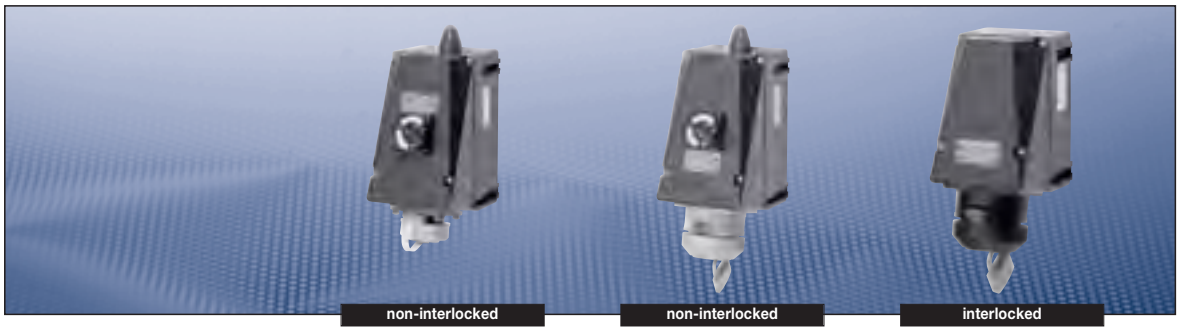
GM = 2 x metal thread M20 without cable gland/thread plug with protective earth

KU = 1 x plastic cable glands M25, 1 x M25 Ex-thread plug plastic

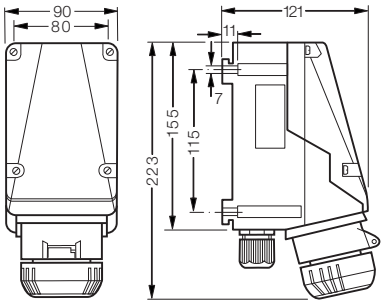
ME = 2 x metal thread M20 with Ex-thread plug plastic

KH = 2 x plastic cable glands M25 Ø 8 - 17 mm, with auxiliary contact, 1 x NO

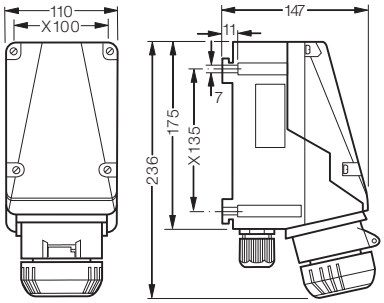
[1)] Not compatible with GHG 511 7306 R0001



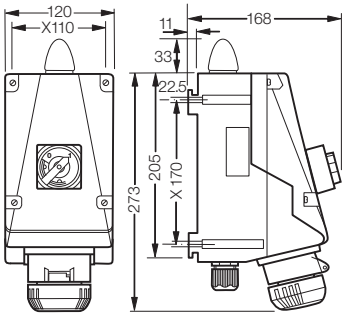
Dimension drawing | Wiring diagram



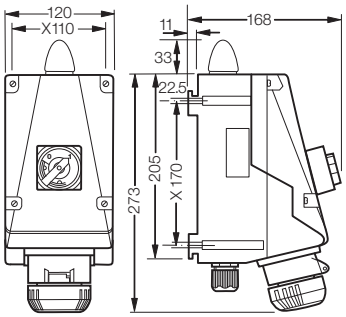
Wall socket interlocked 3-pole



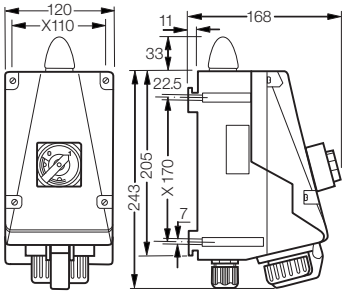
Wall socket interlocked 5-pole



Wall socket non-interlocked 3-pole



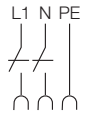
Wall socket non-interlocked 5-pole



Wall socket non-interlocked with earthing contact 3-pole

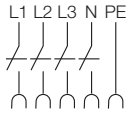
X = fixing dimensions

with earthing contact

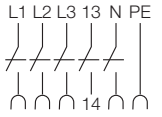




without auxiliary contact

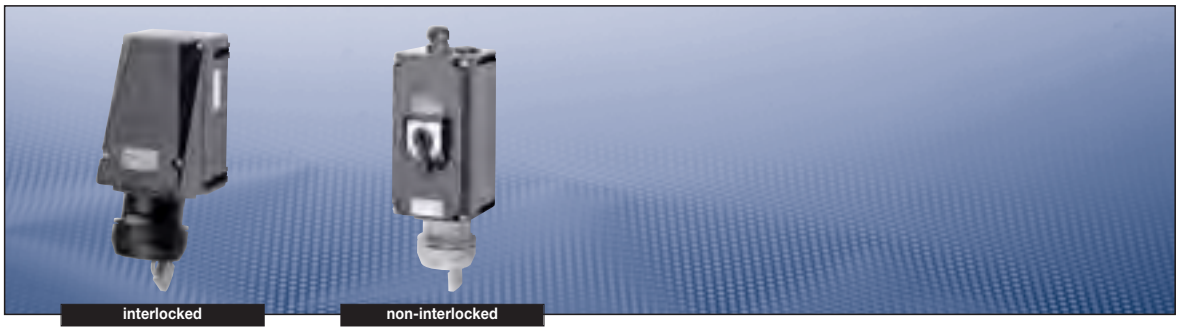


with auxiliary contact





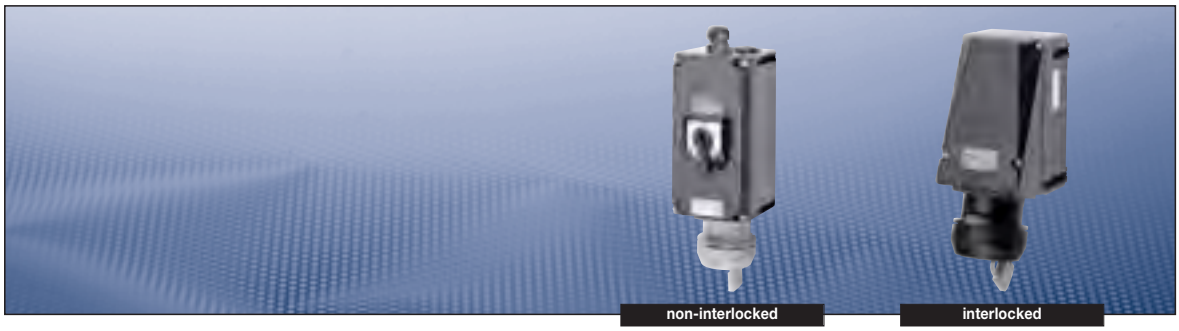
Dimensions in mm



Technical data

Ex-receptacles accd. to IEC 60309-1/2	
Marking to 94/9/EC	Ex II 2 G Ex ed IIC T6 / Ex II 2 D Ex tD A21 IP66 T80 °C/T95 °C
EC-Type Examination Certificate	PTB 00 ATEX 1032 X
Permissible ambient temperature	–20°C to +40°C[1)]
Rated voltage	690 V (AC)
Rated current	32 A
Frequency	50/60 Hz
Rated making/rated breaking capacity AC-3	
accd. EN 60947-3	U_e 690 V / I_e 32 A
External back-up fuse, max.	without therm. protection: 35 A with therm. protection: 50 A gL (rated current 32 A set to)
Insulation class	I
Degree of protection to EN 60529	IP66
Cable glands	1 x M40 Ø 17 - 28 mm, 1 x M40 Ex-thread plug plastic or 2 x metal thread M32 with Ex-screw plug plastic
Connecting terminals	2 x 4 - 10 mm^2
Enclosure material	Glass-fibre reinforced polyester

[1)] extended temperature range on request



Ordering details

Voltage	h	Type	Aux. contact	Cable entry	Weight approx.	Order No.
Type 32 A 5-pole, interlocked						
380-415 V	 6	Wall socket	–	KU	2.3 kg	**GHG 512 4506 R0901**
		Wall socket	–	ME	2.4 kg	**GHG 512 4506 R3901**
		Wall socket	yes	KH	2.3 kg	**GHG 512 4506 R0903**
Type 32 A 5-pole, non-interlocked						
380-415 V	 6	Wall socket	–	KU	1.8 kg	**GHG 512 4506 R0904**
		Wall socket	–	ME	1.9 kg	**GHG 512 4506 R3902**
		Wall socket	yes	KH	1.8 kg	**GHG 512 4506 R0905**

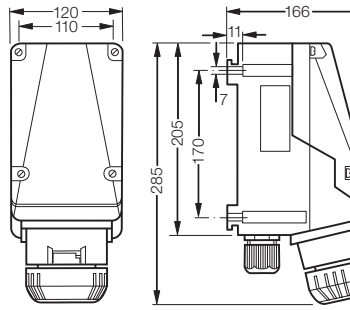
Other voltage ranges and versions available on request

KU = 1 x plastic cable glands M40 Ø 17-28 mm, 1 x M40 Ex-thread plug plastic

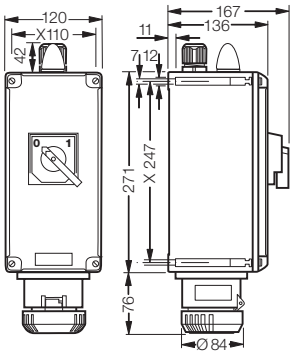
ME = 2 x metal thread M32 with Ex-thread plug plastic

KH = 1 x plastic cable glands M40 Ø 17-28 mm,
1 x plastic cable glands M25 Ø 8-17 mm

Dimension drawing | Wiring diagram

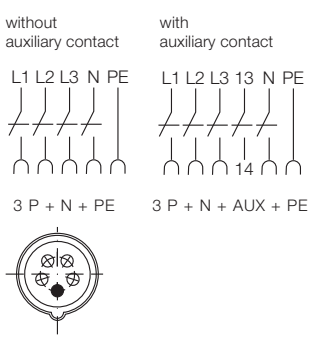


Wall socket interlocked 5-pole

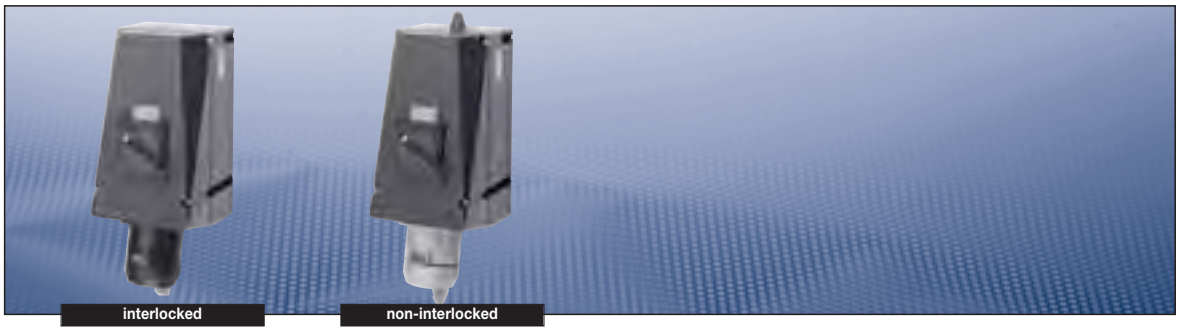


Wall socket non-interlocked 5-pole

X = fixing dimensions



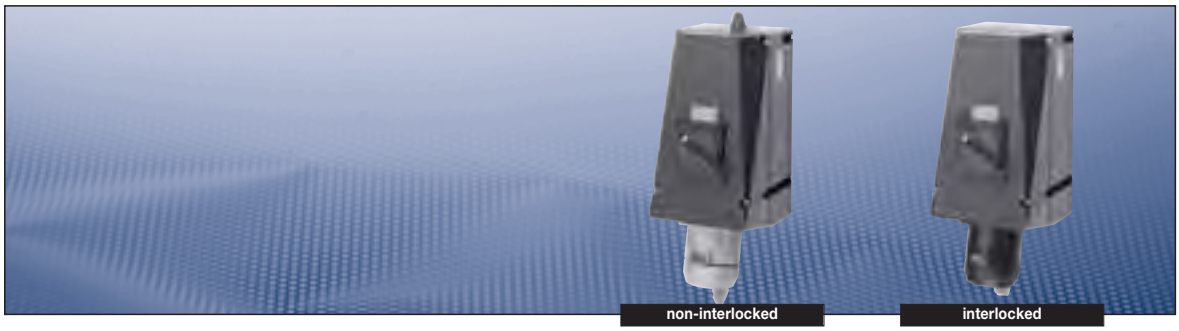
Dimensions in mm



Technical data

Ex-receptacles accd. to IEC 60309-1/2	
Marking to 94/9/EC	Ex II 2 G Ex ed IIC T6 / Ex II 2 D Ex tD A21 IP66 T80 °C/T95 °C
EC-Type Examination Certificate	PTB 00 ATEX 1032 X
Permissible ambient temperature	–20°C to +40°C[1)]
Rated voltage	440 V~ (AC)
Rated current	63 A (AC)
Frequency	50/60 Hz
Rated making/rated breaking capacity AC-3	
accd. EN 60947-3	U_e 690 V / I_e 63 A
External back-up fuse, max.	without therm. protection: 63 A with therm. protection: 80 A gL (rated current 63 A set to)
Insulation class	I
Degree of protection to EN 60529	IP66
Cable glands	1 x M50 Ø 22 - 35 mm, 1 x M50 Ex-thread plug plastic or 2 x metal thread M40 with Ex-thread plug plastic
Connecting terminals	2 x 4 - 25 mm^2
Enclosure material	Glass-fibre reinforced polyester

[1)] extended temperature range on request



Ordering details

Voltage	h	Type	Aux. contact	Cable entry	Weight approx.	Order No.
Type 63 A 5-pole, interlocked						
380-415 V	 6	Wall socket	–	KU	8.1 kg	**GHG 514 4506 R0901**
		Wall socket	–	ME	8.3 kg	**GHG 514 4506 R3901**
		Wall socket	yes	KH	8.1 kg	**GHG 514 4506 R0903**
Type 63 A 5-pole, non-interlocked						
380-415 V	 6	Wall socket	–	KU	8.1 kg	**GHG 514 4506 R0904**
		Wall socket	–	ME	8.3 kg	**GHG 514 4506 R3902**
		Wall socket	yes	KH	8.1 kg	**GHG 514 4506 R0905**

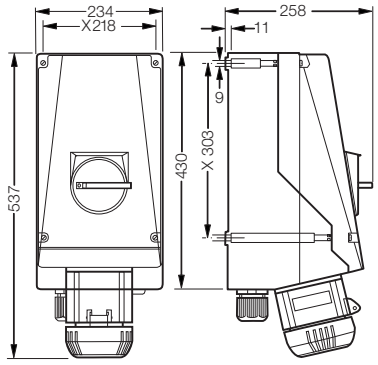
125 A and other versions on request

KU = 1 x plastic cable glands M50 Ø 22-35 mm, 1 x M50 Ex-thread plug plastic

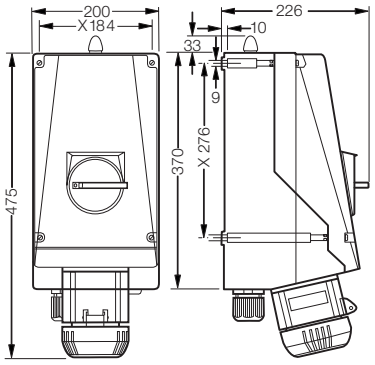
ME = 2 x metal thread M40 with Ex-thread plug plastic

KH = 1 x plastic cable glands M50 Ø 22-35 mm,
1 x plastic cable glands M25 Ø 8-17 mm, with auxiliary contact, 1 x NO

Dimension drawing | Wiring diagram

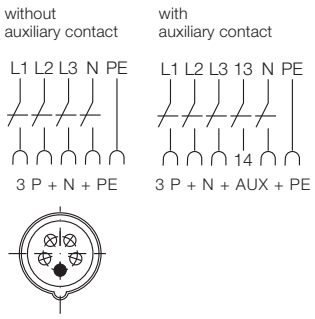


Wall socket interlocked 5-pole



Wall socket non-interlocked 5-pole

X = fixing dimensions



Dimensions in mm

EX-REPAIR AND MAINTENANCE RECEPTACLE DISTRIBUTION

40 A and 80 A
Plastic version for Zone 1

For maintenance, repair and upgrading work, appliances such as drills, welding transformers, hand grinders and such are needed but are not in accordance to the explosion-protection regulations.

To be able to use these appliances in the Zone 1 or Zone 2 explosion-protected areas a hot work permit has to be issued. For the duration of the repair or maintenance work, the environment has to be free of all explosive hazardous atmospheres.

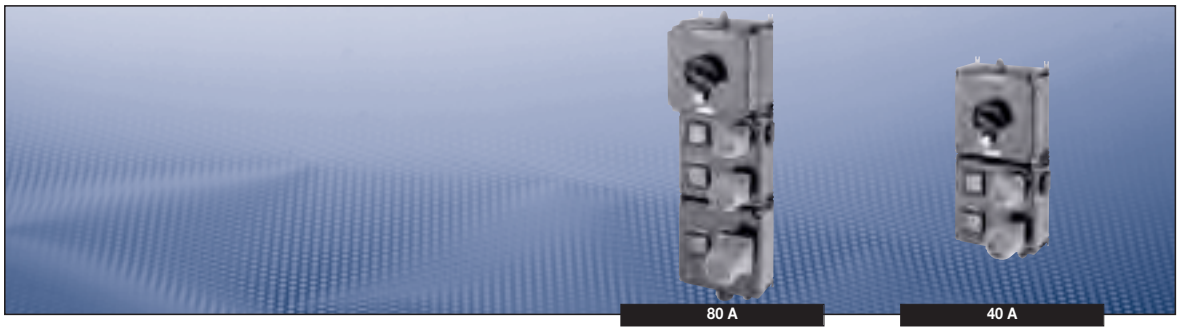
The CEAG explosion-protected repair and maintenance receptacle distributions are in accordance to regulations that in parts require a stationary installation. With the interlocking and lockable switch the utilization of the repair and maintenance receptacle distributions is selectively possible after a hot work permit has been issued.

All sockets are equipped with high quality switches and have separate RCD´s.
Repair and maintenance sockets have a red signal lamp on the top side of the housing showing the actual state of connection.

International approvals



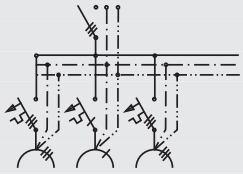
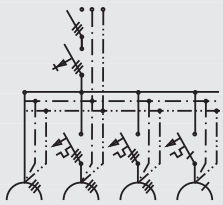
- **Commercially available industrial apparatus can be used with a “hot work permit”**
- **Sockets with lamellar contacts for secure connection**
- **Lockable switch with all-pole switching and AC-3 motor switching capability**
- **High mechanical, chemical and thermal resistance**
- **Sockets can be locked separately**



Technical data

Repair receptacle distributions	
Marking to 94/9/EC	Ex II 2 G Ex ed IIC T6
EC-Type Examination Certificate	PTB 00 ATEX 1100 X
Permissible ambient temperature	–55 °C to +55 °C (40 A) / –36 °C to +55 °C (80 A)[1]
Rated voltage	420 V (40 A) / 500 V (80 A)
Rated current	40 A / 80 A
Frequency	50 - 60 Hz
Rated making/rated breaking capacity AC-3	40 A switch: U_e 420 V / I_e 40 A
accd. EN 60947-3	80 A switch: U_e 500 V / I_e 80 A
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure material	Glass-fibre reinforced polyester
Enclosure colour	Black

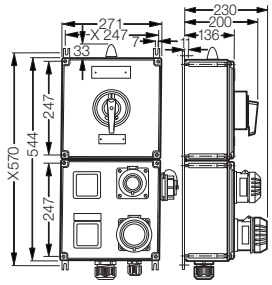
Ordering details

Number of components	Contact arrangement	Order No.
1 switch, 4-pole, 40 A; 1 IEC 60309-socket, 16 A 1 power circuit breaker, 3-pole, 16 A, 1 IEC 60309-socket, 32 A 1 power circuit breaker, 3-pole, 32 A, 1 earthed socket 16 A 1 power circuit breaker, 1-pole, 16 A, 1 signal lamp 1 Cable entry M40 Ø 17 - 28 mm 1 Cable entry M25 Ø 8 - 17 mm Weight: 8.5 kg		**GHG 981 0042 R0001**
1 switch, 4-pole, 80 A 1 Fi-earth leakage circuit breaker, 63 A, 1 IEC 60309-socket, 16 A 1 power circuit breaker, 3-pole, 16 A, 1 IEC 60309-socket, 32 A 1 power circuit breaker, 3-pole, 32 A, 1 signal lamp 1 IEC 60309-socket, 63 A; 1 earthed socket 16 A 1 power circuit breaker, 1-pole, 16 A 1 Cable entry M50 Ø 22 - 35 mm 1 Cable entry M25 Ø 8 - 17 mm Weight: 15 kg		**GHG 981 0043 R0001**

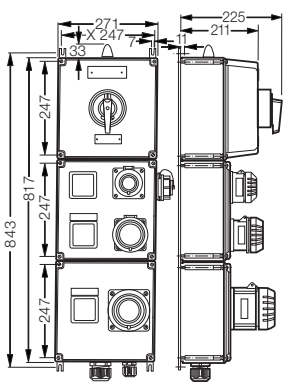
Other types on request / Customer specifications on request

[1] extended temperature range on request

Dimension drawing | Wiring diagram



Repair socket distributions 40 A



Repair socket distributions 80 A

X = fixing dimensions

Dimensions in mm

PORTABLE MULTI-OUTLET DISTRIBUTIONS AND CABLE REELS

16 A and 32 A for Zone 1 and Zone 21

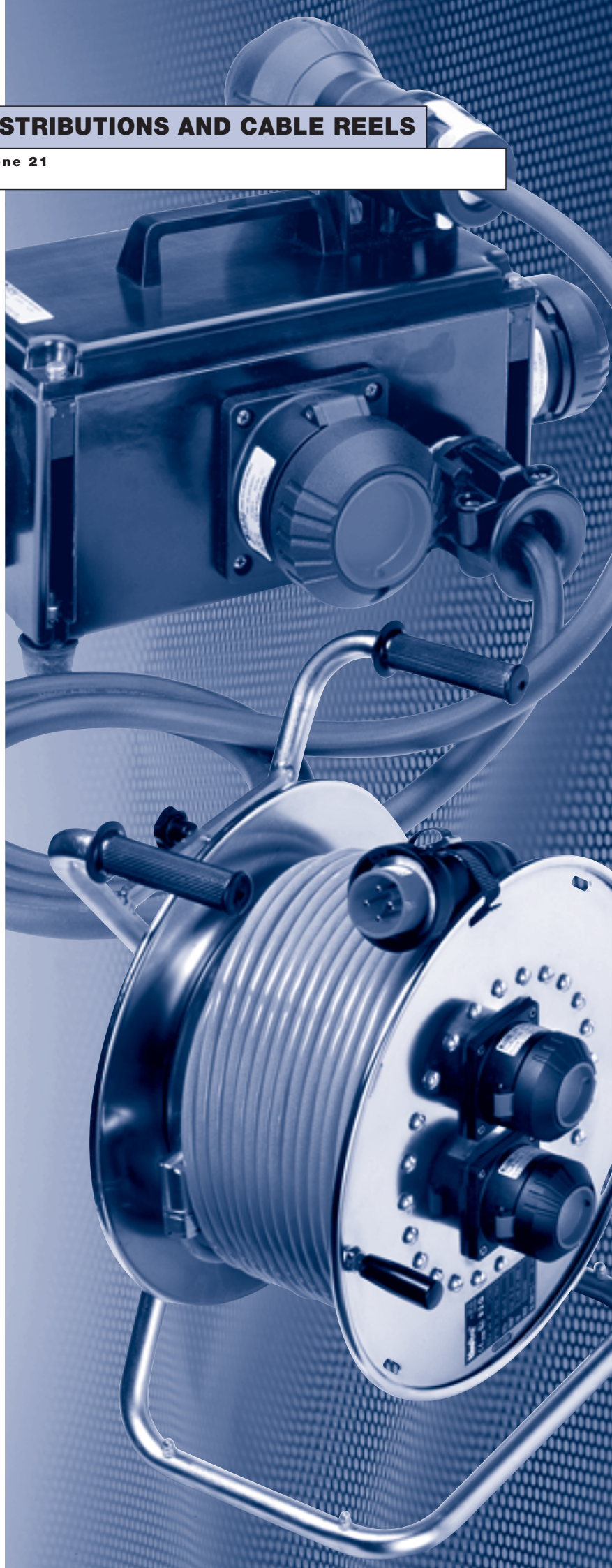
Electrical equipment, such as pumps, scales, etc. can be used flexibly in areas of Zone 1 and Zone 2 that are at risk of explosions, they can be safely supplied with energy by means of portable CEAG multi-outlet distribution units or cable reels.

The multi-outlet distribution units are equipped with flange-mounting socket outlets that even comply with the high degree of protection IP66 when they are plugged in.

This means that this distribution units are also suitable for use in the harshest industrial conditions.

The portable, explosion-protected cable reels can be used to supply electricity flexibly to portable electrical equipment to areas of Zone 1 and Zone 2 that are at risk of explosions. Furthermore, the cable drum can be used as a multiple socket outlet. Different combinations of plugs and receptacles allow variable deployments. The cable drum with a stainless steel housing comprises up to three explosion-protected flange-mounting socket outlets as well as the wound cable with a plug. One bolt each for inner and outer connection to the side wall are also welded on for connection to the protective conductor or potential equalisation conductor. Optionally, the cable reel can also be supplied with conductive reels.
A version of all-rubber design for use in harsh areas offers various applications. The small design gives best opportunities to be stored in operation vehicles or container.

All portable distributions are for use by:
– fire brigades
– civil defence
– rescue services
– police
– maintenance operation



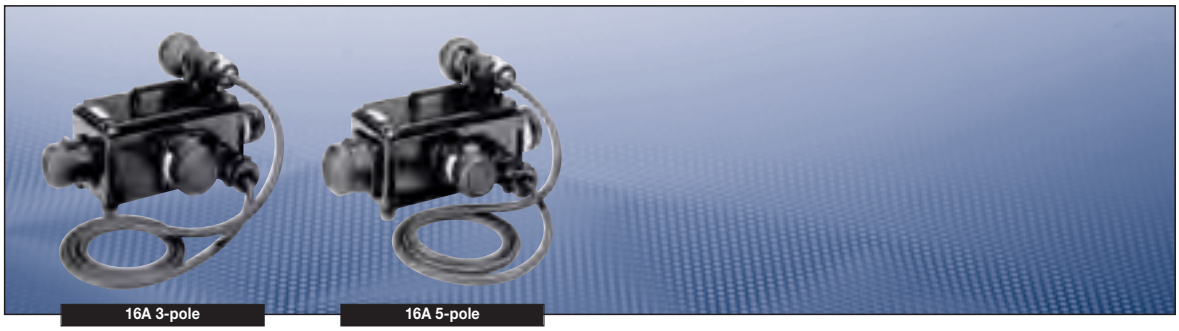
High IP 66 protection
Portable distribution of electricity via sockets in the area at risk of explosions
Mechanical, chemical and thermal resistance
Variable socket combinations



Technical data

16A 3-pole | 16A 5-pole	
Marking to 94/9/EC	Ex II 2 G Ex ed IIC T6
EC-Type Examination Certificate	PTB 02 ATEX 1035
Permissible ambient temperature	-20 °C to +40 °C[1)]
Rated voltage	3-pole 16 A: to 500 V / 5-pole 16 A: to 400 V
Rated current	16 A
Frequency	50/60 Hz
Rated making-/breaking capacity AC-3	
accd. to EN 60947-3	U_e 690 V / I_e 16 A
External back up fuse	without thermal protection: 16 A with thermal protection: 25 A gL (rated current 16 A set to)
Degree of protection accd. EN 60529	IP66
Cable glands/enclosure drilling	Trumpet shaped cable gland M32
Weight	with 2 m connecting cable: 4.2 kg / with 5 m connecting cable 5.2 kg
Enclosure material	Socket distribution: Glass-fibre reinforced polyester Plug and flange socket: polyamide
Enclosure colour	Black

[1)] extended temperature range on request

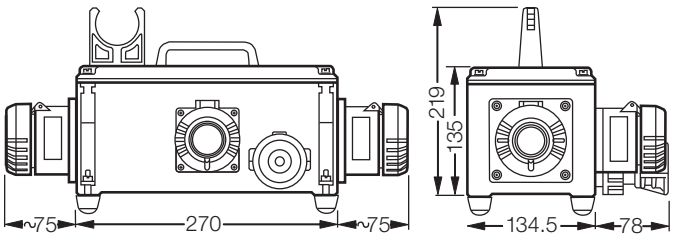


Ordering details

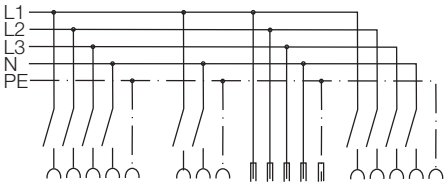
Design	Version	Order No.
Type design with 2 m connecting cable		
2 x socket 16 A	3-pole	
1 x socket 16 A	5-pole	**GHG 931 0003 R0011**
1 x socket 16 A	3-pole	
2 x socket 16 A	5-pole	**GHG 931 0003 R0012**
3 x socket 16 A	3-pole	**GHG 931 0003 R0013**
Type design with 5 m connecting cable		
2 x socket 16 A	3-pole	
1 x socket 16 A	5-pole	**GHG 931 0003 R0021**
1 x socket 16 A	3-pole	
2 x socket 16 A	5-pole	**GHG 931 0003 R0022**
3 x socket 16 A	3-pole	**GHG 931 0003 R0023**

Other configurations on request.

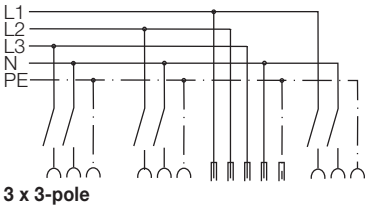
Dimension drawing | Wiring diagram



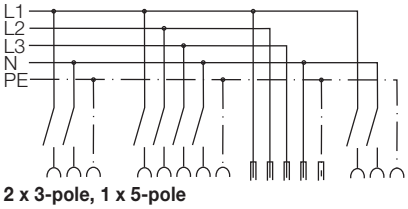
Socket distribution 16A 3-pole/5-pole



2 x 5-pole, 1 x 3-pole

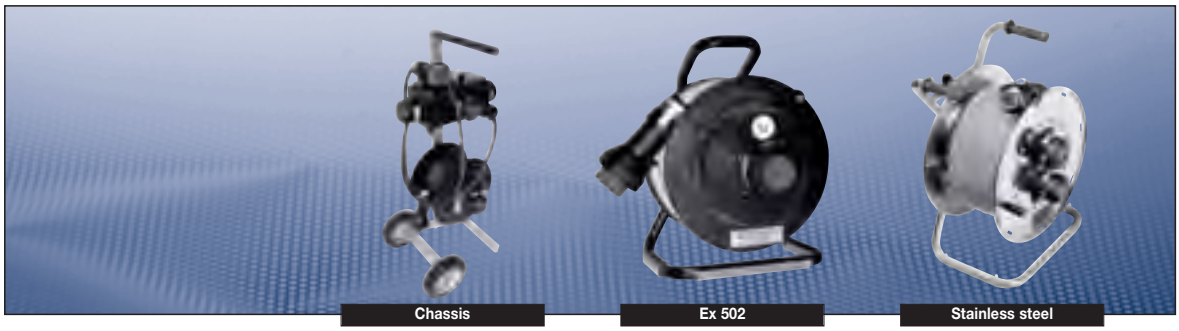


3 x 3-pole



2 x 3-pole, 1 x 5-pole

Dimensions in mm



Technical data

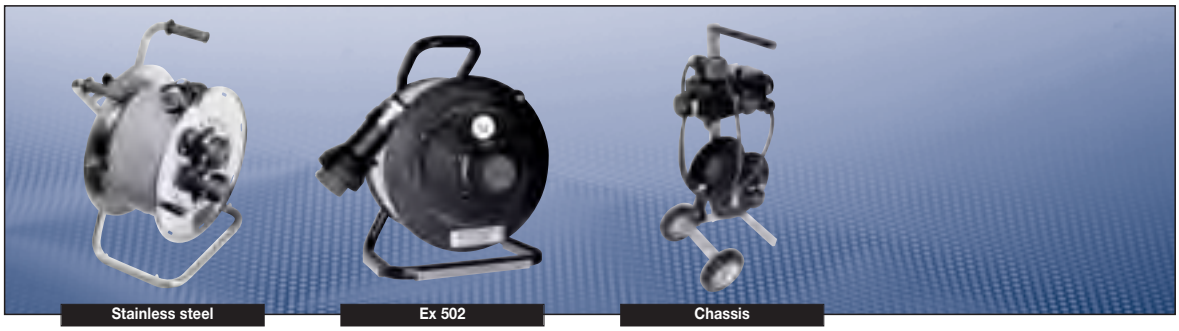
	Stainless steel	Ex 502
Marking to 94/9/EC	Ex II 2 G Ex ed IIC T6	Ex II 2 G Ex ed IIC T6
EC-Type Examination Certificate	PTB 01 ATEX 1116	PTB 03 ATEX 1186
Permissible ambient temperature	–20 °C ... +55 °C[1)]	–20 °C ... +40 °C
Rated voltage	3-pole: 415 V 5-pole: 500 V (690 V to 5 h)	up to 690 V, dept. to version
Rated current	16 A/32 A	16 A
Frequency	50/60 Hz	50/60 Hz
Max. load		reeled: 3 x 2.5 mm² max. 1000 W/230 V/ unreeled 3600 W/230 V reeled: 5 x 2.5 mm² max. 4800 W/415 V/ unreeled 11000 W/415 V
External back up fuse	without thermal protection: 16 A with thermal protection: 25 A gL (rated current 16 A set to)	
Insulation class	I	II
Degree of protection accd. EN 60529	IP54	IP54
Weight	16 A with 20 m connecting cable approx. 22 - 30 kg design depending / 32 A with 20 m connecting cable approx. 28 - 50 kg design depending	approx. 13 kg depend on version
Enclosure material	Cable reel: enclosure stainless steel Plug and flange socket: polyamide	Cable reel: all rubber material Plug and flange socket: polyamide

[1)] extended temperature range on request

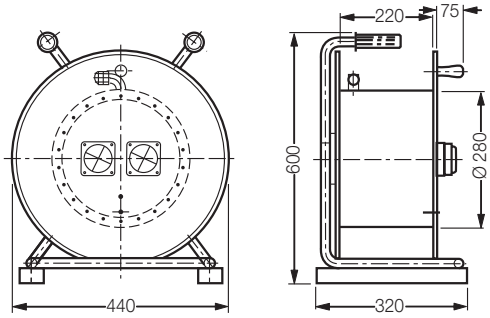
Ordering details

Design	Version	Order No.
Stainless steel 16 A design with 20 m connecting cable		
1 x Flange socket 16 A 3-pole 1 x Flange socket 16 A 5-pole	5 x 2.5 mm²	**GHG 931 0003 R0031**
3 x Flange socket 16 A 3-pole	3 x 2.5 mm²	**GHG 931 0003 R0032**
2 x Flange socket 16 A 5-pole	5 x 2.5 mm²	**GHG 931 0003 R0033**
Stainless steel 16 A design with 20 m connecting cable		
2 x Flange socket 32 A 4-pole	4 x 4 mm²	**GHG 931 0003 R0034**
2 x Flange socket 32 A 5-pole	5 x 4 mm²	**GHG 931 0003 R0035**
1 x Flange socket 16 A 5-pole 1 x Flange socket 32 A 5-pole	5 x 4 mm²	**GHG 931 0003 R0036**
All rubber type Ex 502		
502 Ex 200 - 250 V, 16 A 3-pole, 6 h (1P, N, PE)	50 m, 3 x 2.5 mm²	**GHG 931 0004 R0001**
502 Ex 200 - 250 V, 16 A 3-pole, 6 h (1P, N, PE)	30 m, 3 x 2.5 mm²	**GHG 931 0005 R0001**
502 Ex 380 - 415 V, 16 A, 5-pole, 6 h (3P, N, E)	30 m, 5 x 2.5 mm²	**GHG 931 0006 R0001**
502 Ex 200 - 250 V, 16 A 3-pole, 6 h (1P, N, PE)	30 m, 3 x 2.5 mm² with chassis	**GHG 931 0008 R0001**
502 Ex 380 - 415 V, 16 A, 5-pole, 6 h (3P, N, E)	30 m, 5 x 2.5 mm² with chassis	**GHG 931 0009 R0001**
502 Ex 200 - 250 V, 16 A 3-pole, 6 h (1P, N, PE)	50 m, 3 x 2.5 mm² with chassis	**GHG 931 0010 R0001**

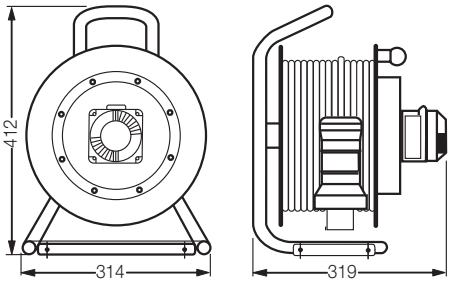
Note: The cassis contains a rack for a portable distribution (page 6.130) which is not included in scope of delivery



Dimension drawing



Stainless steel



All rubber type 502

Dimensions in mm

EX-PROTECTED PORTABLE POWER SUPPLY UNITS

16 A – 125 A for Zone 1

Special requirements apply for power distributions for the use and operation of portable equipment in hazardous areas in Zones 1, 2, 21 and 22. It is necessary to ensure that any external mechanical influences are effectively kept away from the equipment.

CEAG explosion-protected power distributions fulfil these high mechanical explosion protection requirements by means of a high-strength protective framework made of stainless steel (1.4301) and enclosures that have been specially developed for this purpose.

Whether in accordance with customer requirements or as a series product, sizes 16 A – 125 A are possible. All the electrical outgoing circuits can be fitted with separate MCBs or ELCBs. Customized components, such as electronic subassemblies, can also be safely built into special, flameproof enclosures with the required Certificate of Conformity.

The power distributions are fitted with flange sockets that fulfil the high requirements of the degree of protection IP 66, even with plugs inserted.

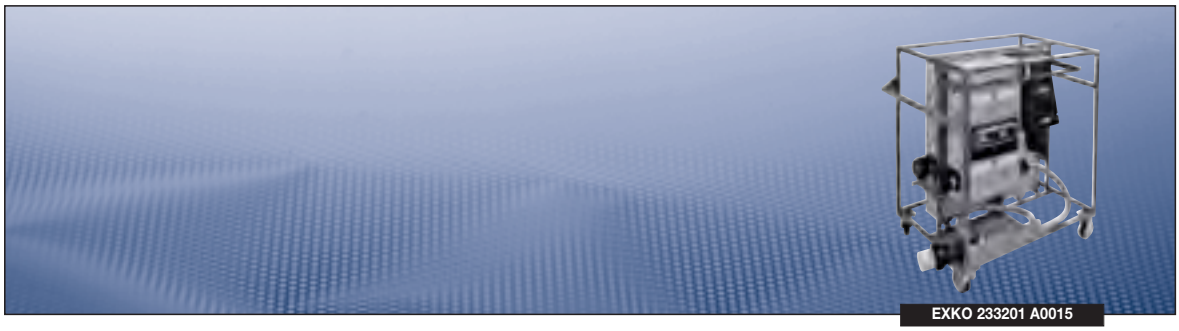
Thus, these distributions are even suitable for use under most extreme industrial conditions.

For the additional connection to the protective conductor (PE) or equipotential bonding conductor (PA), there is a stud welded directly onto the framework.

International approvals.



- **Flexible power distribution in the hazardous area thanks to sockets with lamellar contacts for optimum contact safety**
- **Padlocking of switch with all-pole disconnection and full AC3 switching capacity**
- **High mechanical, chemical and thermal resistance**
- **Customer specific design**



Technical data

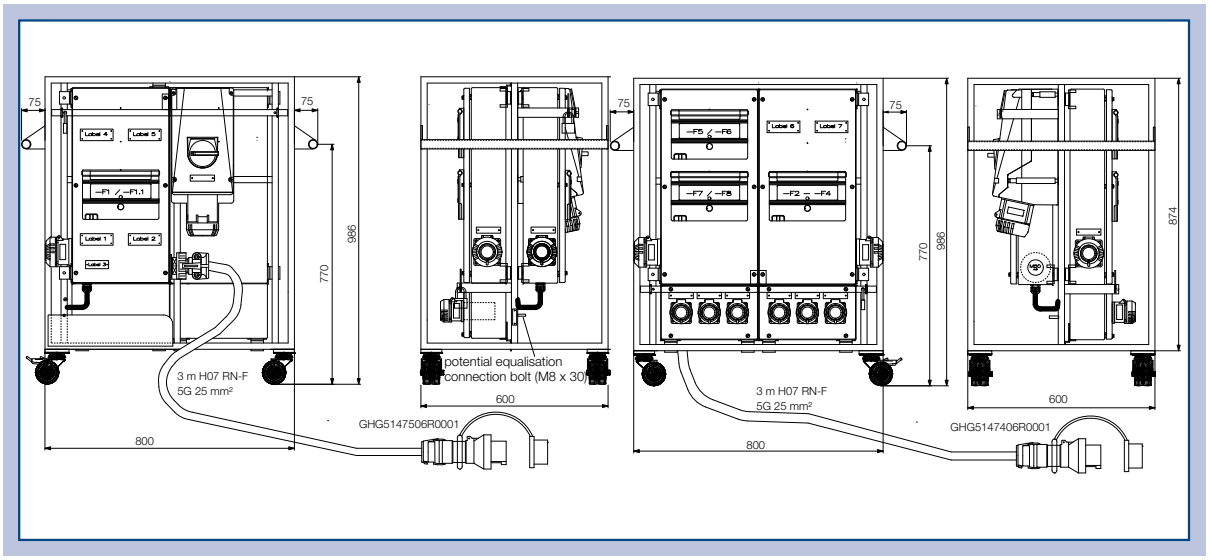
Ex-protected portable power supply EXKO 233201 A0015	
Marking accd. to 94/9/EC	Ex II 2 G Ex de IIC T4 / Ex II 2 D Ex tD A21 IP65 T95°C
EC-Type Examination Certificate	PTB 99 ATEX 1044
Permissible ambient temperature	-20 °C up to +40 °C
Rated voltage	400 V / 230 V
Rated current	63 A
Frequency	50 - 60 Hz
External back up fuse	63A gL / gG
Insulation class	I
Degree of protection accd. to IEC 60529	IP65
Cable glands	1 x M50 trumpet shaped cable gland
Enclosure material	sheet steel, painted (option stainless steel AISI 316L)
	wall socket: glass-fibre reinforced polyester, plug: polyamide
Dimensions (H x W x D) (H x B x T)	metal frame stainless steel, squared 20 x 20 x 2 including lockable wheels
	968 x 800 x 600 mm
Enclosure colour	RAL 7032

Ordering details

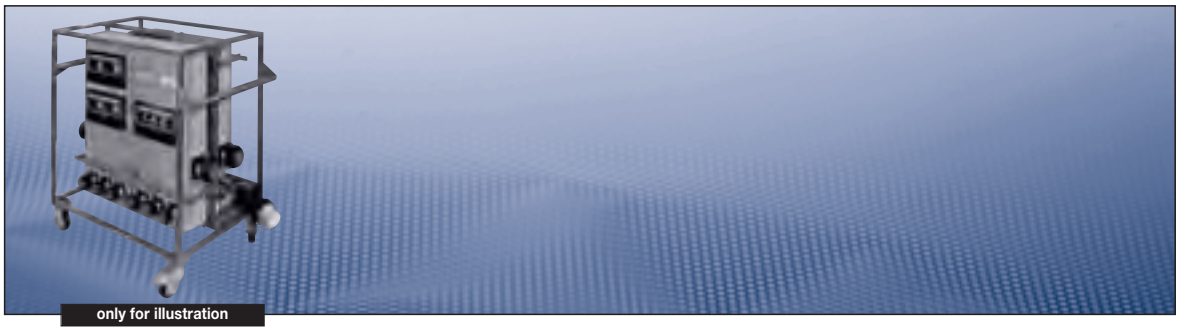
Components	Components external	Order No.
1x MCB 4-pole - C40A, 10kA	1x plug 63A 5-pole, 06h (GHG5147506R0001)	
1x RCD 4-pole - 40A 0,03A 10kA	1x wall socket 63A 5-pole, 06h (GHG5144506R0001)	
1x RCD 4-pole - 63A 0,03A, 10kA	3x receptacle 32A 5-pole, 06h (GHG5128506R0001)	
3x RCD with overcurrent protection	6x receptacle 16A 3-pole, 06h (GHG5118306R0001)	
(1-pole+N, C16A/0,03, 10kA)	actuating flap for components	
3x MCB 4-pole - C32A , 10kA		**EXKO 233201 A0015**

Option:
padlock facility for enclosure cover
Enclosure material sheet steel, painted oder stainless steel AISI 316L
Customized solution for connection cable, plugs & sockets and rated voltage

Dimension drawing



Dimensions in mm



Technical data

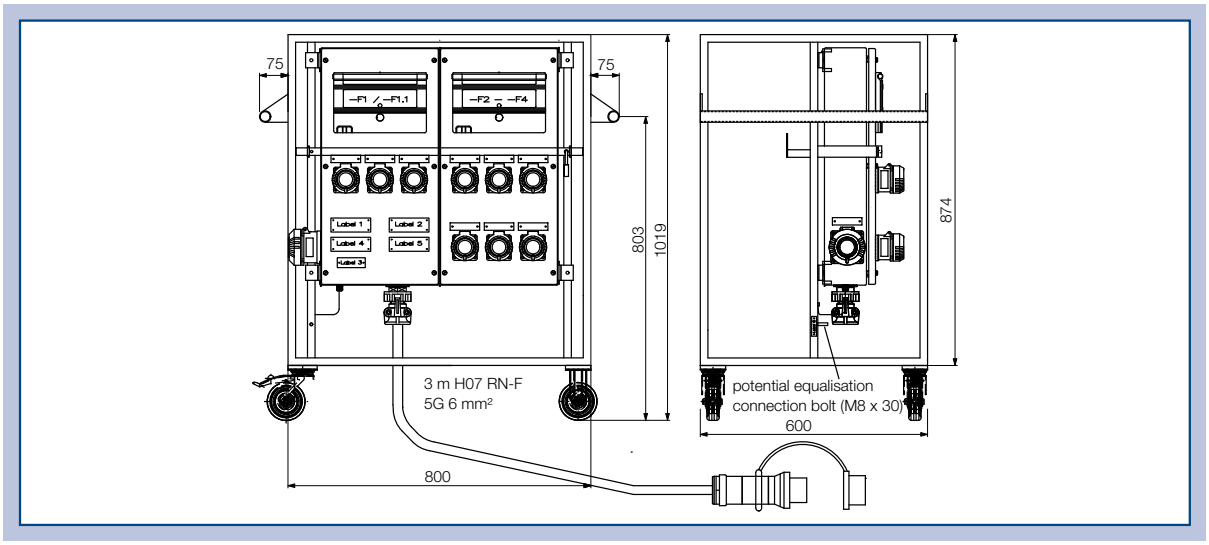
Ex-protected portable power supply EXKO 233201 A0016	
Marking accd. to 94/9/EC	Ⓔx II 2 G Ex de IIC T4 / Ⓔx II 2 D IP65 T95°C
EC-Type Examination Certificate	PTB 99 ATEX 1044
Permissible ambient temperature	-20 °C up to +40 °C
Rated voltage	400 V / 230 V
Rated current	32 A
Frequency	50 Hz
External back up fuse	32 A gL / gG
Insulation class	I
Degree of protection accd. to IEC 60529	IP65
Cable glands	1x M32 trumpet shaped cable gland, 1x M12 cable gland plastic
Anschlusskabel	H07RN-F 5 x 6mm² with plug 32A, 3 m
Enclosure material	sheet steel, painted (optional: Edelstahl AISI 316L),
	wall socket: glass-fibre reinforced polyester, plug: polyamide
Dimensions (H x W x D)	metal frame stainless steel squared 20 x 20 x 2 including lockable wheels
	1019 x 800 x 600 mm
Weight	69 kg
Enclosure colour	RAL 7032

Ordering details

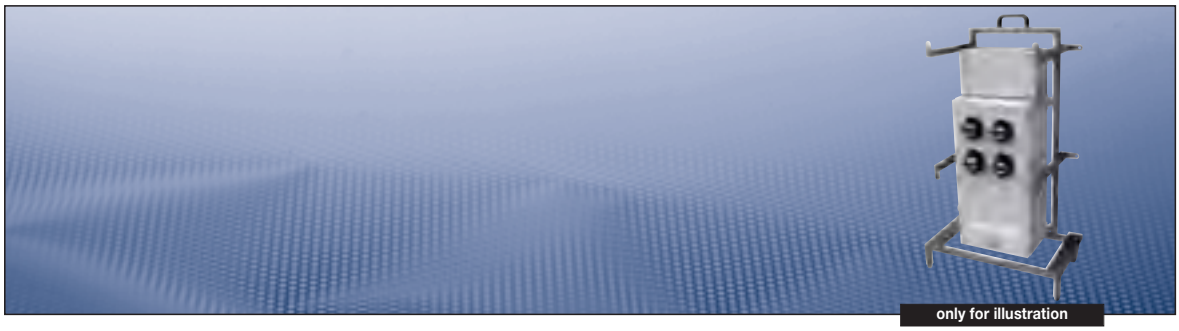
Components	Components external	Order No.
1x MCB S204M - C32A, 10kA	1x plug 32A 5-pole, 380-415V (06h) (GHG5127506R0001)	
1x RCD F204A - 40A 0,03A 10kA	1x receptacle 32A 5-pole, 380-415V (06h) (GHG5128506R0001)	
3x MCB / RCD DS971 - C16A 0,03A, 10kA	6x receptacle 16A 3-pole, 230V (06h) (GHG5118306R0001)	
	actuating flap for components	**EXKO 233201 A0016**

Option:
padlock facility for enclosure cover
Enclosure material sheet steel, painted oder stainless steel AISI 316L
Customized solution for connection cable, plugs & sockets and rated voltage

Dimension drawing



Dimensions in mm



Technical data

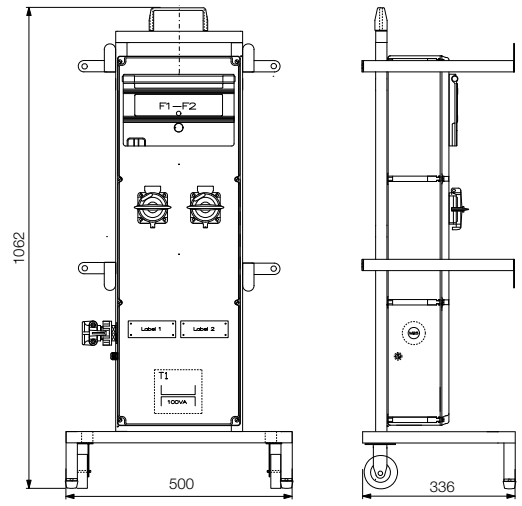
Ex-protected portable power supply EXKO 233201 A0006	
Marking accd. to 94/9/EC	Ⓔx II 2 G Ex de IIC T4
EC-Type Examination Certificate	PTB 99 ATEX 1044
Permissible ambient temperature	-20 °C up to +40 °C
Rated voltage	230/24 V transformer, 100 VA
Rated current	16 A
Frequency	50 Hz
External back up fuse	16 A gL / gG
Insulation class	I
Degree of protection accd. to IEC 60529	IP65
Cable glands	1x M25 trumpet shaped cable gland, 1x M12 cable gland plastic
Enclosure material	glass-fibre reinforced polyester (option sheet steel, painted oder stainless steel AISI 316L)
	wall socket: glass-fibre reinforced polyester, plug: polyamide
Dimensions (H x W x D)	metal frame stainless steel, squared 20 x 20 x 2, with wheels
	1062 x 500 x 336 mm
Weight	30 kg
Enclosure colour	black

Ordering details

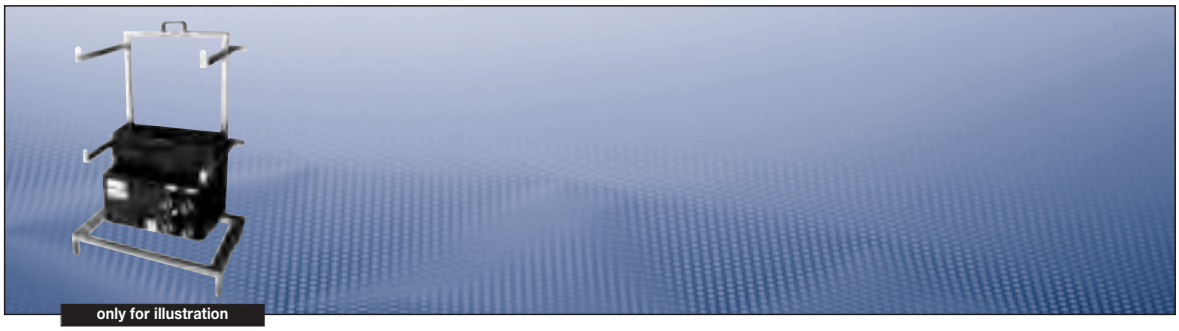
Components	Components external	Order No.
1x MCB S202M - K0,5A, 10kA	2x receptacle	
1x FI-LS DS971 - C4A 0,03A, 10kA	16A 3-pole, 24V (GHG5420007R0003	
1x transformer 230/24V 100VA	actuating flap for components	**EXKO 233201 A0006**

Option:
padlock facility for enclosure cover
Enclosure material sheet steel, painted oder stainless steel AISI 316L
Customized solution for connection cable, plugs & sockets and rated voltage

Dimension drawing



Dimensions in mm



Technical data

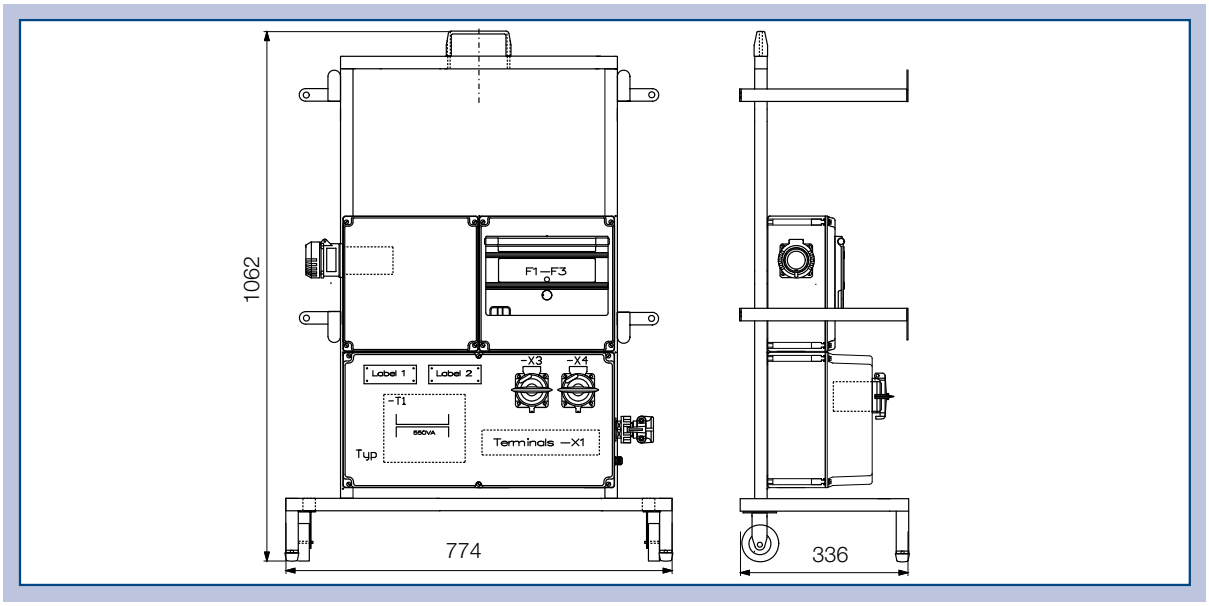
Ex-protected portable power supply EXKO 233201 A0007	
Marking accd. to 94/9/EC	Ⓔx II 2 G Ex de IIC T4
EC-Type Examination Certificate	PTB 99 ATEX 1044
Permissible ambient temperature	-20 °C up to +40 °C
Rated voltage	110/24 V transformer, 550 VA
Rated current	16 A
Frequency	50 Hz
External back up fuse	25A gL / gG
Insulation class	I
Degree of protection accd. to IEC 60529	IP65
Cable glands	1 x M25 trumpet shaped cable gland, 1 x M12 cable gland plastic
Enclosure material	glass-fibre reinforced polyester (option sheet steel, painted oder stainless steel AISI 316L)
	wall socket: glass-fibre reinforced polyester, plug: polyamide
Dimensions (H x W x D)	metal frame stainless steel squared 20 x 20 x 2 with wheels
	1062 x 774 x 336 mm
Weight	44 kg
Enclosure colour	black

Ordering details

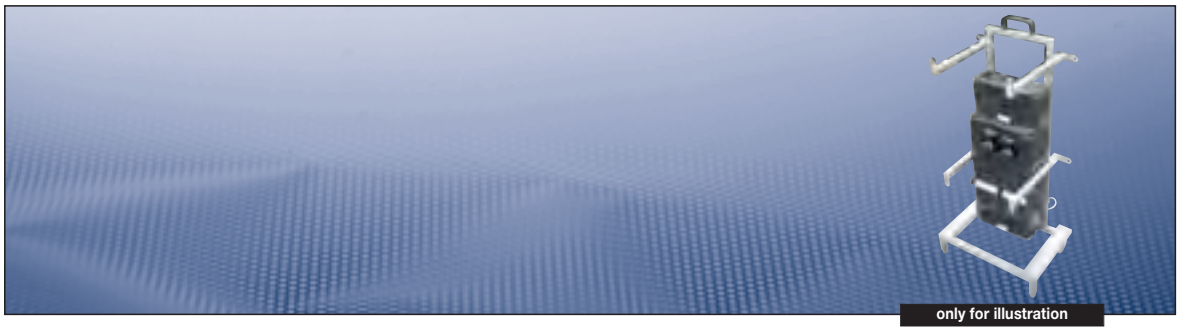
Components	Components external	Order No.
1x MCB S202P - K6A, 10kA	1x receptacle 16A 3-pole, 110V (GHG5118304R0001)	
2x MCB S202M - C16A, 10kA	2x receptacle 16A 2pole, 24V (GHG5420007R0004)	
1x transformer 110/24V 550VA	actuating flap for components	**EXKO 233201 A0007**

Option:
padlock facility for enclosure cover
Enclosure material sheet steel, painted oder stainless steel AISI 316L
Customized solution for connection cable, plugs & sockets and rated voltage

Dimension drawing



Dimensions in mm



Technical data

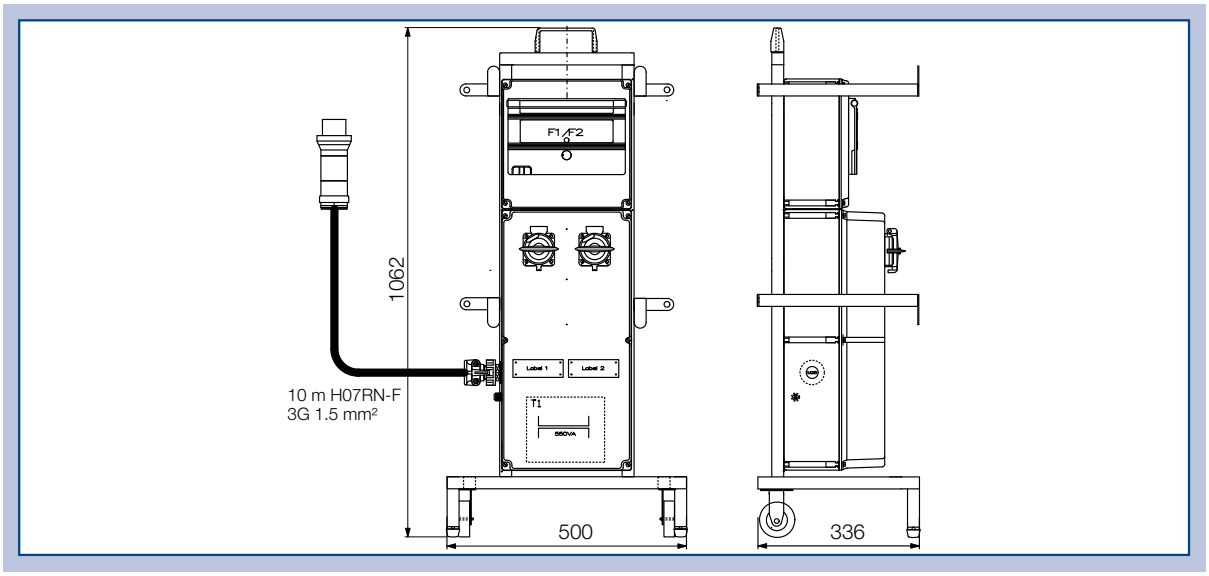
Ex-protected portable power supply EXKO 233201 A0014	
Marking accd. to 94/9/EC	Ex II 2 G Ex de IIC T4
EC-Type Examination Certificate	PTB 99 ATEX 1044
Permissible ambient temperature	-20 °C up to +40 °C
Rated voltage	230/42 V transformer, 550 VA
Rated current	16 A
Frequency	50 - 60 Hz
External back up fuse	16 A gL / gG
Insulation class	I
Degree of protection accd. to IEC 60529	IP65
Cable glands	1 x M25 trumpet shaped cable gland,1 x M12 cable gland plastic
Anschlusskabel	H07RN-F 3 x 1,5 mm² with plug 16A, 3 m
Enclosure material	glass-fibre reinforced polyester (option sheet steel, painted oder stainless steel AISI 316L)
	wall socket: glass-fibre reinforced polyester, plug: polyamide
Dimensions (H x W x D)	metal frame stainless steel squared 20 x 20 x 2 with wheels
	1062 x 500 x 336 mm
Weight	40 kg
Enclosure colour	black

Ordering details

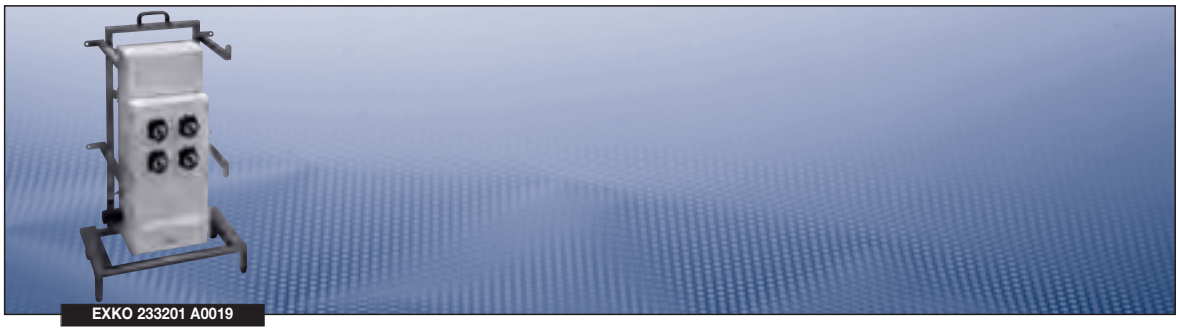
Components	Components external	Order No.
1 x MCB S202P - K3A, 10kA	2 x receptacle 16 A 2-pole, 42 V (GHG5420007R0002)	
1 x MCB S202M - C10A, 10kA	1 x plug 16 A 3-pole, 230 V 06 h (GHG5117306R0001)	
1 x transformer 230/42V 550VA	actuating flap for components	**EXKO 233201 A0014**

Option:
padlock facility for enclosure cover
Enclosure material sheet steel, painted oder stainless steel AISI 316L
Customized solution for connection cable, plugs & sockets and rated voltage

Dimension drawing



Dimensions in mm


EXKO 233201 A0019

Technical data

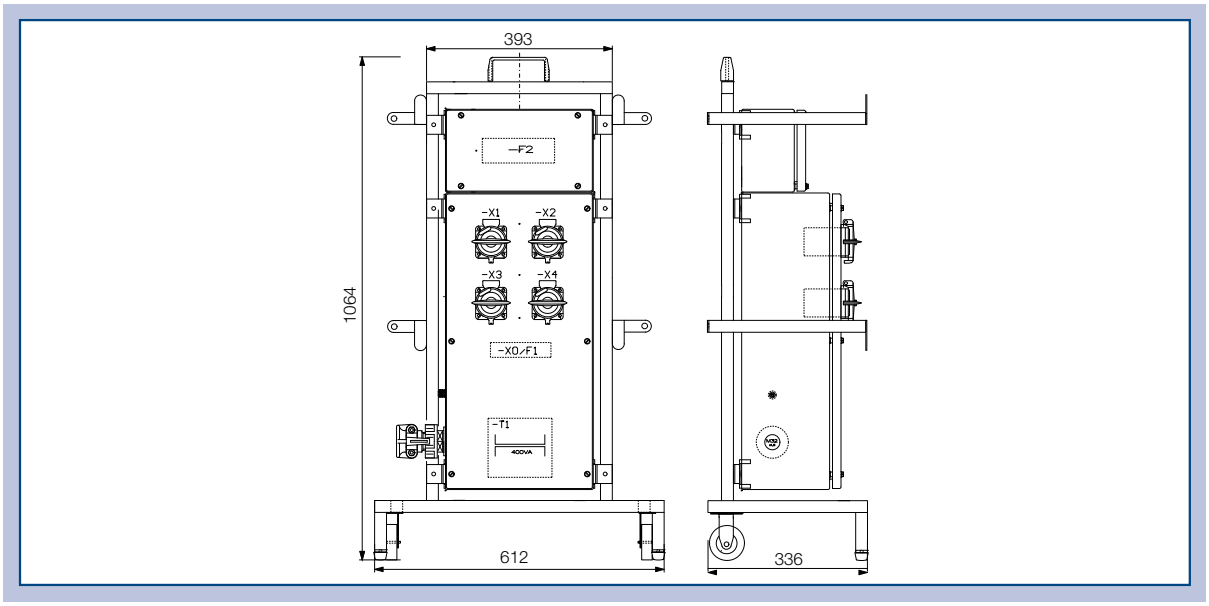
Ex-protected portable power supply EXKO 233201 A0019	
Marking accd. to 94/9/EC	Ex II 2 G Ex de IIC T4
EC-Type Examination Certificate	PTB 99 ATEX 1044
Permissible ambient temperature	-20 °C up to +55 °C
Rated voltage	240/42 V transformer, 400 VA
Rated current	16 A
Frequency	50 Hz
External back up fuse	16 A gL / gG
Insulation class	I
Degree of protection accd. to IEC 60529	IP65
Cable glands	1x M32 trumpet shaped cable gland, 1x M12 cable gland plastic
Enclosure material	sheet steel, painted (option stainless steel AISI 316L)
	wall socket: glass-fibre reinforced polyester, plug: polyamide
Dimensions (H x W x D)	metal frame stainless steel squared 20 x 20 x 2 with wheels
	1062 x 612 x 336 mm
Weight	38 kg
Enclosure colour	RAL 7032

Ordering details

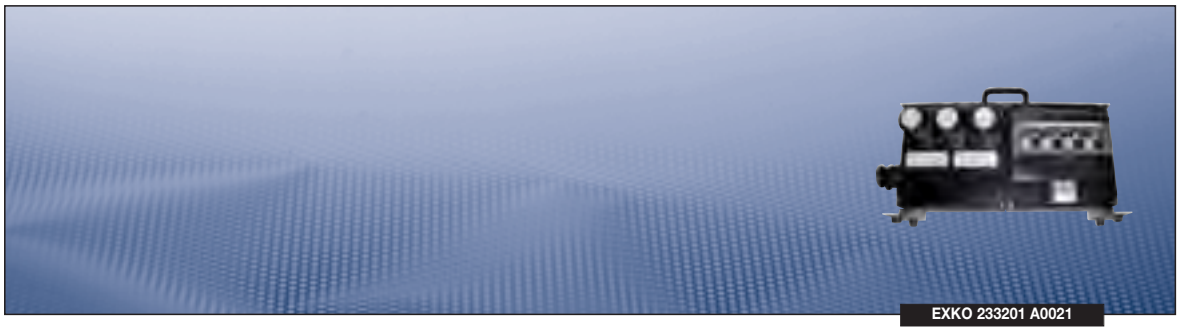
Components	Components external	Order No.
1x MCB S202M - K16A, 10kA	4x receptacle 16A 3-pole, 24V (GHG5425300V0000)	
1x Ex-d Sicherung 2x T 2A	4x plug 16A 3-pole, 24V (GHG5422300V0000)	
1x transformer 240/24V 400VA	actuating flap for components	**EXKO 233201 A0019**

Option:
padlock facility for enclosure cover
Enclosure material sheet steel, painted oder stainless steel AISI 316L
Customized solution for connection cable, plugs & sockets and rated voltage

Dimension drawing



Dimensions in mm



Technical data

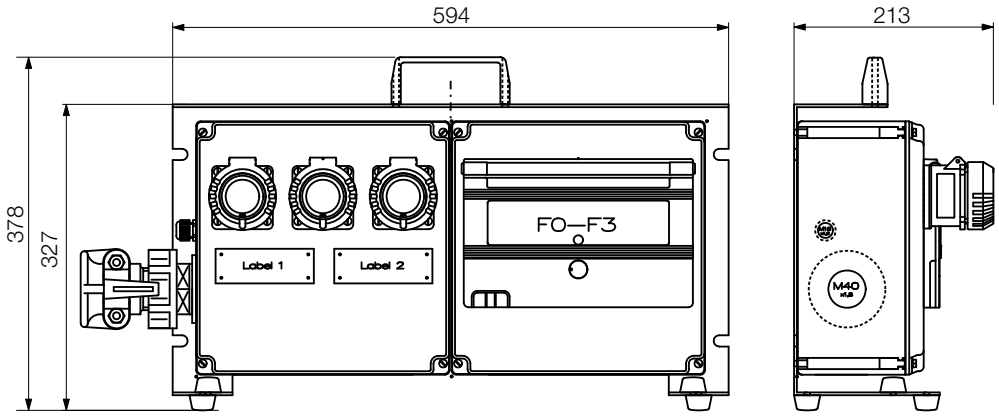
Ex-protected portable power supply EXKO 233201 A0021	
Marking accd. to 94/9/EC	Ex II 2 G Ex de IIC T4 / Ex II 2 D IP65 T95°C
EC-Type Examination Certificate	PTB 99 ATEX 1044
Permissible ambient temperature	-20 °C up to +40 °C
Rated voltage	207 V / 120 V
Rated current	32 A
Frequency	50 Hz
External back up fuse	63 A gL / gG
Insulation class	I
Degree of protection accd. to IEC 60529	IP65
Cable glands	1x M40 trumpet shaped cable gland, 1x M12 cable gland plastic
Anschlusskabel	H07RN-F 5 x 10 mm² without plug, 10 m
Enclosure material	glass-fibre reinforced polyester, metal plate AISI 304L
	wall socket: glass-fibre reinforced polyester, plug: polyamide
Dimensions (H x W x D)	metal frame 378 x 594 x 213 mm
Weight	25 kg
Enclosure colour	black

Ordering details

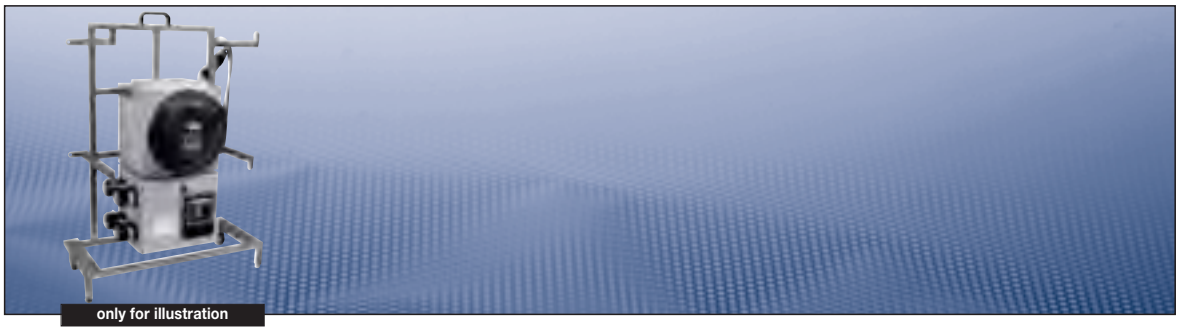
Components	Components external	Order No.
1 x MCB S202M - C32A, 10kA	3 x wall socket 16A 3-pole, 120V (04h) (GHG5118304R0001)	
3 x MCB / RCD DS971 - C16A 0,03A, 6kA	actuating flap for components	**EXKO 233201 A0021**

Option:
padlock facility for enclosure cover
Enclosure material sheet steel, painted oder stainless steel AISI 316L
Customized solution for connection cable, plugs & sockets and rated voltage

Dimension drawing



Dimensions in mm



Technical data

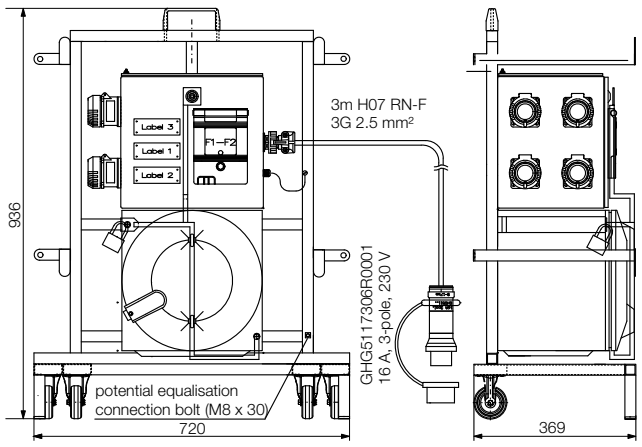
Ex-protected portable power supply EXKO 233201 A0025	
Marking accd. to 94/9/EC	Ex II 2 G Ex de IIC T4
EC-Type Examination Certificate	PTB 99 ATEX 1057
Permissible ambient temperature	-20 °C up to +40 °C
Rated voltage	230/24 V transformer, 400 VA
Rated current	16 A
Frequency	50 Hz
External back up fuse	16 A gL / gG
Insulation class	I
Degree of protection accd. to IEC 60529	IP65
Cable glands	1x M25 trumpet shaped cable gland, 1 x M12 cable gland plastic
Connection cable	H07RN-F 3 x 2.5 mm² with plug 16 A, 3 m
Enclosure material	Ex-d enclosure: die-cast aluminium, Connection box: stainless steel AISI 316L
	wall socket: glass-fibre reinforced polyester, plug: polyamide
Dimensions (H x W x D)	metal frame stainless steel squared 20 x 20 x 2 including lockable wheels
	936 x 720 x 369 mm
Weight	62 kg
Enclosure colour	RAL 7032

Ordering details

Components	Components external	Order No.
1 x MCB S202M - C10A, 10kA	1 x plug 16A 3-pole, 230V (06h) (GHG5117306R0001)	
1 x MCB S202M - C13A, 10kA	4 x wall socket 16A 3-pole, 24V (01h) (GHG5118301R0001)	
1 x power supply 230V AC / 24V DC 20A	actuating flap for components	**EXKO 233201 A0025**

Option:
padlock facility for enclosure cover
Enclosure material sheet steel, painted oder stainless steel AISI 316L
Customized solution for connection cable, plugs & sockets and rated voltage

Dimension drawing



Dimensions in mm

JUNCTION BOXES AND TERMINAL ENCLOSURES



EX-TERMINAL AND JUNCTION BOXES 7.2

EX-JUNCTION BOXES 7.4

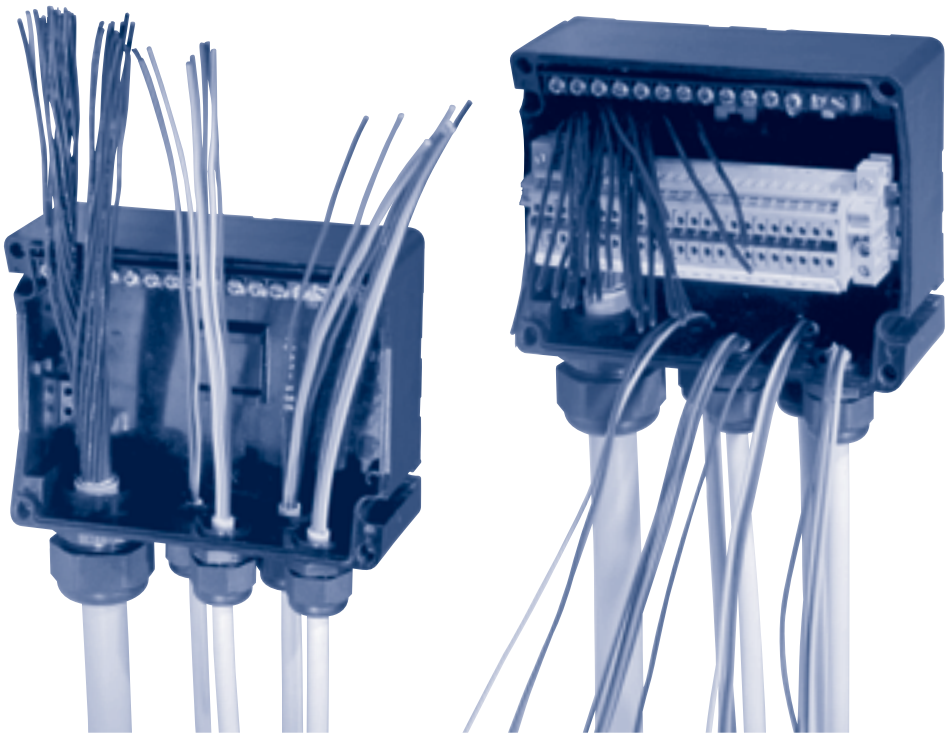
UNIVERSAL EX-TERMINAL BOXES PLASTIC 7.10

UNIVERSAL EX-TERMINAL BOXES LIGHT ALLOY 7.26

EX-TERMINAL BOXES LIGHT ALLOY FLAME PROOF 7.32

EX-TERMINAL ENCLOSURES STAINLESS STEEL 7.36

EX-INTERMEDIATE MOTOR TERMINAL BOXES 7.72



Ex-e Terminal and Junction boxes

Apparatus which do not create arcing or sparking or exceed max. permissible surface temperatures during normal operating conditions can be used in accordance with the European standard EN 60079-7 - "Ex-e" in hazardous areas of Zone 1, 2, 21 and 22.

All CEAG junction- and terminal boxes are manufactured according to this standard.

Unused cable entry holes are to be closed using either a certified screw or blanking plug. Terminal boxes can be subsequently re-fitted or upgraded with certified cable glands according to national regulations and the manufacturers recommendations.

The requirements on the EMC terminal boxes for use in the instrumentation and controlling fields are met with our metal and interior coated housings. The coating in combination with the affordable cable entries shield off the sensible instrumentation areas against unwanted external radiation fields.

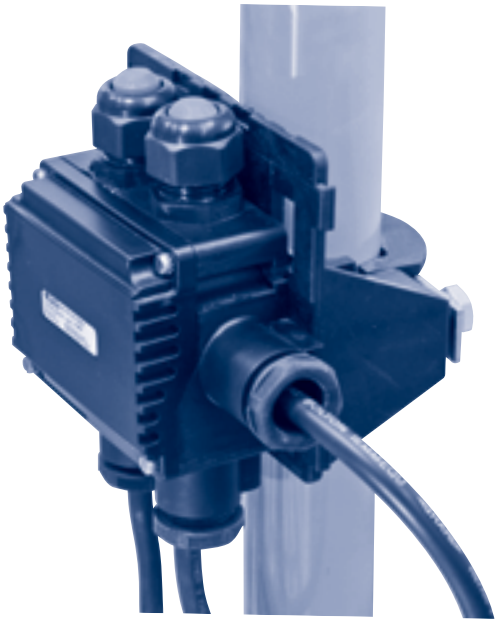
Connection or terminal boxes of the increased safety standard, which are used in nearly every country in the world are in comparison to the flameproof encapsulated version, much cheaper and are generally much easier to install.

User-friendly technology and cost saving installation

Large terminal compartment allows an easy installation or retrofitting of wiring. Cost-saving terminal arrangements according to the customer's specification speed up the total installation time.

The innovative clip-on mounting system has in conjunction with the special designed apparatus the advantage of being a cost reducer.

Installation without a hot work permit! Using the clip-on mounting frames for the installation on walls, trellises and pipes you save time. Simply plugged! In combination with the new connection friendly apparatus you will find that the installation is now time saving and therefore saving you money.

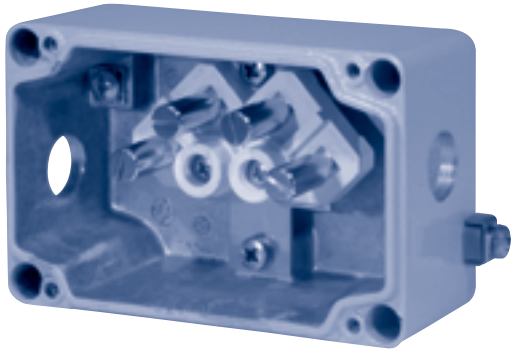


Various solutions for your individual installation tasks



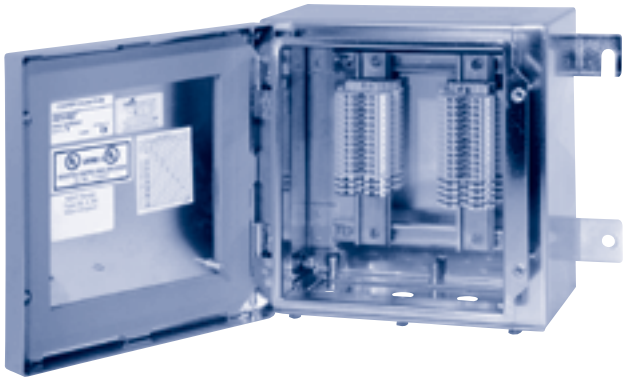
Terminal boxes made of moulded plastic with type of protection Ex-e are the most economic solution for wiring tasks. Lightweight design, corrosion resistance as well as wide thermal range are only a few of the advantages.

Light metal termination boxes combines light weight with heavy duty enclosure material. External earth connectors as well as metal cable glands directly screwed into the wall material offers some advantages using armoured cables.



High chemical resistance of the housing is ensured by the use of impact-resistant plastic powder coating.

Covered screws and all outside and inside metallic parts are made of stainless steel.



The robust design of the stainless steel terminal enclosures provides a high degree of safety for offshore applications and in places where particularly adverse chemical, mechanical and climatic operating conditions prevail within the hazardous area.

Various terminal configuration as well as gland plates pre-manufactured according to the customer's requirements offers more flexibility for instrumentation and control installations using the Ex-e and Ex-i technologies.

All CEAG terminal enclosures will fulfil the latest requirement on testing according to international standards.

Beside the ATEX certification tests a lot of other certification procedures have to be run through before the product leaves the factory.

Additional type approvals from UL, GOST or Nepsi allows a world wide use.

EX-JUNCTION BOX

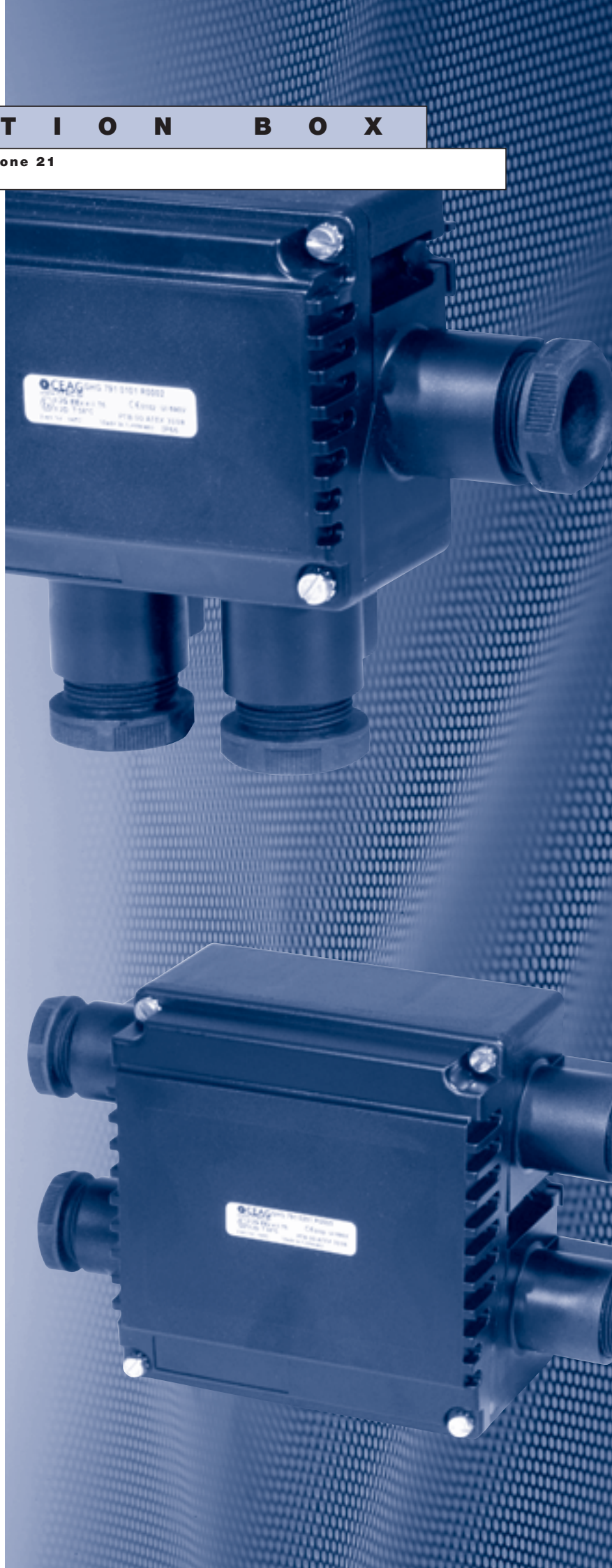
Plastic version for Zone 1 and Zone 21

The robust junction boxes made of plastic and light alloy are featured by their friendly mounting and installation capability and their design. They are fitted with pillar terminals for cable of up to 6 mm^2.
The practical orientated housing form allows for a problem-free access to the connection terminals for installation.

With the CEAG mounting system, the plastic junction boxes are economical in their use for mounting on walls, trellis and pipes. With wire and cable entries in the sizes M25 or M32 for Ø 8 – 17 mm or Ø 12 – 21 mm respectively, all requirements for the modern day installation technology are fulfilled.
For cable with armouring there are junction boxes available with internal metal clamps or light alloy versions allowing for screw joints.
For the wire and cable entries that are not used there are certified blanking plugs supplied with the junction box.
To enable a high chemical resistance of the light alloy junction boxes, these have been given an impact resistant plastic powder coating.

The cover screws and all other external metal parts are made of stainless steel (AISI 316L).

International approvals



- **Decisive cost reduction with the CEAG mounting system**
- **Free accessible connection terminals**
- **Safety standard IP66**
- **Version for metal entries available**



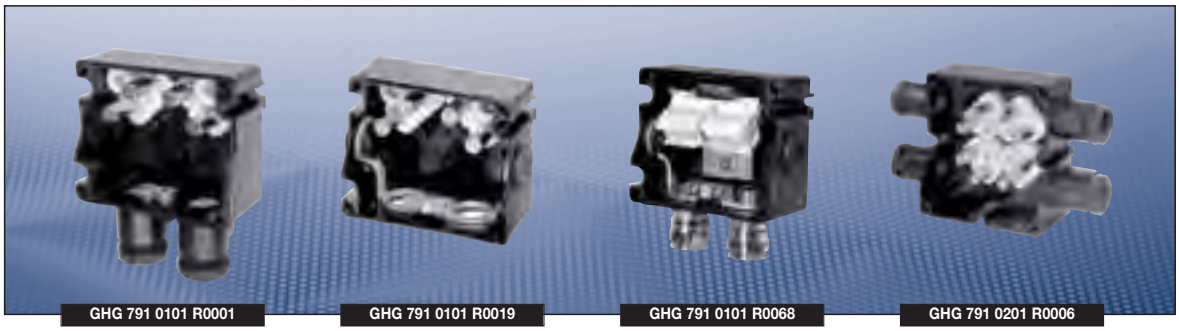
Technical data

GHG 791 01 up to 6 terminals | GHG 791 02 up to 6 terminals	
Marking to 94/9/EC	Ex II 2 G Ex dem ia II, IIC / Ex II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 00 ATEX 3108
IECEx certification of conformity	IECEx BKI 07.0034
Marking accd. to IECEx	Ex e II T6 / Ex ia IIC T6
	Ex tD A21 IP66 T58 °C
Permissible ambient temperature	–20 °C to +40 °C / –55 °C to +40 °C (option)
Rated voltage	690 V / 550 V[1)]
Rated current	depends on terminal cross section
Connecting terminals	max. 4 x 4 mm^2/PE 4 x 2.5 mm^2 (multi-wire)
	max. 2 x 6 mm^2/PE 4 x 4 mm^2 (solid-wire) or 2 x 6 mm^2 + 1 x 2.5 mm^2
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure material	Polyamide

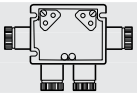
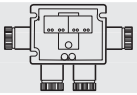
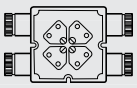
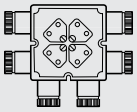
GHG 791 01 up to 6 terminals	
Cable glands/enclosure thread	max. 4 x M25 for cable Ø 10 - 17 mm
	max. 4 x M20 metal thread
Dimensions (L x W x H)	81.5 x 100 x 61 mm
Weight	approx. 0.3 kg

GHG 791 02 up to 6 terminals	
Cable glands/enclosure thread	max. 6 x M25 for cable Ø 10 - 17 mm
	max. 6 x M32 for cable Ø 12 - 21 mm
	max. 6 x M20 metal thread
Dimensions (L x W x H)	117.5 x 113.5 x 73.5 mm
Weight	approx. 0.5 kg

[1)] for cage clamp terminals



Ordering details

Design	Cable gland	No. of terminals	Order No.
GHG 791 01 up to 6 terminals			
	2 x M25 for cable Ø 10-17 mm	4 x Ex-e, 1 x PE	**GHG 791 0101 R0001**
	4 x M25 for cable Ø 10-17 mm incl. 2 x blanking plug M25	4 x Ex-e, 1 x PE	**GHG 791 0101 R0002**
	4 x M20 metal thread incl. 2 x threaded plug M20	4 x Ex-e, 1 x PE	**GHG 791 0101 R0019**
	4 x M25 for cable Ø 8-17 mm incl. 2 x blanking plug M25	4 x 4 Ex-e[1], 2 x PE	**GHG 791 0101 R0069**
	4 x M20 metal thread incl. 2 x threaded plug M20	4 x 4 Ex-e[1], 2 x PE	**GHG 791 0101 R0068**
GHG 791 02 up to 6 terminals			
	4 x M25 for cable Ø 10-17 mm incl. 2 x blanking plug M25	6 x Ex-e, 2 x PE	**GHG 791 0201 R0006**
	4 x M32 for cable Ø 12-21 mm incl. 2 x blanking plug M32	6 x Ex-e, 2 x PE	**GHG 791 0201 R0007**
	6 x M25 for cable Ø 10-17 mm incl. 4 x blanking plug M25	6 x Ex-e, 2 x PE	**GHG 791 0201 R0001**
	6 x M32 for cable Ø 12-21 mm incl. 4 x blanking plug M32	6 x Ex-e, 2 x PE	**GHG 791 0201 R0002**
	6 x M20 metal thread incl. 4 x threaded plug M20	8 x Ex-e, 1 x PE	**GHG 791 0201 R0003**

Other applications available on request.

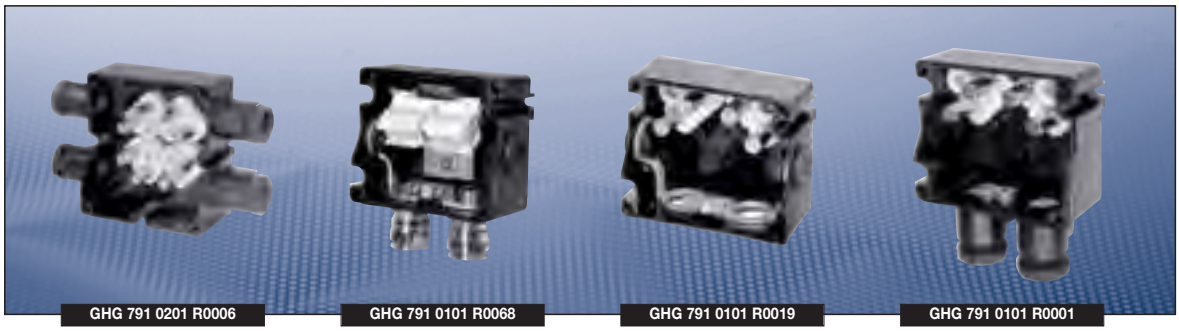
[1] Cage clamp terminal

Accessories

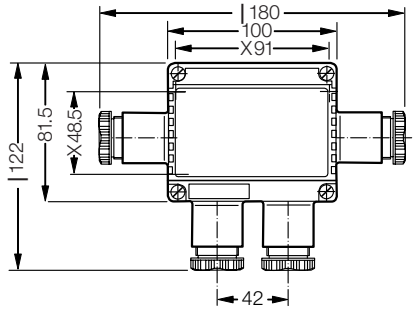
Mounting plate for junction box 791 01			
Type	**Application**	**Fixing method**	**Order No.**
Size 1	Wall mounting	screwless mounting	**GHG 610 1953 R0101**
Size 1	Trellis mounting	screwless mounting	**GHG 610 1953 R0103**
Size 1	Pipe mounting	screwless mounting	**GHG 610 1953 R0102**
Protective canopy Size 2	for mounting plate size 1		**GHG 610 1955 R0101**

Mounting plate for junction box 791 02			
Type	**Application**	**Fixing method**	**Order No.**
Size 2	Wall mounting	screwless mounting	**GHG 610 1953 R0104**
Size 2	Trellis mounting	screwless mounting	**GHG 610 1953 R0106**
Size 2	Pipe mounting	screwless mounting	**GHG 610 1953 R0105**
Protective canopy Size 2	for mounting plate size 2		**GHG 610 1955 R0102**

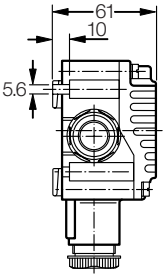
Details for accessories see page 7.78 pp.

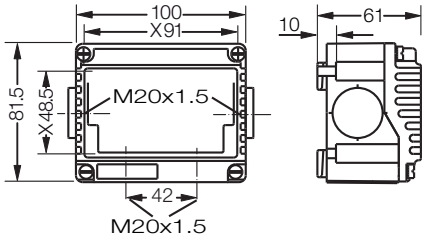


Dimension drawing

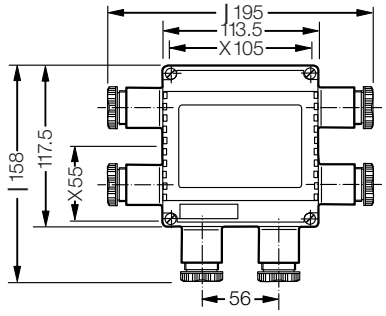


Type 791 01

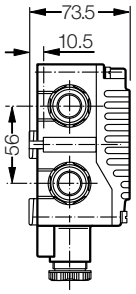




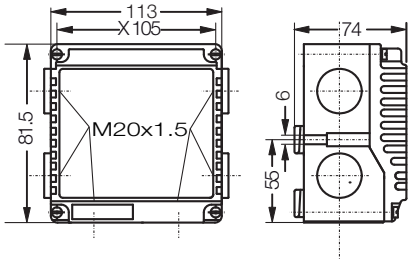
Type 791 01 Metal



Type 791 02



X = mounting dimension



Type 791 02 Metal

Dimensions in mm

EX-JUNCTION BOXES

Light metal design for Zone 1 and Zone 21

The sturdy CEAG junction boxes made of light metal are used to distribute and conduct electricity in areas of Zone 1 and Zone 2 at no risk of explosion. Optionally, mantle terminals with a terminal range of 6 mm^2 are available for these branching boxes.
Four M20 threaded holes allow variable equipment with various ducts for cables and lines.

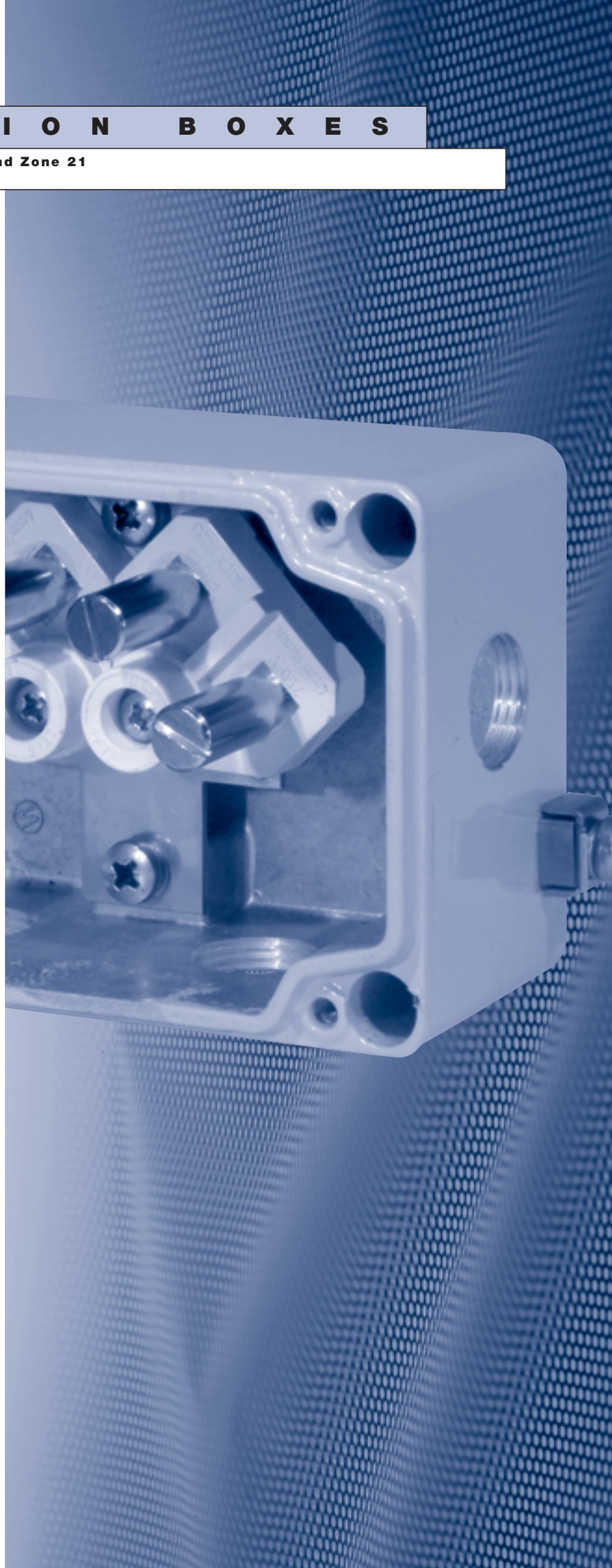
Drilled holes, cable and line ducts, through which no lines are conducted, should be closed with certified threaded stoppers.

High chemical resistance of the housing is ensured by the use of impact-resistant plastic powder coating.

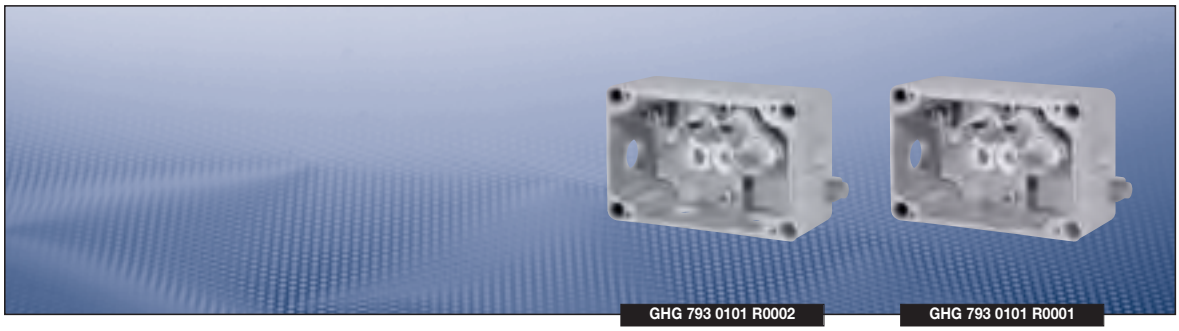
Covered screws and all outside and inside metallic parts are made of stainless steel (AISI 316L).

The light metal branching box has an outside earthing connection.

Internationally approved.



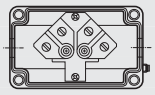
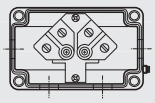
Mechanical, chemical and thermal resistance
Impact-resistant plastic powder coating



Technical data

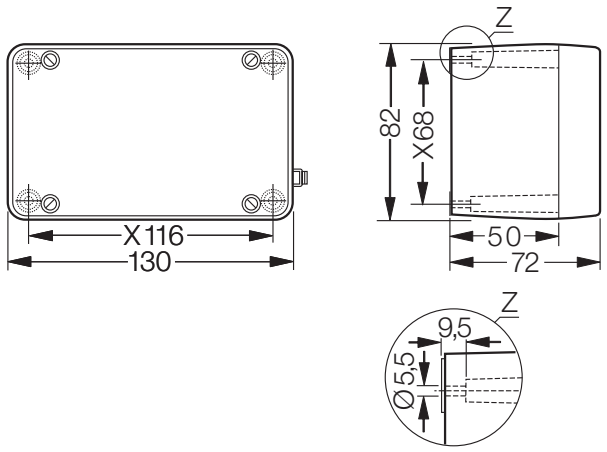
Type 793 01 up to 4 terminal	
Marking to 94/9/EC	Ex II 2 G Ex dem ia II, IIC T6 / Ex II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 00 ATEX 3108
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	690 V
Rated current	depends on terminal cross section
Connecting terminals	max. 4 x 4 mm²/PE 4 x 2.5 mm² (multi-wire)
	max. 2 x 6 mm²*/PE 4 x 4 mm² (solid wire) or 2 x 6 mm² + 1 x 2.5 mm²
Insulation class	I
Degree of protection accd. EN 60529	IP66
Cable glands/enclosure drilling	max. 4 x M20 drilling
Dimensions (L x W x H)	82 x 130 x 72 mm
Weight	approx. 0.8 kg
Enclosure material	light alloy die-casting (AlSi)
Enclosure colour	light grey

Ordering details

Design	Cable gland	No. of terminals	Order No.
GHG 793 01 up to 4 terminals			
	2 x M20 drilling	4 x Ex-e, 1 x PE	**GHG 793 0101 R0001**
	4 x M20 drilling incl. 2 x blanking plug M20	4 x Ex-e, 1 x PE	**GHG 793 0101 R0002**

Other applications available on request.

Dimension drawing



Type 793 **X = mounting dimension**

Dimensions in mm

UNIVERSAL TERMINAL BOXES

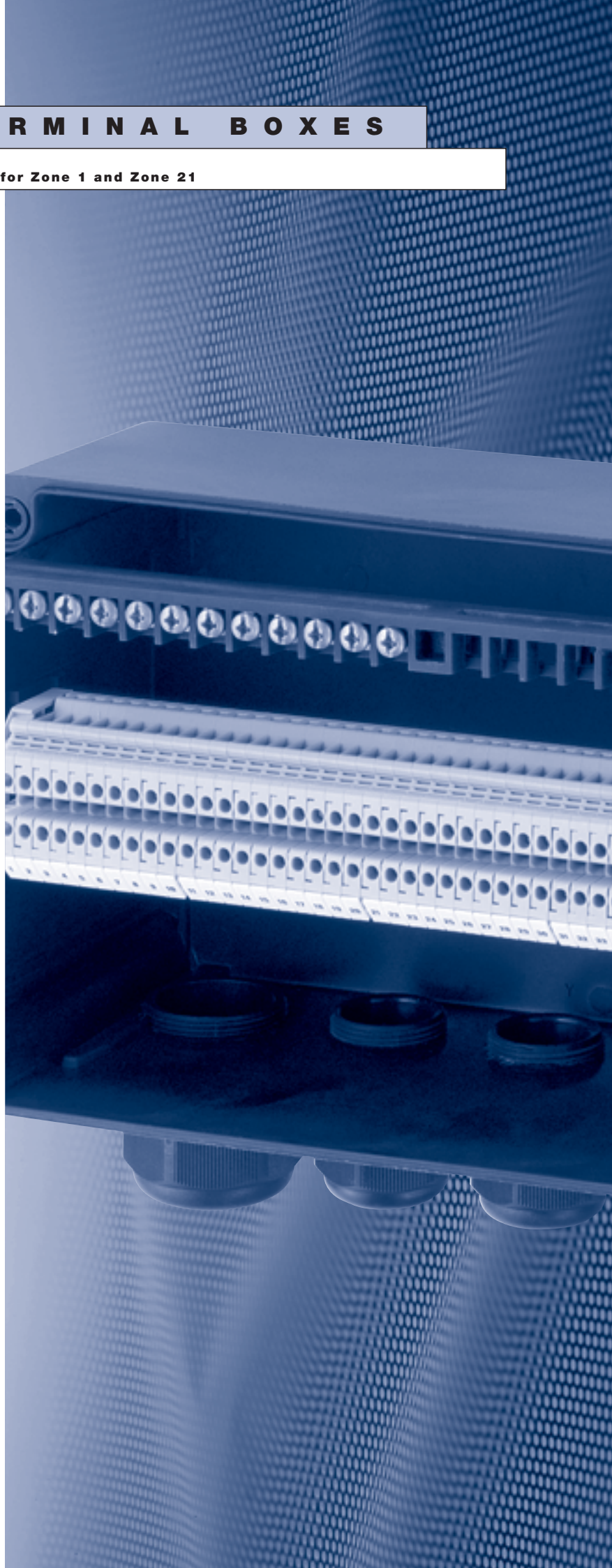
Ex-e/Ex-i Technology
plastic version measuring and controlling for Zone 1 and Zone 21

The terminal boxes were designed for measuring and controlling utilization in the Ex-e and Ex-i technology. They are used as a link between the main cable to the control room and the branch cables into the field. In addition to this, they may also be used for the direct connection of actuators and sensors.
The new terminal boxes for instrumentation installations are available in 5 sizes, ranging from 6 to max. 60 connection terminals. The optional interior coating protects your data cable connections against external radiation fields. The choice between screw and tension spring (screwless) terminals for single and multi-wire conductors makes it possible for engineers to select the type of connection most suitable for the particular application.

The CEAG installation system provides an economical way of mounting the terminal boxes on walls, trellis work and pipes. The terminal boxes are suited for the use of single or multiple cable glands.
With CEAG terminal boxes it is possible to apply separate potentials such as screen-grid leads or PE/PA conductors to the plug-in PE rails.
The snap-out terminal rails allow a problem-free feeding-in of cables.

The well-proven clip-in flanges in moulded plastic or metal design allow multiple application possibilities. As a result of the optimized design, a large drilling surface was created. This can be fitted with a sufficient number of moulded plastic glands or an equal number of metal glands.

International approvals



- **Decisive cost saving with the CEAG installation system**
- **Safety standard IP66**
- **Freely accessible connection terminals**
- **Clip-in flange technique**
- **Snap-out terminal rails**
- **Internal coating for EMC-Protection on request**

To make it easier for you to be able to choose a terminal or junction box, you will find in table-form all the basic data that is required below. Using the table below you can choose and configure your terminal boxes.

The maximum number of terminals derives from the rated current of the terminal. If the load per terminal lies below the rated current, then the maximum number of terminals for the terminal rail can be used.

Using the maximum drill surface and the interference diameter of the wire and cable entries tables plus the number of terminals you require, you can choose the right terminal box for your application.

The terminal boxes can also be equipped with (when requested) brass flanges and external earthing connectors.

Maximum number of terminals acc. to certification

Type	Terminal cross section in mm²						
	2,5	4	6	10	16	25	35
GHG 791 01	6	6	–	–	–	–	–
GHG 791 02	12	10	7	–	–	–	–
GHG 731 11	16	14	10	8	8	–	–
GHG 731 12	24	24	18	18	14	–	–
GHG 721 00	26	22	17	13	11	–	–
GHG 721 10	48	40	30	24	20	–	–
GHG 744 01	40	33	25	20	17	17	–
GHG 745 02	2 x 41	2 x 34	2 x 26	2 x 20	17	17	14
GHG 746 03	2 x 94	2 x 78	2 x 59	2 x 47	40	40	32
GHG 749 04	2 x 148	2 x 124	2 x 94	2 x 75	63	63	51





Terminal rails

Type	Rail Length
GHG 791 01	40 mm
GHG 791 02	95 mm
GHG 731 11	107 mm
GHG 731 12	169 mm
GHG 721 00	140 mm
GHG 721 10	262 mm
GHG 744 01	230 mm
GHG 745 02	2 x 235 mm
GHG 746 03	2 x 510 mm
GHG 749 04	2 x 795 mm

Dimensions

Type	Width	x	Length	x	Height
GHG 791 01	100 mm	x	81 mm	x	61 mm
GHG 791 02	113 mm	x	117 mm	x	73 mm
GHG 731 11	120 mm	x	140 mm	x	95 mm
GHG 731 12	182 mm	x	140 mm	x	95 mm
GHG 721 00	165 mm	x	165 mm	x	131 mm
GHG 721 10	285 mm	x	165 mm	x	143 mm
GHG 744 01	271 mm	x	134 mm	x	136 mm
GHG 745 02	271 mm	x	271 mm	x	136 mm
GHG 746 03	544 mm	x	271 mm	x	136 mm
GHG 749 04	817 mm	x	271 mm	x	136 mm

Space required for wire and cable entries

Type	Interference Diameter	
	Plastic	Metal
M12	Ø 19 mm	Ø 21 mm
M16	Ø 25 mm	Ø 21 mm
M20	Ø 31 mm	Ø 26,5 mm
M25	Ø 37 mm	Ø 33 mm
M32	Ø 46 mm	Ø 45,1 mm
M40	Ø 56 mm	Ø 53 mm
M50	Ø 68 mm	Ø 60,5 mm
M63	Ø 84 mm	Ø 80 mm

max. drill surface

Type	Width x Height
GHG 791 01	80 mm x 45 mm
GHG 791 02	93 mm x 57 mm
GHG 731 11	95 mm x 75 mm
GHG 731 12	144 mm x 75 mm
GHG 721 00	132 mm x 91 mm
GHG 721 10	252 mm x 95 mm
GHG 744 01	238 mm x 134 mm
GHG 745 02	238 mm x 134 mm
GHG 746 03	(2x) 238 mm x 134 mm
GHG 749 04	(3x) 238 mm x 134 mm
Flange 1	70,5 mm x 48,5 mm
Flange 2	204 mm x 72,5 mm

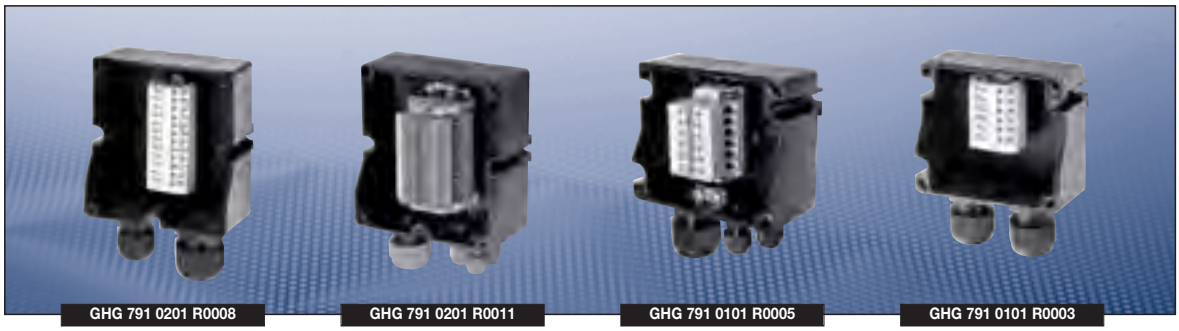


Technical data

GHG 791 01 up to 4 terminals | GHG 791 02 up to 12 terminals	
Marking to 94/9/EC	Ⓔx II 2 G Ex dem ia II, IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 00 ATEX 3108
IECEx certificate of conformity	IECEx BKI 07.0034
Marking accd. to IECEx	Ex e II T6 / Ex ia IIC T6
	Ex tD A21 IP66 T58 °C
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +40 °C (option)
Rated voltage	690 V
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure material	Polyamide
Enclosure colour	black

GHG 791 01 up to 6 terminals	
Rated current	max. 30 A
Connecting terminals	up to 4 mm²
Cable glands/enclosure drilling	max. 2 x M25 or 1 x M25 + 2 x M12
Dimensions (L x W x H)	81.5 x 100 x 61 mm
Weight	approx. 0.3 kg

GHG 791 02 up to 12 terminals	
Rated current	max. 39 A
Connecting terminals	up to 6 mm²
Cable glands/enclosure drilling	max. 2 x M25 or 1 x M32 + 1 x M25 or 1 x M25 + 4 x M12
Dimensions (L x W x H)	117.5 x 113.5 x 73.5 mm
Weight	approx. 0.5 kg



Ordering details

Design	Cable gland	No. of terminals	Order No.
Type 791 01 up to 6 terminals assembled with screw terminals 2 x 2.5 mm² + PE/PA-terminal 2 x 4 mm²			
Ex-e	1 x M25 for cable Ø 8-17 mm 1 x M25 for 2 cable Ø 4.5-7 mm 1 x blanking plug for Ø 4.5-7 mm	6 x Ex-e 4 x PE/PA	**GHG 791 0101 R0003**
Ex-i	1 x M25 for cable Ø 8-17 mm 1 x M25 for 2 cable Ø 4.5-7 mm 1 x blanking plug for Ø 4.5-7 mm	6 x Ex-i 4 x PE/PA	**GHG 791 0101 R0004**
Ex-e	1 x M25 for cable Ø 8-17 mm 2 x M12 for cable Ø 4-7 mm 1 x blanking plug for M12	6 x Ex-e 4 x PE/PA	**GHG 791 0101 R0005**
Ex-i	1 x M25 for cable Ø 8-17 mm 1 x M12 for cable Ø 4-7 mm 1 x blanking plug for M12	6 x Ex-i 4 x PE/PA	**GHG 791 0101 R0006**
Type 791 01 up to 6 terminals assembled with screwless terminals 2 x 2.5 mm² + PE/PA-terminal 2 x 4 mm²			
Ex-i	1 x M25 for cable Ø 8-17 mm 1 x M25 for 2 cable Ø 4.5-7 mm 1 x blanking plug for Ø 4.5-7 mm	6 x Ex-i 1 x PE/PA	**GHG 791 0101 R0008**
Ex-e	1 x M25 for cable Ø 8-17 mm 2 x M12 for cable Ø 4-7 mm 1 x blanking plug for M12	6 x Ex-e 1 x PE/PA	**GHG 791 0101 R0009**
Ex-i	1 x M25 for cable Ø 8-17 mm 1 x M12 for cable Ø 4-7 mm 1 x blanking plug for M12	6 x Ex-i 1 x PE/PA	**GHG 791 0101 R0010**
Type 791 02 up to 6 terminals assembled with screw terminals 2 x 2.5 mm² + PE/PA-terminal 2 x 4 mm²			
Ex-e	1 x M25 for cable Ø 8-17 mm 1 x M25 for 2 cable Ø 4.5-7 mm 2 x blanking plug for Ø 4.5-7 mm	12 x Ex-e 4 x PE/PA	**GHG 791 0201 R0008**
Ex-i	1 x M25 for cable Ø 8-17 mm 1 x M25 for 2 cable Ø 4.5-7 mm 2 x blanking plug for Ø 4.5-7 mm	12 x Ex-i 4 x PE/PA	**GHG 791 0201 R0009**
Ex-e	1 x M25 for cable Ø 8-17 mm 4 x M12 for cable Ø 4-7 mm 2 x blanking plug for M12	12 x Ex-e 4 x PE/PA	**GHG 791 0201 R0010**
Ex-i	1 x M25 for cable Ø 8-17 mm 4 x M12 for cable Ø 4-7 mm 2 x blanking plug for M12	12 x Ex-i 4 x PE/PA	**GHG 791 0201 R0011**
Type 791 02 up to 6 terminals assembled with screwless terminals 2 x 2.5 mm² + PE/PA-terminal 2 x 4 mm²			
Ex-i	1 x M25 for cable Ø 8-17 mm 1 x M32 for 4 cable Ø 4.5-7 mm 1 x blanking plug for Ø 4.5-7 mm	12 x Ex-i 4 x PE/PA	**GHG 791 0201 R0013**
Ex-e	1 x M25 for cable Ø 8-17 mm 4 x M12 for cable Ø 4-7 mm 2 x blanking plug for M12	12 x Ex-e 4 x PE/PA	**GHG 791 0201 R0014**
Ex-i	1 x M25 for cable Ø 8-17 mm 4 x M12 for cable Ø 4-7 mm 2 x blanking plug for M12	12 x Ex-i 4 x PE/PA	**GHG 791 0201 R0015**

Other applications available on request.



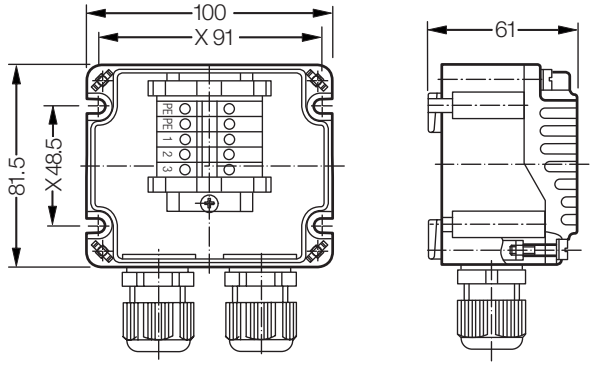
Accessories

Mounting plate for junction box 791 01			
Type	**Application**	**Fixing method**	**Order No.**
Size 1	Wall mounting	screwless mounting	**GHG 610 1953 R0101**
Size 1	Trellis mounting	screwless mounting	**GHG 610 1953 R0103**
Size 1	Pipe mounting	screwless mounting	**GHG 610 1953 R0102**
Protective canopy Size 1	for mounting plate size 1		**GHG 610 1955 R0101**

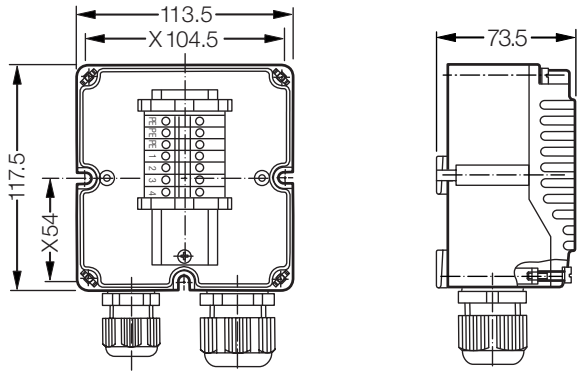
Mounting plate for junction box 791 02			
Type	**Application**	**Fixing method**	**Order No.**
Size 2	Wall mounting	screwless mounting	**GHG 610 1953 R0104**
Size 2	Trellis mounting	screwless mounting	**GHG 610 1953 R0106**
Size 2	Pipe mounting	screwless mounting	**GHG 610 1953 R0105**
Protective canopy Size 2	for mounting plate size 2		**GHG 610 1955 R0102**

Details for accessories see page 7.78 pp.

Dimension drawing



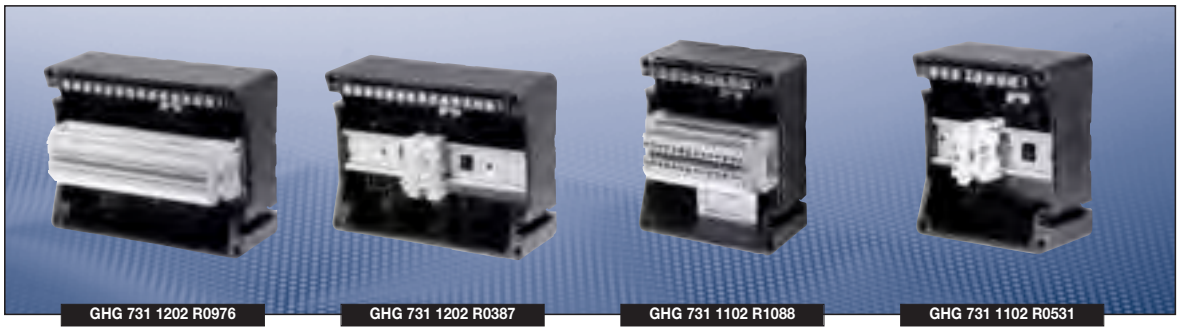
Type 791 01



Type 791 02

X = Mounting dimension

Dimensions in mm

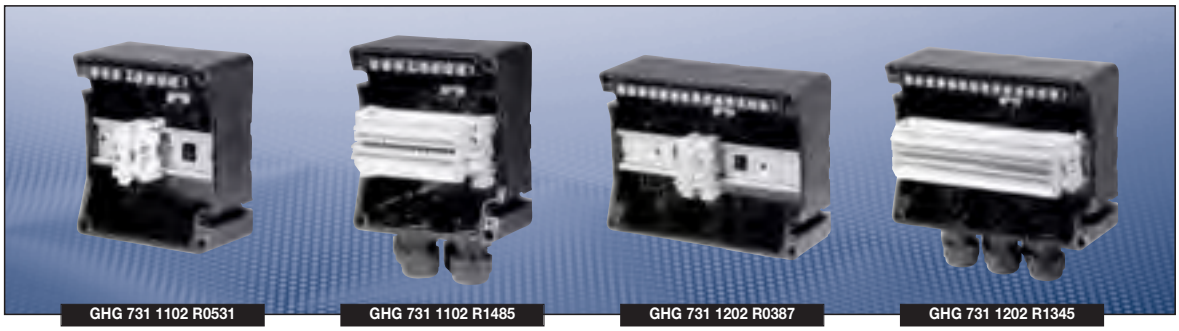


Technical data

GHG 731 11 up to 16 terminals | GHG 731 12 up to 24 terminals	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib [ia/ib] m IIC T6 / Ⓔx II 2 D Ex tD A21 IP65 T 80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1044
IECEx certification of conformity	IECEx BKI 05.0004
Marking accd. to IECEx	Ex e ia [ia] IIC T6/T5 Ex tD A21 IP66 T80 °C
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (option)
Rated voltage	690 V
Rated current	Depends on terminal mounting
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure material	Glass-fibre reinforced polyester
Enclosure colour	black

GHG 731 11 up to 16 terminals							
Connecting terminals	up to 16 mm²						
Dimensions (L x W x H)	140 x 120 x 95 mm						
Weight	approx. 0.8 kg						
Drillings/cable glands	M12	M16	M20	M25	M32	M40	M50
Max. number up/down	15	8	6	4	2	2	1
Terminal mounting space on the terminal rail	107 mm						
Max. number of terminals acc. to certification	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²		
	16	14	10	8	8		

GHG 731 12 up to 24 terminals							
Connecting terminals	up to 16 mm²						
Dimensions (L x W x H)	140 x 182.5 x 95 mm						
Weight	approx. 1.1 kg						
Drillings/cable glands	M12	M16	M20	M25	M32	M40	M50
Max. number up/down	24	17	10	6	3	3	2
Length of assembling of the terminal rail	169 mm						
Max. number of terminals acc. to certification	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²		
	24	24	18	18	14		



Ordering details

Design	Cable gland	Terminals	Order No.
Type 731 11 up to 16 terminals assembled with screw terminals 2 x 2.5 mm² + PE/PA-rail 2.5 mm²			
Ex-e	without drilling	1 x Ex-e*/UT 3 N/7 x PE/PA	**GHG 731 1102 R0531**
Ex-e	without drilling	14 x Ex-e/UT 5 N/7 x PE/PA	**GHG 731 1102 R1088**
Ex-e	4 x M25	16 x Ex-e/UT 3 N/7 x PE/PA	**GHG 731 1102 R1485**
Type 731 12 up to 24 terminals assembled with screw terminals 2 x 2.5 mm² + PE/PA-rail 2.5 mm²			
Ex-e	without drilling	1 x Ex-e*/UT 3 N/14 x PE/PA	**GHG 731 1202 R0387**
Ex-e	without drilling	24 x Ex-e/UT 5 N/14 x PE/PA	**GHG 731 1202 R0976**
Ex-e	4 x M25	28 x Ex-e/UT 3 N/14 x PE/PA	**GHG 731 1202 R1345**

* according to type examination certificate individual extensible

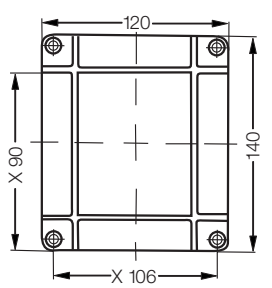
Accessories

Mounting plate for junction box 731 11			
Type	**Application**	**Fixing method**	**Order No.**
Size 2	Wall mounting	screwless mounting	**GHG 610 1953 R0104**
Size 2	Trellis mounting	screwless mounting	**GHG 610 1953 R0106**
Size 2	Pipe mounting	screwless mounting	**GHG 610 1953 R0105**
Protective canopy Size 2	for mounting plate size 2		**GHG 610 1955 R0102**

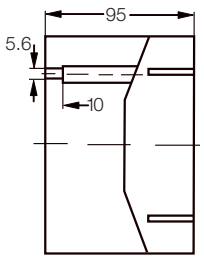
Mounting plate for junction box 731 12			
Type	**Application**	**Fixing method**	**Order No.**
Size 2A	Wall mounting	screwless mounting	**GHG 610 1953 R0107**
Size 2A	Trellis mounting	screwless mounting	**GHG 610 1953 R0109**
Size 2A	Pipe mounting	screwless mounting	**GHG 610 1953 R0108**
Protective canopy Size 2A	for mounting plate size 2A		**GHG 610 1955 R0103**

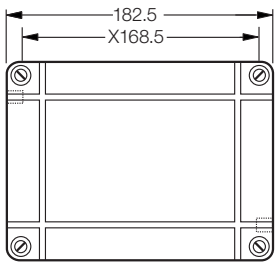
Details for accessories see page 7.78 pp.

Dimension drawing

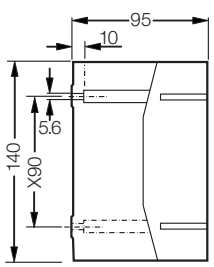


Type 731 11

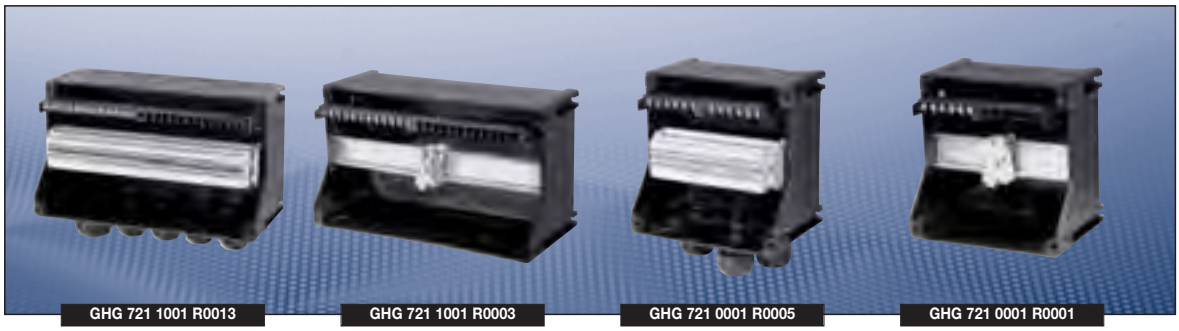




Type 731 12



Dimensions in mm

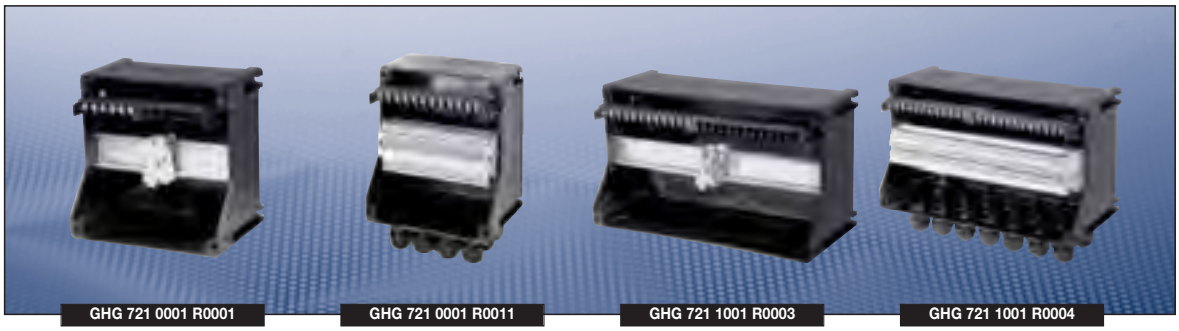


Technical data

GHG 721 00 up to 26 terminals | GHG 721 10 up to 48 terminals	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib [ia/ib] m IIC T4 / Ⓔx II 2 D Ex tD A21 IP66 T 80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1044
IECEx certification of conformity	IECEx BKI 05.0005
Marking accd. to IECEx	Ex e ia/ib [ia/ib] IIC T4/T6 Ex tD A21 IP66 T80 °C
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (option)
Rated voltage	690 V
Rated current	Depends on terminal mounting
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure material	Glass-fibre reinforced polyester
Enclosure colour	black

GHG 721 00 up to 26 terminals								
Connecting terminals	up to 16 mm²							
Dimensions (L x W x H)	165 x 165 x 131.5 mm							
Weight	approx. 1.1 kg							
Drillings/cable glands	M12	M16	M20	M25	M32	M40	M50	M63
Max. number down	35	20	12	11	6	4	2	2
Max. number flange plastic	11	6	4	3	2	1	1	–
Max. number flange metal	–	–	3	2	1	–	–	–
Terminal mounting space on the terminal rail	140 mm							
Max. number of terminals acc. to certification	2.5 mm²	4 mm²		6 mm²		10 mm²		16 mm²
	26	22		17		13		11

GHG 721 10 up to 48 terminals								
Connecting terminals	up to 16 mm²							
Dimensions (L x W x H)	165 x 285 x 143 mm							
Weight	approx. 1.7 kg							
Drillings/cable glands	M12	M16	M20	M25	M32	M40	M50	M63
Max. number down	75	42	32	21	11	8	4	3
Max. number flange plastic	46	25	20	11	8	4	3	2
Max. number flange metal	–	–	12	9	5	3	3	2
Terminal mounting space on the terminal rail	262 mm							
Max. number of terminals acc. to certification	2.5 mm²	4 mm²		6 mm²		10 mm²		16 mm²
	48	40		30		24		20

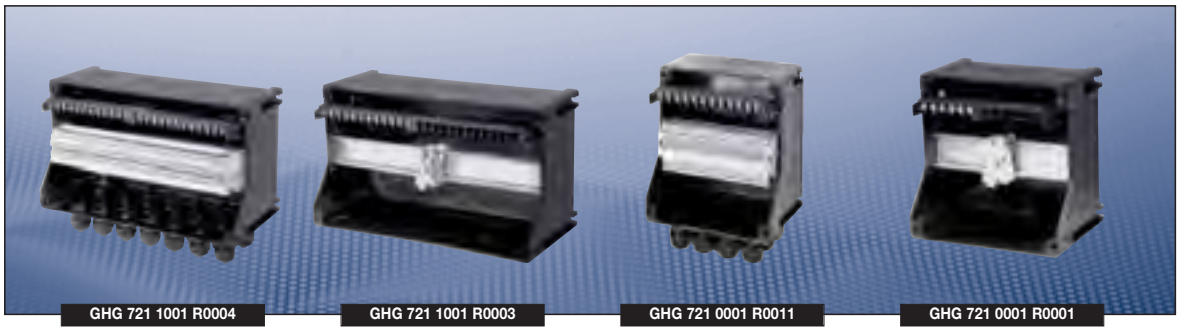


Ordering details

Design	Cable gland	No. of Terminals	Order No.
Type 721 00 up to 26 terminals assembled with screw terminals 2 x 2.5 mm² + PE/PA-rail 2.5 mm²			
Ex-e	1 x M32 for cable Ø 12-21 mm 3 x M32 for 4 cable Ø 4.5-7 mm	24 x Ex-e 12 x PE/PA	**GHG 721 0001 R0005**
Ex-i	1 x M32 for cable Ø 12-21 mm 3 x M32 for 4 cable Ø 4.5-7 mm	24 x Ex-i 12 x PE/PA	**GHG 721 0001 R0006**
Ex-e	1 x M32 for cable Ø 12-21 mm 12 x M20 for cable Ø 5.5-13 mm	24 x Ex-e 12 x PE/PA	**GHG 721 0001 R0007**
Ex-i	1 x M32 for cable Ø 12-21 mm 12 x M20 for cable Ø 5.5-13 mm	24 x Ex-i 12 x PE/PA	**GHG 721 0001 R0008**
Type 721 00 up to 26 terminals assembled with screwless terminals 2 x 2.5 mm² + PE/PA-rail 2.5 mm²			
Ex-i	1 x M32 for cable Ø 12-21 mm 3 x M32 for 4 cable Ø 4.5-7 mm	24 x Ex-i 12 x PE/PA	**GHG 721 0001 R0010**
Ex-e	1 x M32 for cable Ø 12-21 mm 12 x M20 for cable Ø 5.5-13 mm	24 x Ex-e 12 x PE/PA	**GHG 721 0001 R0011**
Ex-i	1 x M32 for cable Ø 12-21 mm 12 x M20 for cable Ø 5.5-13 mm	24 x Ex-i 12 x PE/PA	**GHG 721 0001 R0012**
Type 721 10 up to 48 terminals assembled with screw terminals 2 x 2.5 mm² + PE/PA-rail 2.5 mm²			
Ex-e	without drilling	1 x Ex-e[1] / 24 x PE	**GHG 721 1001 R0003**
Type 721 10 up to 48 terminals assembled with screw terminals 2 x 2.5 mm² + PE/PA-rail 2.5 mm²			
Ex-i	1 x M40 for cable Ø 16-28 mm 6 x M32 for 4 cable Ø 4.5-7 mm	48 x Ex-i 24 x PE/PA	**GHG 721 1001 R0013**
Ex-e	1 x M40 for cable Ø 16-28 mm 24 x M20 for cable Ø 5.5-13 mm	48 x Ex-e 24 x PE/PA	**GHG 721 1001 R0004**
Ex-i	1 x M40 for cable Ø 16-28 mm 24 x M20 for cable Ø 5.5-13 mm	48 x Ex-i 24 x PE/PA	**GHG 721 1001 R0015**
Type 721 10 up to 48 terminals assembled with screwless terminals 2 x 2.5 mm² + PE/PA-rail 2.5 mm²			
Ex-i	1 x M40 for cable Ø 16-28 mm 6 x M32 for 4 cable Ø 4.5-7 mm	48 x Ex-i 24 x PE/PA	**GHG 721 1001 R0017**
Ex-e	1 x M40 for cable Ø 16-28 mm 24 x M20 for cable Ø 5.5-13 mm	48 x Ex-e 24 x PE/PA	**GHG 721 1001 R0018**
Ex-i	1 x M40 for cable Ø 16-28 mm 24 x M20 for cable Ø 5.5-13 mm	48 x Ex-i 24 x PE/PA	**GHG 721 1001 R0019**

[1] according to type examination certificate individual extensible

Other types on request



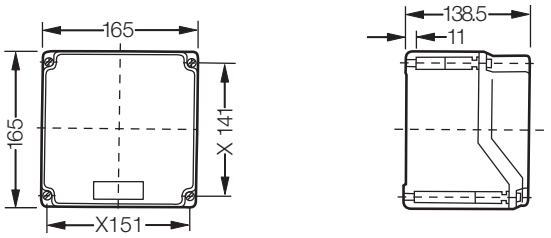
Accessories

Mounting plate for junction box 721 00			
Type	**Application**	**Fixing method**	**Order No.**
Size 2A	Wall mounting	screwless mounting	**GHG 610 1953 R0107**
Size 2A	Trellis mounting	screwless mounting	**GHG 610 1953 R0109**
Size 2A	Pipe mounting	screwless mounting	**GHG 610 1953 R0108**
Protective canopy Size 2A	for mounting plate size 2A		**GHG 610 1955 R0103**

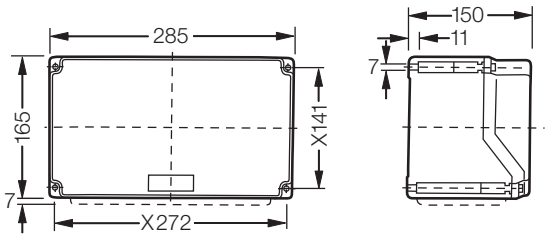
Mounting plate for junction box 721 10			
Type	**Application**	**Fixing method**	**Order No.**
Size 3	Wall mounting	screwless mounting	**GHG 610 1953 R0107**
Size 3	Trellis mounting	screwless mounting	**GHG 610 1953 R0109**
Size 3	Pipe mounting	screwless mounting	**GHG 610 1953 R0108**
Protective canopy Size 3	for mounting plate size 3		**GHG 610 1955 R0104**

Details for accessories see page 7.78

Dimension drawing

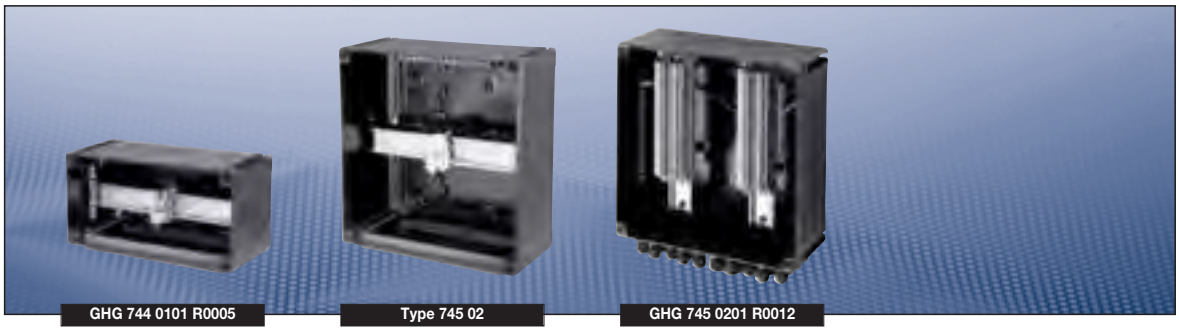


Type 721 00



Type 721 10

Dimensions in mm

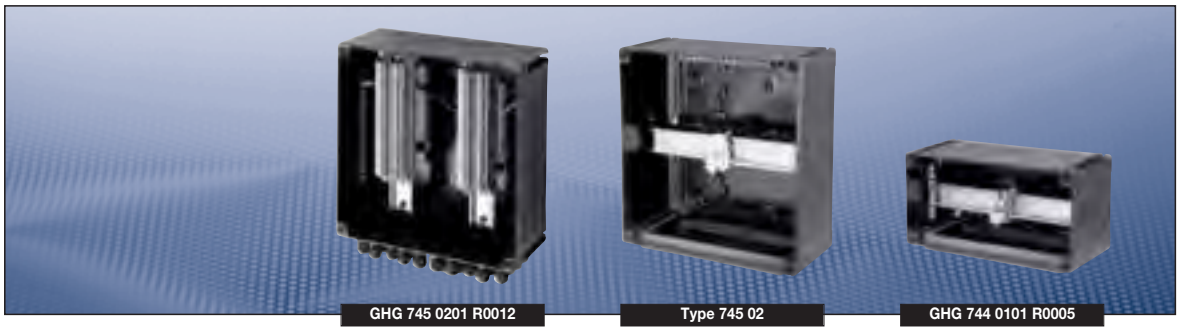


Technical data

GHG 744 01 up to 40 terminals | GHG 745 02 up to 82 terminals	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib [ia/ib] m IIC T4 / Ⓔx II 2 D Ex tD A21 IP66 T 80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1044
IECEx certification of conformity	IECEx BKI 05.0006
Marking accd. to IECEx	Ex ed ia/ib m [ia/ib] IIC T4 – T6
	Ex tD A21 IP66 T80 °C
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	690 V
Rated current	Depends on terminal mounting
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure material	Glass-fibre reinforced polyester
Enclosure colour	black

GHG 744 01 up to 31 terminals								
Connecting terminals	up to 25 mm²							
Dimensions (L x W x H)	271 x 134 x 136 mm							
Weight	approx. 1.5 kg							
Drillings/cable glands	M12	M16	M20	M25	M32	M40	M50	M63
Max. number down	60	36	26	18	10	7	4	3
Max. number flange plastic	46	25	20	11	8	4	3	2
Max. number flange metal	–	–	11	9	5	3	3	2
Terminal mounting space on the terminal rail	1 x 230 mm							
	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	25 mm²	35 mm²	
Max. number of terminals acc. to certification	31	31	24	24	23	15	7	

GHG 745 02 up to 82 terminals									
Connecting terminals	up to 70 mm²								
Dimensions (L x W x H)	271 x 270 x 36 mm								
Weight	approx. 2.5 kg								
Drillings/cable glands	M12	M16	M20	M25	M32	M40	M50	M63	
Max. number down	60	36	26	18	10	7	4	3	
Max. number flange plastic	46	25	20	11	8	4	3	2	
Max. number flange metal	–	–	11	9	5	3	3	2	
Terminal mounting space on the terminal rail	2 x 230 mm								
	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	25 mm²	35 mm²	50 mm²	70 mm²
Max. number of terminals acc. to certification	38	38	29	29	23	16	15	9	9

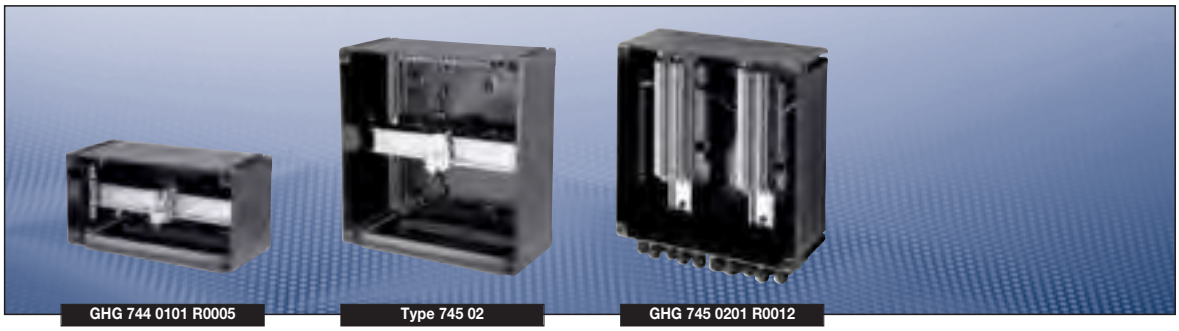


Ordering details

Design	Cable gland	No. of Terminals	Order No.
Type 744 01 up to 40 terminals assembled with screw terminals 2 x 4 mm² + PE-rail 4 mm²			
Ex-e	1 x plastic flange down without drilling	1 x Ex-e[1)] 7 x PE	**GHG 744 0101 R0005**
Type 745 02 up to 82 terminals assembled with screw terminals 2 x 2.5 mm² + PE/PA-rail 4 mm²			
Ex-e	1 x plastic flange down without drilling	1 x Ex-e[1)] 14 x PE	**GHG 745 0201 R0004**
Type 745 02 up to 82 terminals assembled with screw terminals 2 x 2.5 mm² + PE/PA-rail 4 mm²			
Ex-i	1 x M40 for cable Ø 22-35 mm 8 x M32 for 4 cable Ø 4.5-7 mm	60 x Ex-i 27 x PE/PA	**GHG 745 0201 R0012**
Ex-e	1 x M40 for cable Ø 22-35 mm 30 x M16 for cable Ø 5.5-10 mm	60 x Ex-e 27 x PE/PA	**GHG 745 0201 R0013**
Ex-i	1 x M40 for cable Ø 22-35 mm 30 x M16 for cable Ø 5.5-10 mm	60 x Ex-i 27 x PE/PA	**GHG 745 0201 R0014**
Ex-e	1 x M40 for cable Ø 22-35 mm 24 x M20 for cable Ø 5.5-13 mm	60 x Ex-e 27 x PE/PA	**GHG 745 0201 R0015**
Ex-i	1 x M40 for cable Ø 22-35 mm 24 x M20 for cable Ø 5.5-13 mm	60 x Ex-i 27 x PE/PA	**GHG 745 0201 R0021**
Type 745 02 up to 82 terminals assembled with screwless terminals 2 x 2.5 mm² + PE/PA-rail 4 mm²			
Ex-i	1 x M40 for cable Ø 22-35 mm 8 x M32 for 4 cable Ø 4.5-7 mm	60 x Ex-i 27 x PE/PA	**GHG 745 0201 R0016**
Ex-e	1 x M40 for cable Ø 22-35 mm 30 x M16 for cable Ø 5.5-10 mm	60 x Ex-e 27 x PE/PA	**GHG 745 0201 R0017**
Ex-i	1 x M40 for cable Ø 22-35 mm 30 x M16 for cable Ø 5.5-10 mm	60 x Ex-i 27 x PE/PA	**GHG 745 0201 R0018**
Ex-e	1 x M40 for cable Ø 22-35 mm 24 x M20 for cable Ø 5.5-13 mm	60 x Ex-e 27 x PE/PA	**GHG 745 0201 R0020**
Ex-i	1 x M40 for cable Ø 22-35 mm 24 x M20 for cable Ø 5.5-13 mm	60 x Ex-i 27 x PE/PA	**GHG 745 0201 R0022**

[1)] according to type examination certificate individual extensible

Other types on request



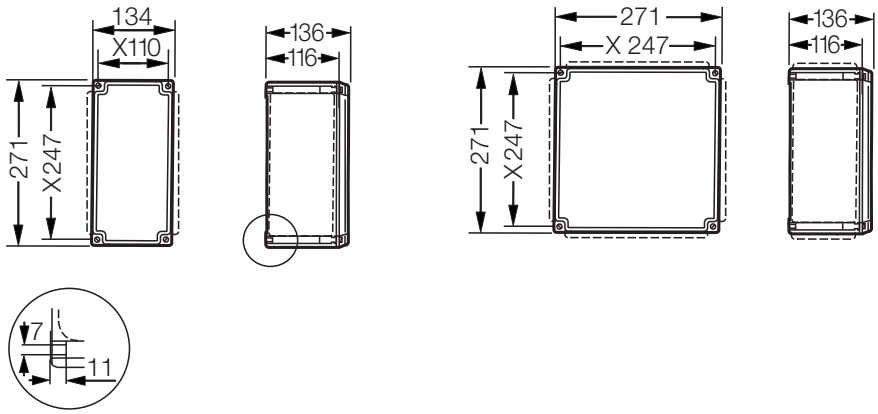
Accessories

Mounting plate for junction box 744 01			
Type	**Application**	**Fixing method**	**Order No.**
Size 3	Wall mounting	screw mounting	**GHG 610 1953 R0107**
Size 3	Trellis mounting	screw mounting	**GHG 610 1953 R0109**
Size 3	Pipe mounting	screw mounting	**GHG 610 1953 R0108**
Protective canopy Size 3	for mounting plate size 3		**GHG 610 1955 R0104**

Mounting plate for junction box 745 02			
Type	**Application**	**Fixing method**	**Order No.**
Size 3	Pipe mounting	screw mounting on 2 plates	**GHG 610 1953 R0108**
Protective canopy Size 3	for mounting plate size 3		**GHG 610 1955 R0104**

Details for accessories see page 7.78 pp.

Dimension drawing



Type 744 01 **Type 745 02** **X = Mounting dimension**

Dimensions in mm



Technical data

GHG 746 03 up to 188 terminals | GHG 749 04 up to 296 terminals	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib [ia/ib] m IIC T4 / Ⓔx II 2 D Ex tD A21 IP66 T 80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1044
IECEx certificate of conformity	IECEx BKI 05.0006
Marking accd. to IECEx	Ex ed ia/ib m [ia/ib] IIC T4 – T6 Ex tD A21 IP66 T80 °C
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (option)
Rated voltage	690 V
Rated current	Depends on terminal mounting
Insulation class	I
Degree of protection accd. EN 60529	IP66
Enclosure material	Glass-fibre reinforced polyester
Enclosure colour	black

GHG 746 03 up to 188 terminals								
Connecting terminals	300 mm²							
Dimensions (L x W x H)	544 x 271 x 136 mm							
Weight	approx. 4.2 kg							
Drillings/cable glands	M12	M16	M20	M25	M32	M40	M50	M63
Max. number down	120	72	52	36	20	14	8	6
Max. number flange plastic	46	25	20	11	8	4	3	2
Max. number flange metal	–	–	11	9	5	3	3	2
Terminal mounting space on the terminal rail	horiz. 2 x 510 mm / vert. 4 x 230 mm							
	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	25 mm²	35 mm²	
Max. number of terminals acc. to certification	2 x 94	2 x 78	2 x 59	2 x 47	40	40	32	

GHG 749 04 up to 296 terminals								
Connecting terminals	up to 240 mm²							
Dimensions (L x W x H)	817 x 271 x 136 mm							
Weight	approx. 5.8 kg							
Drillings/cable glands	M12	M16	M20	M25	M32	M40	M50	M63
Max. number down	180	108	78	54	30	21	12	9
Max. number flange plastic	46	25	20	11	8	4	3	2
Max. number flange metal	–	–	11	9	5	3	3	2
Terminal mounting space on the terminal rail	horiz. 2 x 795 mm / vert. 6 x 230 mm							
	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	25 mm²	35 mm²	
Max. number of terminals acc. to certification	2 x 148	2 x 124	2 x 94	2 x 75	63	63	51	



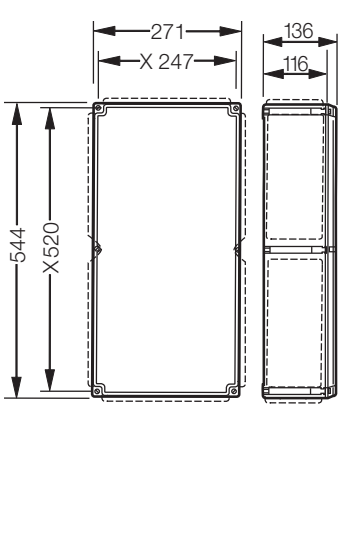
Ordering details

Design	Cable gland	No. of Terminals	Order No.
Type 746 03 up to 188 terminals assembled with screw terminals 2 x 4 mm² + PE-rail 4 mm²			
Ex-e	2 x plastic flange down without drilling	1 x Ex-e[1)] 2 x 14 x PE	**GHG 746 0301 R0002**
Type 749 04 up to 296 terminals assembled with screw terminals 2 x 2.5 mm² + PE-rail 4 mm²			
Ex-e	3 x plastic flange down without drilling	1 x Ex-e[1)] 3 x 14 x PE	**GHG 749 0401 R0001**

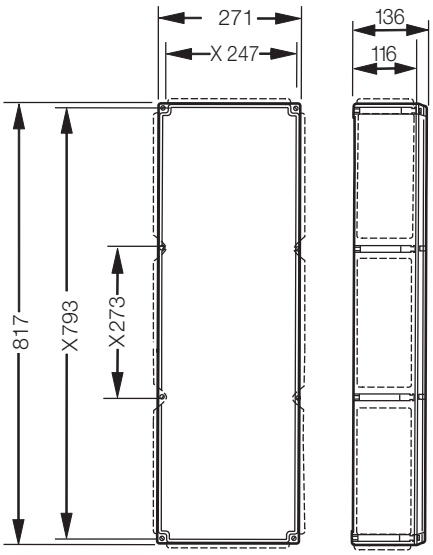
[1)] according to type examination certificate individual extensible

Other types on request

Dimension drawing



Type 746 03



Type 749 04

X = mounting dimension

Dimensions in mm

EX-TERMINAL BOXES

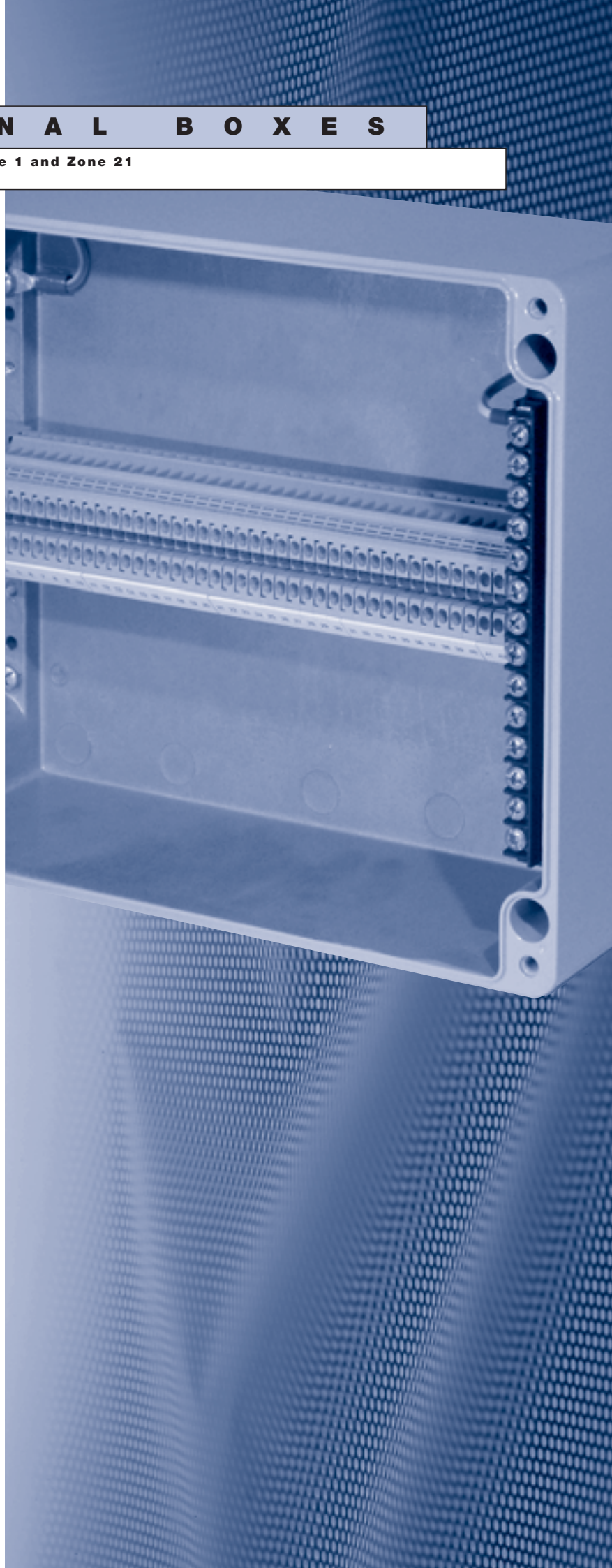
Light alloy metal design for Zone 1 and Zone 21

The new sturdy CEAG terminal boxes made of a light alloy metal are used to distribute and conduct electricity in hazardous explosive areas of the Zones 1, 2, 21 and 22. Optionally, all of the modular terminals up to 35 mm^2 pursuant to EN 60079-7 are available in these terminal boxes.
Variable equipment with various cable and line ducts pursuant to customer specification can be realised with the terminal boxes made of light alloy metal.

Drilled holes, cable and line ducts, through which no lines are conducted, should be closed with certified threaded stoppers.
High chemical resistance of the housing is ensured by the use of impact-resistant plastic powder coating.
Covered screws and all outside and inside metallic parts are made of stainless steel.

The terminal boxes made of light metal have an outside earthing connection.

Internationally approved.



Mechanical, chemical and thermal resistance
Plastic powder coating
Can be equipped individually, Impact-resistant

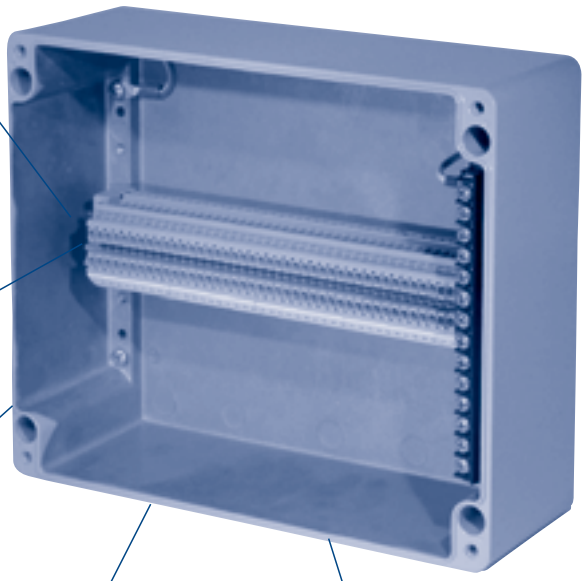
To make the choice of the right terminal boxes or branching boxes for your application, the tables on this page contain the basic data. You can use these tables to identify and configure your terminal boxes.

In the table of the maximum number of terminals, the information is based on the rated current of the terminal concerned. If the current per terminal is below the rated current, the number can be interpreted on the maximum length of the terminal strip that can be equipped.

On the basis of the maximum drilled and the faulty circuit diameter of the cable and line duct, you can select the relevant terminal box by means of the number of ducts that you need.

Maximum number of terminals acc. to certification

Type	Terminal cross-section Ø in mm²						
	2.5	4	6	10	16	25	35
GHG 793 0101	6	5	4	–	–	–	–
GHG 723 0001	33	27	20	16	15	–	–
GHG 723 1001	88	72	54	44	40	15	15
GHG 723 2001	136	112	84	68	60	22	22



Terminal rail

Type	Rail length
GHG 793 0101	46 mm
GHG 723 0001	185 mm
GHG 723 1001	2 x 242 mm
GHG 723 2001	2 x 362 mm

Dimensions

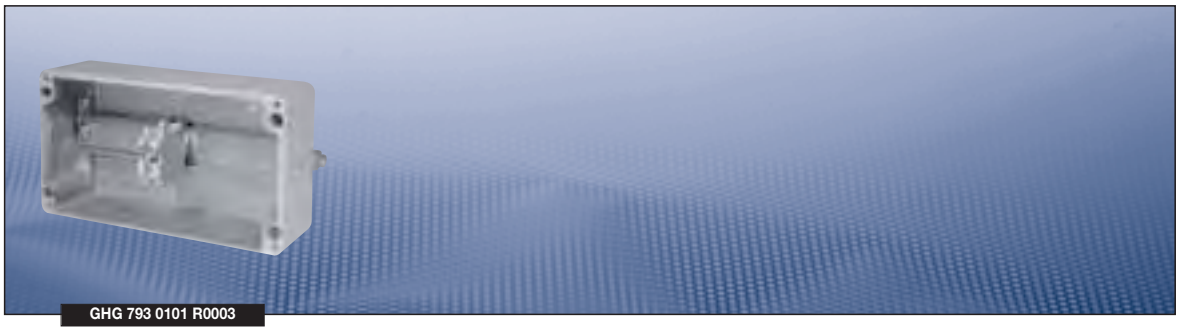
Type	Width	x	Length	x	Height
GHG 793 0101	130 mm	x	82 mm	x	72 mm
GHG 723 0001	220 mm	x	120 mm	x	81 mm
GHG 723 1001	280 mm	x	230 mm	x	111 mm
GHG 723 2001	400 mm	x	230 mm	x	111 mm

Space required for wire and cable entries

Type	Interference Diameter	
	Plastic	Metal
M12	Ø 19 mm	Ø 21 mm
M16	Ø 25 mm	Ø 21 mm
M20	Ø 31 mm	Ø 26.5 mm
M25	Ø 37 mm	Ø 33 mm
M32	Ø 46 mm	Ø 45.1 mm
M40	Ø 56 mm	Ø 53 mm
M50	Ø 68 mm	Ø 60.5 mm
M63	Ø 84 mm	Ø 80 mm

max. drilled surface

Type	Width x Height
GHG 793 0101	80 mm x 45 mm
GHG 723 0001	180 mm x 53 mm
GHG 723 1001	232 mm x 83 mm
GHG 723 2001	352 mm x 80 mm



Technical data

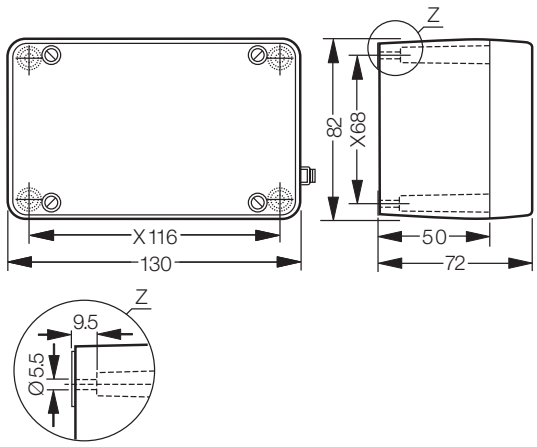
Type 793 01 up to 11 terminals							
Marking to 94/9/EC	Ⓔx II 2 G Ex dem ia II, IIC T6 / Ⓔx II 2 D A21 IP66 T80 °C						
Permissible ambient temperature	–20 °C to +40 °C						
	–55 °C to +55 °C (option)						
EC-Type Examination Certificate	PTB 00 ATEX 3108						
Rated voltage	up to 690 V						
Rated current	depends on terminal mounting						
Degree of EN 60529	IP66						
Enclosure material	light alloy die-casting (AlSi)						
Enclosure colour	light grey						
Terminal cross section	up to 6 mm²						
Weight	approx. 0.68 kg						
Drillings/cable glands	M16	M20	M25	M32	M40	M50	M63
Max. number down	5	2	2	1	–	–	–
Max. number of terminals acc. to certification	2.5 mm²		4 mm²		6 mm²		
	16		14		10		

Ordering details

Design	Cable gland	No. of Terminals	Order No.
Typ 793 01 up to 11 terminals with screw terminals 2 x 2.5 mm² + PE-terminal 2 x 4 mm²			
Ex-e	without drilling	1 x Ex-e*/1 x PE	**GHG 793 0101 R0003**

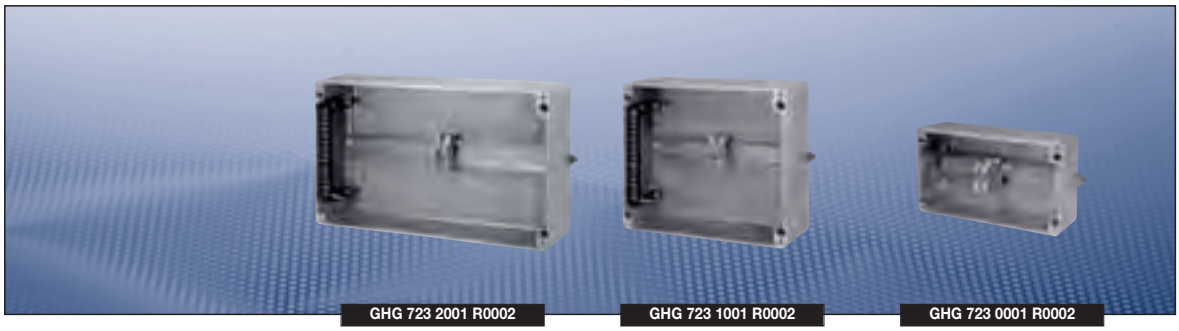
* according to type examination certificate individual open ended

Dimension drawing



Type 793 01

Dimensions in mm



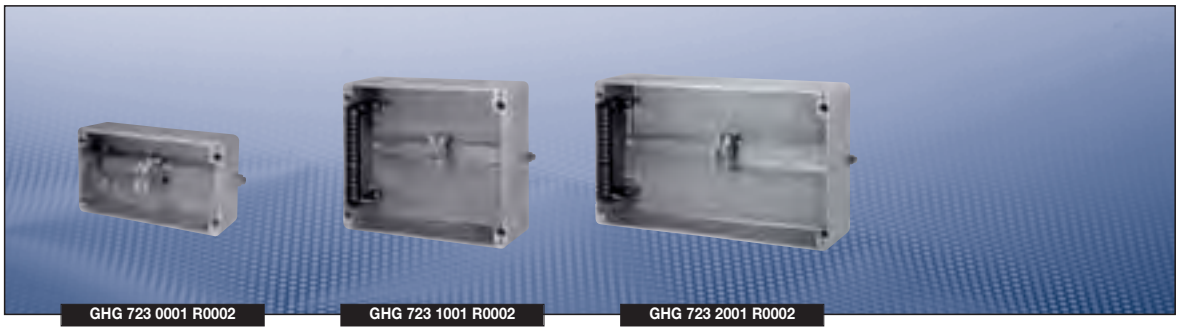
Technical data

Type 723 00 | 723 10 | 723 20 up to 96 terminals	
Marking to 94/9/EC	Ex II 2 G Ex de ia/ib [ia/ib] m IIC T4 / Ex II 2 D Ex tD A21 IP66 T 80 °C
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
EC-Type Examination Certificate	PTB 99 ATEX 1044
Rated voltage	up to 690 V
Rated current	depends on terminal mounting
Degree of EN 60529	IP66
Enclosure material	light alloy die-casting (AlSi)
Enclosure colour	light grey

Type 723 00 up to 24 terminals							
Terminal cross section	max. 35 mm²						
Weight	approx. 1.41 kg						
Max. number drillings/cable glands	M16	M20	M25	M32	M40	M50	
down	8	4	3	–	–	–	
Terminal mounting space on the terminal rail	1 x 185 mm						
Max. number of terminals acc. to certification	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	25 mm²	35 mm²
	24	24	18	18	14	–	–

Type 723 10 up to 82 terminals							
Terminal cross section	max. 50 mm²						
Weight	approx. 3.84 kg						
Drillings/cable glands	M16	M20	M25	M32	M40	M50	
Max. number down	22	10	7	4	3	2	
Terminal mounting space on the terminal rail	2 x 242 mm						
Max. number of terminals acc. to certification	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	25 mm²	35 mm²
	2 x 41	2 x 34	2 x 26	2 x 20	1 x 17	1 x 17	1 x 14

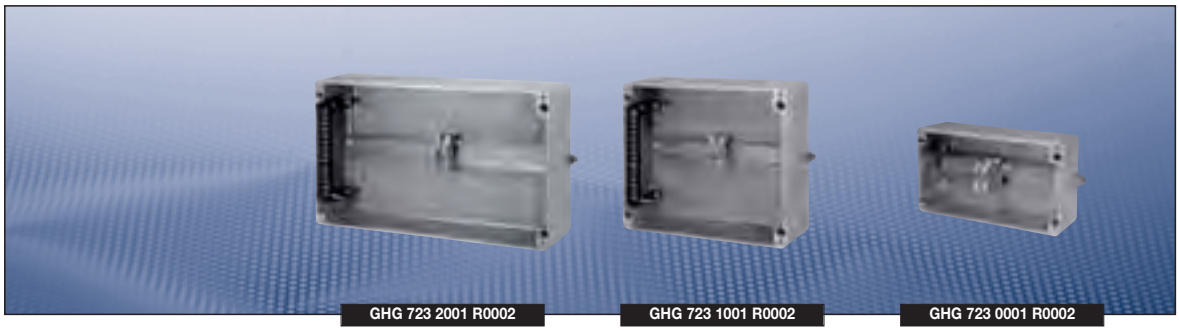
Type 723 20 up to 96 terminals							
Terminal cross section	max. 95 mm²						
Weight	approx. 4.87 kg						
Drillings/cable glands	M16	M20	M25	M32	M40	M50	
Max. number down	30	18	10	6	5	4	
Terminal mounting space on the terminal rail	3 x 362 mm						
Max. number of terminals acc. to certification	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	25 mm²	35 mm²
	2 x 48	2 x 48	2 x 36	2 x 36	1 x 28	1 x 23	1 x 22



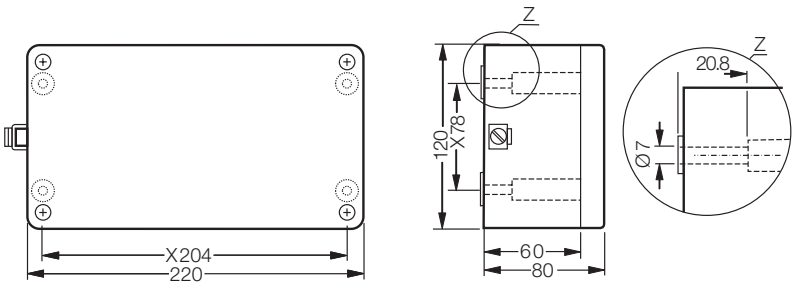
Ordering details

Design	Cable gland	No. of Terminals	Order No.
Type 723 00 mounted with screw terminals 2 x 2.5 mm² + PE-terminal 4 mm²			
Ex-e	without drilling	1 x Ex-e[1]/1 x PE	**GHG 723 0001 R0002**
Type 723 10 mounted with screw terminals 2 x 2.5 mm² + PE-terminal 4 mm²			
Ex-e	without drilling	1 x Ex-e[1]/14 x PE	**GHG 723 1001 R0002**
Type 723 20 mounted with screw terminals 2 x 2.5 mm² + PE-terminal 4 mm²			
Ex-e	without drilling	1 x Ex-e[1]/14 x PE	**GHG 723 2001 R0002**

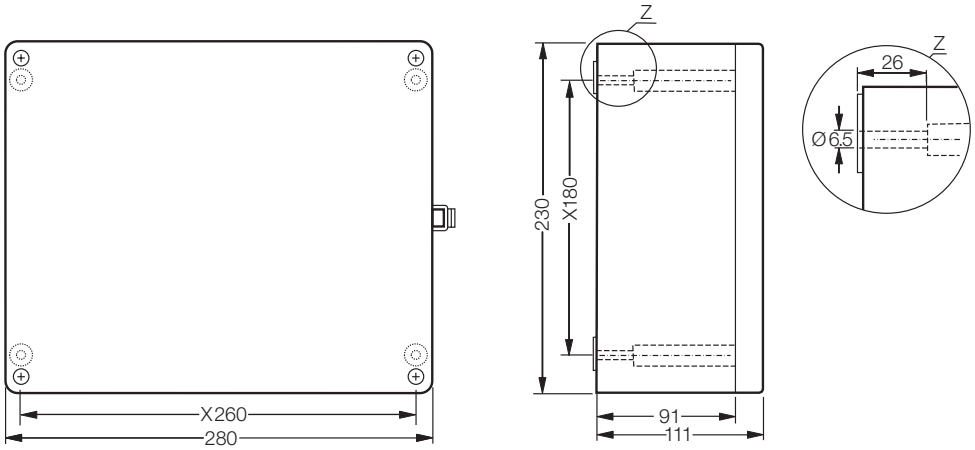
[1] according to type examination certificate individual extensible



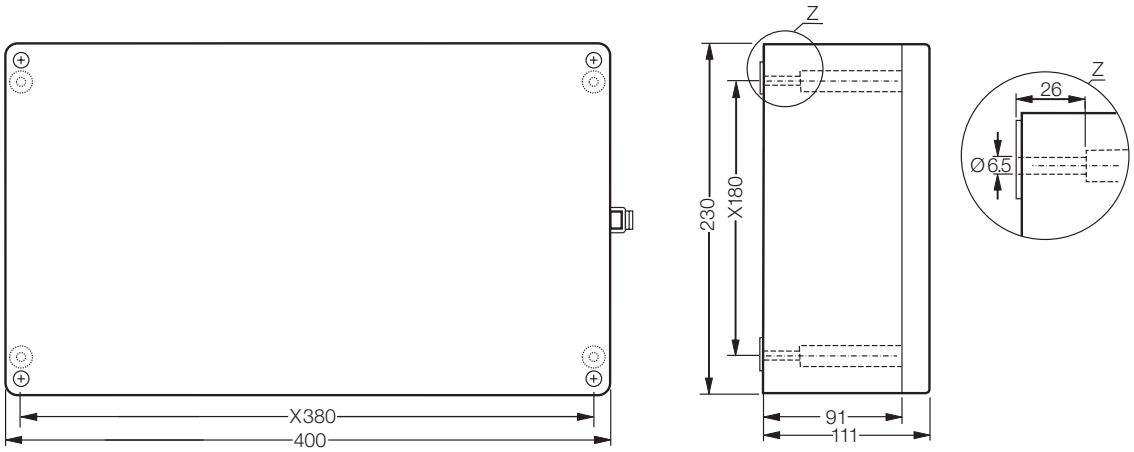
Dimension drawing



Type 723 00



Type 723 10



Type 723 20

X = mounting dimension

Dimensions in mm

EX-TERMINAL BOXES

Light metal design, explosion-proof for Zone 1 and Zone 21

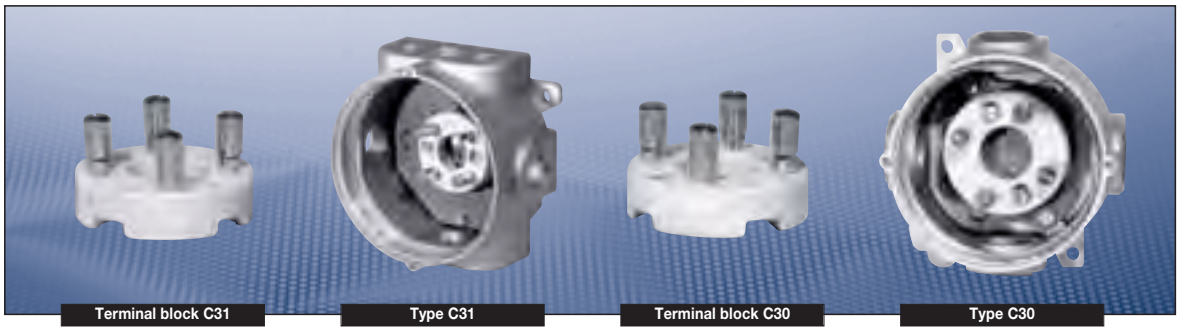
Series C30 and C31 explosion-protected terminal boxes made of light metal are used to distribute and conduct electricity in areas of Zone 1, 2, 21 and 22 at no risk of explosion. Optionally, they are equipped with a assembly plate with pillar terminals or with terminals on an assembly plate with a terminal strip for individual equipment.
The connection cross-section can vary by up to 6 mm^2 or up to 10 mm^2.

A high “IP degree of protection” allows universal use in areas at risk of explosion.
Optionally, the cables can be introduced into the terminal boxes via conduits or explosion-proof screw connections. Drilled holes through which no cables are conducted should be closed with certified threaded stoppers.

The light metal terminal boxes have an outside earthing connection.



- **High mechanical, chemical and thermal resistance**
- **High degree of protection IP67**

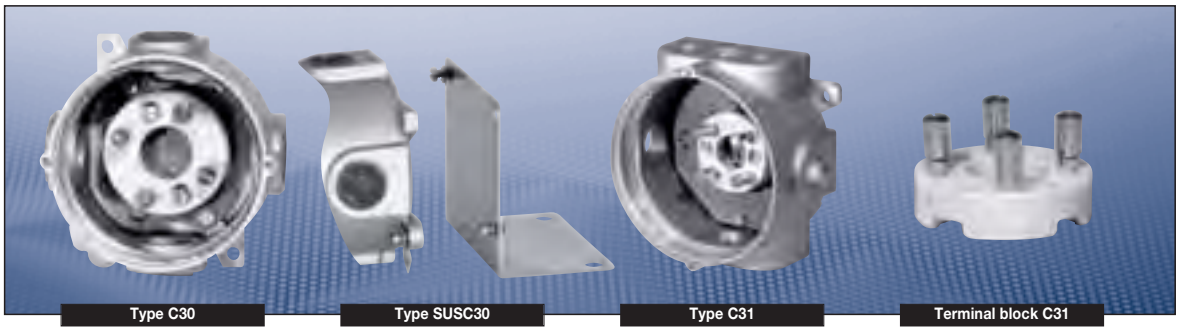


Technical data

Type C30 | Type C31	
Marking to 94/9/EC	Ⓔx II 2 G Ex d IIC T6 / Ⓔx II 2 D IP67 T 85 °C
EC-Type Examination Certificate	LOM 02 ATEX 2037 X
IECEx Certificate of Conformity	IECEx BKI 07.0026
Marking accd. to IECEx	Ex d IIC T6 Ex tD A21 IP67 T85 °C
Permissible ambient temperature	–20 °C to +55 °C
Rated voltage	690 V
Rated current (max.)	C30: 40 A / C31: 61 A
Insulation class	I
Degree of protection accd. EN 60529	IP67
Enclosure material	light alloy
Enclosure colour	natural finish

Type C30	
Connecting terminals	up to 6 mm²
Weight	approx. 0.8 kg (empty)
Max. number of drillings/cable glands	4
Terminal mounting space on the terminal rail	45 mm

Type C31	
Connecting terminals	up to 10 mm²
Weight	approx. 1.3 kg (empty)
Max. number of drillings/cable glands	8
Terminal mounting space on the terminal rail	82 mm



Ordering details

Type	Thread ISO 7/1[1]	Order No.
Type C30		
C30 T1	3 x 1/2"	**NOR 000 001 151 181**
C30 T2	3 x 3/4"	**NOR 000 001 151 199**
C30 X1	4 x 1/2"	**NOR 000 001 151 206**
C30 X2	4 x 3/4"	**NOR 000 001 151 214**
Type C31		
C31 T1	3 x 1/2"	**NOR 000 111 150 001**
C31 T2	3 x 3/4"	**NOR 000 111 150 002**
C31 T3	3 x 1"	**NOR 000 111 150 003**
C31 X1	4 x 1/2"	**NOR 000 111 150 004**
C31 X2	4 x 3/4"	**NOR 000 111 150 005**
C31 X3	4 x 1"	**NOR 000 111 150 006**

Accessories

Build-in components type C30

Type	Version	No. of terminals	Order No.
BC 30	Mounting plate with pillor terminals 4 x 4 mm²	4 x Ex-e [2]	**NOR 000 001 151 222**
PBPD 30	Terminal rail DIN 46877	Mounting rail	**NOR 000 000 115 314**
PC 30	Mounting plate without terminals	–	**NOR 000 000 115 302**

Mounting angel for housing fixing type C30

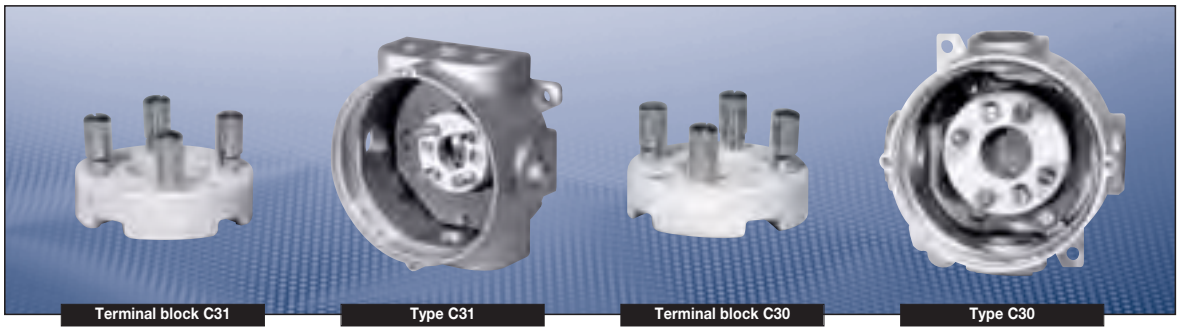
Type	Order No.
SUSC 30	**NOR 000 000 115 311**

Build-in components type C31

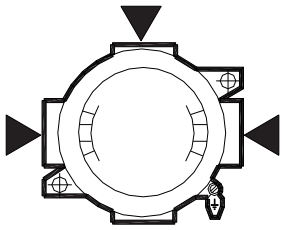
Type	Version	No. of terminals	Order No.
BC31	Mounting plate with pillar terminals	4 x 4 mm² [2]	**NOR 000 111 150 009**
P C31	Mounting plate without terminals	–	**NOR 000 000 115 306**
PBPD 31	Terminal rail DIN 46877	–	**NOR 000 000 115 015**

[1] Other threads on request

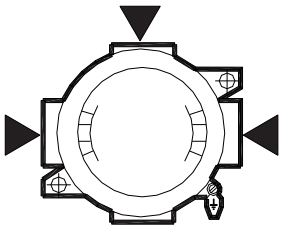
[2] 4 x 4 mm² multi-wire or 2 x 6 mm² solid



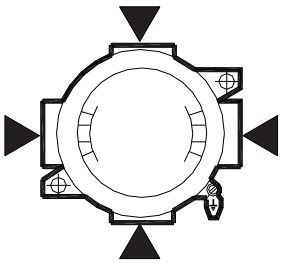
Dimension drawing



Type C30 T

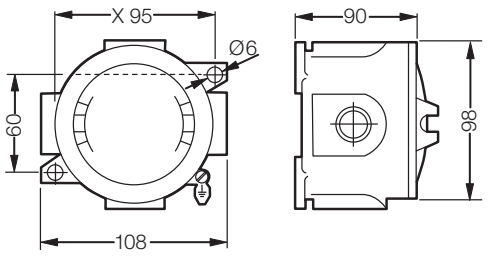


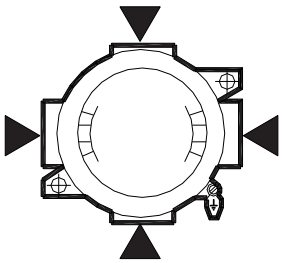
Type C31 T



Thread

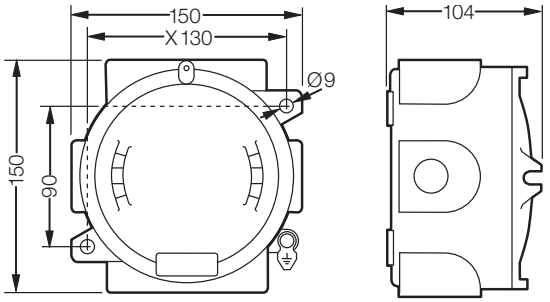
Type C30 X





Thread

Type C31 X



X = mounting dimensions

Dimensions in mm

EX-TERMINAL ENCLOSURES

Stainless steel version for Zone 1 and Zone 21

The new explosion-protected terminal enclosures made of stainless steel (AISI 316 L) with ground surfaces was developed for instrumentation and control installations using the Ex-e and Ex-i technologies.

They act as a link between the main cable to the control room and the branch cables into the field. In addition to this, they may also be used for the direct connection of actuators and sensors. Here the metal cable glands also allow electromagnetically compatible connection methods.

The robust design of the stainless steel terminal boxes provides a high degree of safety for offshore applications and in places where particularly adverse chemical, mechanical and climatic operating conditions prevail within the hazardous area.

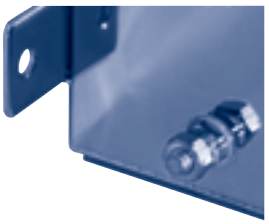
Three terminal enclosures series in various sizes are available for accommodating up to terminals. The choice between screw and tension-spring (screwless) terminals for single and multi-wire conductors makes it possible for the installation engineers to select the type of connection that is most suitable for the respective application. Two separate PE rails are available for the separate connection of PE/PA and screened cables. Due to the optimized design, there is a large drilling area for fitting a large number of metal glands. Unused entry holes must be sealed safely with certified blanking plugs. As an alternative, a screw-on metal flange can be used for a wide variety of applications.

International approvals



- **Stainless steel AISI 316 L, electro-polished surface**
- **Highly resistant silicone seals**
- **Metal flanges available on request**
- **Safety standard IP66**
- **PE/PA rails**

This external & internal brass earth/ground stud assembly enables rapid and reliable protective earth/ground connection, which is mounted on the side of the enclosure for ease of access.



The enclosure is mounted by four heavy-duty 3 mm thick surface welded and stainless steel lugs, with slotted bottom lugs for ease of mounting. These provide a secure, reliable means of mounting the enclosure



To make the choice of the right terminal boxes or branching boxes for your application, the tables on this page contain the basic data. You can use these tables to identify and configure your terminal boxes.

In the table of the maximum number of terminals, the information is based on the rated current of the terminal concerned. If the current per terminal is below the rated current, the number can be interpreted on the maximum length of the terminal strip that can be equipped.

On the basis of the maximum drilled and the interference diameter of the cable and line duct, you can select the relevant terminal box by means of the number of ducts that you need.

Next Range

Size	Max. terminal capacity (2.5 mm²)	Max. entry guide (M16) Top-Bottom/ Left/Right
22/15/13	1 x 21	6/6/6
26/26/16	2 x 27	20/9/9
26/26/20	2 x 27	28/18/18
30/30/16	2 x 36	26/20/26
30/30/20	2 x 36	34/28/34
38/26/16	2 x 51	20/20/20
38/26/20	2 x 51	28/28/28
45/38/16	2 x 67	29/29/29
45/38/20	2 x 67	46/46/46
48/48/20	3 x 71	53/46/53
50/35/20	3 x 75	40/40/40
62/45/20	4 x 99	53/53/53
74/55/20	5 x 124	60/60/60
76/50/20	3 x 128	53/82/82
86/64/20	6 x 147	82/80/80
91/61/20	5 x 158	72/72/72
98/74/20	6 x 171	80/106/106
30/35/20 landscape	3 x 36	40/28/34
38/45/20 landscape	4 x 36	53/28/28
45/55/20 landscape	5 x 67	60/44/44
50/64/20 landscape	6 x 75	82/53/53

Ex-Cell Range

Size	Max. terminal capacity (2.5 mm²)	Max. entry guide (M16) Top-Bottom/ Left/Right
23/15/13	1 x 21	6/6/6
26/26/15	1 x 27	21/11/11
30/20/15	1 x 36	15/15/15
30/30/15	2 x 36	26/15/15
30/30/20	2 x 36	34/28/34
40/30/15	2 x 56	26/26/26
40/30/20	2 x 56	34/34/34
40/40/15	3 x 56	35/26/26
40/40/20	3 x 56	44/34/34
40/50/15	4 x 56	48/26/26
40/50/20	4 x 56	62/34/34
50/40/15	3 x 77	35/35/35
50/40/20	3 x 77	44/44/44
50/50/15	4 x 77	48/35/35
50/50/20	4 x 77	62/44/44
50/60/20	6 x 77	78/44/44
60/40/15	3 x 97	35/48/48
60/40/20	3 x 97	44/62/62
60/50/15	4 x 97	48/48/48
60/50/20	4 x 97	62/62/62
60/60/15	6 x 97	59/48/48
60/60/20	6 x 97	78/62/62
60/76/20	7 x 97	100/62/62
76/50/20	4 x 128	62/78/78
76/60/20	6 x 128	78/78/78
76/76/20	7 x 128	100/78/78

STB Range

Size	Max. terminal capacity (2.5 mm²)	Max. entry guide (M16) Top-Bottom/ Left/Right
12/12/08	1 x 8	7/7/4
15/12/08	1 x 13	7/9/6
15/15/09	1 x 13	9/9/6
19/15/09	1 x 21	9/12/8
19/19/10	1 x 21	18/18/14
25/25/12	2 x 31	32/32/26
16/38/12	1 x 55	50/20/44
25/40/13	3 x 31	54/32/48
38/38/22	3 x 42	100/100/88
40/60/22	3 x 46	164/108/92
60/40/22	5 x 79	108/164/152

GHG 74.2 Range

Size	Max. terminal capacity (2.5 mm²)
744 21	40
745 22	82
746 23	188
749 24	296

NEXT

Stainless Steel Version for Zone 1 and Zone 21

The **NEXT** enclosure has been specifically designed for installation in locations with aggressively hostile environmental conditions. These include such locations as petrochemical hazardous areas, pharmaceutical, food process and utility applications.

Manufactured from high quality stainless steel that is electro-polished for a highly corrosion resistant „Chromium enriched“ surface.

This multi certified enclosure is available in a comprehensive range of 17 different sizes and two depths, each with the facility for many configuration possibilities for a multitude of applications.

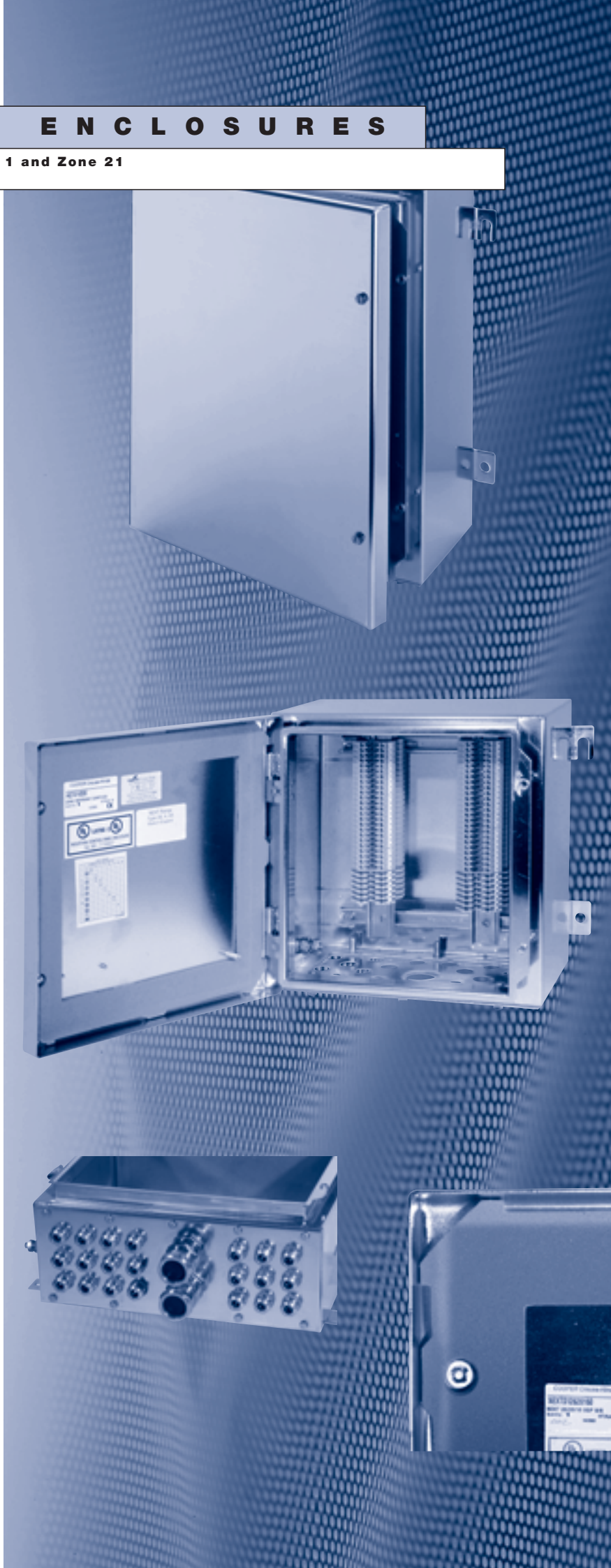
Using the highest quality materials, unique design benefits and precision manufacturing the **NEXT** range is the benchmark in heavy-duty gauge enclosures of its class with a 25 year design life.

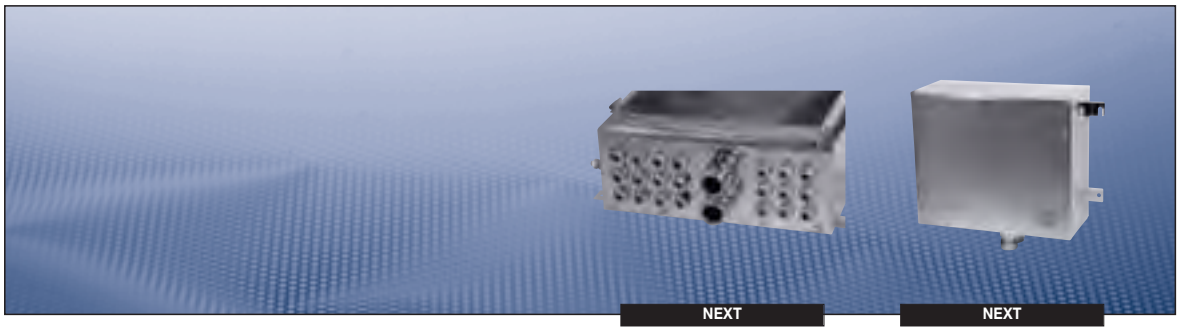
An integral drainage channel prevents liquids or other solids contaminates from running in or falling into the enclosure when the door is opened, and to minimise gasket path contamination.

The high integrity „one piece“ sealing gasket for superior ingress protection (IP) of 66 and excellent recovery and re-sealing properties for continuous environmental protection.

An option for the mounting of up to four 3 mm thick gland-plates on each side in 4 possible combinations of 1, 2, 3 or 4 gland-plates. All sealed to IP66 by a high integrity Chloroprene gasket and secured by stainless steel bolts into blind inserts.

- **316L Stainless Steel (1.4404 to EN 10088) Superior “corrosion resistant” electro chemically polished**
- **High integrity “one piece” closed cell chloroprene or optional silicone gasket**
- **Detachable hinged door, stainless steel hinges with captive stainless steel hex screws**
- **4 x external welded lugs, 11 mm Ø holes / slots.**
- **Optional Gland Plate / Entries 3 mm thick**
- **Extended ambient temperatures -65 °C to + 55 °C as option.**
- **Certification GOST-R, AEx, cULus and Germanischer Lloyd on request.**





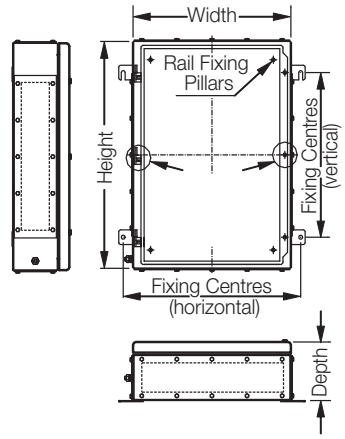
Technical data

Ex-e Terminal Enclosure NEXT	
Marking to 94/9/EC	Ⓔx II 2 G Ex e ia II, IIC T6, T5 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C, T95 °C
Temperature class	T6 up to +40 °C / T5 up to +55 °C
EC-Type Examination Certificate	PTB 04 ATEX 1015
Permissible ambient temperature	–45 °C to +55 °C –65 °C to +55 °C (option: Silicone gasket)
Rated voltage	up to 1100 V[1)]
Rated current	up to 500 A[1)]
Connecting terminals	up to 240 mm² [1)]
Insulation class	I
Degree of protection accd. EN 60529	IP66
Cable glands/Gland plates/Enclosure drilling	up to 4 side optional gland plate (3 mm) combination with entries to meet requirements
Type of mounting	4 x 3 mm welded lugs with Ø 11 mm holes/slots, horizontal
Enclosure material	stainless steel 316 L electro chemically polished or sheet steel polyester powder coated (RAL 7032)
Material thickness	1.5 mm, 2 mm (- 62/45/20 and over)
Equipment mountings	4 x stand off pillars Ø 9 mm, 25 mm height, tapped M6 x 10, for rail or mounting plate
Enclosure earth	M10 external/internal brass earth stud assembly, M6 intern. stud on lid & painted gland plates
Gasket material	Chloroprene gasket, Silicone gasket (option)

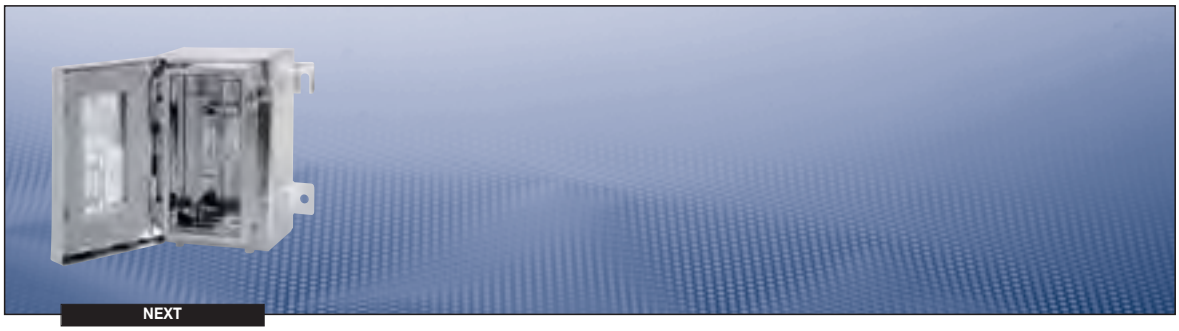
[1)] depending on type of terminal and Ex-components used

Additional Approvals:
cULUs types 3S, 4, 4 x approval suitable for
Class I, Div 2 applications, Class I Zone 1, AExe II T6 (Limited range available),
GOST 'R', Germanischer Lloyd

Dimension drawing



Dimensions in mm



Ordering details NEXT METRIC up to 2 x 51 terminals

NEXT	Dimensions[1] H x W x D in mm	Fixing Centres[1] $F_{vertical}$ x $F_{horizontal}$	Weight in kg (empty enclosure)	Terminal mounting rail: Rail fixing centres vert.	Rail fixing centres horiz.	Rail length vert.	Rail length horiz.	Terminal content: Row orientation vertical (thickness in mm) 2.5 (5)	4 (6)	6 (8)	10 (10)
Size											
Enclosure dimensions and terminal content											
22/15/13	229x152x130	152x208[2]	3.25	129	52	149	72	1x21	1x17	1x13	1x10
26/26/16	260x260x160	170x316	5.50	160	160	180	180	2x27	2x23	1x17	1x13
26/26/20	260x260x205	170x316	5.50	160	160	180	180	2x27	2x23	1x17	1x13
30/30/16	306x306x160	203x361[2]	7.00	206	260	226	226	2x36	2x30	2x23	2x18
30/30/20	306x306x205	203x361[2]	7.00	206	206	226	226	2x36	2x30	2x23	2x18
38/26/16	380x260x160	250x316	7.00	280	180	300	160	2x51	2x43	1x32	1x25
38/26/20	380x260x205	250x316	7.00	280	180	300	160	2x51	2x43	1x32	1x25

NEXT	Available glanding area Top & Bottom	Left	Right	Max. Entry Guide (metric) Top & Bottom / Left / Right M16	M20	M25	M32	M40	M50	M63	Order No.[3]
Size	(with gland plates fitted) in **mm**										
Gland entry detail											
22/15/13	58x108	58x108	58x108	6/6/6	3/3/3	2/2/2	1/1/1	–	–	–	**NXTS12215130**
26/26/16	214x 80	114x 80	114x 80	20/9/9	10/6/6	6/3/2	3/2/3	3/1/1	2/1/1	–	**NXTS12626160**
26/26/20	214x124	114x124	114x124	28/18/18	15/9/9	12/5/5	6/4/4	5/2/2	2/1/1	2/1/1	**NXTS12626200**
30/30/16	261x 80	214x 80	261x 80	26/20/26	14/10/14	8/6/8	4/3/4	3/3/3	3/2/3	–	**NXTS13030160**
30/30/20	261x124	214x124	261x124	34/28/34	20/15/20	15/12/15	8/6/8	6/5/6	3/2/3	2/2/2	**NXTS13030200**
38/26/16	214x 80	214x 80	214x 80	20/20/20	10/10/10	6/6/6	3/3/3	3/3/3	2/2/2	–	**NXTS13826160**
38/26/20	214x124	214x124	214x124	28/28/28	15/15/15	12/12/12	6/6/6	5/5/5	2/2/2	2/2/2	**NXTS13826200**

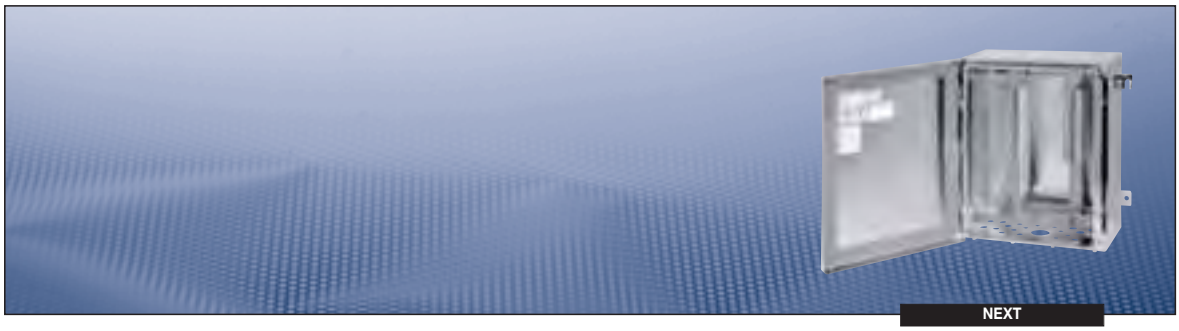
Options			
with 1 gland plate	NXT **S1** XXYYZZ **1**	**with 2 gland plates**	NXT **S1** XXYYZZ **2**
with 3 gland plate	NXT **S1** XXYYZZ **3**	**with 4 gland plates**	NXT **S1** XXYYZZ **4**
NXT Painted	NXT **PS** XXYYZZ N	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	NXT NN XXYYZZ0-**HASP**

Type	Order No.
Example	
30/30/16 with 3 gland plates, painted and Padlock HASP facility	**NXTPS13030163-HASP**

Notes: [1] Dimensions drawing see page 7.39

[2] 123[3] Subtract 30 mm when no side gland plates

[3] Refer to „OPTIONS“ for full order number detail



Ordering details NEXT METRIC up to 3 x 128 terminals

NEXT	Dimensions[1] H x W x D in mm	Fixing Centres[1] $F_{vertical}$ x $F_{horizontal}$	Weight in kg (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	horiz.	Rail length vert.	horiz.	Terminal content Row orientation vertical (thickness in mm) 2.5 (5)	4 (6)	6 (8)	10 (10)
Size											
Enclosure dimensions and terminal content											
45/38/16	458x382x160	305x437[2]	9.75	358	282	378	302	2x 67	2x 56	2x42	2x33
45/38/20	458x382x205	305x437[2]	9.75	358	282	378	302	2x 67	2x 56	2x42	2x33
48/48/20	480x480x205	327x535[2]	10.40	380	380	400	400	3x 71	3x 59	3x44	3x35
50/35/20	500x350x205	350x406	10.50	400	260	420	270	3x 75	2x 63	2x47	2x37
62/45/20	620x450x205	450x506	17.00	520	350	540	370	4x 99	3x 83	3x62	3x49
74/55/20	740x550x205	540x606	30.40	640	450	660	470	5x124	4x103	4x77	4x61
76/50/20	762x508x205	508x564[2]	23.50	662	408	682	428	3x128	3x106	3x80	3x64

NEXT	Available glanding area Top & Bottom	Left	Right	Max. Entry Guide (metric) Top & Bottom / Left / Right							Order No.[3]
Size	(with gland plates fitted) in **mm**			M16	M20	M25	M32	M40	M50	M63	
Gland entry detail											
45/38/16	337x 80	337x 80	337x 80	29/29/29	18/18/18	10/10/10	6/6/6	5/5/5	4/4/4	–	**NXTS14538160**
45/38/20	337x124	337x124	337x124	46/46/46	26/26/26	21/21/21	11/11/11	9/9/9	4/4/4	3/3/3	**NXTS14538200**
48/48/20	404x124	337x124	404x124	53/46/53	30/26/30	24/21/24	14/11/14	11/9/11	5/4/5	4/3/4	**NXTS14848200**
50/35/20	304x124	304x124	304x124	40/40/40	24/24/24	18/18/18	10/10/10	7/7/7	4/4/4	3/3/3	**NXTS15035200**
62/45/20	404x124	404x124	404x124	53/53/53	30/30/30	24/24/24	14/14/14	11/11/11	5/5/5	4/4/4	**NXTS16245200**
74/55/20	504x124	504x124	504x124	60/60/60	39/39/39	30/30/30	18/18/18	13/13/13	6/6/6	5/5/5	**NXTS17455200**
76/50/20	404x124	594x124	594x124	53/82/82	30/47/47	24/39/39	14/20/20	11/17/17	5/7/7	4/6/6	**NXTS17650200**

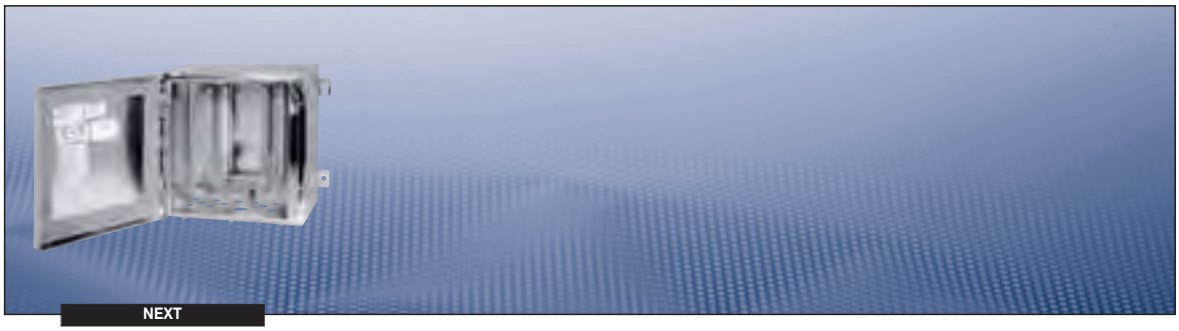
Options			
with 1 gland plate	NXT **S1** XXYYZZ **1**	**with 2 gland plates**	NXT **S1** XXYYZZ **2**
with 3 gland plate	NXT **S1** XXYYZZ **3**	**with 4 gland plates**	NXT **S1** XXYYZZ **4**
NXT Painted	NXT **PS** XXYYZZ N	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	NXT NN XXYYZZ0-**HASP**

Type	Order No.
Example	
62/45/20 with 3 gland plates, 316L SS and Padlock HASP facility	**NXTS162445203-HASP**

Notes: [1] Dimensions drawing see page 7.39

[2] 123[3] Subtract 30 mm when no side gland plates

[3] Refer to „OPTIONS" for full order number detail



Ordering details NEXT METRIC up to 6 x 171 terminals

NEXT	Dimensions[1] H x W x D in mm	Fixing Centres[1] $F_{vertical}$ x $F_{horizontal}$	Weight in kg (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	horiz.	Rail length vert.	horiz.	Terminal content Row orientation vertical (thickness in mm) 2.5 (5)	4 (6)	6 (8)	10 (10)
Size											
Enclosure dimensions and terminal content											
86/64/20	860x640x205	570x696	29.00	760	540	780	560	6x147	5x123	5x 92	4x73
91/61/20	914x610x205	559x666[2]	31.00	814	510	834	530	5x158	5x132	4x 99	4x79
98/74/20	980x740x205	700x796	38.00	880	640	900	660	6x171	6x143	5x107	5x85

NEXT	Available glanding area Top & Bottom	Left	Right	Max. Entry Guide (metric) Top & Bottom / Left / Right M16	M20	M25	M32	M40	M50	M63	Order No.[3]
Size	(with gland plates fitted) in **mm**										
Gland entry detail											
86/64/20	594x124	2x (304x124)	2x (304x124)	82/80/80	47/48/48	39/36/36	20/20/20	17/14/14	7/8/8	6/6/6	**NXTS18664200**
91/61/20	566x108	566x108	566x108	72/72/72	42/42/42	24/24/24	18/18/18	8/8/8	7/7/7	6/6/6	**NXTS19161200**
98/74/20	2x (304x124)	2x (404x124)	2x (404x124)	80/106/106	48/60/60	36/48/48	20/28/28	14/22/22	8/10/10	6/8/8	**NXTS19874200**

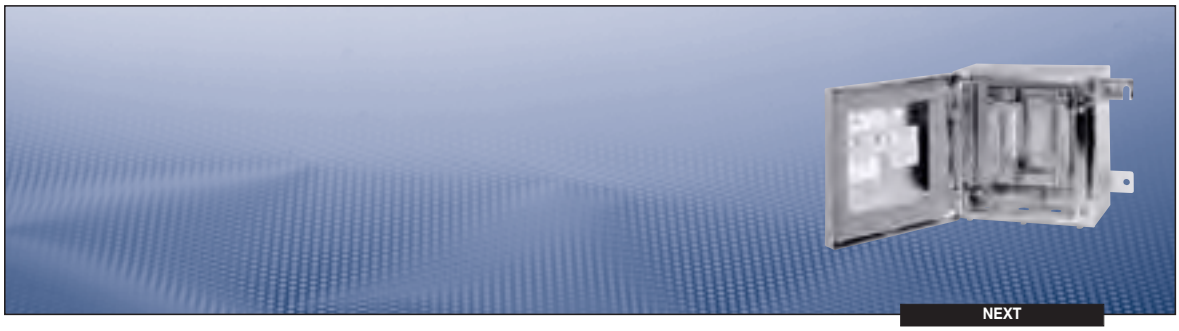
Options			
with 1 gland plate	NXT **S1** XXYYZZ **1**	**with 2 gland plates**	NXT **S1** XXYYZZ **2**
with 3 gland plate	NXT **S1** XXYYZZ **3**	**with 4 gland plates**	NXT **S1** XXYYZZ **4**
NXT Painted	NXT **PS** XXYYZZ N	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	NXT NN XXYYZZ0-**HASP**

Type	Order No.
Example	
91/61/20 with 1 gland plate, 316L SS and Padlock HASP facility	**NXTS19161201-HASP**

Notes: [1] Dimensions drawing see page 7.39

[2] 123[3] Subtract 30 mm when no side gland plates

[3] Refer to „OPTIONS“ for full order number detail



Ordering details NEXT METRIC up to 6 x 75 terminals

NEXT	Dimensions[1] H x W x D in mm	Fixing Centres[1] $F_{vertical}$ x $F_{horizontal}$	Weight in kg (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	horiz.	Rail length vert.	horiz.	Terminal content Row orientation vertical (thickness in mm) 2.5 (5)	4 (6)	6 (8)	10 (10)
Size											
Enclosure dimensions and terminal content – landscape orientation –											
30/35/20	306x350x205	203x405	7.70	206	250	226	270	3x36	2x30	2x23	2x18
38/45/20	380x450x205	250x506	10.60	280	350	300	370	4x36	3x36	3x30	3x23
45/55/20	458x550x205	305x606	14.90	358	450	378	470	5x67	4x56	4x42	4x33
50/64/20	500x640x205	350x696	20.90	400	540	420	560	6x75	5x63	5x47	4x37

NEXT	Available glanding area Top & Bottom	Left	Right	Max. Entry Guide (metric) Top & Bottom / Left / Right							Order No.[3]
Size	(with gland plates fitted) in **mm**			M16	M20	M25	M32	M40	M50	M63	
Gland entry detail – landscape orientation –											
30/35/20	304x124	214x124	258x124	40/28/34	24/15/18	18/12/15	10/6/8	7/5/6	4/2/3	3/2/2	**NXTS13035201**
38/45/20	404x124	214x124	214x124	53/28/28	30/15/15	24/12/12	14/6/6	11/5/5	5/2/2	4/2/2	**NXTS13845201**
45/55/20	504x124	334x124	334x124	60/44/44	39/26/26	30/21/21	18/11/11	13/9/9	6/4/4	5/3/3	**NXTS14555201**
50/64/20	594x124	404x124	404x124	82/53/53	47/30/30	39/24/24	20/14/14	17/11/11	7/5/5	6/4/4	**NXTS15064201**

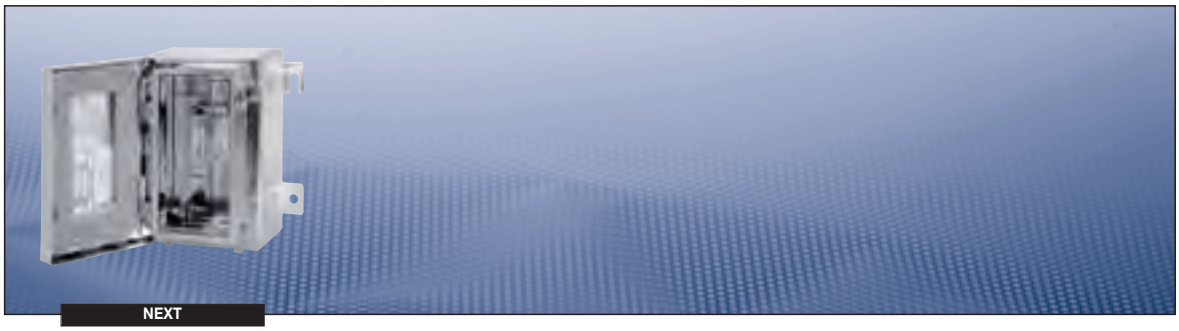
Options			
with 1 gland plate	NXT **S1** XXYYZZ **1**	**with 2 gland plates**	NXT **S1** XXYYZZ **2**
with 3 gland plate	NXT **S1** XXYYZZ **3**	**with 4 gland plates**	NXT **S1** XXYYZZ **4**
NXT Painted	NXT **PS** XXYYZZ N	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	NXT NN XXYYZZ0-**HASP**

Type	Order No.
Example	
30/35/20 with 3 gland plates, painted and Padlock HASP facility	**NXTPS303520-HASP**

Notes: [1] Dimensions drawing see page 7.39

[2] 123[3] Subtract 30 mm when no side gland plates

[3] Refer to „OPTIONS" for full order number detail



Ordering details NEXT IMPERIAL up to 2 x 51 terminals

NEXT	Dimensions[1] H x W x D in inches	Fixing Centres[1] $F_{vertical}$ x	Weight in pounds (empty	Terminal mounting rail Rail fixing centres		Rail length		Terminal content Row orientation vertical			
Size		$F_{horizontal}$	enclosure)	vert.	horiz.	vert.	horiz.	2.5 (5)	4 (6)	6 (8)	10 (10)
Enclosure dimensions and terminal content											
22/15/13	9.02x 5.98x5.12	5.98x 8.19[2]	7.15	5.08	2.05	5.87	2.83	1x21	1x17	1x13	1x10
26/26/16	10.24x10.24x6.3	6.69x12.44	12.10	6.30	6.30	7.09	7.09	2x27	2x23	1x17	1x13
26/26/20	10.24x10.24x8.07	6.69x12.44	12.10	6.30	6.30	7.09	7.09	2x27	2x23	1x17	1x13
30/30/16	12.05x12.05x6.3	0.79x 1.42[2]	15.40	8.11	8.11	8.90	8.90	2x36	2x30	2x23	2x18
30/30/20	12.05x12.05x8.07	0.79x 1.42[2]	15.40	8.11	8.11	8.90	8.90	2x36	2x30	2x23	2x18
38/26/16	14.96x10.24x6.3	9.84x12.44	15.40	11.02	7.09	11.81	6.30	2x51	2x43	1x32	1x25
38/26/20	14.96x10.24x8.07	9.84x12.44	15.40	11.02	7.09	11.81	6.30	2x51	2x43	1x32	1x25

NEXT	Available glanding area Top & Bottom	Left	Right	Max. Entry Guide (imperial) Top & Bottom / Left / Right							Order No.[3]
Size	(with gland plates fitted) in **inches**			½" NPT	¾" NPT	1" NPT	1¼" NPT	1½" NPT	2" NPT	2½" NPT	
Gland entry detail											
22/15/13	4.25x2.28	4.25x2.28	4.25x2.28	3/3/3	2/2/2	2/2/2	–	–	–	–	**NXTS12215130**
26/26/16	8.43x3.15	4.49x3.15	4.49x3.15	11/5/5	4/2/2	4/2/2	3/1/1	2/1/1	–	–	**NXTS12626160**
26/26/20	8.43x4.88	4.49x4.88	4.49x4.88	17/8/8	12/6/6	7/3/3	5/2/2	2/1/1	2/1/1	2/1/1	**NXTS12626200**
30/30/16	10.28x3.15	8.43x3.15	10.28x3.15	13/11/13	5/4/5	4/4/4	4/3/4	3/2/3	–	–	**NXTS13030160**
30/30/20	10.28x4.88	8.43x4.88	10.28x4.88	20/17/20	15/12/15	8/7/8	7/5/7	3/2/3	2/2/2	2/2/2	**NXTS13030200**
38/26/16	8.43x3.15	8.43x3.15	8.43x3.15	11/11/11	4/4/4	4/4/4	3/3/3	2/2/2	–	–	**NXTS13826160**
38/26/20	8.43x4.88	8.43x4.88	8.43x4.88	17/17/17	12/12/12	7/7/7	5/5/5	2/2/2	2/2/2	2/2/2	**NXTS13826200**

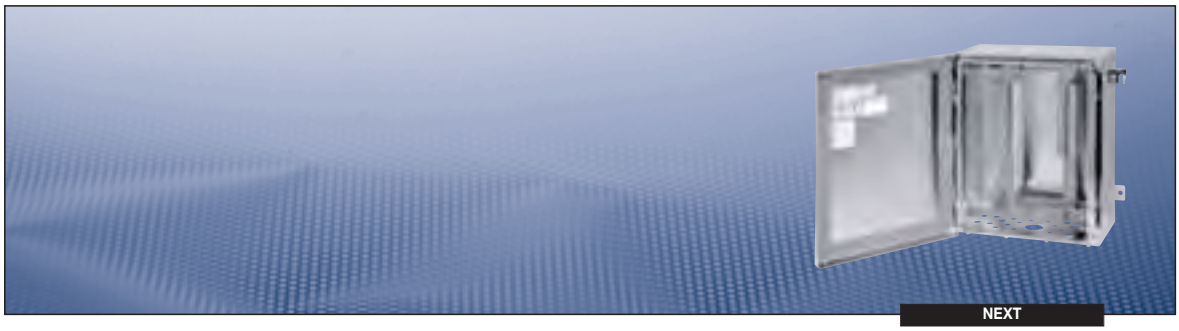
Options			
with 1 gland plate	NXT **S1** XXYYZZ **1**	**with 2 gland plates**	NXT **S1** XXYYZZ **2**
with 3 gland plate	NXT **S1** XXYYZZ **3**	**with 4 gland plates**	NXT **S1** XXYYZZ **4**
NXT Painted	NXT **PS** XXYYZZ N	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	NXT _ XXYYZZ0-**HASP**

Type	Order No.
Example	
38/26/20 with 1 gland plate, painted and Padlock HASP facility	**NXTPS13826201-HASP**

Notes: [1] Dimensions drawing see page 7.39

[2] 123[3] Subtract 30 mm when no side gland plates

[3] Refer to „OPTIONS“ for full order number detail



Ordering details NEXT IMPERIAL up to 3 x 128 terminals

NEXT Size	Dimensions[1] H x W x D in inches	Fixing Centres[1] $F_{vertical}$ x $F_{horizontal}$	Weight in pounds (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	Rail fixing centres horiz.	Rail length vert.	Rail length horiz.	Terminal content Row orientation vertical 2.5 (5)	4 (6)	6 (8)	10 (10)
Enclosure dimensions and terminal content											
45/38/16	18.03x15.04x6.30	12.01x17.20[2]	21.45	14.09	11.10	14.88	11.89	2x 67	2x 56	2x42	2x33
45/38/20	18.03x15.04x8.07	12.01x17.20[2]	21.45	14.09	11.10	14.88	11.89	2x 67	2x 56	2x42	2x33
48/48/20	18.09x18.09x8.07	12.87x21.06[2]	22.88	14.96	14.96	15.75	15.75	3x 71	3x 59	3x44	3x35
50/35/20	19.69x13.78x8.07	13.78x15.98	23.10	15.75	10.24	16.54	10.63	3x 75	2x 63	2x47	2x37
62/45/20	24.41x17.72x8.07	17.72x19.92	37.40	20.47	13.78	21.26	14.57	4x 99	3x 83	3x62	3x49
74/55/20	29.13x21.65x8.07	21.26x23.86	66.88	25.20	17.72	25.98	18.50	5x124	4x103	4x77	4x61
76/50/20	30.00x20.00x8.07	20.00x22.20[2]	51.70	26.06	16.06	26.85	16.85	3x128	3x106	3x80	3x64

NEXT Size	Available glanding area Top & Bottom (with gland plates fitted) in **inches**	Left	Right	Max. Entry Guide (imperial) Top & Bottom / Left / Right ½" NPT	¾" NPT	1" NPT	1¼" NPT	1½" NPT	2" NPT	2½" NPT	Order No.[3]
Gland entry detail											
45/38/16	13.27x3.15	13.27x3.15	13.27x3.15	18/18/18	7/7/7	6/6/6	5/5/5	4/4/4	–	–	**NXTS14538160**
45/38/20	13.27x4.88	13.27x4.88	13.27x4.88	27/27/27	21/21/21	11/11/11	9/9/9	4/4/4	3/3/3	3/3/3	**NXTS14538200**
48/48/20	15.91x4.88	13.27x4.88	15.91x4.88	33/27/33	26/21/26	14/11/14	11/9/11	5/4/5	4/3/4	3/3/3	**NXTS14848200**
50/35/20	11.97x4.88	11.97x4.88	11.97x4.88	24/24/24	18/18/18	10/10/10	8/8/8	4/4/4	3/3/3	2/2/2	**NXTS15035200**
62/45/20	15.91x4.88	15.91x4.88	15.91x4.88	33/33/33	26/26/26	14/14/14	11/11/11	5/5/5	4/4/4	3/3/3	**NXTS16245200**
74/55/20	19.84x4.88	19.84x4.88	19.84x4.88	41/41/41	32/32/32	18/18/18	14/14/14	6/6/6	5/5/5	4/4/4	**NXTS17455200**
76/50/20	15.91x4.88	23.39x4.88	23.39x4.88	33/48/48	26/39/39	14/21/21	11/17/17	5/7/7	4/6/6	3/5/5	**NXTS17650200**

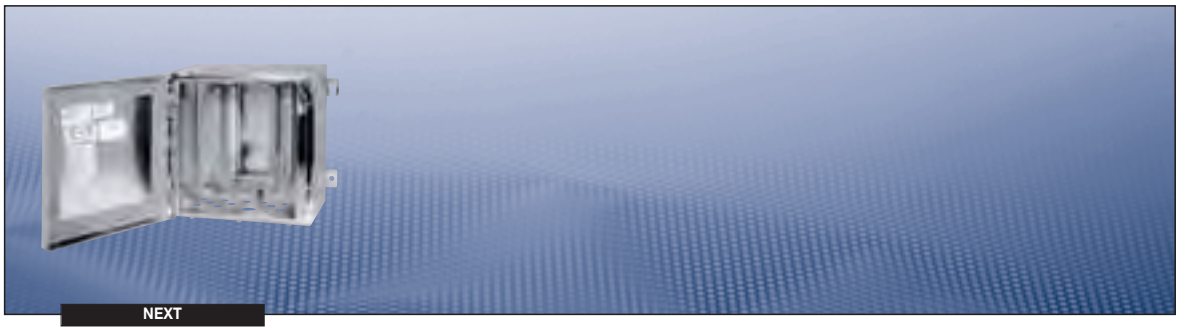
Options			
with 1 gland plate	NXT **S1** XXYYZZ **1**	**with 2 gland plates**	NXT **S1** XXYYZZ **2**
with 3 gland plate	NXT **S1** XXYYZZ **3**	**with 4 gland plates**	NXT **S1** XXYYZZ **4**
NXT Painted	NXT **PS** XXYYZZ N	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	NXT NN XXYYZZ0-**HASP**

Type	Order No.
Example	
62/45/20 with 3 gland plates, painted and Padlock HASP facility	**NXTPS62445203-HASP**

Notes: [1] Dimensions drawing see page 7.39

[2] 123[3] Subtract 30 mm when no side gland plates

[3] Refer to „OPTIONS" for full order number detail



Ordering details NEXT IMPERIAL up to 6 x 171 terminals

NEXT	Dimensions[1] H x W x D in inches	Fixing Centres[1] $F_{vertical}$ x $F_{horizontal}$	Weight in pounds (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	horiz.	Rail length vert.	horiz.	Terminal content Row orientation vertical 2.5 (5)	4 (6)	6 (8)	10 (10)
Enclosure dimensions and terminal content											
86/64/20	33.86x25.20x8.07	22.44x27.40	83.80	29.92	21.26	30.71	22.05	6x147	5x123	5x 92	4x73
91/61/20	35.98x24.02x8.07	22.01x26.22[2]	68.20	32.05	20.08	32.83	20.87	5x158	5x132	4x 99	4x79
98/74/20	38.58x29.13x8.07	27.56x31.34	83.60	34.65	25.20	35.43	25.98	6x171	6x143	5x107	5x85

NEXT	Available glanding area Top & Bottom	Left	Right	Max. Entry Guide (imperial) Top & Bottom / Left / Right ½" NPT	¾" NPT	1" NPT	1¼" NPT	1½" NPT	2" NPT	2½" NPT	Order No.[3]
Size	(with gland plates fitted) in **inches**										
Gland entry detail											
86/64/20	1x	2x	2x								
	(23.39x4.88)	(11.97x4.88)	(11.97x4.88)	48/8/24	39/36/18	21/20/10	17/16/8	7/7/4	6/5/3	5/4/2	**NXTS18664200**
91/61/20	22.28x4.25	22.28x4.25	22.28x4.25	47/47/47	24/24/24	20/20/20	8/8/8	7/7/7	6/6/6	5/5/5	**NXTS19161200**
98/74/20	2x	2x	2x								
	(11.97x4.88)	(15.91x4.88)	(15.91x4.88)	48/66/33	36/51/26	20/28/14	16/22/11	7/9/5	5/7/4	4/6/3	**NXTS19874200**

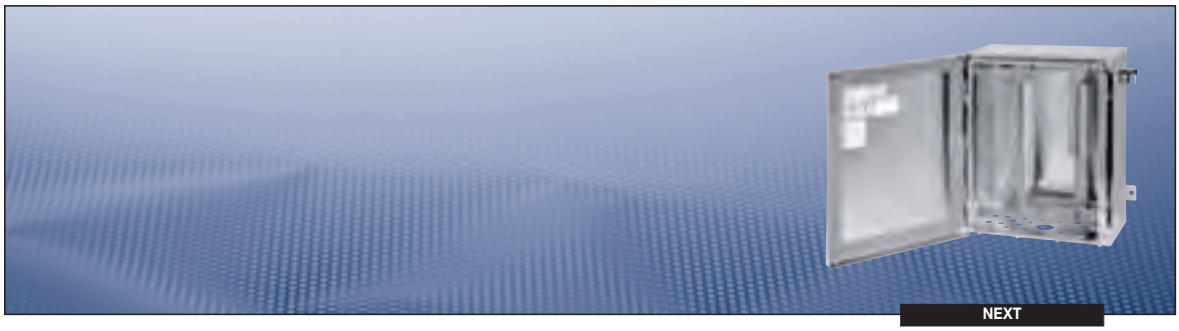
Options			
with 1 gland plate	NXT **S1** XXYYZZ **1**	**with 2 gland plates**	NXT **S1** XXYYZZ **2**
with 3 gland plate	NXT **S1** XXYYZZ **3**	**with 4 gland plates**	NXT **S1** XXYYZZ **4**
NXT Painted	NXT **PS** XXYYZZ N	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	NXT NN XXYYZZ0-**HASP**

Type	Order No.
Example	
98/74/20 with 1 gland plate, 316L and Padlock HASP facility	**NXTS19874201-HASP**

Notes: [1] Dimensions drawing see page 7.39

[2] 123[3] Subtract 30 mm when no side gland plates

[3] Refer to „OPTIONS“ for full order number detail



Ordering details NEXT IMPERIAL up to 6 x 75 terminals

NEXT	Dimensions[1] H x W x D in inches	Fixing Centres[1] $F_{vertical}$ x $F_{horizontal}$	Weight in pounds (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	Rail fixing centres horiz.	Rail length vert.	Rail length horiz.	Terminal content Row orientation vertical 2.5 (5)	4 (6)	6 (8)	10 (10)
Size											
Enclosure dimensions and terminal content – landscape orientation –											
35/30/20	12.05x13.78x8.07	7.99x15.94	17.0	8.11	9.84	8.90	10.63	3x36	2x30	2x23	2x18
45/38/20	14.96x17.72x8.07	9.84x19.92	23.2	11.02	13.78	11.81	14.57	4x36	3x36	3x30	3x23
55/45/20	18.03x21.65x8.07	12.01x23.86	32.7	14.09	17.72	14.88	18.50	5x67	4x56	4x42	4x33
64/50/20	19.69x25.20x8.07	13.78x27.40	46.1	15.75	21.26	16.54	22.05	6x75	5x63	5x47	4x37

NEXT	Available glanding area Top & Bottom	Left	Right	Max. Entry Guide (metric) Top & Bottom / Left / Right gland (first row) hub (second row) ½" NPT	¾" NPT	1" NPT	1¼" NPT	1½" NPT	2" NPT	2½" NPT	Order No.[3]
Size	(with gland plates fitted) in **inches**										
Gland entry detail – landscape orientation –											
35/30/20	11.97x4.88	8.43x4.88	10.16x4.88	38/26/32	23/15/20	18/12/15	10/6/8	8/5/5	3/2/3	3/2/2	
				21/14/18	12/8/10	10/6/8	8/5/7	4/2/3	3/2/3	3/2/2	**NXTS13530201**
45/38/20	15.91x4.88	8.43x4.88	8.43x4.88	52/26/26	32/15/15	26/12/12	13/6/6	11/5/5	5/2/2	4/2/2	
				29/14/14	16/8/8	13/6/6	11/5/5	5/2/2	4/2/2	4/2/2	**NXTS14538201**
55/45/20	19.84x4.88	13.15x4.88	13.15x4.88	64/42/42	39/26/26	33/21/21	17/11/11	14/9/9	6/4/4	5/3/3	
				36/23/23	20/13/13	17/11/11	14/9/9	6/4/4	5/3/3	5/3/3	**NXTS15545201**
64/50/20	23.39x4.88	15.91x4.88	15.91x4.88	78/52/52	47/32/32	39/26/26	20/13/13	17/11/11	7/5/5	6/4/4	
				42/29/29	24/16/16	21/13/13	17/11/11	8/5/5	6/4/4	6/4/4	**NXTS16450201**

Options			
with 1 gland plate	NXT **S1** XXYYZZ **1**	**with 2 gland plates**	NXT **S1** XXYYZZ **2**
with 3 gland plate	NXT **S1** XXYYZZ **3**	**with 4 gland plates**	NXT **S1** XXYYZZ **4**
NXT Painted	NXT **PS** XXYYZZ N	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	NXT NN XXYYZZ0-**HASP**

Type	Order No.
Example	
45/38/20 with 2 gland plates, 316L and Padlock HASP facility	**NXTS14538202-HASP**

Notes: [1] Dimensions drawing see page 7.39

[2] 123[3] Subtract 30 mm when no side gland plates

[3] Refer to „OPTIONS" for full order number detail

EX-TERMINAL ENCLOSURES

Stainless Steel Version for Zone 1 and Zone 21

Ex-Cell



The Ex-Cell enclosure range is an ATEX certified enclosure / termination solution for category 2 (Zone1) application with an ingress protection of IP66. Ex-Cell is available in a comprehensive range of sizes, each with the facility for various configuration possibilities for a multitude of applications. Using the highest quality materials, some unique design benefits and precision manufacturing, the Ex-Cell range is the benchmark in enclosure for both instrumentation and electrical applications.

The Ex-Cell product line is designed and ATEX certified for hazardous areas, UL-approved for heavy industrial applications and are predominantly used in the petrochemical, pharmaceutical, food process and utilities market sectors. As a result of this our enclosures have the inherent benefits of a high degree of ingress protection (IP) to environmental characteristics such as ingress of water and dust. The ingress protection (IP) of the complete product line is IP66 (water & dust), have an impact resistance of a minimum of 7 Nm whilst maintaining IP66, thus making them ideal for wash-down applications.

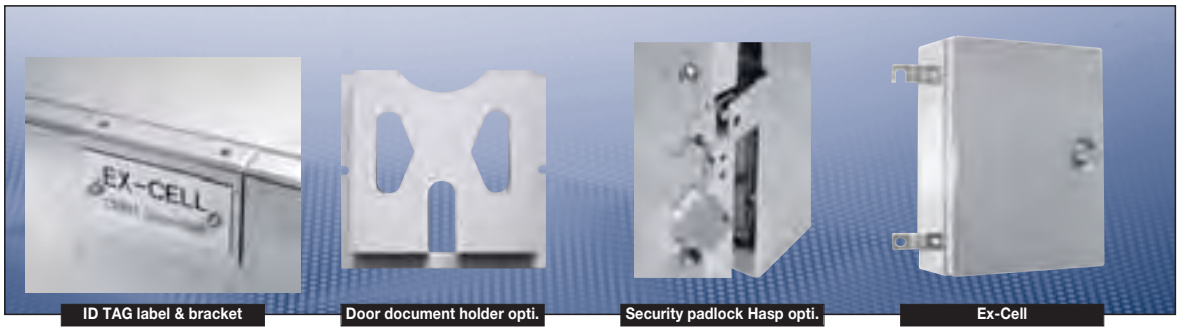
The Ex-Cell-I series is made for instrumentation with easy access central locking system and hinged cover.

The 1/4 turn embossed latch or bolt down fastening provides rapid means of achieving high integrity ingress protection (IP) of 66 environmental seal for reliable, rapid environmental protection.

An option for up to 3 gland plates (3 mm thick) on each side. Three possible combinations of 0, 1 or 3 gland-plates available. All sealed to IP66 rating by a high integrity Chloroprene gasket and secured by rapid fixing „Hytork“ fixing bolts.

An integral drainage channel prevents liquids or other solids contaminates from running in or falling into the enclosure when the door is opened, and to minimise gasket path contamination.

- **Stainless steel 316 L options and 304**
- **Safety standard IP66**
- **Hinges and central locking device for easy access**
- **Extended ambient temperatures -20 °C to +60 °C using chloroprene sponge gasket**
- **External and internal earthing bolts**



ID TAG label & bracket | Door document holder opti. | Security padlock Hasp opti. | Ex-Cell

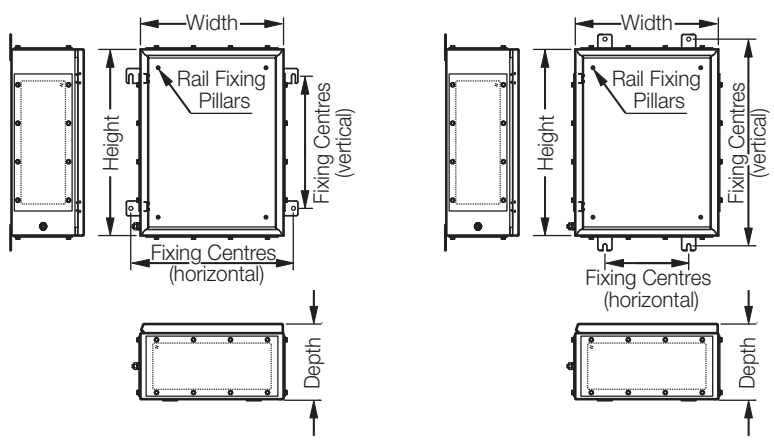
Technical data

Type Ex-Cell METRIC and IMPERIAL	
Marking to 94/9/EC	Ⓔx II 2 G Ex dem ia/ib IIC T6, T5, T4 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C, T95 °C
Temperature class	T6 up to +40 °C / T5 up to +55 °C
EC-Type Examination Certificate	PTB 02 ATEX 1014
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (option: closed cell expanded Silicone gasket)
Rated voltage	up to 750 V*
Rated current	up to 500 A*
Connecting terminals	u to 240 mm²*
Insulation class	I
Degree of protection accd. EN 60529	IP66
Cable glands/Gland plates/Enclosure drilling	up to 4 side optional gland plate combination with entries to meet requirements
Type of mounting	4 x 3 mm welded lugs with Ø 11 mm holes/slots, vertical or horizontal
Enclosure material	stainless steel 316 L or 304 electro chemically polished or sheet steel polyester powder coated (RAL 7032)
Material thickness	1.2 mm (body), 1.5 mm (door)
Equipment mountings	4 x stand off pillars Ø 9 mm, 25 mm height, tapped M6 x 10, for rail or mounting plate
Enclosure earth	M10 external and internal brass earth stud assembly
Gasket material	PUR, Chloroprene gasket (option), closed cell expended Silicone gasket (option)

* depending on type of terminal and Ex-components used

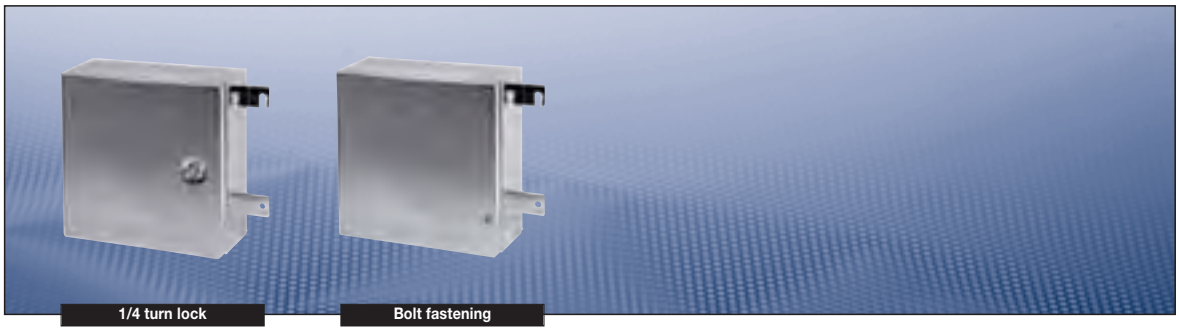
cULus types 3S, 4, 4x approval, Germanischer Lloyd available on request.

Dimension drawing



Metric version **Imperial version**

Dimensions in mm



Ordering details Ex-Cell METRIC up to 2 x 56 terminals

316L SS- 1/4 Turn Lock Fastening Size	Dimensions[1] H x W x D in mm	Fixing Centres[1] vertical x horizontal	Weight in kg (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	Rail fixing centres horiz.	Rail length vert.	Rail length horiz.	Terminal content Row orientation vertical 2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²
Enclosure dimensions and terminal content												
23/15/13	229x152x127	152x208	2.35	129	52	149	72	1x21	1x17	1x13	1x10	1x 9
26/26/15	260x260x152	170x316	2.8	160	160	180	180	2x27	2x23	1x17	1x13	1x11
30/20/15	305x203x152	203x259	3.4	205	103	225	123	1x36	1x30	1x23	1x18	1x15
30/30/15	305x305x152	203x361	4.6	205	205	225	225	2x36	2x30	2x23	2x18	2x15
30/30/20	305x305x203	203x361	5.8	205	205	225	225	2x36	2x30	2x23	2x18	2x15
40/30/15	406x305x152	267x361	5.7	306	205	326	225	2x56	2x47	2x35	2x28	2x23
40/30/20	406x305x203	267x361	6.6	306	205	326	225	2x56	2x47	2x35	2x28	2x23

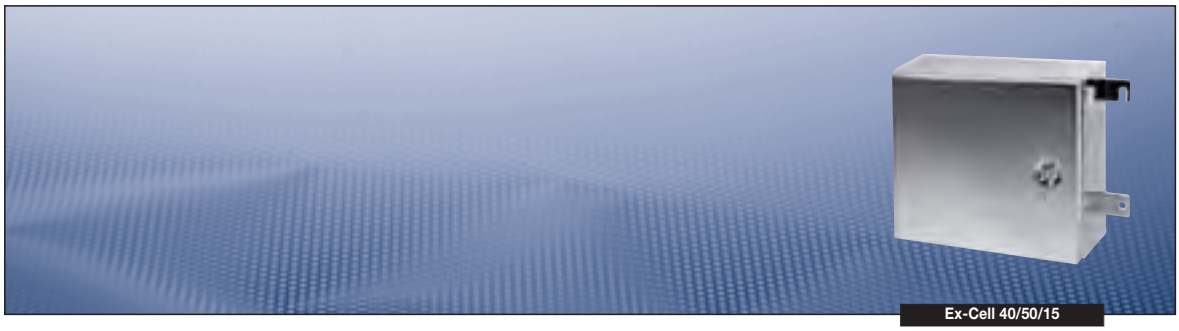
316L SS - 1/4 Turn Lock Fastening Size	Available glanding area Top & Bottom (with gland plates fitted) in **mm**	Left	Right	Max. Entry Guide (metric) Top & Bottom / Left / Right M16	M20	M25	M32	M40	M50	M63	Order No.[2]
Gland entry detail											
23/15/13	108x 58	108x 58	108x 58	6/6/6	2/2/2	2/2/2	1/1/1	–	–	–	**XLHS12315130**
26/26/15	214x 80	114x 80	114x 80	21/11/11	10/5/5	4/2/2	3/2/2	3/1/1	2/1/1	–	**XLHS12626150**
30/20/15	156x 80	156x 80	156x 80	15/15/15	7/7/7	3/3/3	2/2/2	2/2/2	2/2/2	–	**XLHS13020150**
30/30/15	261x 80	156x 80	156x 80	26/15/15	13/7/7	5/3/3	4/2/2	3/2/2	3/2/2	–	**XLHS13030150**
30/30/20	261x124	214x124	261x124	34/28/34	18/15/18	15/12/15	8/6/8	6/5/6	3/2/3	2/2/2	**XLHS13030200**
40/30/15	261x 80	261x 80	261x 80	26/26/26	13/13/13	5/5/5	4/4/4	3/3/3	3/3/3	–	**XLHS14030150**
40/30/20	261x124	261x124	261x124	34/34/34	18/18/18	15/15/15	8/8/8	6/6/6	3/3/3	2/2/2	**XLHS14030200**

Options			
with 1 gland plate	XLH **S1** XXYYZZ **1**	**with 3 gland plates**	XLH **S1** XXYYZZ **3**
Ex-Cell 316L SS - Bolt Fastening	XLH **S1** XXYYZZ0-**B**	**Ex-Cell 304 SS - 1/4 Turn Lock Fastening**	XLH **S2** XXYYZZ **0**
Ex-Cell 304 SS - Bolt Fastening	XLH **S2** XXYYZZ0-**B**	**Ex-Cell Painted - 1/4 Turn Lock Fastening**	XLH **PS** XXYYZZ **0**
Ex-Cell Painted - Bolt Fastening	XLH **PS** XXYYZZ0-**B**	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	XLH NN XXYYZZ0-**HASP**

Type	Order No.
Example	
30/20/15 with 3 gland plates, painted with bolt fastening and permanet padlock HASP facility	**XLHPS 3020153-B-HASP**

Notes: [1] Dimensions drawing see page 7.49

[2] Refer to „OPTIONS“ for full order number detail


Ex-Cell 40/50/15

Ordering details Ex-Cell METRIC up to 3 x 77 terminals

316L SS- 1/4 Turn Lock Fastening Size	Dimensions[1] H x W x D in mm	Fixing Centres[1] vertical x horizontal	Weight in kg (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	horiz.	Rail length vert.	horiz.	Terminal content Row orientation vertical 2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²
Enclosure dimensions and terminal content												
40/40/15	406x406x152	267x462	7.1	306	306	326	326	3x56	3x47	3x35	3x28	3x23
40/40/20	406x406x203	267x462	8.1	306	306	326	326	3x56	3x47	3x35	3x28	3x23
40/50/15	406x508x152	267x564	8.5	306	408	326	428	4x56	4x47	4x35	4x28	4x23
40/50/20	406x508x203	267x564	9.7	306	408	326	428	4x56	4x47	4x35	4x28	4x23
50/40/15	508x406x152	354x462	8.5	408	306	428	326	3x77	3x64	3x48	3x38	3x32
50/40/20	508x406x203	354x462	9.7	408	306	428	326	3x77	3x64	3x48	3x38	3x32

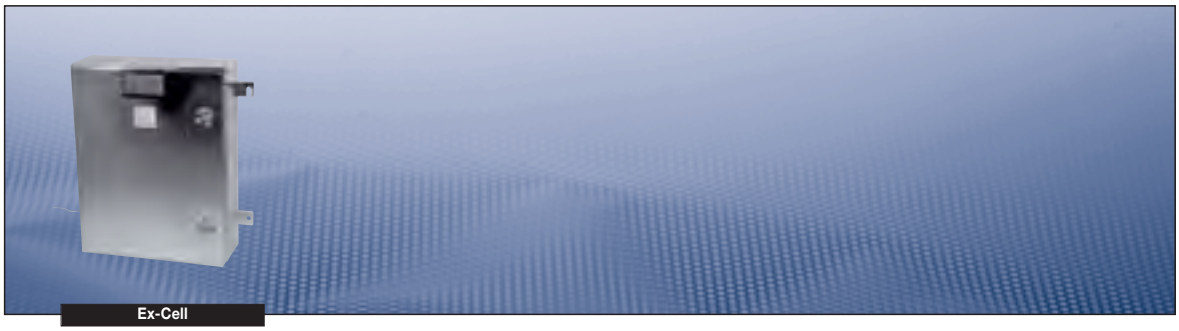
316L SS - 1/4 Turn Lock Fastening Size	Available glanding area Top & Bottom (with gland plates fitted) in **mm**	Left	Right	Max. Entry Guide (metric) Top & Bottom / Left / Right M16	M20	M25	M32	M40	M50	M63	Order No.[2]
Gland entry detail											
40/40/15	337x 80	261x 80	261x 80	35/26/26	17/13/13	7/5/5	6/4/4	5/3/3	4/3/3	–	**XLHS14040150**
40/40/20	334x124	261x124	261x124	44/34/34	26/18/18	21/15/15	11/8/8	9/6/6	4/3/3	3/2/2	**XLHS14040200**
40/50/15	464x 80	261x 80	261x 80	48/26/26	24/13/13	10/5/5	8/4/4	7/3/3	6/3/3	–	**XLHS14050150**
40/50/20	460x124	261x124	261x124	62/34/34	35/18/18	29/15/15	15/8/8	13/6/6	5/3/3	4/2/2	**XLHS14050200**
50/40/15	337x 80	337x 80	337x 80	35/35/35	17/17/17	7/7/7	6/6/6	5/5/5	4/4/4	–	**XLHS15040150**
50/40/20	334x124	334x124	334x124	44/44/44	26/26/26	21/21/21	11/11/11	9/9/9	4/4/4	3/3/3	**XLHS15040200**

Options			
with 1 gland plate	XLH **S1** XXYYZZ **1**	**with 3 gland plates**	XLH **S1** XXYYZZ **3**
Ex-Cell 316L SS - Bolt Fastening	XLH **S1** XXYYZZ0-**B**	**Ex-Cell 304 SS - 1/4 Turn Lock Fastening**	XLH **S2** XXYYZZ **0**
Ex-Cell 304 SS - Bolt Fastening	XLH **S2** XXYYZZ0-**B**	**Ex-Cell Painted - 1/4 Turn Lock Fastening**	XLH **PS** XXYYZZ **0**
Ex-Cell Painted - Bolt Fastening	XLH **PS** XXYYZZ0-**B**	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	XLH NN XXYYZZ0-**HASP**

Type	Order No.
Example	
40/50/20 with 1 gland plates, 316L SS with bolt fastening and permanet padlock HASP facility	**XLHS14050201-B-HASP**

Notes: [1] Dimensions drawing see page 7.49

[2] Refer to „OPTIONS" for full order number detail



Ordering details Ex-Cell METRIC up to 4 x 97 terminals

316L SS- 1/4 Turn Lock Fastening Size	Dimensions[1] H x W x D in mm	Fixing Centres[1] vertical x horizontal	Weight in kg (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	horiz.	Rail length vert.	horiz.	Terminal content Row orientation vertical 2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²
Enclosure dimensions and terminal content												
50/50/15	508x508x152	354x564	10.2	408	408	428	428	4x77	4x64	4x 48	4x38	4x32
50/50/20	508x508x203	354x564	11.4	408	408	428	428	4x77	4x64	4x 48	4x38	4x32
50/60/20	508x610x203	354x666	13.2	408	510	428	530	6x77	6x64	6x 48	6x38	6x32
60/40/15	610x406x152	445x462	9.9	510	306	530	326	3x97	3x81	3x61	3x49	3x40
60/40/20	610x406x203	445x462	11.2	510	306	530	326	3x97	3x81	3x61	3x49	3x40
60/50/15	610x508x152	445x564	11.8	510	408	530	428	4x97	4x81	4x61	4x49	4x40
60/50/20	610x508x203	445x564	13.2	510	408	530	428	4x97	4x81	4x61	4x49	4x40

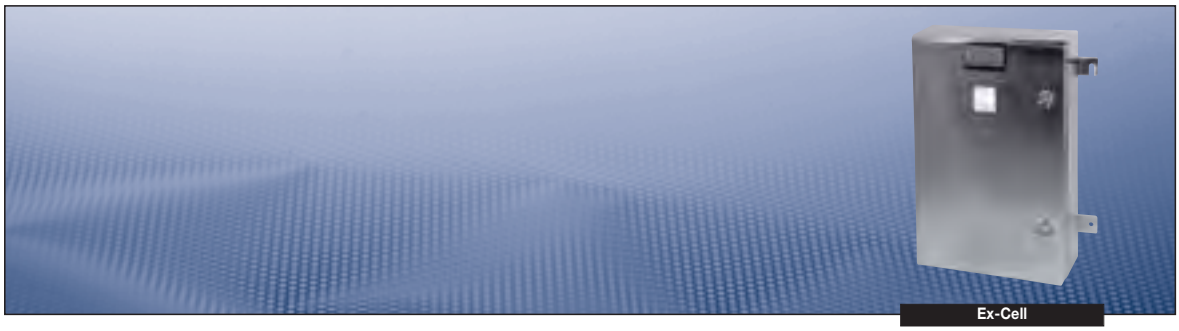
316L SS - 1/4 Turn Lock Fastening Size	Available glanding area Top & Bottom (with gland plates fitted) in **mm**	Left	Right	Max. Entry Guide (metric) Top & Bottom / Left / Right M16	M20	M25	M32	M40	M50	M63	Order No.[2]
Gland entry detail											
50/50/15	464x 80	337x 80	337x 80	48/35/35	24/17/17	10/7/7	8/6/6	7/5/5	6/4/4	–	**XLHS15050150**
50/50/20	460x124	334x124	334x124	62/44/44	35/26/26	29/21/21	15/11/11	13/9/9	5/4/4	4/3/3	**XLHS15050200**
50/60/20	562x124	334x124	334x124	78/44/44	44/26/26	36/21/21	19/11/11	16/9/9	7/4/4	5/3/3	**XLHS15060200**
60/40/15	337x 80	464x 80	464x 80	35/48/48	17/24/24	7/10/10	6/8/8	5/7/7	4/6/6	–	**XLHS16040150**
60/40/20	334x124	460x124	460x124	44/62/62	26/35/35	21/29/29	11/15/15	9/13/13	4/5/5	3/4/4	**XLHS16040200**
60/50/15	464x 80	464x 80	464x 80	48/48/48	24/24/24	10/10/10	8/8/8	7/7/7	6/6/6	–	**XLHS16050150**
60/50/20	460x124	460x124	460x124	62/62/62	35/35/35	29/29/29	15/15/15	13/13/13	5/5/5	4/4/4	**XLHS16050200**

Options			
with 1 gland plate	XLH **S1** XXYYZZ **1**	**with 3 gland plates**	XLH **S1** XXYYZZ **3**
Ex-Cell 316L SS - Bolt Fastening	XLH **S1** XXYYZZ0-**B**	**Ex-Cell 304 SS - 1/4 Turn Lock Fastening**	XLH **S2** XXYYZZ **0**
Ex-Cell 304 SS - Bolt Fastening	XLH **S2** XXYYZZ0-**B**	**Ex-Cell Painted - 1/4 Turn Lock Fastening**	XLH **PS** XXYYZZ **0**
Ex-Cell Painted - Bolt Fastening	XLH **PS** XXYYZZ0-**B**	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	XLH NN XXYYZZ0-**HASP**

Type	Order No.
Example	
60/50/20 with 3 gland plates, painted 1/4 turn lock fastening and permanent padlock HASP facility	**XLHPS6050203-HASP**

Notes: [1] Dimensions drawing see page 7.49

[2] Refer to „OPTIONS“ for full order number detail


Ex-Cell

Ordering details Ex-Cell METRIC up to 7 x 128 terminals

316L SS- ¼ Turn Lock Fastening Size	Dimensions[1] H x W x D in mm	Fixing Centres[1] vertical x horizontal	Weight in kg (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	Rail fixing centres horiz.	Rail length vert.	Rail length horiz.	Terminal content Row orientation vertical 2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²
Enclosure dimensions and terminal content												
60/60/15	610x610x152	445x666	13.7	510	510	530	530	6x 97	6x 81	6x61	6x49	6x40
60/60/20	610x610x203	445x666	15.3	510	510	530	530	6x 97	6x 81	6x61	6x49	6x40
60/76/20	610x762x203	445x818	18.3	510	662	530	682	7x 97	7x 81	7x61	7x49	7x40
76/50/20	762x508x203	508x564	15.9	662	408	682	428	4x128	4x106	4x80	4x64	4x53
76/60/20	762x610x203	508x666	18.3	662	510	682	530	6x128	6x106	6x80	6x64	6x53
76/76/20	762x762x203	508x818	21.9	662	662	682	682	7x128	7x106	7x80	7x64	7x53

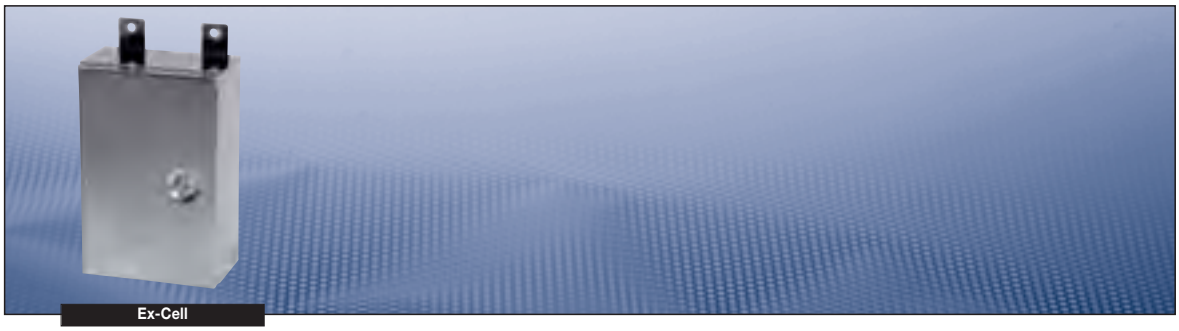
316L SS - ¼ Turn Lock Fastening Size	Available glanding area Top & Bottom (with gland plates fitted) in **mm**	Left	Right	Max. Entry Guide (metric) Top & Bottom / Left / Right M16	M20	M25	M32	M40	M50	M63	Order No.[2]
Gland entry detail											
60/60/15	562x 80	464x 80	464x 80	59/48/48	29/24/24	12/10/10	10/8/8	8/7/7	7/6/6	–	**XLHS16060150**
60/60/20	562x124	460x124	460x124	78/62/62	44/35/35	36/29/29	19/15/15	16/13/13	7/5/5	5/4/4	**XLHS16060200**
60/76/20	714x124	460x124	460x124	100/62/62	56/35/35	47/29/29	24/15/15	20/13/13	9/5/5	7/4/4	**XLHS16076200**
76/50/20	460x124	562x124	562x124	62/78/78	35/44/44	29/36/36	15/19/19	13/16/16	5/7/7	4/5/5	**XLHS17650200**
76/60/20	562x124	562x124	562x124	78/78/78	44/44/44	36/36/36	19/19/19	16/16/16	7/7/7	5/5/5	**XLHS17660200**
76/76/20	714x124	562x124	562x124	100/78/78	56/44/44	47/36/36	24/19/19	20/16/16	9/7/7	7/5/5	**XLHS17676200**

Options			
with 1 gland plate	XLH **S1** XXYYZZ **1**	**with 3 gland plates**	XLH **S1** XXYYZZ **3**
Ex-Cell 316L SS - Bolt Fastening	XLH **S1** XXYYZZ0-**B**	**Ex-Cell 304 SS - ¼ Turn Lock Fastening**	XLH **S2** XXYYZZ **0**
Ex-Cell 304 SS - Bolt Fastening	XLH **S2** XXYYZZ0-**B**	**Ex-Cell Painted - ¼ Turn Lock Fastening**	XLH **PS** XXYYZZ **0**
Ex-Cell Painted - Bolt Fastening	XLH **PS** XXYYZZ0-**B**	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	XLH **PS** XXYYZZ0-**HASP**

Type	Order No.
Example	
60/76/20 with 3 gland plates, 316 SS with bolt fastening and permanent padlock HASP facility	**XLHS16076203-B-HASP**

Notes: [1] Dimensions drawing see page 7.49

[2] Refer to „OPTIONS" for full order number detail



Ordering details Ex-Cell IMPERIAL up to 2 x 36 terminals

316L SS- 1/4 Turn Lock Fastening Size	Dimensions[1] H x W x D in inches	Fixing Centres[1] vertical x horizontal	Weight in lbs (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	horiz.	Rail length vert.	horiz.	Terminal content Row orientation vertical 2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²
Enclosure dimensions and terminal content												
9"/6"/5"	9x6x5	10.24x3.50	5.17	5.08	2.05	5.87	2.83	1x21	1x17	1x13	1x10	1x9
12"/8"/6"	12x8x6	13.24x5.50	7.54	8.07	4.06	8.86	4.84	1x36	1x30	1x23	1x18	1x15
12"/12"/6"	12x12x6	13.24x9.50	10.07	8.07	8.07	8.86	8.86	2x36	2x30	2x23	2x18	2x15
12"/12"/8"	12x12x8	13.24x9.50	12.76	8.11	8.11	8.90	8.90	2x36	2x30	2x23	2x18	2x15

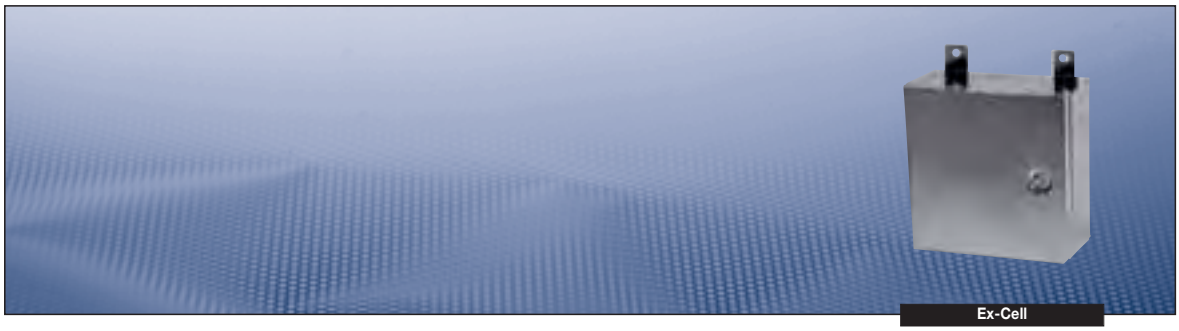
316L SS - 1/4 Turn Lock Fastening Size	Available glanding area Top & Bottom (with gland plates fitted) in **inches**	Left	Right	Max. Entry Guide (imperial) Top & Bottom / Left / Right Gland (first row) Hub (second row) ½" NPT	¾" NPT	1" NPT	1¼" NPT	1½" NPT	2" NPT	2½" NPT	Order No.[2]
Gland entry detail											
9"/6"/5"	4.25x2.28	4.25x2.28	4.25x2.28	6/6/6	2/2/2	2/2/2	1/1/1	–	–	–	
				2/2/2	2/2/2	2/2/2	–	–	–	–	**XLVS10906050**
12"/8"/6"	6.14x3.15	6.14x3.15	6.14x3.15	9/9/9	7/7/7	3/3/3	2/2/2	2/2/2	2/2/2	–	
				3/3/3	3/3/3	2/2/2	–	–	–	–	**XLVS11208060**
12"/12"/6"	10.28x3.15	6.14x3.15	6.14x3.15	16/9/9	13/7/7	5/3/3	4/2/2	3/2/2	3/2/2	–	
				12/3/3	5/3/3	4/2/2	4/0/0	3/0/0	–	–	**XLVS11212060**
12"/12"/8"	10.27x4.88	8.42x4.88	10.27x4.88	32/26/32	20/15/20	15/12/15	8/6/8	6/5/6	3/2/3	2/2/2	
				18/14/18	10/8/10	8/6/8	7/5/7	3/2/3	3/2/3	2/2/2	**XLVS11212080**

Options			
with 1 gland plate	XLV **S1** XXYYZZ **1**	**with 3 gland plates**	XLV **S1** XXYYZZ **3**
Ex-Cell 316L SS - Bolt Fastening	XLV **S1** XXYYZZ0-**B**	**Ex-Cell 304 SS - 1/4 Turn Lock Fastening**	XLV **S2** XXYYZZ **0**
Ex-Cell 304 SS - Bolt Fastening	XLV **S2** XXYYZZ0-**B**	**Ex-Cell Painted - 1/4 Turn Lock Fastening**	XLV **PS** XXYYZZ **0**
Ex-Cell Painted - Bolt Fastening	XLV **PS** XXYYZZ0-**B**	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	XLV **PS** XXYYZZ0-**HASP**

Type	Order No.
Example	
12/8/6 with 3 gland plates, painted with bolt fastening	**XLVS11208063-B**

Notes: [1] Dimensions drawing see page 7.49

[2] Refer to „OPTIONS" for full order number detail



Ordering details Ex-Cell IMPERIAL up to 3 x 56 terminals

316L SS- ¼ Turn Lock Fastening Size	Dimensions[1] H x W x D in inches	Fixing Centres[1] vertical x horizontal	Weight in lbs (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	horiz.	Rail length vert.	horiz.	Terminal content Row orientation vertical 2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²
Enclosure dimensions and terminal content												
16"/12"/6"	16x12x6	17.24x 9.50	12.57	12.05	8.07	12.83	8.86	2x56	2x47	2x35	2x28	2x23
16"/12"/8"	16x12x8	17.24x 9.50	14.54	12.05	8.07	12.83	8.86	2x56	2x47	2x35	2x28	2x23
16"/16"/6"	16x16x6	17.24x10.00	15.63	12.05	12.05	12.83	12.83	3x56	3x47	3x35	3x28	3x23
16"/16"/8"	16x16x8	17.24x10.00	17.87	12.05	12.05	12.83	12.83	3x56	3x47	3x35	3x28	3x23

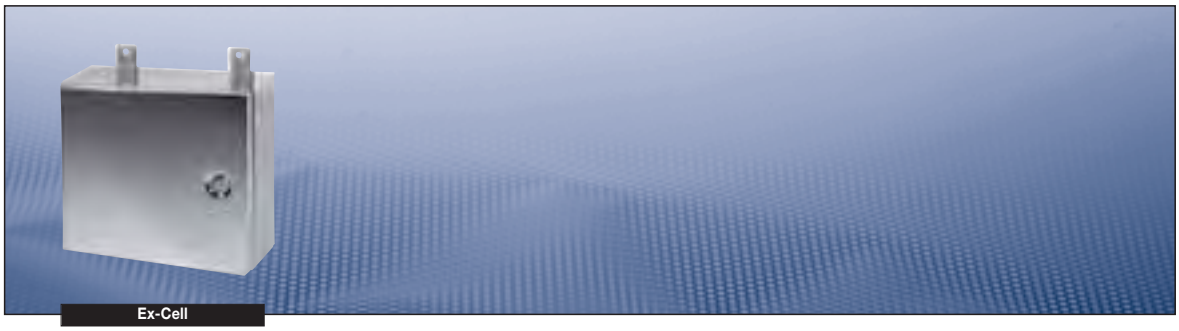
316L SS - ¼ Turn Lock Fastening Size	Available glanding area Top & Bottom (with gland plates fitted) in **inches**	Left	Right	Max. Entry Guide (imperial) Top & Bottom / Left / Right Gland (first row) Hub (second row) ½" NPT	¾" NPT	1" NPT	1¼" NPT	1½" NPT	2" NPT	2½" NPT	Order No.[2]
Gland entry detail											
16"/12"/6"	10.28x3.15	10.28x3.15	10.28x3.15	16/16/16	13/13/13	5/5/5	4/4/4	3/3/3	3/3/3	–	
				12/12/12	5/5/5	4/4/4	4/4/4	3/3/3	–	–	**XLVS11612060**
16"/12"/8"	10.27x4.88	10.27x4.88	10.27x4.88	32/32/32	20/20/20	15/15/15	8/8/8	6/6/6	3/3/3	2/2/2	
				18/18/18	10/10/10	8/8/8	7/7/7	3/3/3	3/3/3	2/2/2	**XLVS11612080**
16"/16"/6"	13.27x3.15	10.28x3.15	10.28x3.15	21/16/16	17/13/13	7/5/5	6/4/4	5/3/3	4/3/3	–	
				15/12/12	7/5/5	6/4/4	5/4/4	4/3/3	–	–	**XLVS11616060**
16"/16"/8"	13.15x4.88	10.27x4.88	10.27x4.88	42/32/32	26/20/20	21/15/15	11/8/8	9/6/6	4/3/3	3/2/2	
				23/18/18	13/10/10	11/8/8	9/7/7	4/3/3	3/3/3	3/2/2	**XLVS11616080**

Options			
with 1 gland plate	XLV **S1** XXYYZZ **1**	**with 3 gland plates**	XLV **S1** XXYYZZ **3**
Ex-Cell 316L SS - Bolt Fastening	XLV **S1** XXYYZZ0-**B**	**Ex-Cell 304 SS - ¼ Turn Lock Fastening**	XLV **S2** XXYYZZ **0**
Ex-Cell 304 SS - Bolt Fastening	XLV **S2** XXYYZZ0-**B**	**Ex-Cell Painted - ¼ Turn Lock Fastening**	XLV **PS** XXYYZZ **0**
Ex-Cell Painted - Bolt Fastening	XLV **PS** XXYYZZ0-**B**	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	XLV **PS** XXYYZZ0-**HASP**

Type	Order No.
Example	
16/16/06 with 1 gland plates, 304 SS with 1/4 turn lock fastening and permanent padlock HASP facility	**XLVS21616061-HASP**

Notes: [1] Dimensions drawing see page 7.49

[2] Refer to „OPTIONS" for full order number detail



Ordering details Ex-Cell IMPERIAL up to 3 x 77 terminals

316L SS- 1/4 Turn Lock Fastening Size	Dimensions[1] H x W x D in inches	Fixing Centres[1] vertical x horizontal	Weight in lbs (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	horiz.	Rail length vert.	horiz.	Terminal content Row orientation vertical 2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²
Enclosure dimensions and terminal content												
16"/20"/6"	16x20x6	17.24x14.00	18.71	12.05	16.06	12.83	16.85	4x56	4x47	4x35	4x28	4x23
16"/20"/8"	16x20x8	17.24x14.00	21.24	12.05	16.06	12.83	16.85	4x56	4x47	4x35	4x28	4x23
20"/16"/6"	20x16x6	21.24x10.00	18.71	16.06	12.05	16.85	12.83	3x77	3x64	3x48	3x38	3x32
20"/16"/8"	20x16x8	21.24x10.00	21.24	16.06	12.05	16.85	12.83	3x77	3x64	3x48	3x38	3x32

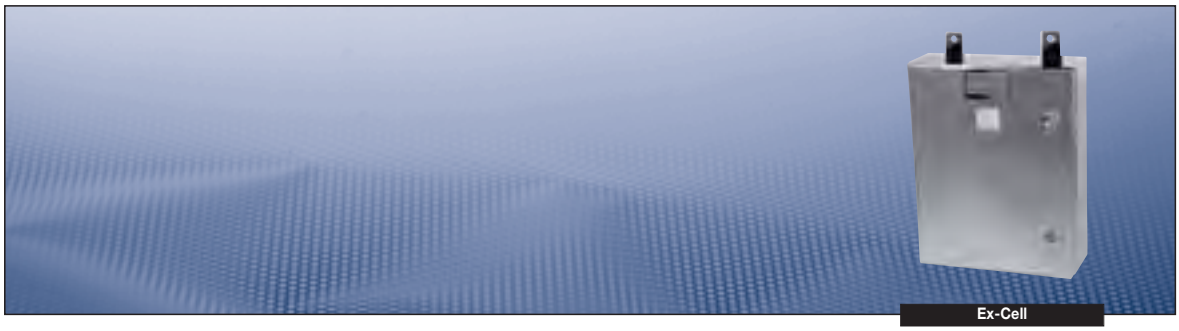
316L SS - 1/4 Turn Lock Fastening Size	Available glanding area Top & Bottom (with gland plates fitted) in **inches**	Left	Right	Max. Entry Guide (imperial) Top & Bottom / Left / Right Gland (first row) Hub (second row) 1/2" NPT	3/4" NPT	1" NPT	1 1/4" NPT	1 1/2" NPT	2" NPT	2 1/2" NPT	Order No.[2]
Gland entry detail											
16"/20"/6"	18.27x3.15	10.28x3.15	10.28x3.15	30/16/16	24/13/13	10/5/5	8/4/4	7/3/3	6/3/3	–	
				22/12/12	10/5/5	8/4/4	7/4/4	6/3/3	–	–	**XLVS11620060**
16/"20"/8"	18.11x4.88	10.27x4.88	10.27x4.88	58/32/32	36/20/20	30/15/15	15/8/8	13/6/6	5/3/3	4/2/2	
				33/18/18	18/10/10	16/8/8	13/7/7	6/3/3	5/3/3	4/2/2	**XLVS11620080**
20"/16"/6"	13.27x3.15	13.27x3.15	13.27x3.15	21/21/21	17/17/17	7/7/7	6/6/6	5/5/5	4/4/4	–	
				15/15/15	7/7/7	6/6/6	5/5/5	4/4/4	–	–	**XLVS12016060**
20"/16"/8"	13.15x4.88	13.15x4.88	13.15x4.88	42/42/42	26/26/26	21/21/21	11/11/11	9/9/9	4/4/4	3/3/3	
				23/23/23	13/13/13	11/11/11	9/9/9	4/4/4	3/3/3	3/3/3	**XLVS12016080**

Options			
with 1 gland plate	XLV **S1** XXYYZZ **1**	**with 3 gland plates**	XLV **S1** XXYYZZ **3**
Ex-Cell 316L SS - Bolt Fastening	XLV **S1** XXYYZZ0-**B**	**Ex-Cell 304 SS - 1/4 Turn Lock Fastening**	XLV **S2** XXYYZZ **0**
Ex-Cell 304 SS - Bolt Fastening	XLV **S2** XXYYZZ0-**B**	**Ex-Cell Painted - 1/4 Turn Lock Fastening**	XLV **PS** XXYYZZ **0**
Ex-Cell Painted - Bolt Fastening	XLV **PS** XXYYZZ0-**B**	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	XLV **PS** XXYYZZ0-**HASP**

Type	Order No.
Example	
20/16/8 with 3 gland plates, painted with bolt fastening and permanent padlock HASP facility	**XLVPS2016083-B-HASP**

Notes: [1] Dimensions drawing see page 7.49

[2] Refer to „OPTIONS" for full order number detail



Ordering details Ex-Cell IMPERIAL up to 6 x 77 terminals

316L SS- ¼ Turn Lock Fastening Size	Dimensions[1] H x W x D in inches	Fixing Centres[1] vertical x horizontal	Weight in lbs (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	horiz.	Rail length vert.	horiz.	Terminal content Row orientation vertical 2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²
Enclosure dimensions and terminal content												
20"/20"/6"	20x20x6	21.24x14.00	22.36	16.06	16.06	16.85	16.85	4x77	4x64	4x48	4x38	4x32
20"/20"/8"	20x20x8	21.24x14.00	25.17	16.06	16.06	16.85	16.85	4x77	4x64	4x48	4x38	4x32
20"/24"/8"	20x24x8	21.24x18.00	29.10	16.06	20.08	16.85	20.87	6x77	6x64	6x48	6x38	6x32

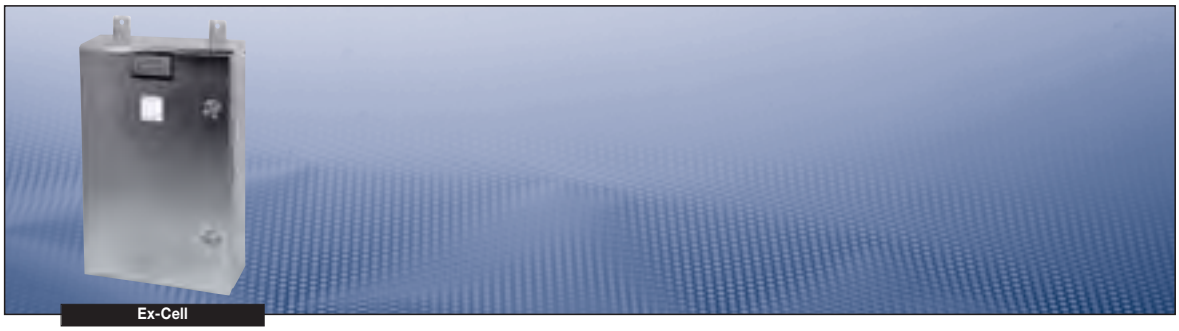
316L SS - ¼ Turn Lock Fastening Size	Available glanding area Top & Bottom	Left	Right (with gland plates fitted) in **inches**	Max. Entry Guide (imperial) Top & Bottom / Left / Right Gland (first row) Hub (second row) ½" NPT	¾" NPT	1" NPT	1¼" NPT	1½" NPT	2" NPT	2½" NPT	Order No.[2]
Gland entry detail											
20"/20"/6"	18.27x3.15	13.27x3.15	13.27x3.15	30/21/21	24/17/17	10/7/7	8/6/6	7/5/5	6/4/4	–	
				22/15/15	10/7/7	8/6/6	7/5/5	6/4/4	–	–	**XLVS12020060**
20"/20"/8"	18.11x4.88	13.15x4.88	13.15x4.88	58/42/42	36/26/26	30/21/21	15/11/11	13/9/9	5/4/4	4/3/3	
				33/23/23	18/13/13	16/11/11	13/9/9	6/4/4	5/3/3	4/3/3	**XLVS12020080**
20"/24"/8"	22.13x4.88	13.15x4.88	13.15x4.88	72/42/42	44/26/26	36/21/21	19/11/11	16/9/9	7/4/4	5/3/3	
				41/23/23	23/13/13	19/11/11	16/9/9	7/4/4	6/3/3	5/3/3	**XLVS12024080**

Options			
with 1 gland plate	XLV **S1** XXYYZZ **1**	**with 3 gland plates**	XLV **S1** XXYYZZ **3**
Ex-Cell 316L SS - Bolt Fastening	XLV **S1** XXYYZZ0-**B**	**Ex-Cell 304 SS - ¼ Turn Lock Fastening**	XLV **S2** XXYYZZ **0**
Ex-Cell 304 SS - Bolt Fastening	XLV **S2** XXYYZZ0-**B**	**Ex-Cell Painted - ¼ Turn Lock Fastening**	XLV **PS** XXYYZZ **0**
Ex-Cell Painted - Bolt Fastening	XLV **PS** XXYYZZ0-**B**	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	XLV **PS** XXYYZZ0-**HASP**

Type	Order No.
Example	
20/20/8 with 1 gland plates, 316L SS with bolt fastening	**XLVS12020081-B**

Notes: [1] Dimensions drawing see page 7.49

[2] Refer to „OPTIONS" for full order number detail



Ordering details Ex-Cell IMPERIAL up to 4 x 97 terminals

316L SS- 1/4 Turn Lock Fastening Size	Dimensions[1] H x W x D in inches	Fixing Centres[1] vertical x horizontal	Weight in lbs (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	horiz.	Rail length vert.	horiz.	Terminal content Row orientation vertical 2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²
Enclosure dimensions and terminal content												
24"/16"/6"	24x16x6	25.24x10.00	21.80	20.08	12.05	20.87	12.83	3x97	3x81	3x61	3x49	3x40
24"/16"/8"	24x16x8	25.24x10.00	24.61	20.08	12.05	20.87	12.83	3x97	3x81	3x61	3x49	3x40
24"/20"/6"	24x20x6	25.24x14.00	26.01	20.08	16.06	20.87	16.85	4x97	4x81	4x61	4x49	4x40
24"/20"/8"	24x20x8	25.24x14.00	29.01	20.08	16.06	20.87	16.85	4x97	4x81	4x61	4x49	4x40

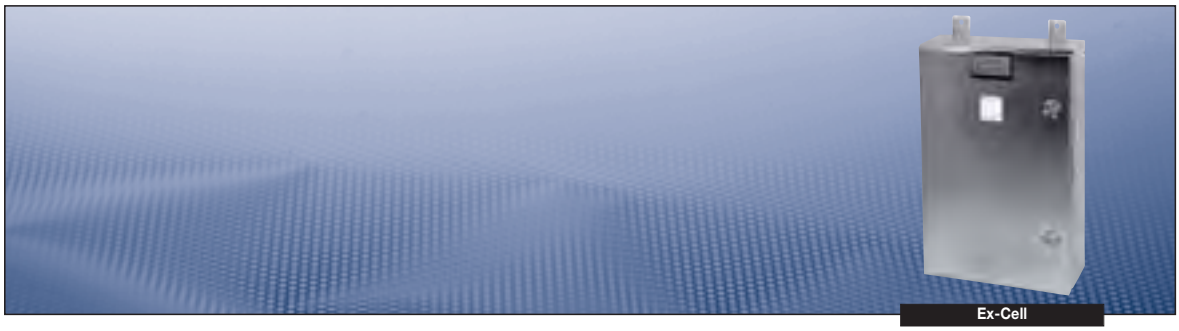
316L SS - 1/4 Turn Lock Fastening Size	Available glanding area Top & Bottom (with gland plates fitted) in **inches**			Max. Entry Guide (imperial) Top & Bottom / Left / Right Gland (first row) Hub (second row) ½" NPT	¾" NPT	1" NPT	1¼" NPT	1½" NPT	2" NPT	2½" NPT	Order No.[2]
Gland entry detail											
24"/16"/6"	13.27x3.15	18.27x3.15	18.27x3.15	21/30/30	17/24/24	7/10/10	6/8/8	5/7/7	4/6/6	–	
				15/22/22	7/10/10	6/8/8	5/7/7	4/6/6	–	–	**XLVS12416060**
24"/16"/8"	13.15x4.88	18.11x4.88	18.11x4.88	42/58/58	26/36/36	21/30/30	11/15/15	9/13/13	4/5/5	3/4/4	
				23/33/33	13/18/18	11/16/16	9/13/13	4/6/6	3/5/5	3/4/4	**XLVS12416080**
24"/20"/6"	18.27x3.15	18.27x3.15	18.27x3.15	30/30/30	24/24/24	10/10/10	8/8/8	7/7/7	6/6/6	–	
				22/22/22	10/10/10	8/8/8	7/7/7	6/6/6	–	–	**XLVS12420060**
24"/20"/8"	18.11x4.88	18.11x4.88	18.11x4.88	58/58/58	36/36/36	30/30/30	15/15/15	13/13/13	5/5/5	4/4/4	
				33/33/33	18/18/18	16/16/16	13/13/13	6/6/6	5/5/5	4/4/4	**XLVS12420080**

Options			
with 1 gland plate	XLV **S1** XXYYZZ **1**	**with 3 gland plates**	XLV **S1** XXYYZZ **3**
Ex-Cell 316L SS - Bolt Fastening	XLV **S1** XXYYZZ0-**B**	**Ex-Cell 304 SS - 1/4 Turn Lock Fastening**	XLV **S2** XXYYZZ **0**
Ex-Cell 304 SS - Bolt Fastening	XLV **S2** XXYYZZ0-**B**	**Ex-Cell Painted - 1/4 Turn Lock Fastening**	XLV **PS** XXYYZZ **0**
Ex-Cell Painted - Bolt Fastening	XLV **PS** XXYYZZ0-**B**	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	XLV **PS** XXYYZZ0-**HASP**

Type	Order No.
Example	
24/16/6 with 1 gland plates, painted with bolt fastening and permanent padlock HASP facility	**XLVPS2416061-B-HASP**

Notes: [1] Dimensions drawing see page 7.49

[2] Refer to „OPTIONS" for full order number detail



Ordering details Ex-Cell IMPERIAL up to 7 x 97 terminals

316L SS- ¼ Turn Lock Fastening Size	Dimensions[1] H x W x D in inches	Fixing Centres[1] vertical x horizontal	Weight in lbs (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	horiz.	Rail length vert.	horiz.	Terminal content Row orientation vertical 2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²
Enclosure dimensions and terminal content												
24"/24"/6"	24x24x6	25.24x18.00	30.22	20.08	20.08	20.87	20.87	6x97	6x81	6x61	6x49	6x40
24"/24"/8"	24x24x8	25.24x18.00	33.60	20.08	20.08	20.87	20.87	6x97	6x81	6x61	6x49	6x40
24"/30"/8"	24x30x8	25.24x24.00	40.30	20.08	26.06	20.87	26.85	7x97	7x81	7x61	7x49	7x40

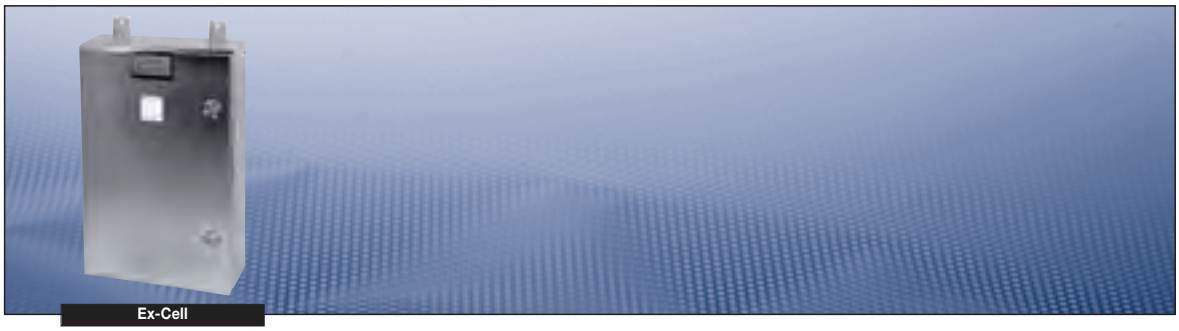
316L SS - ¼ Turn Lock Fastening Size	Available glanding area Top & Bottom	Left	Right (with gland plates fitted) in **inches**	Max. Entry Guide (imperial) Top & Bottom / Left / Right Gland (first row) Hub (second row) ½" NPT	¾" NPT	1" NPT	1¼" NPT	1½" NPT	2" NPT	2½" NPT	Order No.[2]
Gland entry detail											
24"/24"/6"	22.13x3.15	18.27x3.15	18.27x3.15	36/30/30	29/24/24	12/10/10	10/8/8	8/7/7	7/6/6	–	
				27/22/22	12/10/10	10/8/8	8/7/7	7/6/6	–	–	**XLVS12424060**
24"/24"/8"	22.13x4.88	18.11x4.88	18.11x4.88	72/58/58	44/36/36	36/30/30	19/15/15	16/13/13	7/5/5	5/4/4	
				41/33/33	23/18/18	19/16/16	16/13/13	7/6/6	6/5/5	5/4/4	**XLVS12424080**
24"/30"/8"	28.11x4.88	18.11x4.88	18.11x4.88	94/58/58	57/36/36	47/30/30	24/15/15	20/13/13	9/5/5	7/4/4	
				51/33/33	30/18/18	25/16/16	21/13/13	9/6/6	8/5/5	7/4/4	**XLVS12430080**

Options			
with 1 gland plate	XLV **S1** XXYYZZ **1**	**with 3 gland plates**	XLV **S1** XXYYZZ **3**
Ex-Cell 316L SS - Bolt Fastening	XLV **S1** XXYYZZ0-**B**	**Ex-Cell 304 SS - ¼ Turn Lock Fastening**	XLV **S2** XXYYZZ **0**
Ex-Cell 304 SS - Bolt Fastening	XLV **S2** XXYYZZ0-**B**	**Ex-Cell Painted - ¼ Turn Lock Fastening**	XLV **PS** XXYYZZ **0**
Ex-Cell Painted - Bolt Fastening	XLV **PS** XXYYZZ0-**B**	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	XLV **PS** XXYYZZ0-**HASP**

Type	Order No.
Example	
24/22/8 with 3 gland plates, 316L SS with bolt fastening	**XLVS12422083-B**

Notes: [1] Dimensions drawing see page 7.49

[2] Refer to „OPTIONS" for full order number detail


Ex-Cell

Ordering details Ex-Cell IMPERIAL up to 7 x 128 terminals

316L SS- 1/4 Turn Lock Fastening Size	Dimensions[1] H x W x D in inches	Fixing Centres[1] vertical x horizontal	Weight in lbs (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	horiz.	Rail length vert.	horiz.	Terminal content Row orientation vertical 2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²
Enclosure dimensions and terminal content												
30"/20"/8"	30x20x8	31.24x14.00	34.96	26.06	16.06	26.85	16.85	4x128	4x106	4x80	4x64	4x53
30"/24"/8"	30x24x8	31.24x18.00	40.30	26.06	20.08	26.85	20.87	6x128	6x106	6x80	6x64	6x53
30"/30"/8"	30x30x8	31.24x24.00	48.25	26.06	26.06	26.85	26.85	7x128	7x106	7x80	7x64	7x53

316L SS - 1/4 Turn Lock Fastening Size	Available glanding area Top & Bottom (with gland plates fitted) in **inches**			Max. Entry Guide (imperial) Top & Bottom / Left / Right Gland (first row) Hub (second row) 1/2" NPT	3/4" NPT	1" NPT	1 1/4" NPT	1 1/2" NPT	2" NPT	2 1/2" NPT	Order No.[2]
Gland entry detail											
30"/20"/8"	18.11x4.88	22.13x4.88	22.13x4.88	58/72/72	36/44/44	30/36/36	15/19/19	13/16/16	5/7/7	4/5/5	
				33/41/41	18/23/23	16/19/19	13/16/16	6/7/7	5/6/6	4/5/5	**XLVS13020080**
30"/24"/8"	22.13x4.88	22.13x4.88	22.13x4.88	72/72/72	44/44/44	36/36/36	19/19/19	16/16/16	7/7/7	5/5/5	
				41/41/41	23/23/23	19/19/19	16/16/16	7/7/7	6/6/6	5/5/5	**XLVS13024080**
30"/30"/8"	28.11x4.88	22.13x4.88	22.13x4.88	94/72/72	57/44/44	47/36/36	24/19/19	20/16/16	9/7/7	7/5/5	
				51/41/41	30/23/23	25/19/19	21/16/16	9/7/7	8/6/6	7/5/5	**XLVS13030080**

Options			
with 1 gland plate	XLV **S1** XXYYZZ **1**	**with 3 gland plates**	XLV **S1** XXYYZZ **3**
Ex-Cell 316L SS - Bolt Fastening	XLV **S1** XXYYZZ0-**B**	**Ex-Cell 304 SS - 1/4 Turn Lock Fastening**	XLV **S2** XXYYZZ **0**
Ex-Cell 304 SS - Bolt Fastening	XLV **S2** XXYYZZ0-**B**	**Ex-Cell Painted - 1/4 Turn Lock Fastening**	XLV **PS** XXYYZZ **0**
Ex-Cell Painted - Bolt Fastening	XLV **PS** XXYYZZ0-**B**	**Permanent Padlock Hasp Facility (Factory Fitted ONLY)**	XLV **PS** XXYYZZ0-**HASP**

Type	Order No.
Example	
30/30/8 with 1 gland plates, 304 SS with bolt fastening and permanent padlock HASP facility	**XLVS23030081-B-HASP**

Notes: [1] Dimensions drawing see page 7.49

[2] Refer to „OPTIONS" for full order number detail

EX-TERMINAL ENCLOSURES

Stainless Steel Version for Zone 1 and Zone 21

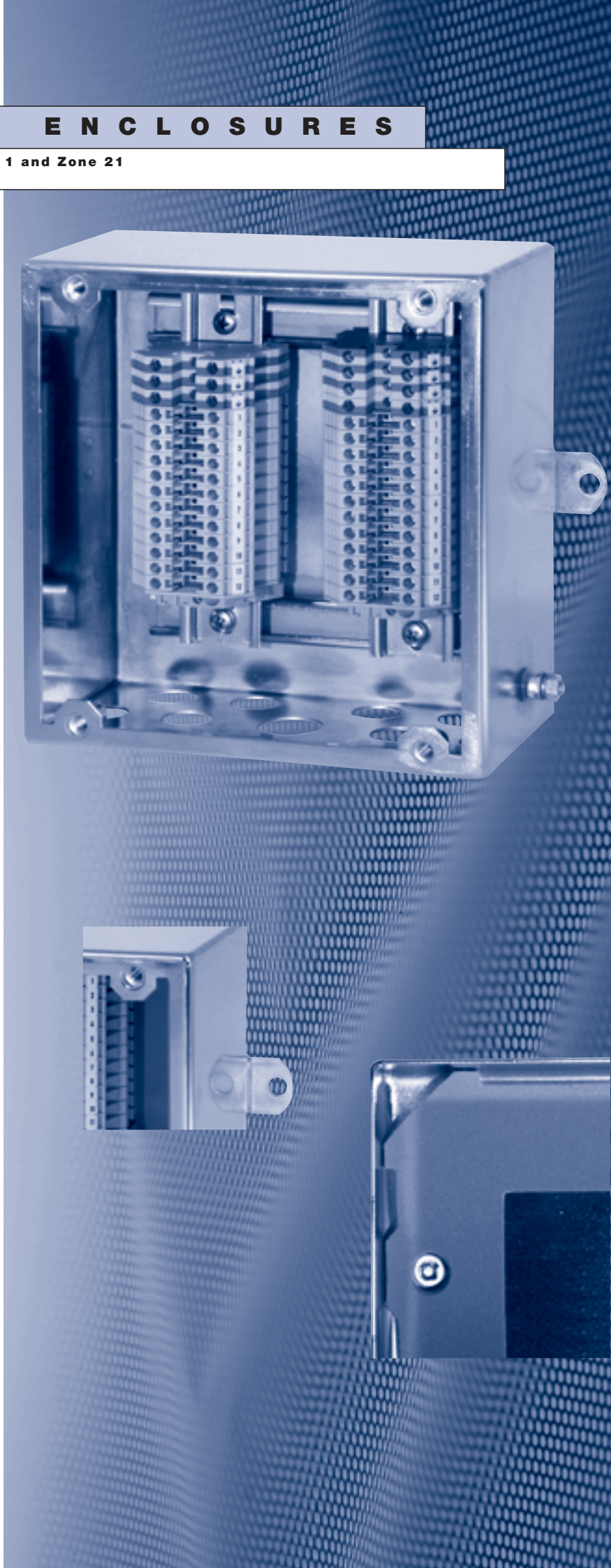
STB

The **STB** range is an **"ATEX certified"** terminal box solution available in various options of materials and finishes fully compliant with the impact, thermal and ingress requirements of EN 60079-0 ff. and EN 6124-0 ff. and is available in a comprehensive range of 12 different sizes. With for the possibilities many configuration for a multitude of applications. Using the highest quality materials, unique design benefits and precision manufacturing the **STB** range is the benchmark in heavy-duty gauge enclosures of its class.

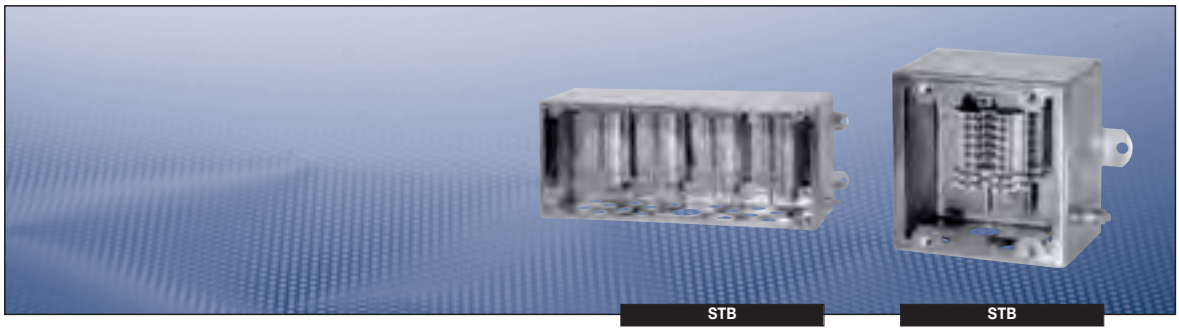
STB has unique wrap-round lid cover design that wraps around the body of the enclosures eliminate ingress of either liquids such as green-water or powder, such as sand. This design provides a significant advantage as the gasket sealing area is not exposed to the external environment, preventing contamination from ice formations and abrasion of sand storms. The lid cover is secured and sealed to IP66 by the retained stainless steel bolts around the outside of the enclosure, whilst being supported a floppy hinge that allow the lid cover to be removed.

The superior quality „one piece" Chloroprene closed cell gasket material that maintains the enclosures high ingress protection integrity providing IP66. This material has a wide operating temperature range for the most hostile environments.

The body of the **STB** enclosure has a superior wide surface area gasket sealing area 10 mm wide compared to conventional enclosures that use a knife-edge seal, that is only the thickness of the material, typically only 1.5 mm.



- **316L Stainless Steel (1.4404 to EN 10088) Superior "corrosion resistant" electro chemically polished.**
- **Sheet Steel - Polyester powder coated to RAL 7032.**
- **High integrity "one piece" solid Chloroprene rubber or High integrity "one piece" closed cell chloroprene sponge.**
- **Optional Silicone gasket available on all sizes.**
- **Safety standard IP66**
- **Extended ambient temperatures –65 °C to +55 °C as option.**
- **Certification GOST-R, AEx, cULus and Germanischer Lloyd on request**



Technical data

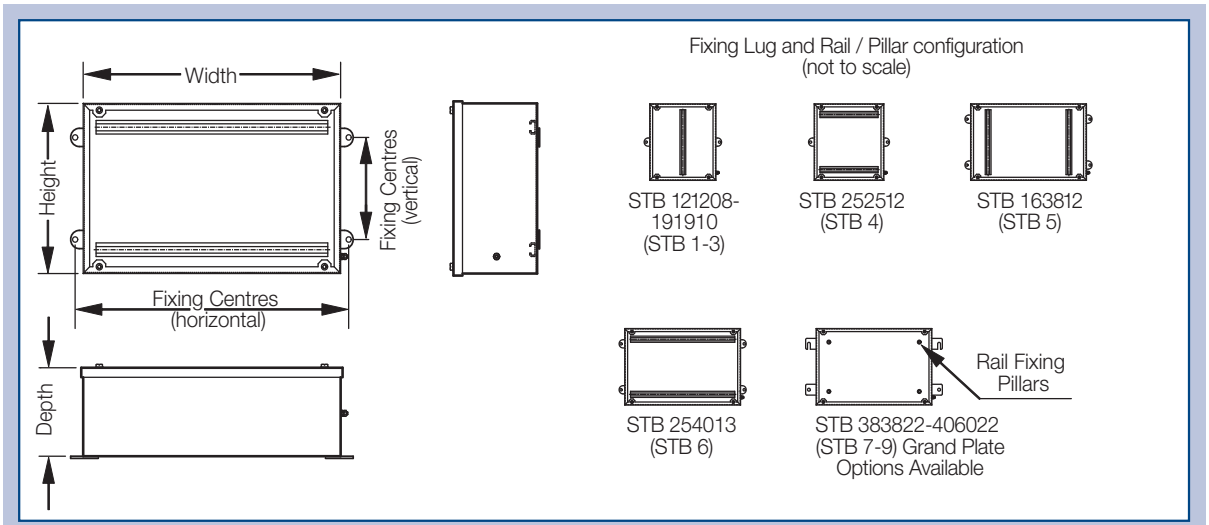
Type STB Terminal Enclosure METRIC and IMPERIAL	
Marking to 94/9/EC	Ex II 2 G Ex e ia IIC T6/T5
	Ex II 1 G Ex ia IIC T6, T5
	Ex II 2 D Ex tD A21 IP66 T95 °C
Temperature class	T6 up to +40 °C / T5 up to +55 °C
EC-Type Examination Certificate	PTB 04 ATEX 1015
Permissible ambient temperature	–30 °C to +40 °C
	–65 °C to +55 °C (option: Silicone gasket)
Rated voltage	up to 690 V*
Rated current	up to 500 A*
Connecting terminals	up to 240 mm²*
Insulation class	I
Degree of protection accd. EN 60529	IP66
Cable glands/Gland plates/Enclosure drilling	up to 4 side optional gland plate combination with entries to meet requirements
	(38/38/20 - 60/40/20) combination with entries to meet requirements
Type of mounting	STB 12/12/08 - 25/25/12 2 welded lugs with Ø 8 mm holes
	STB 16/38/12 - 25/40/13 4 welded lugs with Ø 8 mm holes
	STB 38/38/22 - 60/40/20 4 welded lugs with Ø 11 mm holes
Enclosure material	stainless steel 316 L or sheet steel polyester powder coated (RAL 7032)
Material thickness	1.5 mm
Equipment mountings	12/12/08 - 25/40/13 internely welded TAS 20 rail terminals mounting
	38/38/20 - 60/40/20 4 x stand off pillars Ø 9 mm, 25 mm height,
	tapped M6 x 10, for rail or mounting plate
Enclosure earth	12/12/08 - 25/40/13 M6 external/internal earth stud assembly
	38/38/20 - 60/40/20 M10 external/internal earth stud assembly
Gasket material	Neoprene, Silicone gasket (option)

* depending on type of terminal and Ex-components used

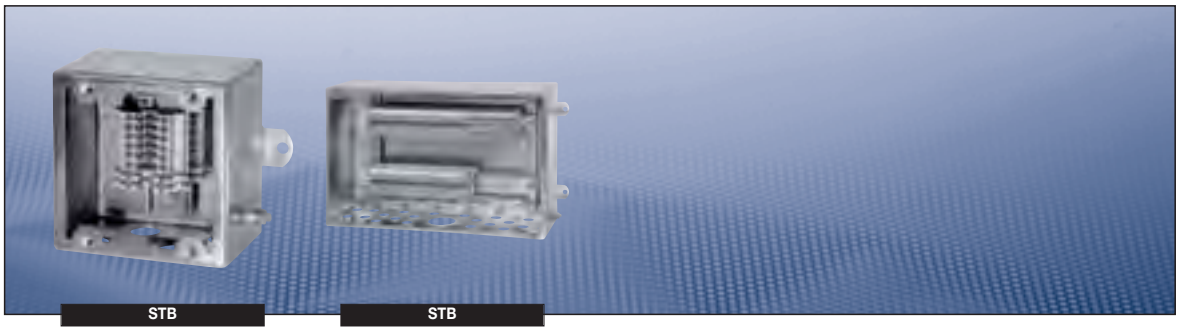
Additional certifications:

GOST-R, cULus types 3S, 4, 4 x and Germanischer Lloyd approved on request.

Dimension drawing



Dimensions in mm



Ordering details STB METRIC up to 3 x 51 terminals

STB	Dimensions[1] H x W x D in mm	Fixing Centres[1] vertical x horizontal	Weight in kg (empty enclosure)	Terminal mounting rail Rail fixing centres vert.	horiz.	Rail length vert.	horiz.	Terminal content Row orientation vertical 2.5 (6)	4 (6.5)	6 (8)	10 (10)
Size											
Enclosure dimensions and terminal content											
12/12/08[2]	120x120x 80	145x145	1.4	62		82		1x 8	1x 6	1x 5	1x 4
15/12/08[2]	150x120x 80	175x175	1.6	90		110		1x13	1x11	1x 8	1x 7
15/15/09[2]	150x150x 90	175x175	1.9	90		110		1x13	1x11	1x 8	1x 7
19/15/09[2]	190x150x 90	175x175	2.3	130		150		1x21	1x18	1x13	1x10
19/19/10[2]	190x190x100	215x215	3.0	130		150		1x21	1x18	1x13	1x10
25/25/12[2]	250x250x120	275x275	3.7	180		200		2x31	2x26	2x19	2x15
16/38/12[2]	160x380x120	80x405	3.7	300		320		1x55	1x46	1x34	1x28
25/40/13[2]	250x400x130	150x425	5.4	180		200		3x31	3x26	3x19	3x15

STB	Available glanding area Top & Bottom	Left	Right	Max. Entry Guide (metric) Top & Bottom / Left / Right M16	M20	M25	M32	M40	M50	M63	Order No.[4]
Size	(with gland plates fitted) in **mm**										
Gland entry detail											
12/12/08[2]	114x 63	114x 63	70x 63	7/7/4	3/3/1	2/2/1	2/2/1	–	–	–	**STBS1121208**
15/12/08[2]	114x 63	114x 63	100x 63	7/9/6	3/3/2	2/3/2	2/2/1	–	–	–	**STBS1151208**
15/15/09[2]	144x 73	144x 73	100x 73	9/9/6	6/6/4	3/3/2	2/2/1	2/2/1	–	–	**STBS1151509**
19/15/09[2]	144x 73	184x 73	130x 73	9/12/8	6/8/6	3/4/2	2/3/2	2/2/1	–	–	**STBS1191509**
19/19/10[2]	184x 83	184x 83	140x 83	18/18/14	8/8/6	7/7/5	3/3/2	2/2/2	2/2/1	–	**STBS1191910**
25/25/12[2]	244x103	244x103	200x103	32/32/26	18/18/14	10/10/8	7/7/6	3/3/3	3/3/2	2/2/2	**STBS1252512**
16/38/12[2]	372x103	154x103	330x103	50/20/44	29/11/24	15/6/14	12/4/10	5/2/5	4/1/4	3/1/3	**STBS1163812**
25/40/13[2]	394x113	244x113	350x113	54/32/48	30/18/26	16/10/14	13/7/11	6/3/5	5/3/4	4/2/3	**STBS1254013**

Options			
STB Painted	STB **PS** 1XXYYZZ	**STB with additional UL CERT**[2]	STB **S** 1XXYYZZ **UL**
STB with gland 1 plate[3]	STB **S** 1XXYYZZ **1**	**STB with gland 3 plate**[3]	STB **S** 1XXYYZZ **3**

Type	Order No.
Example	
15/15/09 painted with 3 gland plates and UL-certification	**STBPS1151509-UL**

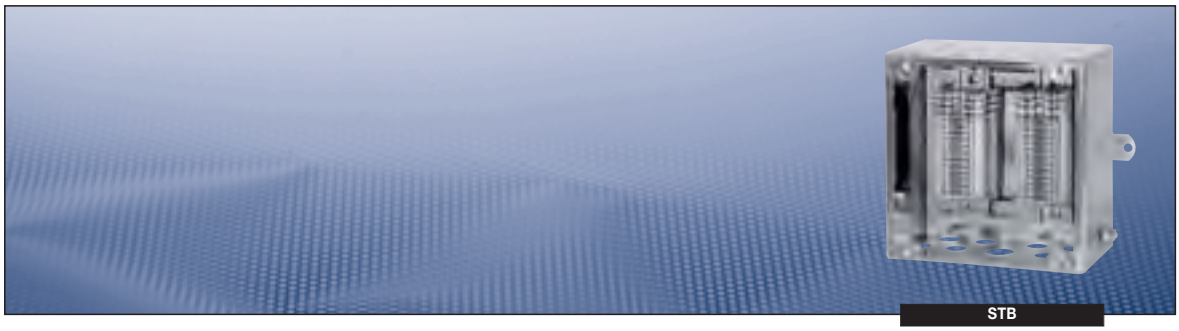
The information provided is based on the physical constraints of the enclosure. Please refer to the certificate for hazardous area applications.

Notes: [1] Dimensions drawing see page 7.63

[2] this types can be ordered with additional UL-Certification

[3] only this types includes UL-Certification and can be ordered with 1 or 3 gland plates

[4] Refer to „OPTIONS“ for full order number detail



Ordering details STB METRIC up to 5 x 79 terminals

STB	Dimensions[1] H x W x D in mm	Fixing Centres[1] vertical x	Weight in kg (empty	Terminal mounting rail Rail fixing centres		Rail length		Terminal content Row orientation vertical			
Size		horizontal	enclosure)	vert.	horiz.	vert.	horiz.	2.5 (6)	4 (6.5)	6 (8)	10 (10)
Enclosure dimensions and terminal content											
38/38/22[2]	380x380x220	250x435	8.5	280		300		3x42	3x39	3x32	3x25
40/60/22[2]	400x600x220	264x656	13.0	300		320		3x46	3x42	3x34	3x27
60/40/22[2]	600x400x220	464x456	13.0	500		520		5x79	5x73	5x59	5x47

STB	Available glanding area Top & Bottom	Left	Right	Max. Entry Guide (metric) Top & Bottom / Left / Right							Order No.
Size	(with gland plates fitted) in **mm**			M16	M20	M25	M32	M40	M50	M63	
Gland entry detail											
38/38/22[2]	374x203	374x203	324x203	100/100/88	57/57/48	40/40/33	24/24/20	15/15/12	8/8/7	6/6/5	**STBS13838220**
40/60/22[2]	594x203	394x203	344x203	164/108/92	93/60/51	65/40/35	40/26/22	26/17/14	14/9/7	11/7/6	**STBS14060220**
60/40/22[2]	337x124	337x124	337x124	108/164/152	60/93/84	40/65/60	26/40/38	17/26/23	9/14/13	7/11/10	**STBS16040220**

Options			
STB Painted	STB **PS** 1XXYYZZ	**STB with gland 1 plate**[2]	STB **_S** 1XXYYZZ **1**
STB with gland 3 plate[3]	STB **_S** 1XXYYZZ **3**		

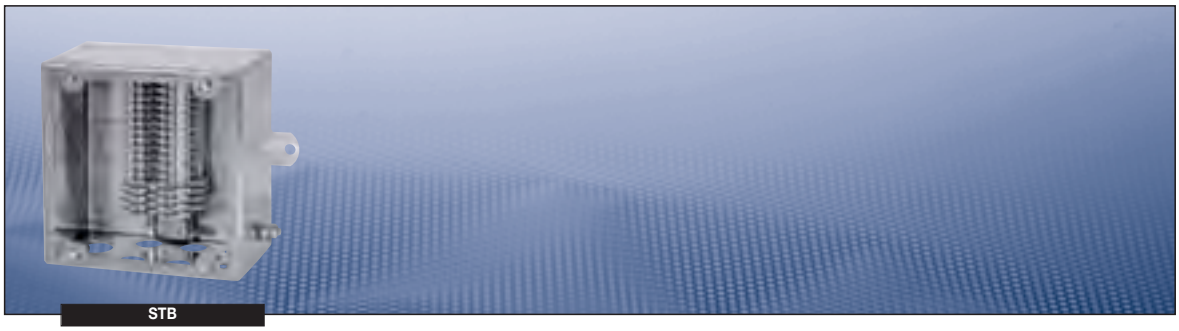
Type	Order No.
Example	
38/38/22 316L SS with 3 gland plates incl. UL-certification	**STBS13838223**

The information provided is based on the physical constraints of the enclosure. Please refer to the certificate for hazardous area applications.

Notes: [1] Dimensions drawing see page 7.63

[2] only this types includes UL-Certification and can be ordered with 1 or 3 gland plates

[3] Refer to „OPTIONS“ for full order number detail



Ordering details STB IMPERIAL up to 21 terminals

STB	Dimensions[1] H x W x D in inches	Fixing Centres[1] vertical x	Weight in lbs (empty	Terminal mounting rail Rail fixing centres		Rail length		Terminal content Row orientation vertical			
Size		horizontal	enclosure)	vert.	horiz.	vert.	horiz.	2.5 (6)	4 (6.5)	6 (8)	10 (10)
Enclosure dimensions and terminal content											
12/12/08[2]	4.72x4.72x3.15	5.71x5.71	3.08	2.44		3.23		1x 8	1x 6	1x 5	1x 4
15/12/08[2]	5.91x4.72x3.15	6.89x6.89	3.52	3.54		4.33		1x13	1x11	1x 8	1x 7
15/15/09[2]	5.91x5.91x3.54	6.89x6.89	4.18	3.54		4.33		1x13	1x11	1x 8	1x 7
19/15/09[2]	7.48x5.91x3.54	6.89x6.89	5.06	5.12		5.91		1x21	1x18	1x13	1x10

STB	Available glanding area Top & Bottom	Left	Right	Max. Entry Guide (imperial) Top & Bottom / Left / Right Gland (first row) Hub (second row)							Order No.
Size	(with gland plates fitted) in **inches**			½" NPT	¾" NPT	1" NPT	1¼" NPT	1½" NPT	2" NPT	2½" NPT	
Gland entry detail											
12/12/08[2]	4.49x2.48	4.49x2.48	2.76x2.48	6/6/3	3/3/1	2/2/1	2/2/1	–	–	–	
				2/2/1	2/2/1	2/2/1	–	–	–	–	**STBS1121208**
15/12/08[2]	4.49x2.48	5.67x2.48	3.94x2.48	6/8/5	3/3/2	2/3/2	2/2/1	–	–	–	
				2/3/2	2/3/2	2/2/1	–	–	–	–	**STBS1151208**
15/15/09[2]	5.67x2.87	5.67x2.87	3.94x2.87	8/8/5	6/6/4	3/3/2	2/2/1	2/2/1	–	–	
				3/3/2	3/3/2	2/2/1	2/2/1	–	–	–	**STBS1151509**
19/15/09[2]	5.67x2.87	7.24x2.87	5.12x2.87	8/11/7	6/9/6	3/4/2	2/3/2	2/2/1	–	–	
				3/4/3	3/3/2	2/3/2	2/2/2	–	–	–	**STBS1191509**

Options			
STB Painted	STB **PS** 1XXYYZZ	**STB with additional UL CERT**[2]	STB **S** 1XXYYZZ **UL**
STB with gland 1 plate[3]	STB **S** 1XXYYZZ **1**	**STB with gland 3 plate**[3]	STB **S** 1XXYYZZ **3**

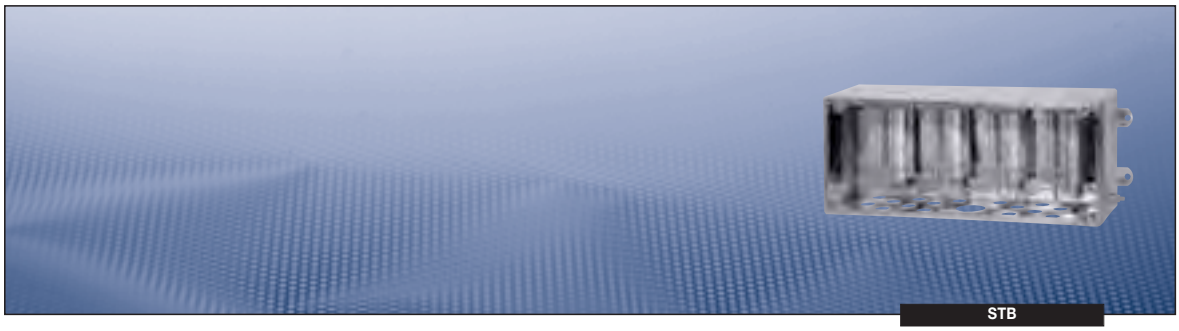
Type	Order No.
Example	
15/15/09 painted with 3 gland plates and UL-certification	**STBPS151509UL**

The information provided is based on the physical constraints of the enclosure. Please refer to the certificate for hazardous area applications.

Notes: [1] Dimensions drawing see page 7.63

[2] only this types includes UL-Certification and can be ordered with 1 or 3 gland plates

[3] Refer to „OPTIONS" for full order number detail



Ordering details STB IMPERIAL up to 3 x 31 terminals

STB	Dimensions[1] H x W x D in inches	Fixing Centres[1] vertical x	Weight in lbs (empty	Terminal mounting rail Rail fixing centres		Rail length		Terminal content Row orientation vertical			
Size		horizontal	enclosure)	vert.	horiz.	vert.	horiz.	2.5 (6)	4 (6.5)	6 (8)	10 (10)
Enclosure dimensions and terminal content											
19/19/10[3]	7.48x 7.48x3.94	8.46x8.46	6.60	5.12		5.91		1x21	1x18	1x13	1x10
25/25/12[3]	9.48x 9.84x4.72	10.83x10.83	8.14	7.09		7.87		2x31	2x26	2x19	2x15
16/38/12[3]	6.30x14.96x4.72	3.15x15.94	8.14	11.81		12.60		1x55	1x46	1x34	1x28
25/40/13[3]	9.84x15.75x5.12	5.91x16.73	11.88	7.09		7.87		3x31	3x26	3x19	3x15

STB	Available glanding area Top & Bottom	Left	Right	Max. Entry Guide (imperial) Top & Bottom / Left / Right Gland (first row) Hub (second row)							Order No.
Size	(with gland plates fitted) in **inches**			½" NPT	¾" NPT	1" NPT	1¼" NPT	1½" NPT	2" NPT	2½" NPT	
Gland entry detail											
19/19/10[2]	7.24x3.27	7.24x3.27	7.24x3.27	17/17/12	9/9/6	7/7/5	3/3/2	2/2/2	2/2/1	–	
				8/8/6	3/3/3	3/3/2	2/2/2	2/2/1	–	–	**STBS1191910**
25/25/12[2]	9.61x4.06	9.61x4.06	7.87x4.06	23/23/18	18/18/14	10/10/8	7/7/6	3/3/3	3/3/2	2/2/2	
				11/11/9	9/9/7	8/8/6	3/3/3	3/3/2	2/2/2	2/2/2	**STBS1252512**
16/38/12[2]	14.65x4.06	6.06x4.06	12.99x4.06	36/14/29	29/11/23	16/6/12	12/4/9	5/2/4	4/1/3	3/1/3	
				17/6/15	15/5/13	12/4/11	5/2/5	5/2/4	4/1/3	3/1/3	**STBS1163812**
25/40/13[2]	15.51x4.45	9.61x4.45	13.78x4.45	50/30/44	30/18/27	17/10/15	13/7/11	6/3/5	5/3/4	4/2/3	
				27/17/24	16/9/14	13/8/11	6/3/5	5/3/4	4/2/4	4/2/3	**STBS1254013**

Options			
STB Painted	STB **PS** 1XXYYZZ	**STB with additional UL CERT[2]**	STB **_S** 1XXYYZZ **UL**
STB with gland 1 plate[3]	STB **_S** 1XXYYZZ **1**	**STB with gland 3 plate[3]**	STB **_S** 1XXYYZZ **3**

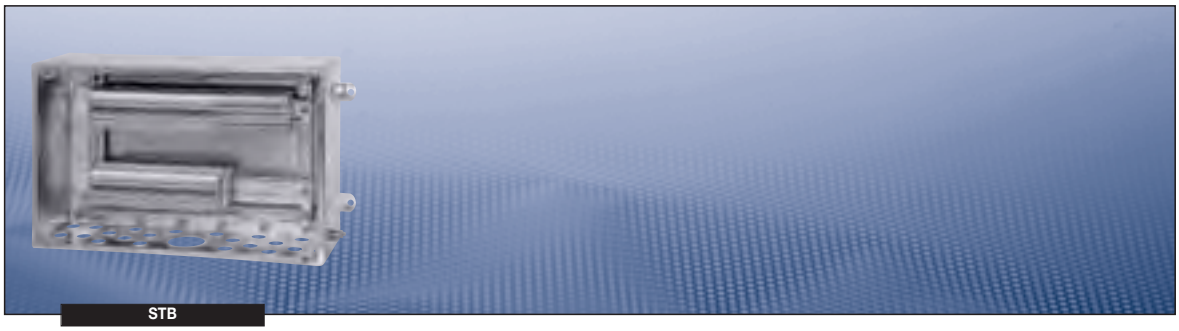
Type	Order No.
Example	
16/38/12 316L SS with 1 gland plate with UL-certification	**STBS11638121UL**

The information provided is based on the physical constraints of the enclosure. Please refer to the certificate for hazardous area applications.

Notes: [1] Dimensions drawing see page 7.63

[2] only this types includes UL-Certification and can be ordered with 1 or 3 gland plates

[3] Refer to „OPTIONS" for full order number detail



Ordering details STB IMPERIAL up to 5 x 79 terminals

STB	Dimensions[1] H x W x D in inches	Fixing Centres[1] vertical x	Weight in lbs (empty	Terminal mounting rail Rail fixing centres		Rail length		Terminal content Row orientation vertical			
Size		horizontal	enclosure)	vert.	horiz.	vert.	horiz.	2.5 (6)	4 (6.5)	6 (8)	10 (10)
Enclosure dimensions and terminal content											
38/38/22[2]	14.96x14.96x8.66	9.84x17.13	18.70	11.02		11.81		3x42	3x39	3x32	3x25
40/60/22[2]	15.75x23.62x8.66	10.39x25.83	28.60	11.81		12.60		3x46	3x42	3x34	3x27
60/40/22[2]	23.62x15.75x8.66	18.27x17.95	28.60	19.69		20.47		5x79	5x73	5x59	5x47

STB	Available glanding area Top & Bottom	Left	Right	Max. Entry Guide (imperial) Top & Bottom / Left / Right Gland (first row) Hub (second row)							Order No.
Size	(with gland plates fitted) in **inches**			½" NPT	¾" NPT	1" NPT	1¼" NPT	1½" NPT	2" NPT	2½" NPT	
Gland entry detail											
38/38/22[2]	14.72x7.99	14.72x7.99	12.76x7.99	84/84/70	57/57/48	40/40/33	24/24/20	15/15/12	8/8/7	6/6/5	
				43/43/38	30/30/26	24/24/22	15/15/14	14/14/11	7/7/6	6/6/5	**STBS13838220**
40/60/22[2]	23.39x7.99	15.51x7.99	13.54x7.99	137/88/77	93/60/51	65/43/35	40/26/22	26/17/14	14/9/7	11/7/6	
				70/45/40	48/32/26	42/26/22	26/17/14	23/14/12	12/8/7	11/7/5	**STBS14060220**
60/40/22[2]	15.51x7.99	23.39x7.99	21.42x7.99	88/137/123	60/93/84	43/65/58	26/40/36	17/26/23	9/14/13	7/11/10	
				45/70/65	32/48/44	26/42/38	17/26/24	14/23/20	8/12/11	7/11/10	**STBS16040220**

Options			
STB Painted	STB **PS** 1XXYYZZ	**STB with gland 1 plate**[2]	STB **S** 1XXYYZZ **1**
STB with gland 3 plate[3]	STB **S** 1XXYYZZ **3**		

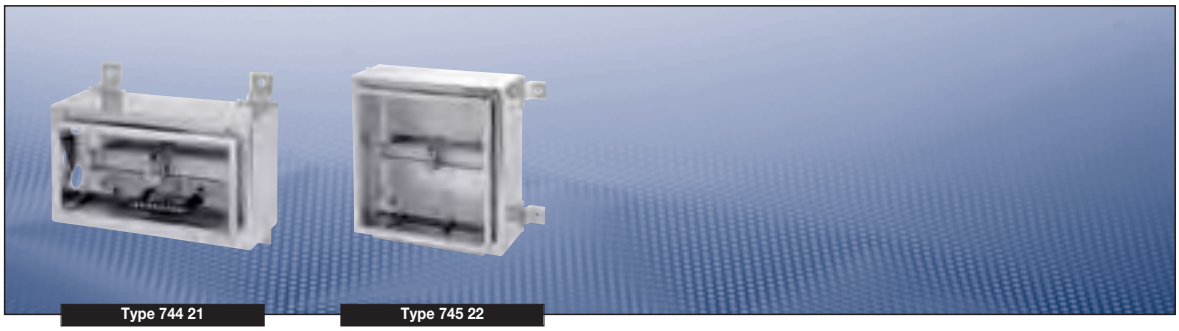
Type	Order No.
Example	
38/38/22 painted with 3 gland plates incl. UL-certification	**STBS3838223**

The information provided is based on the physical constraints of the enclosure. Please refer to the certificate for hazardous area applications.

Notes: [1] Dimensions drawing see page 7.63

[2] only this types includes UL-Certification and can be ordered with 1 or 3 gland plates

[3] Refer to „OPTIONS" for full order number detail



Technical data

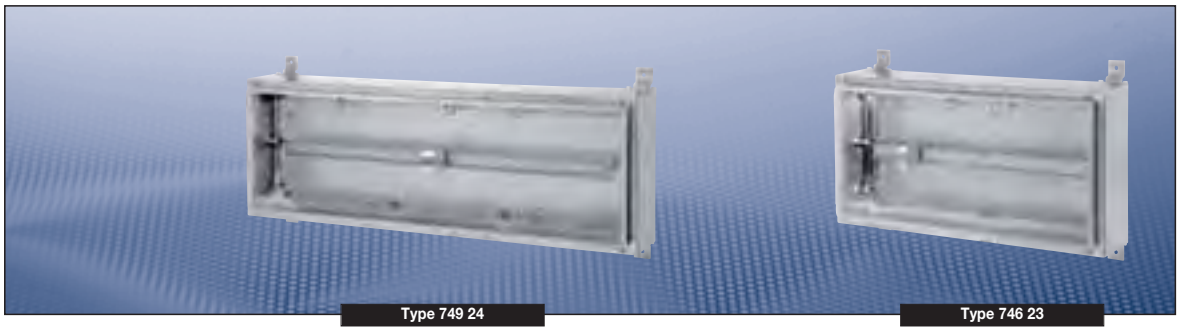
Type 744 21/745 22/746 23/749 24 up to 296 terminal	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib [ia/ib] m IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1044
IECEx certificate of conformity	IECEx BKI 07.0023
Marking accd. to IECEx	Ex de ia/ib m [ia/ib] IIC T4 ... T6
	Ex tD A21 IP66 T80 °C
Rated voltage	up to 690 V
Rated current	depends on terminal mounting
Degree of EN 60529	IP66
Enclosure material	Stainless steel AISI 316 L (1.4404)

Type 744 21 up to 40 terminal							
Terminal cross section	max. 16 mm²						
Weight	approx. 3.5 kg						
Max. number drillings/cable glands	M16	M20	M25	M32	M40	M50	M63
down	37	23	15	9	5	3	2
with flange	29	17	12	7	4	2	–
Terminal mounting space on the terminal rail	1 x 230 mm						
Max. number of terminals acc. to certification	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	25 mm²	35 mm²
	1 x 40	1 x 33	1 x 25	1 x 20	1 x 17	1 x 17	–

Type 745 22 up to 82 terminal							
Terminal cross section	max. 70 mm²						
Weight	approx. 7.5 kg						
Max. number drillings/cable glands	M16	M20	M25	M32	M40	M50	M63
down	37	23	15	9	5	3	2
with flange	29	17	12	7	4	2	–
Terminal mounting space on the terminal rail	2 x 230 mm						
Max. number of terminals acc. to certification	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	25 mm²	35 mm²
	2 x 41	2 x 34	1 x 26	2 x 20	1 x 17	1 x 17	1 x 14

Type 746 23 up to 188 terminal							
Terminal cross section	max. 240 mm²						
Weight	approx. 11.5 kg						
Max. number drillings/cable glands	M16	M20	M25	M32	M40	M50	M63
down	71	46	30	18	10	6	4
with flange	58	34	24	14	8	4	–
Terminal mounting space on the terminal rail	2 x 510 mm						
Max. number of terminals acc. to certification	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	25 mm²	35 mm²
	2 x 94	2 x 78	1 x 59	2 x 47	1 x 40	1 x 40	1 x 32

Type 749 24 up to 296 terminal							
Terminal cross section	max. 240 mm²						
Weight	approx. 16.5 kg						
Max. number drillings/cable glands	M16	M20	M25	M32	M40	M50	M63
down	108	69	45	27	15	9	6
with flange	87	51	36	21	12	6	–
Terminal mounting space on the terminal rail	2 x 795 mm						
Max. number of terminals acc. to certification	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	25 mm²	35 mm²
	2 x 148	2 x 124	1 x 94	2 x 75	1 x 63	1 x 63	1 x 51



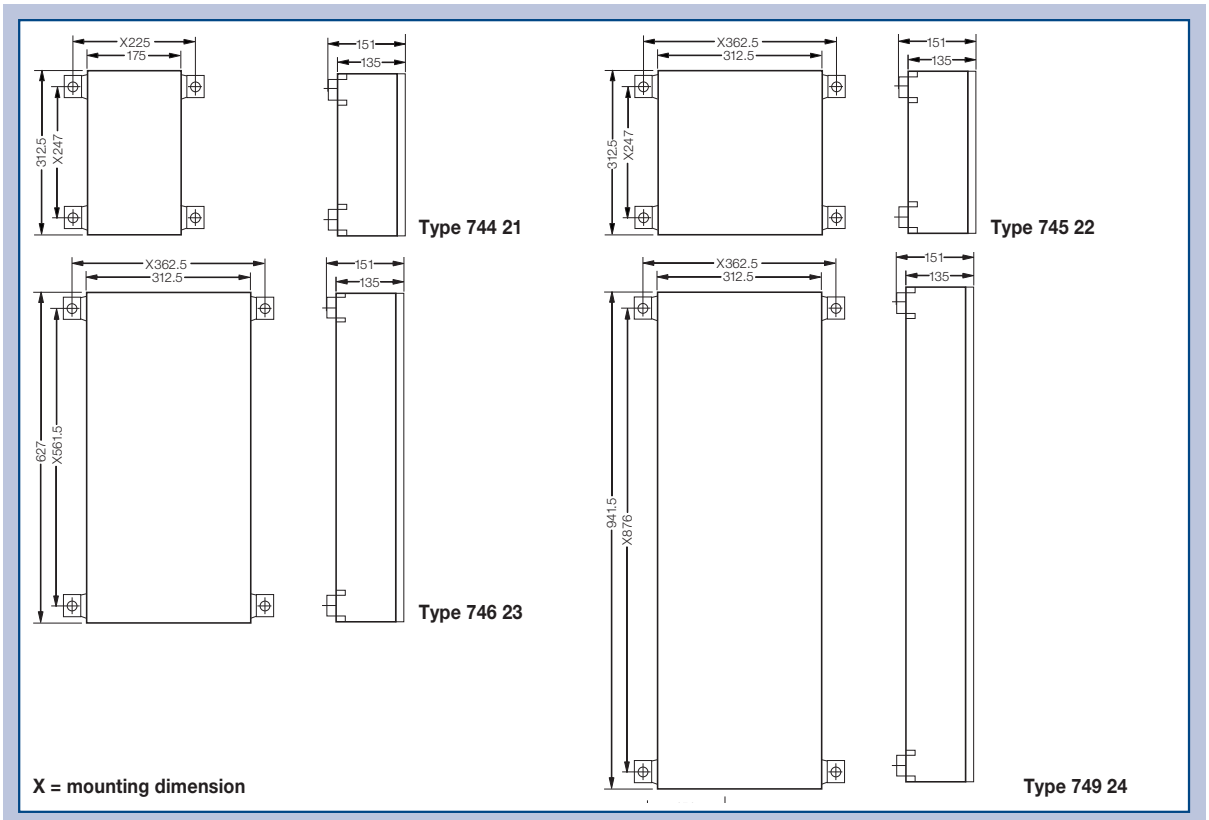
Ordering details

Type	Cable gland	No. of terminals	Order No.
Terminal boxes 744 21 mounted with screw terminals 2 x 2.5 mm² + PE-rail 4 mm²			
Ex-e	1 x Stainless steel down without drilling	1 x Ex-e* 7 x PE	**GHG 744 2101 R0001**
Terminal boxes 745 22 mounted with screw terminals 2 x 2.5 mm² + PE-rail 4 mm²			
Ex-e	1 x Stainless steel down without drilling	1 x Ex-e* 14 x PE	**GHG 745 2201 R0001**
Terminal boxes 745 22 mounted with screw terminals 2 x 2.5 mm² + PE-rail 4 mm²			
Ex-e	2 x Stainless steel down without drilling	1 x Ex-e* 2 x 14 x PE	**GHG 746 2301 R0001**
Terminal boxes 749 24 mounted with screw terminals 2 x 2.5 mm² + PE-rail 4 mm²			
Ex-e	3 x Stainless steel down without drilling	1 x Ex-e* 3 x 14 x PE	**GHG 749 2401 R0001**

* acc. to type examination certificate individual extensible

Other versions available on request.

Dimension drawing



Dimensions in mm

EX-INTERMEDIATE MOTOR TERMINAL BOXES

up to 240 mm²
Plastic version for Zone 1 and Zone 21

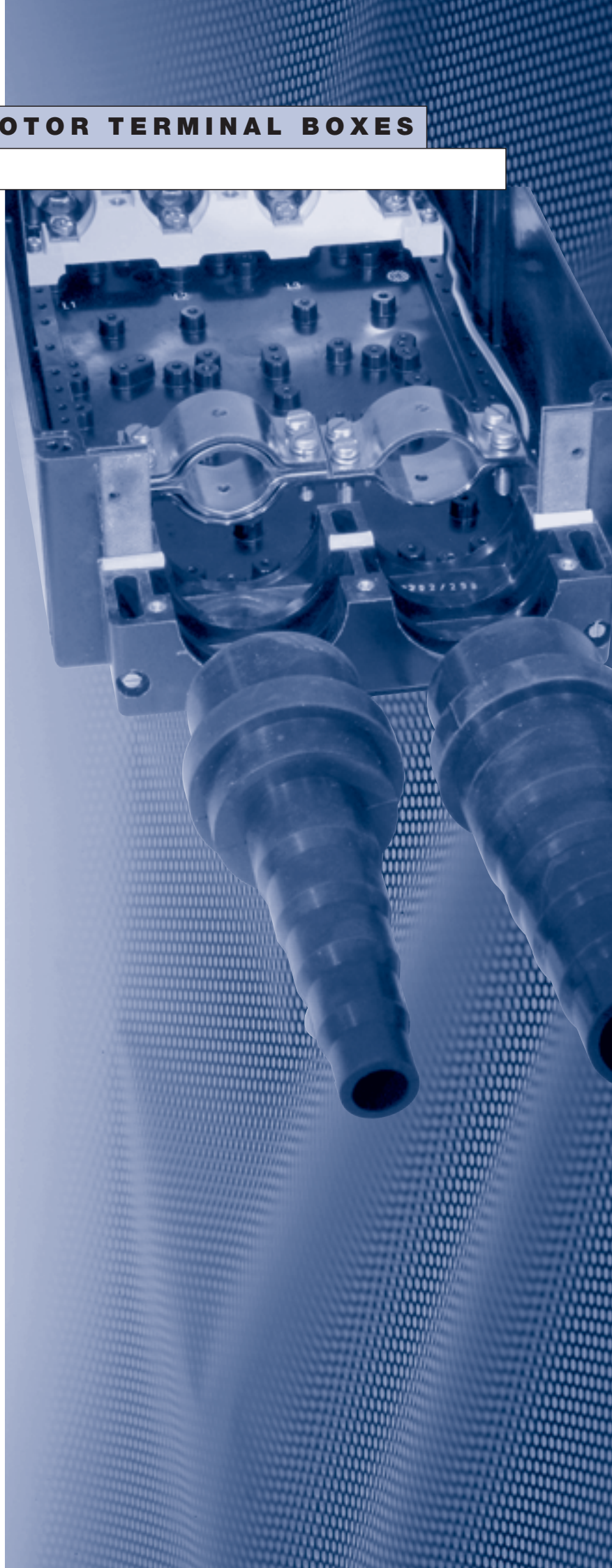
The CEAG connection and junction boxes are for example used in Zones 1, 2, 21 and 22 as junction boxes for the connection of pumps, heating, motordrives etc. in hazardous explosion endangered areas.

The connection and junction boxes are fitted with certified terminals accommodating for 240 mm² according to EN 50 019. For larger terminal cross sections, versions with terminal bolts are also used.

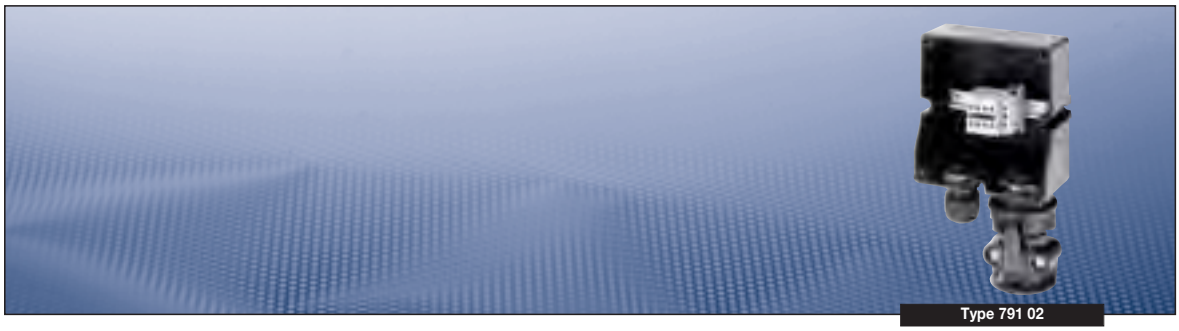
A special version with terminal rails accommodating for 240 mm² and a double cable end box enables the connection of larger terminal cross sections. The cable to be connected is put through the front side and is laid into the double cable terminal box where it is then connected to the terminal bolts on the copper rail.

The terminal boxes are fitted with trumpet shaped cable glands and a strain relief or just a strain relief for a flexible cable outing.

International approvals



- **Decisive cost reduction with the CEAG mounting system using junction boxes accommodating for 70 mm²**
- **With four cables, connections of up to 240 mm² possible**
- **Mechanical, chemical and thermal durability**


Type 791 02

Technical data

Type 791 02	
Marking to 94/9/EC	Ex II 2 G Ex dem ia II, IIC T6 / Ex II 2 D Ex tD A21 IP66 T80 °C
Permissible ambient temperature	–20 °C to +40 °C
EC-Type Examination Certificate	PTB 00 ATEX 3108
IECEx certificate of conformity	IECEx BKI 07.0034
Marking accd. to IECEx	Ex e II T6 / Ex ia IIC T6 Ex tD A21 IP66 T58 °C
Rated voltage	up to 690 V
Rated current	depends on terminal mounting
Degree of EN 60529	IP66
Enclosure material	Polyamide
Terminal cross section	up to 6 mm²
Weight	approx. 0.7 kg

Ordering details

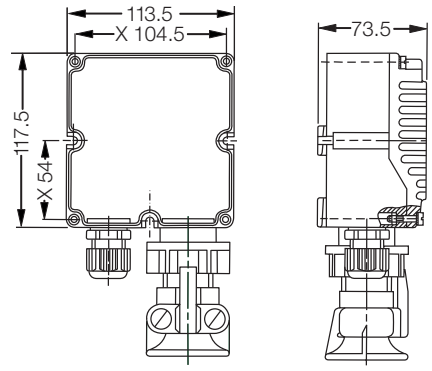
Type	Cable gland	No. of terminals	Order No.
Type 791 02 mounted with screw terminals 2 x 4 mm² + 1 x PE-terminal 2 x 4 mm²			
Ex-e	1 x M25 for cable Ø 8-17 mm 1 x M32 trompet-shaped gland for cable Ø 15-20 mm	4 x Ex-e 1 x PE	**GHG 791 0201 R0016**

Other versions for cable Ø 15 - 20 mm available on request.

Accessories

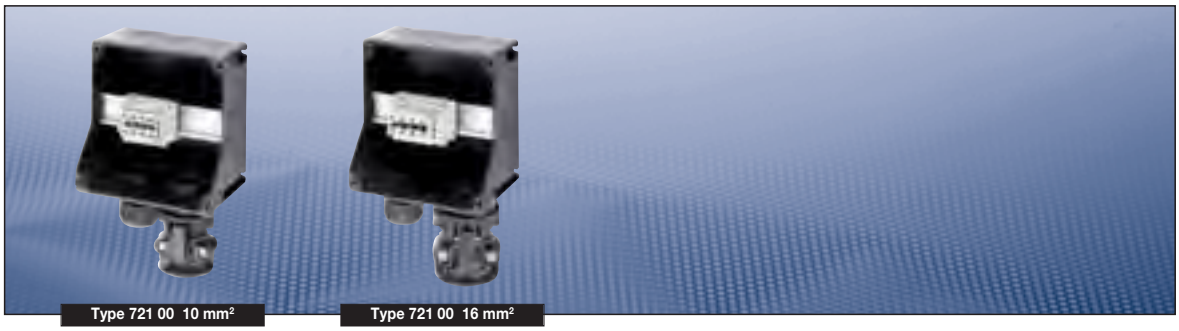
Mounting plate for intermediate motor terminal box 791 02			
Type	**Application**	**Fixing method**	**Order No.**
Size 2	Wall mounting	screwless mounting	**GHG 610 1953 R0104**
Size 2	Trellis mounting	screwless mounting	**GHG 610 1953 R0106**
Size 2	Pipe mounting	screwless mounting	**GHG 610 1953 R0105**
Protective canopy Size 2	for mounting plate size 2		**GHG 610 1955 R0102**

Dimension drawing



Type 791 02

Dimensions in mm



Technical data

Type 721 00	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib [ia/ib] m IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
Permissible ambient temperature	–20 °C to +40 °C
EC-Type Examination Certificate	PTB 99 ATEX 1044
IECEx certificate of conformity	IECEx BKI 07.0023
Marking accd. to IECEx	Ex ed ia/ib m [ia/ib] IIC T4 – T6 Ex tD A21 IP66 T80 °C
Rated voltage	up to 690 V
Rated current	depends on terminal mounting
Degree of EN 60529	IP66
Terminal cross section	721 00 max. 10 mm² / 721 10 max. 16 mm²
Enclosure material	Glass-fibre reinforced polyester
Weight	721 00 approx. 1.0 kg / 721 10 approx. 1.1 kg

Ordering details

Type	Cable gland	No. of terminals	Order No.
Type 721 00 mounted with screw terminals 2 x 10 mm² + 1 x PE-terminal 2 x 10 mm²			
Ex-e	1 x M40 for cable Ø 17-28 mm 1 x M40 trompet-shaped gland for cable Ø 19-27 mm	4 x Ex-e 1 x PE	**GHG 721 0001 R0013**

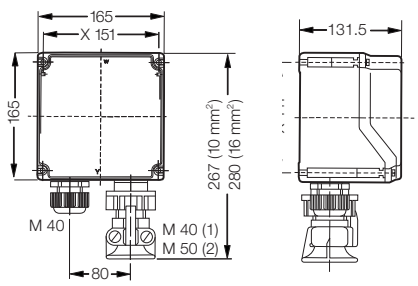
Type	Cable gland	No. of terminals	Order No.
Type 721 00 mounted with screw terminals 2 x 16 mm² + 1 x PE-terminal 2 x 16 mm²			
Ex-e	1 x M50 for cable Ø 21-35 mm 1 x M50 trompet-shaped gland for cable Ø 26-34 mm	4 x Ex-e 1 x PE	**GHG 721 0001 R0014**

Other versions available on request.

Accessories

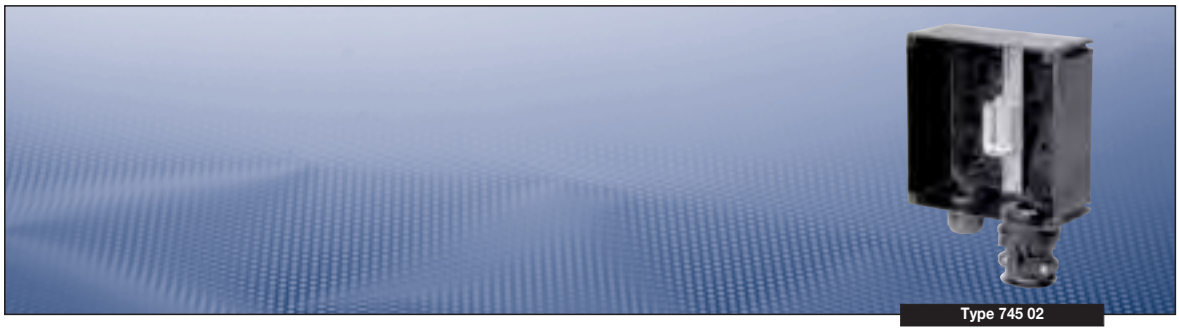
Mounting plate for junction box 721 00			
Type	**Application**	**Fixing method**	**Order No.**
Size 2A	Wall mounting	screwless mounting	**GHG 610 1953 R0107**
Size 2A	Trellis mounting	screwless mounting	**GHG 610 1953 R0109**
Size 2A	Pipe mounting	screwless mounting	**GHG 610 1953 R0108**
Protective canopy Size 2A	for mounting plate size 2A		**GHG 610 1955 R0103**

Dimension drawing



Type 721 00

Dimensions in mm


Type 745 02

Technical data

Type 745 02	
Marking to 94/9/EC	Ex II 2 G Ex de ia/ib [ia/ib] m IIC T6 / Ex II 2 D Ex tD A21 IP66 T80 °C
Permissible ambient temperature	–20 °C to +40 °C
EC-Type Examination Certificate	PTB 99 ATEX 1044
IECEx certificate of conformity	IECEx BKI 07.0034
Marking accd. to IECEx	Ex ed ia/ib m [ia/ib] IIC T4 – T6 Ex tD A21 IP66 T80 °C
Rated voltage	up to 690 V
Rated current	depends on terminal mounting
Degree of EN 60529	IP66
Enclosure material	Glass-fibre reinforced polyester
Terminal cross section	up to 35 mm² or max. 70 mm²
Weight	745 0201 R0002 approx. 3.0 kg / 745 0201 R0003 approx. 3.2 kg

Ordering details

Type	Cable gland	No. of terminals	Order No.
Type 745 02 mounted with screw terminals 2 x 35 mm² + 1 x PE-terminal 2 x 35 mm²			
Ex-e	1 x M50 for cable Ø 21-35 mm 1 x M63 trompet-shaped gland for cable Ø 35-46 mm	4 x Ex-e 1 x PE	**GHG 745 0201 R0002**

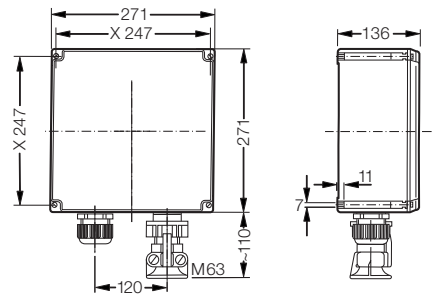
Type	Cable gland	No. of terminals	Order No.
Type 745 02 mounted with screw terminals 2 x 50/70 mm² + 1 x PE-terminal 2 x 50/70 mm²			
Ex-e	1 x M50 for cable Ø 21-35 mm 1 x M63 trompet-shaped gland for cable Ø 35-46 mm	4 x Ex-e 1 x PE	**GHG 745 0201 R0003**

Other versions available on request.

Accessories

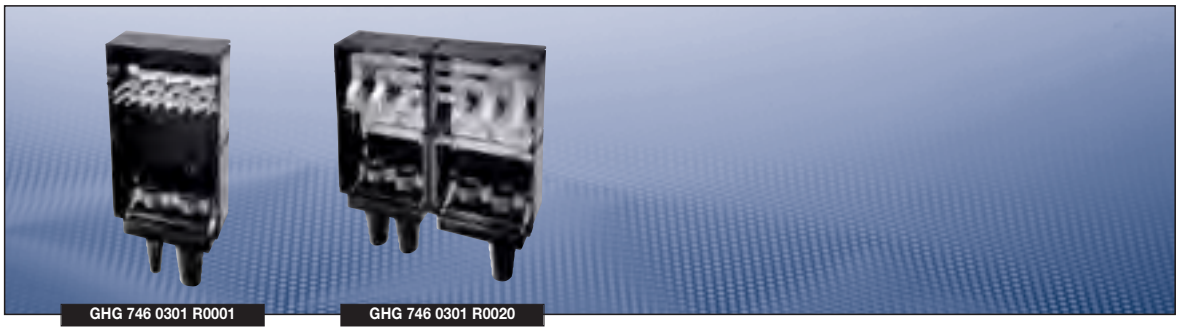
Mounting plate for junction box 745 02			
Type	**Application**	**Fixing method**	**Order No.**
Size 3	Pipe mounting	screw mounting on 2 plates	**GHG 610 1953 R0108**
Protective canopy Size 3	for mounting plate size 3		**GHG 610 1955 R0104**

Dimension drawing



Type 745 02

Dimensions in mm



Technical data

Type 746 03	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib [ia/ib] m IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
Permissible ambient temperature	–20 °C to +40 °C
EC-Type Examination Certificate	PTB 99 ATEX 1044
IECEx certificate of conformity	IECEx BKI 07.0023
Marking accd. to IECEx	Ex de ia/ib m [ia/ib] IIC T4 ... T6 Ex tD A21 IP66 T80 °C
Rated voltage	up to 690 V
Rated current	depends on terminal mounting
Degree of EN 60529	IP54
Cable gland	via double cable pothead
Enclosure material	Glass-fibre reinforced polyester
Terminal cross section	up to 180 mm² or max. 240 mm²
Weight	746 0301 R0001 approx. 6.3 kg / 746 0301 R0008 approx. 16.5 kg

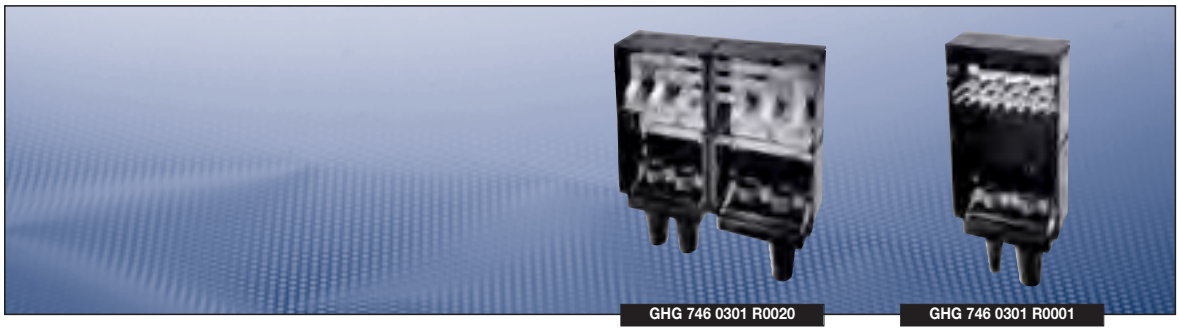
Ordering details

Type	Cable gland	No. of terminals	Order No.
Type 746 03 assembled with bold clamp 2 x 185 mm² + PE-bold clamp 2 x 185 mm²			
Ex-e	Double cable end box	3 x Ex-e	
	1 x Entry sleeve 21-45 mm	1 x PE	
	1 x Entry sleeve 46-72 mm		**GHG 746 0301 R0001**

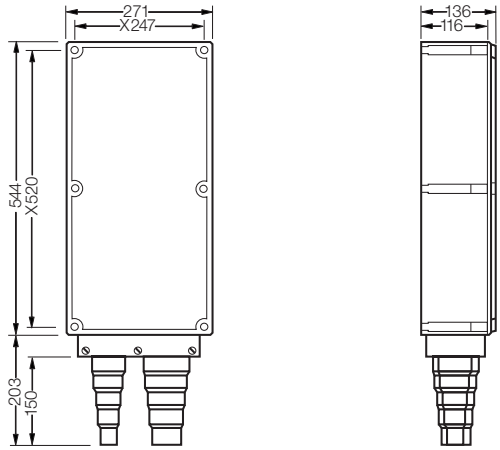
Type	Cable gland	No. of terminals	Order No.
Type 746 03 assembled with bold clamp 240 mm² + PE-bold clamp 240 mm²			
Ex-e	Double cable end box	6 x Ex-e	
	2 x Entry sleeve 46-72 mm	2 x PE	**GHG 746 0301 R0008**

Type	Cable gland	No. of terminals	Order No.
Type 746 03 assembled with bold clamp 240 mm² + PE-bold clamp 240 mm²			
Ex-e	Double cable end box	12 x Ex-e	
	3 x Entry sleeve 46-72 mm	4 x PE	**GHG 746 0301 R0020**

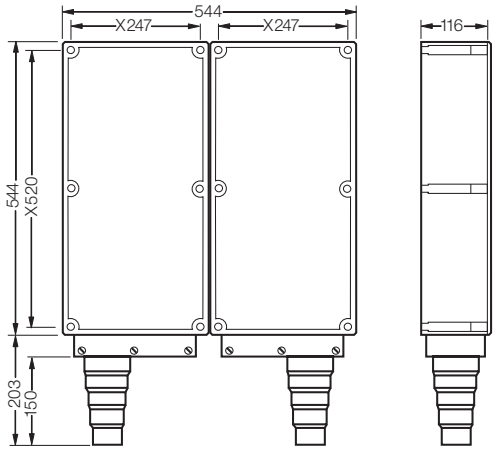
Other versions available on request.



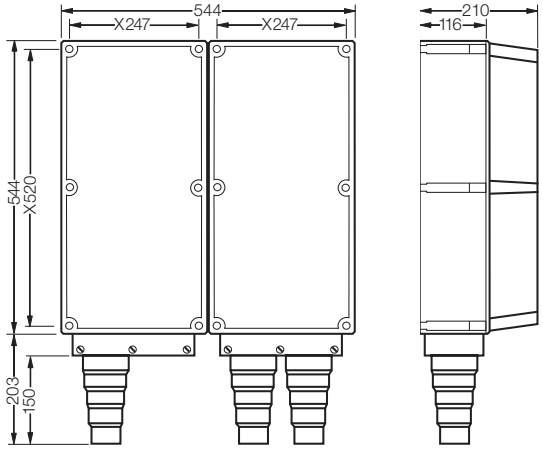
Dimension drawing



GHG 746 0301 R0001



GHG 746 0301 R0008



GHG 746 0301 R0020

X = fixing dimension

Dimensions in mm

Distribution and junction boxes

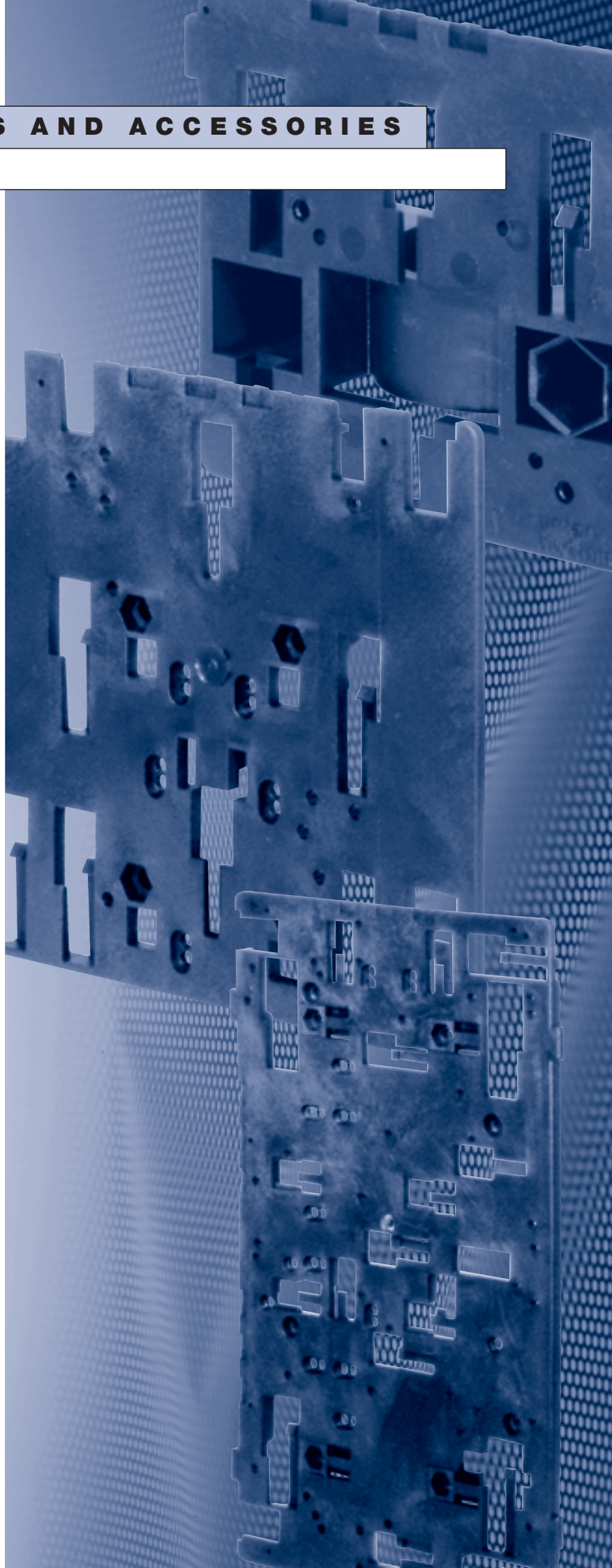
The CEAG mounting plates are the innovative answer to the customer requested ability for mounting apparatus without having to use tools.

In close cooperation with our customers, this intelligent and innovative solution for the mounting of a variety of terminal boxes an appliances onto trellis, piping and walls was developed.

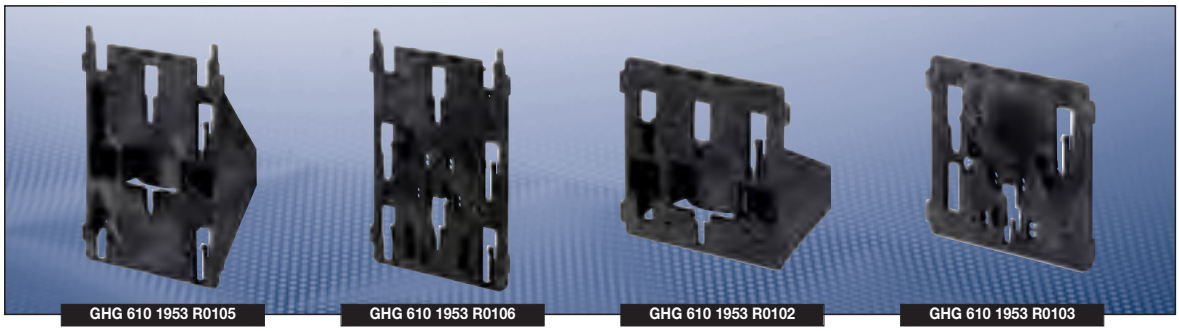
The clip-on mounting system in connection with the CEAG explosion-protected distribution, plugs and sockets and terminal boxes renders a decisive cost reduction.

No “hot work permits” are needed!

Optional clip-on protection canopies made of stainless steel offer protection against aggressive environmental influences, direct sunlight and rain.

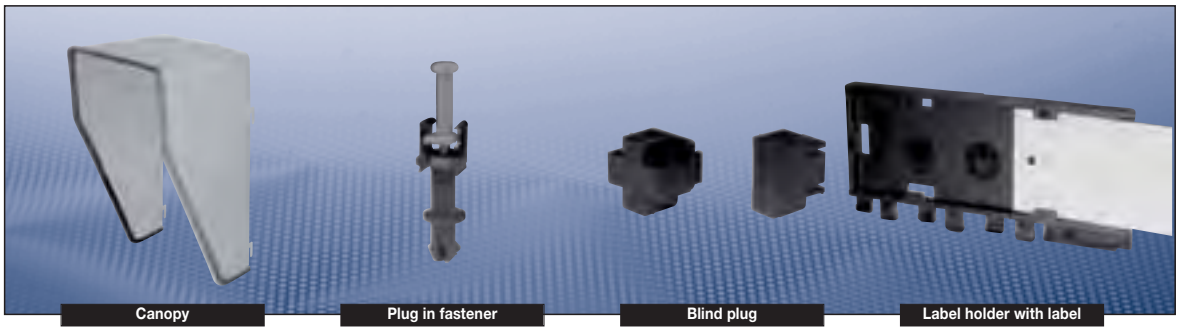


- **Decisive cost reduction – just clip-it-on**
- **Quick appliance mounting with clip-on technology – no “hot work permit” needed**
- **Easy installation of the mounting plates on walls, trellis and pipes**
- **Universal use as appliance holder – just clip-it-on**



Mounting plates

Type	Application	Order No.
Size 1	Wall mounting	**GHG 610 1953 R0101**
Size 1	Trellis mounting	**GHG 610 1953 R0103**
Size 1	Pipe mounting	**GHG 610 1953 R0102**
Size 2	Wall mounting	**GHG 610 1953 R0104**
Size 2	Trellis mounting	**GHG 610 1953 R0106**
Size 2	Pipe mounting	**GHG 610 1953 R0105**
Size 2A	Wall mounting	**GHG 610 1953 R0107**
Size 2A	Trellis mounting	**GHG 610 1953 R0109**
Size 2A	Pipe mounting	**GHG 610 1953 R0108**
Size 3	Wall mounting	**GHG 610 1953 R0118**
Size 3	Trellis mounting	**GHG 610 1953 R0118**
Size 3	Pipe mounting	**GHG 610 1953 R0110**
Size 4	Wall mounting	**GHG 610 1953 R0126**
Size 4	Trellis mounting	**GHG 610 1953 R0126**
Size 4	Pipe mounting	**GHG 610 1953 R0130**
Size 5	Wall mounting	**GHG 610 1953 R0128**
Size 5	Trellis mounting	**GHG 610 1953 R0128**
Size 5	Pipe mounting	**GHG 610 1953 R0132**



Accessories

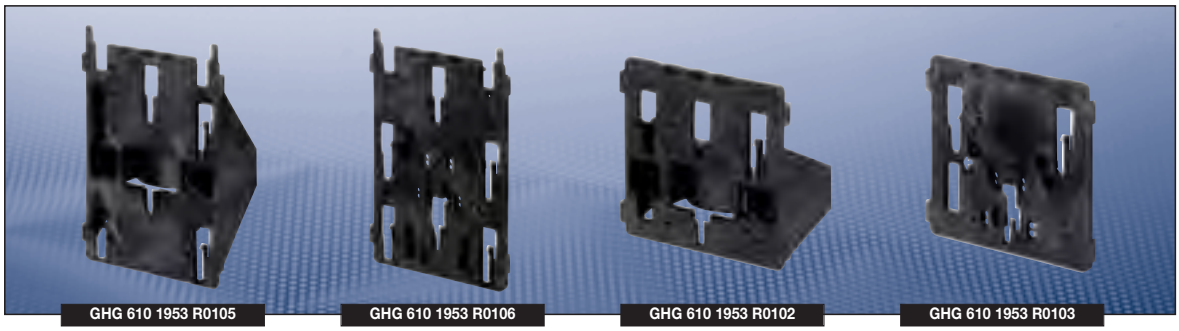
For mounting plate

Type		OU	Order No.
Label holder with type label (blank) for mounting plates size 1, 2, 2A and 3		10	**GHG 610 1953 R0057**
Type label for label holder and mounting plates size 4 and size 5		10	**GHG 610 1953 R0011**
Blind plug for unused fixing points of mounting plates size 4 and size 5		10	**GHG 610 1953 R0134**
Plug-in fastener for CEAG modules with 5.5 mm and 11 mm fixing elements	1 set = 4 pcs.	10	**GHG 610 1953 R0041**
Mounting set for pipes 1" (Ø 27 - 30 mm) for mounting plates with pipe fixing		10	**GHG 610 1953 R0020**

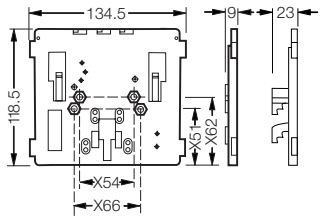
The order No. will show 1 pcs.
Please note that only pack quantities (OU) can be ordered.

Protective canopy for mounting plate

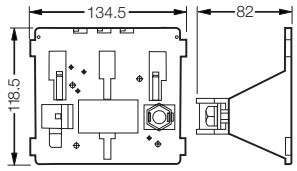
Type	Application	Order No.
Size 1	for mounting plate size 1	**GHG 610 1955 R0101**
Size 2	for mounting plate size 2	**GHG 610 1955 R0102**
Size 2A	for mounting plate size 2A	**GHG 610 1955 R0103**
Size 3	for mounting plates pipe fixing size 3 verticaly	**GHG 610 1955 R0104**
Size 3A	for mounting plates wall/trellis fixing size 3 verticaly	**GHG 610 1955 R0105**
Size 3B	for mounting plates pipe fixing size 3 horizontal	**GHG 610 1955 R0106**
Size 4	for mounting plate size 4	**GHG 610 1955 R0107**
Size 5	for mounting plate size 5	**GHG 610 1955 R0108**



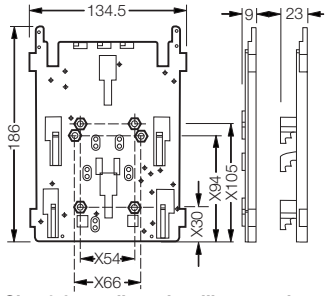
Dimensions



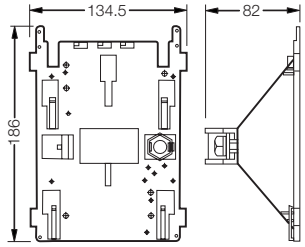
Size 1 for wall- and trellis mounting



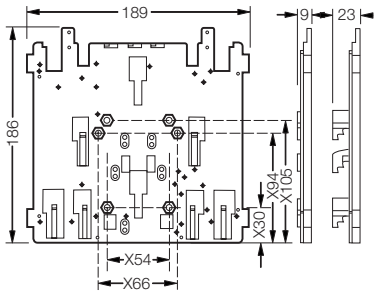
Size 1 for pipe mounting



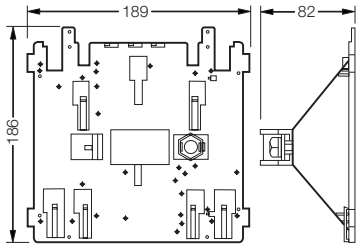
Size 2 for wall- and trellis mounting



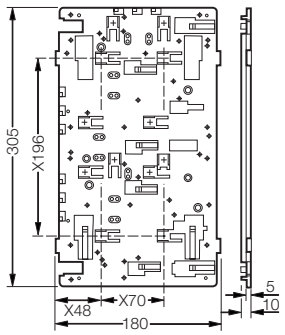
Size 2 for wall- and trellis mounting



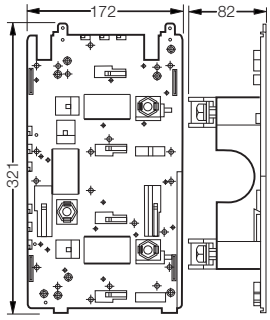
Size 2A for wall- and trellis mounting



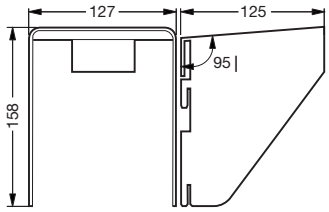
Size 2A for pipe mounting



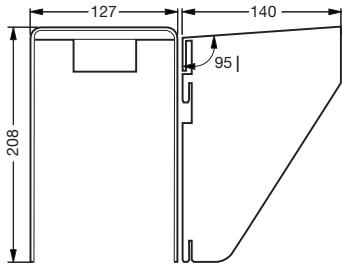
Size 3 for wall- and trellis mounting



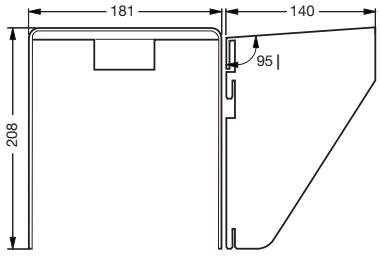
Size 3 for pipe mounting



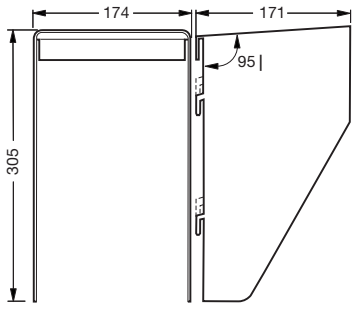
Canopy Size 1



Canopy Size 2

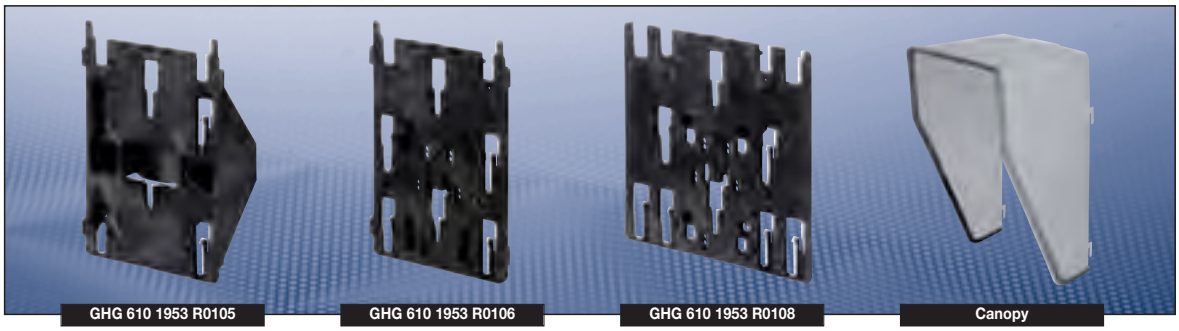


Canopy Size 2A

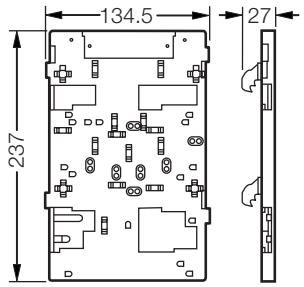


Canopy Size 3B

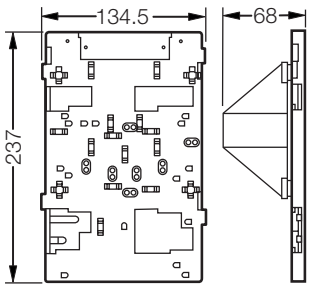
Dimensions in mm



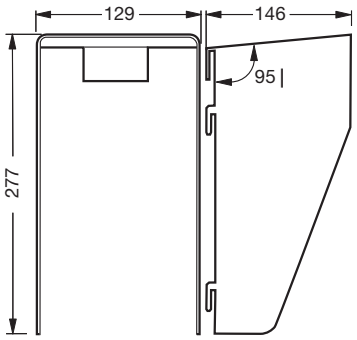
Dimensions



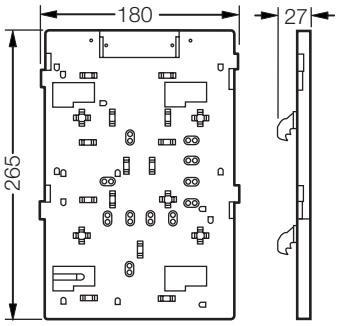
Mounting plate size 4
for wall/trellis mounting



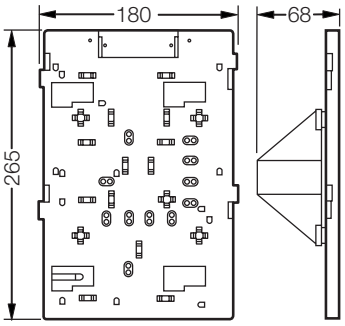
Mounting plate size 4
for pipe mounting



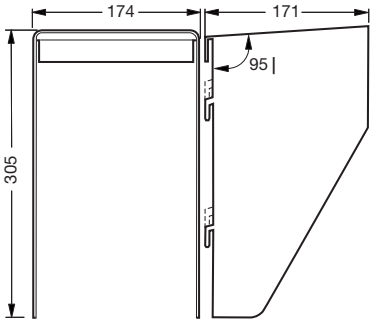
Protective canopy size 4



Mounting plate size 5
for wall/trellis mounting



Mounting plate size 5
for pipe mounting



Protective canopy size 5

Dimensions in mm



CABLE GLANDS

PLASTIC CABLE GLANDS 8.2

PLASTIC TRUMPET SHAPED CABLE GLANDS 8.7

PLASTIC BREATHING PLUGS 8.8

METAL CABLE GLANDS TYPE ADE (<2000 cm³) Ex-d 8.11

METAL CABLE GLANDS TYPE CMDEL Ex-e 8.19

METAL CABLE GLANDS TYPE ADL (>2000 cm³) Ex-d 8.23

METAL REDUCING RINGS, SCREW PLUGS AND ADAPTER 8.30

EX-CABLE GLANDS

Plastic version for Zone 1 and Zone 21

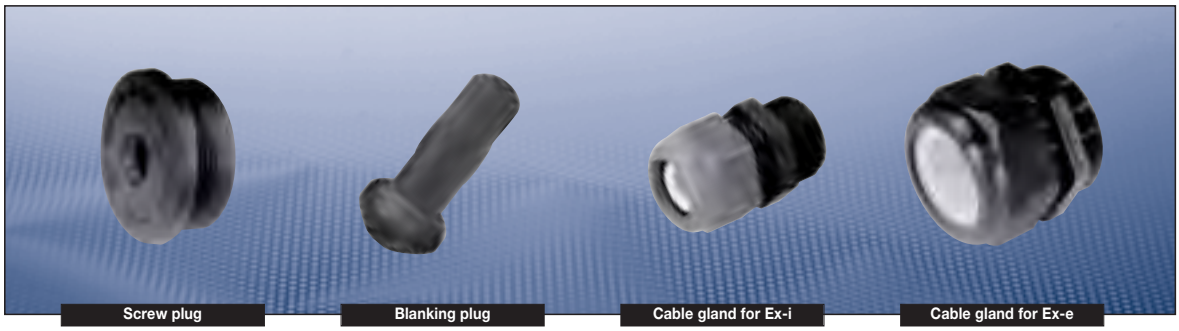
Cable glands with metric screw-in threads are now standard and had replace the PG cable glands that were formally used.
The PG cable glands are still available as spare parts and for the upgrading of already installed apparatus.
The new CEAG plastic cable glands are in accordance with EN 60079-7 and can be used in Ex-e/Ex-i housings in hazardous explosive areas of the Zones 21, 2 and 22.
Optional and not used cable glands must be closed with certified blanking plugs. The blanking plugs allow for a flexible and cost effective utilization of the explosion-protected appliances. Changes and upgrades can be then easily carried out at a later date.

The outstanding feature of the CEAG cable glands is the large cable connection area.
A high IP safety standard is achieved with the integrated sealing lip on the screw-in cable entries. Installed on a plain surface the use of an additional sealing ring can be overided.
The good mechanical and handling features are achieved by using a modified Polyamide material and a optimized tooling area.

International approvals



- **Large cable connection area**
- **Hand tightening – only a low torque needed**
- **Safety standard IP66**
- **Optimized tooling area**
- **Trapezoid thread, for a secure hold**

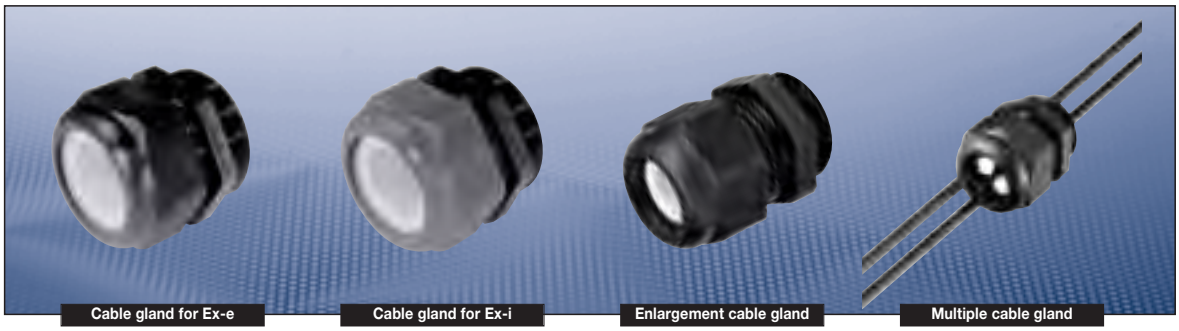


Technical data

Ex-e Cable glands | Blanking plugs | Reducing rings	
Marking to 94/9/EC	Ex II 2 G Ex e II / Ex II 2 D Ex tD A21 IP66
EC-Type Examination Certificate of conformity	M12-M16: PTB 99 ATEX 3101 X / M20-M63: PTB 99 ATEX 3128 X
IECEx Certification of conformity	IECEx PTB 05.0004X
Marking accd. to IECEx	Ex e II
Permissible ambient temperature	–20 °C to +70 °C –55 °C to +70 °C option[1)]
Degree of protection accd. EN 60529	IP66 / IP68: 1 m water depth for 0.5 h
Enclosure material	Polyamide

Ex-e Screw plug	
Marking to 94/9/EC	Ex II 2 G Ex e II / Ex II 2 D Ex tD A21 IP66
EC-Type Examination Certificate of conformity	M20-M50: PTB 98 ATEX 3130 / M63: PTB 03 ATEX 1058 (nur II 2 G)
IECEx Certification of conformity	IECEx PTB 03.0000 (M20 - M50)
Marking accd. to IECEx	Ex e II
Permissible ambient temperature	M20-M50: –55 °C to +55 °C / M63: –20 °C to +55 °C
Degree of protection accd. EN 60529	IP66 / IP68: 1 m water depth 0.5 h
Enclosure material	Polyamide

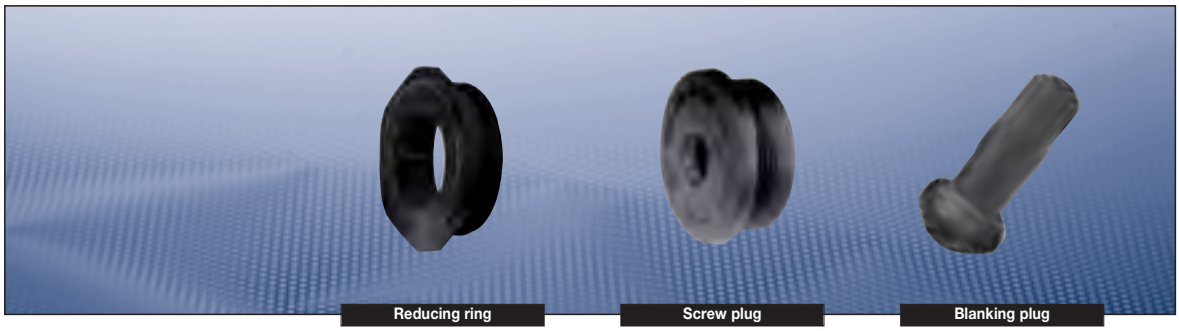
[1)] Low temperature cable gland on request



Ordering details

Thread	Cable Ø mm	A/F mm	L1 mm	L2 mm	Weight approx. kg	OU	Order No. (–20 °C up to 70 °C)
Ex-e cable glands with short thread accd. to EN 50262							
M12 x 1.5	4 - 7	15	19.3	8	0.003	20	**GHG 960 1955 R 0001**
M16 x 1.5	5.5 - 10	20	23.0	8	0.006	20	**GHG 960 1955 R 0002**
M20 x 1.5	5.5 - 13	24	25.0	8	0.009	20	**GHG 960 1955 R 0003**
M25 x 1.5	8 - 17	29	29.5	8	0.017	20	**GHG 960 1955 R 0004**
M32 x 1.5	12 - 21	36	35.5	10	0.026	20	**GHG 960 1955 R 0005**
Ex-e cable glands with long thread							
M12 x 1.5	4 - 7	15	19.3	12	0.003	20	**GHG 960 1955 R 0021**
M16 x 1.5	5.5 - 10	20	23.0	12	0.007	20	**GHG 960 1955 R 0022**
M20 x 1.5	5.5 - 13	24	25.0	13	0.010	20	**GHG 960 1955 R 0023**
M25 x 1.5	8 - 17	29	29.5	13	0.018	20	**GHG 960 1955 R 0024**
M32 x 1.5	12 - 21	36	35.5	15	0.029	20	**GHG 960 1955 R 0025**
M40 x 1.5	17 - 28	46	39.5	15	0.046	10	**GHG 960 1955 R 0026**
M50 x 1.5	22 - 35	55	44.0	16	0.073	10	**GHG 960 1955 R 0027**
M63 x 1.5	27 - 48	68	47.0	16	0.116	5	**GHG 960 1955 R 0028**
Ex-i cable glands with short thread							
M12 x 1.5	4 - 7	15	19.3	8	0.003	20	**GHG 960 1955 R0101**
M16 x 1.5	5.5 - 10	20	23.0	8	0.006	20	**GHG 960 1955 R0102**
M20 x 1.5	5.5 - 13	24	25.0	8	0.009	20	**GHG 960 1955 R0103**
M25 x 1.5	8 - 17	29	29.5	8	0.017	20	**GHG 960 1955 R0104**
M32 x 1.5	12 - 21	36	35.5	10	0.026	20	**GHG 960 1955 R0105**
Ex-i cable glands with long thread							
M12 x 1.5	4 - 7	15	19.3	12	0.003	20	**GHG 960 1955 R0121**
M16 x 1.5	5.5 - 10	20	23.0	12	0.007	20	**GHG 960 1955 R0122**
M20 x 1.5	5.5 - 13	24	25.0	13	0.010	20	**GHG 960 1955 R0123**
M25 x 1.5	8 - 17	29	29.5	13	0.018	20	**GHG 960 1955 R0124**
M32 x 1.5	12 - 21	36	35.5	15	0.029	20	**GHG 960 1955 R0125**
M40 x 1.5	17 - 28	46	39.5	15	0.046	10	**GHG 960 1955 R0126**
M50 x 1.5	22 - 35	55	44.0	16	0.073	10	**GHG 960 1955 R0127**
M63 x 1.5	27 - 48	68	47.0	16	0.116	5	**GHG 960 1955 R0128**
Enlargement cable glands (reduced thread diameter)							
M16/M20	5,5 - 13	24	25.0	12	0.010	20	**GHG 960 1956 R0002**
M20/M25	8 - 17	29	29.5	13	0.018	20	**GHG 960 1956 R0003**
M25/M32	12 - 21	36	35.5	13	0.029	20	**GHG 960 1956 R0004**
M32/M40	16 - 28	46	39.5	15	0.046	10	**GHG 960 1956 R0005**
M40/M50	21 - 35	55	44.0	15	0.073	10	**GHG 960 1956 R0006**
M50/M63	27 - 48	68	47.0	16	0.116	5	**GHG 960 1956 R0007**
Multiple cable glands							
M25 x 1.5	2 x 4.5 - 7	29	29.5	8	0.340	20	**GHG 960 1955 R0054**
M32 x 1.5	4 x 4.5 - 7	36	35.5	10	0.540	20	**GHG 960 1955 R0055**

Cable glands with PG-thread are available on request.
The order No. will show 1 pcs.
Please note that only order units (OU) can be ordered.



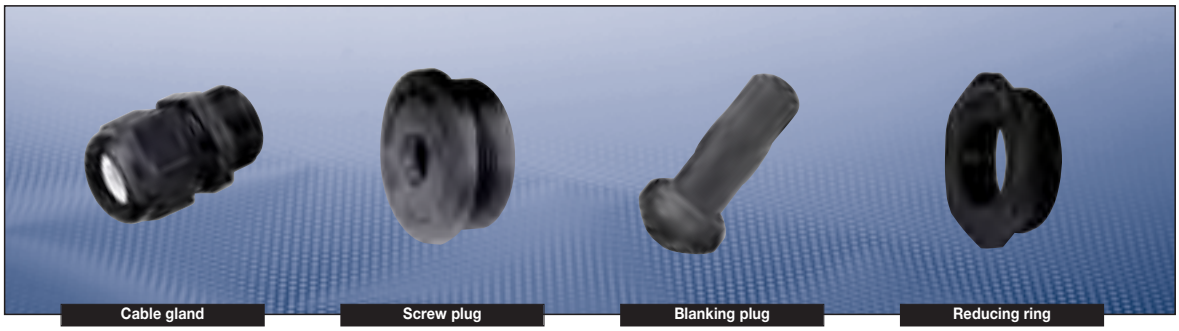
Ordering details

For cable gland	Ø A mm	Length B mm	Weight approx. kg	OU	Order No. (–20 °C up to 70 °C)
Blanking plug					
M12	6.0	30.3	0.001	20	**GHG 960 1944 R0101**
M16	7.0	33.0	0.001	20	**GHG 960 1944 R0102**
M20	8.5	34.5	0.002	20	**GHG 960 1944 R0103**
M25	11.0	36.0	0.003	20	**GHG 960 1944 R0104**
M32	14.0	39.5	0.005	20	**GHG 960 1944 R0105**
M40	20.0	42.0	0.018	10	**GHG 960 1944 R0106**
M50	26.0	44.0	0.033	10	**GHG 960 1944 R0107**
M63	34.0	45.0	0.108	5	**GHG 960 1944 R0108**

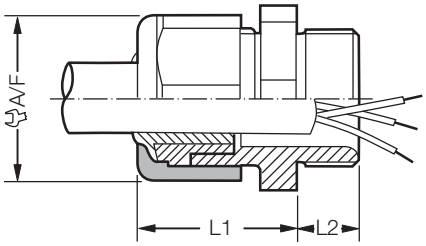
Thread	Ø D mm	Length A mm	Length B mm	Weight approx. kg	OU	Order No.
Screw plug						
M16 x 1.5	21.5	4.0	12	0.002	20	**GHG 960 1952 R0111**
M20 x 1.5	25.5	4.0	13	0.004	20	**GHG 960 1952 R0112**
M25 x 1.5	30.5	4.0	13	0.007	20	**GHG 960 1952 R0113**
M32 x 1.5	37.5	5.5	15	0.013	10	**GHG 960 1952 R0114**
M40 x 1.5	45.5	5.5	15	0.020	10	**GHG 960 1952 R0115**
M50 x 1.5	55.5	5.5	16	0.030	5	**GHG 960 1952 R0116**
M63 x 1.5	85	6.5	16	0.040	5	**GHG 960 1952 R0117**

Thread 1	Thread 2	L1 mm	L2 mm	L3 mm	AF mm	Weight approx. kg	OU	Order No.
Reducing rings								
M20 x 1.5	M16 x 1.5	12	8	8	24	0.014	20	**GHG 960 1946 R0071**
M25 x 1.5	M20 x 1.5	14	8	8	29	0.016	20	**GHG 960 1946 R0072**
M32 x 1.5	M20 x 1.5	16	10	6	36	0.017	20	**GHG 960 1946 R0056**
M32 x 1.5	M25 x 1.5	16	10	10	36	0.016	20	**GHG 960 1946 R0074**
M40 x 1.5	M25 x 1.5	16	10	8	46	0.023	10	**GHG 960 1946 R0059**
M40 x 1.5	M32 x 1.5	16	10	10	46	0.021	10	**GHG 960 1946 R0077**
M50 x 1.5	M32 x 1.5	18	12	10	55	0.036	10	**GHG 960 1946 R0062**
M50 x 1.5	M40 x 1.5	18	12	10	68	0.032	10	**GHG 960 1946 R0080**
M63 x 1.5	M40 x 1.5	18	12	10	68	0.040	5	**GHG 960 1946 R0065**
M63 x 1.5	M50 x 1.5	18	12	12	68	0.030	5	**GHG 960 1946 R0083**

Cable glands with PG-thread are available on request.
The order No. will show 1 pcs.
Please note that only order units (OU) can be ordered.

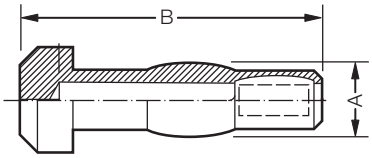


Dimensions drawing

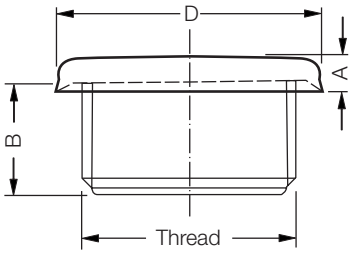


Cable gland

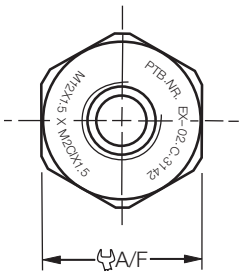




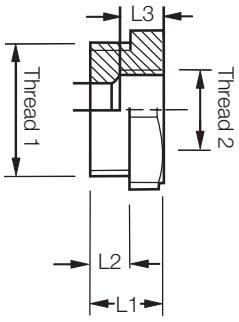
Blanking plug



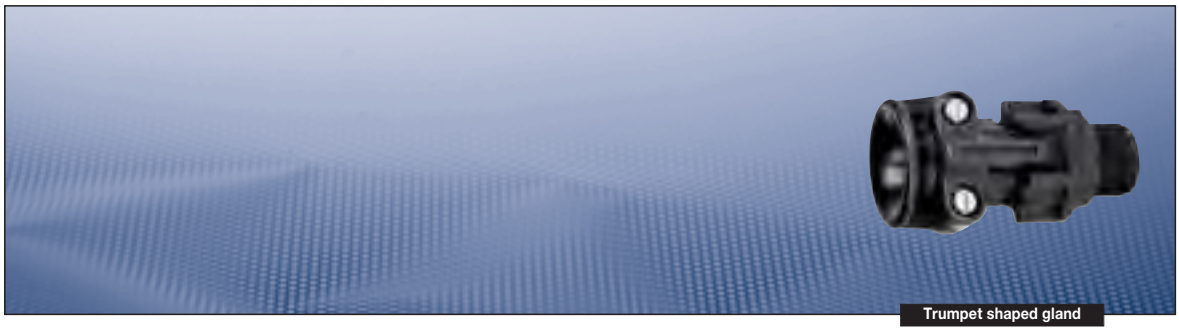
Screw plug



Reducing ring



Dimensions in mm


Trumpet shaped gland

Technical data

Ex-e trumpet shaped cable gland	
Marking to 94/9/EC	Ex II 2 G Ex e II / Ex II 2 D Ex tD A21 IP66
EC-Type Examination Certificate	PTB 00 ATEX 3121
Permissible ambient temperature	–40 °C to +85 °C
	–50 °C to +80 °C option[1]
Degree of protection accd. EN 60529	IP66
Enclosure material	Polyamide

Ordering details

Thread	E mm	L1 mm	L2 mm	Ø Cable mm	A/F mm	Weight approx. kg	OU	Order No.
Ordering details trumpet shaped cable gland								
M20 x 1.5	47	64	15	8 – 13	26	0.057	10	**GHG 960 1949 R0111**
M25 x 1.5	51	65	15	11 – 16	32	0.070	10	**GHG 960 1949 R0112**
M32 x 1.5	68	80	15	15 – 20	41	0.140	10	**GHG 960 1949 R0113**
M40 x 1.5	81	86	15	19 – 27	50	0.194	10	**GHG 960 1949 R0114**
M50 x 1.5	96	95	16	26 – 34	60	0.333	1	**GHG 960 1949 R0115**
M63 x 1.5	107	105	16	35 – 46	75	0.742	1	**GHG 960 1949 R0116**

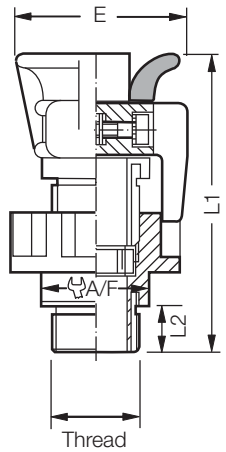
Trumpet shaped glands and reducing rings with PG-thread are available on request.

The order No. will show 1 pcs.

Please note that only order units (OU) can be ordered.

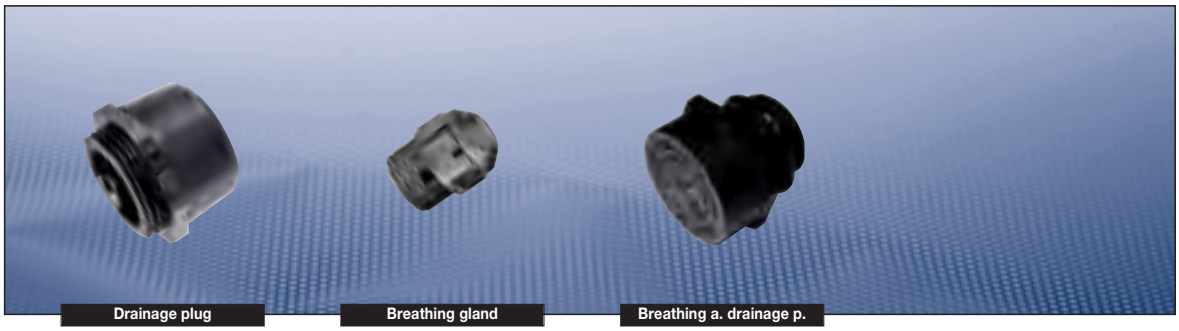
[1] Low temperature version on request

Dimension drawing



Trumpet shaped cable gland

Dimensions in mm



Technical data

Ex-e Drainage plug	
Marking to 94/9/EC	Ⓔx II 2 G Ex e II
EC-Type Examination Certificate	PTB 01 ATEX 1128 X
Permissible ambient temperature	–20 °C to +40 °C
Degree of protection accd. EN 60529	IP55
Enclosure material	Polyamide

Ex-e Breathing plug	
Marking to 94/9/EC	Ⓔx II 2 G Ex e II / Ⓔx II 2 D Ex tD A21 IP6X
EC-Type Examination Certificate	PTB 01 ATEX 1018
IECEx Certificate of conformity	IECEx PTB 06.0028
Marking accd. to IECEx	Ex e II / Ex tD A21 IP6X
Permissible ambient temperature	–20 °C to +70 °C
Degree of protection accd. EN 60529	IP64/IP66
Enclosure material	Polyamide

Ex-e Breathing and drainage plug	
Marking to 94/9/EC	Ⓔx II 2 G Ex e II
EC-Type Examination Certificate	SIRA 99 ATEX 3050 U
Permissible ambient temperature	–50 °C to +85 °C
Degree of protection accd. EN 60529	IP66
Enclosure material	Glass filled Polyamide

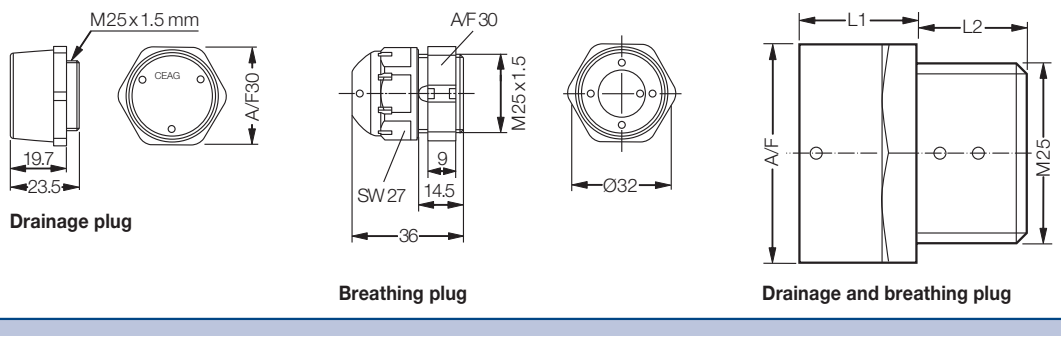
Ordering details

Type	Thread	A/F mm	L1 mm	L2 mm	Weight kg	OU	Order No.
Drainage plug	M25 x 1.5	30	19	4.5	0.011	20	**GHG 960 1927 R0105**
Breathing plug	M25 x 1.5	27	21.5	14.5	0.01	20	**GHG 960 1954 R0004**
Breathing and Drainage plug	M25 x 1.5	40	17	15	0.03	20	**GHG 960 1954 R0002**

The order No. will show 1 pcs.

Please note that only order units (OU) can be ordered.

Dimension drawing

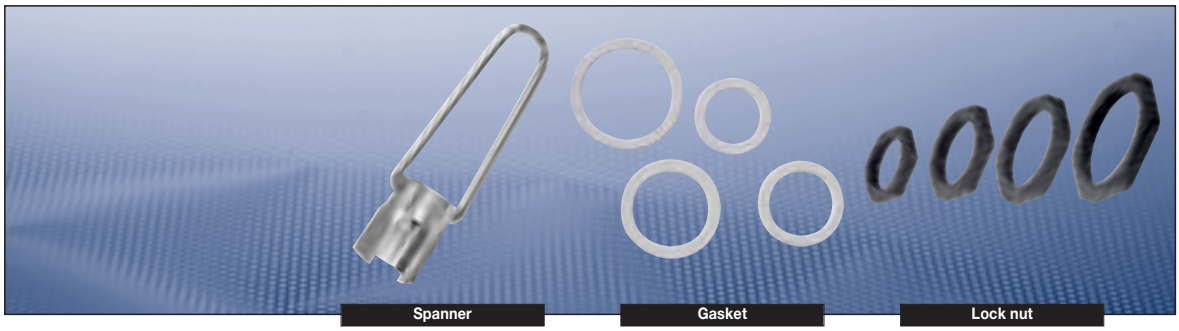


Drainage plug

Breathing plug

Drainage and breathing plug

Dimensions in mm



Accessories

Ordering details lock nut for cable glands

Type	A/F mm	Thickness mm	Weight g	OU	Order No.
M12 x 1.5	17	5	9	10	**GHG 960 1941 R0031**
M16 x 1.5	22	5	14	10	**GHG 960 1941 R0032**
M20 x 1.5	26	6	22	10	**GHG 960 1941 R0033**
M25 x 1.5	32	6	32	10	**GHG 960 1941 R0034**
M32 x 1.5	41	7	59	10	**GHG 960 1941 R0035**
M40 x 1.5	50	7	79	5	**GHG 960 1941 R0036**
M50 x 1.5	60	8	98	5	**GHG 960 1941 R0037**
M63 x 1.5	75	8	150	5	**GHG 960 1941 R0038**

Ordering details gaskets for glands

Type	ØD mm	L mm	Weight g	OU	Order No.
M12 x 1.5	18	1,2	0.44	10	**CAP 221 249**
M16 x 1.5	22	1,2	0.50	10	**CAP 221 649**
M20 x 1.5	24	1,2	0.48	10	**CAP 222 049**
M25 x 1.5	30	1,5	0.69	10	**CAP 222 549**
M32 x 1.5	42	1,5	1.39	10	**CAP 223 249**
M40 x 1.5	52	1,5	2.00	10	**CAP 224 049**
M50 x 1.5	63	1,5	2.00	10	**CAP 225 049**
M63 x 1.5	77	2,0	4.80	10	**CAP 226 349**

Ordering details special spanner for fastening of cable glands

Type	Size	SW mm	Weight kg	Order No.
Set 1	M12	15		
	M16	20		
	M20	24		
	M25	29		
	M32	36		
	M40	46	0.825	**GHG 960 1951 R0001**
Set 2	M50	55		
	M63	68	0.905	**GHG 960 1951 R0002**

The order No. will show 1 pcs.

Please note that only order units (OU) can be ordered.

EX-CABLE GLANDS

Metal design for Zone 1 and Zone 21

For introducing cables or leads into metal housings, explosion-protected housing or, if reinforced cables have to be introduced, metal cable glands are used. Metal glands are designed for use in areas of Zone 1, 2, 21 and Zone 22 at no risk of explosion and for cables with and without reinforcement.

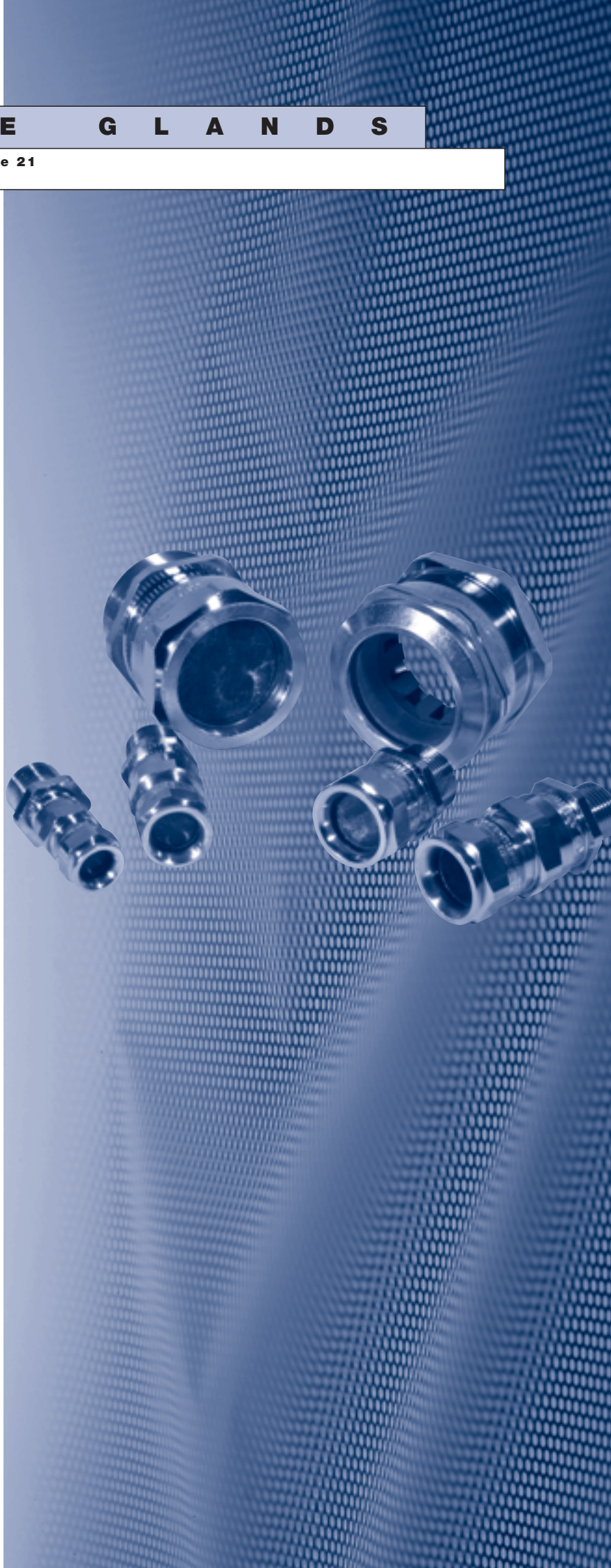
Depending on the area of use, these cable entries are certified with the type of protection Ex-d or Ex-e pursuant to En 60079-1 or EN 60079-7.

For special applications, the cable glands are available in high-quality stainless steel 316L, nickel-plated brass, marine bronze or anodised AV4PB.

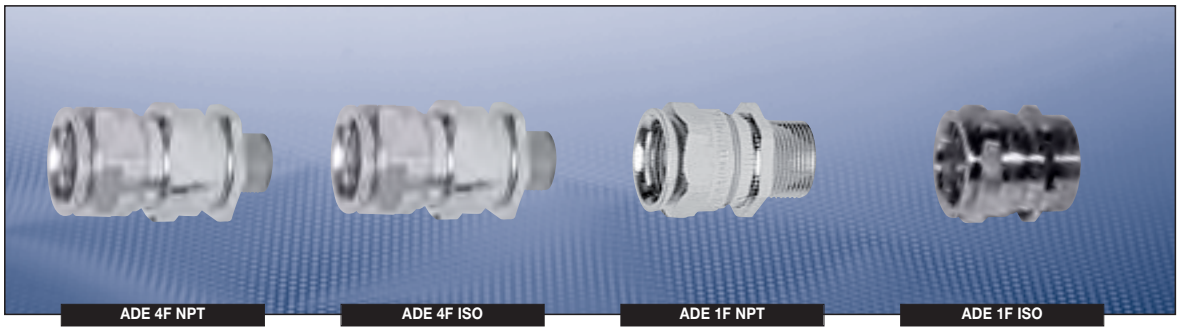
In the case of systems or housings manufactured according to the NEC (National Electrical Code), the line or the connecting cable must be introduced via conduits, mounting fittings, etc. with NPT threads. Optional holes, or those that are not used, must be closed with a screw connection certified for this purpose.

Special versions are available for different applications. For explosion-proof enclosures up to 2000 cm^3 screw connections of type ADE can be used. For enclosures >2000 cm^3 cable glands type ADL... can be used.

Internationally approved.

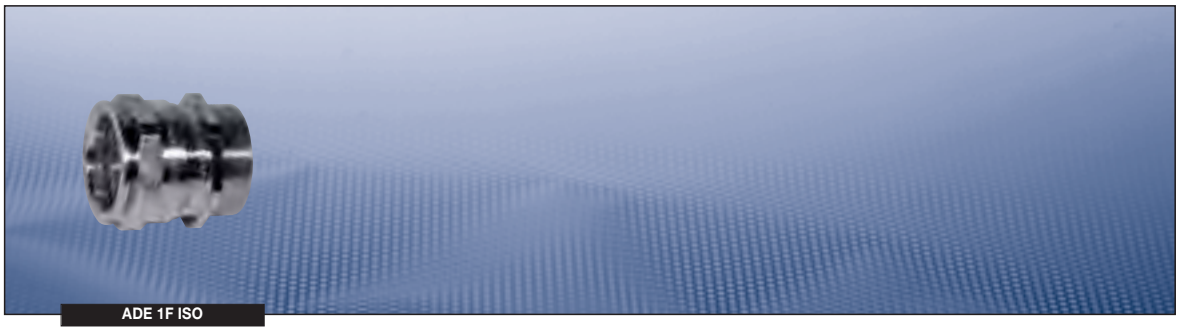


Mechanical, chemical and thermal resistance
Explosion-protected designs
High-quality alloy



Technical data

Ex-e cable glands metal design ADE 1F | ADE 4F	
Marking to 94/9/EC	Ex II 2 G Ex e II / Ex d IIC (IIC ≤ 2000 cm³) / Ex II 2 D Ex tD
EC-Type Examination Certificate	LCIE 97 ATEX 6008 X
IECEx-Certificate of Conformity	IECEx LCI 05.0004X
Marking accd. to IECEx	Ex d IIC / Ex e II / Ex tD
Permissible ambient temperature	–40 °C up to +100 °C –70 °C up to +220 °C (option)
Degree of protection accd. EN 60529	IP66 / IP68 - 10 bar
Thread	ISO-thread accd. ISO 965/1, ISO 965R and EN 60423
Enclosure material	Brass, nickel-plated



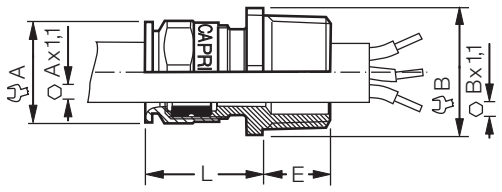
Ordering details

Thread	Type	Cable Ø mm	A mm	B mm	L mm	E mm	Weight kg	Order No.
Cable gland type ADE 1F MsNi for unarmoured cables with ISO thread								
M12 x 1.5	4	4.0 - 8	15	15	20	15	0.020	**CAP 816 404**
M16 x 1.5	4	4.0 - 8.5	15	19	20	15	0.025	**CAP 816 594**
M16 x 1.5	5	6.0 - 12	19	19	22	15	0.030	**CAP 816 504**
M20 x 1.5	4	4.0 - 8.5	15	24	20	15	0.056	**CAP 816 674**
M20 x 1.5	5	6.0 - 12	19	24	22	15	0.038	**CAP 816 694**
M20 x 1.5	6	8.5 - 16	24	24	25	15	0.045	**CAP 816 604**
M25 x 1.5	5	6.0 -12	19	30	22	15	0.088	**CAP 816 774**
M25 x 1.5	6	8.5 - 16	24	30	25	15	0.055	**CAP 816 794**
M25 x 1.5	7	12 - 20.5	30	30	27	15	0.070	**CAP 816 704**
M32 x 1.5	7	12 - 21	30	36	27	15	0.100	**CAP 816 894**
M32 x 1.5	8	16 - 27.5	41	41	34	15	0.150	**CAP 816 804**
M40 x 1.5	8	16 - 27.5	41	44	34	15	0.175	**CAP 816 994**
M40 x 1.5	9	21 - 34	48	48	36	15	0.210	**CAP 816 904**
M50 x 1.5	9	21 - 34	48	55	36	16	0.245	**CAP 817 094**
M50 x 1.5	10	27 - 41	55	55	39	16	0.285	**CAP 817 004**
M63 x 1.5	11	33 - 48	64	67	41	17	0.400	**CAP 817 294**
M63 x 1.5	12	40 - 56	72	72	43	17	0.490	**CAP 817 204**
M75 x 1.5	12	40 - 56	72	80	43	18	0.560	**CAP 817 394**
M75 x 1.5	13	47 – 65	85	85	49	18	0.735	**CAP 817 304**
M80 x 2.0	13	47 – 65	85	85	49	20	0.885	**CAP 817 494**
M80 x 2.0	14	54 – 73	95	95	56	20	1.060	**CAP 817 404**
M90 x 2.0	14	54 – 74	95	95	56	22	1.300	**CAP 817 594**
M90 x 2.0	15	63 – 82	110	110	61	22	1.665	**CAP 817 504**
M100 x 2.0	15	63 – 83	110	110	61	22	1.850	**CAP 817 694**
M100 x 2.0	16	72 – 92	120	120	62	22	2.160	**CAP 817 604**

Please use sealing washers (see page 8.18).

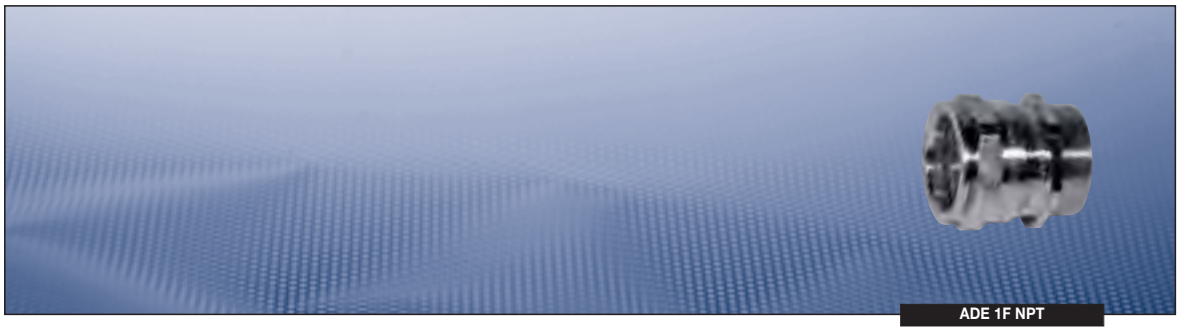
Enlarged temperature range from –70 °C up to +220 °C please use Order No.: CAP...5 instead of CAP...4

Dimension drawing



Type ADE 1F

Dimensions in mm


ADE 1F NPT

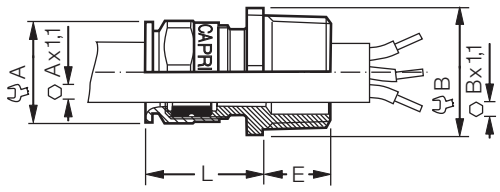
Ordering details

Thread	Type	Cable Ø mm	A mm	B mm	L mm	E mm	Weight kg	Order No.
Cable gland type ADE 1F MsNi for unarmoured cables with NPT thread								
1/4“	4	4.0 - 8	15	15	20	12	0.020	**CAP 818 404**
3/8“	4	4.0 - 8.5	15	19	20	12	0.025	**CAP 818 594**
3/8“	5	6.0 - 12	19	19	22	12	0.030	**CAP 818 504**
1/2“	4	4.0 - 8.5	15	24	20	16	0.062	**CAP 818 674**
1/2“	5	6.0 - 12	19	24	22	16	0.040	**CAP 818 694**
1/2“	6	8.5 - 15.5	24	24	25	16	0.045	**CAP 818 604**
3/4“	5	6.0 - 12	19	30	22	16	0.097	**CAP 818 774**
3/4“	6	8.5 - 16	24	30	25	16	0.055	**CAP 818 794**
3/4“	7	12 - 20.5	30	30	27	16	0.070	**CAP 818 704**
1“	7	12 - 21	30	36	27	20	0.110	**CAP 818 894**
1“	8	16 - 26	41	41	34	20	0.160	**CAP 818 804**
1“1/4	8	16 - 27.5	41	44	34	20	0.180	**CAP 818 994**
1“1/4	9	21 - 34	48	48	36	20	0.220	**CAP 818 904**
1“1/2	9	21 - 34	48	51	36	20	0.260	**CAP 819 094**
1“1/2	10	27 - 41	55	55	39	20	0.300	**CAP 819 004**
2“	11	33 - 48	64	64	41	20	0.420	**CAP 819 294**
2“	12	40 - 53	72	72	43	20	0.510	**CAP 819 204**
2“1/2	12	40 - 56	72	80	43	28	0.600	**CAP 819 494**
2“1/2	13	47 – 62.5	85	85	49	28	0.800	**CAP 819 404**
3“	14	54 – 74	95	95	56	30	1.400	**CAP 819 594**
3“	15	63 – 78	110	110	61	30	1.700	**CAP 819 504**
3“1/2	15	63 – 83	110	110	61	32	1.900	**CAP 819 694**
3“1/2	16	72 – 92	120	120	62	32	2.300	**CAP 819 604**

Please use sealing washers (see page 8.18).

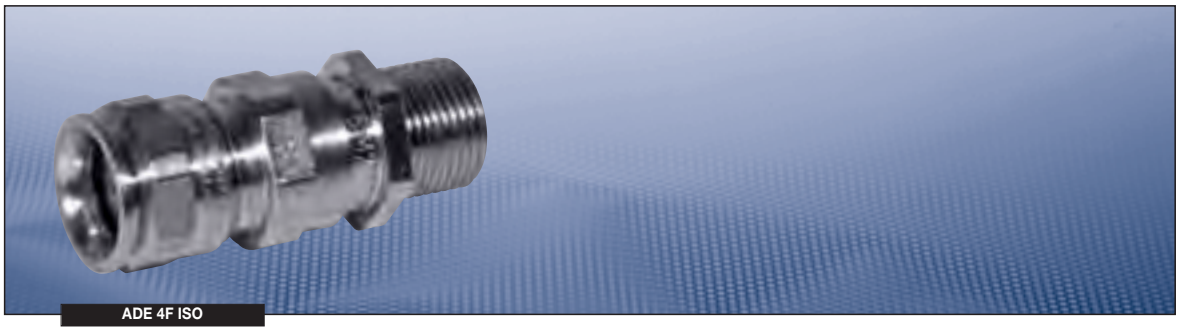
Enlarged temperature range from –70 °C up to +220 °C please use Order No.: CAP...5 instead of CAP...4

Dimension drawing



Type ADE 1F NPT

Dimensions in mm



ADE 4F ISO

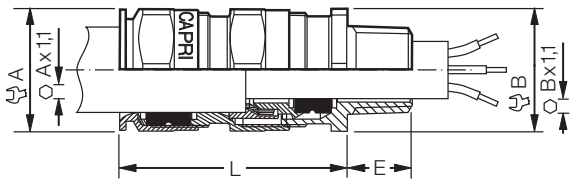
Ordering details

Thread	Type	Cable Ø outside mm	Cable Ø inside mm	Armour up to mm	A mm	B mm	L mm	E mm	Weight kg	Order No.
Cable gland type ADE 4F MsNi for armoured cables with ISO thread										
M12 x 1.5	5	6.0 - 12	4.0 - 8	0.9	19	19	36	15	0.048	**CAP 846 404**
M16 x 1.5	5	6.0 - 12	4.0 - 8.5	0.9	19	19	36	15	0.057	**CAP 846 594**
M16 x 1.5	6	8.5 - 16	6.0 - 12	1.25	19	24	36	15	0.078	**CAP 846 504**
M20 x 1.5	5	6.0 - 12	4.0 - 8.5	0.9	19	24	36	15	0.080	**CAP 846 674**
M20 x 1.5	6	8.5 - 16	6.0 - 12	1.25	24	24	42	15	0.090	**CAP 846 694**
M20 x 1.5	7	12 - 21	8.5 - 15.5	1.25	30	30	46	15	0.123	**CAP 846 604**
M25 x 1.5	6	8.5 - 16	6.0 - 12	1.25	24	30	42	15	0.122	**CAP 846 774**
M25 x 1.5	7	12 - 21	8.5 - 16	1.25	30	30	46	15	0.170	**CAP 846 794**
M25 x 1.5	8	16 - 27.5	12 - 20.5	1.6	41	41	56	15	0.270	**CAP 846 704**
M32 x 1.5	8	16 - 27.5	12 - 21	1.25	41	41	56	15	0.310	**CAP 846 894**
M32 x 1.5	9	21 - 34	16 - 27.5	1.6	48	48	63	15	0.400	**CAP 846 804**
M40 x 1.5	9	21 - 34	16 - 27.5	2.0	48	48	63	15	0.445	**CAP 846 994**
M40 x 1.5	10	27 - 41	21 – 34	2.0	55	55	68	15	0.540	**CAP 846 904**
M50 x 1.5	10	27 - 41	21 - 34	2.0	55	55	68	16	0.600	**CAP 847 094**
M50 x 1.5	11	33 - 48	27 - 41	2.5	64	64	74	16	0.735	**CAP 847 004**
M63 x 1.5	12	40 - 56	33 - 48	2.5	72	72	77	17	0.996	**CAP 847 294**
M63 x 1.5	13	47 - 65	40 - 56	2.5	85	85	85	17	1.480	**CAP 847 204**
M75 x 1.5	13	47 -65	40 - 56	2.5	85	85	85	18	1.590	**CAP 847 394**
M75 x 1.5	14	54 -74	47 - 65	2.5	95	95	92	18	2.305	**CAP 847 304**
M80 x 2.0	14	54 -74	47 - 65	3.15	95	95	92	20	2.270	**CAP 847 494**
M80 x 2.0	15	63 - 83	54 - 73	3.15	110	110	104	20	3.150	**CAP 847 404**
M90 x 2.0	15	63 - 83	54 - 74	3.15	110	110	104	22	3.175	**CAP 847 594**
M90 x 2.0	16	72 - 93	63 - 82	3.15	120	120	108	22	3.675	**CAP 847 504**
M90 x 2.0	17	85 - 107	63 - 82	3.15	135	120	108	22	3.675	**CAP 847 574**

Please use seal ng washers (see page 8.18).

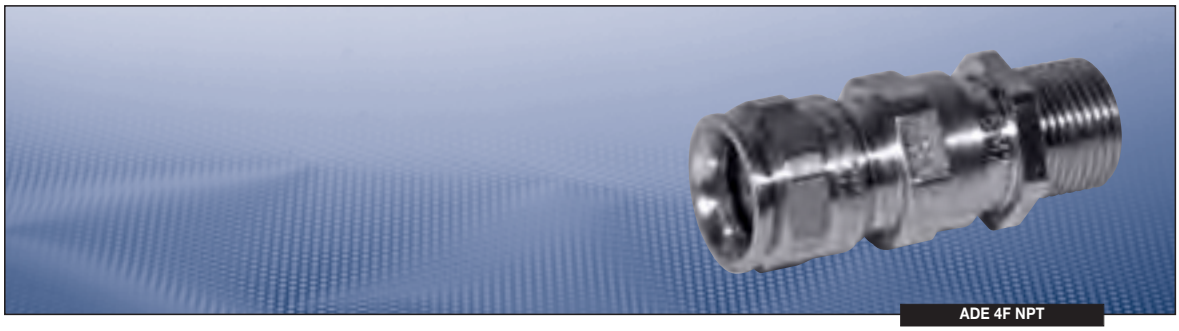
Enlarged temperature range from –70 °C up to +220 °C please use Order No.: CAP...5 instead of CAP...4

Dimension drawing



Type ADE 4F

Dimensions in mm


ADE 4F NPT

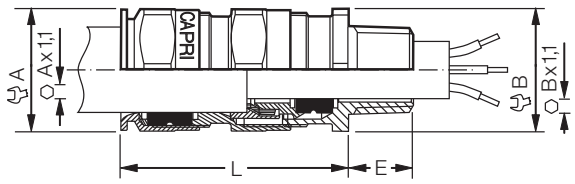
Ordering details

Thread	Type	Cable Ø outside mm	Cable Ø inside mm	Armour up to mm	A mm	B mm	L mm	E mm	Weight kg	Order No.
Cable gland type ADE 4F MsNi for armoured cables with NPT thread										
1/4“	5	6.0 - 12	4.0 - 8	0.9	19	19	36	12	0.048	**CAP 848 404**
3/8“	5	6.0 - 12	4.0 - 8.5	0.9	19	19	36	12	0.057	**CAP 848 594**
3/8“	6	8.5 - 16	6.0 - 12	1.25	24	24	42	12	0.075	**CAP 848 504**
1/2“	5	6.0 - 12	4.0 - 8.5	0.9	19	24	36	16	0.095	**CAP 848 674**
1/2“	6	8.5 - 16	6.0 - 12	1.25	24	24	42	16	0.090	**CAP 848 694**
1/2“	7	12 - 21	8.5 - 15.5	1.25	30	30	46	16	0.120	**CAP 848 604**
3/4“	6	8.5 - 16	6.0 - 12	1.25	24	30	42	16	0.136	**CAP 848 774**
3/4“	7	12 - 21	8.5 - 16	1.25	30	30	46	16	0.170	**CAP 848 794**
3/4“	8	16 - 27.5	12 - 20.5	1.6	41	41	56	16	0.270	**CAP 848 704**
1“	8	16 - 27.5	12 - 21	1.25	41	41	46	20	0.310	**CAP 848 894**
1“	9	21 - 34	16 - 26	1.6	48	48	63	20	0.400	**CAP 848 804**
1“1/4	9	21 - 34	16 - 27.5	2.0	48	48	63	20	0.445	**CAP 848 994**
1“1/4	10	27 - 41	21 – 34	2.0	55	55	68	20	0.540	**CAP 848 904**
1“1/2	10	27 - 41	21 - 34	2.0	55	55	68	20	0.600	**CAP 849 094**
1“1/2	11	33 - 48	27 - 41	2.5	64	64	74	20	0.800	**CAP 849 004**
2“	12	40 - 56	33 - 48	2.5	72	72	77	20	1.000	**CAP 849 294**
2“	13	47 - 65	40 - 53	2.5	85	85	85	20	1.500	**CAP 849 204**
2“1/2	13	47 - 65	40 - 56	2.2	85	85	85	28	1.700	**CAP 849 494**
2“1/2	14	54 - 74	47 – 62.5	2.5	95	95	92	28	2.400	**CAP 849 404**
3“	15	63 - 83	54 - 74	3.15	110	110	104	30	3.300	**CAP 849 594**
3“	16	72 - 93	63 - 78	3.15	120	120	108	30	3.800	**CAP 849 504**

Please use sealing washers (see page 8.18).

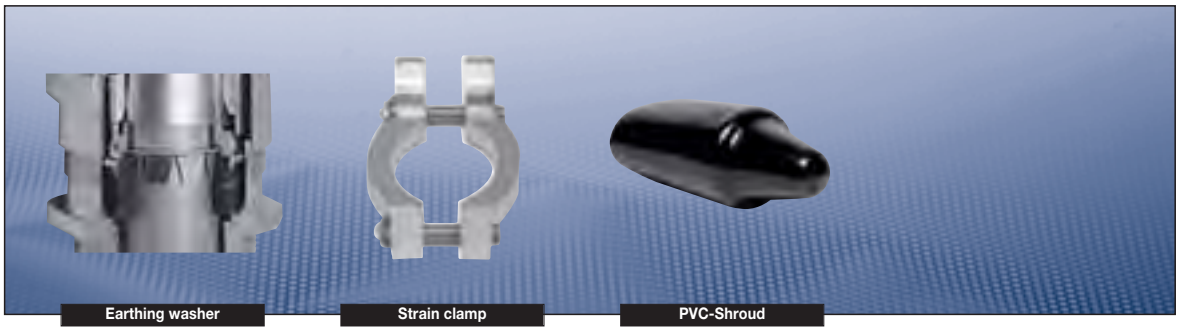
Enlarged temperature range from –70 °C up to +220 °C please use Order No.: CAP...5 instead of CAP...4

Dimension drawing



Type ADE 4F NPT

Dimensions in mm



Accessories for cable glands type ADE

Ordering details for PVC-Shrouds

Type ADE	Ø D/mm	OU	Order No.
4	16	10	CAP 506 040
5	20	10	CAP 506 050
6	25	10	CAP 506 060
7	31	10	CAP 506 070
8	43	10	CAP 506 080
9	52	10	CAP 506 090
10	59	10	CAP 506 100
11	67	10	CAP 506 110
12	75	10	CAP 506 120
13	90	10	CAP 506 130
14	100	10	CAP 506 140
15	116	10	CAP 506 150
16	127	10	CAP 506 160

Ordering details for strain clamp

Type ADE	for cable Ø mm	for A/F	B/mm	C/mm	Weight/kg	OU	Order No.
4	4 – 8.5	15	18	5	0.0085	1	CAP 810 434
5	6 – 12	19	22	5	0.007	1	CAP 810 534
6	8.5 – 16	24	27.5	6	0.015	1	CAP 810 634
7	12 – 21	30	33.5	8	0.028	1	CAP 810 734
8	16 – 27.5	41	45	8	0.044	1	CAP 810 834
9	21 – 34	48	52	9.5	0.061	1	CAP 810 934
10	27 – 41	55	59	9.5	0.069	1	CAP 811 034
11	33 – 48	64	69	12	0.13	1	CAP 811 134
12	40 – 56	72	78	12	0.16	1	CAP 811 234
13	47 – 65	85	92	16	0.37	1	CAP 811 334
14	54 – 74	95	103	16	0.42	1	CAP 811 434
15	63 – 83	110	118	18	0.64	1	CAP 811 534
16	72 – 93	120	128	18	0.68	1	CAP 811 634

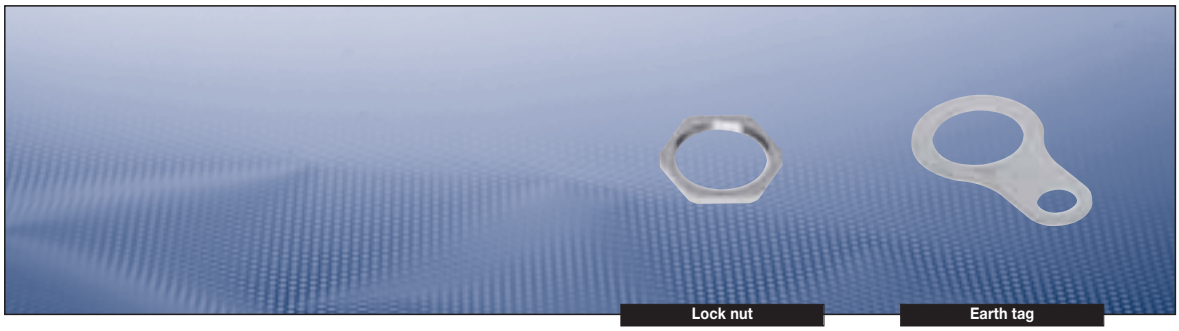
Ordering details earthing washer for cable glands

Type ADE	for cable Ø mm	A mm	H mm	Weight/g	OU	Order No.
5	4 – 7.5	10	3.2	0.25	10	CAP 560 530
6	9 – 11	13.9	4	0.3	10	CAP 560 630
7	9 – 15	18.3	4.8	0.6	10	CAP 560 730
8	12 – 20	23.8	5.7	0.9	10	CAP 560 830
9	16 – 26.5	31	7.2	1.5	10	CAP 560 930
10	21 – 32.5	38.3	8.2	2.8	10	CAP 561 030
11	28 – 39.5	45.3	8.8	3.8	10	CAP 561 130
12	33 – 46.5	52.8	9.5	5.8	10	CAP 561 230
13	40 – 54.5	60.8	10.1	7.3	10	CAP 561 330
14	46.5 – 61	71	11.4	11	10	CAP 561 430
15	54 – 72.5	80.5	12.6	14.5	10	CAP 561 530
16	63 – 81.5	89.5	12.6	14.5	10	CAP 561 630

Cable glands with PG-thread are available on request.

The order No. will show 1 pcs.

Please note that only order units (OU) can be ordered.



Accessories for cable glands type ADE

Ordering details earth tags for cable glands

Thread ISO/NPT	Dimensions A mm	B mm	ØC mm	ØD mm	E mm	Weight approx. kg	OU	Order No.
M12 x 1.5 ISO	48.75	30	6.75	24.5	13	0.008	10	**CAP 567 024**
M16 x 1.5 ISO	48.75	30	6.75	24.5	13	0.008	10	**CAP 567 034**
M20 x 1.5 ISO	53.8	33	7	28.6	13	0.008	10	**CAP 567 054**
M25 x 1.5 ISO	61.5	36	10.5	34	17	0.011	10	**CAP 567 074**
M32 x 1.5 ISO	73	41	12.2	42	22	0.015	10	**CAP 567 094**
M40 x 1.5 ISO	86.5	44.5	13.5	54	30	0.025	10	**CAP 567 124**
M50 x 1.5 ISO	111.5	58	13.5	67	40	0.041	1	**CAP 567 154**
M63 x 1.5 ISO	125.5	67	13.5	77	40	0.044	1	**CAP 567 184**
3/8“ NPT	53,8	33	7	28,6	13	0.008	1	**CAP 567 044**
1/2“ NPT	61,5	36	10,5	34	17	0.008	10	**CAP 567 064**
3/4“ NPT	73	41	12,2	42	22	0.008	10	**CAP 567 084**
1“ NPT	73	41	12,2	42	22	0.011	10	**CAP 567 104**
1“1/4 NPT	86,5	44,5	13,5	54	30	0.015	10	**CAP 567 134**
1“1/2 NPT	111,5	58	13,5	67	40	0.025	1	**CAP 567 154**
2“ NPT	125,5	67	13,5	77	40	0.041	1	**CAP 567 174**
2“1/2 NPT	137,5	73	13,5	89	40	0.044	1	**CAP 567 194**

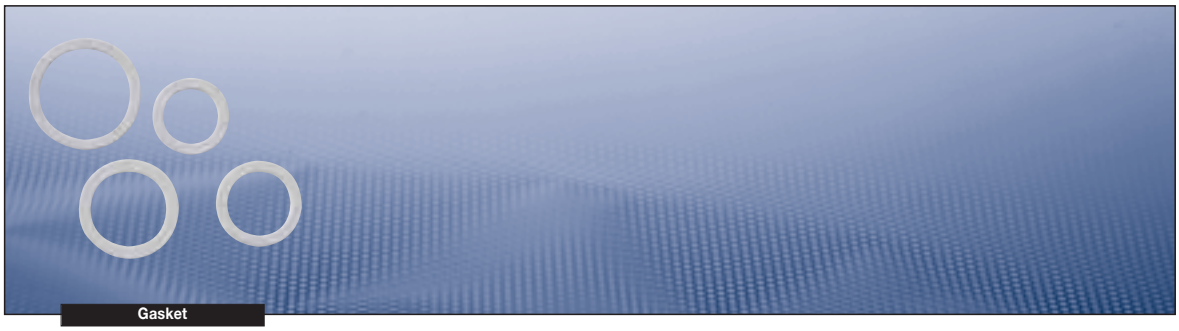
Ordering details lock nuts MsNi

Thread ISO/NPT	A/F mm	L mm	OU	Order No.
M12 x 1.5 ISO	14	2.8	10	**CAP 221 294**
M16 x 1.5 ISO	18	2.8	10	**CAP 221 694**
M20 x 1.5 ISO	23	3.0	10	**CAP 222 094**
M25 x 1.5 ISO	28	3.0	10	**CAP 222 594**
M32 x 1.5 ISO	36	3.5	10	**CAP 223 294**
M40 x 1.5 ISO	44	4.0	10	**CAP 224 094**
M50 x 1.5 ISO	54	5.0	10	**CAP 225 094**
M63 x 1.5 ISO	70	6.0	10	**CAP 226 394**
1/4“ NPT	16	2.8	10	**CAP 280 104**
3/8“ NPT	20	2.8	10	**CAP 280 114**
1/2“ NPT	24	3.5	10	**CAP 280 124**
3/4“ NPT	30	3.5	10	**CAP 280 134**
1“ NPT	37	4.5	10	**CAP 280 144**
1“1/4 NPT	47	4.5	10	**CAP 280 154**
1“1/2 NPT	52	5.0	10	**CAP 280 164**
2“ NPT	64	5.5	10	**CAP 280 174**
2“1/2 NPT	77	6.5	10	**CAP 280 184**
3“ NPT	95	8.0	10	**CAP 280 194**
3“1/2 NPT	110	10.0	10	**CAP 280 204**
4“ NPT	120	11.0	10	**CAP 280 214**

Cable glands with PG-thread are available on request.

The order No. will show 1 pcs.

Please note that only order units (OU) can be ordered.


Gasket

Accessories for cable glands type ADE

Ordering details gaskets for cable glands

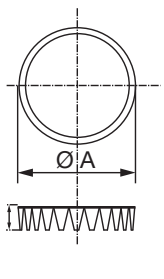
Thread	Ø D mm	L mm	OU	Order No. Fibrious material	Order No. Neoprene
M12	18	1.2	10	**CAP 221 245**	**CAP 221 249**
M16	22	1.2	10	**CAP 221 645**	**CAP 221 649**
M20	24	1.2	10	**CAP 222 045**	**CAP 222 049**
M25	30	1.5	10	**CAP 222 545**	**CAP 222 549**
M32	42	1.5	10	**CAP 223 245**	**CAP 223 249**
M40	52	1.5	10	**CAP 224 045**	**CAP 224 049**
M50	63	1.5	10	**CAP 225 045**	**CAP 225 049**
M63	77	2.0	10	**CAP 226 345**	**CAP 226 349**
1/4“	20	1.5	10	**CAP 239 014**	**CAP 229 014**
3/8“	22	1.5	10	**CAP 239 038**	**CAP 229 038**
1/2“	27	1.5	10	**CAP 239 012**	**CAP 229 012**
3/4“	33	1.5	10	**CAP 239 034**	**CAP 229 034**
1“	41	1.5	10	**CAP 239 010**	**CAP 229 010**
1 1/4“	52	1.5	10	**CAP 239 114**	**CAP 229 114**
1 1/2“	57	1.5	10	**CAP 239 112**	**CAP 229 112**
2“	71	2.0	10	**CAP 239 020**	**CAP 229 020**
2 1/2“	85	2.0	10	**CAP 239 212**	**CAP 229 212**
3“	104	2.0	10	**CAP 238 049**	**CAP 229 300**
3 1/2“	120	2.0	10	**CAP 239 312**	**CAP 229 312**

Cable glands with PG-thread are available on request.

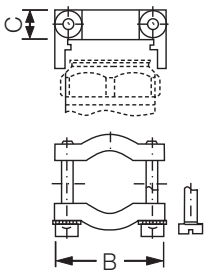
The order No. will show 1 pcs.

Please note that only order units (OU) can be ordered.

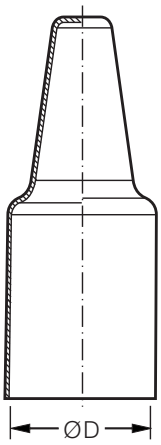
Dimension drawing



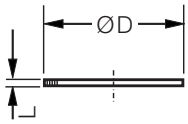
Earthing washer



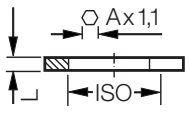
Strain clamp



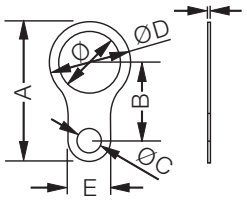
Shroud



Gasket

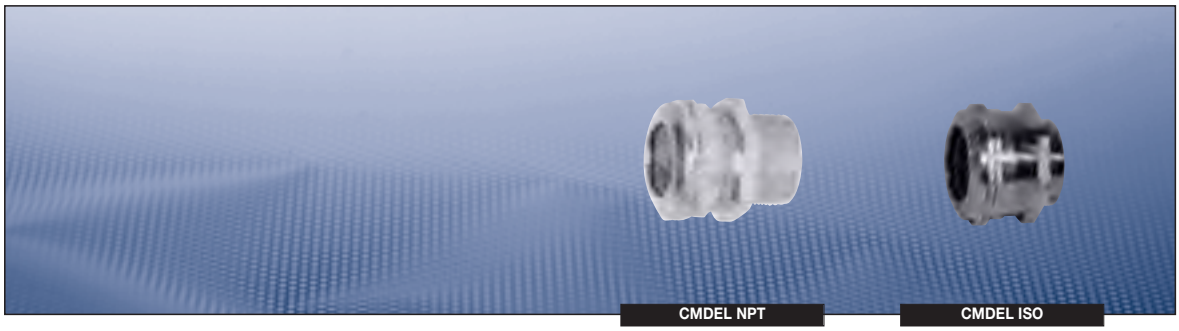


Lock nut



Earth tag

Dimensions in mm



Technical data

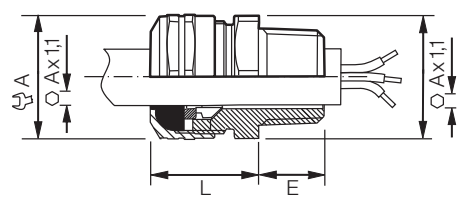
Ex-e cable glands metal design CMDEL	
Marking to 94/9/EC	Ex II 2 G Ex e II / Ex II 2 D Ex tD
EC-Type Examination Certificate	LCIE 97 ATEX 6005 X
Permissible ambient temperature	–40 °C up to +100 °C
	–70 °C up to +220 °C (option)
Degree of protection accd. EN 60529	IP66 / IP68 - 10 bar
Thread	ISO thread accd. ISO 965/1, ISO 965/2 and EN 60432
Enclosure material	Nickel-plated brass (stainless steel, bronze, natural brass option)

Ordering details

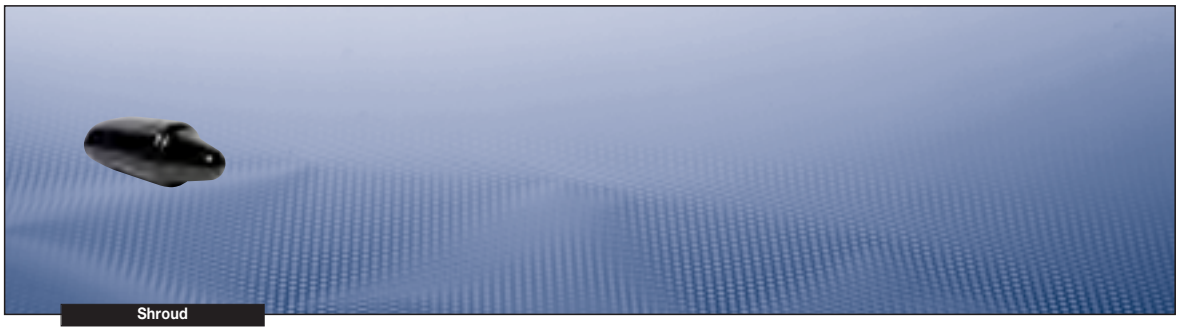
Thread	Cable Ø mm	A mm	L mm	E mm	Weight approx. kg	Order No.
Cable gland type CMDEL MsNi for unarmoured cables with ISO thread						
M10 x 1.0	1.5 – 5.0	15	17	7	0.017	**CAP 221 004**
M12 x 1.5	4.0 - 8.0	18	17	7	0.021	**CAP 221 204**
M16 x 1.5	7.0 - 11	22	20	8	0.036	**CAP 221 604**
M20 x 1.5	8.0 - 13	24	20	8	0.043	**CAP 222 004**
M25 x 1.5	13.0 - 18	30	24	9	0.071	**CAP 222 504**
M32 x 1.5	17.5 - 25	41	28	10	0.143	**CAP 223 204**
M40 x 1.5	24.5 - 33.5	52	38	11	0.263	**CAP 224 004**
M50 x 1.5	33.0 - 43	63	42	12	0.386	**CAP 225 004**
M63 x 1.5	43.0 - 55	77	47	13	0.583	**CAP 226 304**
Cable gland type CMDEL MsNi for unarmoured cables with NPT thread						
1/2“	7.5 - 13	24	20	16	0.045	**CAP 183 134**
3/4“	12.5 - 18	30	24	16	0.022	**CAP 183 144**
1“	17.5 - 25	41	28	20	0.034	**CAP 183 154**
1 1/4“	24.5 - 33.5	52	38	20	0.041	**CAP 183 164**
1 1/2“	24.5 - 33.5	52	38	20	0.042	**CAP 183 174**
2“	33 - 43	63	42	20	0.046	**CAP 183 184**
2 1/2“	42.5 - 55	77	47	28	0.066	**CAP 183 194**

Please use sealing washers (see page 8.18).

Dimension drawing



Dimensions in mm



Shroud

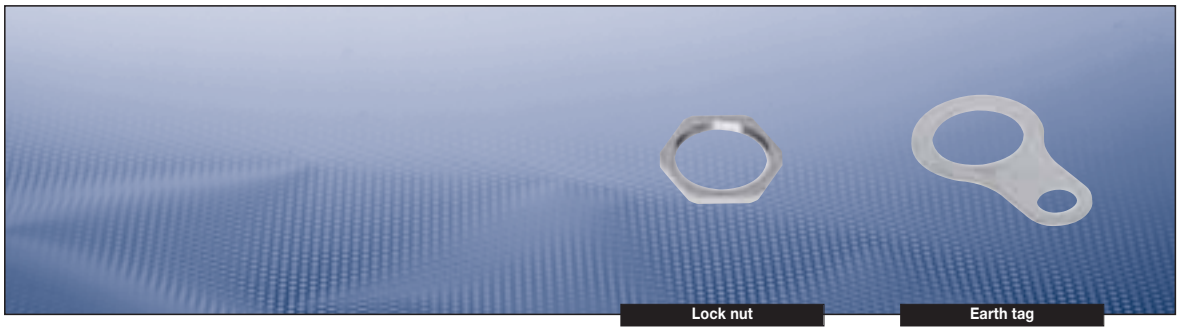
Accessories for cable glands type CMDEL

Ordering details for PVC-shrouds for cable glands		
Type CMDEL	**OU**	**Order No.**
M10	10	**CAP 506 040**
M12 / M16	10	**CAP 506 050**
M20 / 1/2"	10	**CAP 506 060**
M25 / 3/4"	10	**CAP 506 070**
M32 / 1"	10	**CAP 506 080**
M40 / 1 1/4" / 1 1/2"	10	**CAP 506 090**
M50 / 2"	10	**CAP 506 100**
2 1/2"	10	**CAP 506 110**
12	10	**CAP 506 120**

Cable glands with PG-thread are available on request.

The order No. will show 1 pcs.

Please note that only order units (OU) can be ordered.



Accessories for cable glands type CMDEL

Ordering details earth tags MsNi for cable glands

Thread	Dimensions A	B	ØC	ØD	E	Weight approx. kg	OU	Order No.
M12 x 1.5 ISO	48.75	30	6.75	24.5	13	0.008	10	**CAP 567 024**
M16 x 1.5 ISO	48.75	30	6.75	24.5	13	0.008	10	**CAP 567 034**
M20 x 1.5 ISO	53.8	33	7	28.6	13	0.008	10	**CAP 567 054**
M25 x 1.5 ISO	61.5	36	10.5	34	17	0.011	10	**CAP 567 074**
M32 x 1.5 ISO	73	41	12.2	42	22	0.015	10	**CAP 567 094**
M40 x 1.5 ISO	86.5	44.5	13.5	54	30	0.025	10	**CAP 567 124**
M50 x 1.5 ISO	111.5	58	13.5	67	40	0.041	10	**CAP 567 154**
M63 x 1.5 ISO	125.5	67	13.5	77	40	0.044	10	**CAP 567 184**
3/8" NPT	53.8	33	7	28.6	13	0.008	10	**CAP 567 044**
1/2" NPT	61.5	36	10.5	34	17	0.008	10	**CAP 567 064**
3/4" NPT	73	41	12.2	42	22	0.008	10	**CAP 567 084**
1" NPT	73	41	12.2	42	22	0.011	10	**CAP 567 104**
1"1/4 NPT	86.5	44.5	13.5	54	30	0.015	10	**CAP 567 134**
1"1/2 NPT	111.5	58	13.5	67	40	0.025	10	**CAP 567 154**
2" NPT	125.5	67	13.5	77	40	0.041	10	**CAP 567 174**
2"1/2 NPT	137.5	73	13.5	89	40	0.044	10	**CAP 567 194**

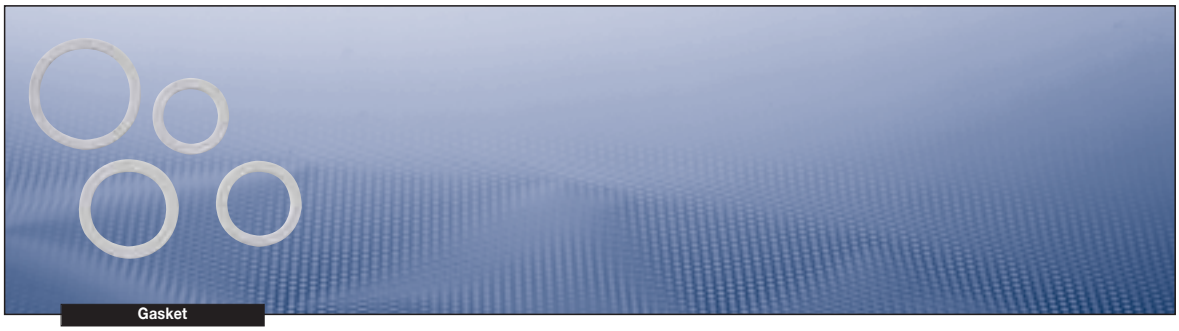
Ordering details lock nuts MsNi

Thread ISO/NPT	A/F mm	L mm	OU	Order No.
M12 x 1.5 ISO	14	2.8	10	**CAP 221 294**
M16 x 1.5 ISO	18	2.8	10	**CAP 221 694**
M20 x 1.5 ISO	23	3.0	10	**CAP 222 094**
M25 x 1.5 ISO	28	3.0	10	**CAP 222 594**
M32 x 1.5 ISO	36	3.5	10	**CAP 223 294**
M40 x 1.5 ISO	44	4.0	10	**CAP 224 094**
M50 x 1.5 ISO	54	5.0	10	**CAP 225 094**
M63 x 1.5 ISO	70	6.0	10	**CAP 226 394**
1/4" NPT	16	2.8	10	**CAP 280 104**
3/8" NPT	20	2.8	10	**CAP 280 114**
1/2" NPT	24	3.5	10	**CAP 280 124**
3/4" NPT	30	3.5	10	**CAP 280 134**
1" NPT	37	4.5	10	**CAP 280 144**
1"1/4 NPT	47	4.5	10	**CAP 280 154**
1"1/2 NPT	52	5.0	10	**CAP 280 164**
2" NPT	64	5.5	10	**CAP 280 174**
2"1/2 NPT	77	6.5	10	**CAP 280 184**
3" NPT	95	8.0	10	**CAP 280 194**
3"1/2 NPT	110	10.0	10	**CAP 280 204**
4" NPT	120	11.0	10	**CAP 280 214**

Cable glands with PG-thread are available on request.

The order No. will show 1 pcs.

Please note that only order units (OU) can be ordered.



Gasket

Accessories for cable glands type CMDEL

Ordering details gaskets for cable glands

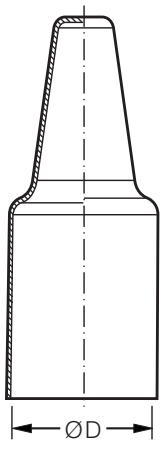
Thread ISO/NPT	Ø D mm	L mm	OU	Order No. Fibrious material	Order No. Neoprene
M12 x 1.5 ISO	18	1.2	10	**CAP 221 245**	**CAP 221 249**
M16 x 1.5 ISO	22	1.2	10	**CAP 221 645**	**CAP 221 649**
M20 x 1.5 ISO	24	1.2	10	**CAP 222 045**	**CAP 222 049**
M25 x 1.5 ISO	30	1.5	10	**CAP 222 545**	**CAP 222 549**
M32 x 1.5 ISO	42	1.5	10	**CAP 223 245**	**CAP 223 249**
M40 x 1.5 ISO	52	1.5	10	**CAP 224 045**	**CAP 224 049**
M50 x 1.5 ISO	63	1.5	10	**CAP 225 045**	**CAP 225 049**
M63 x 1.5 ISO	77	2.0	10	**CAP 226 345**	**CAP 226 349**
1/4“ NPT	20	1.5	10	**CAP 239 014**	**CAP 229 014**
3/8“ NPT	22	1.5	10	**CAP 239 038**	**CAP 229 038**
1/2“ NPT	27	1.5	10	**CAP 239 012**	**CAP 229 012**
3/4“ NPT	33	1.5	10	**CAP 239 034**	**CAP 229 034**
1“ NPT	41	1.5	10	**CAP 239 010**	**CAP 229 010**
1“1/4 NPT	52	1.5	10	**CAP 239 114**	**CAP 229 114**
1“1/2 NPT	57	1.5	10	**CAP 239 112**	**CAP 229 112**
2“ NPT	71	2.0	10	**CAP 239 020**	**CAP 229 020**
2“1/2 NPT	85	2.0	10	**CAP 239 212**	**CAP 229 212**
3“ NPT	104	2.0	10	**CAP 238 049**	**CAP 229 300**
3“1/2 NPT	120	2.0	10	**CAP 239 312**	**CAP 229 312**

Cable glands with PG-thread are available on request.

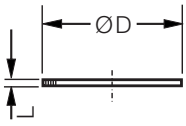
The order No. will show 1 pcs.

Please note that only order units (OU) can be ordered.

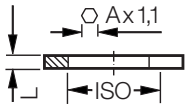
Dimension drawing



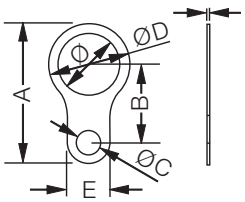
Shroud



Gasket

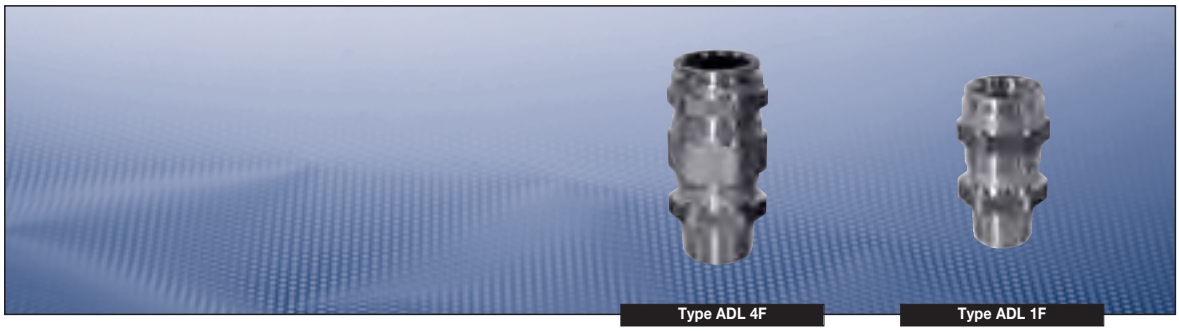


Lock nut



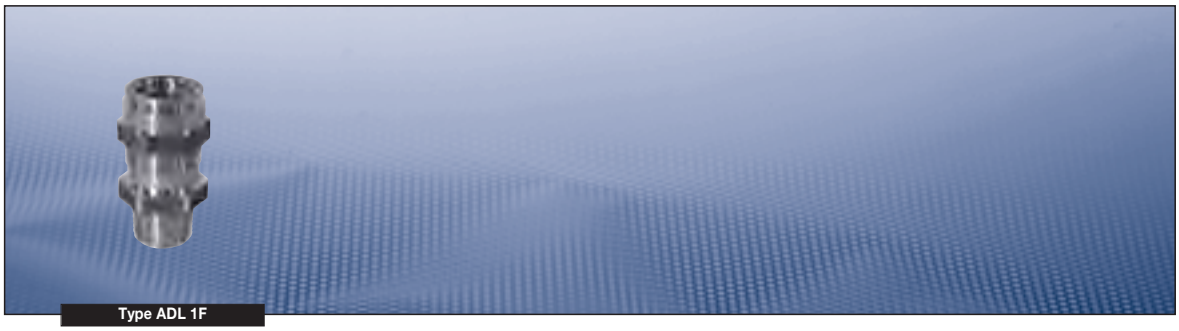
Earth tag

Dimensions in mm



Technical data

Ex-e cable glands metal design ADL 1F | ADL 4F V> 2000 cm³	
Marking to 94/9/EC	Ex II 2 G Ex d IIC / Ex e II / Ex II 2 D Ex tD
EC-Type Examination Certificate	LCIE 97 ATEX 6006 X
Permissible ambient temperature	–40 °C to +100 °C
	–70 °C up to +220 °C (option)
Degree of protection accd. EN 60529	IP66 / IP68 - 10 bar
Thread	ISO thread acc. ISO 965/1, ISO 965/2 and EN 60423
Enclosure material	Natural brass (stainless steel, MsNi, bronze option)



Type ADL 1F

Ordering details

Thread	Type	Cable Ø outside mm	Dimensions A mm	L[1] mm	E mm	Weight approx. kg	Order No.
Cable gland type ADL 1F for unarmoured cables							
ISO20 x 1.5	ADL 1F ISO20 N05B2	6 - 10	28	59	16	0,094	**NOR 000 222 260 852**
ISO20 x 1.5	ADL 1F ISO20 N05B1	9 - 14	28	59	16	0,093	**NOR 000 222 260 860**
ISO25 x 1.5	ADL 1F ISO25 N05B2	6 - 10	28	59	16	0,098	**NOR 000 222 260 878**
ISO25 x 1.5	ADL 1F ISO25 N05B1	9 - 14	28	59	16	0,096	**NOR 000 002 260 886**
ISO25 x 1.5	ADL 1F ISO25 N06B4	14 - 18	32	60	18	0,117	**NOR 000 222 260 927**
ISO25 x 1.5	ADL 1F ISO25 N06B5	16 - 19	32	60	18	0,108	**NOR 000 112 260 590**
ISO32 x 1.5	ADL 1F ISO32 N07B3	20 - 23	40	73	18	0,217	**NOR 000 112 260 623**
ISO32 x 1.5	ADL 1F ISO32 N08B1	20 - 27.5	52	83	18	0,357	**NOR 000 112 260 657**
NPT 1/2"	ADL 1F NPT1/2" N05B2	6 - 10	28	59	16	0,100	**NOR 000 222 260 753**
NPT 1/2"	ADL 1F NPT1/2" N05B1	9 - 14	28	59	16	0,099	**NOR 000 222 260 761**
NPT 3/4"	ADL 1F NPT3/4" N05B2	6 - 10	28	59	16	0,107	**NOR 000 222 260 779**
NPT 3/4"	ADL 1F NPT3/4" N05B1	9 - 14	28	59	16	0,105	**NOR 000 222 260 787**
NPT 3/4"	ADL 1F NPT3/4" N06B4	14 - 18	32	60	16	0,123	**NOR 000 222 260 894**
NPT 3/4"	ADL 1F NPT3/4" N06B5	16 - 19	32	60	16	0,115	**NOR 000 002 260 890**
NPT 1"	ADL 1F NPT1" N07B3	20 - 23	40	73	21	0,235	**NOR 000 112 260 607**
1" ISO 7/1	ADL 1F 1"ISO7-1 N07B3	20 - 23	40	73	19	0,230	**NOR 000 002 260 915**
NPT 1"	ADL 1F NPT1" N08B1	20 - 26	52	83	21	0,380	**NOR 000 112 260 631**
1" ISO 7/1	ADL 1F 1"ISO7-1 N08B1	20 - 26	52	83	19	0,375	**NOR 000 002 260 923**
The threaded up to 3/4" NPT compatible with ISO 7/1 conic							
PG 13.5	ADL 1F PG13.5 N05B2 B	6 - 10	28	59	16	0,098	**NOR 000 222 260 810**
PG 13.5	ADL 1F PG13.5 N05B1 A	9 - 14	28	59	16	0,096	**NOR 000 222 260 828**
PG 16	ADL 1F PG16 N05B2	6 - 10	28	59	16	0,107	**NOR 000 222 260 836**
PG 16	ADL 1F PG16 N05B1	9 - 14	28	59	16	0,105	**NOR 000 222 260 844**
PG 21	ADL 1F PG21 N06B4	14 - 18	32	60	21	0,147	**NOR 000 222 260 919**

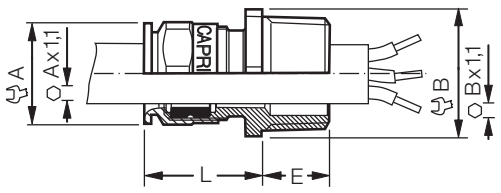
[1] Dimensions with max. cable

All dimensions in mm

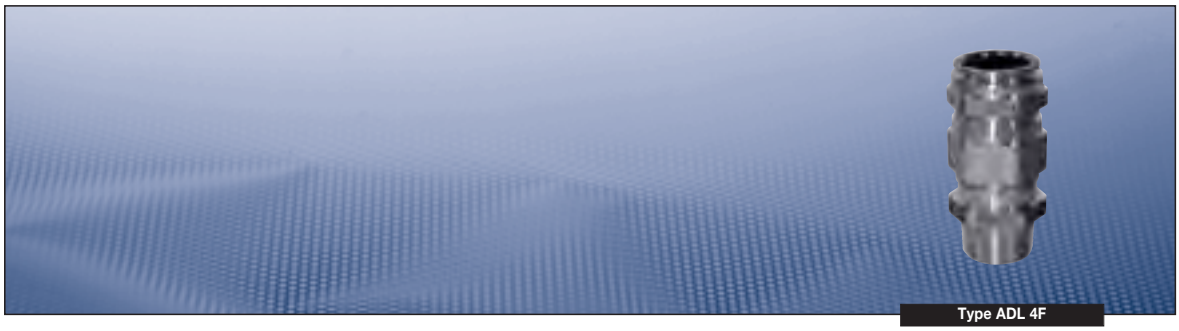
Please use sealing washers (see page 8.18).

Enlarged temperature range from –70 °C up to +220 °C please use Order No.: CAP...5 instead of CAP...4

Dimension drawing



Dimensions in mm


Type ADL 4F

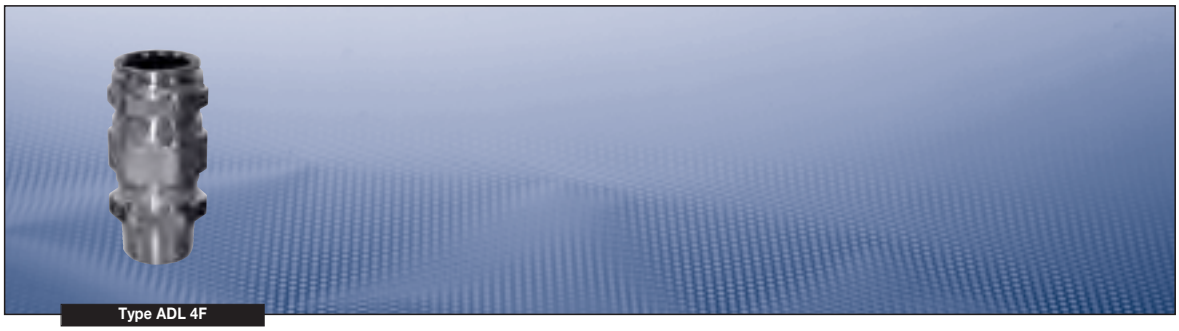
Ordering details

Thread	Type	Cable Ø[2]		Armour	Dimensions				Weight	Order No.
		Outside mm	Inside mm	up to mm	A mm	B mm	L[1] mm	E mm	approx. kg	
Cable gland type ADL 4F for armoured cables										
ISO20 x 1.5	ADL 4F ISO20 N05B2	10 - 15	6 - 10	0.15 - 1.25	28	–	59	16	0.152	**NOR 000 222 260 547**
ISO20 x 1.5	ADL 4F ISO20 N05B1	13 - 18	9 - 14	0.15 - 1.25	28	–	59	16	0.150	**NOR 000 222 260 555**
ISO25 x 1.5	ADL 4F ISO25 N05B2	10 - 15	6 - 10	0.15 - 1.25	28	–	59	16	0.155	**NOR 000 222 260 563**
ISO25 x 1.5	ADL 4F ISO25 N05B1	13 - 18	9 - 14	0.15 - 1.25	28	–	59	16	0.153	**NOR 000 222 260 571**
ISO25 x 1.5	ADL 4F ISO25 N06B4	18 - 22	14 - 18	0.15 - 1.25	32	–	60	18	0.184	**NOR 000 222 260 638**
ISO25 x 1.5	ADL 4F ISO25 N06B5	19 - 23	16 - 19	0.15 - 1.25	32	–	60	18	0.173	**NOR 000 112 260 409**
ISO32 x 1.5	ADL 4F ISO32 N06B4	18 - 22	14 - 18	0.15 - 1.25	32	36	63.5	15	0.228	**NOR 000 222 260 646**
ISO32 x 1.5	ADL 4F ISO32 N07B3	18 - 27.5	20 - 23	0.15 - 1.6	40	–	73	18	0.370	**NOR 000 112 260 433**
ISO32 x 1.5	ADL 4F ISO32 N08B1	23 - 33.5	20 - 27.5	0.15 - 2	52	–	83	18	0.690	**NOR 000 112 260 467**
ISO50 x 1.5	ADL 4F ISO50 N09B1	29 - 40.5	25 - 33	0.2 - 2	57	–	87	18	0.900	**NOR 000 112 260 706**
ISO50 x 1.5	ADL 4F ISO50 N10B2	35 - 48	30 - 39	0.5 - 2.5	72	–	100	18	1.255	**NOR 000 112 260 722**
ISO60 x 1.5	ADL 4F ISO60 N10B1	41 - 53	37 - 45	0.5 - 2.5	72	–	100	18	1.165	**NOR 000 112 260 748**
ISO60 x 1.5	ADL 4F ISO60 N10B3	50 - 56.5	44 - 49.5	0.5 - 2.5	72	–	100	18	1.120	**NOR 000 112 260 764**
NPT 1/2"	ADL 4F NPT 1/2" N05B2	10 - 15	6 - 10	0.15 - 1.25	28	–	59	16	0.158	**NOR 000 222 260 422**
NPT 1/2"	ADL 4F NPT 1/2" N05B1	13 - 18	9 - 14	0.15 - 1.25	28	–	59	16	0.156	**NOR 000 222 260 430**
NPT 3/4"	ADL 4F NPT 3/4" N05B2	10 - 15	6 - 10	0.15 - 1.25	28	–	59	16	0.165	**NOR 000 222 260 464**
NPT 3/4"	ADL 4F NPT 3/4" N05B1	13 - 18	9 - 14	0.15 - 1.25	28	–	59	16	0.163	**NOR 000 222 260 472**
NPT 3/4"	ADL 4F NPT 3/4" N06B4	18 - 22	14 - 18	0.15 - 1.25	32	–	60	16	0.190	**NOR 000 222 260 589**
NPT 3/4"	ADL 4F NPT 3/4" N06B5	19 - 23	16 - 19	0.15 - 1.25	32	–	60	16	0.180	**NOR 000 002 260 733**
NPT 1"	ADL 4F NPT 1" N06B4	13 - 18	9 - 14	0.15 - 1.25	32	38	67.5	20	0.267	**NOR 000 222 260 612**
NPT 1"	ADL 4F NPT 1" N06B5	19 - 23	16 - 19	0.15 - 1.25	32	38	67.5	20	0.257	**NOR 000 112 260 392**
NPT 1"	ADL 4F NPT 1" N07B3	18 - 27.5	20 - 23	0.15 - 1.6	40	–	73	21	0.390	**NOR 000 112 260 417**
NPT 1"	ADL 4F NPT 1" N08B1	23 - 33.5	20 - 26	0.15 - 2	52	–	83	21	0.712	**NOR 000 112 260 441**
NPT 1 1/4"	ADL 4F NPT 1 1/4" N07B3	18 - 27.5	20 - 23	0.15 - 1.6	40	44	83.5	20	0.520	**NOR 000 112 260 425**
NPT 1 1/4"	ADL 4F NPT 1 1/4" N08B1	23 - 33.5	20 - 26	0.15 - 2	52	–	83	21	0.730	**NOR 000 112 260 459**
NPT 1 1/2"	ADL 4F NPT 1 1/2" N09B1	29 - 40.5	25 - 33	0.2 - 2	57	–	87	21	0.904	**NOR 000 112 260 780**
NPT 1 1/2"	ADL 4F NPT 1 1/2" N10B2	35 - 48	30 - 39	0.2 - 2.5	72	–	100	18	1.255	**NOR 000 112 260 798**
NPT 2"	ADL 4F NPT 2" N10B1	41 - 53	37 - 45	0.2 - 2.5	72	–	100	25	1.190	**NOR 000 112 260 805**
NPT 2"	ADL 4F NPT 2" N10B3	50 - 56.5	44 - 49.5	0.2 - 2.5	72	–	100	25	1.140	**NOR 000 112 260 813**

[1] The threaded up to 3/4" NPT compatible with ISO 7/1 conic

[2] Dimensions with max. cable

Enlarged temperature range from –70 °C up to +220 °C please use Order No.: CAP...5 instead of CAP...4



Type ADL 4F

Ordering details

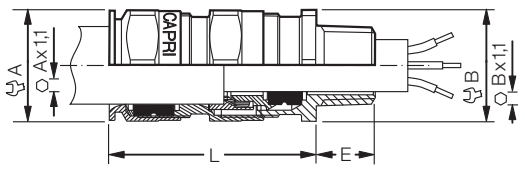
Thread	Type	Cable Ø[2]			Dimensions				Weight	Order No.
		Outside mm	Inside mm	Armour up to mm	A mm	B mm	L[1] mm	E mm	approx. kg	
Cable gland type ADL 4F for armoured cable										
PG 11	ADL 4F PG11 N05B1	13 - 18	9 - 14	0.15 - 1.25	28	–	59	16	0.147	**NOR 000 222 260 373**
PG 13.5	ADL 4F PG13.5 N05B2	10 - 15	6 - 10	0.15 - 1.25	28	–	59	16	0.156	**NOR 000 222 260 399**
PG 13.5	ADL 4F PG13.5 N05B1	13 - 18	9 - 14	0.15 - 1.25	28	–	59	16	0.154	**NOR 000 222 260 513**
PG 16	ADL 4F PG16 N05B2	10 - 15	6 - 10	0.15 - 1.25	28	–	59	16	0.165	**NOR 000 222 260 521**
PG 16	ADL 4F PG16 N05B1	13 - 18	9 - 14	0.15 - 1.25	28	–	59	16	0.163	**NOR 000 222 260 539**
PG 21	ADL 4F PG21 N06B4	18 - 22	14 - 18	0.15 - 1.25	32	–	60	21	0.215	**NOR 000 222 260 604**
PG 21	ADL 4F PG21 N06B5	19 - 23	16 - 19	0.15 - 1.25	32	–	60	21	0.203	**NOR 000 112 260 152**
PG 29	ADL 4F PG29 N07B3	18 - 27.5	20 - 23	0.15 - 1.6	40	–	73	21	0.428	**NOR 000 112 260 160**
PG 29	ADL 4F PG29 N08B1	23 - 33.5	20 - 27.5	0.15 - 2	52	–	83	21	0.740	**NOR 000 112 260 178**
PG 36	ADL 4F PG36 N09B1	29 - 40.5	25 - 33	0.2 - 2	57	–	87	21	0.892	**NOR 000 112 260 714**
1" ISO 7/1	ADL 4F 1"ISO7-1 N05B4	18 - 22	14 - 18	0.15 - 1.25	32	36	67.5	19	0.265	**NOR 000 222 260 620**
1" ISO 7/1	ADL 4F 1"ISO7-1 N06B5	19 - 23	16 - 19	0.15 - 1.25	32	36	67.5	19	0.255	**NOR 000 112 260 037**
1" ISO 7/1	ADL 4F 1"ISO7-1 N07B3	18 - 27.5	20 - 23	0.15 - 1.6	40	–	73	19	0.385	**NOR 000 002 260 741**
1" ISO 7/1	ADL 4F 1"ISO7-1 N08B1	23 - 33.5	20 - 26	0.15 - 2	52	–	83	19	0.708	**NOR 000 002 260 824**
1¼" ISO 7/1	ADL 4F 1¼"ISO7-1 N08B1	23 - 33.5	20 - 27.5	0.15 - 2	52	–	83	21.5	0.803	**NOR 000 112 260 053**
1½" ISO 7/1	ADL 4F 1½"ISO7-1 N09B1	29 - 40.5	25 - 33	0.2 - 2	57	–	87	21.5	0.803	**NOR 000 002 260 759**
1½" ISO 7/1	ADL 4F 1½"ISO7-1 N10B2	35 - 48	30 - 39	0.5 - 2.5	72	–	100	21.5	1.282	**NOR 000 002 260 767**
2" ISO 7/1	ADL 4F 2"ISO7-1 N10B1	41 - 53	37 - 45	0.5 - 2.5	72	–	100	26	1.210	**NOR 000 002 260 791**
2" ISO 7/1	ADL 4F 2"ISO7-1 N10B3	50 - 56.5	44 - 49.5	0.5 - 2.5	72	–	100	26	1.162	**NOR 000 002 260 808**

[1] The threaded up to 3/4" NPT compatible with ISO 7/1 conic

[2] Dimensions with max. cable

Please use sealing washers (see page 8.18).

Dimension drawing



Dimensions in mm



Accessories for cable glands type ADL

Ordering details for strain clamp

Type	for A/F mm	Cable Ø mm	B mm	C mm	Weight kg	Order No.
5	28/29	6.5 – 13	34	9	0.03	**CAP 901 234**
5	28/29	10.5 – 17	34	9	0.033	**CAP 901 294**
6	32	7 – 15	42	10.5	0.058	**CAP 903 434**
6	32	13 – 21	42	10.5	0.065	**CAP 903 494**
7	40/41	18 – 27.5	51	10.5	0.088	**CAP 901 094**
8	52	16 – 27.5	65	12	0.118	**CAP 901 434**
8	52	23.5 – 33.5	65	12	0.118	**CAP 901 494**
9	57	29 – 40.5	65	12	0.149	**CAP 901 594**
10	72	30 – 44	78	12	0.133	**CAP 902 034**
10	72	40 – 53	78	12	0.169	**CAP 902 094**

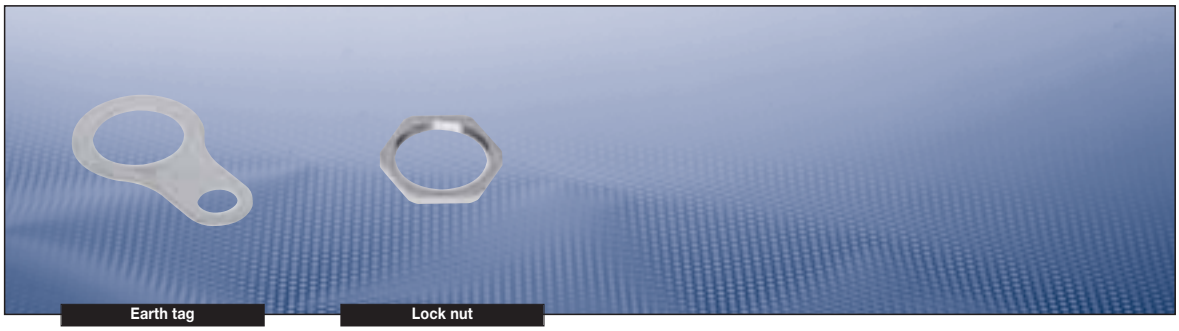
Ordering details shrouds for cable glands ADL...

Type	for A/F mm	Ø D mm	OU	Weight kg	Order No.
5	28/29	31	0.0163	10	**CAP 506 070**
7	32	43	0.040	10	**CAP 506 080**
8	40/41	52	0.047	10	**CAP 506 090**
9	52	59	0.069	10	**CAP 506 100**
10	57	75	0.102	10	**CAP 506 120**
11	72	90	0.120	10	**CAP 506 113**

Cable glands with PG-thread are available on request.

The order no. will show 1 pcs.

Please note that only order units (OU can be ordered.



Accessories for cable glands type ADL

Ordering details earth tags for cable glands

Thread ISO/NPT	Dimensions A mm	B mm	ØC mm	ØD mm	E mm	Weight approx. kg	OU	Order No.
M12 x 1.5 ISO	48.75	30	6.75	24.5	13	0.008	10	**CAP 567 024**
M16 x 1.5 ISO	48.75	30	6.75	24.5	13	0.008	10	**CAP 567 034**
M20 x 1.5 ISO	53.8	33	7	28.6	13	0.008	10	**CAP 567 054**
M25 x 1.5 ISO	61.5	36	10.5	34	17	0.011	10	**CAP 567 074**
M32 x 1.5 ISO	73	41	12.2	42	22	0.015	10	**CAP 567 094**
M40 x 1.5 ISO	86.5	44.5	13.5	54	30	0.025	10	**CAP 567 124**
M50 x 1.5 ISO	111.5	58	13.5	67	40	0.041	10	**CAP 567 154**
M63 x 1.5 ISO	125.5	67	13.5	77	40	0.044	10	**CAP 567 184**
3/8“ NPT	53.8	33	7	28.6	13	0.008	10	**CAP 567 044**
1/2“ NPT	61.5	36	10.5	34	17	0.008	10	**CAP 567 064**
3/4“ NPT	73	41	12.2	42	22	0.008	10	**CAP 567 084**
1“ NPT	73	41	12.2	42	22	0.011	10	**CAP 567 104**
1“1/4 NPT	86.5	44.5	13.5	54	30	0.015	10	**CAP 567 134**
1“1/2 NPT	111.5	58	13.5	67	40	0.025	10	**CAP 567 154**
2“ NPT	125.5	67	13.5	77	40	0.041	10	**CAP 567 174**
2“1/2 NPT	137.5	73	13.5	89	40	0.044	10	**CAP 567 194**

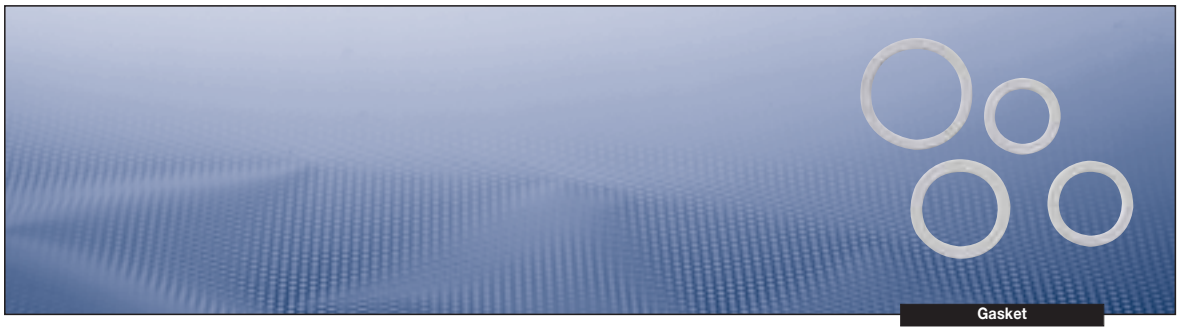
Ordering details lock nuts

Thread ISO/NPT	A/F mm	L mm	OU	Order No.
M12 x 1.5 ISO	14	2.8	10	**CAP 221 294**
M16 x 1.5 ISO	18	2.8	10	**CAP 221 694**
M20 x 1.5 ISO	23	3.0	10	**CAP 222 094**
M25 x 1.5 ISO	28	3.0	10	**CAP 222 594**
M32 x 1.5 ISO	36	3.5	10	**CAP 223 294**
M40 x 1.5 ISO	44	4.0	10	**CAP 224 094**
M50 x 1.5 ISO	54	5.0	10	**CAP 225 094**
M63 x 1.5 ISO	70	6.0	10	**CAP 226 394**
1/4“ NPT	16	2.8	10	**CAP 280 104**
3/8“ NPT	20	2.8	10	**CAP 280 114**
1/2“ NPT	24	3.5	10	**CAP 280 124**
3/4“ NPT	30	3.5	10	**CAP 280 134**
1“ NPT	37	4.5	10	**CAP 280 144**
1“1/4 NPT	47	4.5	10	**CAP 280 154**
1“1/2 NPT	52	5.0	10	**CAP 280 164**
2“ NPT	64	5.5	10	**CAP 280 174**
2“1/2 NPT	77	6.5	10	**CAP 280 184**
3“ NPT	95	8.0	10	**CAP 280 194**
3“1/2 NPT	110	10.0	10	**CAP 280 204**
4“ NPT	120	11.0	10	**CAP 280 214**

Cable glands with PG-thread are available on request.

The order No. will show 1 pcs.

Please note that only order units (OU) can be ordered.


Gasket

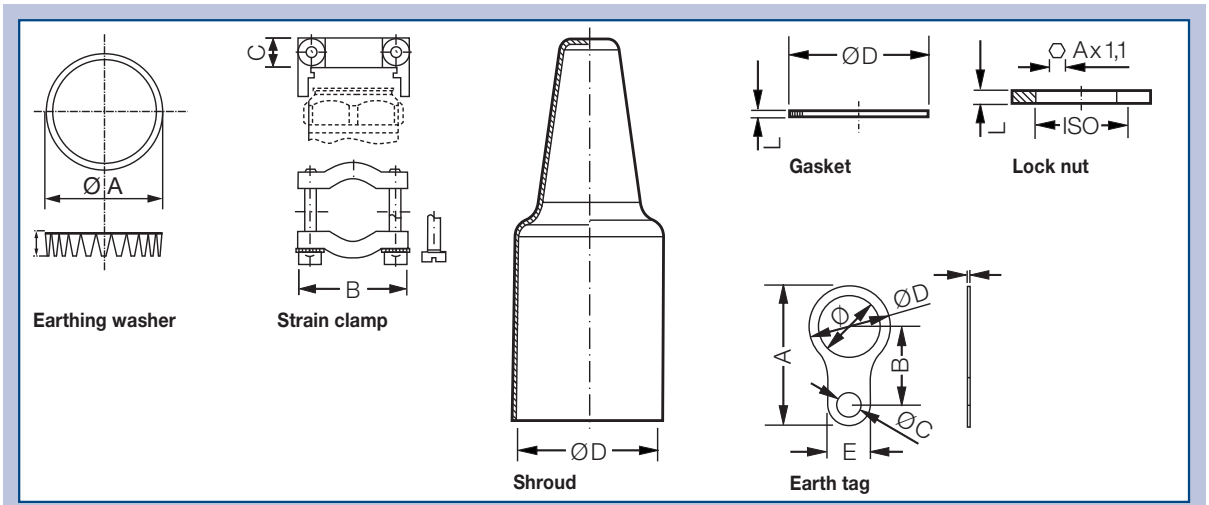
Accessories for cable glands type ADL

Ordering details gaskets for cable glands

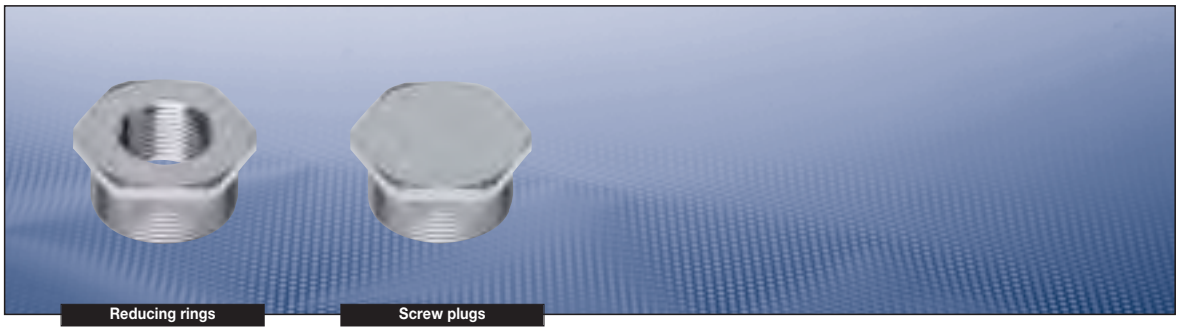
Thread ISO/NPT	Ø D mm	L mm	OU	Order No. Fibrious material	Order No. Neoprene
M12 x 1.5 ISO	18	1.2	10	**CAP 221 245**	**CAP 221 249**
M16 x 1.5 ISO	22	1.2	10	**CAP 221 645**	**CAP 221 649**
M20 x 1.5 ISO	24	1.2	10	**CAP 222 045**	**CAP 222 049**
M25 x 1.5 ISO	30	1.5	10	**CAP 222 545**	**CAP 222 549**
M32 x 1.5 ISO	42	1.5	10	**CAP 223 245**	**CAP 223 249**
M40 x 1.5 ISO	52	1.5	10	**CAP 224 045**	**CAP 224 049**
M50 x 1.5 ISO	63	1.5	10	**CAP 225 045**	**CAP 225 049**
M63 x 1.5 ISO	77	2.0	10	**CAP 226 345**	**CAP 226 349**
1/4“ NPT	20	1.5	10	**CAP 239 014**	**CAP 229 014**
3/8“ NPT	22	1.5	10	**CAP 239 038**	**CAP 229 038**
1/2“ NPT	27	1.5	10	**CAP 239 012**	**CAP 229 012**
3/4“ NPT	33	1.5	10	**CAP 239 034**	**CAP 229 034**
1“ NPT	41	1.5	10	**CAP 239 010**	**CAP 229 010**
1“1/4 NPT	52	1.5	10	**CAP 239 114**	**CAP 229 114**
1“1/2 NPT	57	1.5	10	**CAP 239 112**	**CAP 229 112**
2“ NPT	71	2.0	10	**CAP 239 020**	**CAP 229 020**
2“1/2 NPT	85	2.0	10	**CAP 239 212**	**CAP 229 212**
3“ NPT	104	2.0	10	**CAP 238 049**	**CAP 229 300**
3“1/2 NPT	120	2.0	10	**CAP 239 312**	**CAP 229 312**

Cable glands with PG-thread are available on request.
The order No. will show 1 pcs.
Please note that only order units (OU) can be ordered.

Dimension drawing



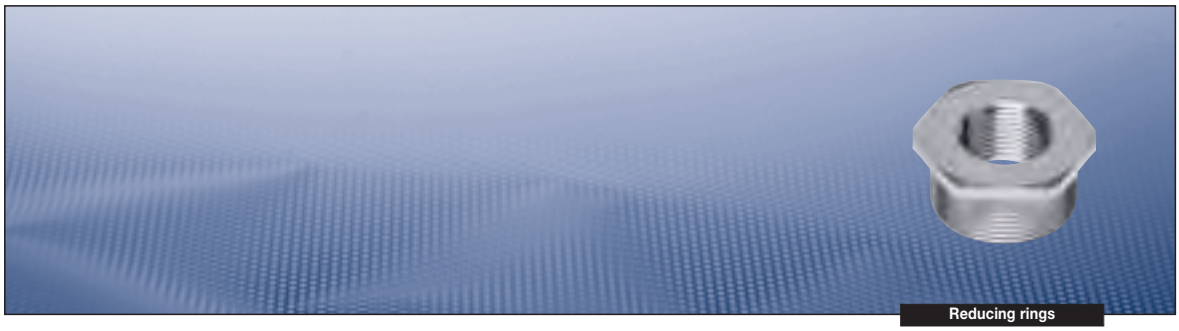
Dimensions in mm



Technical data

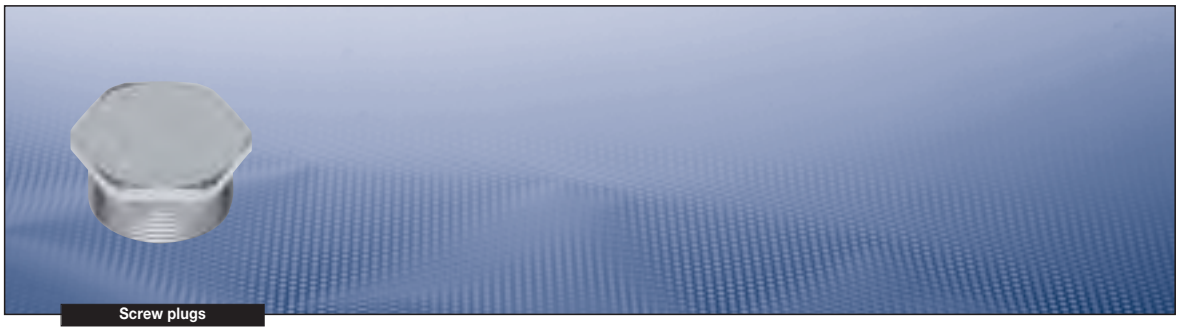
Ex-d cable glands metal design Reducing rings | Screw plug | Adapter ISO-NPT	
Marking to 94/9/EC	Ex II 2 G Ex e II / Ex d IIC / Ex II 2 D Ex tD
EC-Type Examination Certificate	LCIE 98 ATEX 0001 U
Permissible ambient temperature	–40 °C to +100 °C
Degree of protection accd. EN 60529	IP66 / IP68 - 10 bar
Enclosure material	Brass, nickel-plated (stainless steel, bronze, natural brass option)

Please use sealing washers (see page 8.18).


Reducing rings

Ordering details

Thread 1 (male)	Thread 2 (female)	A mm	L mm	E mm	Order No.
Reducing rings ISO for Metric thread, MsNi					
M16 x 1.5	M12 x 1.5	18	2.8	15	**CAP 745 834**
M20 x 1.5	M12 x 1.5	23	3.0	15	**CAP 745 844**
M20 x 1.5	M16 x 1.5	23	3.0	15	**CAP 740 024**
M25 x 1.5	M16 x 1.5	28	3.0	15	**CAP 740 034**
M25 x 1.5	M20 x 1.5	28	3.0	15	**CAP 740 294**
M32 x 1.5	M20 x 1.5	36	3.5	15	**CAP 740 304**
M32 x 1.5	M25 x 1.5	36	3.5	15	**CAP 740 564**
M40 x 1.5	M25 x 1.5	44	4.0	15	**CAP 740 574**
M40 x 1.5	M32 x 1.5	44	4.0	15	**CAP 740 834**
M50 x 1.5	M32 x 1.5	54	5.0	16	**CAP 740 844**
M50 x 1.5	M40 x 1.5	54	5.0	16	**CAP 741 104**
M63 x 1.5	M40 x 1.5	67	5.5	17	**CAP 741 114**
M63 x 1.5	M50 x 1.5	67	5.5	17	**CAP 741 374**
M75 x 1.5	M32 x 1.5	80	6.0	18	**CAP 740 864**
M75 x 1.5	M40 x 1.5	80	6.0	18	**CAP 741 124**
M75 x 1.5	M50 x 1.5	80	6.0	18	**CAP 741 384**
M75 x 1.5	M63 x 1.5	80	6.0	18	**CAP 741 644**
M90 x 2.0	M63 x 1.5	95	8.0	22	**CAP 745 854**
M90 x 2.0	M75 x 2.0	95	8.0	22	**CAP 745 864**
M100 x 2.0	M75 x 2.0	110	10.0	22	**CAP 745 874**
M100 x 2.0	M90 x 2.0	120	10.0	22	**CAP 745 914**
M110 x 2.0	M90 x 2.0	120	11.0	22	**CAP 745 924**
M110 x 2.0	M100 x 2.0	120	11.0	22	**CAP 745 934**
Reducing rings NPT, MsNi					
3/8“	1/4“	18	2.8	12	**CAP 745 574**
1/2“	2/4“	22	3.0	16	**CAP 745 584**
1/2“	3/8“	22	3.0	16	**CAP 745 594**
3/4“	3/8“	28	3.0	16	**CAP 745 604**
3/4“	1/2“	28	3.0	16	**CAP 744 884**
1“	1/2“	36	3.5	20	**CAP 744 894**
1“	3/4“	36	3.5	20	**CAP 745 154**
1“1/4	3/4“	44	4.0	20	**CAP 745 164**
1“1/4	1“	44	4.0	20	**CAP 745 424**
1“1/2	1“	50	5.0	20	**CAP 745 434**
1“1/2	1“1/4	50	5.0	20	**CAP 745 694**
2“	1“	64	5.5	20	**CAP 745 444**
2“	1“1/4	64	5.5	20	**CAP 745 704**
2“	1“1/2	64	5.5	20	**CAP 745 964**
2“1/2	1“1/2	75	6.0	28	**CAP 745 974**
2“1/2	2“	75	6.0	28	**CAP 746 234**
3“	2“	90	8.0	30	**CAP 746 244**
3“	2“1/2	90	8.0	30	**CAP 746 504**
3“1/2	2“1/2	110	10.0	32	**CAP 745 654**
3“1/2	3“	110	10.0	32	**CAP 745 664**
4“	3“	120	11.0	32	**CAP 746 834**
4“	3“1/2	120	11.0	32	**CAP 745 734**

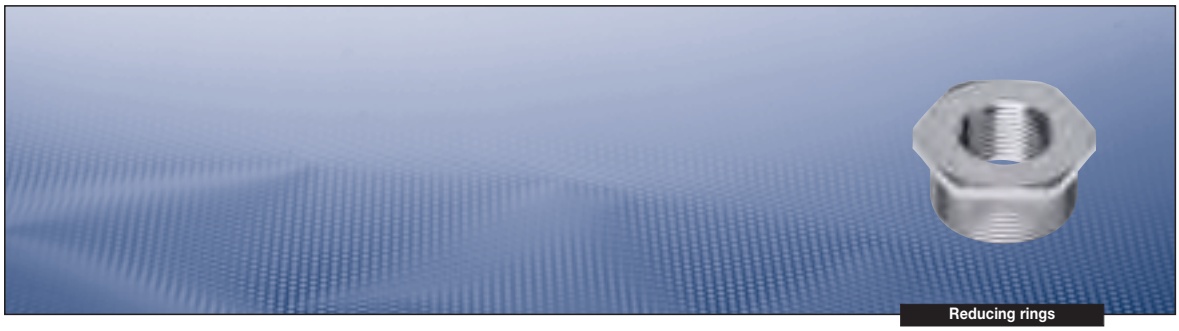


Screw plugs

Ordering details

Thread 1 (male)	A mm	L mm	E mm	Order No.
Screw plug with ISO thread, MsNi				
M12 x 1.5	14	2.8	15	**CAP 190 124**
M16 x 1.5	18	3.0	15	**CAP 190 164**
M20 x 1.5	23	3.0	15	**CAP 190 204**
M25 x 1.5	28	3.5	15	**CAP 190 254**
M32 x 1.5	36	4.0	15	**CAP 190 324**
M40 x 1.5	44	4.0	15	**CAP 190 404**
M50 x 1.5	54	5.0	16	**CAP 190 504**
M63 x 1.5	67	5.5	17	**CAP 190 634**
Screw plug with NPT thread, MsNi				
1/4 “	14	2.8	12	**CAP 190 194**
3/8 “	18	2.8	12	**CAP 190 294**
1/2 “	22	3.0	16	**CAP 190 394**
3/4 “	28	3.0	16	**CAP 190 494**
1 “	36	3.5	20	**CAP 190 594**
1 “ 1/4	44	4.0	20	**CAP 190 694**
1 “ 1/2	50	5.0	20	**CAP 190 794**
2 “	64	5.5	20	**CAP 190 894**
2 “ 1/2	75	6.0	28	**CAP 190 994**
3 “	90	8.0	30	**CAP 191 094**
3 “ 1/2	110	10.0	32	**CAP 191 194**
4 “	120	11.0	32	**CAP 191 294**

Please use sealing washers (see page 8.18).

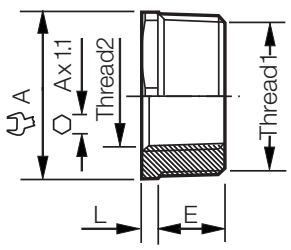


Ordering details

Thread 1 (male)	Thread 2 (female)	A mm	L mm	E mm	Ø D mm	Order No.
Adapter ISO - NPT, MsNi						
M20 x 1.5	1/2 " NPT	24	18	15	15.5	**CAP 744 704**
M20 x 1.5	3/4 " NPT	30	18.5	15	15.5	**CAP 744 964**
M25 x 1.5	3/4 " NPT	30	18.5	15	20.3	**CAP 744 974**
M25 x 1.5	1 " NPT	38	22.5	15	20.3	**CAP 745 234**
M32 x 1.5	1 " NPT	38	22.5	15	27.3	**CAP 745 244**
M32 x 1.5	1 " 1/4 NPT	48	22.5	15	27.3	**CAP 745 504**
M40 x 1.5	1 " 1/4 NPT	48	22.5	15	35.3	**CAP 745 514**
M40 x 1.5	1 " 1/2 NPT	52	22.5	15	35.3	**CAP 745 774**
M50 x 1.5	2 " NPT	64	22.5	16	45.2	**CAP 746 044**
M63 x 1.5	2 " NPT	67	22.5	17	53.6	**CAP 746 054**
M63 x 1.5	2 " 1/2 NPT	77	31	17	57.8	**CAP 746 314**
Adapter NPT - ISO, MsNi						
1/2 " NPT	M20 x 1.5	23	18.5	16	15.0	**CAP 740 454**
1/2 " NPT	M25 x 1.5	28	19.0	16	15.0	**CAP 740 714**
3/4 " NPT	M25 x 1.5	28	19.0	16	20.1	**CAP 740 724**
3/4 " NPT	M32 x 1.5	36	19.0	16	20.1	**CAP 740 984**
1 " NPT	M32 x 1.5	36	19.0	20	26.0	**CAP 740 994**
1 " NPT	M40 x 1.5	44	19.0	20	26.0	**CAP 741 254**
1 " 1/4 NPT	M40 x 1.5	44	19.0	20	34.8	**CAP 741 264**
1 " 1/4 NPT	M50 x 1.5	54	20.0	20	34.8	**CAP 741 524**
1 " 1/2 NPT	M50 x 1.5	54	20.0	20	40.8	**CAP 741 534**
1 " 1/2 NPT	M63 x 1.5	67	21.0	20	40.8	**CAP 741 794**
2 " NPT	M63 x 1.5	67	21.0	20	52.4	**CAP 741 804**

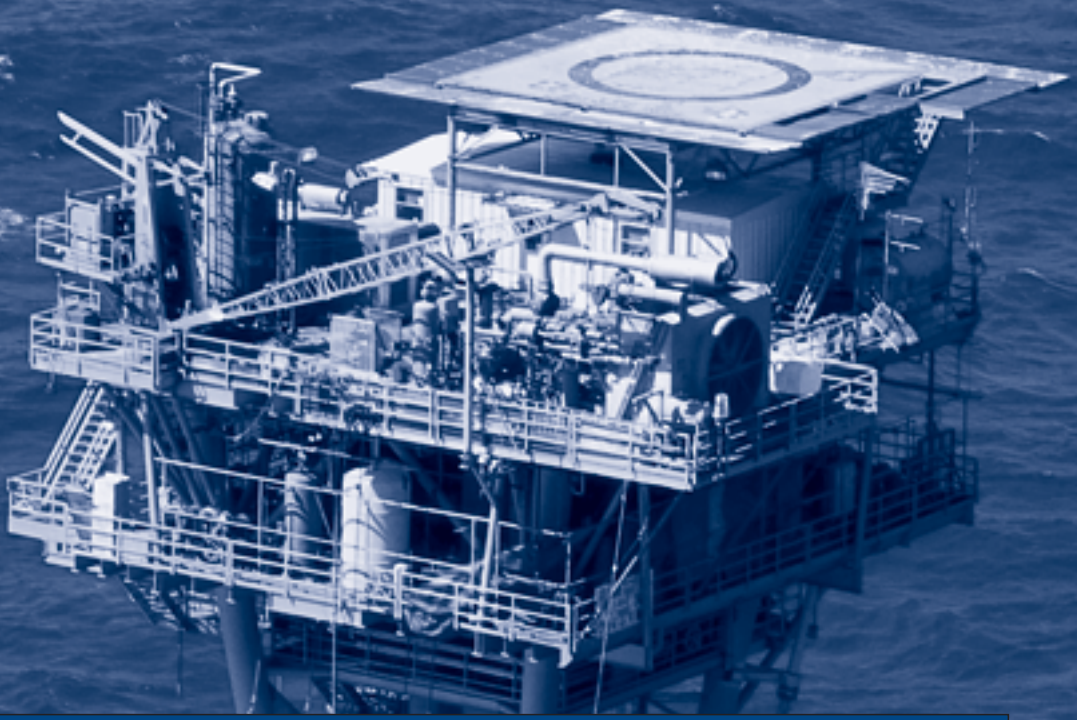
Please use sealing washers (see page 8.18).

Dimension drawing



Dimensions in mm

EX-CONTROL UNITS AND CONTROL STATIONS



EX-CONTROL UNITS AND CONTROL STATIONS 9.2

EX-INSTALLATION SWITCH 9.4

EX-CONTROL STATIONS 9.6

INDIVIDUAL EX-CONTROL STATIONS 9.32

EX-CONTROL AND SIGNAL UNITS FOR PANEL MOUNTING 9.80

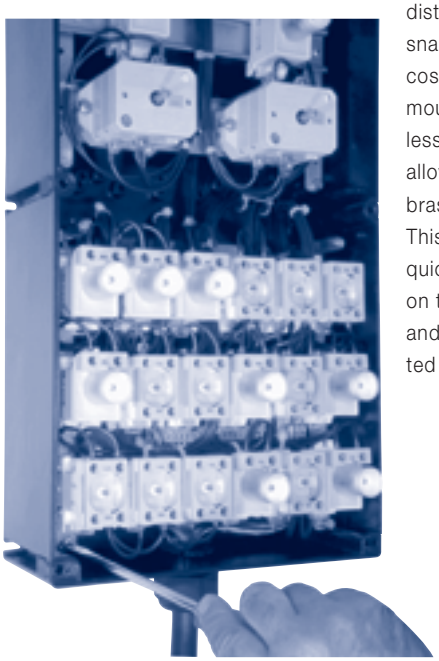
EX-CONTROL-SWITCHES 9.112

FLAMEPROOF LIGHT ALLOY CONTROL STATIONS 9.124



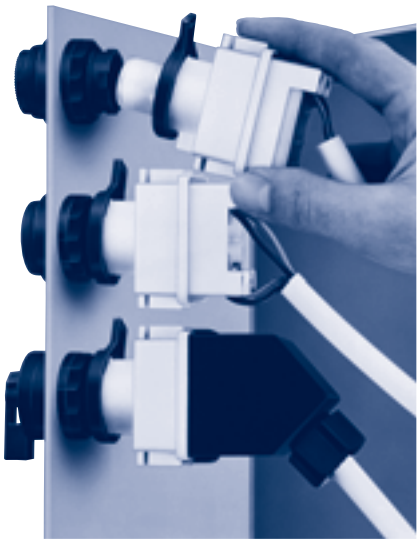
Material selection

At the heart of every electrical system is the control station. Even under the most adverse conditions, CEAG control stations can be used and operated reliably. The enclosures consist of impact-resistant thermoplastic, glass-fibre-reinforced polyester, light alloy or stainless steel. The robust materials, thermoplastic and polyester, fulfil the specification for surface resistance $< 10^9\ \Omega$ required by EN 60079. The well-tried enclosure materials have proven their high resistance to chemicals in indoor and outdoor installations – especially in the chemical and off-shore industries. All metal parts are made of stainless steel.



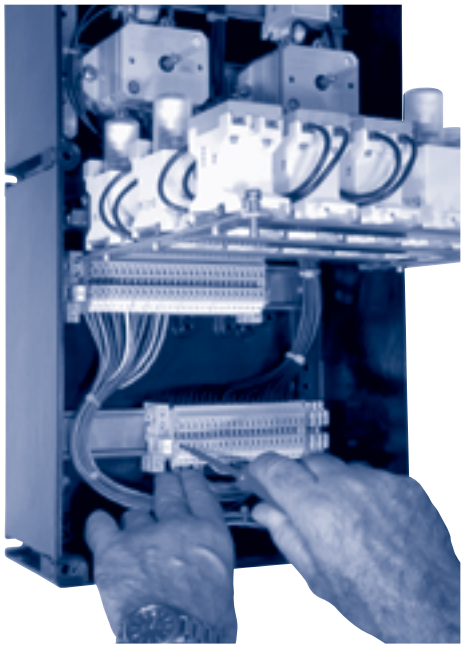
Combination of moulded plastic enclosures

The modular design of the GHG 44x control-station series lets you combine distribution modules with screwless snap-on mounting logically and at low cost. Standard sizes enable enclosure mounting via flanged joints. The screwless snap-on mounting system also allows the attachment of plastic or brass flanges on the enclosures. This mounting technique also lets you quickly and easily retrofit cable entries on the flanges. System modifications and extensions can thus be implemented in short time and with little effort.



Panel mounting

CEAG control and indicating elements can be integrated in panels with a wall thickness of up to 5 mm. The CEAG components for panel mounting, such as signal lamps, pushbuttons and switches, can be instantly plugged into the control and indicating elements on the panel via a bayonet-ring fitting. The single-wire installation is clear and simple. All panel-mounted apparatus can be retrofitted for cable connection with a slip-on strain relief and protective cap and is then completely certified. Planning and procurement of panel-mounted apparatus with different cable lengths is a thing of the past.



Installation technology

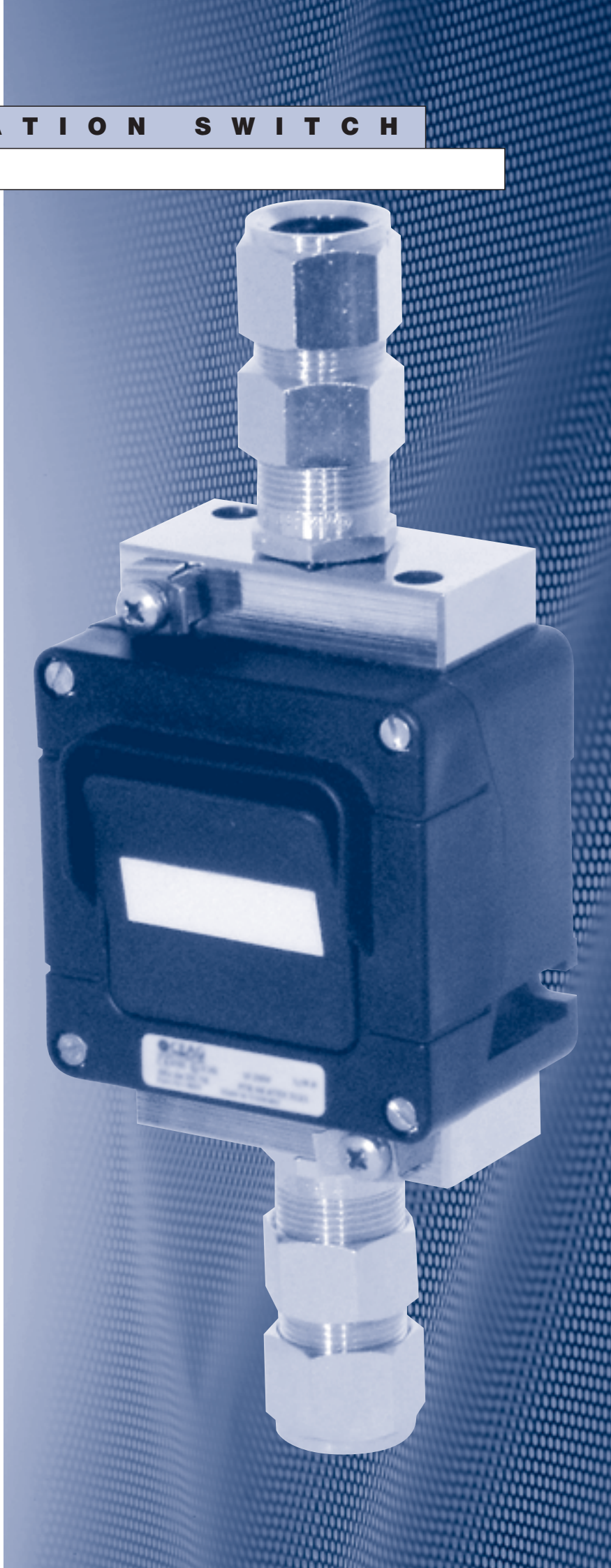
CEAG control stations have a well thought out design concept. The flameproof built-in components, such as signal lamps, pushbuttons and switches, are snap-on mounted to a rail moulded in the enclosure. They can be snapped out of the enclosure to facilitate cable-entry feeding. Notches in the mounting rails define the position of the built-in components and prevent them from being twisted out of place. Low-cut side walls allow a quick and optimised cable connection. CEAG control stations feature standard M25 moulded-plastic cable entries with an 8 to 17 mm clamping diameter. Alternatively, metal screws and flanges can be used for mounting. The metal flanges enable external earthing. The CEAG control stations are installed using pre-wired connection terminals. The wired built-in components are snap-on mounted on a stainless-steel fold-out mounting frame. To connect the control and indicating elements, the mounting frame is folded out, the cables are quickly and easily fed into enclosure and attached logically to the terminals.

EX-INSTALLATION SWITCH

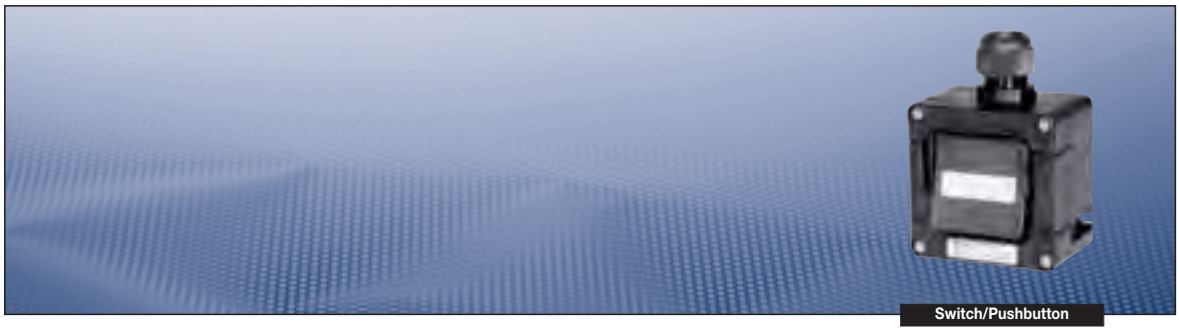
16 A, 250 V
Plastic version for Zone 1 and Zone 21

The explosion-protected installation switches are for use in the Zones 1, 2, 21 and 22. The materials used have proved to be safe and reliable for both indoor and outdoor installations, in particular in chemical and off-shore plants. The robust housings are made of a modified polyamide material.
The large actuator surface of the installation switch allows perfect operation, even when wearing working gloves. A protective collar prevents inadvertent operation. The toggle has a luminescent label which is in accordance with §7 of the Workshop Regulations and is also free from radioactive additives. Due to the external fixing facility, the switch can be installed easily while the cover is closed. Cable entry from the top is made possible by turning the base. In special cases a through wiring is possible as one can see on the illustration opposite.

International approvals.



- **Large toggle also for working gloves**
- **Safety standard IP66**
- **Cable entry from the top or bottom**
- **Connecting terminals easily accessible**


Switch/Pushbutton

Technical data

Ex-installation switches and Ex-pushbuttons	
Marking to 94/9/EC	Ⓔx II 2 G Ex de IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 98 ATEX 3121
IECEx Certificate of conformity	IECEx BKI 07.0036
Marking acc. IECEx	Ex ed IIC T6 Ex tD A21 IP66 T67 °C
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (option)
Rated voltage	250 V, 50 - 60 Hz
Rated current	16 A
Connecting terminals	Switch terminals: 2 x 2.5 mm² / PE-terminals: 4 x 2.5 mm²
Degree of protection accd. to EN 60529	IP66
Cable glands[1)]	Ex-e cable glands max. 2 x M25; 2 x M20 thread
Weight	0.32 kg
Enclosure material	Polyamide

Ordering details

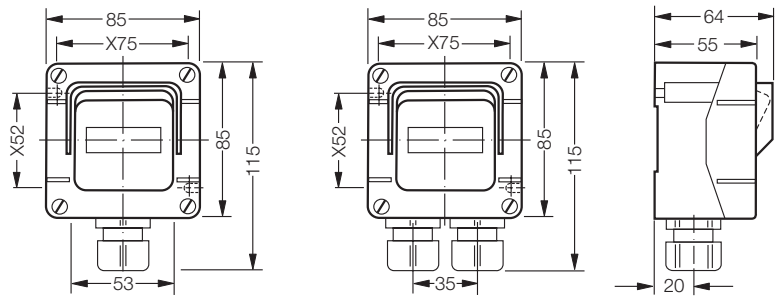
Type	Contact arrangement	Cable glands[1)]	Order No.
ON-OFF switch 2-pole		1 x M25	**GHG 273 2000 R0017**
		2 x M25	**GHG 273 2000 R0018**
		2 x M20[2)]	**GHG 273 2000 R0003**
Change-over switch		1 x M25	**GHG 273 6000 R0011**
		2 x M20[2)]	**GHG 273 6000 R0003**
		2 x M25	**GHG 273 6000 R0014**
Pushbutton		1 x M25	**GHG 273 4000 R0004**
		2 x M25	**GHG 273 4000 R0007**

[1)] Base enclosure can be rotated afterwards (entry from top or down)

[2)] Threaded only

Other versions available on request

Dimension drawing



Switch/pushbutton **X = fixing dimension**

Dimensions in mm

EX-CONTROL STATIONS

Moulded plastic
Version for Zone 1 and Zone 21

Even under the most adverse conditions, CEAG control stations can be used and operated reliably. The enclosures consist of low-temperature impact-resistant thermoplastic which fulfils the requirements of EN 60079 and provides a high resistance to chemicals. The well thought out design with low side walls allows optimum cable connection. Quick fixing allows up to three CEAG built-in components, such as signal lamps, pushbuttons and switches, to be snapped on a rail in the enclosure. They can be snapped out of the enclosure to facilitate cable-entry feeding. Notches in the mounting rails prevent the built-in components from being twisted out of place. Wall mounting can be carried out via easily accessible fixing apertures when the enclosure cover is sealed. CEAG mounting plates offer a time-saving fixing technique. CEAG control stations feature standard M25 moulded-plastic cable entries with an 8 to 17 mm clamping diameter. Coupling pieces link enclosures to each other and prevent them from being twisted out of place. Alternatively, metal screws and flanges can be used for mounting – the metal flanges also enable external earthing.

Free mounting areas can be provided for retrofitting certified CEAG components. These are then factory sealed with blanking elements.

Internationally approved.



- **Flat side walls**
- **Quick fixing of all built-in components**
- **High chemical resistance**
- **Different enclosures can be combined**



Technical data

Ex-Control stations Type 411 81 | Type 411 82 | Type 411 83		
Marking to 94/9/EC	Ⓔx II 2 G Ex ed ib m IIC T6 Ⓔx II 2 D Ex tD A21 IP66 T80 °C	
EC-Type Examination Certificate	PTB 00 ATEX 3117	
IECEx Certificate of conformity	IECEx BKI 04.0003	
Marking acc. to IECEx	Ex e II T6, Ex e ib IIC T6, Ex ed IIC T6 or Ex ed ib IIC T6	
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (option)	
Rated voltage	690 V AC	
Rated current	16 A	
Rated making-/rated breaking capacity	Ex41	Ex23
accd. EN 60947-5-1	AC-15: U_e 250 V / I_e 6 A U_e 500 V / I_e 4 A DC-13: U_e 24 V / I_e 6 A U_e 220 V / I_e 1 A	AC-15: U_e 230 V / I_e 6 A U_e 500 V / I_e 4 A DC-13: U_e 24 V / I_e 2 A U_e 230 V / I_e 0.5 A
Connecting terminals	2 x 2.5 mm²	
Insulation class	I	
Degree of protection accd. EN 60529	IP66 (standard)	
Cable glands/Gland plates/Enclosure drilling	1 x M25 Ex-e cable gland for cables from Ø 8 - 17 mm or 1 x M20 thread	
Enclosure material	Polyamide	
Enclosure colour	Black	

Type 411 81	
Dimensions (L x W x H)	85 x 85 x 77.5 mm
Weight (empty)	0.25 kg

Type 411 82	
Dimensions (L x W x H)	125 x 85 x 77.5 mm
Weight (empty)	0.35 kg

Type 411 83	
Dimensions (L x W x H)	165 x 85 x 77.5 mm
Weight (empty)	0.45 kg

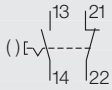
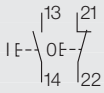
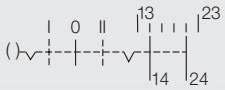
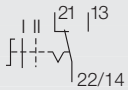
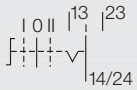
Type 411 82 with measuring instrument AM 72		
Movement	Moving iron	Moving coil
Marking to 94/9/EC	Ⓔx II G Ex e II	Ⓔx II G Ex ib IIC
Accuracy	Class 2.5	Class 1.5
Overload range	10-fold -25 sec. 25-fold - 4 sec. 50-fold - 1 sec.	10-fold -5 sec.
Measuring range	n / 1A 0 - 25 A direct	0 - 20 mA 4 - 20 mA
Inductance Li	–	≤ 0.1 mH
Capacitance Ci	–	≤ 0.1 nF
Open circuit voltage Ui	–	30 V
Short circuit current Ii	–	150 mA
Connecting terminals	2 x 1.5 - 4 mm²	
Weight	0.70 kg	

[1] Base enclosure can be rotated afterwards (entry from top or down)

Other versions available on request

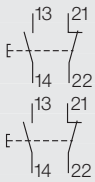
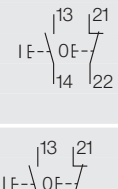
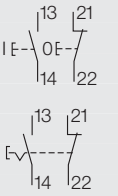
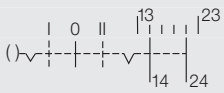


Ordering details type 411 81 with 1 built-in component

Version	Built-in components	Weight approx.	Order No.
	1 x pushbutton DRT 1 NO + 1 NC label: “0, I, START, STOP”	0.40 kg	**GHG 411 8100 R0001**
	1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop”	0.45 kg	**GHG 411 8100 R0002**
	1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop” with key unlocking	0.50 kg	**GHG 411 8100 R0012**
	1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP”	0.45 kg	**GHG 411 8100 R0009**
	1 x key-operated switch SLS 2 NO SW 5 “engaging-engaging-engaging” label: “I 0 II”	0.52 kg	**GHG 411 8100 R0018**
	1 x control switch SCT 1 change-over SW 6 “engaging-engaging” label: HAND – AUTO label: “0 – I” label: “I – II”	 0.45 kg 0.45 kg 0.45 kg	 **GHG 411 8100 R0003** **GHG 411 8100 R0004** **GHG 411 8100 R0005**
	1 x control switch SCT 2 NO SW 5 “engaging-engaging-engaging” label: HAND – 0 – AUTO label: “I 0 II” label: “Local Remote Auto”	 0.45 kg 0.45 kg 0.45 kg	 **GHG 411 8100 R0006** **GHG 411 8100 R0007** **GHG 411 8100 R0008**

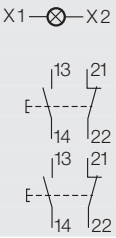
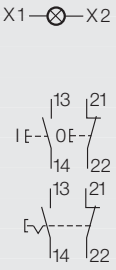
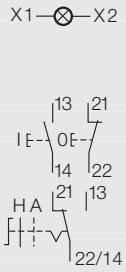


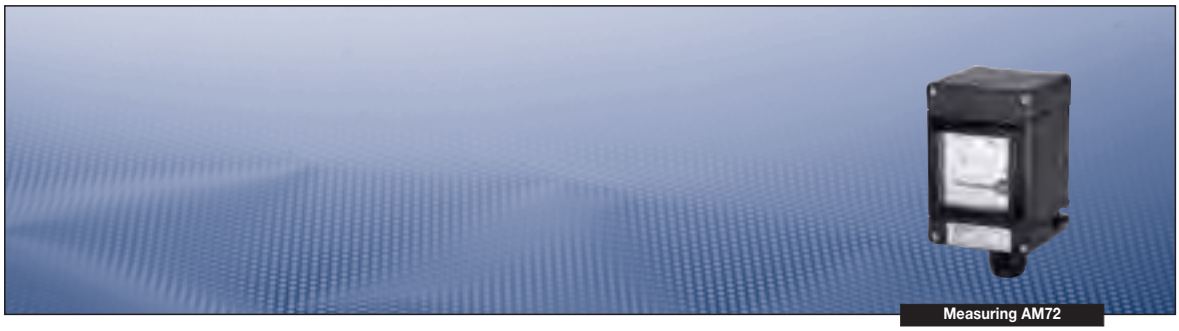
Ordering details type 411 82 with 2 built-in components

Version	Built-in components	Weight approx.	Order No.
	2 x pushbutton DRT 1 NO + 1 NC each label: “0, I, START, STOP“	0.54 kg	**GHG 411 8200 R0001**
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“	0.65 kg	**GHG 411 8200 R0003**
	1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“ 1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop“	0.57 kg	**GHG 411 8200 R0016**
	1 x control switch SCT 1 change-over SW 6 “engaging-engaging“ label: “0 – I“ 1 x mushroom-head pushbutton SGT 1 NO + 1 NC “Emergency stop“	0.57 kg	**GHG 411 8200 R0017**
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 1 x key-operated switch 2 NO SW 5 “engaging-engaging-engaging“ label: “I 0 II“	0.65 kg	**GHG 411 8200 R0018**



Ordering details type 411 83 with 3 built-in components

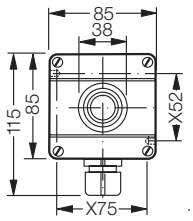
Version	Built-in components	Weight approx.	Order No.
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 2 x pushbutton DRT 1 NO + 1 NC each label: “0, I, START, STOP“	0.76 kg	**GHG 411 8300 R0001**
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“ 1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop“	0.80 kg	**GHG 411 8300 R0003**
	1 x measuring instrument AM72 CT connection n/1A Scale 0 –100%/150% 1 x control switch SCT 1 NO + 1 NC SW 8 “engaging-engaging-spring“ label: “0 – I“	0.92 kg	**GHG 411 8300 R0023**
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“ 1 x control switch SCT 1 change-over SW 6 “engaging-engaging“ label: “HAND - AUTO“	0.80 kg	**GHG 411 8300 R0004**


Measuring AM72

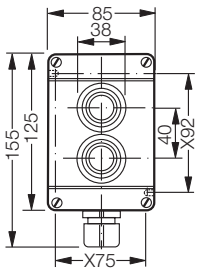
Ordering details measuring instrument AM72, type 411 82

Version	Movement	Weight	Order No.
Version direct measurement with 1 x cable entry M25			
0 - 1 / 1.5 A	moving iron	0.70 kg	**GHG 411 8281 R0002**
0 - 2.5 / 3.75 A	moving iron	0.70 kg	**GHG 411 8281 R0003**
0 - 5 / 7.5 A	moving iron	0.70 kg	**GHG 411 8281 R0004**
0 - 10 / 15 A	moving iron	0.70 kg	**GHG 411 8281 R0005**
0 - 16 / 24 A	moving iron	0.70 kg	**GHG 411 8281 R0007**
0 - 20 / 24 mA 0-100% / 120% (Ri =320 Ω)	moving coil	0.80 kg	**GHG 411 8285 R0033**
4 - 20 / 24 mA 0-100% / 120% (Ri =320 Ω)	moving coil	0.80 kg	**GHG 411 8286 R0035**
Version CT connection n/1A with 1 x entry M25			
0 - 1 / 1.5 A	moving iron	0.70 kg	**GHG 411 8282 R0002**
0 - 2.5 / 3.75 A	moving iron	0.70 kg	**GHG 411 8282 R0003**
0 - 5 / 7.5 A	moving iron	0.70 kg	**GHG 411 8282 R0004**
0 - 10 / 15 A	moving iron	0.70 kg	**GHG 411 8282 R0005**
0 - 15 / 22,5 A	moving iron	0.70 kg	**GHG 411 8282 R0007**
0 - 20 / 30 A	moving iron	0.70 kg	**GHG 411 8282 R0008**
0 - 30 / 45 A	moving iron	0.70 kg	**GHG 411 8282 R0009**
0 - 40 / 60 A	moving iron	0.70 kg	**GHG 411 8282 R0010**
0 - 50 / 75 A	moving iron	0.70 kg	**GHG 411 8282 R0011**
0 - 60 / 90 A	moving iron	0.70 kg	**GHG 411 8282 R0012**
0 - 75 / 112.5 A	moving iron	0.70 kg	**GHG 411 8282 R0013**
0 - 100/ 150 A	moving iron	0.70 kg	**GHG 411 8282 R0014**
0 – 100% / 150%	moving iron	0.70 kg	**GHG 411 8282 R0001**

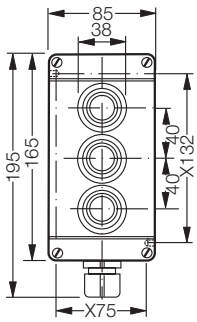
Dimension drawing



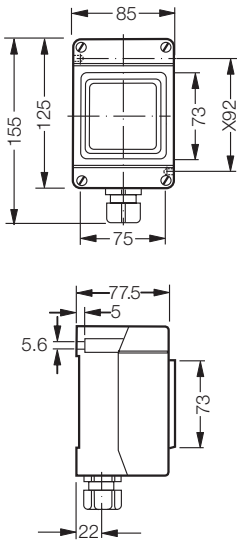
Type 411 81



Type 411 82



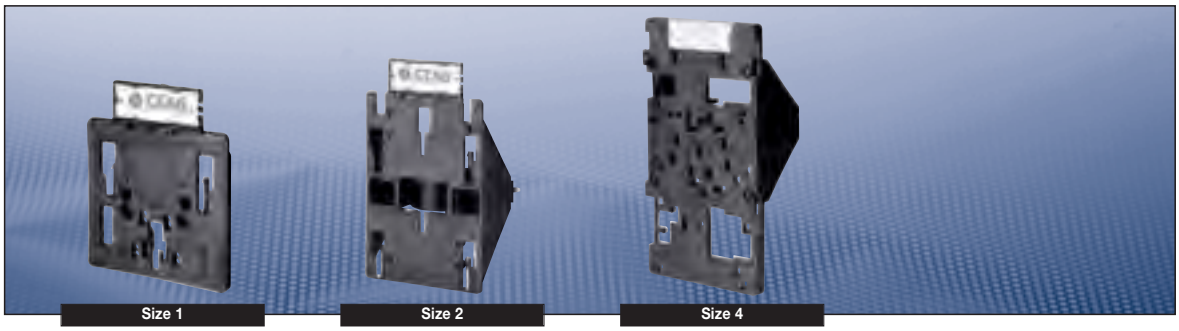
Type 411 83



Measuring instrument AM 72

X = fixing dimension

Dimensions in mm



Accessories

Mounting plate for type 411 81

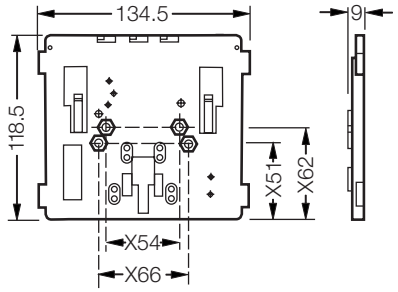
Type	Application	Mounting technique	OU	Order No.
Size 1	Wall mounting	screw-on	1	**GHG 610 1953 R0101**
Size 1	Pipe mounting	screw-on	1	**GHG 610 1953 R0102**
Size 1	Trellis-work mounting	screw-on	1	**GHG 610 1953 R0103**
Size 4	Wall mounting	snap-on[1)]	1	**GHG 610 1953 R0126**
Size 4	Trellis-work mounting	snap-on[1)]	1	**GHG 610 1953 R0126**
Size 4	Pipe mounting	snap-on[1)]	1	**GHG 610 1953 R0130**

Mounting plate for type 411 82 and 411 83

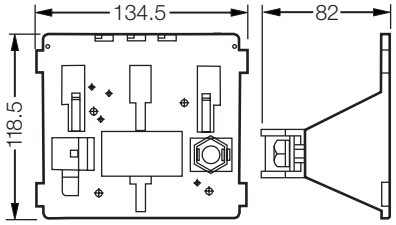
Type	Application	Mounting technique	OU	Order No.
Size 2	Wall mounting	screw-on	1	**GHG 610 1953 R0104**
Size 2	Pipe mounting	screw-on	1	**GHG 610 1953 R0105**
Size 2	Trellis-work mounting	screw-on	1	**GHG 610 1953 R0106**
Size 4	Wall mounting	snap-on[1)]	1	**GHG 610 1953 R0126**
Size 4	Trellis-work mounting	snap-on[1)]	1	**GHG 610 1953 R0126**
Size 4	Pipe mounting	snap-on[1)]	1	**GHG 610 1953 R0130**
Snap-on mounting for CEAG apparatus with 5.5 mm and 11 mm mounting size per 4 pieces			10	**GHG 610 1953 R0041**

[1)] snap-on with snap-on mounting 5.5 mm

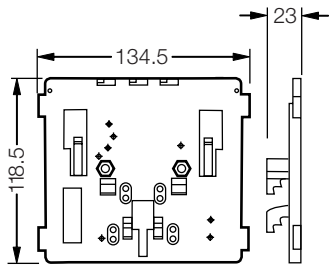
Dimension drawing



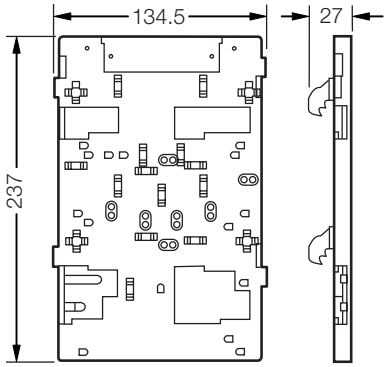
Size 1 Wall mounting



Size 1 Pipe mounting



Size 1 Trellis-work mounting



Size 4 Wall mounting

X = fixing dimension

Dimensions in mm



Technical data

Ex-Control stations Type 432 | Type 434		
Marking to 94/9/EC	Ⓔx II 2 G Ex ed ib m IIC T6 Ⓔx II 2 D Ex tD A21 IP66 T80 °C	
EC-Type Examination Certificate	PTB 00 ATEX 3117	
IECEx Certificate of conformity	IECEx BKI 04.0003	
Marking accd. to IECEx	Ex e II T6, Ex e ib IIC T6, Ex ed IIC T6 or Ex ed ib IIC T6	
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (option)	
Rated voltage	690 V AC (with control switch GHG 23 to 500 V)	
Rated current	16 A (with control switch GHG 23 max. 10 A)	
Rated making-/rated breaking capacity	Ex41	Ex23
accd. EN 60947-5-1	AC-15: U_e 250 V / I_e 6 A U_e 500 V / I_e 4 A DC-13: U_e 24 V / I_e 6 A U_e 220 V / I_e 1 A	AC-15: U_e 230 V / I_e 6 A U_e 500 V / I_e 4 A DC-13: U_e 24 V / I_e 2 A U_e 230 V / I_e 0.5 A
Connecting terminals	2 x 4 mm²	
Insulation class	I	
Degree of protection accd. EN 60529	IP66 (standard)	
Cable glands/Gland plates/Enclosure drilling	2 x M25 Ex-e cable gland for cables from Ø 8 - 17 mm incl. 1 blanking plug or 2 x M20 thread	
Enclosure material	Polyamide	
Enclosure colour	Black	

Type 432	
Dimensions (L x W x H)	156 x 100 x 90 mm
Weight (empty)	0.47 kg

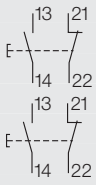
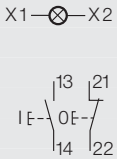
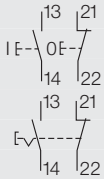
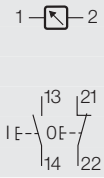
Type 434	
Dimensions (L x W x H)	245 x 100 x 90 mm
Weight (empty)	0.70 kg

[1] Base enclosure can be rotated afterwards (entry from top or down)

Other versions available on request

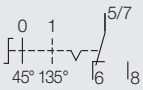
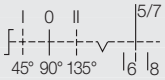
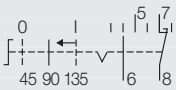
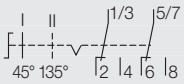
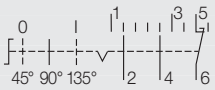


Ordering details type 432 with 2 built-in components

Version	Built-in components	Weight approx.	Order No.
	2 x pushbutton DRT 1 NO + 1 NC each label: “0, I, START, STOP“	0.85 kg	**GHG 432 0011 R0001**
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“	0.90 kg	**GHG 432 0011 R0002**
	1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“ 1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop“	0.85 kg	**GHG 432 0011 R0003**
	1 x measuring instrument AM45 CT connection n/1A Scale 0 –100%/150% 1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“	0.95 kg	**GHG 432 0011 R0005**

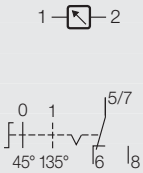
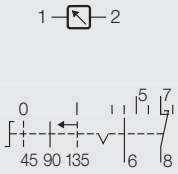


Ordering details type 432 with 1 control switch GHG 23

Version	Built-in components	Weight approx.	Order No.
	1 x control switch GHG 23 1 change-over SW 6 “engaging-engaging“		
	label: “HAND - AUTO“	0.70 kg	**GHG 432 0001 R0003**
	label: “0 – I“	0.70 kg	**GHG 432 0001 R0004**
	1 x control switch GHG 23 2 NO SW 5 “engaging-engaging-engaging“		
	label: “HAND 0 AUTO“	0.70 kg	**GHG 432 0001 R0005**
	label: “I 0 II“	0.70 kg	**GHG 432 0001 R0006**
	1 x control switch GHG 23 1 NO + 1 NC SW 8 “engaging-engaging-spring return“		
	label: “0 – I“	0.70 kg	**GHG 432 0001 R0012**
	label: “AUS-Betrieb-EIN“	0.70 kg	**GHG 432 0001 R0013**
	label: “0 IN START“	0.70 kg	**GHG 432 0001 R0014**
	1 x control switch GHG 23 2 change-over SW 6 “engaging-engaging“		
	label: “I – II“	0.70 kg	**GHG 432 0001 R0015**
	label: “HAND I AUTO“	0.70 kg	**GHG 432 0001 R0016**
	1 x control switch GHG 23 2 NO + 1 NC SW 5 “engaging-engaging-engaging“		
	label: “I II III“	0.86 kg	**GHG 432 0001 R0017**
	1 x control switch GHG 23 2 NO + 1 NC SW 8 “engaging-engaging-spring return“		
	label: “0 – I“	0.86 kg	**GHG 432 0001 R0018**
	label: “AUS-Betrieb-EIN“	0.86 kg	**GHG 432 0001 R0019**
	label: “0 IN START“	0.86 kg	**GHG 432 0001 R0020**

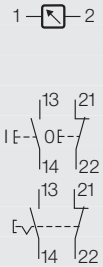
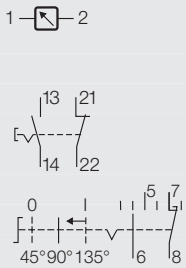


Ordering details type 432 with 2 built-in components

Version	Built-in components	Weight approx.	Order No.
	1 x measuring instrument AM45 CT connection n/1A Scale 0 –100%/150% 1 x control switch GHG 23 1 change-over SW 6 “spring return-engaging“ label: “0 – I“	1.35 kg	**GHG 432 0011 R0006**
	1 x measuring instrument AM45 CT connection n/1A Scale 0 –100%/150% 1 x control switch GHG 23 2 NO SW 5 “engaging-engaging-engaging“ label: “I 0 II“	1.35 kg	**GHG 432 0011 R0008**
	1 x measuring instrument AM45 CT connection n/1A Scale 0 –100%/150% 1 x control switch GHG 23 1 NO + 1 NC SW 8 “engaging-engaging-spring“ label: “0 – I“	1.35 kg	**GHG 432 0011 R0009**
	2 x measuring instrument AM45 CT connection n/1A Scale 0 –100%/150% 1 x control switch GHG 23 2 NO + 1 NC SW 5 “engaging-engaging-engaging“ label: “I II III“	1.35 kg	**GHG 432 0011 R0010**

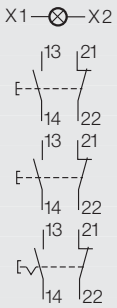
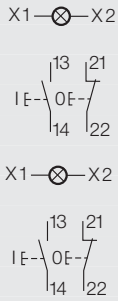
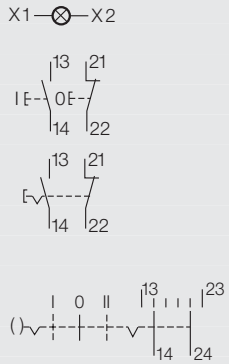


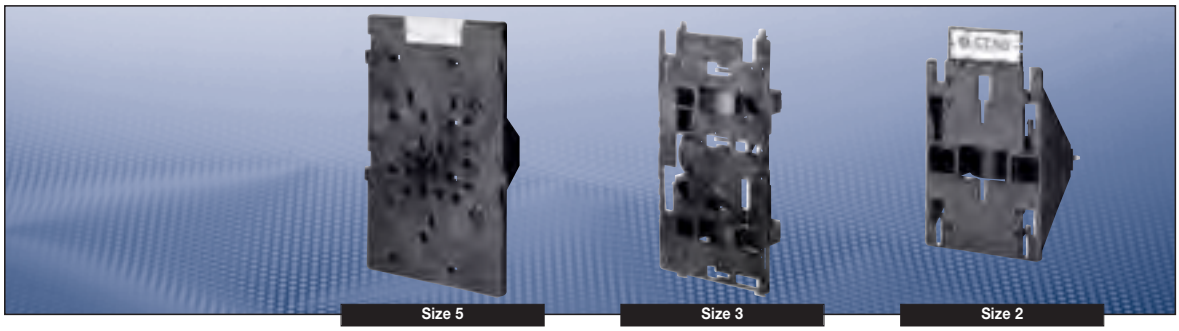
Ordering details type 434 with 4 built-in components

Version	Built-in components	Weight approx.	Order No.
	1 x measuring AM72 CT connection n/1A Scale 0 –100%/150% 1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“ 1 x mushroom-head pushbutton SGT 1 NO + 1 NC “Emergency stop“	1.40 kg	**GHG 434 0111 R0002**
	1 x measuring AM72 CT connection n/1A Scale 0 –100%/150% 1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop“ 1 x control switch GHG 23 1 change-over SW 6 “engaging-engaging“ label: “0 – I“	1.55 kg	**GHG 434 0111 R0010**
	1 x measuring AM72 CT connection n/1A Scale 0 –100%/150% 1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop“ 1 x control switch GHG 23 1 NO + 1 NC SW 8 “engaging-engaging-spring return“ label: “0 – I“	1.55 kg	**GHG 434 0111 R0011**



Ordering details type 434 with 4 built-in components

Version	Built-in components	Weight approx.	Order No.
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 2 x pushbutton DRT 1 NO + 1 NC label: “0, I, START, STOP“ 1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop“	1.45 kg	**GHG 434 1111 R0004**
	2 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 2 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“	1.45 kg	**GHG 434 1111 R0005**
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“ 1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop“ 1 x key-operated switch 2 NO SW 5 “engaging-engaging-engaging“ label: “I 0 II“	1.55 kg	**GHG 434 1111 R0009**



Accessories

Mounting plate for type 432

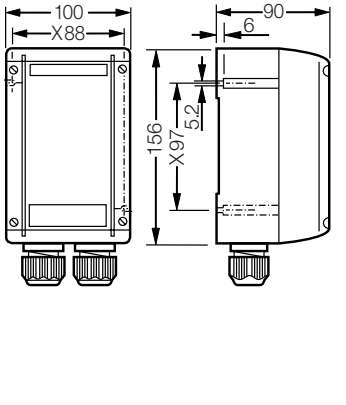
Type	Application	Mounting technique	OU	Order No.
Size 2	Wall mounting	screw-on	1	**GHG 610 1953 R0104**
Size 2	Pipe mounting	screw-on	1	**GHG 610 1953 R0105**
Size 2	Trellis-work mounting	screw-on	1	**GHG 610 1953 R0106**
Size 5	Wall mounting	snap-on *	1	**GHG 610 1953 R0128**
Size 5	Trellis-work mounting	snap-on *	1	**GHG 610 1953 R0128**
Size 5	Pipe mounting	snap-on *	1	**GHG 610 1953 R0132**

Mounting plate for type 434

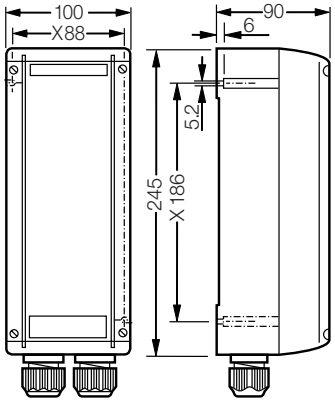
Type	Application	Mounting technique	OU	Order No.
Size 3	Wall mounting	screw-on	1	**GHG 610 1953 R0118**
Size 3	Pipe mounting	screw-on	1	**GHG 610 1953 R0110**
Size 3	Trellis-work mounting	screw-on	1	**GHG 610 1953 R0118**
Size 5	Wall mounting	snap-on *	1	**GHG 610 1953 R0128**
Size 5	Trellis-work mounting	snap-on *	1	**GHG 610 1953 R0128**
Size 5	Pipe mounting	snap-on *	1	**GHG 610 1953 R0132**
Snap-on mounting for CEAG apparatus with 5.5 mm and 11 mm mounting size per 4 pieces			10	**GHG 610 1953 R0041**

* snap-on with snap-on mounting 5.5 mm

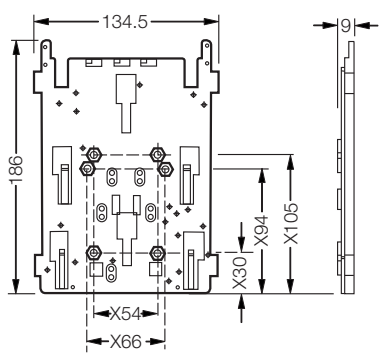
Dimension drawing



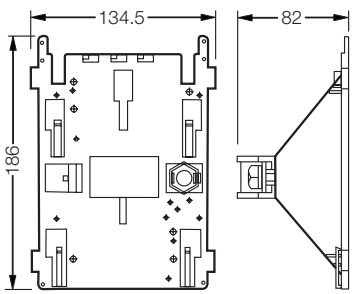
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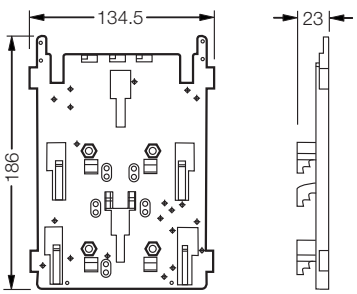
Type 434



Size 2 Wall mounting



Size 2 Pipe mounting



Size 2 Trellis-work mounting

X = fixing dimension

Dimensions in mm

EX-CONTROL STATIONS

Light alloy
Version for Zone 1 and Zone 21

Light-alloy control stations in explosion-protected design are equipped with up to four components. These control stations are made of high-quality cast aluminium-silicon (AlSi).
A robust plastic powder coating according to RAL 7031 protects the CEAG control stations against aggressive atmospheres and chemicals. Cover screws as well as all internal and external metal parts are made of stainless steel. CEAG flameproof built-in components, such as signal lamps, pushbuttons and switches, provide snap-on mounting on rails screwed into the enclosures.
To facilitate insertion of cables into the entries, the built-in components can be snapped out of the enclosures. Notches in the mounting rails define the position of the built-in components and prevent them from being twisted out of place.

Free mounting areas can be provided for retrofitting certified CEAG components. These are then factory sealed with blanking elements.

Internationally approved.



- **High mechanical, chemical and thermal resistance**
- **Individual configuration**
- **Impact-resistant plastic powder coating**



Technical data

Ex-Control stations Type 413 84 | Type 413 85		
Marking to 94/9/EC	Ⓔx II 2 G Ex ed ib m IIC T6 Ⓔx II 2 D Ex tD A21 IP66 T80 °C	
EC-Type Examination Certificate	PTB 00 ATEX 3117	
IECEx Certificate of conformity	IECEx BKI 04.0003	
Marking accd. to IECEx	Ex e II T6, Ex e ib IIC T6, Ec ed IIC T6 or Ex ed ib IIC T6	
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (option)	
Rated voltage	690 V AC (with control switch GHG 23 to 500 V)	
Rated current	35 A (with control switch GHG 23 max. 10 A)	
Rated making-/rated breaking capacity	Ex41	Ex23
accd. EN 60947-5-1	AC-15: U_e 250 V / I_e 6 A U_e 500 V / I_e 4 A DC-13: U_e 24 V / I_e 6 A U_e 220 V / I_e 1 A	AC-15: U_e 230 V / I_e 6 A U_e 500 V / I_e 4 A DC-13: U_e 24 V / I_e 2 A U_e 230 V / I_e 0.5 A
Connecting terminals	2 x 4 mm²	
Insulation class	I	
Degree of protection accd. EN 60529	IP66 (standard)	
Cable glands/Gland plates/Enclosure drilling	1 x M20 threaded entry	
Enclosure material	High quality cast aluminium (AlSi)	
Enclosure colour	Grey RAL 7031	

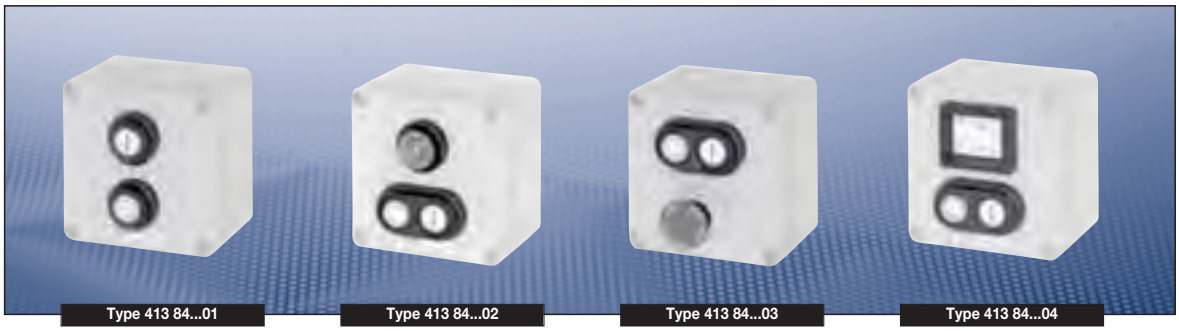
Type 413 84	
Dimensions (L x W x H)	122 x 120 x 81 mm
Weight (empty)	0.85 kg

Type 413 85	
Dimensions (L x W x H)	122 x 120 x 81 mm
Weight (empty)	1.45 kg

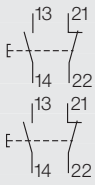
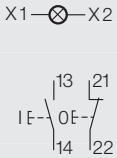
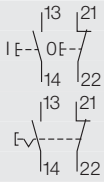
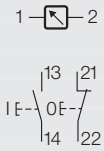
Type 413 84 with measuring instrument AM 72		
Movement	Moving iron	Moving coil
Marking to 94/9/EC	Ⓔx II G Ex e II	Ⓔx II G Ex ib IIC
Accuracy	Class 2.5	Class 1.5
Overload range	10-fold -25 sec. 25-fold - 4 sec. 50-fold - 1 sec. indicated 1:1.5	10-fold -5 sec.
Measuring range	n / 1A 0 - 25 A direct	0 - 20 mA 4 - 20 mA
Inductance Li	–	≤ 0.1 mH
Capacitance Ci	–	≤ 0.1 nF
Open circuit voltage Ui	–	30 V
Short circuit current Ii	–	150 mA
Connecting terminals	2 x 1.5 - 4 mm²	
Weight	1.25 kg	

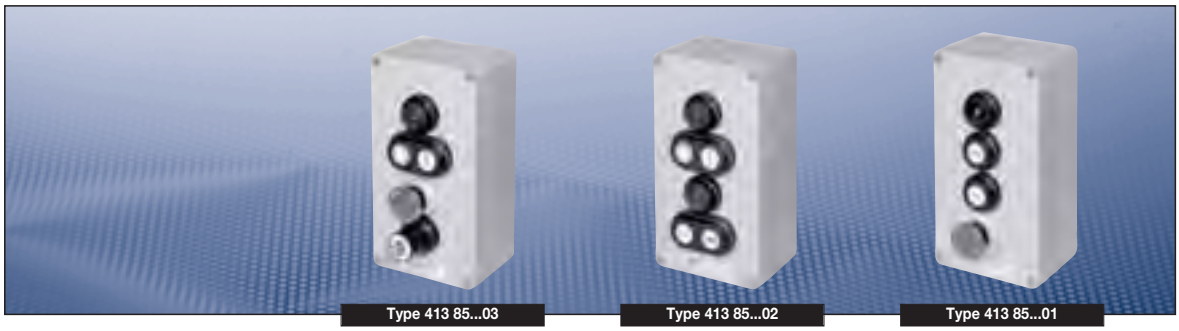
[1] Base enclosure can be rotated afterwards (entry from top or down)

Other versions available on request

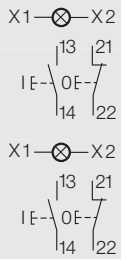
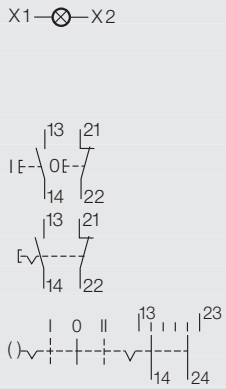


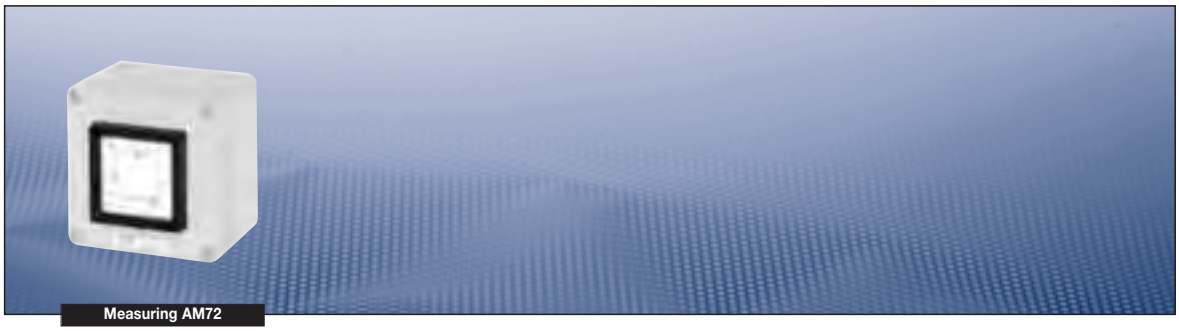
Ordering details type 413 84 with 2 built-in components

Version	Built-in components	Weight approx.	Order No.
	2 x pushbutton DRT 1 NO + 1 NC each label: “0, I, START, STOP“	1.25 kg	**GHG 413 8400 R0001**
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“	1.30 kg	**GHG 413 8400 R0002**
	1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“ 1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop“	1.30 kg	**GHG 413 8400 R0003**
	1 x measuring instrument AM45 CT connection n/1A Scale 0 –100%/150% 1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“	1.35 kg	**GHG 413 8400 R0004**



Ordering details type 413 85 with 4 built-in components

Version	Built-in components	Weight approx.	Order No.
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 2 x pushbutton DRT 1 NO + 1 NC label: “0, I, START, STOP“ 1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop“	2.10 kg	**GHG 413 8500 R0001**
	2 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 2 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“	2.10 kg	**GHG 413 8500 R0002**
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ label: “I 0 II“ 1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“ 1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop“ 1 x key-operated switch 2 NO SW 5 “engaging-engaging-engaging“ label: “I 0 II“	2.20 kg	**GHG 413 8500 R0003**

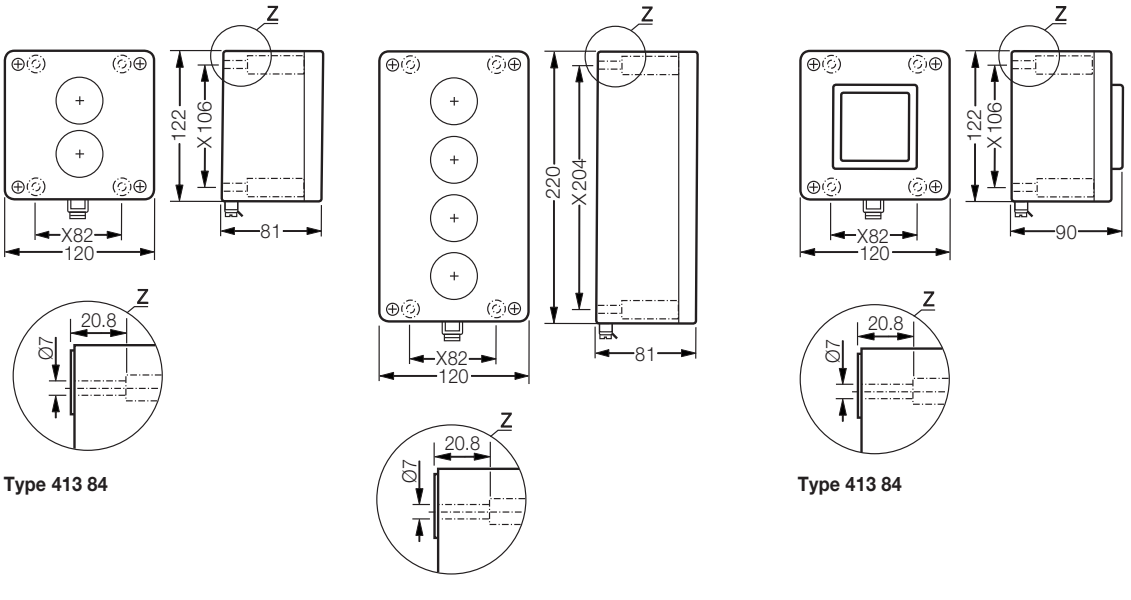


Measuring AM72

Ordering details type 413 84 with measuring instrument AM72

Version	Movement	Weight approx.	Order No.
Version direct measurement with 1 x threaded entry M20			
0 – 1 / 1.5 A	moving iron	1.25 kg	**GHG 413 8481 R0002**
0 - 2.5 / 3.75 A	moving iron	1.25 kg	**GHG 413 8481 R0003**
0 - 5 / 7.5 A	moving iron	1.25 kg	**GHG 413 8481 R0004**
0 - 10 / 15 A	moving iron	1.25 kg	**GHG 413 8481 R0005**
0 - 16 / 24 A	moving iron	1.25 kg	**GHG 413 8481 R0007**
0 - 20 / 24 mA 0-100% / 120% (Ri =320 Ω)	moving coil	1.35 kg	**GHG 413 8481 R0033**
4 - 20 / 24 mA 0-100% / 120% (Ri =320 Ω)	moving coil	1.35 kg	**GHG 413 8481 R0035**
Version CT connection n/1A with 1 x threaded entry M20			
0 – 1 / 1.5 A	moving iron	1.25 kg	**GHG 413 8482 R0002**
0 - 2.5 / 3.75 A	moving iron	1.25 kg	**GHG 413 8482 R0003**
0 - 5 / 7.5 A	moving iron	1.25 kg	**GHG 413 8482 R0004**
0 - 10 / 15 A	moving iron	1.25 kg	**GHG 413 8482 R0005**
0 - 15 / 22.5 A	moving iron	1.25 kg	**GHG 413 8482 R0007**
0 - 20 / 30 A	moving iron	1.25 kg	**GHG 413 8482 R0008**
0 - 30 / 45 A	moving iron	1.25 kg	**GHG 413 8482 R0009**
0 - 40 / 60 A	moving iron	1.25 kg	**GHG 413 8482 R0010**
0 - 50 / 75 A	moving iron	1.25 kg	**GHG 413 8482 R0011**
0 - 60 / 90 A	moving iron	1.25 kg	**GHG 413 8482 R0012**
0 - 75 / 112.5 A	moving iron	1.25 kg	**GHG 413 8482 R0013**
0 - 100/ 150 A	moving iron	1.25 kg	**GHG 413 8482 R0014**
0 – 100% / 150%	moving iron	1.25 kg	**GHG 413 8482 R0033**

Dimension drawing



Type 413 84

Type 413 85

Type 413 84

X = fixing dimension

Dimensions in mm

EX-CONTROL STATION

Stainless steel
Version for Zone 1 and Zone 21

CEAG explosion-protected control stations made of high-grade 316L stainless steel are designed to accommodate up to four built-in components. These stainless-steel control stations with electro-polished surfaces offer protection for applications in the off-shore industry and at sites with especially severe mechanical, chemical and climatic conditions.

CEAG flameproof built-in components, such as signal lamps, pushbuttons and switches, provide snap-on mounting on rails screwed into the enclosures. To facilitate insertion of cables into the entries, the built-in components can be snapped out of the enclosures. Notches in the mounting rails define the position of the built-in components and prevent them from being twisted out of place.

Free mounting areas can be provided for retrofitting certified CEAG components. These are then factory sealed with blanking elements.

Internationally approved.



- **High mechanical, chemical and thermal resistance**
- **Individual configuration**
- **Clean-room applications**



Technical data

Ex-Control stations Type 414 81 | Type 414 82		
Marking to 94/9/EC	Ⓔx II 2 G Ex ed ib m IIC T6 Ⓔx II 2 D Ex tD A21 IP66 T80 °C	
EC-Type Examination Certificate	PTB 00 ATEX 3117	
IECEx Certificate of conformity	IECEx BKI 04.0003	
Marking accd. to IECEx	Ex e II T6, Ex e ib IIC T6, Ec ed IIC T6 or Ex ed ib IIC T6	
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (option)	
Rated voltage	690 V AC (with control switch GHG 23 to 500 V)	
Rated current	16 A (with control switch GHG 23 max. 10 A)	
Rated making-/rated breaking capacity	Ex41	Ex23
accd. EN 60947-5-1	AC-15: U_e 250 V / I_e 6 A	AC-15: U_e 230 V / I_e 6 A
	U_e 500 V / I_e 4 A	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A	DC-13: U_e 24 V / I_e 2 A
	U_e 220 V / I_e 1 A	U_e 230 V / I_e 0.5 A
	with gold contact points max. 0.4 A	
Connecting terminals	2 x 4 mm²	
Insulation class	I	
Degree of protection accd. EN 60529	IP66 (standard)	
Cable glands/Gland plates/Enclosure drilling	1 x drilling Ø 21 mm for cable gland M20	
Enclosure material	Stainless steel AISI 316 L	

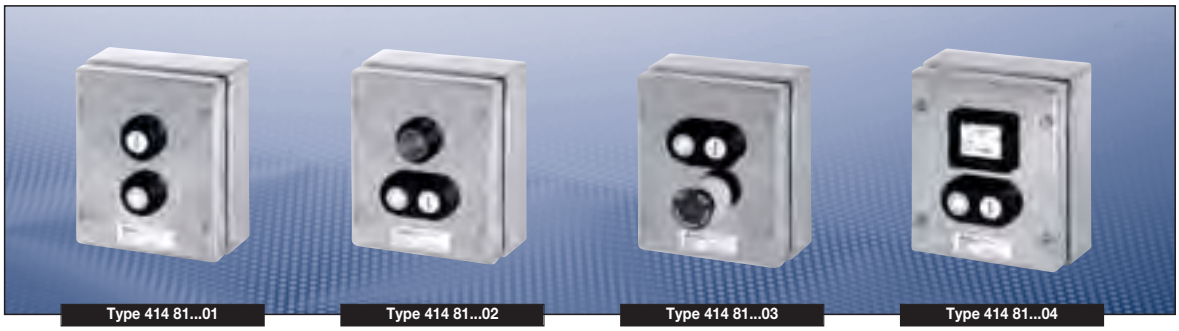
Type 414 81	
Dimensions (L x W x H)	166 x 140 x 76 mm
Weight (empty)	1.40 kg

Type 414 82	
Dimensions (L x W x H)	286 x 140 x 76 mm
Weight (empty)	2.10 kg

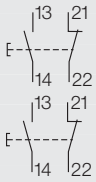
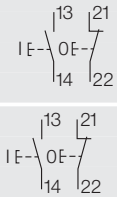
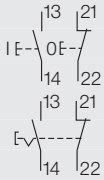
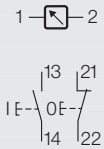
Type 414 81 with measuring instrument AM 72		
Movement	Moving iron	Moving coil
Marking to 94/9/EC	Ⓔx II G Ex e II	Ⓔx II G Ex ib IIC
Accuracy	Class 2.5	Class 1.5
Overload range	10-fold -25 sec.	10-fold -5 sec.
	25-fold - 4 sec.	
	50-fold - 1 sec.	
	indicated 1:1.5	
Measuring range	n / 1A	0 - 20 mA
	0 - 25 A direct	4 - 20 mA
Inductance Li	–	≤ 0.1 mH
Capacitance Ci	–	≤ 0.1 nF
Open circuit voltage Ui	–	30 V
Short circuit current Ii	–	150 mA
Connecting terminals	2 x 1.5 - 4 mm²	
Weight	1.25 kg	

[1] Base enclosure can be rotated afterwards (entry from top or down)

Other versions available on request



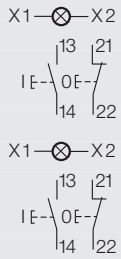
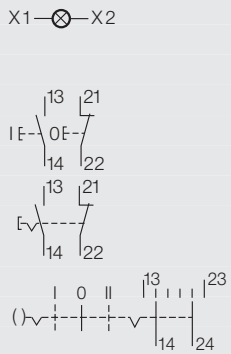
Ordering details type 414 81 with 2 built-in components

Version*	Built-in components	Weight approx.	Order No.
	2 x pushbutton DRT 1 NO + 1 NC each label: “0, I, START, STOP“	1.80 kg	**GHG 414 8100 R0001**
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“	1.85 kg	**GHG 414 8100 R0002**
	1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“ 1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop“	1.85 kg	**GHG 414 8100 R0003**
	1 x measuring instrument AM45 CT connection n/1A Scale 0 –100%/150% 1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“	1.85 kg	**GHG 414 8100 R0004**

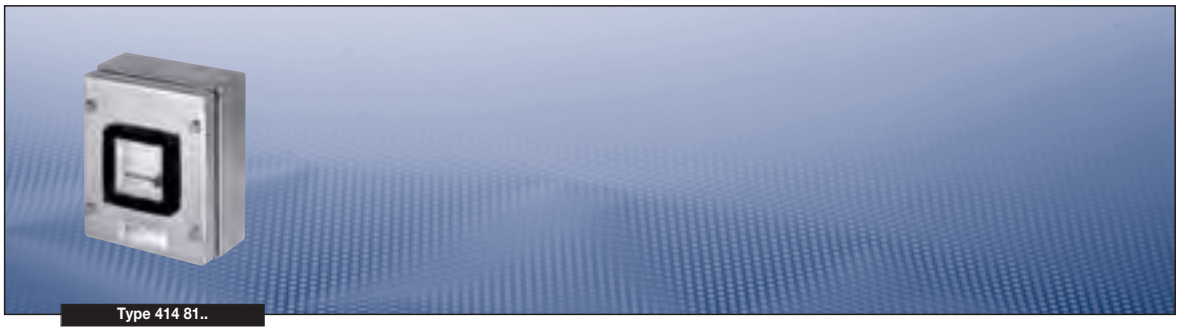
*Without external fixing lugs (see accessories page 9.30)



Ordering details type 414 82 with 4 built-in components

Version*	Built-in components	Weight approx.	Order No.
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 2 x pushbutton DRT 1 NO + 1 NC label: “0, I, START, STOP“ 1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop“	2.80 kg	**GHG 414 8200 R0001**
	2 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 2 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“	2.80 kg	**GHG 414 8200 R0002**
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: “white, red, green, yellow“ 1 x double pushbutton DDT 1 NO + 1 NC label: “0, I, START, STOP“ 1 x mushroom-head pushbutton SGTE 1 NO + 1 NC “Emergency stop“ 1 x key-operated switch 2 NO SW 5 “engaging-engaging-engaging“ label: “I 0 II“	2.90 kg	**GHG 414 8200 R0003**

*Without external fixing lugs (see accessories page 9.30)



Type 414 81..

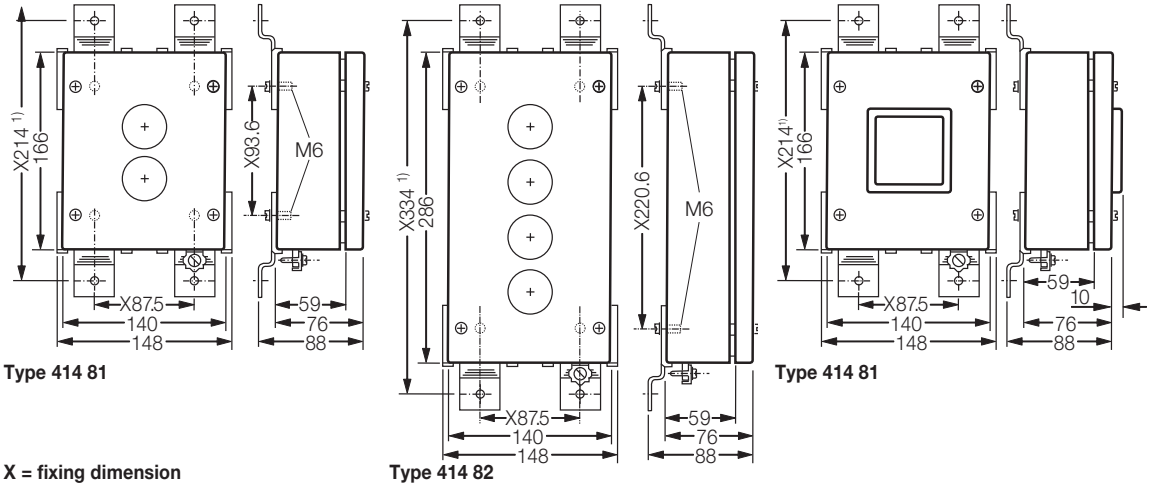
Ordering details type 414 81 with measuring AM72

Version	Movement	Weight approx.	Order No.
Version direct measurement with 1 x threaded entry Ø 21 mm **(without external fixing lugs)**			
0 – 1 / 1.5 A	moving iron	1.25 kg	**GHG 414 8181 R0002**
0 - 2.5 / 3.75 A	moving iron	1.25 kg	**GHG 414 8181 R0003**
0 - 5 / 7.5 A	moving iron	1.25 kg	**GHG 414 8181 R0004**
0 - 10 / 15 A	moving iron	1.25 kg	**GHG 414 8181 R0005**
0 - 16 / 24 A	moving iron	1.25 kg	**GHG 414 8181 R0007**
0 - 20 / 24 mA 0-100% / 120% (Ri =320 Ω)	moving coil	1.35 kg	**GHG 414 8181 R0033**
4 - 20 / 24 mA 0-100% / 120% (Ri =320 Ω)	moving coil	1.35 kg	**GHG 414 8181 R0035**
Version CT connection n/1A with 1 x threaded entry Ø 21 mm **(without external fixing lugs)**			
0 – 1 / 1.5 A	moving iron	1.25 kg	**GHG 414 8182 R0002**
0 - 2.5 / 3.75 A	moving iron	1.25 kg	**GHG 414 8182 R0003**
0 - 5 / 7.5 A	moving iron	1.25 kg	**GHG 414 8182 R0004**
0 - 10 / 15 A	moving iron	1.25 kg	**GHG 414 8182 R0005**
0 - 15 / 22.5 A	moving iron	1.25 kg	**GHG 414 8182 R0007**
0 - 20 / 30 A	moving iron	1.25 kg	**GHG 414 8182 R0008**
0 - 30 / 45 A	moving iron	1.25 kg	**GHG 414 8182 R0009**
0 - 40 / 60 A	moving iron	1.25 kg	**GHG 414 8182 R0010**
0 - 50 / 75 A	moving iron	1.25 kg	**GHG 414 8182 R0011**
0 - 60 / 90 A	moving iron	1.25 kg	**GHG 414 8182 R0012**
0 - 75 / 112.5 A	moving iron	1.25 kg	**GHG 414 8182 R0013**
0 - 100/ 150 A	moving iron	1.25 kg	**GHG 414 8182 R0014**
0 - 100% / 150%	moving iron	1.25 kg	**GHG 414 8182 R0033**

Accessories

Type	Order No.
External fixing lugs (2 pcs)	**GHG 610 1941 R0013**

Dimension drawing



Dimensions in mm

1) Scope of delivery without fixing lugs

EX-CONTROL STATIONS

For individual controls
Moulded-plastic version for Zone 1 and Zone 21

CEAG control stations can be combined according to customers' specifications. Quick fixing allows up to three CEAG built-in components, such as signal lamps, pushbuttons and switches, to be snapped on a rail in the enclosure. The enclosures consist of low-temperature impact-resistant thermoplastic which fulfils the requirements of EN 60079 and provides a high resistance to chemicals. The well thought out design with low side walls allows optimum cable connection. The components can be snapped out of the enclosure to facilitate cable-entry feeding. Notches in the mounting rails prevent the built-in components from being twisted out of place.
CEAG's optional mounting plates offer a time-saving fixing technique. Coupling pieces link enclosures to each other and prevent them from being twisted out of place. Alternatively, metal screws and flanges can be used for mounting – the metal flanges also enable external earthing. The built-in components differ in size.
The diverse enclosure types allow variable combinations of these components. Example diagrams of the enclosure types show the placement options for the built-in components with numbers or predefined positions.

Free mounting areas can be provided for retrofitting certified CEAG components. These are then factory sealed with blanking elements.

Internationally approved.

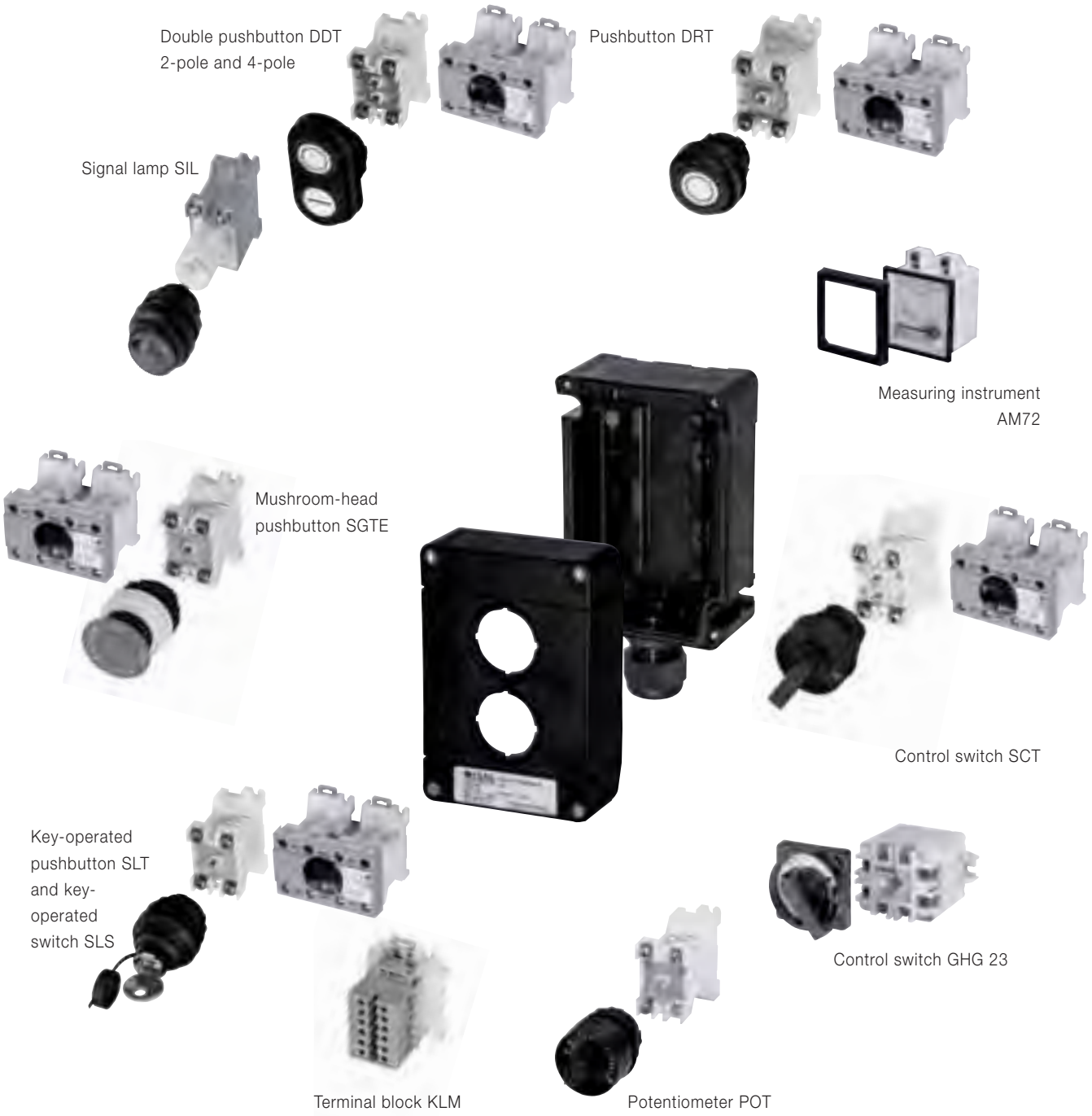


- **Flat side walls**
- **Quick fixing for all built-in components**
- **High chemical resistance**
- **Different enclosures can be combined**

Customised control stations, covered by type examination certificates, can be individually combined from CEAG's numerous built-in components.

A coding system for these components with unique designations can be used for planning, selection and ordering. The sum of the code numbers designates a complete control station.

For the selection of control units and components, please see page 9.34 pp.



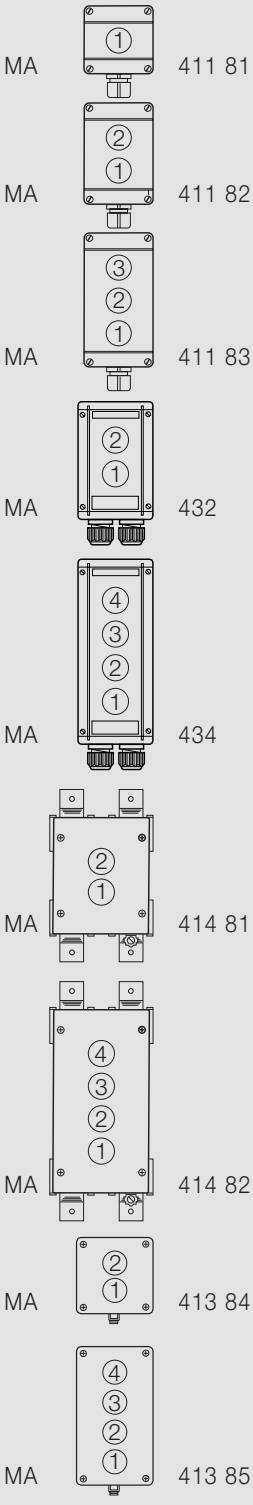
Order Code for Individual Control Units

Individual control units can be defined by 4 groups of components:
1. Empty Enclosure
2. Components per mounting area
3. Accessories
4. Cable glands

Code 1: Empty Enclosure

Code for enclosure





Code 2: Components per mounting area (max. 4)

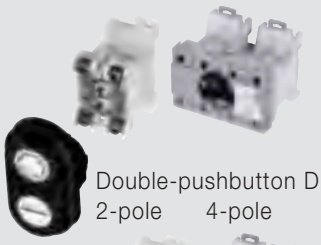
A	C	D(1)	(D2)	E	F	
☐☐☐☐	☐☐	☐☐☐	☐☐☐	☐☐	☐	Mounting area 1 MA1
☐☐☐☐	☐☐	☐☐☐	☐☐☐	☐☐	☐	Mounting area 2 MA2
☐☐☐☐	☐☐	☐☐☐	☐☐☐	☐☐	☐	Mounting area 3 MA3
☐☐☐☐	☐☐	☐☐☐	☐☐☐	☐☐	☐	Mounting area 4 MA4



Pushbutton DRT
2-pole 4-pole



Signal lamp
SIL



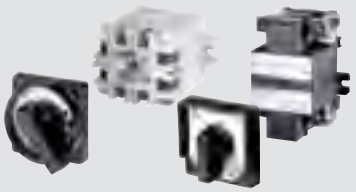
Double-pushbutton DDT
2-pole 4-pole



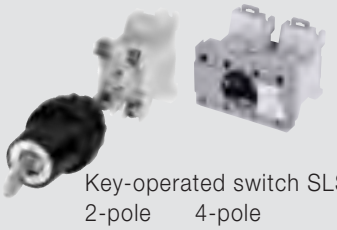
Potentiometer
POT



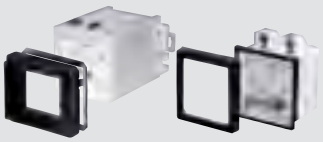
Key-operated pushbutton SLT
2-pole 4-pole



Control switch
Ex 23 Ex 29



Key-operated switch SLS
2-pole 4-pole



Measuring instrument
AM 45 AM 72



Mushroom-head pushbutton
SGTE SGT



Terminal block
KLM

Example: Enclosure Type 434,
Pushbutton (MA4),
Signal lamp (MA3)
Emergency stop
Mushroom head pushbutton (MA2)
Double pushbutton (MA1)

Code 1: 434..
Code 2 MA4: DRT 14 001
Code 2 MA3: SIL 1 10
Code 2 MA2 SGTE 13 1 1 2
Code 2 MA1: DDT15 001 007

Code 3 MA1: ZUB 19
Code 3 MA2: ZUB 19
Code 3 MA3: ZUB 02
Code 3 MA4: --
Code 4: GEH 1 GK M25 2

Code 3: Labels and locking facilities

A □□□□□ B □..... C □□□□□ Mounting area 1 MA1

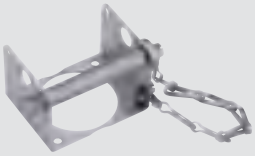
A □□□□□ B □..... C □□□□□ Mounting area 2 MA2

A □□□□□ B □..... C □□□□□ Mounting area 3 MA3

A □□□□□ B □..... C □□□□□ Mounting area 4 MA4



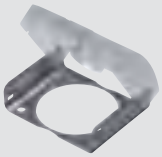
Label with holder
ZUB 20



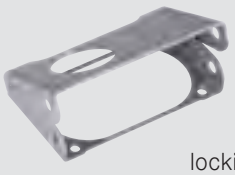
locking facility
ZUB 14



locking facility with hammer
ZUB 05



locking facility
ZUB 22



locking facility double pushbutton
ZUB 17

Code 4: Cable entries and flanges

A □□□ B □ C □□ D □□□ E □



Metal flange plate
FLM



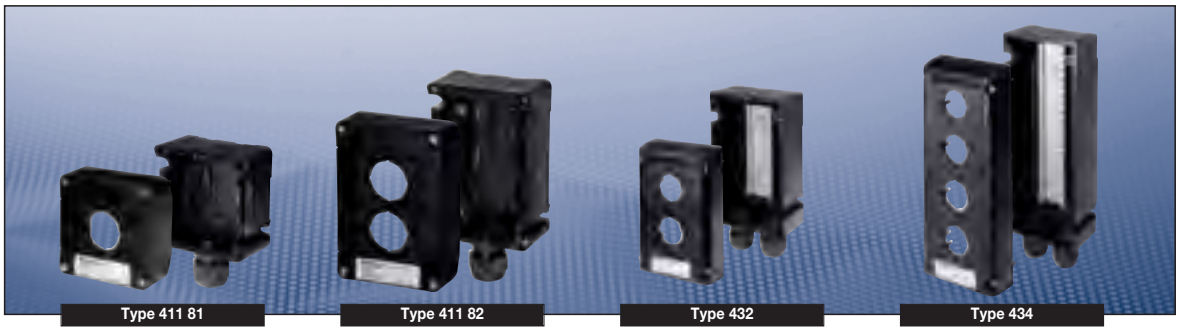
plastic cable gland
GK



plastic trumpet-shaped
cable gland TR



position for
drilling/gland



Technical data

Ex-Control stations Type 41. and 43. for individual configuration	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed ib m IIC T6 Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 00 ATEX 3117
IECEx Certificate of conformity	IECEx BKI 04.0003
Marking accd. to IECEx	Ex e II T6, Ex e ib IIC T6, Ex ed IIC T6 or Ex ed ib IIC T6
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (option)
Rated voltage	690 V AC
Rated current	16 A
Connecting terminals	2 x 4 mm²
Insulation class	I
Degree of protection accd. EN 60529	IP66 (standard)
Enclosure material	Polyamide
Enclosure colour	black

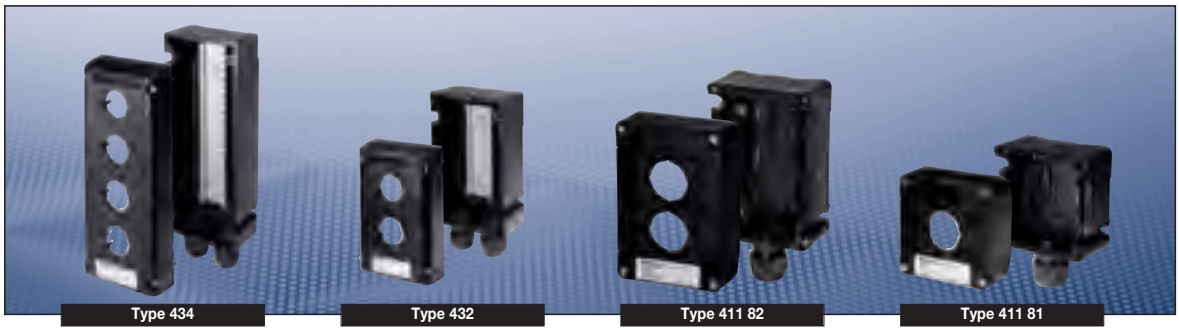
Type 411 81	
Cable glands/Gland plates/Enclosure drilling	1 x M25 Ex-e cable gland max. 2 x M25; 2 x M20 Gewinde
Dimensions (L x W x H)	85 x 85 x 77.5 mm
Weight (empty)	0.25 kg
Mounting arrangements	1 mounting area

Type 411 82	
Cable glands/Gland plates/Enclosure drilling	1 x M25 Ex-e cable gland max. 2 x M25; 2 x M20 Gewinde
Dimensions (L x W x H)	125 x 85 x 77.5 mm
Weight (empty)	0.35 kg
Mounting arrangements	2 mounting areas

Type 411 83	
Cable glands/Gland plates/Enclosure drilling	1 x M25 Ex-e cable gland max. 2 x M25; 2 x M20 Gewinde
Dimensions (L x W x H)	165 x 85 x 77.5 mm
Weight (empty)	0.45 kg
Mounting arrangements	3 mounting areas

Type 432	
Cable glands/Gland plates/Enclosure drilling	2 x M25 Ex-e cable gland max. 2 x M25; 3 x M20 Gewinde incl. 1 blanking plug or 2 x M20 thread
Dimensions (L x W x H)	156 x 100 x 90 mm
Weight (empty)	0.47 kg
Mounting arrangements	2 mounting areas

Type 434	
Cable glands/Gland plates/Enclosure drilling	2 x M25 Ex-e cable gland max. 2 x M25; 3 x M20 Gewinde incl. 1 blanking plug or 2 x M20 thread
Dimensions (L x W x H)	245 x 100 x 90 mm
Weight (empty)	0.70 kg
Mounting arrangements	4 mounting areas



Ordering codes (Code 1)

1. Empty enclosure	2. Components arrangement/Terminals				3. Labels/Locking devices	4. Cable glands
	Mounting area 1	Mounting area 2	Mounting area 3	Mounting area 4		
411 81[1]	X	–	–	–	X	X
411 82	X	X	–	–	X	X
411 83	X	X	X	–	X	X
432	X	X	–	–	X	X
434	X	X	X	X	X	X

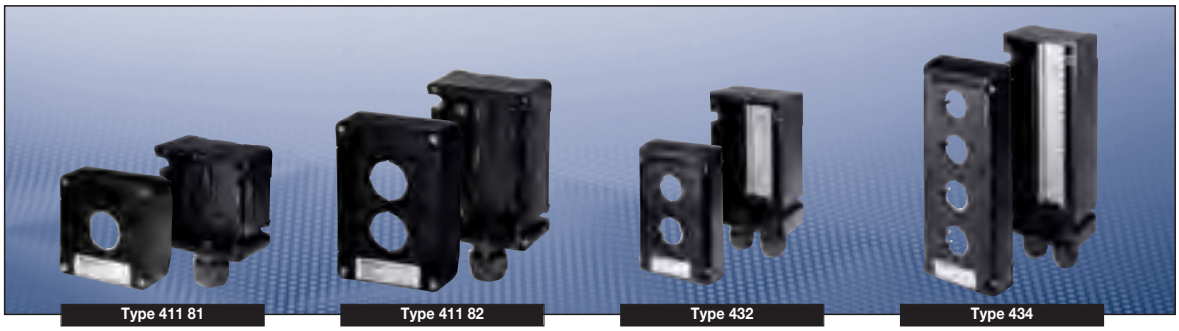
Possible components (Code 1)

Component	Code	Component	Code
Pushbutton (2-pole or 4-pole[2])	DRT	Measuring instrument	AM72[2]
Double pushbutton (2-pole or 4-pole[2])	DDT	Measuring instrument	AM45
Key-operated pushbutton (2-pole or 4-pole[2])	SLT	Signal lamp	SIL
Key switch (2-pole or 4-pole[2])	SLS	Potentiometer	POT
Control switch (2-pole or 4-pole[2])	SCT	Terminal block (4 mm²)	KLM
Mushroom-head pushbutton (2-pole or 4-pole[2])	SGT	Blanking element	BLV
Control switch	GHG 23[3]		

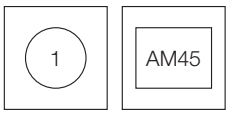
[1] 4-pole component not possible

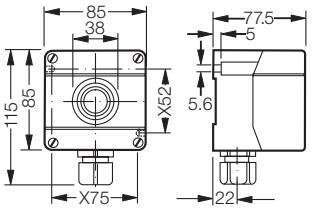
[2] 2 mounting areas are needed

[3] only for type 43., 2 mounting areas are needed

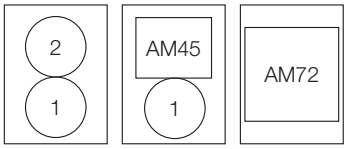


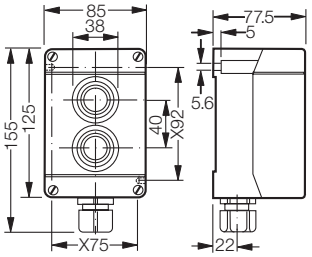
Mounting areas | Dimension drawing



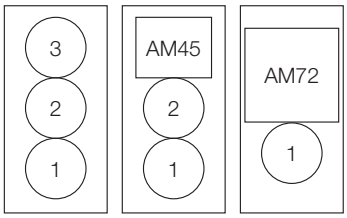


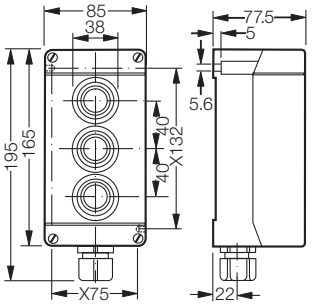
Type 411 81



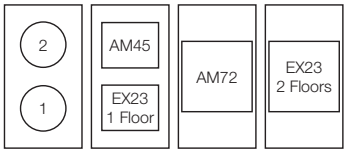


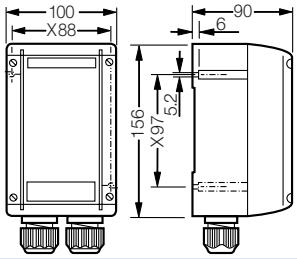
Type 411 82



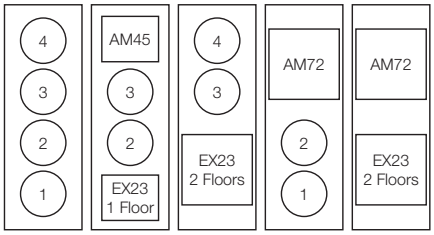


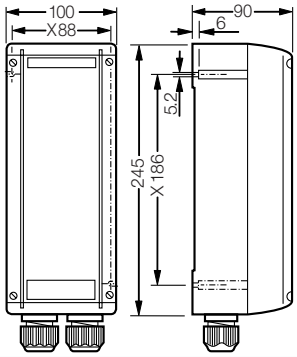
Type 411 83





Type 432

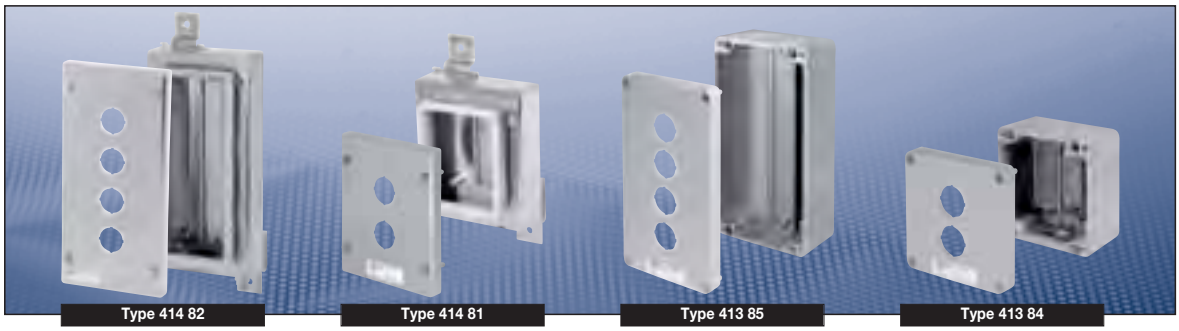




Type 434

X = fixing dimension

Dimensions in mm



Technical data

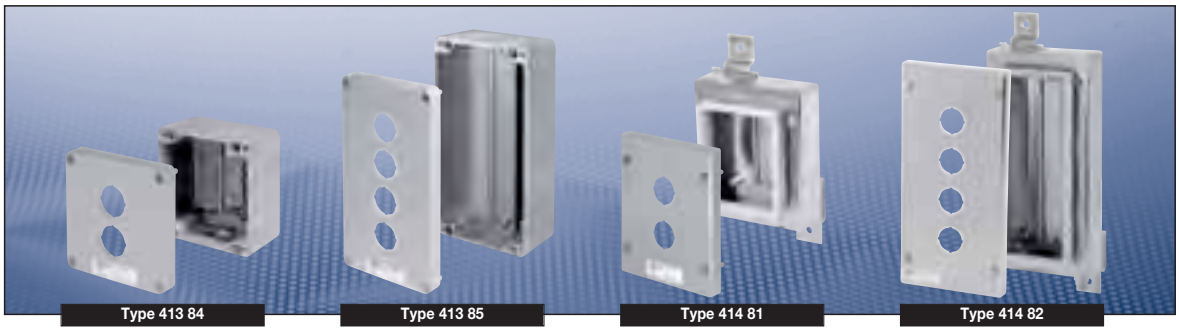
Ex-Control stations Type 413. and 414. for individual configuration	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed ib m IIC T6 Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 00 ATEX 3117
IECEx Certificate of conformity	IECEx BKI 04.0003
Marking accd. to IECEx	Ex e II T6, Ex e ib IIC T6, Ex ed IIC T6 or Ex ed ib IIC T6
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (option)
Rated voltage	690 V AC
Rated current	16 A
Connecting terminals	see technical data for built-in components
PE-connection terminals	2 x 4 mm²
Insulation class	I
Degree of protection accd. EN 60529	IP66 (standard)

Type 413 84	
Cable glands/Gland plates/Enclosure drilling	max. 2 x M25; 2 x M20
Dimensions (L x W x H)	122 x 120 x 81 mm
Weight (empty)	0.85 kg
Enclosure material	cast aluminium-silicon (AlSi)
Enclosure colour	grey RAL 7031
Mounting arrangements	2 mounting areas

Type 413 85	
Cable glands/Gland plates/Enclosure drilling	max. 2 x M25; 2 x M20
Dimensions (L x W x H)	122 x 120 x 81 mm
Weight (empty)	1.45 kg
Enclosure material	cast aluminium-silicon (AlSi)
Enclosure colour	grey RAL 7031
Mounting arrangements	4 mounting areas

Type 414 81	
Cable glands/Gland plates/Enclosure drilling	max. 3 x Ø 21 mm for cable gland M20 max. 2 x Ø 25.5 mm for cable gland M25
Dimensions (L x W x H)	166 x 140 x 76 mm
Weight (empty)	1.40 kg
Enclosure material	Stainless steel AISI 316 L
Enclosure colour	polished
Mounting arrangements	2 mounting areas

Type 414 82	
Cable glands/Gland plates/Enclosure drilling	max. 4 x Ø 21 mm for cable gland M20 max. 2 x Ø 25.5 mm for cable gland M25
Dimensions (L x W x H)	286 x 140 x 76 mm
Weight (empty)	2.10 kg
Enclosure material	Stainless steel AISI 316 L
Enclosure colour	polished
Mounting arrangements	4 mounting areas



Ordering codes (Code 1)

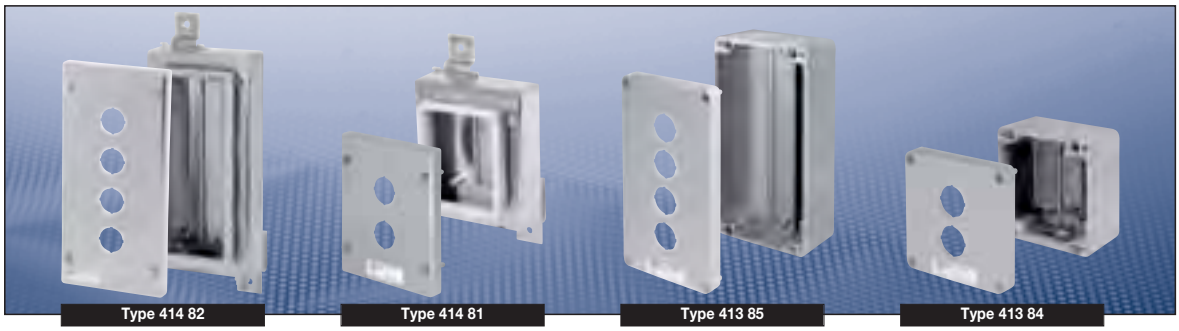
1. Empty enclosure	2. Components arrangement/Terminals				3. Labels/Locking devices	4. Cable glands
	Mounting area 1	Mounting area 2	Mounting area 3	Mounting area 4		
413 84	X	X	–	–	X	X
413 85	X	X	X	X	X	X
414 81	X	X	–	–	X	X
414 82	X	X	X	X	X	X

Possible components (Code 1)

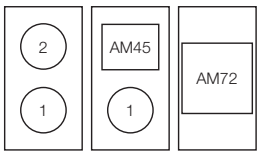
Component	Code
Pushbutton (2-pole or 4-pole[1])	DRT
Double pushbutton (2-pole or 4-pole[1])	DDT
Key-operated pushbutton (2-pole or 4-pole[1])	SLT
Key switch (2-pole or 4-pole[1])	SLS
Control switch (2-pole or 4-pole[1])	SCT
Mushroom-head pushbutton (2-pole or 4-pole[1])	SGT
Control switch	GHG 23[1]

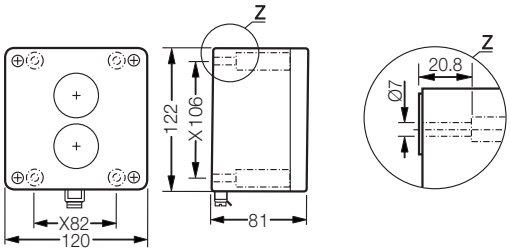
Component	Code
Measuring instrument	AM72[1]
Measuring instrument	AM45
Signal lamp	SIL
Potentiometer	POT
Terminal block (4 mm²)	KLM
Blanking element	BLV

[1] 2 mounting areas are needed

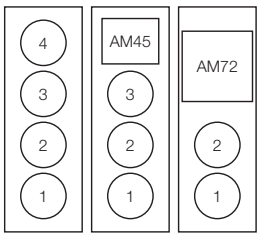


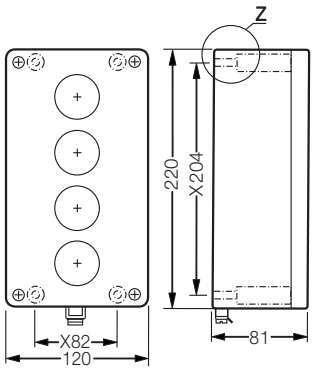
Mounting areas | Dimension drawing



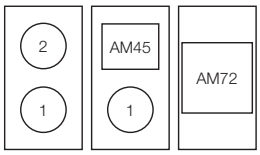


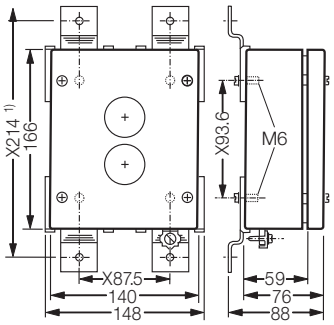
Type 413 84



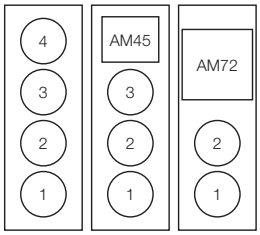


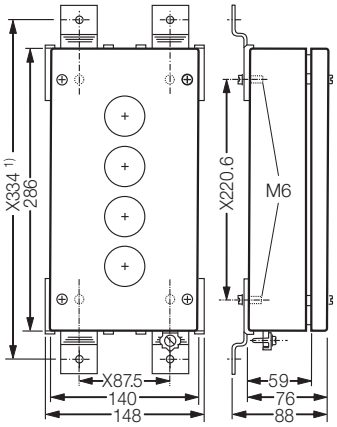
Type 413 85





Type 414 81

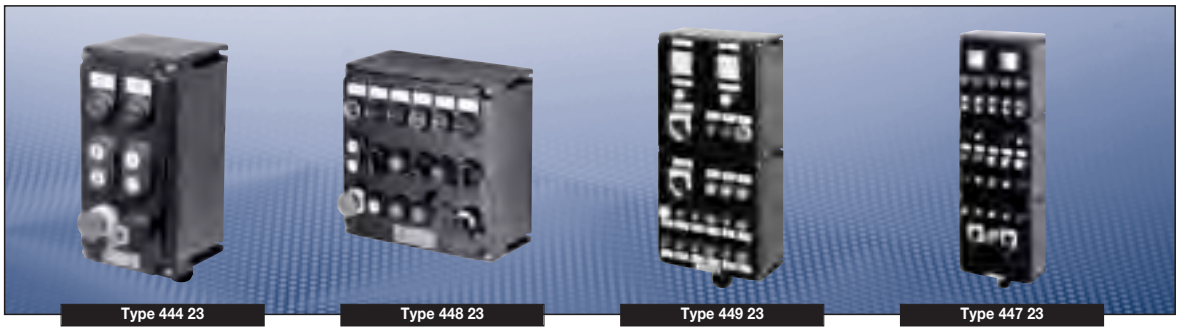




Type 414 82

X = fixing dimension

Dimensions in mm



Technical data

Ex-Control stations Type 444, 448, 449, and 447 for individual configuration	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib m [ia/ib] IIC T6
	Ⓔx II 2 D Ex tD A21 IP66/IP65 T80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1044
IECEx Certificate of conformity	IECEx BKI 07.0023
Marking accd. to IECEx	Ex de ia/ib m [ia/ib] IIC T4 .. T6
	Ex tD A21 IP66 T80 °C
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	690 V AC
Rated current	40 A
Connecting terminals	see technical data for built-in components
PE-connection terminals	2 x 4 mm²
Insulation class	I
Degree of protection accd. EN 60529	IP66 (standard)
Cable glands/Gland plates/Enclosure drilling	as ordered accd. to manufacturer's specification
Enclosure material	glass-fibre reinforced polyester
Enclosure colour	black

Type 444 23		
Connecting terminals	max. 20 terminals UT 4	
Dimensions (L x W x H)	271 x 134 x 136 mm	
Weight (empty)	1.5 kg with mounting framework	
Mounting arrangements	6 mounting areas	

Type 448 23		
Connecting terminals	max. 30 terminals UT 4	
Dimensions (L x W x H)	271 x 271 x 136 mm	
Weight (empty)	2.5 kg with mounting framework	
Mounting arrangements	distance 40 mm	max. 18 mounting areas
	distance 50 mm	max. 15 mounting areas
	distance 60 mm	max. 12 mounting areas

Type 449 23		
Connecting terminals	max. 60 terminals UT 4	
Dimensions (L x W x H)	544 x 271 x 136 mm	
Weight (empty)	4.5 kg with mounting framework	
Mounting arrangements	distance 40 mm	max. 36 mounting areas
	distance 50 mm	max. 30 mounting areas
	distance 60 mm	max. 24 mounting areas

Type 447 23		
Connecting terminals	max. 90 terminals UT 4	
Dimensions (L x W x H)	817 x 271 x 136 mm	
Weight (empty)	6.5 kg with mounting framework	
Mounting arrangements	distance 40 mm	max. 64 mounting areas
	distance 50 mm	max. 45 mounting areas
	distance 60 mm	max. 36 mounting areas



Ordering codes (Code 1)

1. Empty enclosure	2. Components arrangement/Terminals				3. Labels/Locking devices	4. Cable glands
	Mounting area 1 ... 6	Mounting area 7 ... 18	Mounting area 19 ... 36	Mounting area 37 ... 64		
444 23	X	–	–	–	X	X
448 23	X	X	–	–	X	X
449 23	X	X	X	–	X	X
447 23	X	X	X	X	X	X

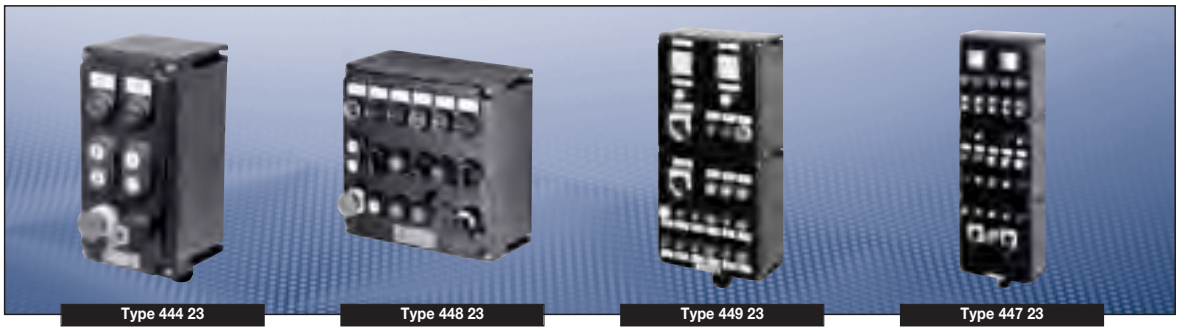
Possible components (Code 1)

Component	Code
Pushbutton (2-pole or 4-pole[1])	DRT
Double pushbutton (2-pole or 4-pole[1])	DDT
Key-operated pushbutton (2-pole or 4-pole[1])	SLT
Key switch (2-pole or 4-pole[1])	SLS
Control switch (2-pole or 4-pole[1])	SCT
Mushroom-head pushbutton (2-pole or 4-pole[1])	SGT
Control switch	GHG 23[1]

Component	Code
Measuring instrument	AM72[1]
Measuring instrument	AM45
Signal lamp	SIL
Potentiometer	POT
Serial terminals (4 mm²)	KLM...A[2]
Terminal block (4 mm²)	KLM...B
Blanking element	BLV

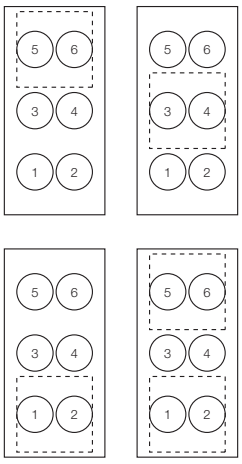
[1] 2 mounting areas are needed

[2] Serial terminals and PE-Terminal are mounted on a rail below the hinged frame

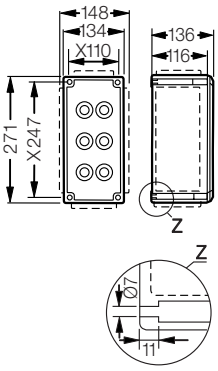


Type 444 23 | Type 448 23 | Type 449 23 | Type 447 23

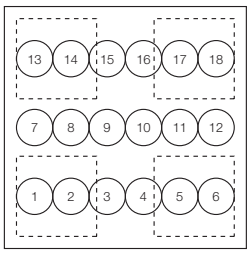
Mounting areas | Dimension drawing



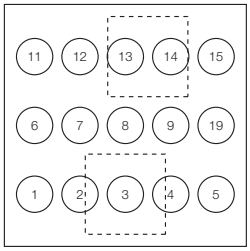
Distance between centres 40, 50 and 60 mm for positioning of built-in components



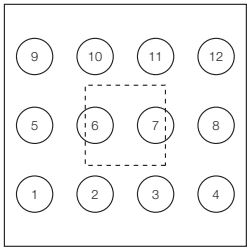
Type 444 23



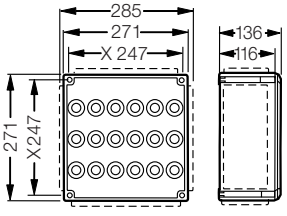
Distance between centres 40 mm



Distance between centres 50 mm



Distance between centres 60 mm



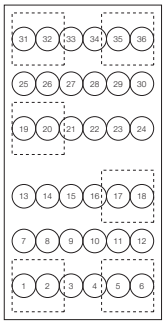
Type 448 23

X = fixing dimension

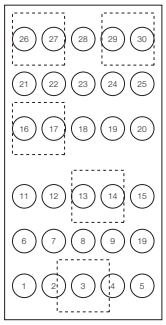
Dimensions in mm



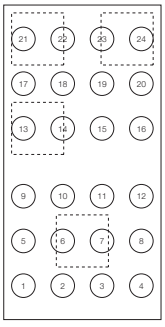
Mounting areas | Dimension drawing



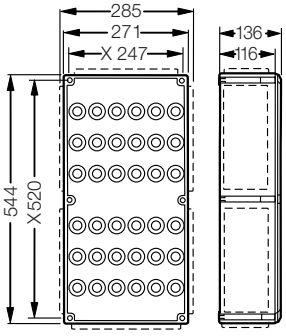
Distance between centres 40 mm



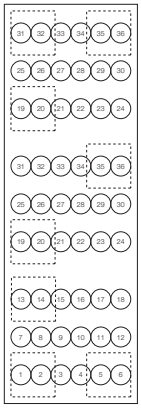
Distance between centres 50 mm



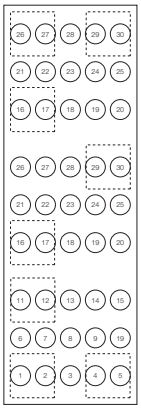
Distance between centres 60 mm



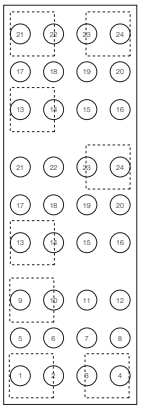
Type 449 23



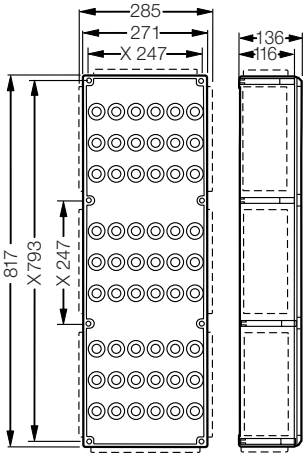
Distance between centres 40 mm



Distance between centres 50 mm



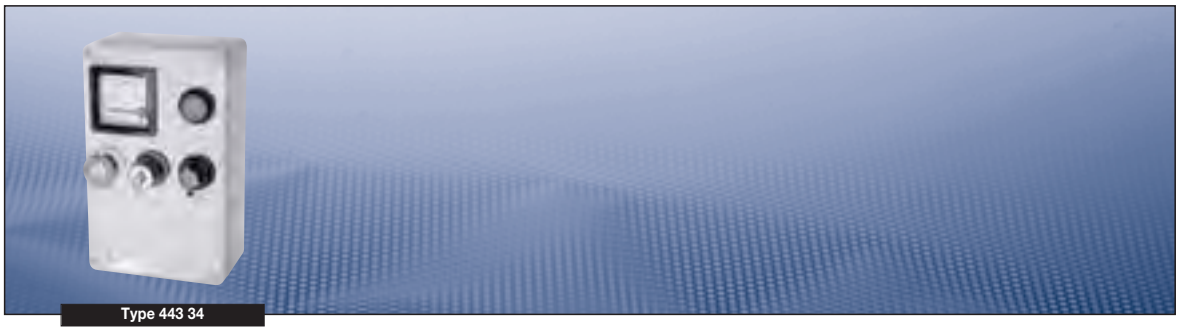
Distance between centres 60 mm



Type 447 23

X = fixing dimension

Dimensions in mm



Type 443 34

Technical data

Ex-Control stations Type 443 34 for individual configuration	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed ia/ib m IIC T6 Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 01 ATEX 1115
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (option)
Rated voltage	690 V AC
Rated current	63 A
Connecting terminals	as ordered accd. to manufacturer's specification
PE-connection terminals	2 x 4 mm²
Insulation class	I
Degree of protection accd. EN 60529	IP66 (standard)
Cable glands/Gland plates/Enclosure drilling	as ordered accd. to manufacturer's specification
Dimensions (L x W x H)	280 x 180 x 90 mm
Weight	2.3 kg with mounting framework
Enclosure material	cast aluminium-silicon (AlSi)
Enclosure colour	grey RAL 7031
Mounting arrangements	max. 9 mounting areas

Ordering codes (Code 1)

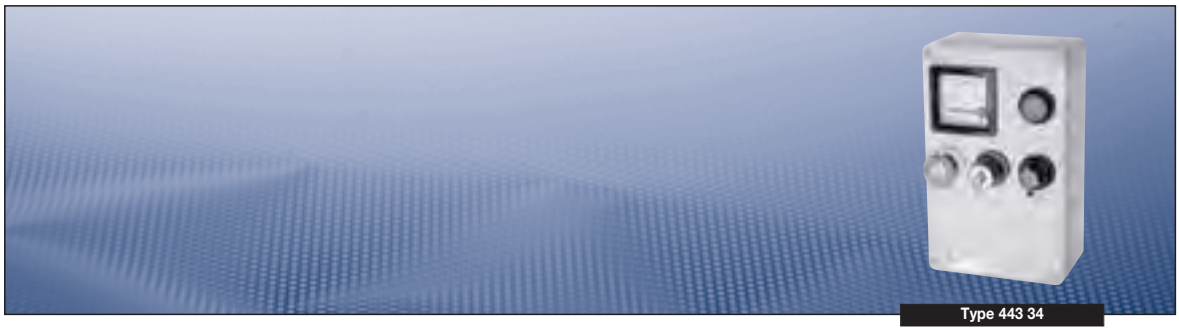
1. Empty enclosure	2. Components arrangement/Terminals			3. Labels/Locking devices	4. Cable glands
	Mounting area 1 ... 3	Mounting area 4 ... 6	Mounting area 7 ... 9		
443 34	X	X	X	X	X

Possible components (Code 1)

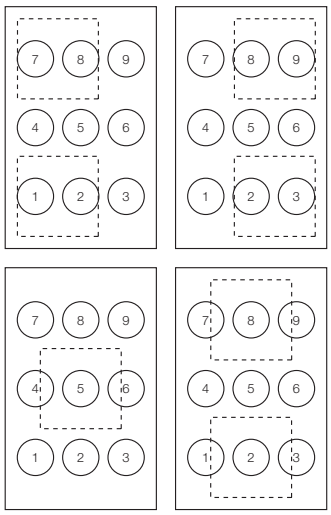
Component	Code
Pushbutton (2-pole or 4-pole[1])	DRT
Double pushbutton (2-pole or 4-pole[1])	DDT
Key-operated pushbutton (2-pole or 4-pole[1])	SLT
Key switch (2-pole or 4-pole[1])	SLS
Mushroom-head pushbutton (2-pole or 4-pole[1])	SGT
Control switch (2-pole or 4-pole[1])	SCT
Signal lamp	SIL
Potentiometer	POT

Component	Code
Measuring instrument	AM72[1]
Measuring instrument	AM45
Blanking element	BLV
Control switch	GHG 23[1]
Control switch	GHG 29[1]
Terminal (4 mm²)	KLM ... A[1]
Terminal block (4 mm²)	KLM ... B[1]

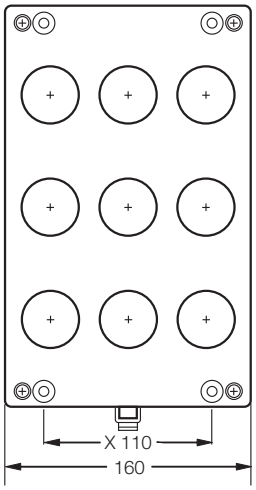
[1] 2 mounting areas are needed

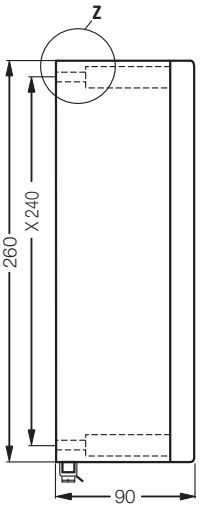


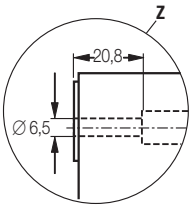
Mounting areas | Dimension drawing



Distance between centres 40, 50 and 60 mm for positioning of built-in components



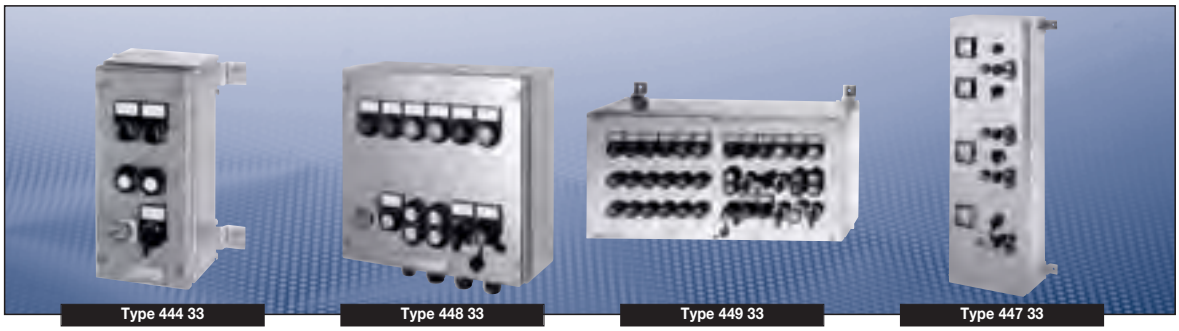




Type 443 34

X = fixing dimension

Dimensions in mm



Technical data

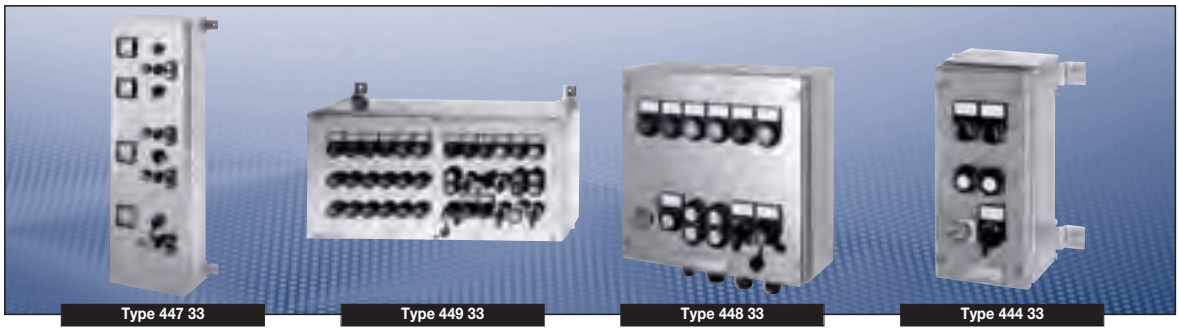
Ex-Control stations Type 444, 448, 449, and 447 stainless steel for individual configuration	
Marking to 94/9/EC	⟨Ex⟩ II 2 G Ex de ia/ib m [ia/ib] IIC T6 ⟨Ex⟩ II 2 D Ex tD A21 IP66/IP65 T80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1044
IECEx Certificate of conformity	IECEx BKI 07.0023
Marking accd. to IECEx	Ex de ia/ib m [ia/ib] IIC T4 .. T6 Ex tD A21 IP66 T80 °C
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (option)
Rated voltage	690 V AC
Rated current	40 A
Connecting terminals	see technical data for built-in components
PE-connection terminals	2 x 4 mm²
Insulation class	I
Degree of protection accd. EN 60529	IP66 (standard)
Cable glands/Gland plates/Enclosure drilling	as ordered accd. to manufacturer's specification
Enclosure material	Stainless steel AISI 316 L
Enclosure colour	polished

Type 444 33		
Connecting terminals	max. 20 terminals UT 4	
Dimensions (L x W x H)	312.5 x 175 x 135 mm	
Weight (empty)	3.5 kg with mounting framework	
Mounting arrangements	6 mounting areas	

Type 448 33		
Connecting terminals	max. 30 terminals UT 4	
Dimensions (L x W x H)	312.5 x 312.5 x 135 mm	
Weight (empty)	7.5 kg with mounting framework	
Mounting arrangements	distance 40 mm	max. 18 mounting areas
	distance 50 mm	max. 15 mounting areas
	distance 60 mm	max. 12 mounting areas

Type 449 33		
Connecting terminals	max. 60 terminals UT 4	
Dimensions (L x W x H)	627 x 312.5 x 135 mm	
Weight (empty)	11.5 kg with mounting framework	
Mounting arrangements	distance 40 mm	max. 36 mounting areas
	distance 50 mm	max. 30 mounting areas
	distance 60 mm	max. 24 mounting areas

Type 447 33		
Connecting terminals	max. 90 terminals UT 4	
Dimensions (L x W x H)	941.5 x 312.5 x 135 mm	
Weight (empty)	16.5 kg with mounting framework	
Mounting arrangements	distance 40 mm	max. 54 mounting areas
	distance 50 mm	max. 45 mounting areas
	distance 60 mm	max. 36 mounting areas



Ordering codes (Code 1)

1. Empty enclosure	2. Components arrangement/Terminals				3. Labels/Locking devices	4. Cable glands
	Mounting area 1 ... 6	Mounting area 7 ... 18	Mounting area 19 ... 36	Mounting area 37 ... 64		
444 33	X	–	–	–	X	X
448 33	X	X	–	–	X	X
449 33	X	X	X	–	X	X
447 33	X	X	X	X	X	X

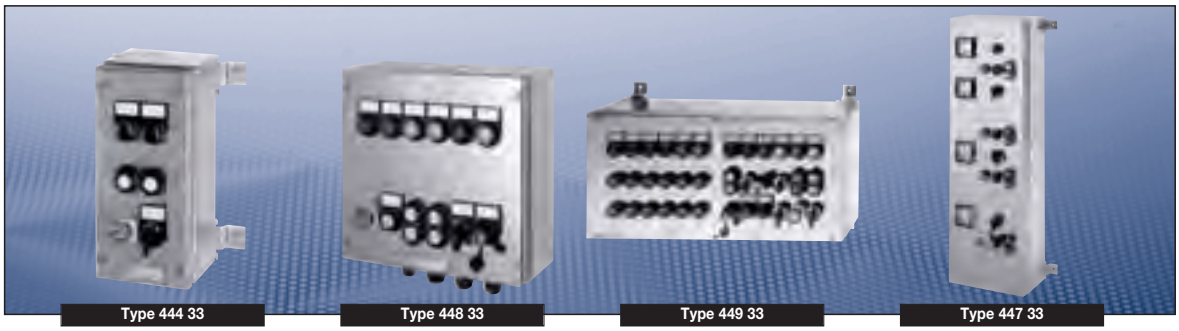
Possible components (Code 1)

Component	Code
Pushbutton (2-pole or 4-pole[1])	DRT
Double pushbutton (2-pole or 4-pole[1])	DDT
Key-operated pushbutton (2-pole or 4-pole[1])	SLT
Key switch (2-pole or 4-pole[1])	SLS
Mushroom-head pushbutton (2-pole or 4-pole[1])	SGT
Control switch (2-pole or 4-pole[1])	SCT
Signal lamp	SIL
Potentiometer	POT

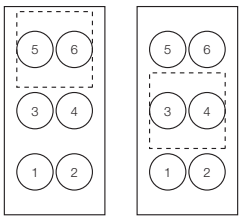
Component	Code
Measuring instrument	AM72[1]
Measuring instrument	AM45
Blanking element	BLV
Control switch	GHG 23[1]
Control switch	GHG 29[1]
Terminal (4 mm²)	KLM ... A[2]
Terminal block (4 mm²)	KLM ... B

[1] 2 mounting areas are needed

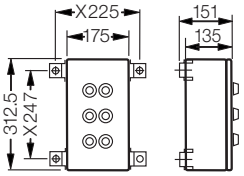
[2] Terminal blocks and PE-terminals are attached to terminal rail under the fold-out mounting frame



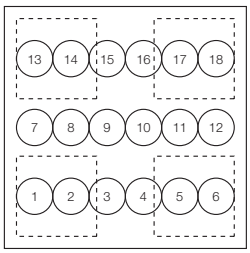
Mounting area | Dimension drawing



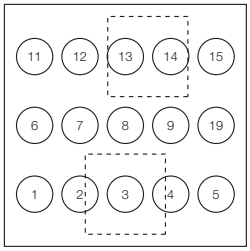
Distance between centres 40, 50 and 60 mm



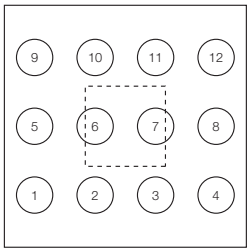
Type 444 33



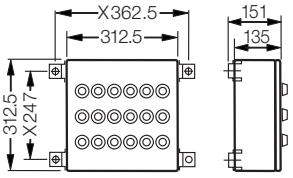
Distance between centres 40 mm



Distance between centres 50 mm



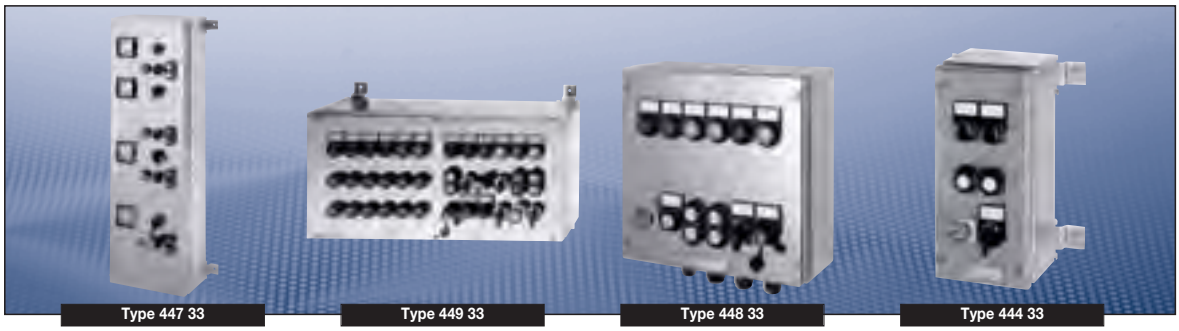
Distance between centres 60 mm



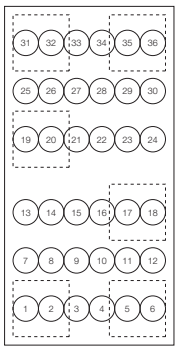
Type 448 33

X = fixing dimension

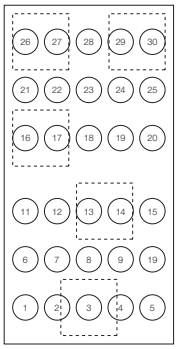
Dimensions in mm



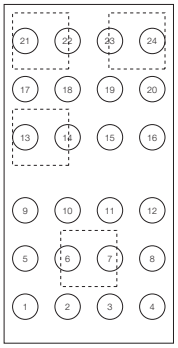
Mounting area | Dimension drawing



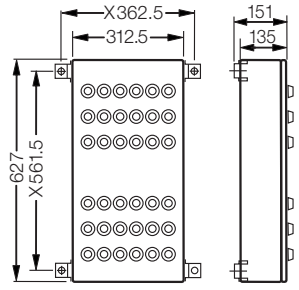
Distance between centres 40 mm



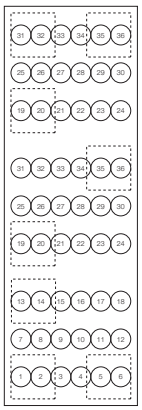
Distance between centres 50 mm

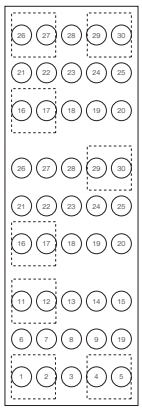


Distance between centres 60 mm

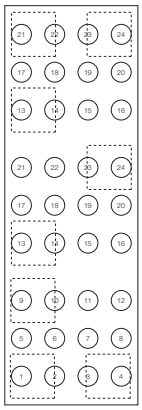


Type 449 33

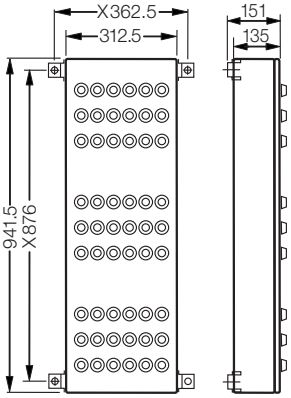




Distance between centres
40 mm 50 mm



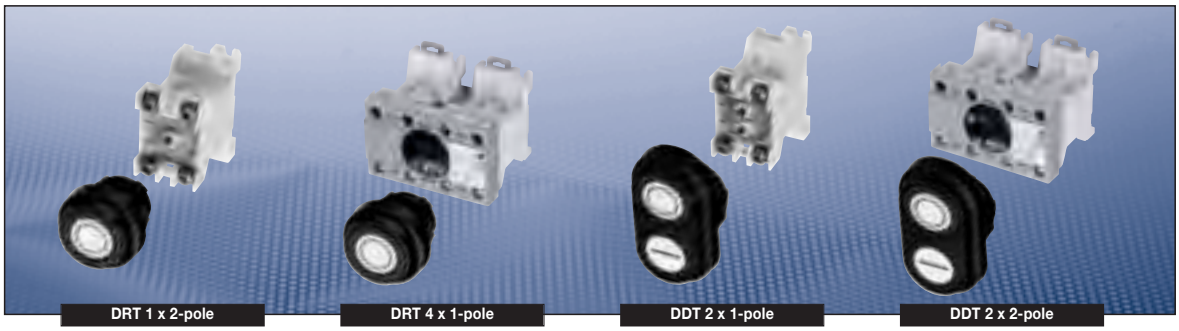
Distance between centres 60 mm



Type 447 33

X = fixing dimension

Dimensions in mm



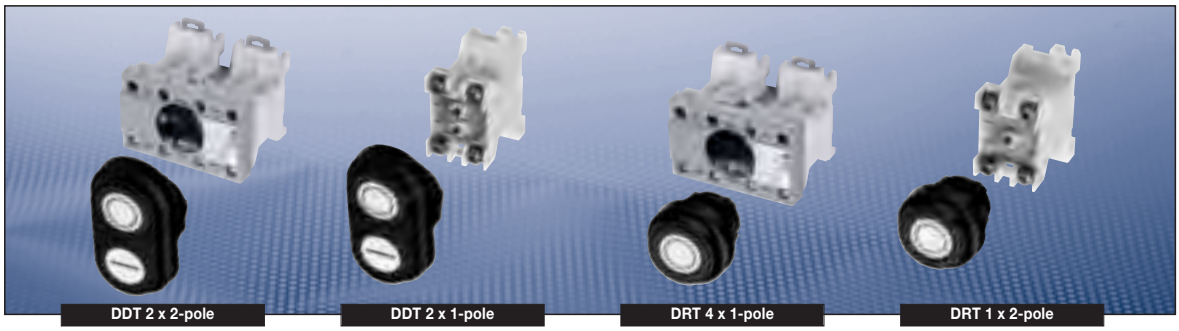
Technical data

Ex-Pushbutton DRT and Double pushbutton DDT	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib IIC / Ⓔx I M 2 Ex de ia/ib I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
Application temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-15: U_e 250 V / I_e 6 A
accd. EN 60947-5-1	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A
	U_e 220 V / I_e 1 A
Degree of protection accd. EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure colour	grey
Gasket material	Neoprene (Standard), Fluoric Silicone or Viton on request

2-pole Version	
Connecting terminals	2 x 2.5 mm²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg

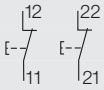
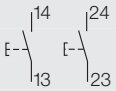
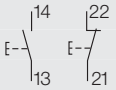
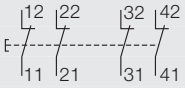
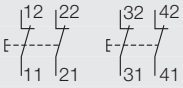
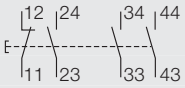
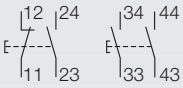
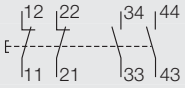
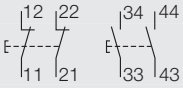
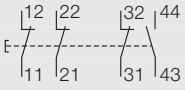
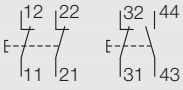
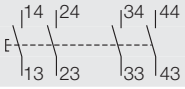
4-pole Version[1)]	
Connecting terminals	4 x 2.5 mm²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

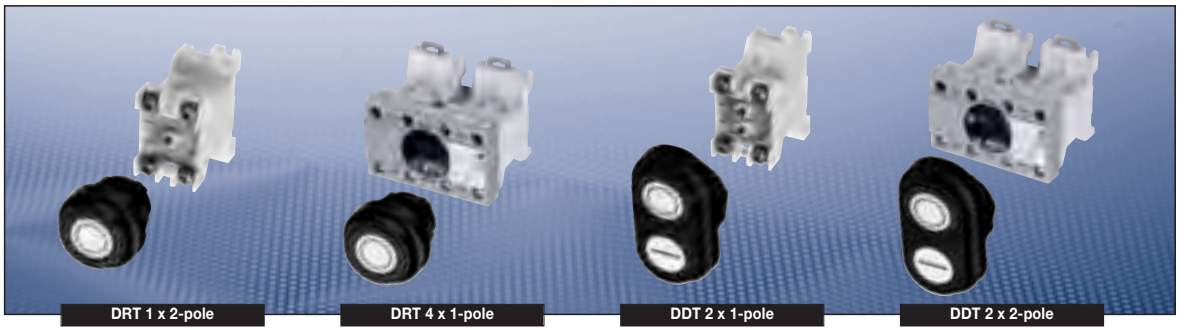
[1)] The 4-pole pushbutton needs two mounting areas.
The actuator will be in the middle of the two mounting areas.



Ordering code for Component (Code 2)

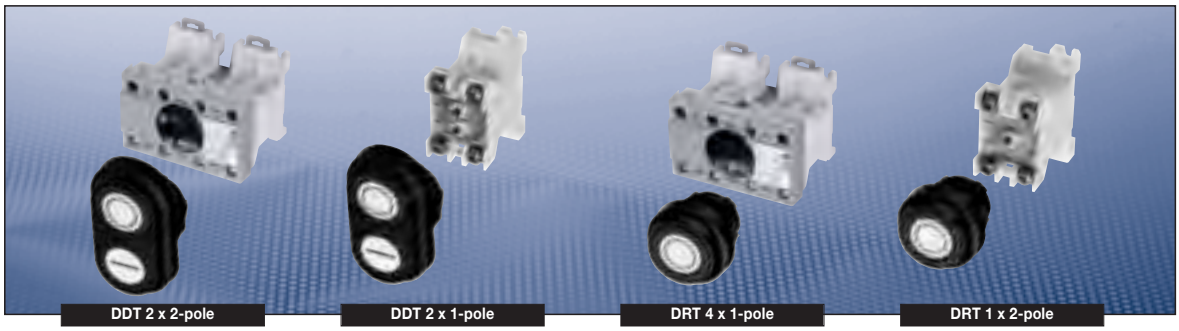
Code	Component	Code
A	Pushbutton, for enclosure mounting	DRT
	Double pushbutton, for enclosure mounting	DDT

Code	Contact system	Contacts DRT	Contacts DDT	Code silver contact points	Code gold contact points
C	2 NC			13	16
	2 NO			14	17
	1 NO + 1 NC			15	18
	4 NC			20	25
	1 NC + 3 NO			21	26
	2 NC + 2 NO			22	27
	3 NC + 1 NO			23	28
	4 NO			24	29



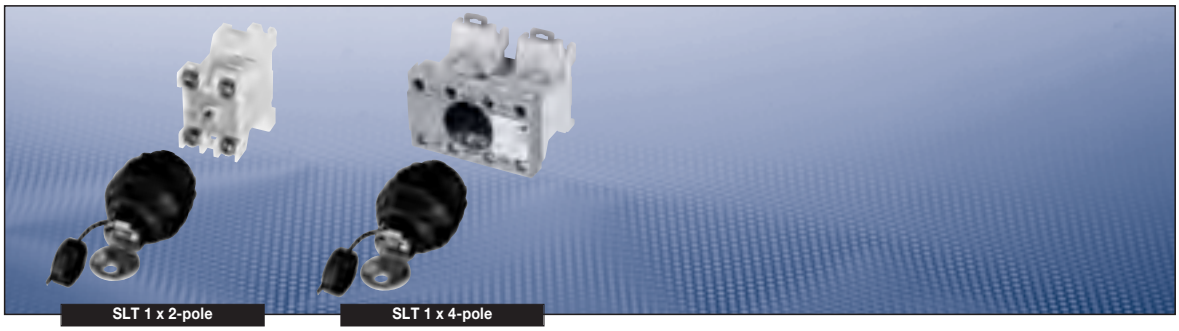
Ordering code for Component (Code 2)

Code	Label	Inscription	Code	Inscription	Code
D1, D2		0, I, Start, Stop	001	0	002
		I	003	I I	004
			005	STOP	006
		START	007	NOT-AUS	008
		LANGSAM	009	SCHNELL	010
		EMERG.STOP	011	_	012
		ARRET	014	MARCHE	015
		AUF	016	AB	017
		Neutral whtie	018	Neutral green	019
		0, I, Arret, Marche	020	UP	024
		DOWN	025	ZU	026
		ON	027	OFF	028
		+	030	-	031
		Neutral red	033	Neutral yellow	034
		EIN	036	AUS	037
		AUTO	039	HAND	050
		SENKEN	051	HEBEN	052
		LINKS	053	RECHTS	054
		FAST	055	SLOW	056
		RESET	057	OPEN	058



Example for ordering code (Code 2)

Version	Contact arrangement	Code	Ordering Code A	B	C	D1	D2
Pushbutton with silver contact points							
Version with standard label (0, I, START, STOP)							
2 NC	2 NC	13	DRT	0	13	001	---
2 NO	2 NO	14	DRT	0	14	001	---
1 NO + 1 NC	1 NO + 1 NC	15	DRT	0	15	001	---
4 NC	4 NC	20	DRT	0	20	001	---
3 NO + 1 NC	3 NO + 1 NC	21	DRT	0	21	001	---
2 NO + 2 NC	2 NO + 2 NC	22	DRT	0	22	001	---
1 NC + 3 NO	1 NC + 3 NO	23	DRT	0	23	001	---
4 NO	4 NO	24	DRT	0	24	001	---
Double pushbutton with gold contact points							
Version with standard label (0, I, START, STOP)							
2 NC	2 NC	16	DDT	0	16	001	001
2 NO	2 NO	17	DDT	0	17	001	001
1 NO + 1 NC	1 NO + 1 NC	18	DDT	0	18	001	001
4 NC	4 NC	25	DRT	0	25	001	001
3 NO + 1 NC	3 NO + 1 NC	26	DRT	0	26	001	001
2 NO + 2 NC	2 NO + 2 NC	27	DRT	0	27	001	001
1 NC + 3 NO	1 NC + 3 NO	28	DRT	0	28	001	001
4 NO	4 NO	29	DRT	0	29	001	001



Technical data

Ex-Key operated pushbutton SLT	
Marking to 94/9/EC	Ex II 2 G Ex de ia/ib IIC / Ex I M 2 Ex de ia/ib I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
Application temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-15: U_e 250 V / I_e 6 A
accd. EN 60947-5-1	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A
	U_e 220 V / I_e 1 A
Degree of protection accd. EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure colour	grey
Gasket material	Neoprene (Standard), Fluoric Silicone or Viton on request
Latch point	CEAG 1 (others on request)

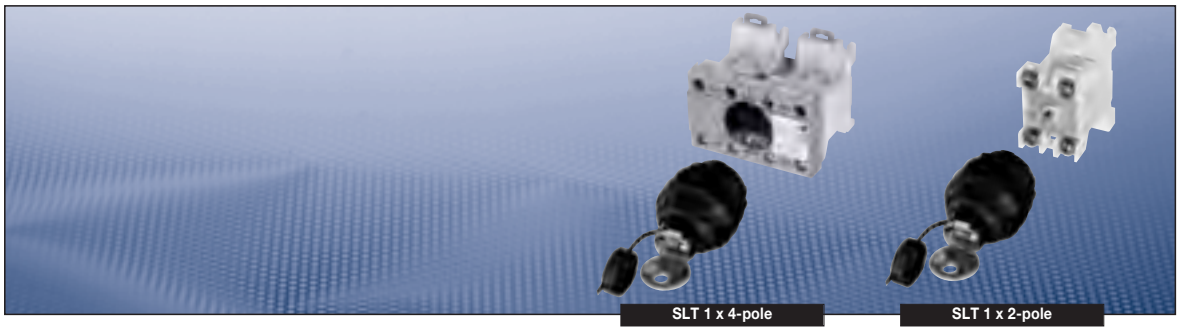
2-pole Version	
Connecting terminals	2 x 2.5 mm²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg

4-pole Version[1)]	
Connecting terminals	4 x 2.5 mm²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

[1)] The 4-pole pushbutton needs two mounting areas. The actuator will be in the middle of the two mounting areas.

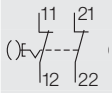
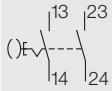
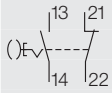
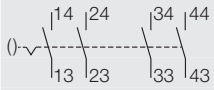
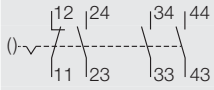
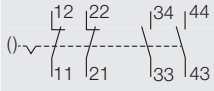
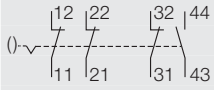
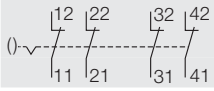
Example for ordering code (Code 2)

Version	Contact arrangement	Code	Ordering Code A	B	C	D
Key switch with silver contact points						
Version with contact function: lockable/removeable/lockable/removable (code 10)						
2 NC	2 NC	13	SLT	0	13	10
2 NO	2 NO	14	SLT	0	14	10
1 NO + 1 NC	1 NO + 1 NC	15	SLT	0	15	10
2 NO + 2 NC	2 NO + 2 NC	22	SLT	0	22	10
4 NC	4 NC	20	SLT	0	20	10
4 NO	4 NO	24	SLT	0	24	10
3 NO + 1 NC	3 NO + 1 NC	21	SLT	0	21	10
1 NO + 3 NC	1 NO + 3 NC	23	SLT	0	23	10
Key switch with gold contact points						
Version with contact function: lockable/removeable/lockable/removable (code 10)						
2 NO + 2 NC	2 NO + 2 NC	27	SLT	0	27	10
4 NC	4 NC	25	SLT	0	25	10
4 NO	4 NO	29	SLT	0	29	10
3 NO + 1 NC	3 NO + 1 NC	26	SLT	0	26	10
1 NO + 3 NC	1 NO + 3 NC	28	SLT	0	28	10

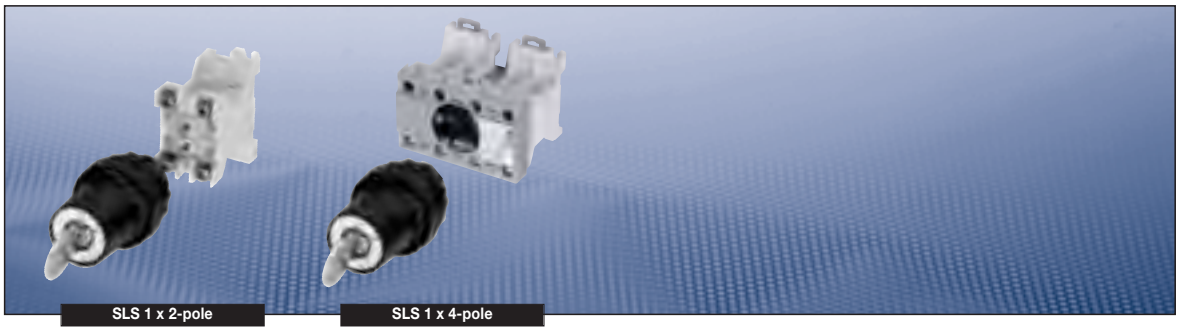


Ordering code for Component (Code 2)

Code	Component	Code
A	Key operated pushbutton	SLT

Code	Contact system	Contacts	Code silver contact points	Code gold contact points
C	2 NC		13	16
	2 NO		14	17
	1 NO + 1 NC		15	18
	4 NO		20	25
	1 NC + 3 NO		21	26
	2 NC + 2 NO		22	27
	3 NC + 1 NO		23	28
	4 NC		24	29

Code	Function	Pushbutton not pressed	Key	Pushbutton pressed	Key	Code
D		lockable	removable	lockable	removable	10
		lockable	removable	lockable	not removable	11
		lockable	removable	not lockable	not removable	12
		lockable	not removable	lockable	removable	13
		not lockable	not removable	lockable	removable	14
		not lockable	removable	auto lockable	removable	15



Technical data

Ex-Key operated switch SLS	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib IIC / Ⓔx I M 2 Ex de ia/ib I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
Application temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-15: U_e 250 V / I_e 6 A
accd. EN 60947-5-1	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A
	U_e 60 V / I_e 0,8 A
	U_e 110 V / I_e 0,5 A
Switching system	engaging – engaging – engaging
Degree of protection accd. EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure colour	grey
Latch point	CEAG 1 (others on request)

2-pole Version	
Connecting terminals	2 x 2.5 mm²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg

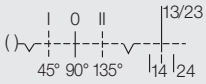
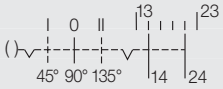
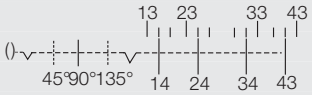
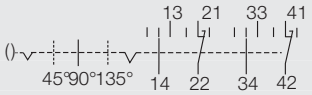
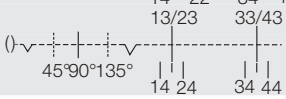
4-pole Version[1)]	
Connecting terminals	4 x 2.5 mm²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

[1)] The 4-pole pushbutton needs two mounting areas.
The actuator will be in the middle of the two mounting areas.



Ordering code for Component (Code 2)

Code	Component	Code
A	Key switch	SLS 5

Code	Contact system	Contacts	Code silver contact points	Code gold contact points
C	2 NO		04	14
	2 NO		05	15
	4 NO		24	34
	2 NO + 2 NC		23	33
	4 NO		25	35

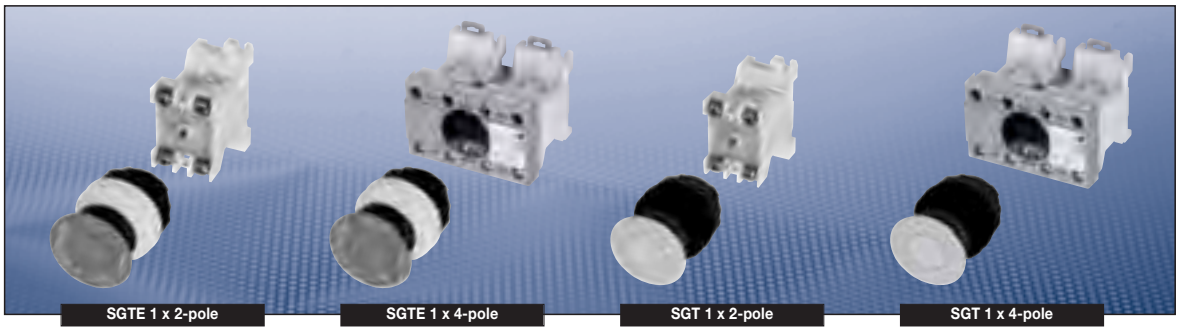
Code	Contact label	Inscription	Code
D		I 0 II	01
		Fern 0 Ort	02
		Hand 0 Auto	03

Other labels on request

Example for ordering code (Code 2)

Contact system	Ordering Code A	C	D
Key switch with silver contact points and label „I 0 II“			
04	SLS 5	04	01
05	SLS 5	05	01

Switch can be locked in all positions and key can be removed in all positions



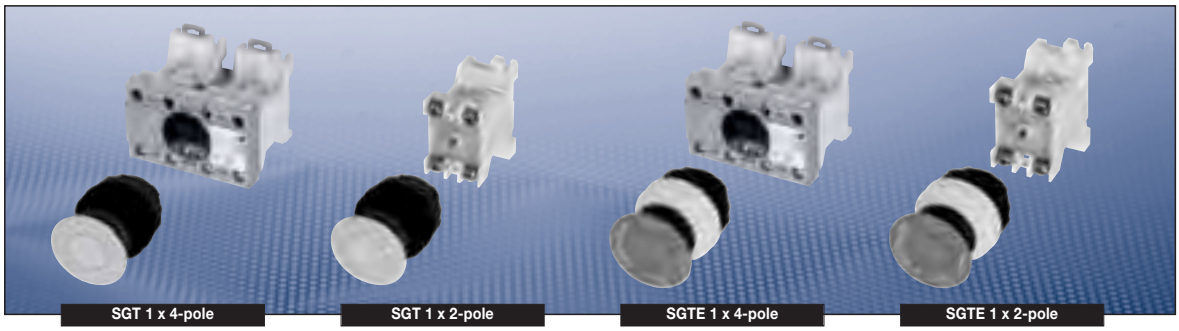
Technical data

Ex-Mushroom Head Pushbutton (Emergency Stop „SGTE“ and Normal Version „SGT”)	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib IIC / Ⓔx I M 2 Ex de ia/ib I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
Application temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-15: U_e 250 V / I_e 6 A
accd. EN 60947-5-1	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A
	U_e 220 V / I_e 1 A
Degree of protection accd. EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure colour	grey
Gasket material	Neoprene (Standard), Fluoric Silicone or Viton on request

2-pole Version	
Connecting terminals	2 x 2.5 mm²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg

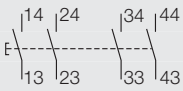
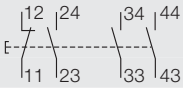
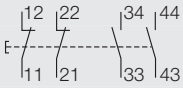
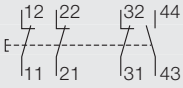
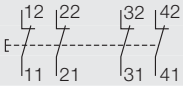
4-pole Version[1)]	
Connecting terminals	4 x 2.5 mm²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

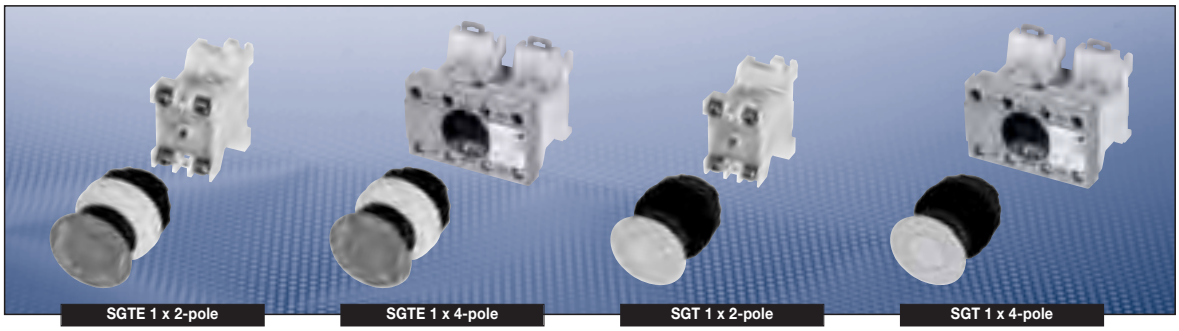
[1)] The 4-pole pushbutton needs two mounting areas.
The actuator will be in the middle of the two mounting areas.
The pushbutton „Emergency Stop“ will be equipped with a black plate in the centre of the pushbutton actuator.



Ordering code for Component (Code 2)

Code	Component	Code
A	Mushroom head pushbutton	SGT
	Mushroom head pushbutton (Emergency Stop)	SGTE

Code	Contact system	Contacts	Code silver contact points	Code gold contact points
C	2 NC		13	16
	2 NO		14	17
	1 NO + 1 NC		15	18
	4 NC		20	25
	3 NO + 1 NC		21	26
	2 NO + 2 NC		22	27
	1 NO + 3 NC		23	28
	4 NO		24	29



Ordering code for Component (Code 2)

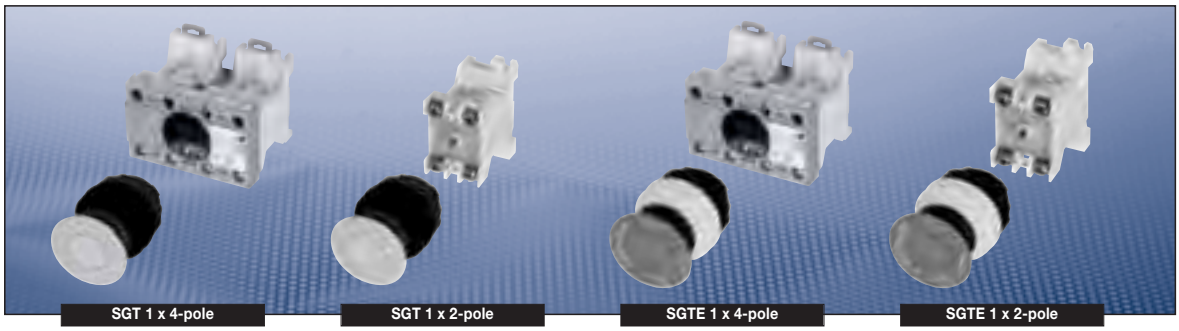
Code	Mushroom head inscription	Inscription	Code
D		Emergency Stop (German - Englisch)[1]	1
		Emergency Stop (German - French)[1]	4
		0, I, START, STOP	01
		0	02
		I	03
		I I	04
		☼	05
		STOP	06
		START	07
		LANGSAM	09
		SCHNELL	10
		_	12
		ARRET	14
		MARCHE	15
		0, I, Arret, Marche	20
		UP	24
		DOWN	25
		ZU	26
		ON	27
		OFF	28
		+	30
		-	31

Code	Mushroom head inscription	Colour	Code
E		red	1
		yellow[2]	2
		black[2]	3

Code	Function	released	engaged	unlocking	Code
F		not lockable	not lockable	n/a (pushbutton function)	1[2]
		not lockable	lockable	hand released	2
		not lockable	lockable	key released	3

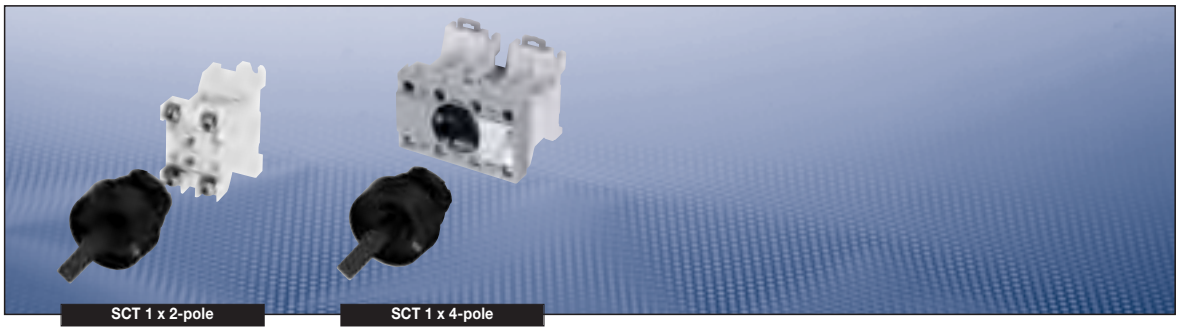
[1] only SGTE

[2] only SGT



Example for ordering code (Code 2)

Contact system	Ordering Code				
	A	C	D	E	F
EMERGENCY STOP mushroom-head pushbutton red, with silver contact points					
Version with inscription D/E, hand released					
2 NC	SGTE 0	13	1	1	2
2 NO	SGTE 0	14	1	1	2
1 NO + 1 NC	SGTE 0	15	1	1	2
2 NO + 2 NC	SGTE 0	22	1	1	2
4 NC	SGTE 0	20	1	1	2
4 NO	SGTE 0	24	1	1	2
3 NO + 1 NC	SGTE 0	21	1	1	2
1 NO + 3 NC	SGTE 0	23	1	1	2
Mushroom-head pushbutton with silver contact points, without locking, mushroom head, black					
Version with standard label (0, I, START, STOP)					
2 NC	SGT 0	13	01	3	1
2 NO	SGT 0	14	01	3	1
1 NO + 1 NC	SGT 0	15	01	3	1
2 NO + 2 NC	SGT 0	22	01	3	1
4 NC	SGT 0	20	01	3	1
4 NO	SGT 0	24	01	3	1
3 NO + 1 NC	SGT 0	21	01	3	1
1 NO + 3 NC	SGT 0	23	01	3	1



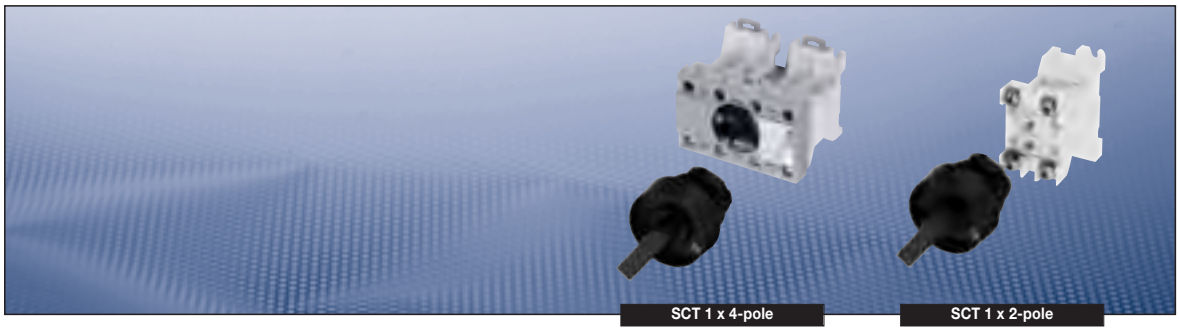
Technical data

Ex-Mini-control switch SCT	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib IIC / Ⓔx I M 2 Ex de ia/ib I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
Application temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-15: U_e 250 V / I_e 6 A
accd. EN 60947-5-1	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A
	U_e 220 V / I_e 1 A
Degree of protection accd. EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure colour	grey

2-pole Version	
Connecting terminals	2 x 2.5 mm²
Dimensions in mm (L x W x H)	59 x 31 x 45
Weight	0.15 kg

4-pole Version[1)]	
Connecting terminals	4 x 2.5 mm²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

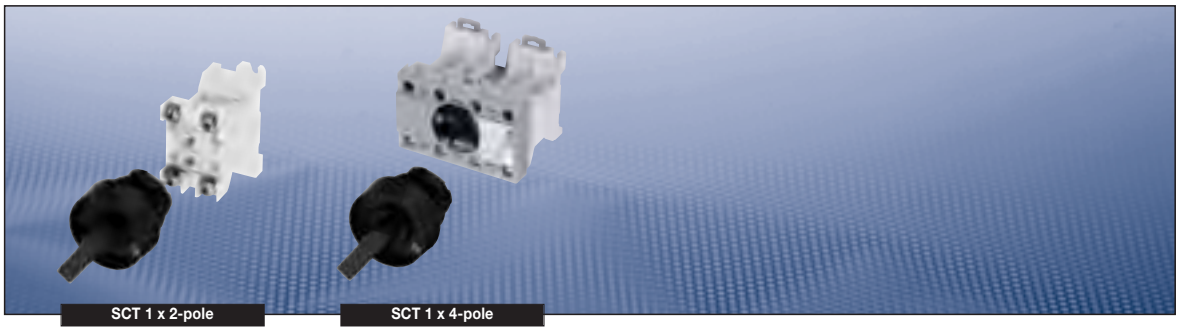
[1)] The 4-pole pushbutton needs two mounting areas.
The actuator will be in the middle of the two mounting areas.



Ordering code for Component (Code 2) Code A - C - D - E

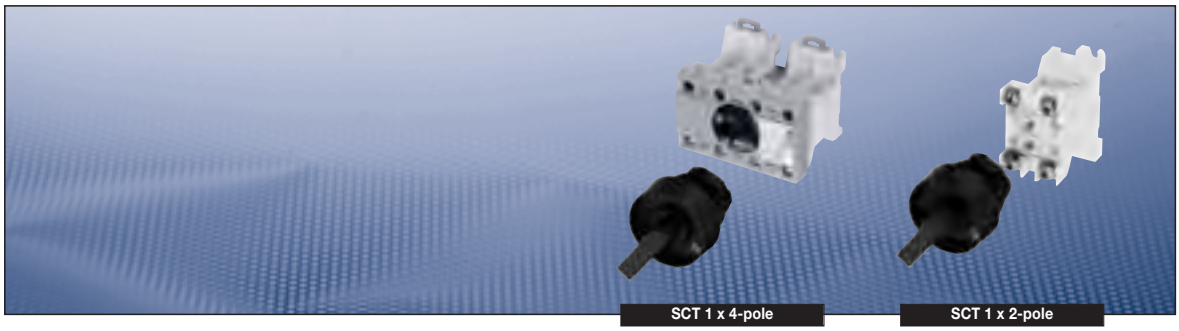
Code	Component	Code
A	Mini-control switch	SCT

Code	Switching mechanism	Version	Code
C	4	spring – engaging – spring	4
	5	engaging – engaging – engaging	5
	6	engaging – engaging	6
	7	spring – engaging – engaging	7
	8	engaging – engaging – spring	8



Ordering code for Component (Code 2) Code A - C - D - E

Code	Contact system	Contacts	Code silver contact points	Code gold contact points
D	13 21 45° 135° 14 22	21/13 45° 135° 22 14	01	11
	13 21 45° 135° 14 22	13 21 45° 135° 14 22	02	12
	13 23 45° 135° 14 24	13 23 45° 135° 14 24	03	13
	13 23 45° 90° 135° 14 24	13/23 45° 90° 135° 14 24	04	14
	13 23 45° 90° 135° 14 24	13 23 45° 90° 135° 14 24	05	15
	13 21 45° 90° 135° 14 22	13 21 45° 90° 135° 14 22	07	17
	12 22 34 44 45° 135° 11 21 33 43	12 22 34 44 45° 135° 11 21 33 43	22	32
	14 24 34 44 45° 135° 13 23 33 43	14 24 34 44 45° 135° 13 23 33 43	23	33
	14 24 34 44 45° 135° 13 23 33 43	12 22 32 42 45° 135° 11 21 31 41	21	31
	14 24 34 44 45° 135° 13 23 33 43	12 24 34 44 45° 135° 11 23 33 43	26	36
	13 23 33 43 45° 90° 135° 14 24 34 44	13 23 33 43 45° 90° 135° 14 24 34 43	25	35
	13 21 33 41 45° 90° 135° 14 22 34 42	12 22 34 44 45° 90° 135° 11 21 33 43	27	37
	13 23 33 43 45° 90° 135° 14 24 34 44	13/23 33/43 45° 90° 135° 14 24 34 44	24	34



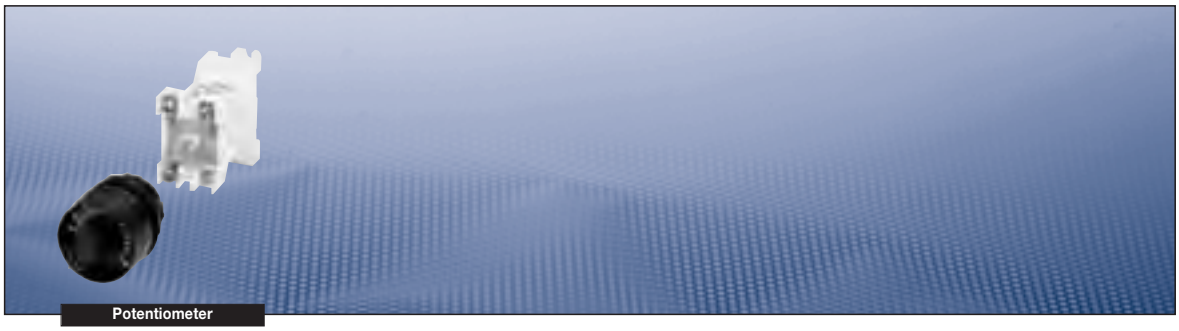
Ordering code for Component (Code 2) Code A - C - D - E

Code	Inscription			Code	Inscription			Code
E	0		I	01	0	I	II	18
	I		II	02	AUS	AUTO	EIN	19
	STOP		START	03	AUS	HAND	AUTO	20
	HAND		AUTO	04	ÖRTLICH	AUS	FERN	21
	SENKEN		HEBEN	05	START	NORMAL	STOP	22
	REMOTE		LOCAL	06	OFF	0	ON	23
	I	0	II	07	HAND	OFF	AUTO	24
	AUS	BETRIEB	EIN	08	0	IN	START	25
	AUS	0	EIN	09	MAN		AUTO	26
	AUF	0	AB	10	START		STOP	27
	Entriegelt	0	Verriegelt	11	HEBEN		SENKEN	28
	OUT	OF	HAND	12	OFF		ON	29
	LOCAL	REMOTE	AUTO	13	AUS		EIN	30

Other labels on request

Example for ordering code (Code 2)

Contact system	Switch mechanism	Contact Code	Ordering Code A	C	D	E
Control switch with silver contact points						
Switch can be locked in all positions						
I II	6	01	SCT	6	01 or 21	02
0 I	6	03	SCT	6	03 or 23	01
I II	6	02	SCT	6	02 or 22	02
I 0 II	4	04	SCT	4	04 or 24	07
I 0 II	5	05	SCT	5	05 or 26	07
0 I	7	07	SCT	7	07 or 27	01



Potentiometer

Technical data

Ex-Potentiometer POT	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib IIC / Ⓔx I M 2 Ex de ia/ib I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
Application temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	up to 250 V
Power consumption	max. 1 W
Resistance range	100 – 10000 Ohm
Tolerance	± 20 %
Connecting terminals	2 x 2.5 mm²
Degree of protection accd. EN 60529	IP66
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	DIN rail mounting
Enclosure colour	grey
Angle of rotation	270°
Scale	0 - 100 %

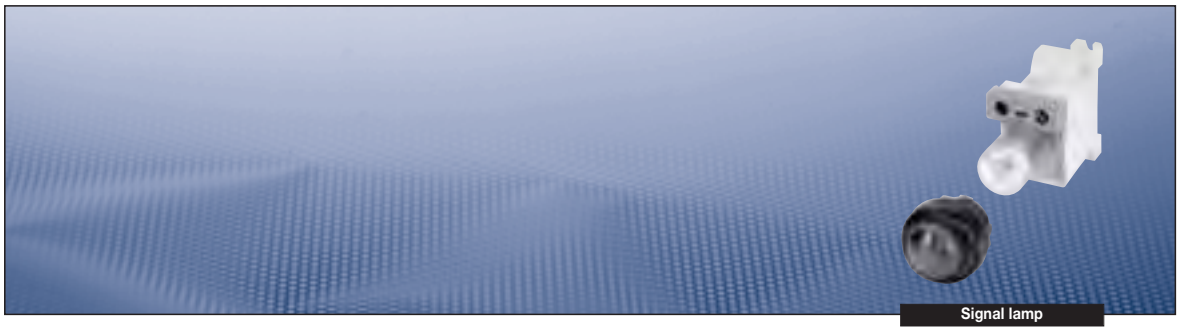
Ordering code for Component (Code 2) Code A - C

Code	Component	Code
A	Potentiometer	POT

Code	Resistance	Code
C	0 - 100 Ohm	01
	0 - 220 Ohm	02
	0 - 470 Ohm	03
	0 - 1000 Ohm	04
	0 - 2200 Ohm	07
	0 - 4700 Ohm	05
	0 - 10000 Ohm	06

Example for ordering code (Code 2)

Version	Code
Potentiometer 1 W 25 % tolerance	
0 - 100 Ohm	POT 01
0 - 470 Ohm	POT 03
0 - 4700 Ohm	POT 05


Signal lamp

Technical data

Ex-Signal lamp SIL	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC / Ⓔx II 2 G Ex d ia IIC
EC-Type Examination Certificate	PTB 98 ATEX 1040 U
Application temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage (Ex ed IIC)	20 V to 250 V AC/DC
(Ex d ia IIC)	18 V to 30 V DC
(Ex ed IIC)	12 V to 30 V AC/DC
Rated current (20 V to 250 V)	approx. 4 - 15 mA
(10 V to 28 V Ex d ia IIC)	max. 25 mA
12 V to 30 V	max. 24 mA
Connecting terminals	2 x 2.5 mm²
Degree of protection accd. EN 60529	IP66
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	DIN rail mounting
Enclosure colour	grey

Ordering code for Component (Code 2) Code A - C - D

Code	Component	Code
A	Signal lamp	SIL

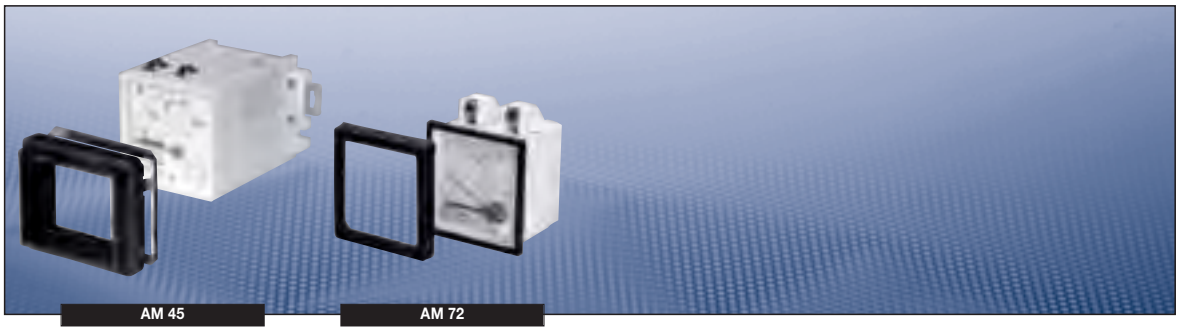
Code	Colour of lens	Code
C	white	1
	yellow	2
	red	3
	blue	4
	green	5

Code	Voltage	Code
D	20 V - 250 V AC/DC	10
	18 V - 30 V DC (Ex-i[1])	34
	12 V - 24 V AC/DC	11

[1] Supply by valve-driver components, e.gl., with data:
Uo = 20 V - 18 V DC with Ri = 200 Ω - 500 Ω or
Uo = 10 V - 18 V DC with Ri = 100 Ω - 200 Ω
No effective Ci and Li values.

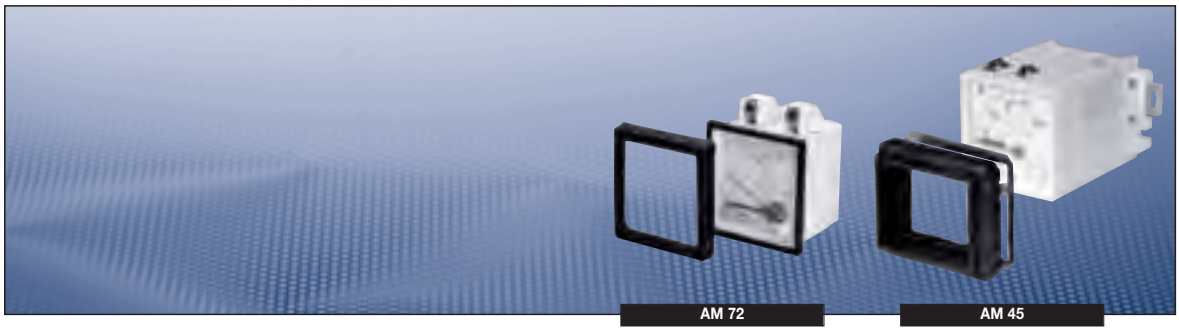
Example for ordering code (Code 2)

Version	Ordering Code		
	A	C	D
Signal lamp SIL (examples)			
Universal voltage 20 V - 250 V AC/DC white	SIL	1	10
For intrinsically safe circuits 18 V up to 30 V DC blue	SIL	4	34
Low voltage 12 V up to 24 V AC/DC red	SIL	3	11



Technical data

Ex-Measuring instrument AM 45/AM 72	moving iron	moving coil
Marking to 94/9/EC	Ⓔx II 2 G Ex e II / Ⓔx II 2 G Ex e mb II	Ⓔx II 2 G Ex ib IIC
	Ⓔx I M 2 Ex e I	Ⓔx I M 2 Ex ib I
EC-Type Examination Certificate	PTB 99 ATEX 2032 U	
Application temperature	–20 °C to +40 °C	
	–55 °C to +55 °C (option)	
Rated voltage	up to 420 V (AM 45)	
	up to 750 V (AM 72)	
Power consumption	max. 0.31 A	
Overload range	10 fold - 25 sec.	10 fold - 5 sec.
	25 fold - 4 sec.	
	50 fold - 1 sec.	
	indicated 1 : 1.5	
Measuring range	max. 0 - 25 A direct / n / 1A	0/4 - 24 mA
Inductance Li		< 0.1 mH
Capacitance Ci		< 0.1 nF
Winding specification of moving coil		26.5 windings
Internal resistance		2.5 Ω ±30 %
Open circuit voltage max. Ui		30 V
Short circuit current max. Ii		150 mA
Accuracy	Class 2.5	Class 1.5
Movement	moving iron	moving coil
Connecting terminals	2 x 1.5 - 4 mm^2	
Degree of protection accd. EN 60529	IP66	
Display size	50 x 45 mm (AM 45)	
	72 x 72 mm (AM 72)	
Weight	0.35 kg	
Type of mounting	DIN rail mounting	
Enclosure material	grey	



Ordering code for Component (Code 2) Code A - C - D

Code	Component	Code
A	Measuring instrument AM 45	AM 45
	Measuring instrument AM 72	AM 72

Code	Movement	Code
C	Direct connection	1
	Ct connection 1 /A	2
	Ct connection n/5 A	3
	Port 0 - 20/24 mA (scale 0-100% / 120%) 1)	5
	Port 4 - 20/24 mA (scale 0-100% / 120%) 1)	6
	Moving-coil connection 0 - 20/24 mA (scale 0-100% / 120%) 1) 3)	7
	Moving-coil connection 4 - 20/24 mA (scale 0-100% / 120%) 1) 3)	8

Code	Measuring range	Code	Measuring range	Code
D	0 - 1	02	0 - 75 / 112.5 A	13
	0 - 2.5 / 3.75 A [2]	03	0 - 100 / 150 A	14
	0 - 5 / 7.5 A [2]	04	0 - 150 / 225 A	15
	0 - 10 / 15 A [2]	05	0 - 200 / 300 A	16
	0 - 15 / 22.5 A	06	0 - 250 / 375 A	17
	0 - 20 / 30 A [2]	08	0 - 300 / 450 A	18
	0 - 30 / 45 A	09	0 - 400 / 600 A	19
	0 - 40 / 60 A	10	0 - 500 / 750 A	20
	0 - 50 / 75 A	11	0 - 600 / 900 A	21
	0 - 60 / 90 A	12	0 – 100% / 150%	33

[1] Movements 0 - 20 mA / 4 - 20 mA and with moving-coil connection are only available with scale 0 - 100 %/120 %

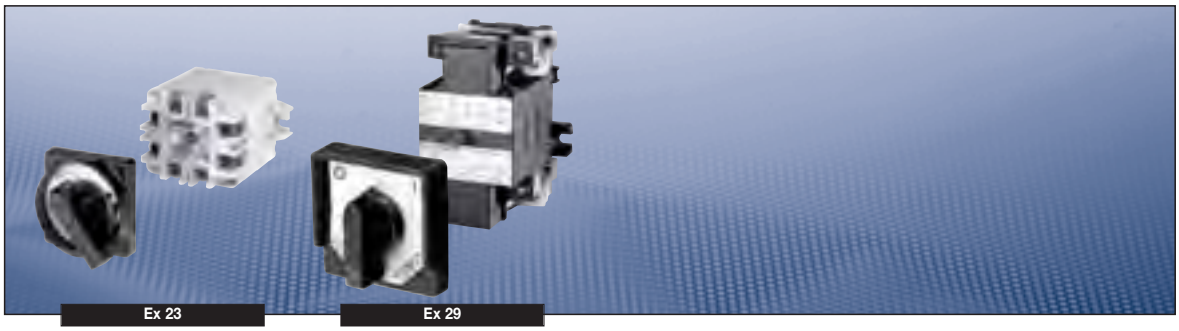
[2] Version for direct connection (standard: CT connection n/1A) possible

[3] Moving coil only for Ex-i of Ex-d flameproof applications

Other interchangeable scales available on request

Example for ordering code (Code 2)

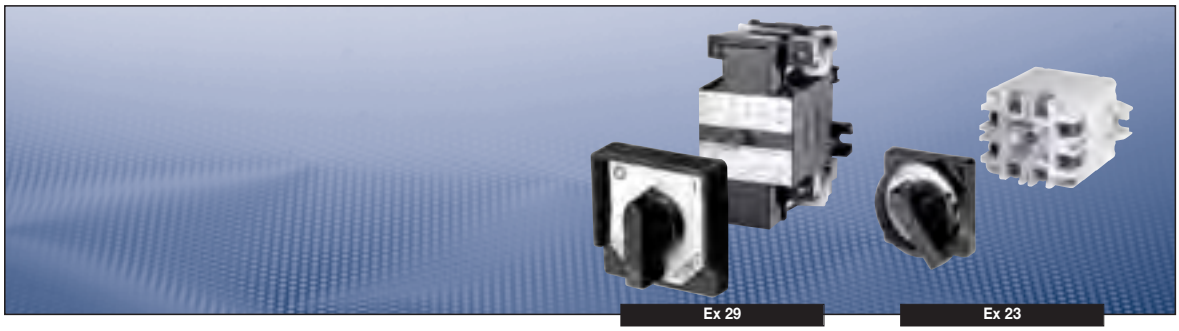
Movement	Measuring range	Ordering Code		
		A	C	D
Measuring instrument AM 45				
Version with direct connection				
Direct (moving iron)	0 - 1 / 1.5 A	AM45	1	02
Direct (moving iron)	0 - 10 / 15 A	AM45	1	05
0 - 20 / 24 mA (moving coil)	0-100% / 120%	AM45	5	33
4 - 20 / 24 mA (moving coil)	0-100% / 120%	AM45	6	33
Moving iron measuring instrument AM 72				
Version with CT connection n/1A				
Converter n / 1A	0 - 100% / 150%	AM72	2	33
Moving-coil measuring instrument AM 45 (Ex-i application only)				
Version with dircet connection				
0 - 20 / 24 mA	0-100% / 120%	AM45	7	33
4 - 20 / 24 mA	0-100% / 120%	AM45	8	33



Technical data

Ex-built-in Components for individual control stations Control switch Ex 23 and Ex 29		Ex 23	Ex 29
Marking to 94/9/EC		⟨Ex⟩ II 2 G Ex de IIC / ⟨Ex⟩ I M 2 Ex de I	⟨Ex⟩ II 2 G Ex de IIC / ⟨Ex⟩ I M 2 Ex de I
EC-Type Examination Certificate		PTB 98 ATEX 1116 U	PTB 98 ATEX 1118 U
Application temperature		–20 °C to +40 °C	–20 °C to +40 °C
		–55 °C to +45 °C (option)	–55 °C to +55 °C (option)
Rated voltage		up to 500 V	up to 500 V
Rated current		10 A	16 A[1)]
Rated current gold contacts		0.4 A	0.4 A
Rated making-/rated breaking capacity		AC-15: U_e 230 V / I_e 6 A	AC-15: U_e 230 V / I_e 6 A
accd. EN 60947-5-1		U_e 500 V / I_e 4 A	U_e 400 V / I_e 4 A
		DC-13: U_e 24 V / I_e 6 A	DC-13: U_e 24 V / I_e 2 A
		U_e 230 V / I_e 0.5 A	U_e 230 V / I_e 0.3 A
Connecting terminals		2 x 0.5 - 2.5 mm²	2 x 0.5 - 2.5 mm² or 1 x 1.0 - 6.0 mm²
Weight	1 tier:	approx. 0.2 kg	approx. 0.25 kg
	2 tiers:	approx. 0.35 kg	approx. 0.40 kg
	3 tiers:	–	approx. 0.55 kg
Type of mounting		DIN rail mounting	
Enclosure colour		grey	black

[1)] 12 A cable section must be 2.5 mm²



Ordering code for Component (Code 2) Code A - C - D - E - F

Code	Component	Code
A	Ex 23	Ex 23
	Ex 29	Ex 29

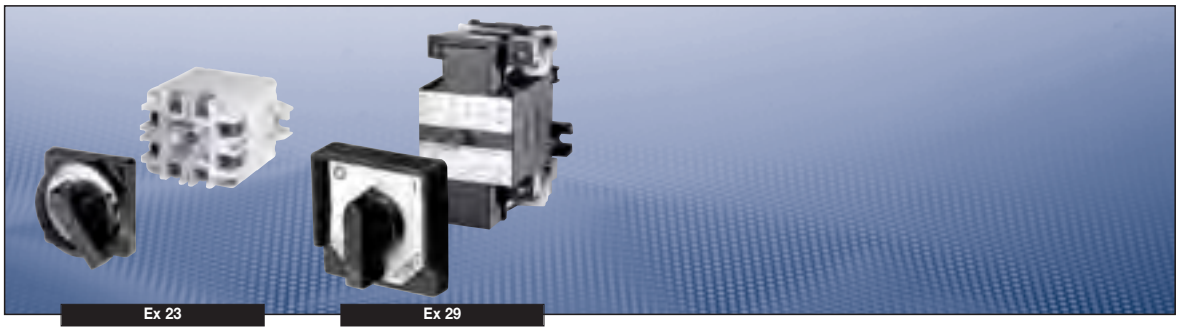
Code	Switch mechanism	Code
C	spring - engaging - spring	4
	engaging - engaging - engaging	5
	engaging - engaging	6
	spring - engaging - engaging	7
	engaging - engaging - spring	8

Code	Contact	Silver contact points	Code	Silver contact points
D		060		034
		062		037
		065		049
		061		023
		063		019
		067		033
		011		024

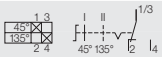
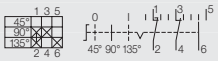
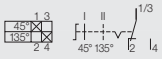
Versions with gold contact points are available on request.
Versions with compulsory NO are possible.

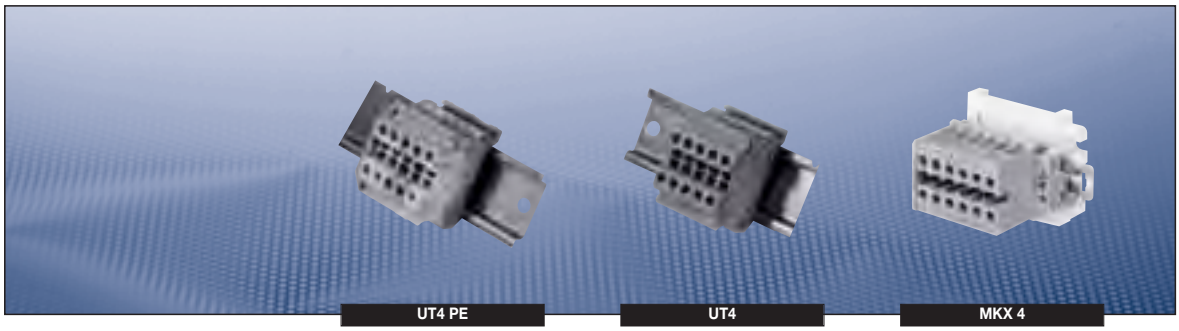
Code	Label (Contact label)			Code	Label (Contact label)			Code
E	0		I	01	0	I	II	18
	I		II	02	AUS	AUTO	EIN	19
	STOP		START	03	AUS	HAND	AUTO	20
	HAND		AUTO	04	ÖRTLICH	AUS	FERN	21
	SENKEN		HEBEN	05	START	NORMAL	STOP	22
	REMOTE		LOCAL	06	OFF	0	ON	23
	I	0	II	07	HAND	OFF	AUTO	24
	AUS	BETRIEB	EIN	08	0	IN	START	25
	AUS	0	EIN	09	MAN		AUTO	26
	AUF	0	AB	10	START		STOP	27
	Entriegelt	0	Verriegelt	11	HEBEN		SENKEN	28
	OUT	OF	HAND	12	OFF		ON	29
	LOCAL	REMOTE	AUTO	13	AUS		EIN	30
	STOP	0	START	14	HAND		AUTO	31
	HAND	0	AUTO	15	ON		OFF	32
	AUF	AUS	ZU	16	I	II	III	33

Code	Locking facility	Code
F	None	0
	Centre	1
	Left	2
	Right	3



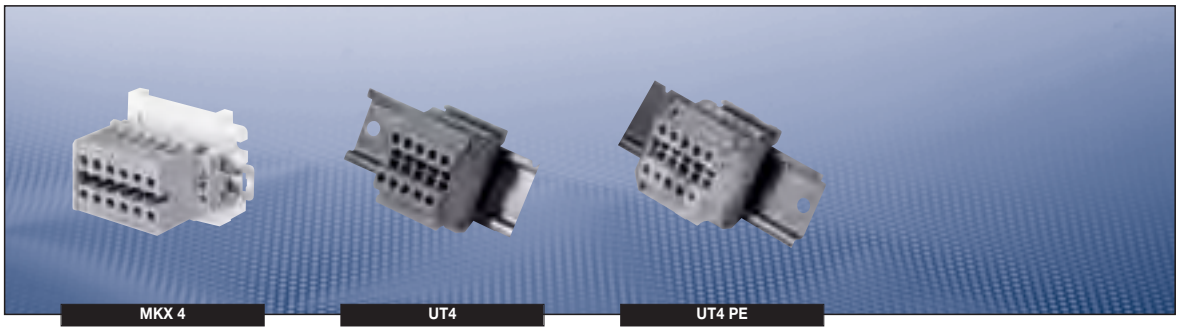
Example for ordering code (Code 2)

Version A	Movement B	Contact C	Label D	Locking facility E	Ordering code A B C D E
Ex 23	6		060 I - II 02	none 0	Ex 23 6 060 02 0
Ex 23	5		034 I - 0 - II 07	Centre 1	Ex 23 5 034 07 1
Ex 29	6		060 I - II 02	none 0	Ex 29 6 060 02 0
Ex 29	6		065 0 - I 01	Left 2	Ex 29 6 065 01 2



Technical data

Ex-built-in Components for individual control stations Terminals		
	MXK 4-Ex	UT 4 / UT 4 PE
Marking to 94/9/EC	Ⓔx II 2 G Ex e II	Ⓔx II 2 G Ex e II / Ⓔx II 2 D Ex e II
EC-Type Examination Certificate	PTB 99 ATEX 3132U	KEMA 04 ATEX 2048 U
IECEx certificate of conformity	IECEx KEMA 06.0027U	
Marking accd. to IECEx	Ex e II	
Application temperature	–50 °C to +55 °C	–50 °C to +55 °C
Rated voltage	up to 420 V	up to 690 V
Rated current	max. 27 A	max. 30 A
Connecting terminals	4 mm²	0.14 mm² - 4 mm² multi-wire 0.14 mm² - 6 mm² single-wire
	4 mm²	0.14 mm² - 4 mm² multi-wire 0.14 mm² - 6 mm² single-wire
Dimensions (L x B x H)	6.2 mm width	47.7 mm x 6.2 mm
Weight	0.01 kg	0.01 kg
Type of mounting	NS 35 DIN rail mounted	NS 35 DIN rail mounted
Enclosure colour	grey	grey



Ordering code for Component (Code 2) Code A - C - D - E - F

Code	Component	Code
A	KLM	KLM

Code	Version	Code
C	Ex-e	1
	Ex-i	2

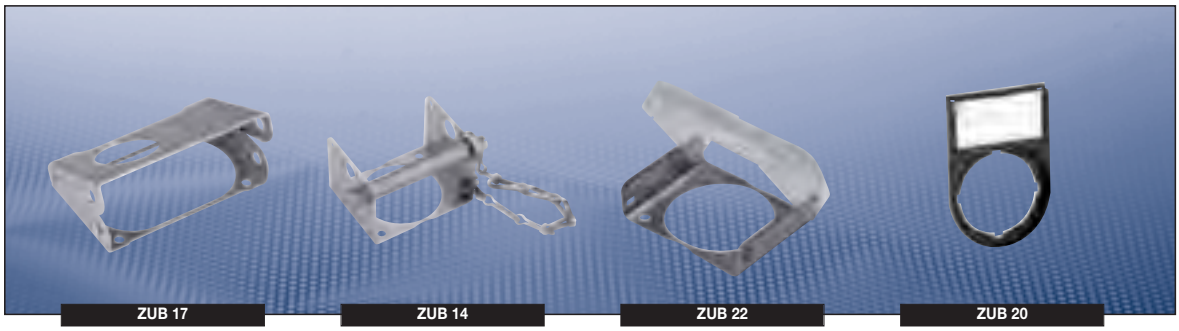
Code	Terminal type	Code
D	Terminal block MXK4-Ex max. 6 terminals	B
	Terminal insert max. 3 terminals	E
	Terminal UT 4 / UT 4 PE	A

Code	Number of terminals	Code
E	1	001
	2	002
	3	003
	ect.	ect.

Other variants, e.g. modules with resistors or fine-wire fuses, available on request.

Example for ordering code (Code 2)

Version	Number	Ordering code A C D E F
Terminal block MXK 4-EX		
6 x Ex-e terminals MXK 4 + 1 PE-terminal		
Ex-e Connection terminals		6 KLM 1 B 006 01
Terminal UK 4		
12 x Ex-e terminal UT 4 + 2 PE-terminal		
Ex-e terminal		12 KLM 1 A 012 02



Ordering code for labels and locking facilities (Code 3) Code A - B - C

Code	Label	Code
A	52.0 x 13 mm	ZUB 19
	37.0 x 17 mm with holder	ZUB 20

Code	Inscription	Code
B	Text to be determinated	1 ... 4

Code	Mounting area	Code
C		1 ... 4

Code	Locking facility	for operating element	Material	Code
A	with flap (blank)	Pushbutton	Stainless steel	ZUB 12
	with flap (red)	Pushbutton	Stainless steel	ZUB 13
	with flap without „0“ activation	Double pushbutton	Stainless steel	ZUB 16
	with flap with „0“ activation	Double pushbutton	Stainless steel	ZUB 17
	with flap (blank)	Mushroom-head pushbutton	Stainless steel	ZUB 02
	with flap (red)	Mushroom-head pushbutton	Stainless steel	ZUB 01
	with bolt and chain	Mushroom-head pushbutton	Stainless steel	ZUB 14
	Fire alarm (red) with hammer	Mushroom-head pushbutton	Stainless steel	ZUB 15
	Fire alarm (red) with hammer	activates alarm when broken	Stainless steel	ZUB 05
	with flap, not activated	Pushbutton	Plastic	ZUB 23
	with flap, activated	Pushbutton	Plastic	ZUB 24
	with flap, not activated	Mushroom-head pushbutton	Plastic	ZUB 22
	with flap, activated	Mushroom-head pushbutton	Plastic	ZUB 21



Ordering code for Cable glands and flanges (Code 4) Code A - B - C - D - E

Code	Version	Component	Code
A	Entry type	Entry direct in enclosure	GEH
		Entry via plastic flange	FLK
		Entry via metal flange	FLM

Code	Version	Component	Code
B	Entry side	Entry side on bottom (left or right)	1, 2
	Position	Entry side on top (left or right)	3, 4

Code	Version	Component	Code
C	Entry element	Only entry	OE
		Threaded entry	BO
		Threaded plug	SV
		Cable plastic gland	GK
		Cabel metal* gland	GM*
		Cable entry with plastic plug	GV
		Trumpet-shaped plastic gland	TR

Code	Version	Component	Code
D	Size	M12, M16, M20, M25, M32, M40, M50, M63	M..
		Ø21, Ø26	d..

Code	Version	Component	Code
E	Number	Number of entries	..

*For metal glands, the type of cable/entry must be stated in plain language in the order.
Other versions on request.

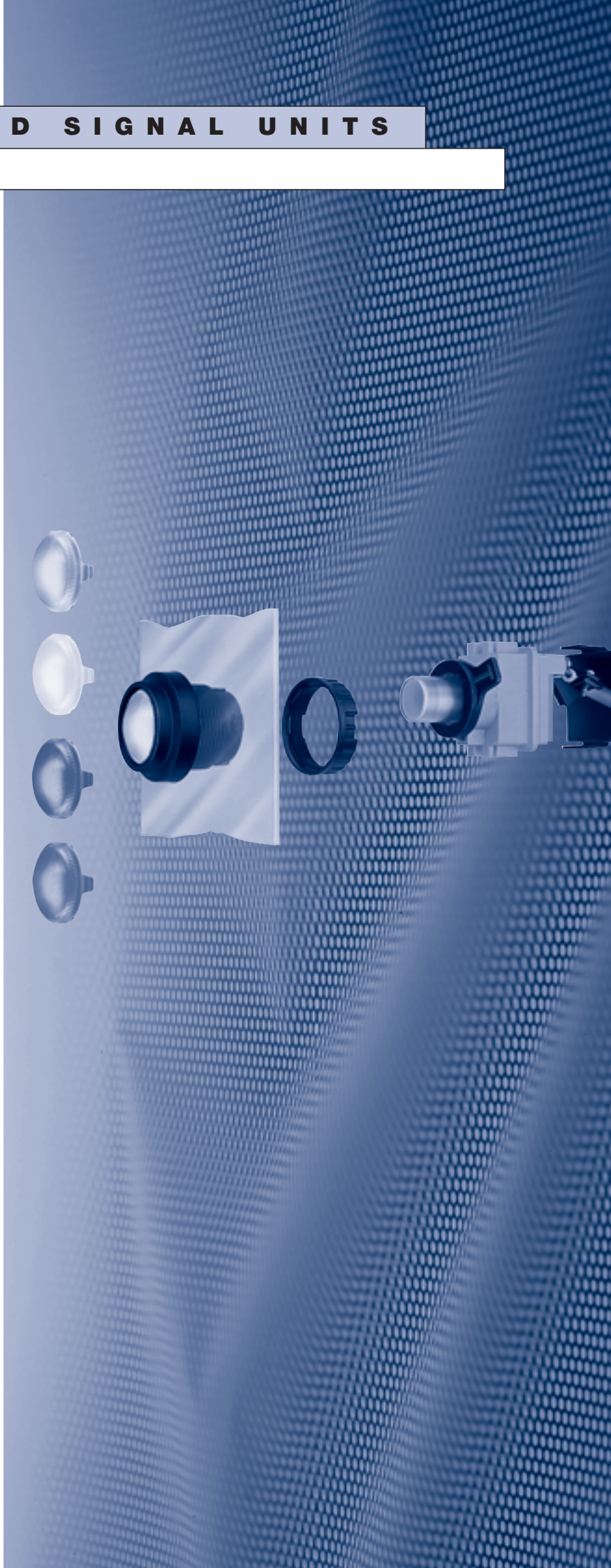
Example for ordering code

Version	Number	Ordering Code				
		A	B	C	D	E
2 cable entries M25 moulded plastic Version without plug direct from below into the enclosure	X	**GEH**	**3**	**GK**	**M25**	**02**

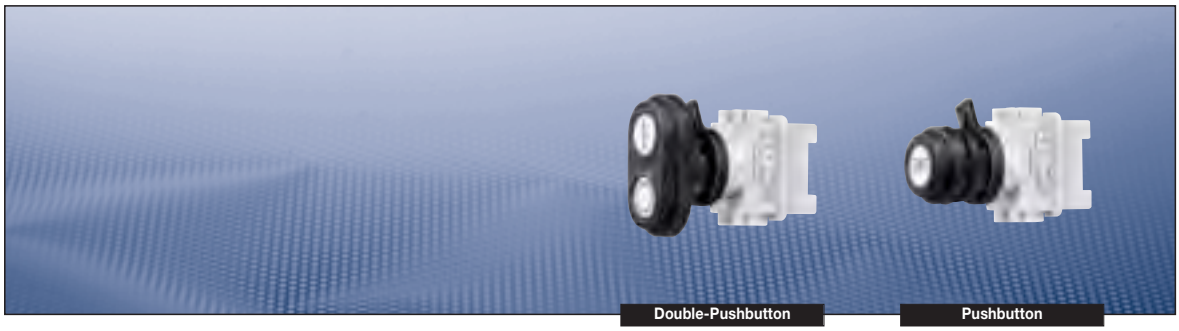
EX-CONTROL AND SIGNAL UNITS

For panel mounting

CEAG control and indicating elements can be integrated in panels with a wall thickness of up to 5 mm.
The CEAG components for panel mounting, such as signal lamps, pushbuttons and switches, can be instantly plugged into the control and indicating elements on the panel via bayonet-ring fitting. The single-wire installation is clear and simple.
All panel-mounted apparatus can be retrofitted for cable connection with a slip-on strain relief and protective cover and is then completely certified. Planning and procurement of panel-mounted apparatus with different cable lengths is a thing of the past.
The completely certified measuring instruments for direct and indirect measurement are available for different amperage ranges. The instruments are equipped with a transformer for easy adaptation to other ranges on the interchangeable scales.



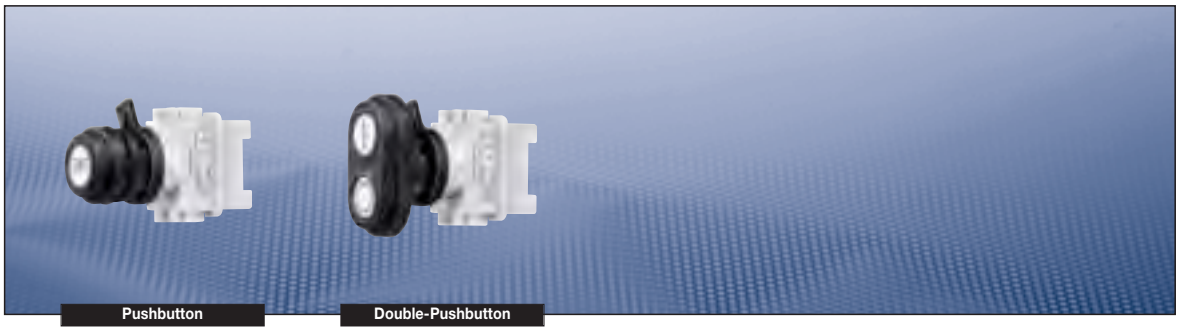
- **Bayonet-ring catch for quick one-hand mounting**
- **Complete certification of built-in apparatus**
- **Connection terminals for variable, low-cost wiring**
- **Standard actuator-element size of Ø 30.5 mm**



Technical data

Pushbutton Type 418 811 and double pushbutton Type 418 814	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex de I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
	PTB 99 ATEX 1034[1)]
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-15: U_e 250 V / I_e 6 A
accd. EN 60947-5-1	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A
	U_e 220 V / I_e 1 A
Connecting terminals	2 x 2.5 mm²
Degree of protection accd. EN 60529	IP66[1)]
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.20 kg
Type of mounting	Ø 30.5 mm fixing hole
Enclosure colour	grey
Gasket material	Neoprene (Standard), Fluoric silicone or viton on request

[1)] If protective covers are used



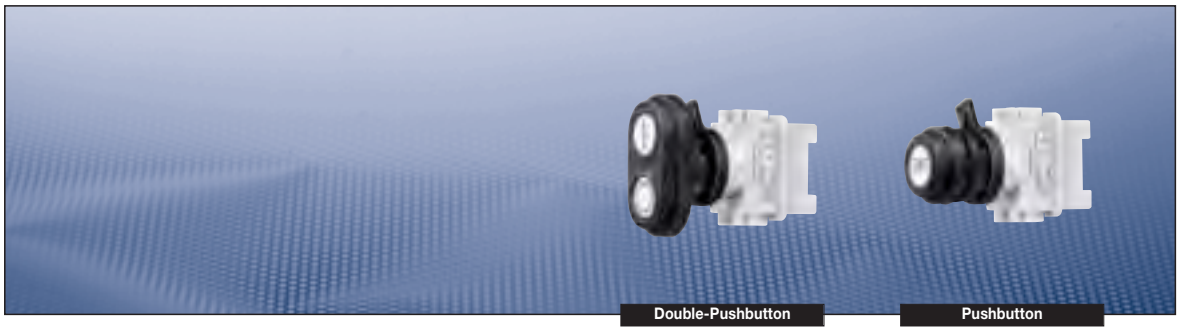
Ordering code for Component (Code 2) Code A - B - C1 - (C2)

A	B		C2	C1
GHG 418 81_	_	R	__	__

Code	Component	Code
A	Pushbutton	GHG 418 811
	Double pushbutton	GHG 418 814

Code	Contact system	Contacts	Code	
			silver contact points	gold contact points
B	2 NC		3	6
	2 NO		4	7
	1 NO + 1 NC		5	8

Code	Inscription	Code	Inscription	Code
C1, C2	0, I, Start, Stop	01	0	02
	I	03	I I	04
		05	STOP	06
	START	07	NOT-AUS	08
	LANGSAM	09	SCHNELL	10
	EMERG.STOP	11		12
		13	ARRET	14
	MARCHE	15	AUF	16
	AB	17	Neutral whtie	18
	Neutral green	19	0, I, Arret, Marche	20
	UP	24	DOWN	25
	ZU	26	ON	27
	OFF	28	+	30
	-	31	Neutral red	33
	Neutral yellow	34	EIN	36
	AUS	37	Neutral black	38
	AUTO	39	Neutral blue	40
	HAND	50	SENKEN	51
	HEBEN	52	LINKS	53
	RECHTS	54	FAST	55
	SLOW	56	RESET	57
	OPEN	58		



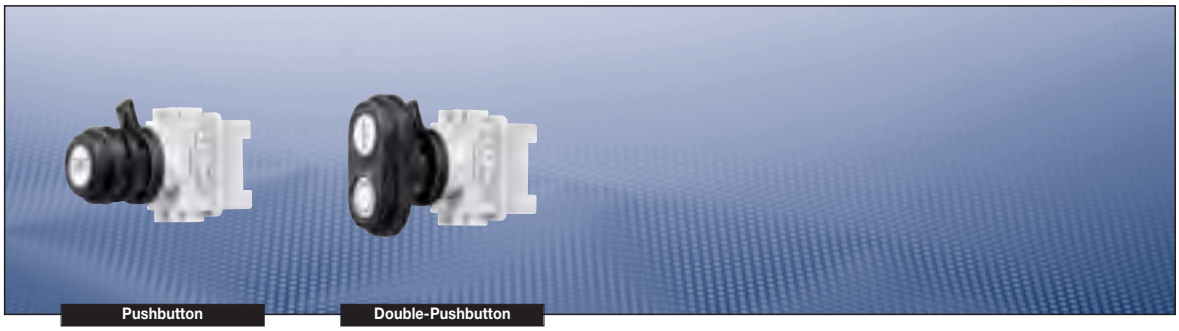
Example for ordering code (Code 2)

Version	Label	Ordering code			
		A	B	C1	C2
Pushbutton without protective cover, silver contact points					
2 NC	(0, I, START, STOP)	**GHG 418 811**	**3**	**R0001**	**–**
2 NO	(0, I, START, STOP)	**GHG 418 811**	**4**	**R0001**	**–**
1 NO + 1 NC	(0, I, START, STOP)	**GHG 418 811**	**5**	**R0001**	**–**
Double-pushbutton without protective cover, with gold contact points					
2 NC	(0, I, START, STOP)	**GHG 418 814**	**6**	**R01**	**01**
2 NO	(0, I, START, STOP)	**GHG 418 814**	**7**	**R01**	**01**
1 NO + 1 NC	(0, I, START, STOP)	**GHG 418 814**	**8**	**R01**	**01**

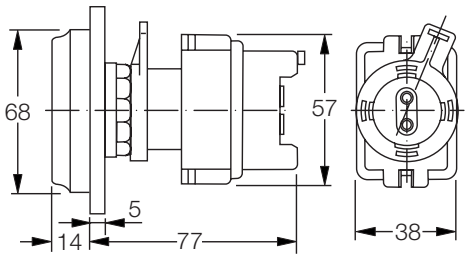
Accessories

Type	OU	Order No.
Protective cover to meet IP66	5	**GHG 410 1939 R0002**

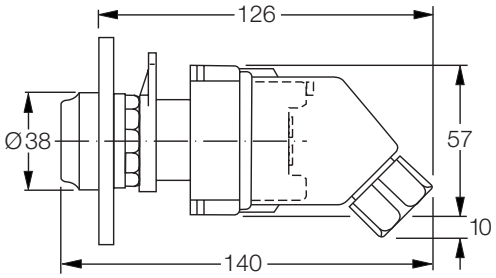
Please note that we can only deliver in the ordering units (OU) stated in the tables above



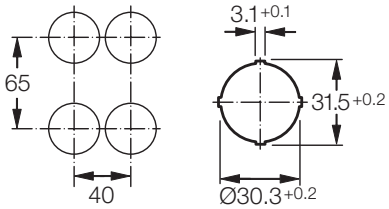
Dimension drawing



(Double-)pushbutton without protective cover

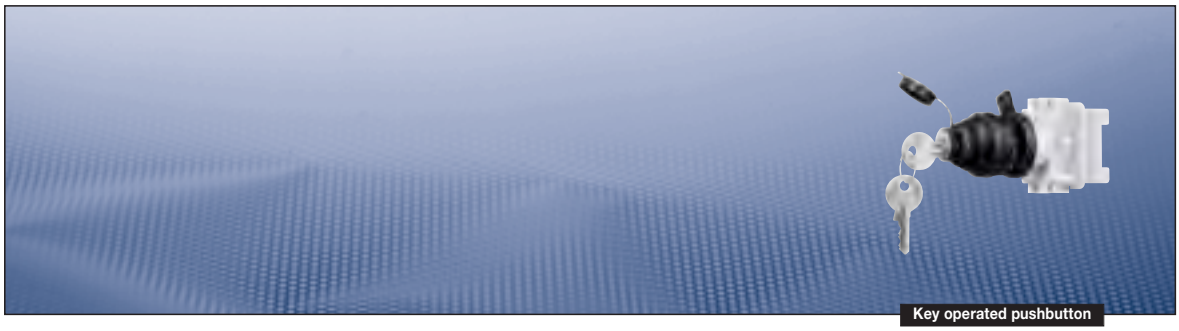


(Double-)pushbutton with protective cover



Minimum distances

Dimensions in mm

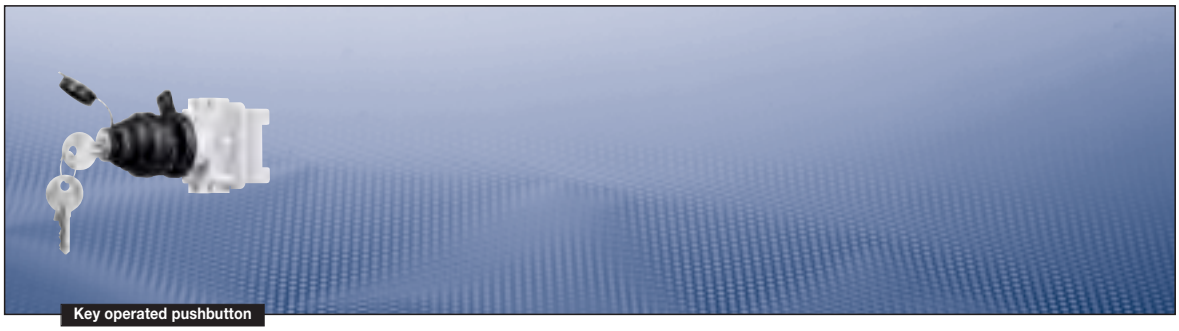


Key operated pushbutton

Technical data

Key operated pushbutton Type 418 812	
Marking to 94/9/EC	Ex II 2 G Ex ed IIC T6 / Ex I M 2 Ex de I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
	PTB 99 ATEX 1034[1)]
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-15: U_e 250 V / I_e 6 A
accd. EN 60947-5-1	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A
	U_e 220 V / I_e 1 A
Connecting terminals	2 x 2.5 mm²
Degree of protection accd. EN 60529	IP66[1)]
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	Ø 30.5 mm fixing hole
Enclosure colour	grey
Gasket material	Neoprene (Standard), Fluoric silicone or viton on request
Latch point	CEAG 1 (others on request)

[1)] If protective covers are used

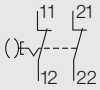
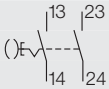
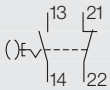


Key operated pushbutton

Ordering code for Component (Code 2) Code A - B - C

A	B		C
GHG 418 812	_	R00	__

Code	Component	Code
A	Key operated pushbutton	GHG 41 812

Code	Contact system	Contacts	Code silver contact points	Code gold contact points
B	2 NC		3	6
	2 NO		4	7
	1 NO + 1 NC		5	8

Code	Pushbutton not pressed	Key	pushbutton pressed	Key	Code
C	lockable	removable	lockable	removable	10
	lockable	removable	lockable	not removable	11
	lockable	removable	not lockable	not removable	12
	lockable	not removable	lockable	removable	13
	not lockable	not removable	lockable	removable	14
	not lockable	removable	auto lockable	removable	15

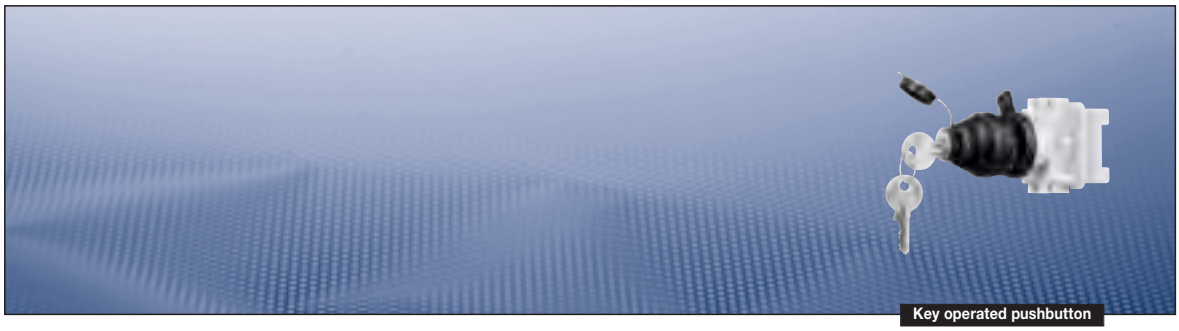
Example for ordering code (Code 2)

Version	Label pushbutton not pressed	pushbutton pressed	Ordering code A	B	C
Key switch with silver contact points, without protective cover					
1 NO + 1 NC	lockable Key removable	lockable Key removable	**GHG 418 812**	**5 R00**	**10**
2 NC	lockable Key removable	lockable Key removable	**GHG 418 812**	**3 R00**	**11**
2 NO	lockable Key removable	not lockable Key not removable	**GHG 418 812**	**4 R00**	**12**
Key switch with gold contact points, without protective cover					
1 NO + 1 NC	lockable Key removable	lockable Key removable	**GHG 418 812**	**8 R00**	**10**
2 NC	lockable Key removable	lockable Key removable	**GHG 418 812**	**6 R00**	**11**
2 NO	lockable Key removable	not lockable Key not removable	**GHG 418 812**	**7 R00**	**12**

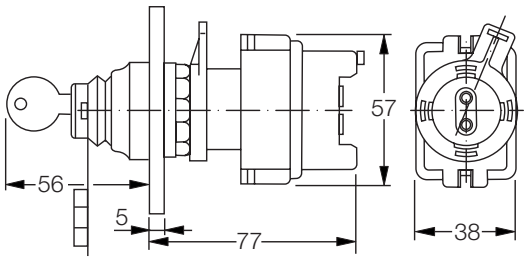
Accessories

Type	OU	Order No.
Protective cover to meet IP66	5	**GHG 410 1939 R0002**

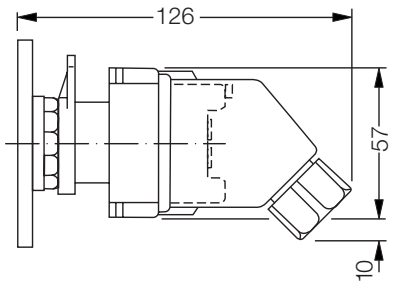
Please note that we can only deliver in the ordering units (OU) stated in the tables above


Key operated pushbutton

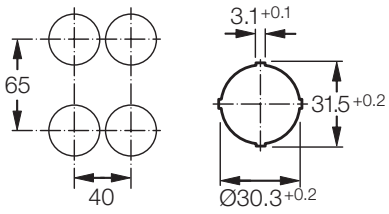
Dimension drawing



Key switch without protective cover

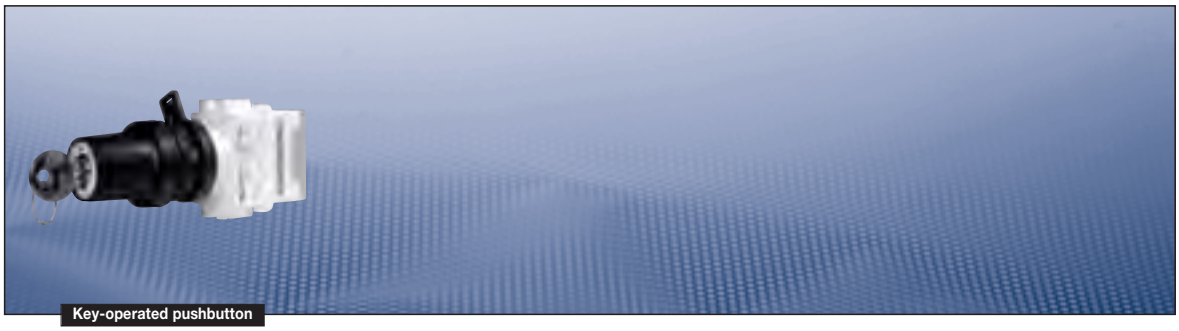


Key switch with protective cover



Minimum distances

Dimensions in mm

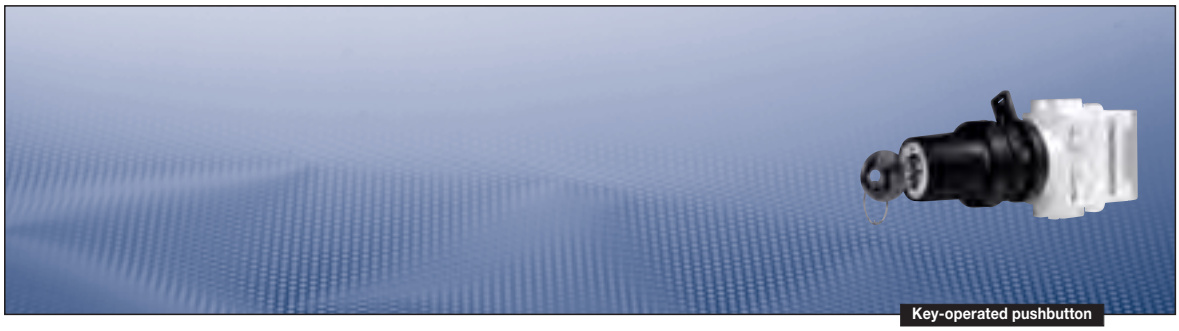


Key-operated pushbutton

Technical data

Key operated switch Type 418 8195	
Marking to 94/9/EC	Ex II 2 G Ex ed IIC T6 / Ex I M 2 Ex de I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
	PTB 99 ATEX 1034[1)]
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-15: U_e 250 V / I_e 6 A
accd. EN 60947-5-1	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A
	U_e 220 V / I_e 1 A
Connecting terminals	2 x 2.5 mm²
Degree of protection accd. EN 60529	IP66[1)]
Switching system	engaging - engaging - engaging
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	Ø 30.5 mm fixing hole
Enclosure colour	grey
Latch point	CEAG 1 (others on request)

[1)] If protective covers are used



Ordering code for Component (Code 2) Code A - C - D

A		C	D
GHG 418 8195	R5	_	__

Code	Component	Code
A	Key switch	GHG 418 8195

Code	Contact system	Contacts	Code silver contact points	Code gold contact points
C	2 NC	I 0 II 13/23 ( ) 45° 90° 135° 14 24	4	7
	2 NO	I 0 II 13 23 ( ) 45° 90° 135° 14 24	5	8

Code	Inscription			Code
D	I	0	II	07
	Fern	0	Ort	08
	Hand	0	Auto	09

other labels on request

Example for ordering code (Code 2)

Switch mechanism	Contact system	Label	Order No. A		C	D
Key switch with silver contacts, without protective cover						
4	I 0 II 13/23 ( ) 45° 90° 135° 14 24	I 0 II	**GHG 418 8195**	**R 5**	**4**	**07**
4		FERN 0 ORT	**GHG 418 8195**	**R 5**	**4**	**08**
4		HAND 0 AUTO	**GHG 418 8195**	**R 5**	**4**	**09**
5	I 0 II 13 23 ( ) 45° 90° 135° 14 24	I 0 II	**GHG 418 8195**	**R 5**	**5**	**07**
5		FERN 0 ORT	**GHG 418 8195**	**R 5**	**5**	**08**
5		HAND 0 AUTO	**GHG 418 8195**	**R 5**	**5**	**09**

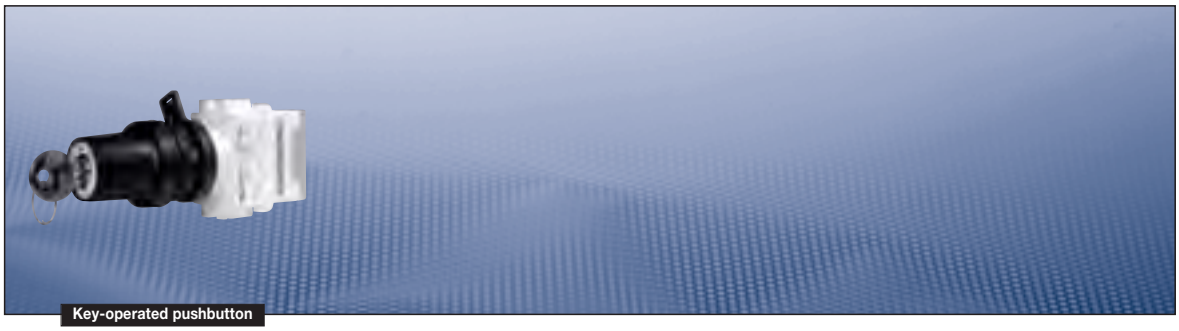
Switch can be locked in all positions and key can be removed in all positions

Key switch with gold contacts, without protective cover						
7	I 0 II 13/23 ( ) 45° 90° 135° 14 24	I 0 II	**GHG 418 8195**	**R 5**	**7**	**07**
7		FERN 0 ORT	**GHG 418 8195**	**R 5**	**7**	**08**
7		HAND 0 AUTO	**GHG 418 8195**	**R 5**	**7**	**09**
8	I 0 II 13 23 ( ) 45° 90° 135° 14 24	I 0 II	**GHG 418 8195**	**R 5**	**8**	**07**
8		FERN 0 ORT	**GHG 418 8195**	**R 5**	**8**	**08**
8		HAND 0 AUTO	**GHG 418 8195**	**R 5**	**8**	**09**

Accessories

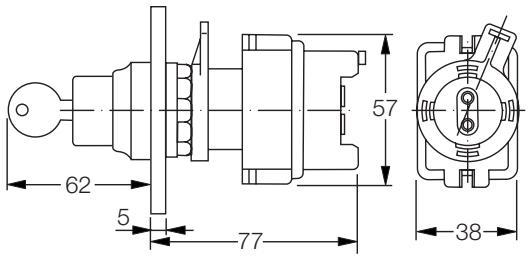
Type	OU	Order No.
Protective cover to meet IP66	5	**GHG 410 1939 R0002**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

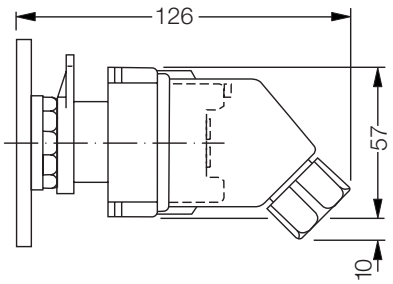


Key-operated pushbutton

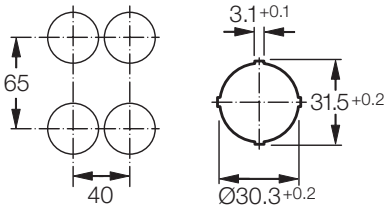
Dimension drawing



Key switch without protective cover

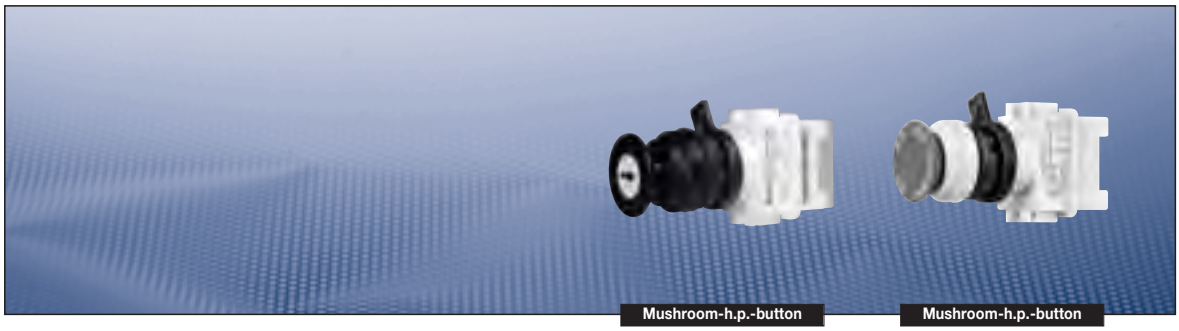


Key switch with protective cover



Minimum distances

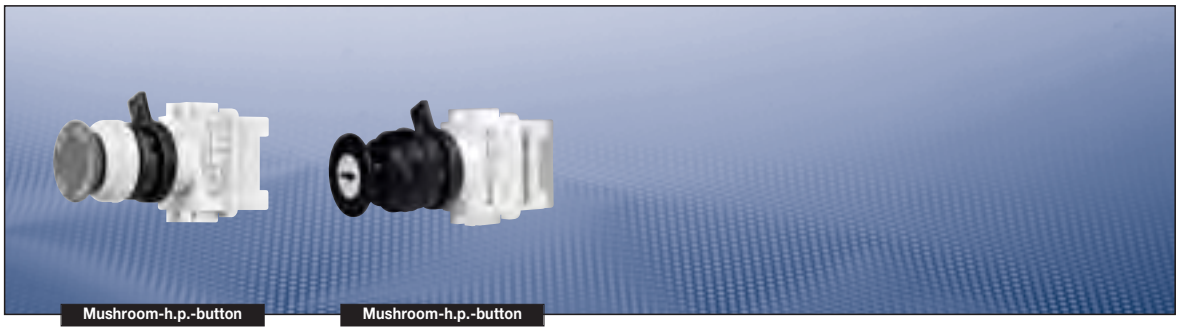
Dimensions in mm



Technical data

Mushroom head pushbutton (Emergency stop and normal version)	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex ed I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
	PTB 99 ATEX 1034[1)]
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-15: U_e 250 V / I_e 6 A
accd. EN 60947-5-1	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A
	U_e 220 V / I_e 1 A
Connecting terminals	2 x 2.5 mm²
Degree of protection accd. EN 60529	IP66[1)]
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	Ø 30.5 mm fixing hole
Enclosure colour	grey
Gasket material	Neoprene (Standard), fluoric silicone or viton on request

[1)] If protective covers are used

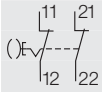
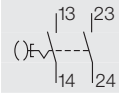
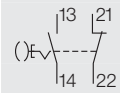


Mushroom-h.p.-button Mushroom-h.p.-button

Ordering code for Component (Code 2) Code A - B - C - D - E

A	B		C	D	E
GHG 418 815	_	R	_	_	__

Code	Component	Code
A	Mushroom head pushbutton	GHG 418 815

Code	Contact system	Contacts hand released	key released	Code silver contact points	gold contact points
B	2 NC			3	6
	2 NO			4	7
	1 NO + 1 NC			5	8

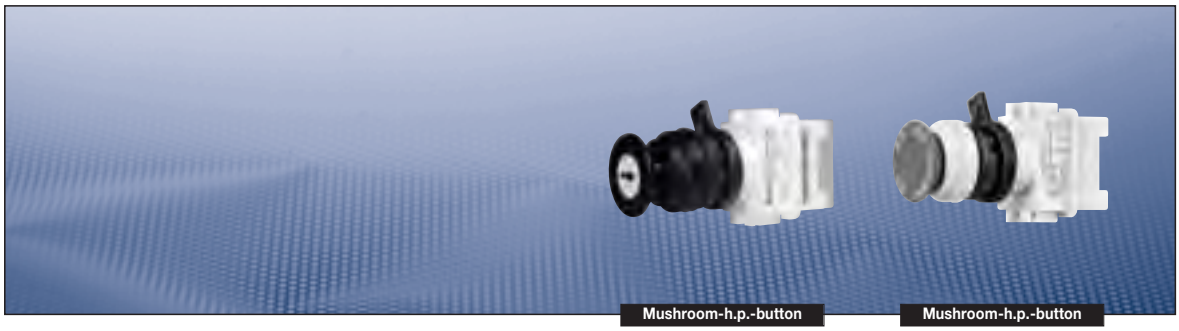
Code	Mushroom head insription and color	Code
C	NOT-AUS EMERGENCY STOP (German - English)[1]	1
	NOT-AUS ARRET D'URGENCE (German - French)[1]	4
	Red	1
	Yellow[1]	2
	Black[2]	3

Code	released	engaged	unlocking	Code
D	not lockable	not lockable	n/a (pushbutton function)	1[2]
	not lockable	lockable	hand released	2[1]
	not lockable	lockable	key released	3[1]

Code	Inscription (contact label)	Code	Inscription (contact label)	Code
E	0, I, Start, Stop	01	0	02
	I	03	I I	04
		05	STOP	06
	START	07	NOT-AUS[1]	08

[1] only Emergency stop mushroom head pushbutton

[2] only Mushroom head pushbutton normal version



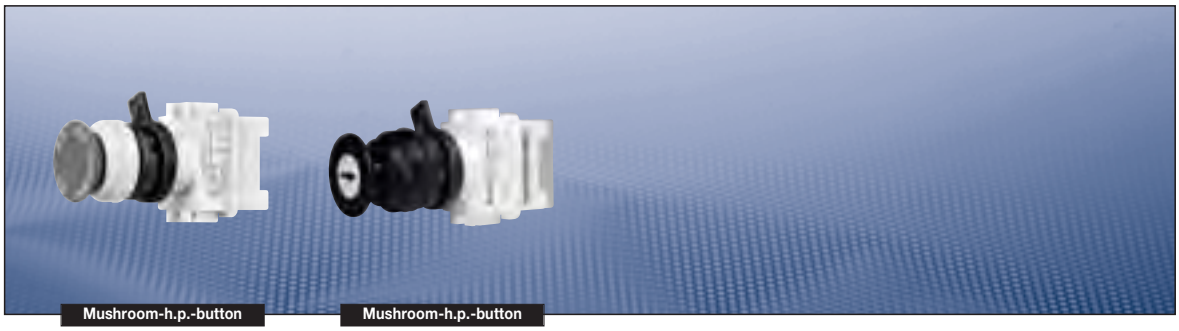
Example for ordering code (Code 2)

Contact system	Mushroom head colour	Inscription	Order No. A	B	C	D	E
EMERGENCY STOP mushroom-head pushbutton red, with silver ocntact points, without protective cover Version with inscription D/E, hand released							
2 NC	red	German/English	**GHG 418 815**	**3**	**R 1**	**2**	**00**
2 NC	red	German/French	**GHG 418 815**	**3**	**R 4**	**2**	**00**
2 NO	red	German/English	**GHG 418 815**	**4**	**R 1**	**2**	**00**
2 NO	red	German/French	**GHG 418 815**	**4**	**R 4**	**2**	**00**
1 NO + 1 NC	red	German/English	**GHG 418 815**	**5**	**R 1**	**2**	**00**
1 NO + 1 NC	red	German/French	**GHG 418 815**	**5**	**R 4**	**2**	**00**
Version with inscription D/E, key released							
2 NC	red	German/English	**GHG 418 815**	**3**	**R 1**	**3**	**00**
2 NC	red	German/French	**GHG 418 815**	**3**	**R 4**	**3**	**00**
2 NO	red	German/English	**GHG 418 815**	**4**	**R 1**	**3**	**00**
2 NO	red	German/French	**GHG 418 815**	**4**	**R 4**	**3**	**00**
1 NO + 1 NC	red	German/English	**GHG 418 815**	**5**	**R 1**	**3**	**00**
1 NO + 1 NC	red	German/French	**GHG 418 815**	**5**	**R 4**	**3**	**00**
Mushroom-head pushbutton, with silver ocntact points, without protective cover Version with inscription D/E, pushbutton function only							
2 NC	black	0, I, START, STOP	**GHG 418 815**	**3**	**R 3**	**1**	**01**
2 NC	yellow	0, I, START, STOP	**GHG 418 815**	**3**	**R 2**	**1**	**01**
2 NO	black	0, I, START, STOP	**GHG 418 815**	**4**	**R 3**	**1**	**01**
2 NO	yellow	0, I, START, STOP	**GHG 418 815**	**4**	**R 2**	**1**	**01**
1 NO + 1 NC	black	0, I, START, STOP	**GHG 418 815**	**5**	**R 3**	**1**	**01**
1 NO + 1 NC	yellow	0, I, START, STOP	**GHG 418 815**	**5**	**R 2**	**1**	**01**

Accessories

Type	OU	Order No.
Protective cover to meet IP66	5	**GHG 410 1939 R0002**

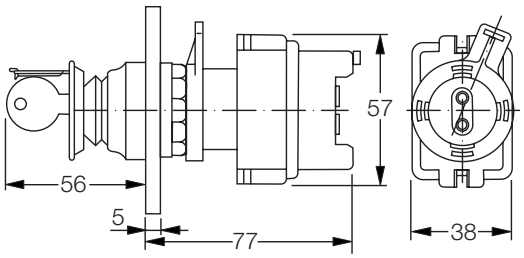
Please note that we can only deliver in the ordering units (OU) stated in the tables above



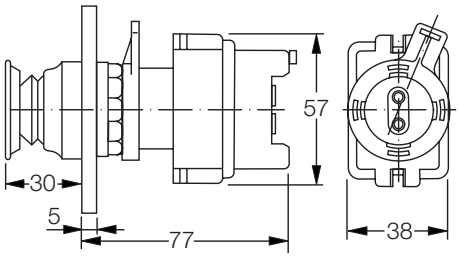
Mushroom-h.p.-button

Mushroom-h.p.-button

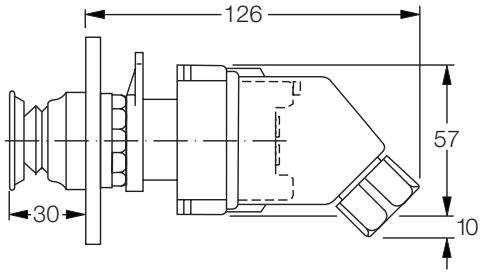
Dimension drawing



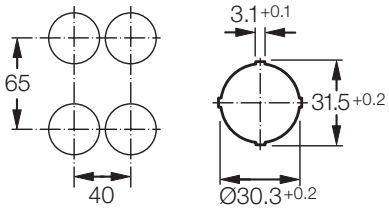
Mushroom-head pushbutton without protective cover with key release



Mushroom-head pushbutton without protective cover

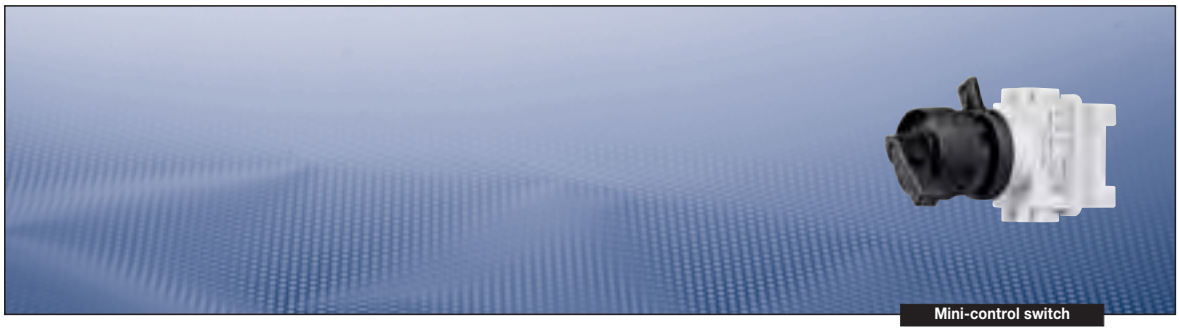


Mushroom-head pushbutton with protective cover



Minimum distances

Dimensions in mm

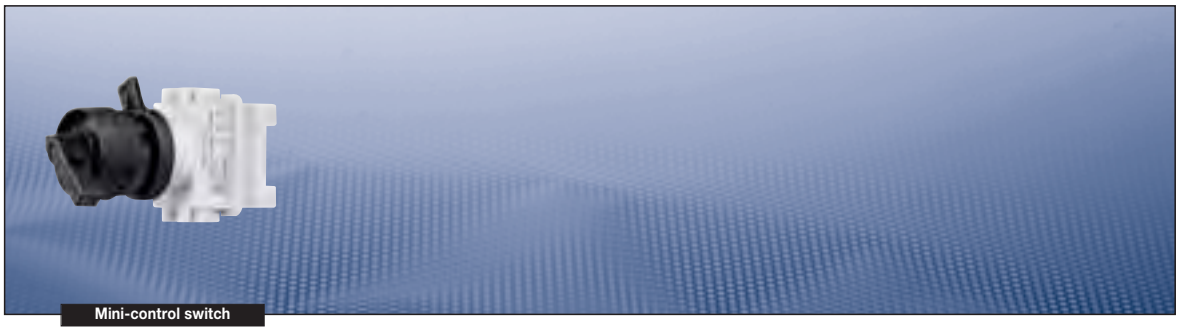


Mini-control switch

Technical data

Mini-Control switch Type 418 8190	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex de I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
	PTB 99 ATEX 1034[1)]
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-15: U_e 250 V / I_e 6 A
accd. EN 60947-5-1	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A
	U_e 220 V / I_e 1 A
Connecting terminals	2 x 2.5 mm²
Degree of protection accd. EN 60529	IP66[1)]
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	Ø 30.5 mm fixing hole
Enclosure colour	grey

[1)] If protective covers are used



Mini-control switch

Ordering code for Component (Code 2) Code A - B - C - D - E

A	B		C	D	E
GHG 418 819	_	R	_	_	__

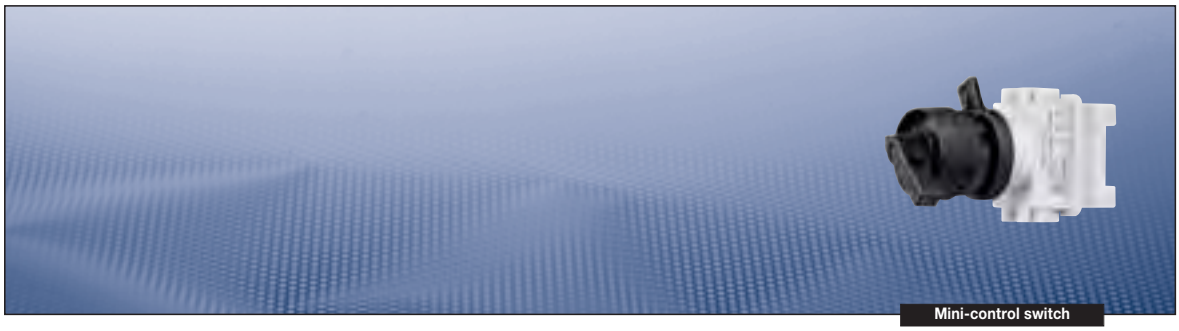
Code	Component	Code
A	Mini-Control Switch	GHG 418 819

Code	Contact material	Code
B	silver	0
	gold	1

Code	Switch mechanism	Code
C	spring - engaging - engaging	4
	engaging - engaging - engaging	5
	engaging - engaging	6
	spring - engaging - engaging	7
	engaging - engaging - spring	8

Code	Contact system	Contacts	Code
D			0
			1
			2
			3
			5
			7

Code	Inscription (Contact label)			Code	Inscription (Contact label)			Code
E	0		I	01	HAND	0	AUTO	15
	I		II	02	AUF	AUS	ZU	16
	STOP		START	03	HAND	AUS	AUTO	17
	HAND		AUTO	04	0	I	II	18
	SENKEN		HEBEN	05	AUS	AUTO	EIN	19
	REMOTE		LOCAL	06	AUS	HAND	AUTO	20
	I	0	II	07	ÖRTLICH	AUS	FERN	21
	AUS	BETRIEB	EIN	08	START	NORMAL	STOP	22
	AUS	0	EIN	09	OFF	0	ON	23
	AUF	0	AB	10	HAND	OFF	AUTO	24
	STOP	0	START	14	0	IN	START	25


Mini-control switch

Example for ordering code (Code 2)

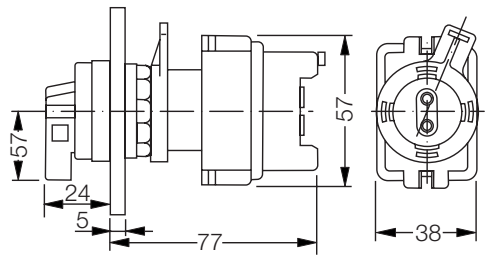
Switching mechanism	Code	Contact system	Code	Label schild	Order No. A	B	C	D	E
Control switch with silver contact points, without protective cover Switch can be locked in all positions									
	6		0	I II	**GHG 418 819**	**0 R**	**6**	**0**	**02**
	6		2	0 I	**GHG 418 819**	**0 R**	**6**	**2**	**01**
	6		1	I II	**GHG 418 819**	**0 R**	**6**	**1**	**02**
	5		3	I 0 II	**GHG 418 819**	**0 R**	**5**	**3**	**07**
	5		5	I 0 II	**GHG 418 819**	**0 R**	**5**	**5**	**07**
	8		7	0 I	**GHG 418 819**	**0 R**	**8**	**7**	**01**

Accessories

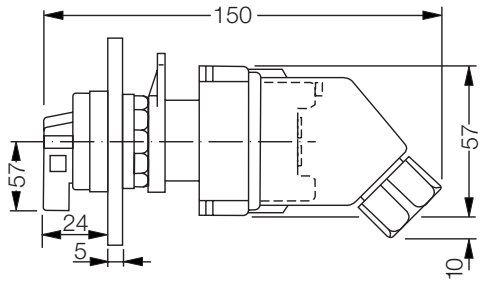
Type	OU	Order No.
Protective cover to meet IP66	5	**GHG 410 1939 R0002**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

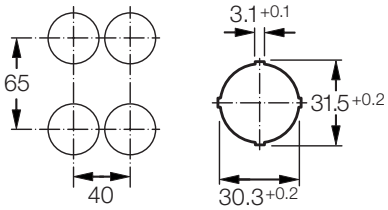
Dimension drawing



Mini-control switch without protective cover

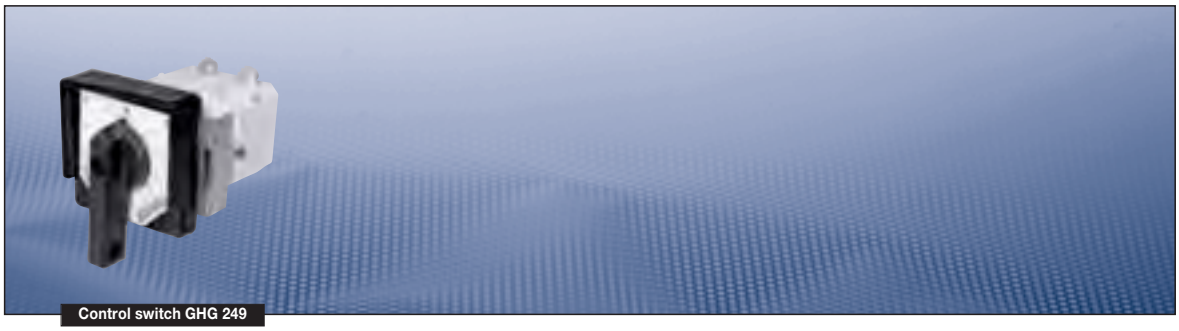


Mini-control switch with protective cover



Minimum distances

Dimensions in mm

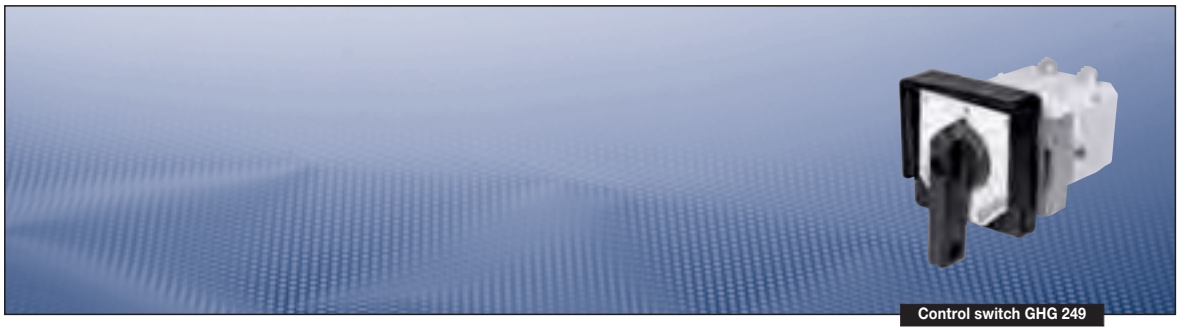


Control switch GHG 249

Technical data

Control switch GHG 249	
Marking to 94/9/EC	Ex II 2 G Ex ed IIC T6 / Ex I M 2 Ex de I
EC-Type Examination Certificate	PTB 98 ATEX 1117 U[1)]
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +45 °C (option)
Rated voltage	up to 690 V AC
Rated current	up to 20 A
Rated current gold contacts	up to 0.4 A
Rated marking- / rated breaking capacity	AC-3: U_e 230 V / I_e 8 A
accd. to EN 60947-5-1	U_e 400 V / I_e 6 A
	AC-11: U_e 24 V / I_e 6 A
	U_e 230 V / I_e 0.4 A
Connecting terminals	2 x 2.5 mm² multi wire, 6 mm² single wire
Weight	0.55 kg
Type of mounting	Ø 30.5 mm fixing hole
Enclosure colour	grey

[1)] Must be installed in a certified enclosure


Control switch GHG 249

Ordering code for Component (Code 2) Code A - B - C - D

A	B	C	D [1]
249	_	___	__

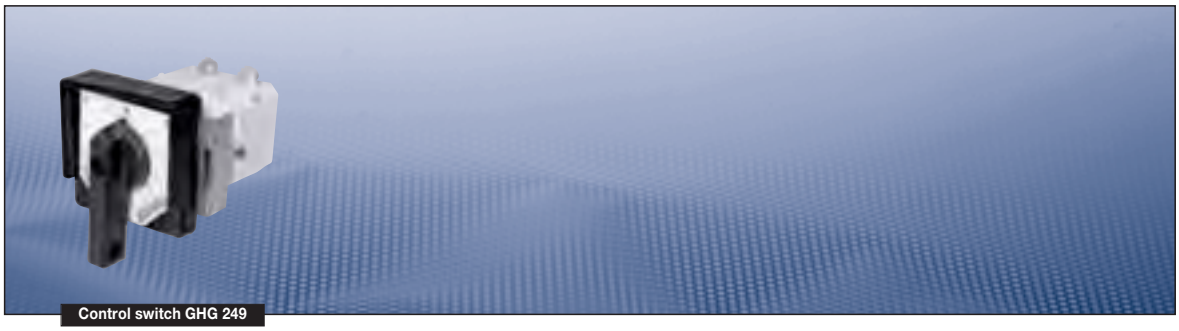
Code	Component	Code
A	Control switch GHG 249	249

Code	Switch mechanism	Code
B	spring - engaging - spring	4
	engaging - engaging - engaging	5
	engaging - engaging	6
	spring - engaging - engaging	7
	engaging - engaging - spring	8

Code	Contacts	Code Silver contact points
C		019
		033
		024
		021
		049
		037
		039
		038

Code	Inscription (Contact label)			Code	Inscription (Contact label)			Code
D	0	I		01	0	I	II	18
	I	II		02	AUS	AUTO	EIN	19
	STOP	START		03	AUS	HAND	AUTO	20
	HAND	AUTO		04	ÖRTLICH	AUS	FERN	21
	SENKEN	HEBEN		05	START	NORMAL	STOP	22
	REMOTE	LOCAL		06	OFF	0	ON	23
	I	0	II	07	HAND	OFF	AUTO	24
	AUS	BETRIEB	EIN	08	0	IN	START	25
	AUS	0	EIN	09	MAN		AUTO	26
	AUF	0	AB	10	START		STOP	27
	Entriegelt	0	Verriegelt	11	HEBEN		SENKEN	28
	OUT	OF	HAND	12	OFF		ON	29
	LOCAL	REMOTE	AUTO	13	AUS		EIN	30
	STOP	0	START	14	HAND		AUTO	31
	HAND	0	AUTO	15	ON		OFF	32
	AUF	AUS	ZU	16		II	III	33

[1] The code will represent only a selected part of configuration.

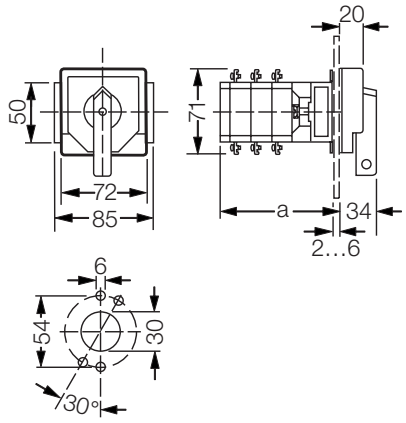


Control switch GHG 249

Example for ordering code (Code 2)

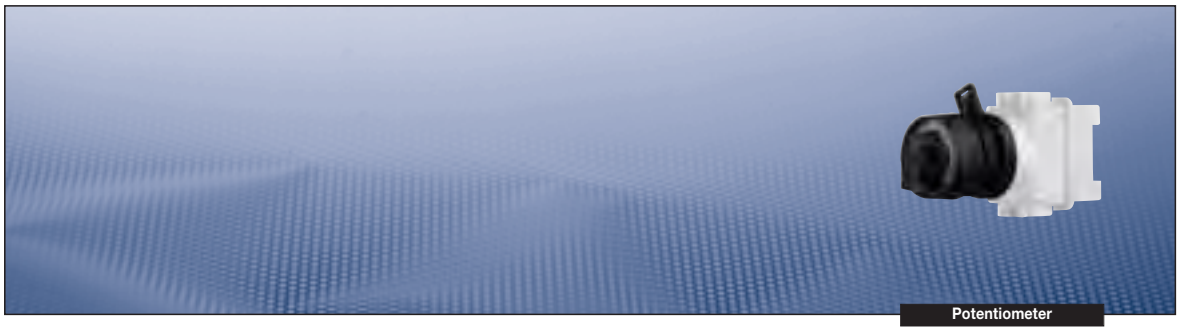
Version A	Switching mechanism B	Code	Contact C	Code	Label D	Code	Order Code
GHG 249		6		019	0 – I	01	**GHG 249 6 01901**
GHG 249		6		037	STOP - 0 - START	14	**GHG 249 6 03714**
GHG 249		6		033	I - II	02	**GHG 249 6 03302**

Dimension drawing



Diagram

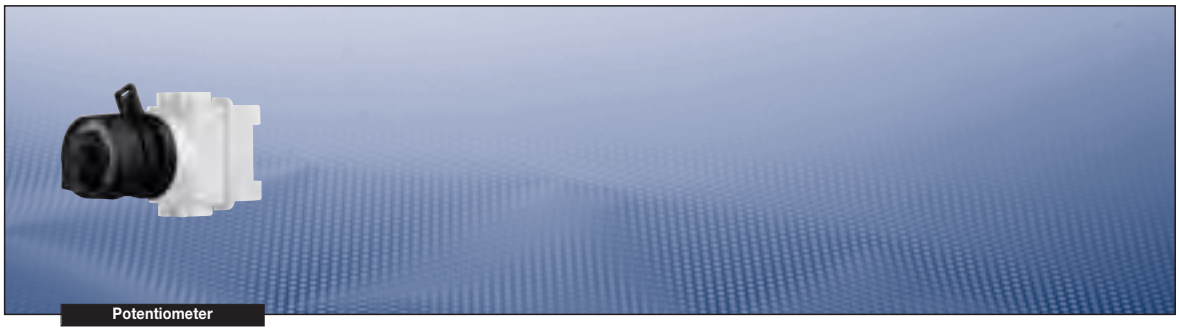
Dimensions in mm


Potentiometer

Technical data

Potentiometer Type 418 8131	
Marking to 94/9/EC	Ex II 2 G Ex ed IIC T6 / Ex I M 2 Ex de I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
	PTB 99 ATEX 1034[1)]
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	up to 250 V AC
Power consumption	max. 1 W
Resistance range	100 - 10000 Ω
Tolerance	± 20 %
Connecting terminals	2 x 2.5 mm²
Degree of protection accd. EN 60529	IP66[1)]
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	Ø 30.5 mm fixing hole
Enclosure colour	grey
Angle of rotation	270°
Scale	0 - 100 %

[1)] If protective covers are used



Potentiometer

Ordering code for Component (Code 2) Code A - B

A		B
GHG 418 8131	R00	__

Code	Component	Code
A	Potentiometer	GHG 418 8131

Code	Resistance	Code
B	0 - 100 Ohm	11
	0 - 220 Ohm	12
	0 - 470 Ohm	13
	0 - 1000 Ohm	14
	0 - 2200 Ohm	17
	0 - 4700 Ohm	15
	0 - 10000 Ohm	16

Example for ordering code (Code 2)

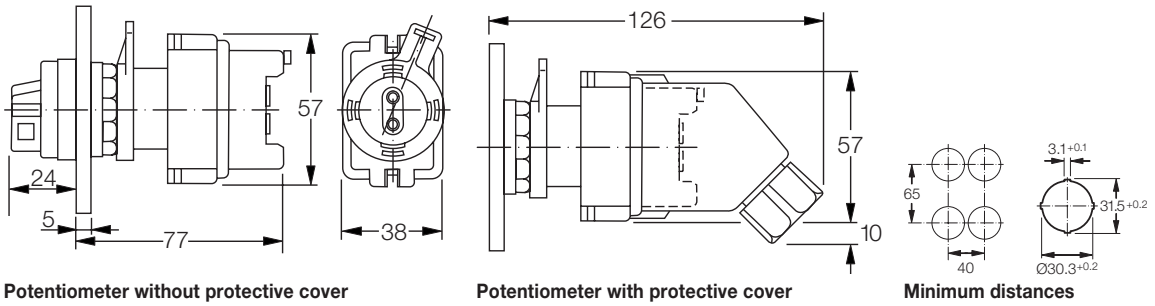
Version	Order No. A	B
Potentiometer 1 W 25 % tolerance, without protective cover		
0 - 100 Ohm	**GHG 418 8131**	**R 0011**
0 - 220 Ohm	**GHG 418 8131**	**R 0012**
0 - 470 Ohm	**GHG 418 8131**	**R 0013**
0 - 1000 Ohm	**GHG 418 8131**	**R 0014**
0 - 2200 Ohm	**GHG 418 8131**	**R 0017**
0 - 4700 Ohm	**GHG 418 8131**	**R 0015**
0 - 10000 Ohm	**GHG 418 8131**	**R 0016**

Accessories

Type	OU	Order No.
Protective cover to meet IP66	5	**GHG 410 1939 R0002**

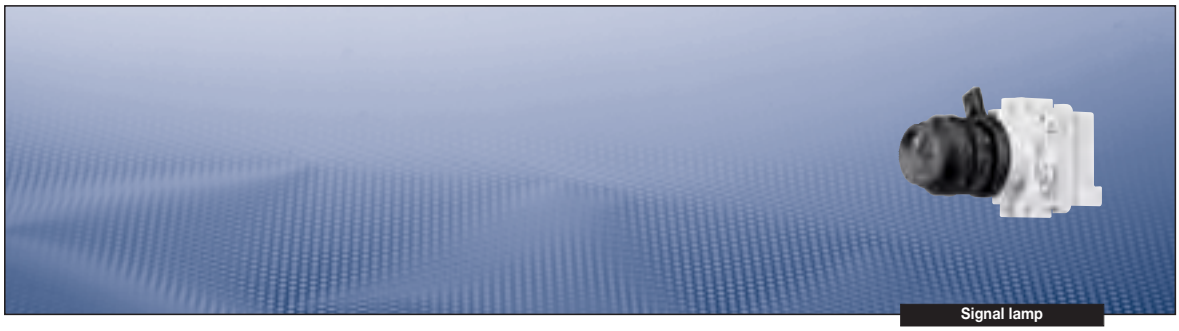
Please note that we can only deliver in the ordering units (OU) stated in the tables above

Dimension drawing



Potentiometer without protective cover | Potentiometer with protective cover | Minimum distances

Dimensions in mm

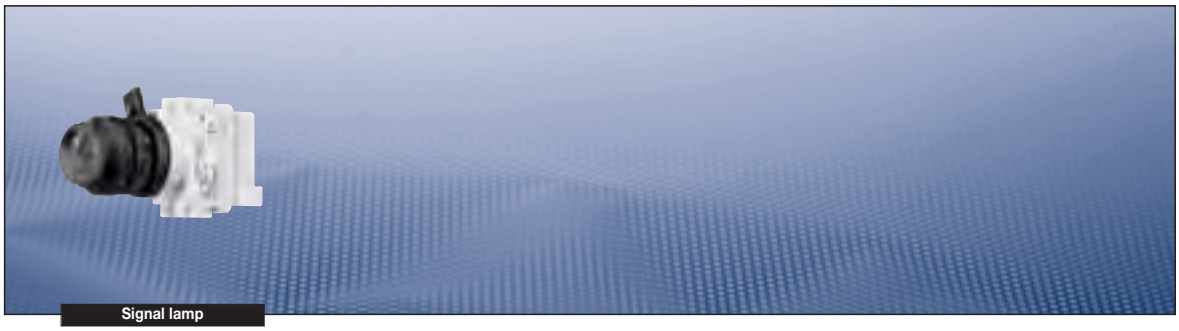


Signal lamp

Technical data

Signal lamp Type 418 8170		
Marking to 94/9/EC		Ⓔx II 2 G Ex ed IIC / Ⓔx II 2 G Ex d ia IIC
EC-Type Examination Certificate		PTB 98 ATEX 1040 U
		PTB 99 ATEX 1034[1)]
Permissible ambient temperature		–20 °C to +40 °C
		–55 °C to +55 °C (option)
Rated voltage	(Ex ed IIC) (LED)	20 V to 250 V AC/DC
	(Ex d ia IIC)	10 V to 28 V DC
	(Ex ed IIC)	12 V to 30 V AC/DC
Rated current	(20 V to 250 V) (LED)	approx. 4 - 15 mA
	(10 V to 28 V Ex d ia IIC)	max. 25 mA
	(12 V to 30 V) DC	max. 24 mA
Connecting terminals		2 x 2.5 mm^2
Degree of protection accd. EN 60529		IP66[1)]
Dimensions (L x W x H)		approx. 59 x 31 x 45 mm
Weight		0.15 kg
Type of mounting		Ø 30.5 mm fixing hole
Enclosure colour		grey

[1)] If protective covers are used



Signal lamp

Ordering code for Component (Code 2) Code A - B

A	B
GHG 418 8170 R00	__

Code	Component	Code
A	Signal lamp	GHG 418 8170

Code	Resistance	Code
B	20 V - 250 V AC/DC	51
	18 V - 30 V DC (Ex-i[1])	52
	12 V - 30 V AC/DC	53

Example for ordering code (Code 2)

Version	Order Code A	B
Version without protective cover with lens cover yellow, red, green and white		
Universal voltage 20V - 250 V AC/DC	**GHG 418 81 70**	**R0051**
For intrinsically safe circuits (18 V up to 30 V DC1)	**GHG 418 81 70**	**R0052**
Low voltage 12 V up to 24 V AC/DC	**GHG 418 81 70**	**R0053**

[1] Supply by valve-driver components, e.g., with data:

U_o = 20 V – 28 V DC with R_i = 200 Ω – 500 Ω or U_o = 10 V – 18 V DC with R_i = 100 Ω – 200 Ω

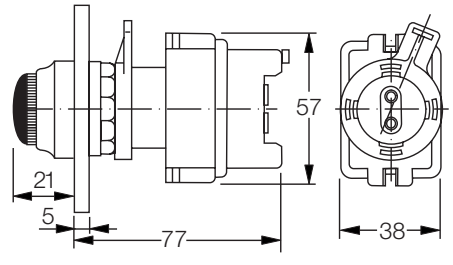
No effective Ci and Li values.

Accessories

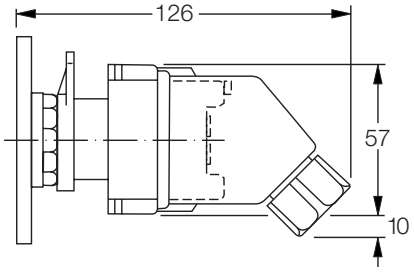
Type	OU	Order No.
Protective cover to meet IP66	5	**GHG 410 1939 R0002**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

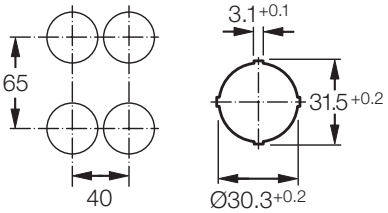
Dimension drawing



Signal lamp without protective cover

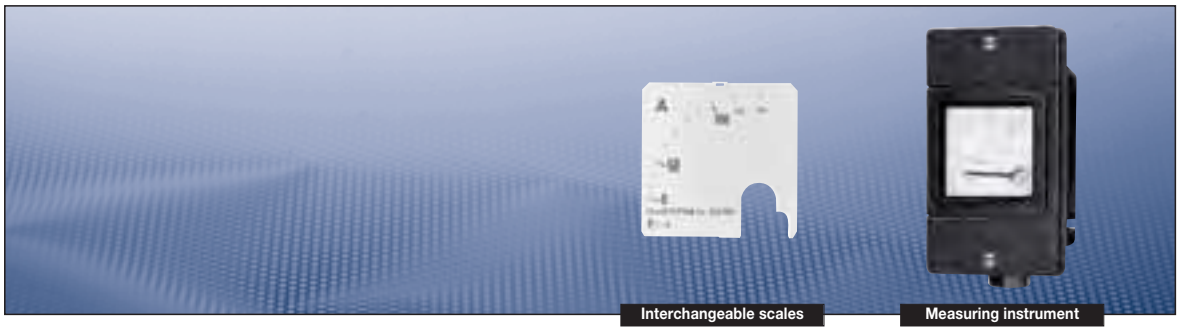


Signal lamp with protective cover



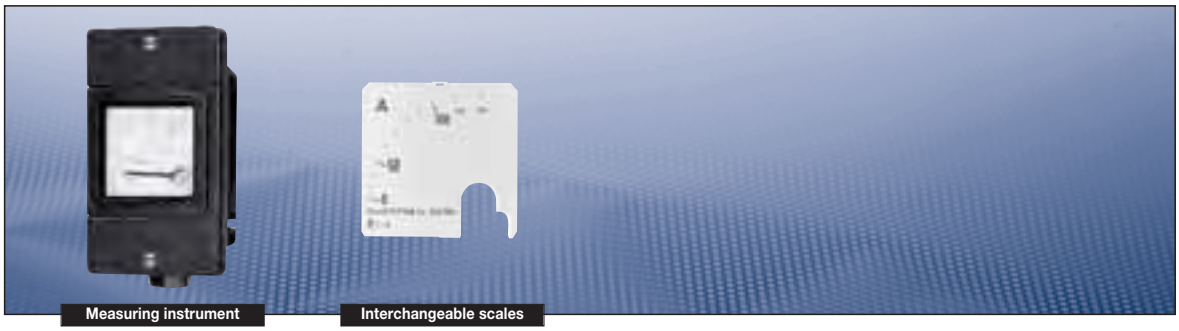
Minimum distances

Dimensions in mm



Technical data

Type 412 82 with measuring instrument AM 72		
	Moving iron	Moving coil
Marking to 94/9/EC	Ⓔx II 2 G Ex e II / Ⓔx II 2 G Ex e mb II	Ⓔx II 2 G Ex ib IIC
	Ⓔx I M 2 Ex e I	Ⓔx I M 2 Ex ib I
EC-Type Examination Certificate	PTB 00 ATEX 3117	
Permissible ambient temperature	–20 °C to +40 °C	
	–55 °C to +55 °C (option)	
Rated voltage	up to 690 V	
Power consumption	max. 0.31 VA	
Overload range	10 fold - 25 sec.	10-fold - 5 sec.
	25 fold - 4 sec.	
	50 fold - 1 sec.	
	indicated 1 : 1.5	
Measuring range	max. 0 - 25 A direct / n / 1A	0/4 - 24 mA
Winding specification of moving coil		26.5 windings
Internal resistance		2.5 Ω ± 30 %
Inductance Li		< 0.1 mH
Capacitance Ci		< 0.1 nF
Open circuit voltage Ui		≤ 30 V
Short circuit current Ii		≤ 150 mA
Accuracy	Class 2.5	Class 1.5
Connecting terminals	2 x 1.5 - 4 mm²	
Degree of protection accd. EN 60529	IP66	
Cable glands/Gland plates/Enclosure drilling	1 x M25 (Ø 8 - 17 mm)	
Dimensions (L x W x H)	160 x 95 x 62 mm	
Display size AM 72	72 x 72 mm	
Weight	0.8 kg	
Type of mounting	DIN rail mounting	
Enclosure colour	grey	



Measuring instrument

Interchangeable scales

Ordering code for Component (Code 2) Code A - B - C

A	B	C
GHG 412 828	_ R0	__

Code	Component	Code A
A	Measuring instrumtent AM 72	GHG 412 828

Code	Movement	Code B
B	Direct connection	1
	Ct connection 1 /A	2
	Port 0 - 20/24 mA (scale 0-100% / 120%) [1]	5
	Port 4 - 20/24 mA (scale 0-100% / 120%) [1]	6
	Moving-coil connection 0 - 20/24 mA (scale 0-100% / 120%) [1] [3]	7
	Moving-coil connection 4 - 20/24 mA (scale 0-100% / 120%) [1] [3]	8

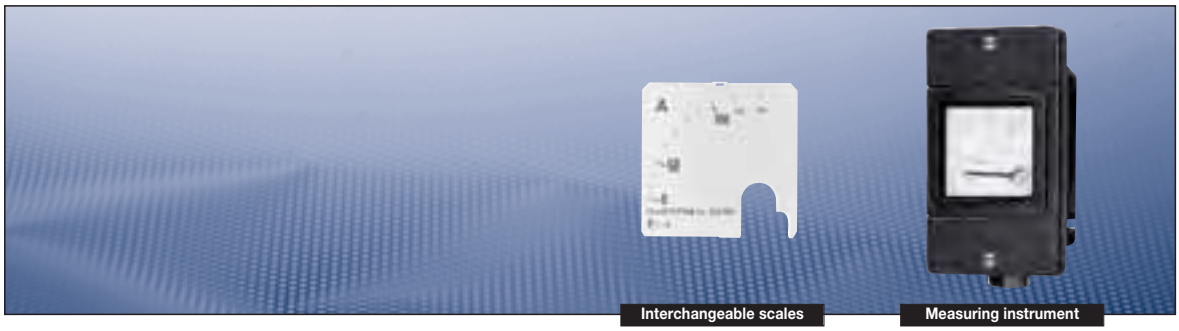
Code	Mesasuring range/scale	Code C	Measuring range/scale	Code C
C	0 - 1	002	0 - 75 /112.5 A	013
	0 - 2.5 / 3.75 A [2]	003	0 - 100 / 150 A	014
	0 - 5 / 7.5 A [2]	004	0 - 150 / 225 A	015
	0 - 10 / 15 A [2]	005	0 - 200 / 300 A	016
	0 - 15 / 22.5 A	006	0 - 250 / 375 A	017
	0 - 20 / 30 A [2]	008	0 - 300 / 450 A	018
	0 - 30 / 45 A	009	0 - 400 / 600 A	019
	0 - 40 / 60 A	010	0 - 500 / 750 A	020
	0 - 50 / 75 A	011	0 - 600 / 900 A	021
	0 - 60 / 90 A	012	0 - 100% / 150%	033

[1] Movements 0 - 20 mA/ 4 - 20 mA and with moving-coil connection are only available with scale 0 - 100%/ 120%.

[2] Version for direct connection (standard: CT connection n/1A) possible.

[3] Moving coil only for Ex-i of Ex-d flameproof applications

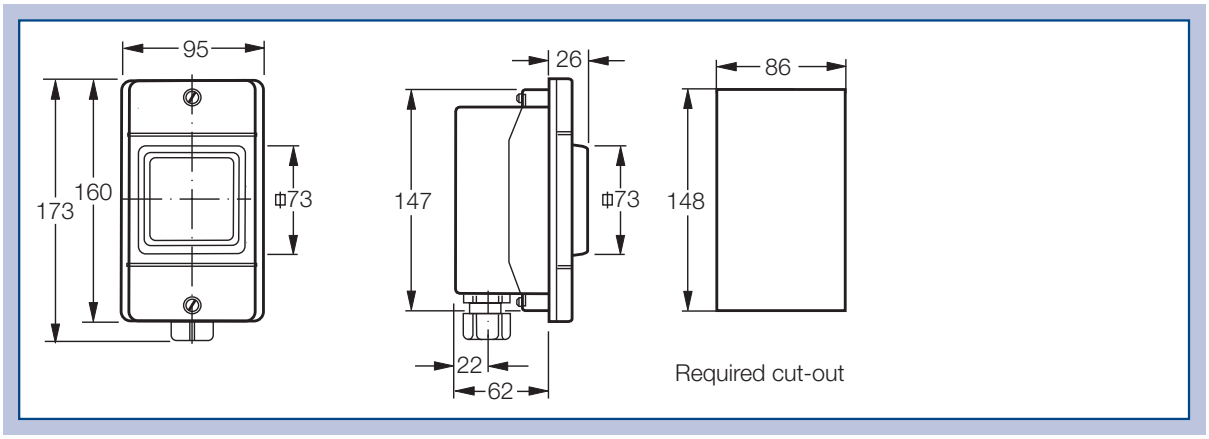
Other interchangeable scales available on request.



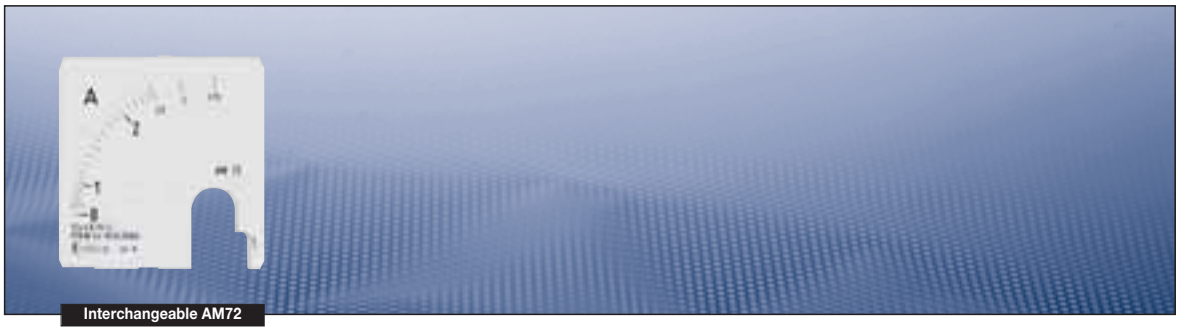
Example for ordering code (Code 2)

Measuring range	Movement	Ordering code
Measuring instrument AM 72, direct measurement Version with 1 x cable entry M25		
0 – 1 /1.5 A	Moving iron	**GHG 412 8281 R0002**
0 - 2.5 / 3.75 A	Moving iron	**GHG 412 8281 R0003**
0 - 5 / 7.5 A	Moving iron	**GHG 412 8281 R0004**
0 - 10 / 15 A	Moving iron	**GHG 412 8281 R0005**
0 - 16 / 24 A	Moving iron	**GHG 412 8281 R0007**
0 - 20 / 24 mA 0-100% / 120% (Ri = 320 Ω)	Moving coil	**GHG 412 8285 R0033**
4 - 20 / 24 mA 0-100% / 120% (Ri = 320 Ω)	Moving coil	**GHG 412 8286 R0035**
Measuring instrument AM 72, Ct connection n/1A Version with 1 x cable entry M25		
0 – 1 / 1.5 A	Moving iron	**GHG 412 8282 R0002**
0 - 2.5 / 3.75 A	Moving iron	**GHG 412 8282 R0003**
0 - 5 / 7.5 A	Moving iron	**GHG 412 8282 R0004**
0 - 10 / 15 A	Moving iron	**GHG 412 8282 R0005**
0 - 15 / 22.5 A	Moving iron	**GHG 412 8282 R0006**
0 - 20 / 30 A	Moving iron	**GHG 412 8282 R0008**
0 - 30 / 45 A	Moving iron	**GHG 412 8282 R0009**
0 - 40 / 60 A	Moving iron	**GHG 412 8282 R0010**
0 - 50 / 75 A	Moving iron	**GHG 412 8282 R0011**
0 - 60 / 90 A	Moving iron	**GHG 412 8282 R0012**
0 - 75 / 112.5 A	Moving iron	**GHG 412 8282 R0013**
0 - 100 / 150 A	Moving iron	**GHG 412 8282 R0014**
0 - 150 / 225 A	Moving iron	**GHG 412 8282 R0015**
0 - 200 / 300 A	Moving iron	**GHG 412 8282 R0016**
0 - 250 / 375 A	Moving iron	**GHG 412 8282 R0017**
0 - 300 / 450 A	Moving iron	**GHG 412 8282 R0018**
0 - 400 / 600 A	Moving iron	**GHG 412 8282 R0019**
0 - 500 / 750 A	Moving iron	**GHG 412 8282 R0020**
0 - 600 / 900 A	Moving iron	**GHG 412 8282 R0021**
0 - 100% / 150%	Moving iron	**GHG 412 8282 R0031**

Dimension drawing



Dimensions in mm


Interchangeable AM72

Ordering details

Interchangeable scales for measuring instrument , CT connection n/1A for AM 45/AM 72			
Scale	**Order unit**	**Order No. AM45**	**Order No. AM72**
0 - 1 / 1.5 A	10 pieces	**GHG 410 1926 R0001**	**GHG 410 1928 R0001**
0 - 2.5 / 3.75 A	10 pieces	**GHG 410 1926 R0002**	**GHG 410 1928 R0002**
0 - 5 / 7.5 A	10 pieces	**GHG 410 1926 R0003**	**GHG 410 1928 R0003**
0 - 10 / 15 A	10 pieces	**GHG 410 1926 R0004**	**GHG 410 1928 R0004**
0 - 15 / 22.5 A	10 pieces	**GHG 410 1926 R0005**	**GHG 410 1928 R0005**
0 - 20 / 30 A	10 pieces	**GHG 410 1926 R0006**	**GHG 410 1928 R0006**
0 - 25 / 37.5 A	10 pieces	**GHG 410 1926 R0021**	**GHG 410 1928 R0021**
0 - 30 / 45 A	10 pieces	**GHG 410 1926 R0007**	**GHG 410 1928 R0007**
0 - 40 / 60 A	10 pieces	**GHG 410 1926 R0008**	**GHG 410 1928 R0008**
0 - 50 / 75 A	10 pieces	**GHG 410 1926 R0009**	**GHG 410 1928 R0009**
0 - 60 / 90 A	10 pieces	**GHG 410 1926 R0010**	**GHG 410 1928 R0010**
0 - 75 /112.5 A	10 pieces	**GHG 410 1926 R0011**	**GHG 410 1928 R0011**
0 - 100 / 150 A	10 pieces	**GHG 410 1926 R0012**	**GHG 410 1928 R0012**
0 - 150 / 225 A	10 pieces	**GHG 410 1926 R0013**	**GHG 410 1928 R0013**
0 - 200 / 300 A	10 pieces	**GHG 410 1926 R0014**	**GHG 410 1928 R0014**
0 - 250 / 375 A	10 pieces	**GHG 410 1926 R0015**	**GHG 410 1928 R0015**
0 - 300 / 450 A	10 pieces	**GHG 410 1926 R0016**	**GHG 410 1928 R0016**
0 - 400 / 600 A	10 pieces	**GHG 410 1926 R0017**	**GHG 410 1928 R0017**
0 - 500 / 750 A	10 pieces	**GHG 410 1926 R0018**	**GHG 410 1928 R0018**
0 - 600 / 900 A	10 pieces	**GHG 410 1926 R0019**	**GHG 410 1928 R0019**
0 – 100% / 150%	10 pieces	**GHG 410 1926 R0020**	**GHG 410 1928 R0051**

Special scales available on request.



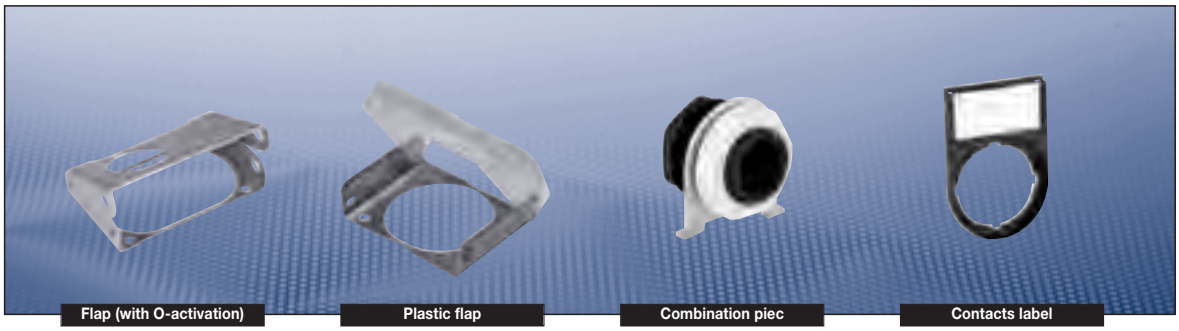
Labels

Ordering code

Labels for pushbuttons

Inscription	Code	Inscription	Code
0, I, Start, Stop	001	0	002
I	003	I I	004
D	005	STOP	006
START	007	NOT-AUS	008
LANGSAM	009	SCHNELL	010
EMERG.STOP	011	➔	012
ARRET	014	MARCHE	015
AUF	016	AB	017
Neutral whtie	018	Neutral green	019
0, I, Arret, Marche	020	UP	024
DOWN	025	ZU	026
ON	027	OFF	028
+	030	-	031
Neutral red	033	Neutral yellow	034
EIN	036	AUS	037
AUTO	039	HAND	050
SENKEN	051	HEBEN	052
LINKS	053	RECHTS	054
FAST	055	SLOW	056
RESET	057	OPEN	058
HALT	069	I I I	070
VOR	073	ZURÜCK	074
FIRE ALARM	094	FORWARD	095
REVERSE	096	RUN	100
HIGH	101	LOW	102
LP	151	HQ	152
LQ	157	STÖR. QUITT	162
SPERREN	163	ENTSPERREN	164
ENTRIEGELN	165	VERRIEGELN	166

Further labels are available on request.



Ordering code

Locking facilities			
Version	**Operating element**	**OU**	**Order No.**
with flap (blank)	Mushroom-head pushbutton	1	**GHG 410 1901 R0124**
with flap (red)	Mushroom-head pushbutton	1	**GHG 410 1901 R0125**
with bolt and chain (blank)	Mushroom-head pushbutton	1	**GHG 410 1901 R0126**
Fire alarm (red)* with hammer	Mushroom-head pushbutton	1	**GHG 410 1901 R0128**
Fire alarm (red) with hammer	Mushroom-head pushbutton	1	**GHG 410 1901 R0141**
with plastic flap	Mushroom-head pusbutton activated		**GHG 410 1994 R0001**
with plastic flap	Mushroom-head pushbutton non-activated		**GHG 410 1994 R0002**
with plastic flap	Pushbutton activated		**GHG 410 1994 R0003**
with plastic flap	Pushbutton non-activated		**GHG 410 1994 R0004**
with plastic flap	Emergency Stop		**GHG 410 1994 R0005**
with flap (blank)	Pushbutton	1	**GHG 410 1901 R0132**
with flap (red)	Pushbutton	1	**GHG 410 1901 R0133**
with flap without „0“-activation (blank)	Double pushbutton	1	**GHG 410 1901 R0134**
with flap with „0“-activation (blank)	Double pushbutton	1	**GHG 410 1901 R0135**
with bracket (1 Set)	Switch GHG 23/28	5	**GHG 440 1917 R0001**

* released when window is broken – select appropriate activation element.
Please note that we can only deliver in the ordering units (OU) stated in the tables above.

Labels and tools for control switches			
Content	**Type**	**OU**	**Order No.**
Label with label holder	Blank (can be engraved)	10	**GHG 410 1953 R0001**
Combination piece for Control station Typ 411	incl. twist protection and seal	1	**GHG 410 1921 R0001**
Mounting and dismantling tool for lock nuts on operating elements	Spanner	1	**GHG 410 1914 R0001**
Blanking element for control units	incl. seal and lock nut	10	**GHG 410 1920 R0001**
Protective cap	for panel-mounted operating elements	5	**GHG 410 1939 R0002**

Please note that we can only deliver in the ordering units (OU) stated in the tables above.

EX-CONTROL SWITCHES

With and without Measuring instruments

TheGHG 29 control switch series features an easy-to-install and easy-to-connect design. This control switch can be implemented with up to 6 contacts and for 2 to 5 switch positions. Thus, practically all applications in modern control engineering can be covered. Contacts are protected against contact to VBG 4 and have a terminal cross section of up to 6 mm² for the connection of single and multi-wire conductors. The rated current of the control switch at 500 V is 16 A. The external contours of the enclosure facilitate access to the connection terminals and thus allow easy installation. Further installation advantages result from the snap-on/snap-off switch contact block and measuring instrument.

A labyrinth seal in the cover guarantees the degree of protection IP66. The impact-resistant, glass-fibre-reinforced polyester enclosure material is a prerequisite for withstanding even the most rugged industrial operating conditions. The switch can be padlocked using the integrated locking facility.

The locking position is indicated by a red pin. An interchangeable apparatus label and a neutral switch-position label are supplied with each switch.

With CEAG installation system, control switches can be installed with high cost-efficiency.

The control switches are also available on request with snap-on metal or moulded-plastic flanges.



- **Decisive cost saving with the CEAG mounting system**
- **Easily accessible connection terminals**
- **Degree of protection IP66**
- **Cable connection range up to 6 mm²**
- **Integrated locking facility**
- **Optional forced contact on request**



Technical data

Ex-Control switch Type 292 without and Type 293 with measuring instrument		
	with GHG 29 switch	with GHG 28 switch
Marking to 94/9/EC	Ⓔx II 2 G Ex ed ia IIC T5/T6	Ⓔx II 2 G Ex ed ia IIC T5/T6
	Ⓔx II 2 D Ex tD A21 IP66 T80 °C	Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1163	PTB 99 ATEX 1163
IECEx Certificate of Conformity	IECEx BKI 07.0011	IECEx BKI 07.0011
Marking accord. to IECEx	Ex ed ia IIC T5 or T6	Ex ed ia IIC T5 or T6
	Ex tD A21 IP66 T49 °C	Ex tD A21 IP66 T49 °C
Permissible ambient temperature	–20 °C to +40 °C	
	–55 °C to +47 °C (T6) ... +55 °C (T5) option	
Rated voltage	max. 500 V	max. 690 V
Rated current	16 A	20 A
Rated current gold contacts	0.4 A	
Overload range (Type 293 only)	10 fold - 25 sec.	
	25 fold - 4 sec.	
	50 fold - 1 sec.	
	indicated 1 : 1.5	
Measuring range (Type 293 only)	max. 0 - 25 A direct / n / 1A	
Accuracy (Type 293 only)	Class 2.5	
Circuit (Type 293 only)	moving iron	
Rated marking- / rated breaking capacity	AC-15: U_e 230 V / I_e 6 A	AC-15: U_e 230 V / I_e 8 A
accd. to EN 60947-5-1	U_e 400 V / I_e 4 A	U_e 400 V / I_e 6 A
	DC-13: U_e 24 V / I_e 2 A	DC-13: U_e 24 V / I_e 6 A
	U_e 230 V / I_e 0.3 A	U_e 230 V / I_e 0.4 A
Connecting terminals	2 x 0.5 - 2.5 mm² or 1 x 1.0 - 6.0 mm²	
Degree of protection accd. EN 60529	IP66	
Cable glands/Gland plates/Enclosure drilling	1 x M25 (Ø 8 - 17 mm)[1]	
Dimensions (L x W x H)	170 x 110 x 129 mm	225 x 110 x 129 mm
Weight	approx. 1.10 kg (1 level)	approx. 1.90 kg (1 level)
	approx. 1.25 kg (2 level)	approx. 2.05 kg (2 level)
	approx. 1.40 kg (3 level)	approx. 2.20 kg (3 level)
Enclosure material	glass-fibre-reinforced polyester	
Enclosure colour	black	

[1] Brass flange for metal entries available on request (except for II D at date of publication).



Ordering code for Control switch (Code 2) Code A - B1 - B2 - C - D - E1 - E2 - F

A	B1	B2	C	D	E	E2	F [1]
GHG 29_	_	___	___	_	__	___	___

Code	Component	Code
A	Control switch	GHG 292
	Control switch with measuring instrument	GHG 293

Code	Switch mechanism	Code
B1	spring - engaging - spring	4
	engaging - engaging - engaging	5
	engaging - engaging	6
	spring - engaging - engaging	7
	engaging - engaging - spring	8

Code	Contact	Silver contact points	Code	Silver contact points
B2		060		034
		062		037
		065		049
		061		023
		063		019
		067		033
		011		024

Other versions as well as gold contact points are available on request.

Code	Inscription (Contact label)			Code	Inscription (Contact label)			Code
C	0		I	001	0	I	II	018
	I		II	002	AUS	AUTO	EIN	019
	STOP		START	003	AUS	HAND	AUTO	020
	HAND		AUTO	004	ÖRTLICH	AUS	FERN	021
	SENKEN		HEBEN	005	START	NORMAL	STOP	022
	REMOTE		LOCAL	006	OFF	0	ON	023
	I	0	II	007	HAND	OFF	AUTO	024
	AUS	BETRIEB	EIN	008	0	IN	START	025
	AUS	0	EIN	009	MAN		AUTO	026
	AUF	0	AB	010	START		STOP	027
	Entriegelt	0	Verriegelt	011	HEBEN		SENKEN	028
	OUT	OF	HAND	012	OFF		ON	029
	LOCAL	REMOTE	AUTO	013	AUS		EIN	030
	STOP	0	START	014	HAND		AUTO	031
	HAND	0	AUTO	015	ON		OFF	032
	AUF	AUS	ZU	016	I	II	III	033
	HAND	AUS	AUTO	017				



Ordering code for Control switch (Code 2) Code A - B1 - B2 - C - D - E1 - E2 - F

Code	Locking facility	Code
D	None	0
	Centre	1
	Left	2
	Right	3

Code	Movement	Code
E1	Direct connection	01
	Ct connection 1 /A	02
	Connection 0 - 20/24 mA (scale 0-100% / 120%)	05
	Connection 4 - 20/24 mA (scale 0-100% / 120%)	06
	Moving-coil connection 0 - 20/24 mA (scale 0-100% / 120%)	07
	Moving-coil connection 4 - 20/24 mA (scale 0-100% / 120%)	08

Code	Mesasuring range/scale	Code	Measuriing range/scale	Code
E2	0 - 1	002	0 - 75 /112.5 A	013
	0 - 2.5 / 3.75 A [2]	003	0 - 100 / 150 A	014
	0 - 5 / 7.5 A [2]	004	0 - 150 / 225 A	015
	0 - 10 / 15 A [2]	005	0 - 200 / 300 A	016
	0 - 15 / 22.5 A	006	0 - 250 / 375 A	017
	0 - 20 / 30 A [2]	008	0 - 300 / 450 A	018
	0 - 30 / 45 A	009	0 - 400 / 600 A	019
	0 - 40 / 60 A	010	0 - 500 / 750 A	020
	0 - 50 / 75 A	011	0 - 600 / 900 A	021
	0 - 60 / 90 A	012	0 - 100% / 150%	031

Code	Buil-in components designation		
F1	Entry type	Entry direct in enclosure	GEH
		Entry via plastic flange	FLK
		Entry via metal flange	FLM
F2	Entry element	only threaded entry	BO
		Threaded plug	SV
		Cable entry moulded plastic	GK
		Cable entry metal*	GM*
		Cable entry with plug	GV
F3	Size	M12, M16, M20, M25, M32, M40	M1 Ø ..
		Ø21, Ø26	
F4	Number	No. of entries	..

[1] The code will represent only a selected part of configuration.

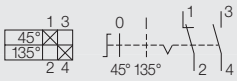
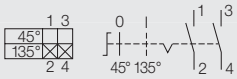
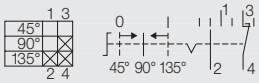
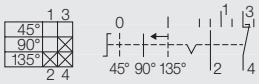
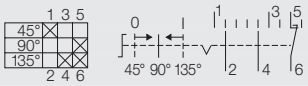
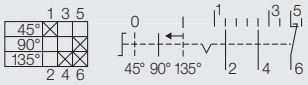
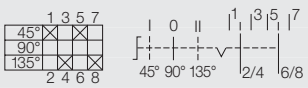


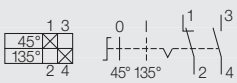
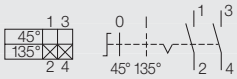
Example for ordering code (Code 2)

Control switch with silver contact points, Switch mechanism „5“, Contact arrangement „063“,
Label „HAND-0-AUTO“, can be locked at „0“,
Measuring instrument AM72 for Ct connection „n/1A“, Scale „0 - 50/75 A“,
Cable entry 1 x threaded entry M25 on bottom direct entry.

Code A	B1	B2	C	D	E1	E2	F1	F2	F3	F4
GHG 293 /	5 /	063 /	015 /	1 /	2 /	011 /	GEH /	BO /	M25 /	1

Ordering details

Switching mechanism	Contact system	Code	Label inscription	Order No.
Control switch Type 292 with silver contacts Version with locking facility in „0“-, or position „right (Code 3)“, cable entry 1 x M25 on bottom.				
6		062	0 I	**GHG 292 1000 R0001**
6		065	0 I	**GHG 292 1000 R0002**
4		067	0 I	**GHG 292 1000 R0003**
8		067	0 I	**GHG 292 1000 R0004**
4		037	0 I	**GHG 292 2000 R0002**
8		037	0 I	**GHG 292 2000 R0003**
5		024	I 0 II	**GHG 292 2000 R0004**
5		023	HAND OFF AUTO	**GHG 292 2001 R0001**

Switching mechanism	Contact system	Code	Label inscription	Order No.
Control switch with measuring instrument Type 293 with silver contacts Version with locking facility in „0“-, or ”left“ position, Measuring instrument AM 72 for CT connection n/1A, Scale 0 - 100/150 %. 1 x M32 on bottom.				
6		062	0 I	**GHG 293 1000 R0001**
6		065	0 I	**GHG 293 1000 R0002**



Accessories

Mounting plate for type 292

Type	Application	Mounting technique	OU	Order No.
Size 2	Wall mounting	snap-on	1	**GHG 610 1953 R0104**
Size 2	Pipe mounting	snap-on	1	**GHG 610 1953 R0105**
Size 2	Trellis-work mounting	snap-on	1	**GHG 610 1953 R0106**
Size 4	Wall mounting	snap-on *	1	**GHG 610 1953 R0128**
Size 4	Trellis-work mounting	snap-on *	1	**GHG 610 1953 R0128**
Size 4	Pipe mounting	snap-on *	1	**GHG 610 1953 R0132**

Mounting plate for type 293

Type	Application	Mounting technique	OU	Order No.
Size 3	Wall mounting	snap-on	1	**GHG 610 1953 R0118**
Size 3	Pipe mounting	snap-on	1	**GHG 610 1953 R0110**
Size 3	Trellis-work mounting	snap-on	1	**GHG 610 1953 R0118**
Size 5	Wall mounting	snap-on *	1	**GHG 610 1953 R0128**
Size 5	Trellis-work mounting	snap-on *	1	**GHG 610 1953 R0128**
Size 5	Pipe mounting	snap-on *	1	**GHG 610 1953 R0132**
Snap-on mounting for CEAG apparatus with 5.5 mm and 11 mm mounting size per 4 pieces			10	**GHG 610 1953 R0041**

*snap-on with snap-on mounting 5.5 mm

EX-CONTROL SWITCHES

Light alloy
Version for Zone 1

CEAG explosion-protected control switches are made of high-quality cast aluminium-silicon (AlSi). A robust plastic powder coating according to RAL 7031 protects the CEAG control switches against aggressive atmospheres and chemicals. Cover screws as well as all internal and external metal parts are made of stainless steel.
These switches feature an easy-to-install and easy-to-connect design.
The cam switch version allows implementation of many variants, covering almost all applications in modern control engineering.
An optional locking facility allows to secure the switch against unauthorised or inadvertent actuation with a padlock.

Internationally approved.



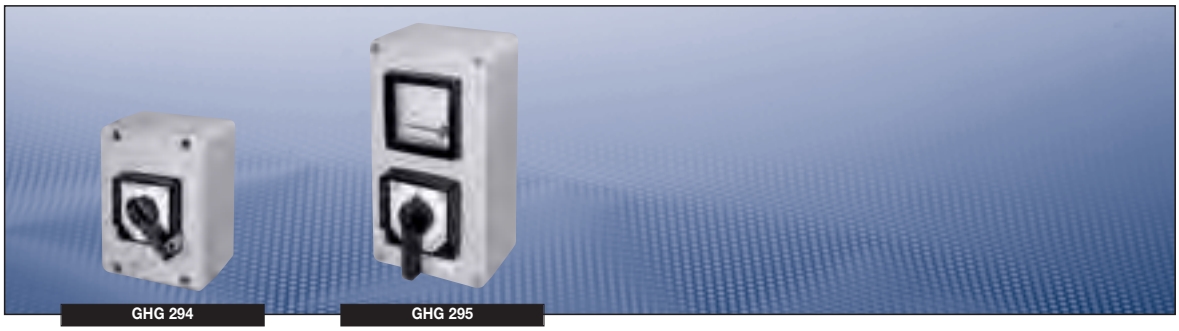
- **High mechanical, chemical and thermal resistance**
- **Impact-resistant plastic powder coating**
- **Snap-on switch holder**



Technical data

Ex-Control switch Type 294 without and Type 295 with measuring instrument		
	with GHG 29 switch	with GHG 28 switch
Marking to 94/9/EC	Ⓔx II 2 G Ex ed ia IIC T5/T6	Ⓔx II 2 G Ex ed ia IIC T5/T6
	Ⓔx II 2 D Ex tD A21 IP66 T80 °C	Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1163	PTB 99 ATEX 1163
IECEx Certificate of Conformity	IECEx BKI 07.0011	IECEx BKI 07.0011
Marking accord. to IECEx	Ex ed ia IIC T5 or T6	Ex ed ia IIC T5 or T6
	Ex tD A21 IP66 T49 °C	Ex tD A21 IP66 T49 °C
Permissible ambient temperature	–20 °C to +40 °C	
	–55 °C to +47 °C (T6) ... +55 °C (T5) option	
Rated voltage	max. 500 V	max. 690 V
Rated current	16 A	20 A
Rated current gold contacts	0.4 A	
Overload range (Type 293 only)	10 fold - 25 sec.	
	25 fold - 4 sec.	
	50 fold - 1 sec.	
	indicated 1 : 1.5	
Measuring range (Type 293 only)	max. 0 - 25 A direct / n / 1A	
Accuracy (Type 293 only)	Class 2.5	
Circuit (Type 293 only)	moving iron	
Rated marking- / rated breaking capacity	AC-15: U_e 230 V / I_e 6 A	AC-15: U_e 230 V / I_e 8 A
accd. to EN 60947-5-1	U_e 400 V / I_e 4 A	U_e 400 V / I_e 6 A
	DC-13: U_e 24 V / I_e 2 A	DC-13: U_e 24 V / I_e 6 A
	U_e 230 V / I_e 0.3 A	U_e 230 V / I_e 0.4 A
Connecting terminals	2 x 0.5 - 2.5 mm² or 1 x 1.0 - 6.0 mm²	
Degree of protection accd. EN 60529	IP66	
Cable glands/Gland plates/Enclosure drilling	1 x M25 (Ø 8 - 17 mm)[1)]	
Dimensions (L x W x H)	170 x 130 x 129 mm	260 x 160 x 90 mm
Weight	approx. 1.90 kg (1 level)	approx. 2.90 kg (1 level)
	approx. 2.05 kg (2 level)	approx. 3.05 kg (2 level)
Enclosure material	high quality cast aluminium (AlSi)	
Enclosure colour	grey RAL 7031	

[1)] Control switches with direct indicating measuring instruments in the standard version are delivered with 2 looping terminals and PE terminal as well as M32 and M25 cable entries.



Ordering code for Control switch (Code 2) Code A - B1 - B2 - C - D - E1 - E2 - F

A	B1	B2	C	D	E	E2	F [1]
GHG 29_	_	___	___	_	__	___	___

Code	Component	Code
A	Control switch	GHG 294
	Control switch with measuring instrument	GHG 295

Code	Switch mechanism	Code
B1	spring - engaging - spring	4
	engaging - engaging - engaging	5
	engaging - engaging	6
	spring - engaging - engaging	7
	engaging - engaging - spring	8

Code	Contact	Silver contact points	Code	Silver contact points
B2		060		034
		062		037
		065		049
		061		023
		063		019
		067		033
		011		024

Other versions as well as gold contact points are available on request.

Code	Inscription (contact label)			Code	Inscription (contact label)			Code
C	0		I	001	0	I	II	018
	I		II	002	AUS	AUTO	EIN	019
	STOP		START	003	AUS	HAND	AUTO	020
	HAND		AUTO	004	ÖRTLICH	AUS	FERN	021
	SENKEN		HEBEN	005	START	NORMAL	STOP	022
	REMOTE		LOCAL	006	OFF	0	ON	023
	I	0	II	007	HAND	OFF	AUTO	024
	AUS	BETRIEB	EIN	008	0	IN	START	025
	AUS	0	EIN	009	MAN		AUTO	026
	AUF	0	AB	010	START		STOP	027
	Entriegelt	0	Verriegelt	011	HEBEN		SENKEN	028
	OUT	OF	HAND	012	OFF		ON	029
	LOCAL	REMOTE	AUTO	013	AUS		EIN	030
	STOP	0	START	014	HAND		AUTO	031
	HAND	0	AUTO	015	ON		OFF	032
	AUF	AUS	ZU	016	I	II	III	033
	HAND	AUS	AUTO	017				



Ordering code for Control switch (Code 2) Code A - B1 - B2 - C - D - E1 - E2 - F

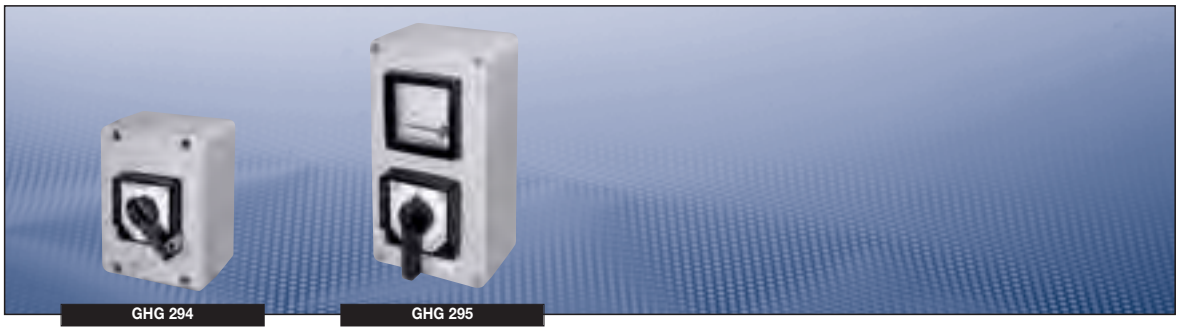
Code	Locking facility	Code
D	None	0
	Centre	1
	Left	2
	Right	3

Code	Movement	Code
E1	Direct connection	01
	Ct connection 1 /A	02
	Connection 0 - 20/24 mA (scale 0-100% / 120%)	05
	Connection 4 - 20/24 mA (scale 0-100% / 120%)	06
	Moving-coil connection 0 - 20/24 mA (scale 0-100% / 120%)	07
	Moving-coil connection 4 - 20/24 mA (scale 0-100% / 120%)	08

Code	Mesasuring range/scale	Code	Measuriing range/scale	Code
E2	0 - 1	002	0 - 75 /112.5 A	013
	0 - 2.5 / 3.75 A [2)]	003	0 - 100 / 150 A	014
	0 - 5 / 7.5 A [2)]	004	0 - 150 / 225 A	015
	0 - 10 / 15 A [2)]	005	0 - 200 / 300 A	016
	0 - 15 / 22.5 A	006	0 - 250 / 375 A	017
	0 - 20 / 30 A [2)]	008	0 - 300 / 450 A	018
	0 - 30 / 45 A	009	0 - 400 / 600 A	019
	0 - 40 / 60 A	010	0 - 500 / 750 A	020
	0 - 50 / 75 A	011	0 - 600 / 900 A	021
	0 - 60 / 90 A	012	0 - 100% / 150%	031

Code	Buil-in components designation		
F1	Entry type	Entry direct in enclosure	GEH
		Entry via plastic flange	FLK
		Entry via metal flange	FLM
F2	Entry element	only threaded entry	BO
		Threaded plug	SV
		Cable entry moulded plastic	GK
		Cable entry metal*	GM*
		Cable entry with plug	GV
F3	Size	M12, M16, M20, M25, M32, M40	M1 Ø ..
		Ø21, Ø26	
F4	Number	No. of entries	..

[1)] The code will represent only a selected part of configuration.

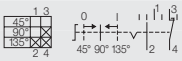
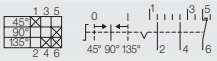
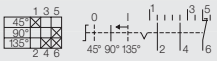


Example for ordering code (Code 2)

Control switch with silver contact points, Switch mechanism „5“, Contact arrangement „063“,
Label „HAND-0-AUTO“, can be locked at „0“,
Measuring instrument AM72 for Ct connection „n/1A“, Scale „0 - 50/75 A“,
Cable entry 1 x threaded entry M25 on bottom direct entry.

Code A	B1	B2	C	D	E1	E2	F1	F2	F3	F4
GHG 295 /	5 /	063 /	015 /	1 /	2 /	011 /	GEH /	BO /	M25 /	1

Ordering details

Switching mechanism	Contact system	Code	Label inscription	Order No.
Control switch Type 294 with silver contacts Version with locking facility in „0“-, or position „right (Code 3)“, cable entry 1 x M25 on bottom.				
6		062	0 I	**GHG 294 1000 R0001**
6		065	0 I	**GHG 294 1000 R0002**
4		067	0 I	**GHG 294 1000 R0003**
8		067	0 I	**GHG 294 1000 R0004**
4		037	0 I	**GHG 294 2000 R0002**
8		037	0 I	**GHG 294 2000 R0003**
5		024	I 0 II	**GHG 294 2000 R0004**
5		023	HAND OFF AUTO	**GHG 294 2001 R0001**

Switching mechanism	Contact system	Code	Label inscription	Order No.
Control switch with measuring instrument Type 295 with silver contacts Version with locking facility in „0“-, or ”left“ position, Measuring instrument AM 72 for CT connection n/1A, Scale 0 - 100/150 %. 1 x M32 on bottom.				
6		062	0 I	**GHG 295 1000 R0001**
6		065	0 I	**GHG 295 1000 R0002**

LIGHT ALLOY CONTROL STATIONS

Ex-d pushbutton and control switches

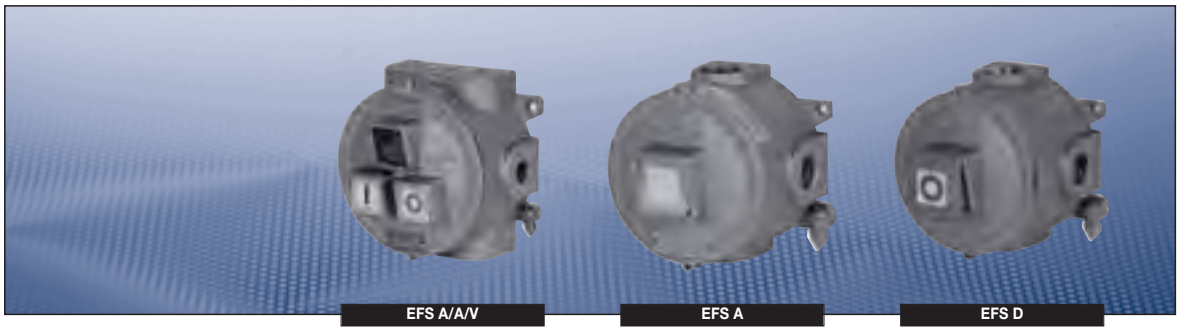
Ex-d explosion-protected control stations made of light alloy metal are equipped with up to three components to switch and control processes in areas of Zone 1, 2, 21 and 22 at no risk of explosion.

Built-in components, such as signal lamps, pushbuttons and switches are ready installed inside of the enclosures. To facilitate insertion of cables into the entries, Ex-d threads for 3/4“ Ex-d cable glands are available at the enclosures.

A high “IP degree of protection” allows universal use in areas at risk of explosion. The light metal control stations have an outside earthing connection.



- **High degree of protection IP67**
- **High mechanical, chemical and thermal resistance**
- **Individual configuration**



Technical data

Ex-d control stations Type EFS	
Marking to 94/9/EC	Ⓔx II 2 G Ex d IIC T6 / Ⓔx II 2 D IP67 T 85 °C
EC-Type Examination Certificate	LOM 03 ATEX 2034
IECEx Certificate of Conformity	IECEx BKI 07.0027
Marking accd. to IECEx	Ex d IIC T6
	Ex tD A21 IP67 T80 °C
Permissible ambient temperature	–20 °C to +55 °C
Rated voltage	max. 660 V AC
Rated current	max. 20 A
PE connecting terminals	2 x 2.5 mm² / PE ext.: 2 x 6 mm²
Insulation class	I
Incandescent lamp	230 V 3 W
Degree of protection accd. EN 60529	IP67
Cable glands/Gland plates/Enclosure drilling	1 x 3/4" ISO 7/1 or 2 x 3/4" ISO 7/1, one plugged
Enclosure material	Light alloy
Enclosure colour	natural finish

Other versions available on request

Ordering details

Type	Version	Weight	Order No.
Control units			
EFS A	1 x pushbutton, 1 NO + 1 NC, label "White"	0.75 kg	**NOR 000 114 110 511**
EFS A/A	2 x pushbutton, 1 NO + 1 NC, label "I - 0"	0.85 kg	**NOR 000 114 110 553**
EFS D	1 x mushroom head pushbutton, 1 NO + 1 NC, label "0"	0.80 kg	**NOR 000 114 110 587**
EFS A/D	1 x pushbutton 1 NO, 1 x mushroom head pushbutton NC, label "I - 0"	0.85 kg	**NOR 000 114 110 540**
EFS L	1 x alarm pushbutton, 1 NO + 1 NC, with windows	0.85 kg	**NOR 000 114 110 595**
EFS A/A/A	3 x pushbutton, 1 NO + 1 NC, label "0 - I - II"	1.50 kg	**NOR 000 114 110 747**
EFS A/A/V	2 x pushbutton, 1 NO + 1 NC, label "0 - I - II", 1 x green signal lamp	1.50 kg	**NOR 000 114 110 748**
EFS 72	With measuring instruments 72 mm x 72 mm	1.20 kg	**NOR 000 114 110 740**
Control switches			
EFS I	0 - 1	0.90 kg	**NOR 000 003 110 945**
EFS H	1 - 2	0.90 kg	**NOR 000 003 110 937**
EFS J	1 - 0 - 2	0.90 kg	**NOR 000 003 110 953**
EFS P	0 - 1	0.90 kg	**NOR 000 003 110 995**
EFS P40	0 - 1	0.90 kg	**NOR 000 114 110 738**

EX-SAFETY AND MAIN CURRENT SWITCHES



APPLICATIONS 10.2

EX-SAFETY SWITCHES 10.4

INDUSTRIAL SAFETY SWITCHES 10.34

EX-MAIN CURRENT SWITCHES 10.58

EX-POWER CIRCUIT BREAKERS 10.70

EX-MANUAL MOTOR STARTERS 10.84



Applications

Safety switches are used to reliably isolate the power supply on electrical installations and apparatus during maintenance, cleaning and repair work.

Main current switches are used to operate drives, motors and other electrical equipment.

Star-delta starters, reversing starters and pole-changing switches (Dahlander switches) can be implemented with CEAG main current switches.

Motors have to be protected against overloads, phase failures and over-heating: CEAG power circuit breakers and manual motor starters feature phase-failure protection as well as thermal and electromagnetic tripping for reliable motor protection. CEAG manual motor starters have such a precise tripping time that they are equally suited for the protection of Ex-e as well as Ex-d motors – to put you on the safe side.

CEAG safety features

Safety and main current switches can be protected against inadvertent switching on by our integrated locking facility for up to three padlocks in the OFF position. To prevent manipulations, the enclosure covers cannot be opened in the locked position without destroying the enclosure itself.

All CEAG safety switches up to 180 A feature full AC-3 motor switching capacities and isolating properties according to EN 60947-3 with compulsory opening of the main current contacts; optional Emergency stop versions according to EN 60204-1 are also available.

Additional lagging/leading auxiliary contacts guarantee double safety for extreme switching conditions.

The switch position is always indicated by the switch handle – practically excluding wrong operation.

You'll find these advantages in all CEAG safety, main current and Emergency stop switches as well as in the safety switches for converter drives.

A special safety feature offered by the manual motor starter: It can only be re-activated on site of the drive. An operating-current trip for remote cut-off is optional.

To take advantage of the short-circuit protection in the starter, a suitable backup fuse must be selected. You'll find the details in the relevant technical data.

Usage categories

The two most important usage categories for circuit breakers and motor starters: AC-23 for circuit breakers and the more demanding usage category AC-3 for motor starters.

Starters, defined according to AC-3, are used to switch motor loads. Switches which fall into the AC-3 usage category are used for switching of motor loads under normal operating conditions. Here, the test procedure requires 50 making and breaking samples. Circuit breakers, defined according to AC-23, are designed for occasional separation of motor loads. For this category EN 60947-4 requires only five making and breaking samples.



The AC-3 usage category makes great demands on the operating cycles and the service life of motor starters. All CEAG safety switches and manual motor starters up to 180 A fulfill these high requirements for the motor-switching capacity of usage category AC-3 as specified by EN 60947-4-1.

Areas of application

We offer you a wide range of products in all areas: explosion-protected apparatus for gas and dust areas as well as for industrial applications in rough environments.

Material

Both explosion-protected as well as industrial switches are provided in impact-resistant polyamide, glass-fibre-reinforced polyester, powder-coated steel, high-grade stainless steel or flameproof enclosures made of light alloy, depending on the area of application and amperage.

All explosion-protected switches are certified according to the ATEX directive.

Mounting

Switches up to 180 A can be mounted simply and quickly with the CEAG mounting system to pipes, trellis work and walls. What's more, CEAG switches up to 40 A offer low-cost mounting – in a snap – with the snap-on system.

EX-SAFETY SWITCHES

Up to 630 A

CEAG safety switches can be protected against inadvertent switching on by our integrated locking facility for up to three padlocks in the OFF position. To prevent manipulations, the enclosure covers cannot be opened in the locked position without destroying the enclosure itself.

All CEAG safety switches feature full AC-3 motor switching capacities and isolating properties according to EN 60947-4-1 with compulsory opening of the main current contacts; optional EMERGENCY STOP versions according to EN 60204-1 are also available.

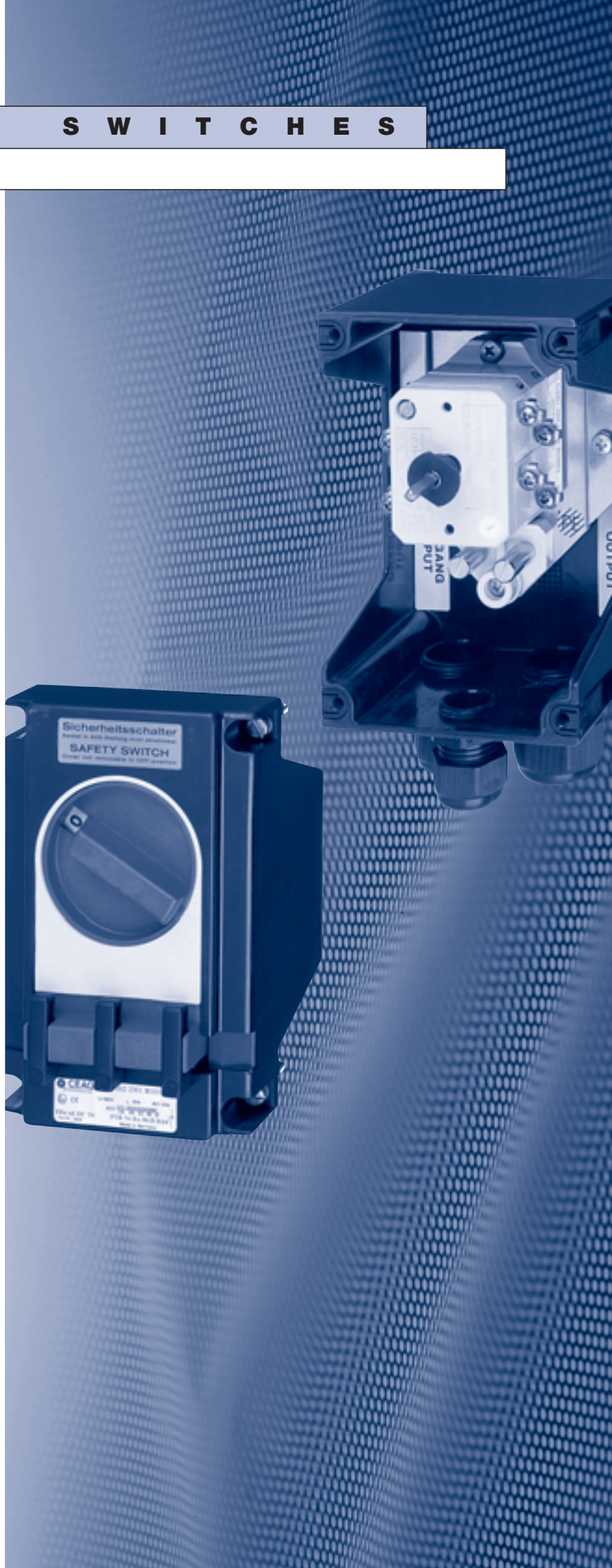
Additional lagging/leading auxiliary contacts guarantee double safety for extreme switching conditions.

The safety switches feature an installation-friendly design and easily accessible connection terminals.

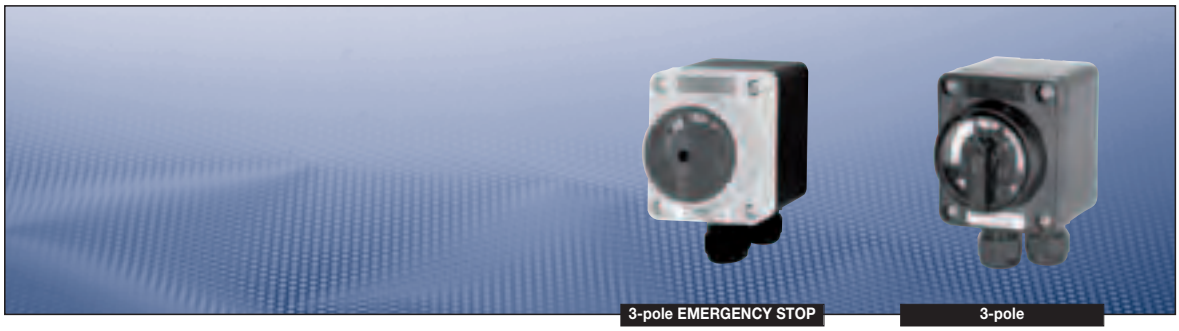
Versions in impact-resistant polyamide or glass-fibre-reinforced polyester enclosures provide the high degree of protection IP66 for safety switches up 180 A. These can be optionally supplied with snap-on moulded plastic or brass flanges. Safety switches for amperages up to 630 A are supplied in metal enclosures. These can be equipped with screw-on flanges.

The described safety switches at the sizes 210 - 630 A are also available for Explosion Group IIB, which is sufficient for many of the applications.

Internationally approved.



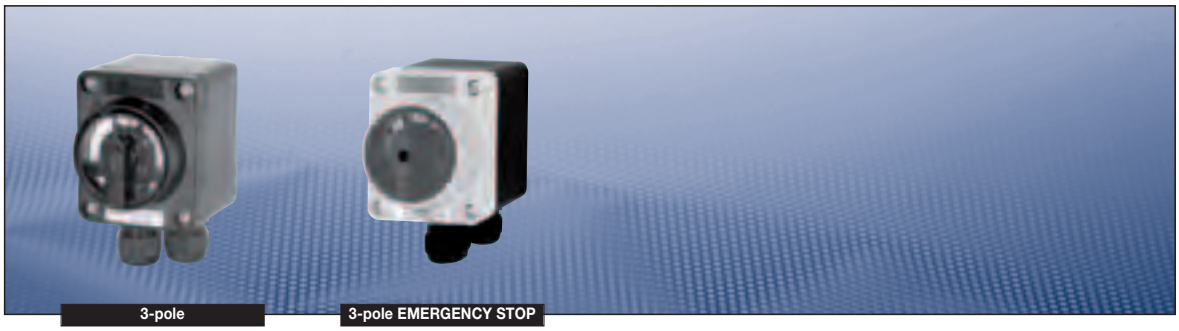
- **Full AC-3 switching capacity**
- **Double safety: additional auxiliary contact**
- **Cost-saving installation up to 180 A**
- **Snap-on mounting up to 40 A**
- **IP66 protection up to 180 A**



Technical data

Ex-Safety switch 10 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex ed IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate		PTB 00 ATEX 1074
IECEx Certificate of Conformity		BKI 07.0014
Marking accd. to IECEx		Ex ed IIC T6
		Ex tD A21 IP66 T53 °C
Permissible ambient temperature		–20 °C to +40 °C[1)]
Rated voltage		up to max. 500 V
Rated current		max. 10 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 10 A
accd. to EN 60947-3		U_e 400 V / I_e 10 A
		U_e 500 V / I_e 10 A
Back-up fuse		up to 400 V AC: 20 A gL
		up to 500 V AC: 16 A gL
Connecting terminals	Main contact	2 x 1.5 - 2.5 mm²
	Auxiliary-/Signal contact	2 x 0.5 - 2.5 mm²
Degree of protection accd. EN 60529		IP66
Insulation class		I
Cable glands/enclosure drilling		M20 (d = 5 - 13 mm) see ordering details
		M25 (d = 8 - 17 mm) see ordering details
Weight		0.55 kg
Enclosure material		impact resistant polyamide
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
Padlocking		can be locked in OFF position with 3 commercially available padlocks

[1)] Other ambient temperatures on request



Ordering details

Version	Cable gland	Order No.
3-pole	2 x M25 / 1 x M 20	**GHG 261 0005 R0009**
3-pole	2 x M20	**GHG 261 0005 R0005**
3-pole EMERGENCY STOP	2 x M25 / 1 x M 20	**GHG 261 0005 R0010**

Customized version on request, auxiliary contacts in Ex ia available

Accessories

Mounting plate for Ex-safety switch 10 A 3-pole

Type	Application	Fixing method	Order No.
Size 1	Wall mounting	screw-on	**GHG 610 1953 R0101**
Size 1	Pipe mounting	screw-on	**GHG 610 1953 R0102**
Size 1	Trellis mounting	screw-on	**GHG 610 1953 R0103**

Accessories for mounting plates

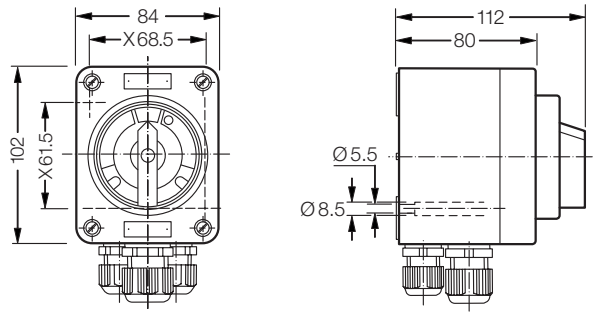
Type	OU	Order No.
Label holder with label (unlabelled) for mounting plates size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Installation kit for pipes 1" (of 27 - 30 mm) for label holder for pipe mounting	10	**GHG 610 1953 R0020**

Accessories for canopies plates

Type	Application	OU	Order No.
Size 1	for mounting plates size 1	1	**GHG 610 1955 R0101**

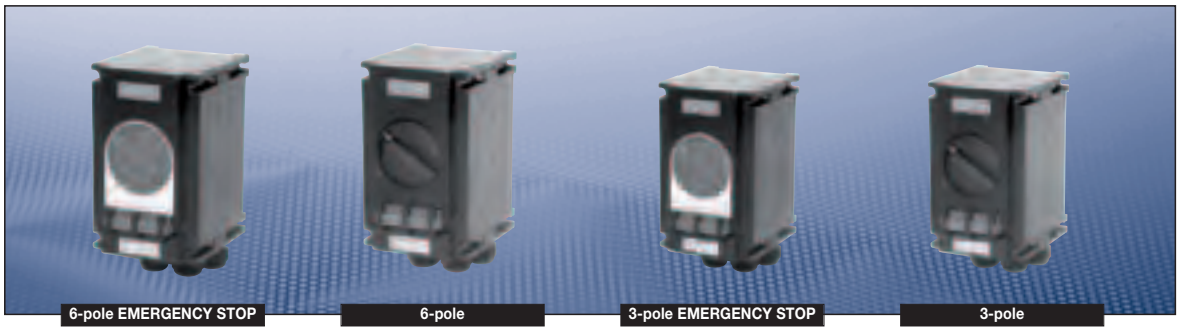
Please note that we can only deliver in the ordering units (OU) stated in the tables above

Dimensions



3-pole **X = fixing dimensions**

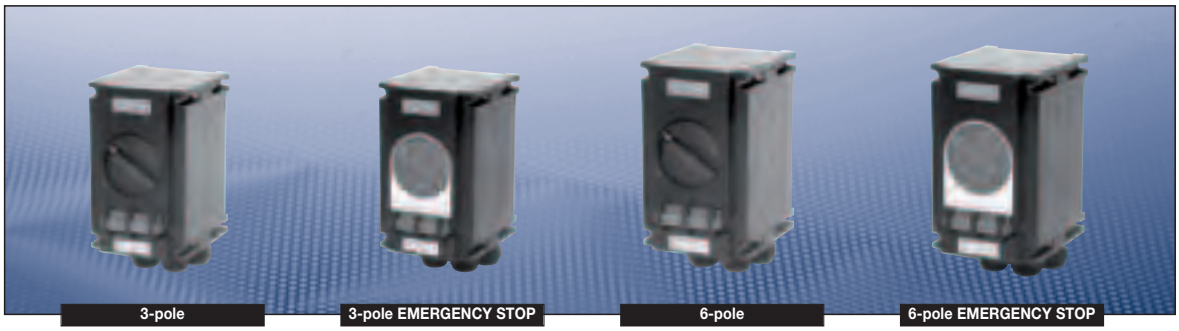
Dimensions in mm



Technical data

Ex-Safety switch 20 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex ed ia IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate		PTB 99 ATEX 1161
IECEx Certificate of Conformity		BKI 07.0012
Marking accd. to IECEx		Ex ed ia IIC T6
		Ex tD A21 IP66 T55 °C
Permissible ambient temperature		–20 °C to +40 °C[1)]
Rated voltage		up to max. 690 V
Rated current		max. 20 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 20 A
accd. to EN 60947-3		U_e 400 V / I_e 20 A
		U_e 500 V / I_e 10 A
		U_e 690 V / I_e 10 A
Back-up fuse		up to 400 V AC: 35 A gL
		up to 500 V AC: 35 A gL
		up to 690 V AC: 25 A gL
Connecting terminals	Main contact	2 x 4 mm²
	Auxiliary-/Signal contact	2 x 0.5 - 2.5 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M20 (d = 5 - 13 mm) see ordering details
		M25 (d = 8 - 17 mm) see ordering details
		M32 (d = 12 - 21 mm) see ordering details
		Option: metal flange with thread
Weight	3-pole	approx. 1.48 kg
	6-pole	approx. 2.43 kg
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC (only 6-pole version) making - leading; breaking - lagging
Padlocking		can be locked in OFF position with 3 commercially available padlocks

[1)] Other ambient temperatures on request



Ordering details

Version	Cable entry	Order No.
Safety switch 20 A 3-pole		
Version with 1 auxiliary contact (NO)		
3-pole	2 x M32 / 1 x M25	**GHG 262 2301 R0001**
3-pole EMERGENCY STOP	2 x M32 / 1 x M25	**GHG 262 2301 R0002**
Safety switch 20 A 4-pole		
Version with 2 auxiliary contact (1 x NO; 1 x NC)		
4-pole	2 x M20	**GHG 262 2301 R0007**
4-pole EMERGENCY STOP	2 x M32 / 1 x M25	**GHG 262 2301 R0010**
Safety switch 20 A 6-pole		
Version with 2 auxiliary contact (1 x NO; 1 x NC)		
6-pole	4 x M32 / 1 x M25	**GHG 262 2601 R0001**
6-pole	4 x M25	**GHG 262 2601 R0005**
6-pole EMERGENCY STOP	4 x M32 / 1 x M25	**GHG 262 2601 R0002**

Customized version on request, auxiliary contacts in Ex ia available

Accessories

Mounting plate for Ex-safety switch 20 A 3-pole

Type	Application	Fixing technique	Order No.
Size 2	Wall mounting	snap-on	**GHG 610 1953 R0104**
Size 2	Pipe mounting	snap-on	**GHG 610 1953 R0105**
Size 2	Trellis mounting	snap-on	**GHG 610 1953 R0106**

Mounting plate for Ex-safety switch 20 A 6-pole

Type	Application	Fixing technique	Order No.
Size 3	Wall mounting	snap-on	**GHG 610 1953 R0118**
Size 3	Pipe mounting	snap-on	**GHG 610 1953 R0110**
Size 3	Trellis mounting	snap-on	**GHG 610 1953 R0118**

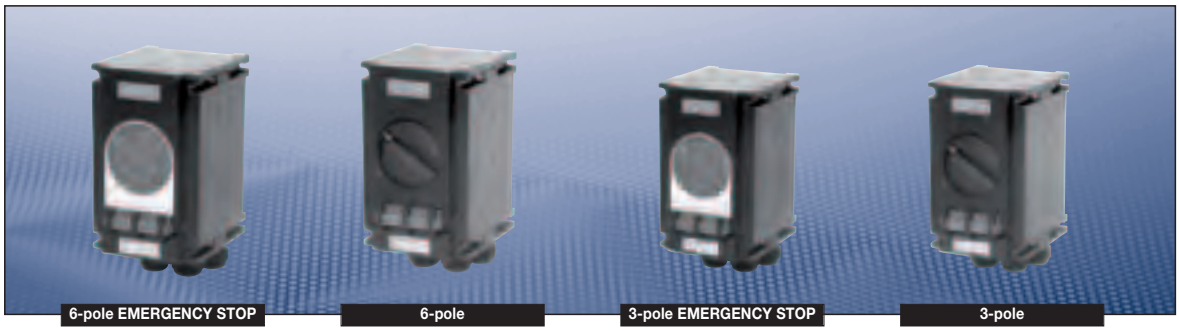
Accessories for mounting plates

Type	OU	Order No.
Label holder with label (unlabelled) for mounting plates size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Installation kit for pipes 1" (of 27 - 30 mm) for mounting plates for pipe mounting	10	**GHG 610 1953 R0020**

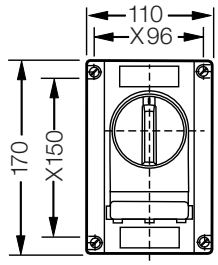
Accessories for canopies plates

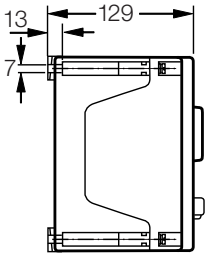
Type	Application	OU	Order No.
Size 2	for mounting plates size 2	1	**GHG 610 1955 R0102**
Size 2A	for mounting plates size 2A	1	**GHG 610 1955 R0103**
Size 3	for pipe mounting plate size 3 vertical	1	**GHG 610 1955 R0104**
Size 3A	for wall/trellis mounting plate size 3 vertical	1	**GHG 610 1955 R0105**
Size 3B	for pipe mounting plate size 3 horizontal	1	**GHG 610 1955 R0106**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

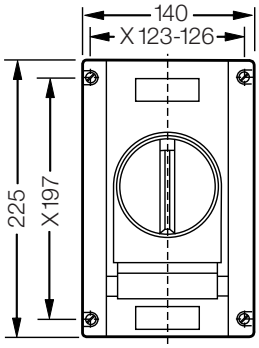


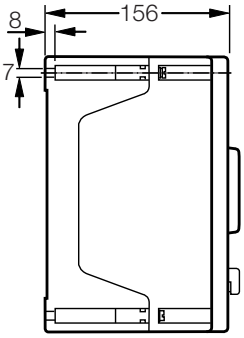
Dimension drawing





3/4-pole





6-pole

X = fixing dimensions

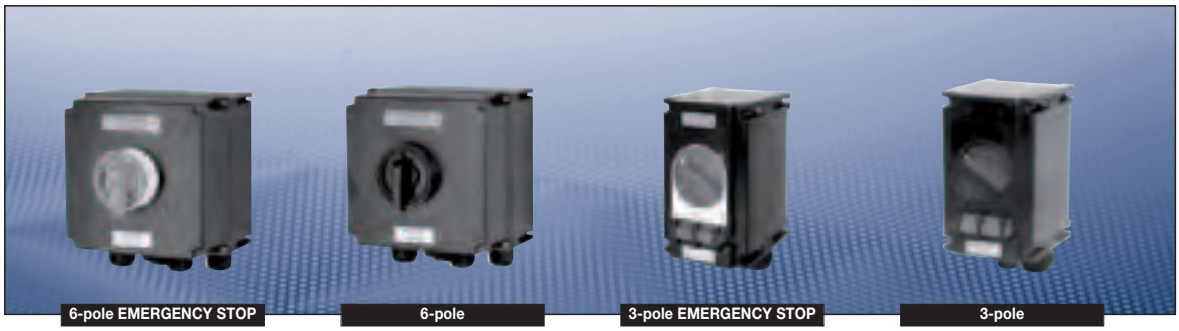
Dimensions in mm



Technical data

Ex-Safety switch 40 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex ed ia IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate		PTB 99 ATEX 1161
IECEx Certificate of Conformity		BKI 07.0012
Marking accd. to IECEx		Ex ed ia IIC T6
		Ex tD A21 IP66 T53 °C
Permissible ambient temperature		–20 °C to +40 °C
Rated voltage		up to max. 690 V
Rated current		max. 40 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 40 A
accd. to EN 60947-3		U_e 400 V / I_e 40 A
		U_e 500 V / I_e 40 A
		U_e 690 V / I_e 32 A
Back-up fuse		up to 400 V AC: 80 A gL
		up to 500 V AC: 80 A gL
		up to 690 V AC: 63 A gL
Connecting terminals	Main contact	2 x 16 mm^2
	Auxiliary-/Signal contact	2 x 4 mm^2
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
		M40 (d = 16 - 28 mm) see ordering details
		option: metal flange with thread
Weight	3-pole	approx. 2.30 kg
	4-pole	approx. 2.75 kg
	6-pole	approx. 6.50 kg
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC (only 6-pole version) making - leading; breaking - lagging
Padlocking		can be locked in OFF position with 3 commercially available padlocks

[1] Other ambient temperatures on request



Ordering details

Version	Cable entry	Order No.
Safety switch 40 A 3-pole		
Version with 1 auxiliary contact (NO)		
3-pole	2 x M40 / 1 x M25	**GHG 263 2301 R0001**
3-pole EMERGENCY STOP	2 x M40 / 1 x M25	**GHG 263 2301 R0002**
Safety switch 40 A 4-pole		
Version with 2 auxiliary contact (1 x NO; 1 x NC)		
4-pole	2 x M25	**GHG 263 2301 R0007**
Safety switch 40 A 6-pole		
Version with 2 auxiliary contact (NO)		
6-pole	4 x M40 / 1 x M25	**GHG 263 0050 R0001**
6-pole	4 x M25	**GHG 263 0050 R0006**
6-pole EMERGENCY STOP	4 x M40 / 1 x M25	**GHG 263 0050 R0002**

Customized version on request, auxiliary contacts in Ex ia available

Accessories

Mounting plate for Ex-safety switch 40 A 3-pole

Type	Application	Fixing technique	Order No.
Size 3	Wall mounting	snap-on	**GHG 610 1953 R0118**
Size 3	Pipe mounting	snap-on	**GHG 610 1953 R0110**
Size 3	Trellis mounting	snap-on	**GHG 610 1953 R0118**

Mounting plate for Ex-safety switch 40 A 6-pole

Type	Application	Fixing technique	Order No.
Size 3	2 x Pipe mounting	screw-on[1)]	**GHG 610 1953 R0110**

[1)] observe mounting distance

Accessories for mounting plates

Type	OU	Order No.
label for label holder and mounting plates size 4 and size 5	10	**GHG 610 1953 R0011**
Blanking plug for label holder size 4 and size 5 1 set = 1 each	10	**GHG 610 1953 R0134**
Snap-on for CEAG apparatus with 5.5 mm and 11 mm mounting feet 1 set = 4 each	10	**GHG 610 1953 R0041**
Installation kit for pipes 1" (of 27 - 30 mm) for pipe mounting	10	**GHG 610 1953 R0020**

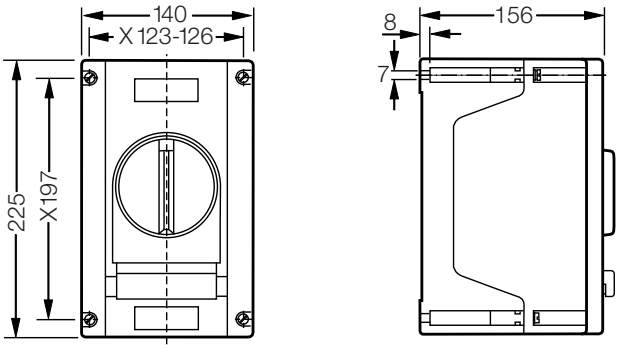
Accessories for canopies plates

Type	Application	OU	Order No.
Size 4	for mounting plates size 4	1	**GHG 610 1955 R0107**

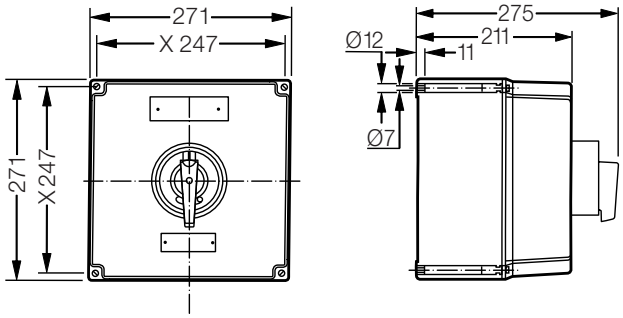
Please note that we can only deliver in the ordering units (OU) stated in the tables above



Dimension drawing



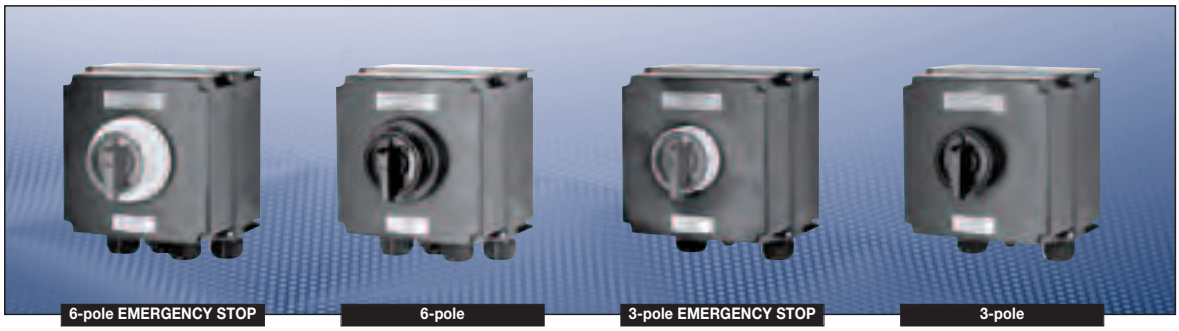
3/4-pole



6-pole

X = fixing dimensions

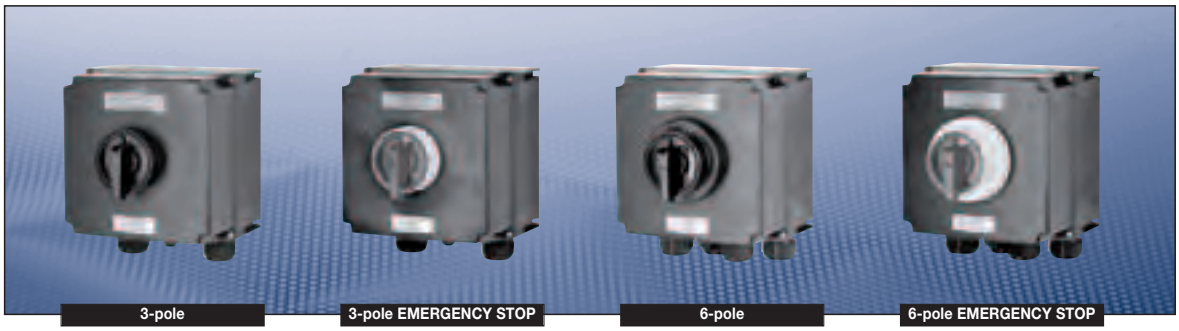
Dimensions in mm



Technical data

Ex-Safety switch 80 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex ed ia IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate		PTB 00 ATEX 1091
IECEx Certificate of conformity		BKI 07.0010
Marking accd. to IECEx		Ex ed ia IIC T6
		Ex tD A21 IP66 T53 °C
Permissible ambient temperature		–20 °C to +40 °C
Rated voltage		up to max. 690 V
Rated current		max. 80 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 80 A
accd. to EN 60947-3		U_e 400 V / I_e 80 A
		U_e 500 V / I_e 80 A
		U_e 690 V / I_e 63 A
Back-up fuse		up to 400 V AC: 160 A gL
		up to 500 V AC: 160 A gL
		up to 690 V AC: 125 A gL
Connecting terminals	Main contact	2 x 25 mm²
	Auxiliary-/Signal contact	2 x 4 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
		M32 (d = 12 - 21 mm) see ordering details
		M50 (d = 21 - 35 mm) see ordering details
		Option: metal flange with thread
Weight	3-pole	approx. 6.5 kg
	6-pole	approx. 9.0 kg
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC making - leading; breaking - lagging
Padlocking		can be locked in OFF position with 3 commercially available padlocks

[1] Other ambient temperatures on request



Ordering details

Version	Cable entry	Order No.
Safety switch 80 A 3-pole		
Version with 2 auxiliary contact (1 x NO; 1 x NC)		
3-pole	2 x M50 / 1 x M25	**GHG 264 0020 R0001**
3-pole EMERGENCY STOP	2 x M50 / 1 x M25	**GHG 264 0020 R0002**
Safety switch 80 A 6-pole		
Version with 2 auxiliary contact (1 x NO; 1 x NC)		
6-pole	4 x M50 / 1 x M25	**GHG 264 0021 R0001**
6-pole EMERGENCY STOP	4 x M50 / 1 x M25	**GHG 264 0021 R0002**

Customized version on request, auxiliary contacts in Ex ia available

Accessories

Mounting plate for Ex-safety switch 80 A 3- and 6-pole

Type	Application	Fixing technique	Order No.
Size 3	2 x Pipe mounting	screw-on[1)]	**GHG 610 1953 R0110**

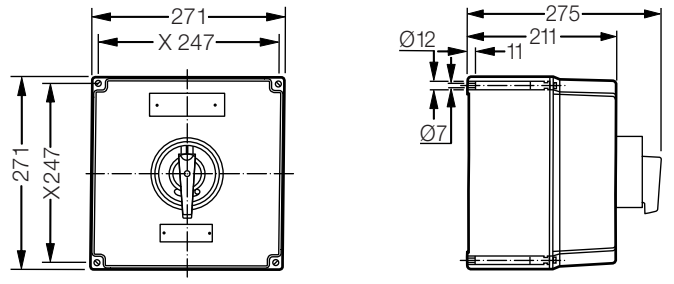
[1)] observe mounting distance

Accessories for mounting plates

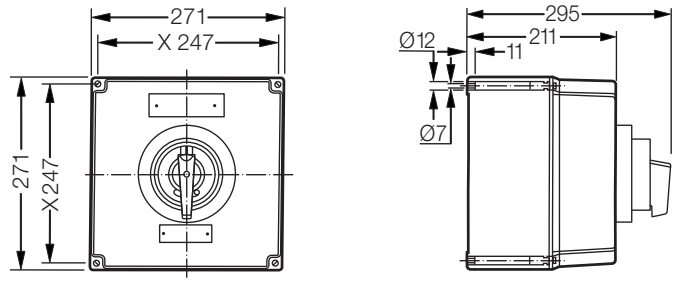
Type	OU	Order No.
label for label holder and mounting plates size 4 and size 5	10	**GHG 610 1953 R0011**
Installation kit for pipes 1" (of 27 - 30 mm) for label holder for pipe mounting	10	**GHG 610 1953 R0020**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

Dimension drawing



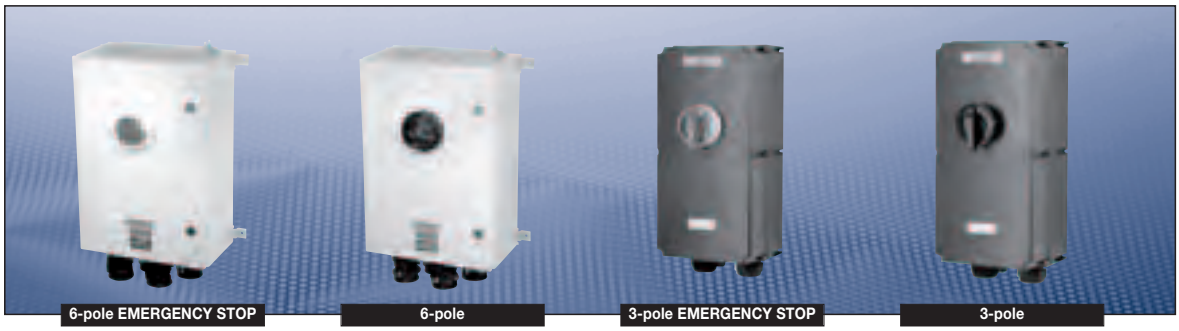
3/4-pole



6-pole

X = fixing dimensions

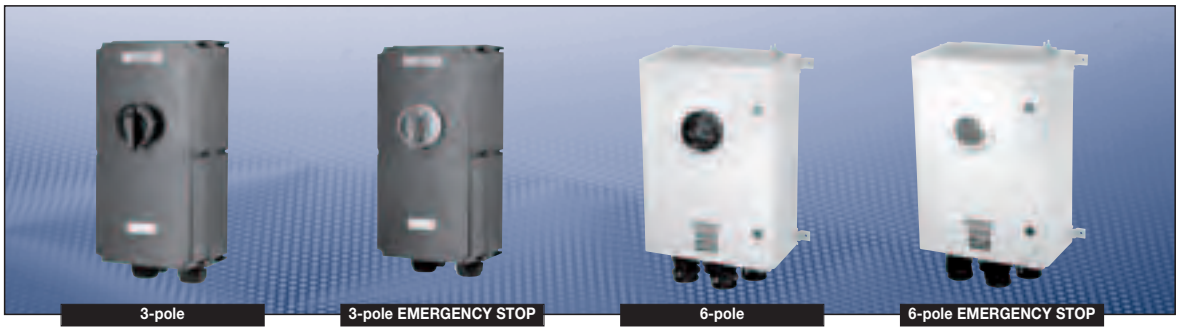
Dimensions in mm



Technical data

Ex-Safety switch 125 A			
Marking to 94/9/EC			Ⓔx II 2 G Ex de IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	3-pole		PTB 99 ATEX 1164
	6-pole		PTB 00 ATEX 1073
IECEx Certificate of Conformity			BKI 07.0005
Marking accd. to IECEx			Ex de IIC T6
			Ex tD A21 IP66 T53 °C
Permissible ambient temperature			–20 °C to +40 °C
Rated voltage			up to max. 690 V
Frequency			50/60 Hz
Rated making-/breaking capacity AC-3			U_e 230 V / I_e 125 A
accd. to EN 60947-3			U_e 400 V / I_e 125 A
			U_e 500 V / I_e 125 A
			U_e 690 V / I_e 110 A
Back-up fuse			up to 400 V AC: 200 A gL
			up to 500 V AC: 200 A gL
			up to 690 V AC: 160 A gL
Connecting terminals	Main contact	3-pole	1 x 50/70 mm²
		6-pole	6 x 95 mm²/2 x 95 mm²
	Auxiliary-/Signal contact		2 x 4 mm²
Insulation class			I
Degree of protection accd. EN 60529			IP66
Cable glands/enclosure drilling			M25 (d = 8 - 17 mm) see ordering details
			M40 (d = 16 - 28 mm) see ordering details
			M63 (d = 27 - 48 mm) see ordering details
			Option: metal flange with 2 x thread
Weight	3-pole		approx. 16 kg
	6-pole		approx. 31 kg
Enclosure material	3-pole		glass-fibre reinforced polyester
	6-pole		steel, powder-coated
Enclosure colour	3-pole		black
	6-pole		white
Auxiliary contact			1 x NO making - lagging; breaking - leading
			1 x NC making - leading; breaking - lagging
Padlocking			can be locked in OFF position with 3 commercially available padlock

[1] Other ambient temperatures on request



Ordering details

Version	Cable entry	Order No.
Safety switch 125 A		
Version with 2 auxiliary contact (1 x NO; 1 x NC)		
3-pole	2 x M63 / 1 x M25	**GHG 265 0010 R0001**
4-pole	2 x M40	**GHG 265 0010 R0005**
3-pole EMERGENCY STOP	2 x M63 / 1 x M25	**GHG 265 0010 R0002**
6-pole	4 x M63 / 1 x M25	**EXKO 224716 K 0000**
6-pole EMERGENCY STOP	4 x M63 / 1 x M25	**EXKO 224726 K 0000**

Customized version on request, auxiliary contacts in Ex ia available

Accessories

Mounting plate for Ex-safety switch 125 A 3-pole[2)]

Type	Application	Fixing technique	Order No.
Size 3	2 x Pipe mounting	screw-on[1)]	**GHG 610 1953 R0110**

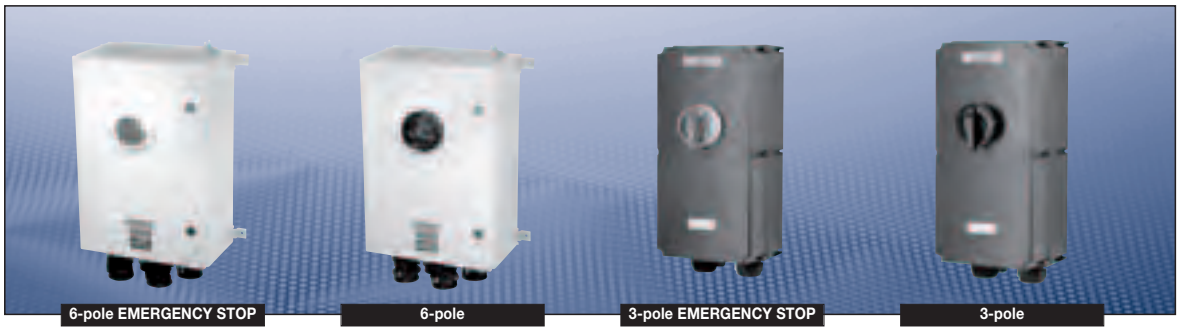
[1)] observe mounting distance

[2)] 2 pcs. necessary for mounting

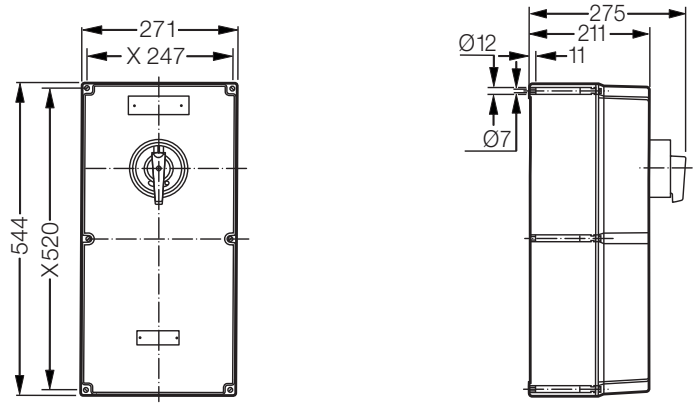
Accessories for mounting plates

Type	OU	Order No.
Label holder with label (unlabelled) mounting plate size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Installation kit for pipes 1" (of 27 - 30 mm) mounting plate for pipe mounting	10	**GHG 610 1953 R0020**

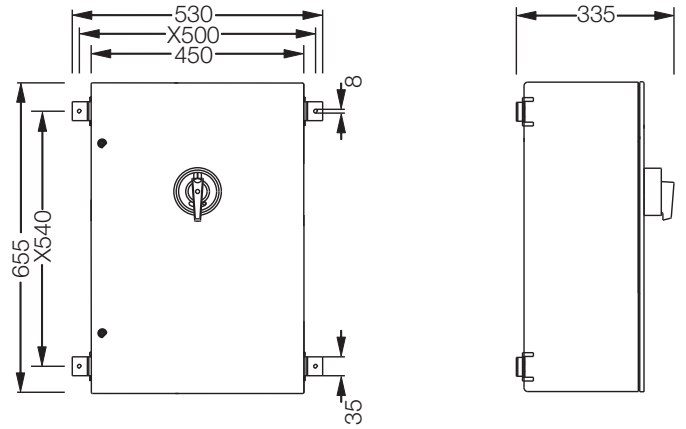
Please note that we can only deliver in the ordering units (OU) stated in the tables above



Dimension drawing



3/4-pole



6-pole

X = fixing dimensions

Dimensions in mm



Technical data

Ex-Safety switch 180 A			
Marking to 94/9/EC			Ⓔx II 2 G Ex de IIC T6
			Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	3-pole		PTB 99 ATEX 1164
	6-pole		PTB 00 ATEX 1073
IECEx Certificate of Conformity			BKI 07.0005
Marking accd. to IECEx			Ex de IIC T6 –55 °C to +45 °C
			Ex tD A21 IP66 T53 °C
Permissible ambient temperature			–20 °C to +40 °C
Rated voltage			up to max. 690 V
Frequency			50/60 Hz
Rated making-/breaking capacity AC-3			U_e 230 V / I_e 180 A
accd. to EN 60947-3			U_e 400 V / I_e 180 A
			U_e 500 V / I_e 150 A
			U_e 690 V / I_e 125 A
Back-up fuse			up to 400 V AC: 250 A gL
			up to 500 V AC: 250 A gL
			up to 690 V AC: 200 A gL
Connecting terminals	Main contact	3-pole	1 x 120 mm²
		6-pole	6 x 150 mm²/2 x 95 mm²
	Auxiliary-/Signal contact		2 x 4 mm²
Insulation class			I
Degree of protection accd. EN 60529			IP66
Cable glands/enclosure drilling			M25 (d = 8 - 17 mm) see ordering details
			M40 (d = 16 - 28 mm) see ordering details
			M63 (d = 27 - 48 mm) see ordering details
			Option: metal flange with 2 x thread
Weight	3-pole		approx. 16.5 kg
	6-pole		approx. 31,5 kg
Enclosure material	3-pole		glass-fibre reinforced polyester
	6-pole		steel, powder-coated
Enclosure colour	3-pole		black
	6-pole		white
Auxiliary contact			1 x NO making - lagging; breaking - leading
			1 x NC making - leading; breaking - lagging
Padlocking			can be locked in OFF position with 3 commercially available padlocks

[1] Other ambient temperatures on request



Ordering details

Version	Cable entry	Order No.
Safety switch 180 A		
Version with 2 auxiliary contact (1 x NO; 1 x NC)		
3-pole	2 x M63 / 1 x M25	**GHG 266 0006 R0001**
3-pole EMERGENCY STOP	2 x M63 / 1 x M25	**GHG 266 0006 R0002**
6-pole	4 x M63 / 1 x M25	**EXKO 224716 L 0000**
6-pole EMERGENCY STOP	4 x M63 / 1 x M25	**EXKO 224726 L 0000**

Customized version on request, auxiliary contacts in Ex ia available

Accessories

Mounting plate for Ex-safety switch 180 A 3-pole[2)]			
Type	**Application**	**Fixing technique**	**Order No.**
Size 3	2 x Pipe mounting	screw-on[1)]	**GHG 610 1953 R0110**

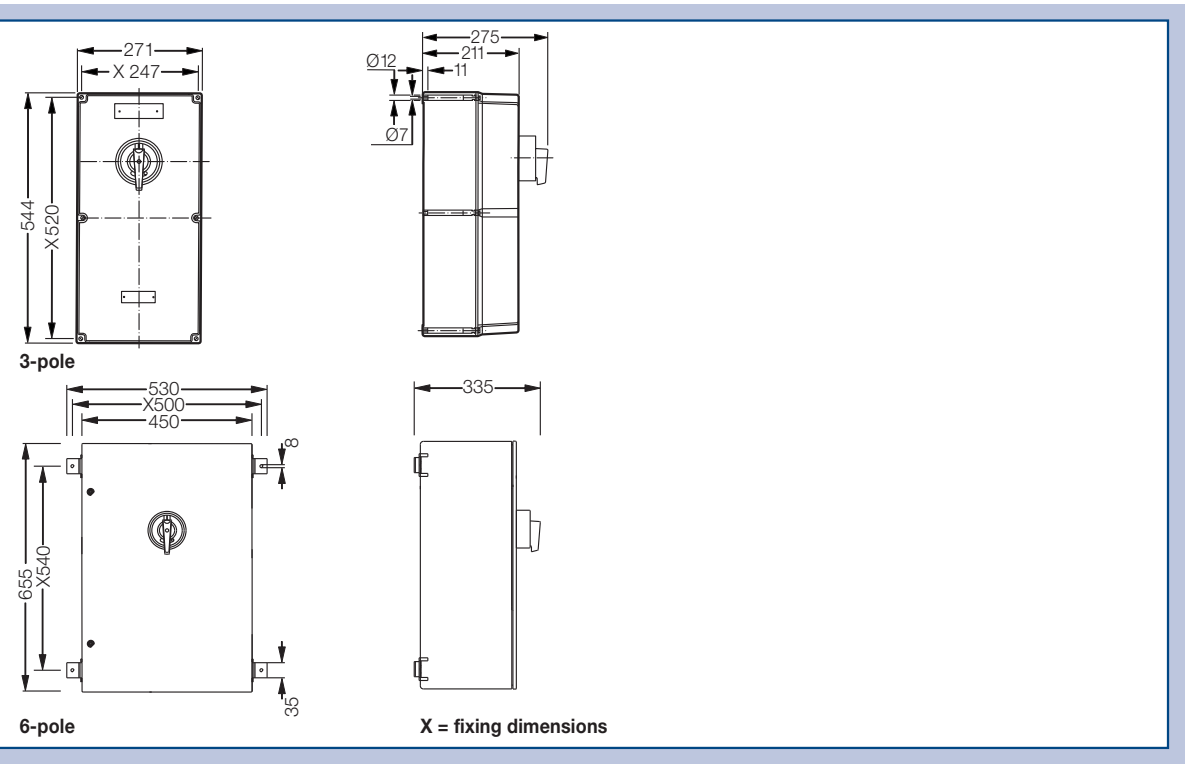
[1)] observe mounting distance

[2)] 2 pcs. necessary for mounting

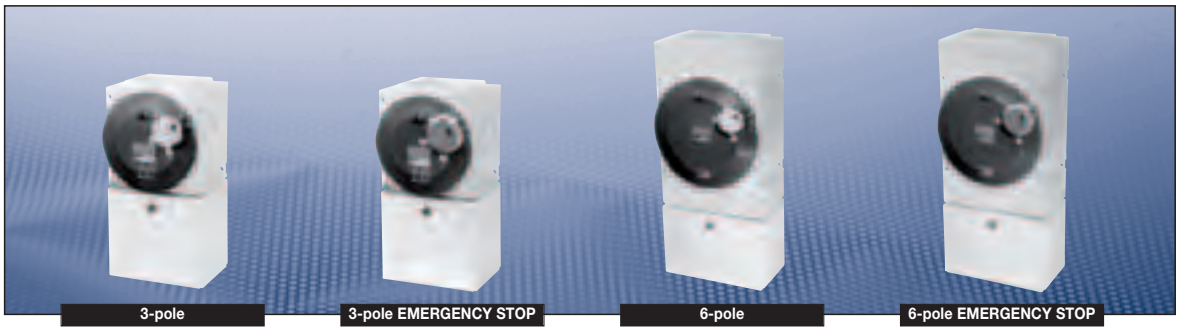
Accessories for mounting plates		
Type	**OU**	**Order No.**
Label holder with label (unlabeled) mounting plate size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Installation kit for pipes 1" (of 27 - 30 mm) mounting plate for pipe mounting	10	**GHG 610 1953 R0020**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

Dimension drawing



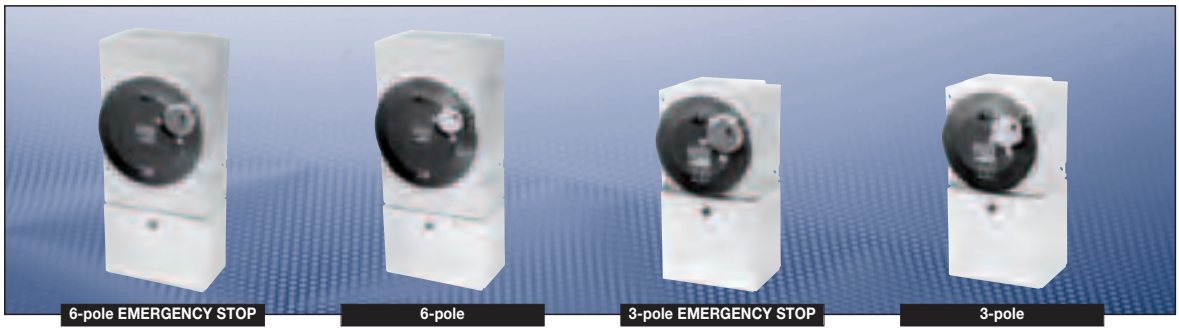
Dimensions in mm



Technical data

Ex-Safety switch 210 A			
Marking to 94/9/EC			Ⓔx II 2 G Ex de IIC T6, T5 or T4[1] / Ⓔx II 2 D IP66 T80 °C/T95 °C
EC-Type Examination Certificate			PTB 99 ATEX 1057
IECEx Certificate of Conformity			BKI 06.0006
Marking accd. to IECEx			Ex de ia/ib [ia/ib] IIC T6, T5 or T4
			Ex tD A21 IP66 T80 °C, T95 °C or T130 °C
Permissible ambient temperature			–20 °C to +40 °C
Rated voltage			up to max. 690 V
Rated current			max. 210 A
Frequency			50/60 Hz
Rated making-/breaking capacity AC-3			U_e 230 V / I_e 210 A
accd. to EN 60947-3			U_e 400 V / I_e 210 A
			U_e 500 V / I_e 210 A
			U_e 690 V / I_e 210 A
Back-up fuse			up to 400 V AC: 250 A gL
			up to 500 V AC: 250 A gL
			up to 690 V AC: 200 A gL
Connecting terminals	Main contact	3-pole	3 x 150 mm²/95 mm²
		6-pole	6 x 150 mm²/2 x 95 mm²
	Auxiliary-/Signal contact		2 x 4 mm²
Insulation class			I
Degree of protection accd. EN 60529			IP54 (IP65 optional)
Cable glands/enclosure drilling			M25 (d = 8 - 17 mm) see ordering details
			M63 (d = 27 - 48 mm) see ordering details
Weight	3-pole		approx. 41.5 kg
	6-pole		approx. 84,5 kg
Enclosure material			aluminium, powder-coated polyester
			connection box steel, powder-coated
Colour	Enclosure		grey (RAL 7032)
	Cover		dark grey (RAL 7022)
Auxiliary contact			1 x NO making - lagging; breaking - leading
			1 x NC making - leading; breaking - lagging
Padlocking			can be locked in OFF position with 3 commercially available padlocks

[1] Also available with Explosion Group IIB

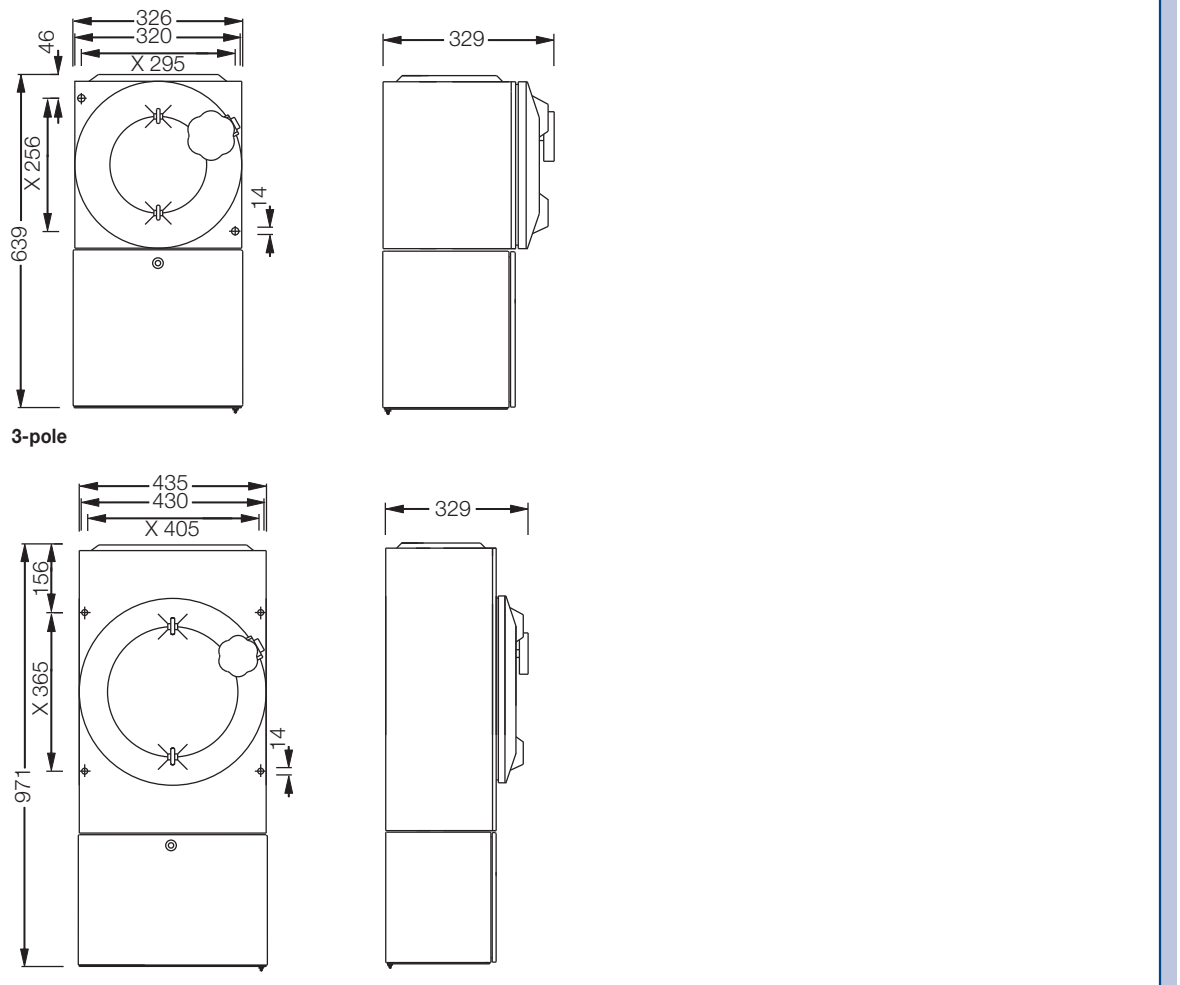


Ordering details

Version	Cable entry	Order No.
Safety switch 210 A 3-pole		
Version with 2 auxiliary contact (1 x NO; 1 x NC)		
3-pole	2 x M63 / 1 x M25	**EXKO 731713 S0001**
3-pole EMERGENCY STOP	2 x M63 / 1 x M25	**EXKO 731723 S0001**
Safety switch 210 A 6-pole		
Version with 2 auxiliary contact (1 x NO; 1 x NC)		
6-pole	4 x M63 / 1 x M25	**EXKO 731716 S0001**
6-pole EMERGENCY STOP	4 x M63 / 1 x M25	**EXKO 731726 S0001**

Customized version on request, auxiliary contacts in Ex ia available

Dimension drawing



Dimensions in mm

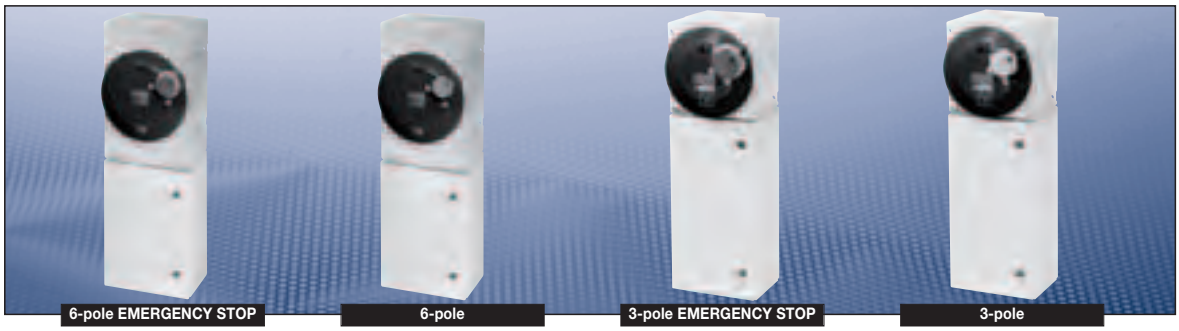


Technical data

Ex-Safety switch 250 A			
Marking to 94/9/EC			Ⓔx II 2 G Ex de IIC T6, T5 or T4[1] / Ⓔx II 2 D IP66 T80 °C/T95 °C
EC-Type Examination Certificate			PTB 99 ATEX 1057
IECEx Certificate of Conformity			BKI 06.0006
Marking accd. to IECEx			Ex de ia/ib [ia/ib] IIC T6, T5 or T4
			Ex tD A21 IP66 T80 °C, T95 °C or T130 °C
Permissible ambient temperature			–20 °C to +40 °C[2]
Rated voltage			up to max. 690 V
Rated current			max. 250 A
Frequency			50/60 Hz
Rated making-/breaking capacity AC-3			U_e 230 V / I_e 250 A
accd. to EN 60947-3			U_e 400 V / I_e 250 A
			U_e 500 V / I_e 250 A
			U_e 690 V / I_e 250 A
Back-up fuse			up to 400 V AC: 250 A gL
			up to 500 V AC: 250 A gL
			up to 690 V AC: 200 A gL
Connecting terminals	Main contact	3-pole	3 x 150 mm²/95 mm²
		6-pole	6 x 150 mm²/2 x 95 mm²
	Auxiliary-/Signal contact		2 x 4 mm²
Insulation class			I
Degree of protection accd. EN 60529			IP54 (IP65 optional)
Cable glands/enclosure drilling			M25 (d = 8 - 17 mm) see ordering details
			M63 (d = 27 - 48 mm) see ordering details
Weight	3-pole		approx. 41.5 kg
	6-pole		approx. 84,5 kg
Enclosure material			aluminium, powder-coated polyester
			connection box steel, powder-coated
Colour	Enclosure		grey (RAL 7032)
	Cover		dark grey (RAL 7022)
Auxiliary contact			1 x NO making - lagging; breaking - leading
			1 x NC making - leading; breaking - lagging
Padlocking			can be locked in OFF position with 3 commercially available padlocks

[1] Also available with Explosion Group IIB

[2] Other ambient temperatures on request

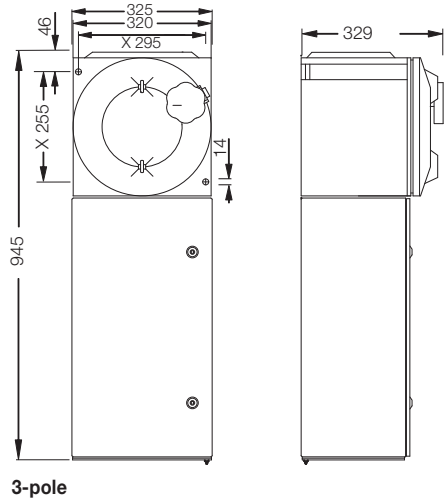


Ordering details

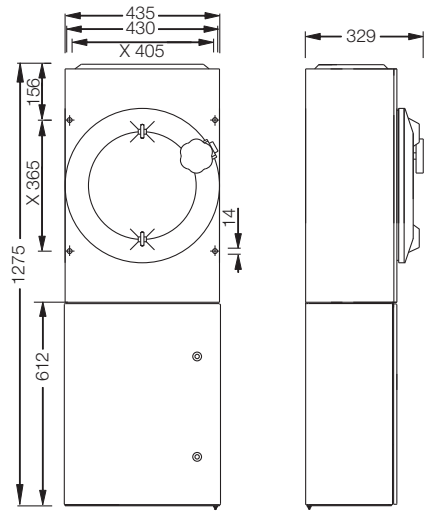
Version	Cable entry	Order No.
Safety switch 250 A 3-pole		
Version with 2 auxiliary contact (1 x NO; 1 x NC)		
3-pole	2 x M63 / 1 x M25	**EXKO 731713 T0001**
3-pole EMERGENCY STOP	2 x M63 / 1 x M25	**EXKO 731723 T0001**
Safety switch 250 A 6-pole		
Version with 2 auxiliary contact (1 x NO; 1 x NC)		
6-pole	4 x M63 / 1 x M25	**EXKO 731716 T0001**
6-pole EMERGENCY STOP	4 x M63 / 1 x M25	**EXKO 731726 T0001**

Customized version on request, auxiliary contacts in Ex ia available

Dimension drawing



3-pole



6-pole

X = fixing dimensions

Dimensions in mm

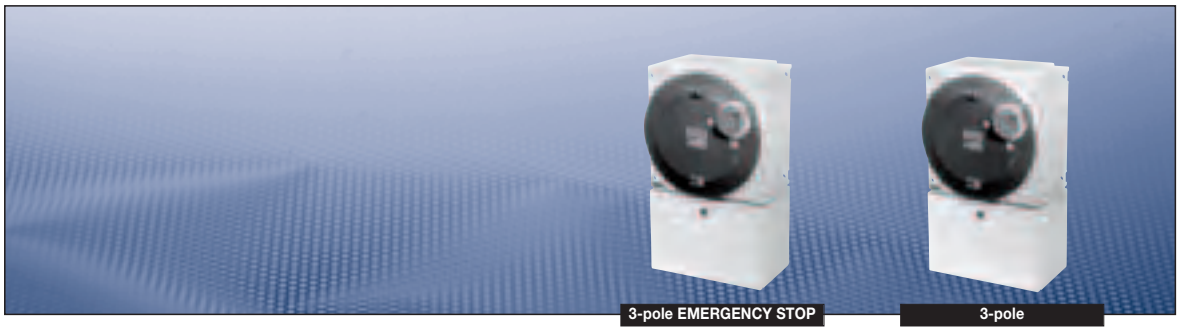


Technical data

Ex-Safety switch 400 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC T6, T5 or T4[1] / Ⓔx II 2 D IP66 T80 °C/T95 °C
EC-Type Examination Certificate		PTB 99 ATEX 1057
IECEx Certificate of Conformity		BKI 06.0006
Marking accd. to IECEx		Ex de ia/ib [ia/ib] IIC T6, T5 or T4
		Ex tD A21 IP66 T80 °C, T95 °C or T130 °C
Permissible ambient temperature		–20 °C to +40 °C[2]
Rated voltage		up to max. 690 V
Rated current		max. 400 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 400 A
accd. to EN 60947-3		U_e 400 V / I_e 400 A
		U_e 500 V / I_e 400 A
		U_e 690 V / I_e 400 A
Back-up fuse		up to 400 V AC: 500 A gL
		up to 500 V AC: 500 A gL
		up to 690 V AC: 500 A gL
Connecting terminals	Main contact	6 x 150 mm²/2 x 95 mm²
	Auxiliary-/Signal contact	2 x 4 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP54 (IP65 optional)
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
		M63 (d = 27 - 48 mm) see ordering details
Weight		approx. 64.5 kg
Enclosure material		aluminium, powder-coated polyester
		connection box steel, powder-coated
Colour	Enclosure	grey (RAL 7032)
	Cover	dark grey (RAL 7022)
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC making - leading; breaking - lagging
Padlocking		can be locked in OFF position with 3 commercially available padlocks

[1] Also available with Explosion Group IIB

[2] Other ambient temperatures on request

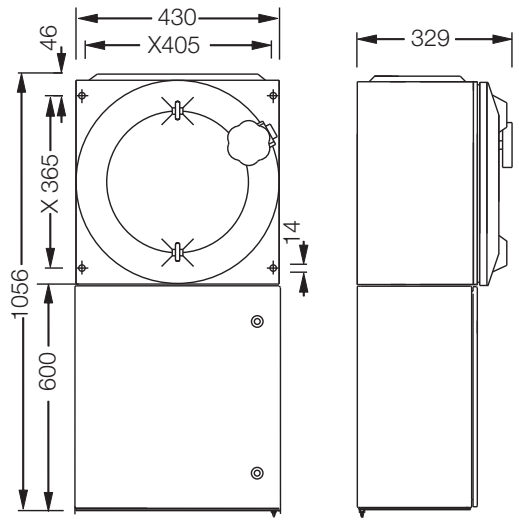


Ordering details

Version	Cable entry	Order No.
Safety switch 400 A 3-pole		
Version with 2 auxiliary contact (1 x NO; 1 x NC)		
3-pole	4 x M63 / 1 x M25	**EXKO 731713 U0001**
3-pole EMERGENCY STOP	4 x M63 / 1 x M25	**EXKO 731723 U0001**

Customized version on request, auxiliary contacts in Ex ia available

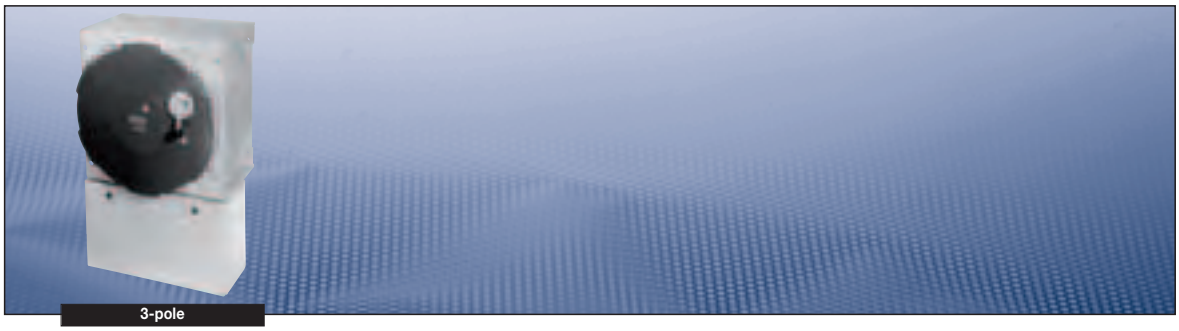
Dimension drawing



3-pole

X = fixing dimensions

Dimensions in mm



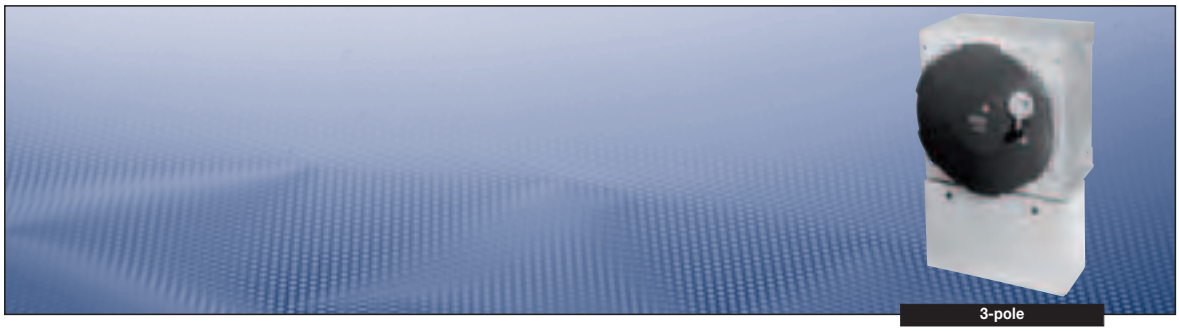
3-pole

Technical data

Ex-Safety switch 630 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC T6, T5 or T4[1] / Ⓔx II 2 D IP66 T80 °C/T95 °C
EC-Type Examination Certificate		PTB 99 ATEX 1057
IECEx Certificate of Conformity		BKI 06.0006
Marking accd. to IECEx		Ex de ia/ib [ia/ib] IIC T6, T5 or T4
		Ex tD A21 IP66 T80 °C, T95 °C or T130 °C
Permissible ambient temperature		–20 °C to +40 °C[2]
Rated voltage		up to max. 690 V
Rated current		max. 630 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 630 A
accd. to EN 60947-3		U_e 400 V / I_e 630 A
		U_e 500 V / I_e 630 A
		U_e 690 V / I_e 630 A
Back-up fuse		up to 400 V AC: 800 A gL
		up to 500 V AC: 800 A gL
		up to 690 V AC: 800 A gL
Connecting terminals	Main contact	6 x 240 mm²/2 x 120 mm²
	Auxiliary/Signal contact	2 x 4 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP54 (IP65 optional)
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
		M80 (d = 62 - 68 mm) see ordering details
Weight		approx. 245 kg
Enclosure material		steel, powder-coated polyester
		connection box steel, powder-coated
Colour	Enclosure	grey (RAL 7032)
	Cover	dark grey (RAL 7022)
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC making - leading; breaking - lagging
Padlocking		can be locked in OFF position with 3 commercially available padlocks

[1] Also available with Explosion Group IIB

[2] Other ambient temperatures on request

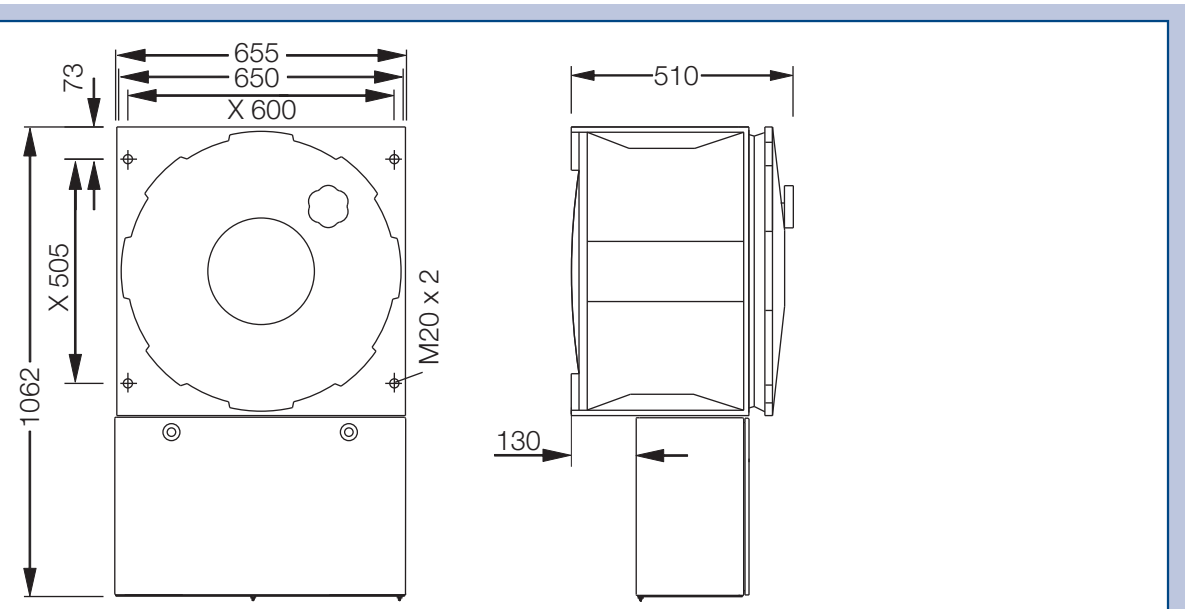


Ordering details

Version	Cable entry	Order No.
Safety switch 630 A 3-pole		
Version with 2 auxiliary contact (1 x NO; 1 x NC)		
3-pole	4 x M80 / 1 x M25	**EXKO 731713 V0001**
3-pole EMERGENCY STOP	4 x M80 / 1 x M25	**EXKO 731723 V0001**

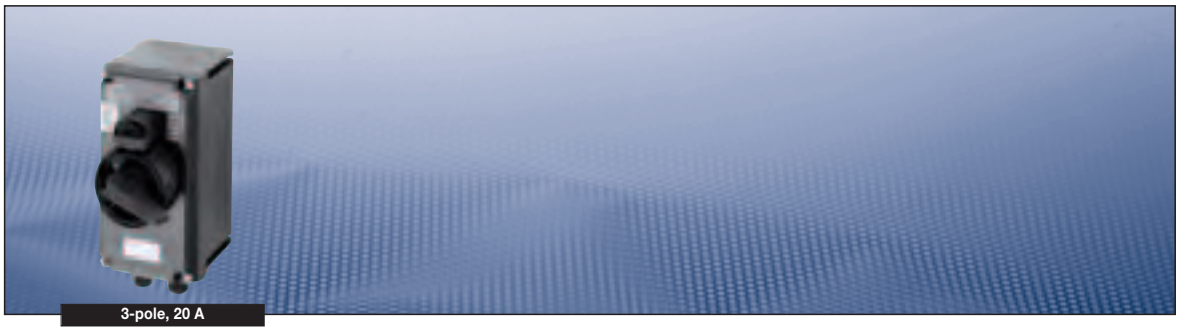
Customized version on request, auxiliary contacts in Ex ia available

Dimension drawing



3-pole **X = fixing dimensions**

Dimensions in mm

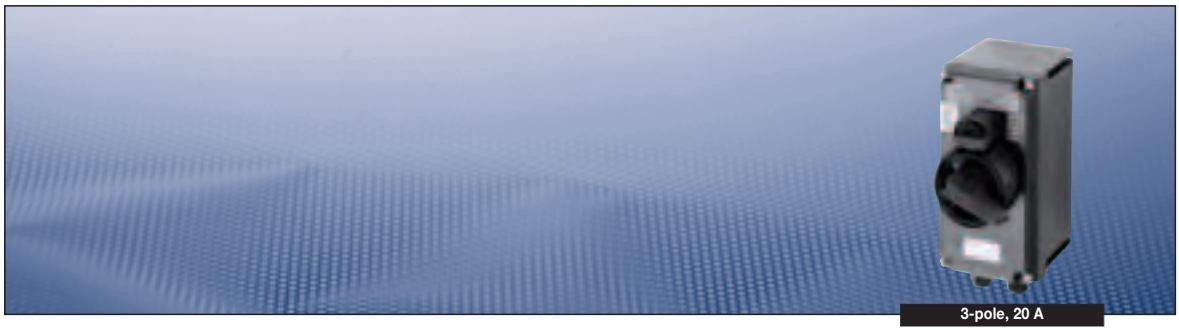


3-pole, 20 A

Technical data

Ex-Safety switch 20 A for variable-speed three-phase drives		
Marking to 94/9/EC		Ⓔx II 2 G Ex ed ia IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate		PTB 99 ATEX 1161
IECEx Certificate of Conformity		BKI 07.0012
Marking accd. to IECEx		Ex ed ia IIC T6
		Ex tD A21 IP66 T55 °C
Permissible ambient temperature		–20 °C to +40 °C[1)]
Rated voltage		up to max. 690 V
Rated current		max. 20 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 20 A
accd. to EN 60947-3		U_e 400 V / I_e 20 A
		U_e 500 V / I_e 16 A
		U_e 690 V / I_e 10 A
Back-up fuse		up to 400 V AC: 35 A gL
		up to 500 V AC: 35 A gL
		up to 690 V AC: 25 A gL
Connecting terminals	Main contact	2 x 4 mm²
	Auxiliary/Signal contact	2 x 4 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M25 (d = 8 - 17.5 mm) see ordering details
		M32 (d = 12 - 21 mm) see ordering details
		Option: metal flange with 2 x thread
Weight		approx. 1.48 kg
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC making - leading; breaking - lagging
Safety interlock for electronics		1 x NO making - lagging; breaking - leading

[1)] Other ambient temperatures on request



Ordering details

Version	Cable entry	Order No.
Safety switch 20 A		
Version with 2 auxiliary contact (1 x NO; 1 x NC), 1 x safety interlock for electronics (1 x NO)		
3-pole	2 x M32 / 2 x M25	**GHG 262 0014 R0001**

Customized version on request

Accessories

Mounting plate for Ex-safety switch 20 A variable-speed three-phase drives

Type	Application	Fixing technique	Order No.
Size 3	Wall mounting	screw-on	**GHG 610 1953 R0118**
Size 3	Pipe mounting	screw-on	**GHG 610 1953 R0110**
Size 3	Trellis mounting	screw-on	**GHG 610 1953 R0118**

Accessories for mounting plates

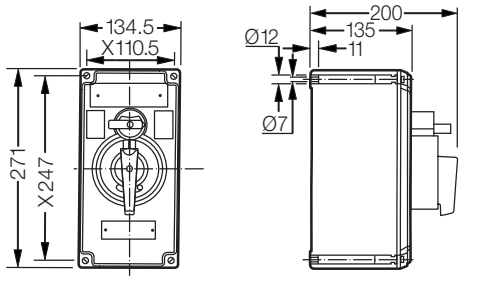
Type	OU	Order No.
Label holder with label (unlabelled) mounting plate size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Installation kit for pipes 1" (of 27 - 30 mm) mounting plate for pipe mounting	10	**GHG 610 1953 R0020**

Accessories canopies for mounting plates

Type	Application	OU	Order No.
Size 3	for pipe mounting plate size 3 vertical	1	**GHG 610 1955 R0104**
Size 3A	for wall/trellis mounting plate size 3 vertical	1	**GHG 610 1955 R0105**
Size 3	for pipe mounting plate size 3 horizontal	1	**GHG 610 1955 R0106**

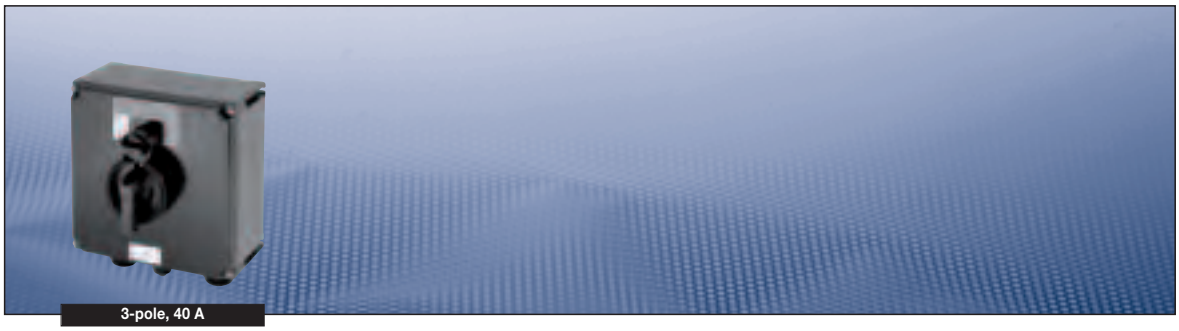
Please note that we can only deliver in the ordering units (OU) stated in the tables above

Dimension drawing



3-pole **X = fixing dimensions**

Dimensions in mm

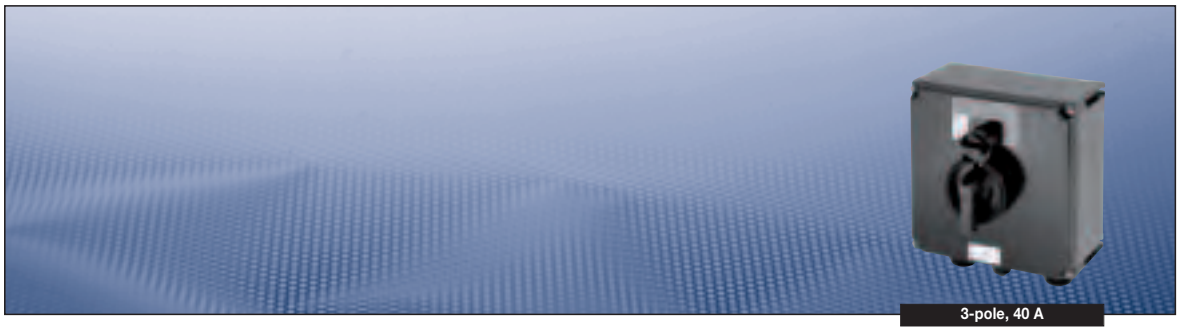


3-pole, 40 A

Technical data

Ex-Safety switch 40 A for variable-speed three-phase drives		
Marking to 94/9/EC		Ⓔx II 2 G Ex ed ia IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate		PTB 99 ATEX 1161
IECEx Certificate of Conformity		BKI 07.0012
Marking accd. to IECEx		Ex ed ia IIC T6
		Ex tD A21 IP66 T53 °C
Permissible ambient temperature		–20 °C to +40 °C[1)]
Rated voltage		up to max. 690 V
Rated current		max. 40 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 40 A
accd. to EN 60947-3		U_e 400 V / I_e 40 A
		U_e 500 V / I_e 40 A
		U_e 690 V / I_e 32 A
Back-up fuse		up to 400 V AC: 80 A gL
		up to 500 V AC: 80 A gL
		up to 690 V AC: 63 A gL
Connecting terminals	Main contact	2 x 16 mm²
	Auxiliary-/Signal contact	2 x 4 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M25 (d = 8 - 17.5 mm) see ordering details
		M40 (d = 17 - 28 mm) see ordering details
		M50 (d = 22 - 35 mm) see ordering details
		Option: metal flange with 2 x thread
Weight		approx. 4.3 kg
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC making - leading; breaking - lagging
Safety interlock for electronics		1 x NO making - lagging; breaking - leading
Padlocking		can be locked in OFF position with 3 commercially available padlocks

[1)] Other ambient temperatures on request


3-pole, 40 A

Ordering details

Version	Cable entry	Order No.
Safety switch 40 A 3-pole		
Version with 2 auxiliary contacts (1 x NO; 1 x NC), 1 x safety interlock for electronics (1 x NO)		
3-pole	2 x M40 / 2 x M25	**GHG 263 0053 R0001**

Customized version on request, auxiliary contacts in Ex ia available

Accessories

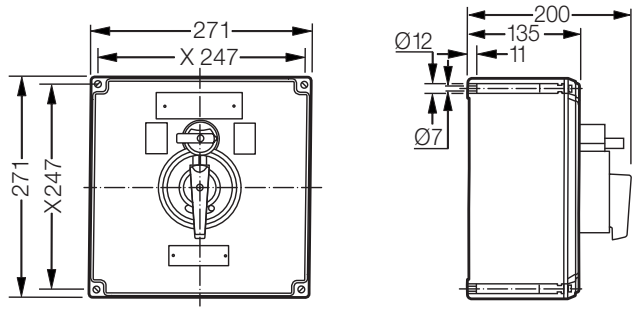
Mounting plate for Ex-safety switch 125 A/180 A 3-pole			
Type	**Application**	**Fixing technique**	**Order No.**
Size 3	2 x Pipe mounting	screw-on[1)]	**GHG 610 1953 R0110**

[1)] observe mounting distance

Accessories for mounting plates		
Type	**OU**	**Order No.**
Label holder with label (unlabelled) mounting plate size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Installation kit for pipes 1" (of 27 - 30 mm) mounting plate for pipe mounting	10	**GHG 610 1953 R0020**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

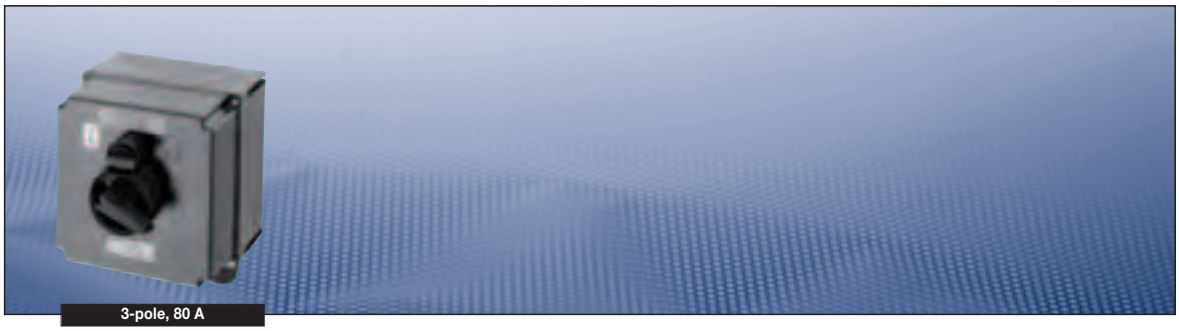
Dimension drawing



Ex-safety switch 40 A

X = fixing dimensions

Dimensions in mm

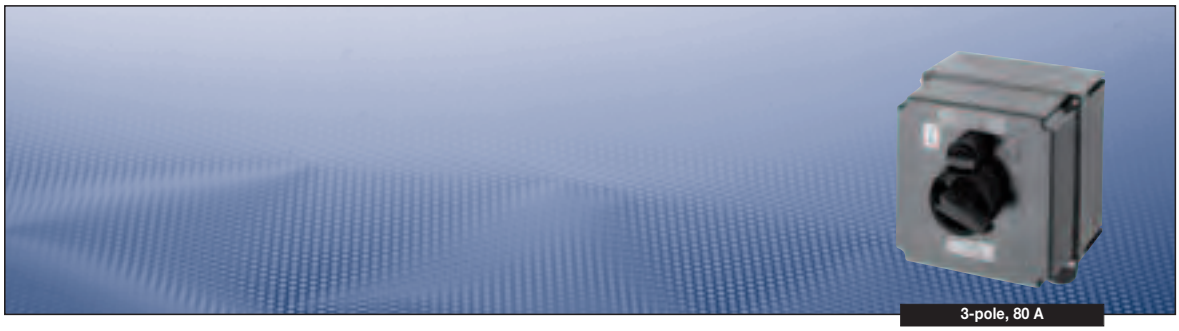


3-pole, 80 A

Technical data

Ex-Safety switch 80 A for variable-speed three-phase drives		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC T6 / Ⓔx II 2 D A21 IP66 T80 °C
EC-Type Examination Certificate		PTB 00 ATEX 1091
IECEx Certificate of Conformity		BKI 07.0010
Marking accd. to IECEx		Ex ed ia II T6
		Ex tD A21 IP66 T53 °C
Permissible ambient temperature		–20 °C to +40 °C
Rated voltage		up to max. 690 V
Rated current		max. 80 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 80 A
accd. to EN 60947-3		U_e 400 V / I_e 80 A
		U_e 500 V / I_e 80 A
		U_e 690 V / I_e 63 A
Back-up fuse		up to 400 V AC: 160 A gL
		up to 500 V AC: 160 A gL
		up to 690 V AC: 160 A gL
Connecting terminals	Main contact	2 x 25 mm²
	Auxiliary-/Signal contact	2 x 4 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M25 (d = 8 - 17.5 mm) see ordering details
		M40 (d = 17 - 28 mm) see ordering details
		M50 (d = 22 - 35 mm) see ordering details
		Option: metal flange with 2 x thread
Weight		approx. 7.25 kg
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC making - leading; breaking - lagging
Safety interlock for electronics		1 x NO making - lagging; breaking - leading
Padlocking		can be locked in OFF position with 3 commercially available padlocks

[1] Other ambient temperatures on request


3-pole, 80 A

Ordering details

Version	Cable entry	Order No.
Safety switch 80 A 3-pole		
Version with 2 auxiliary contacts (1 x NO; 1 x NC), 1 x safety interlock for electronics (1 x NO)		
3-pole	2 x M50 / 2 x M25	**GHG 264 0024 R0001**

Customized version on request, auxiliary contacts in Ex ia available

Accessories

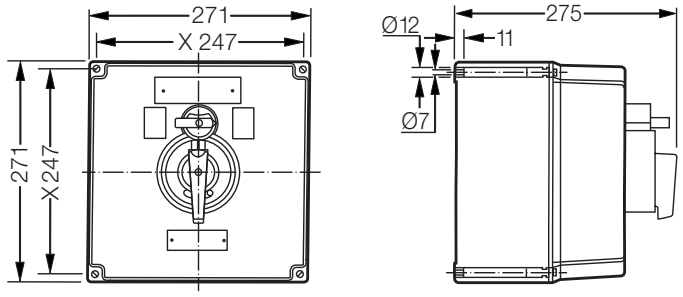
Mounting plate for Ex-safety switch 80 A variable-speed three-phase drives			
Type	**Application**	**Fixing technique**	**Order No.**
Size 3	2 x Pipe mounting	screw-on[1)]	**GHG 610 1953 R0110**

[1)] observe mounting distance

Accessories for mounting plates		
Type	**OU**	**Order No.**
Label holder with label (unlabelled) mounting plate size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Installation kit for pipes 1" (of 27 - 30 mm) mounting plate for pipe mounting	10	**GHG 610 1953 R0020**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

Dimension drawing



Ex-safety switch 80 A

X = fixing dimensions

Dimensions in mm

INDUSTRIAL SAFETY SWITCHES

CEAG safety switches can be protected against inadvertent switching on by our integrated locking facility for up to three padlocks in the OFF position. To prevent manipulations, the enclosure covers cannot be opened in the locked position without destroying the enclosure itself.

Full AC 3 motor switching capacities and isolating properties according to EN 60947-4-1 with compulsory opening of the main current contacts and optional EMERGENCY STOP versions according to EN 60204-1 are further features offered by CEAG safety switches.

Additional lagging/leading auxiliary contacts guarantee double safety for extreme switching conditions.

The safety switches feature an installation-friendly design and easily accessible connection terminals.

For rough industrial environments we use the proven enclosures from the explosion-protection areas:

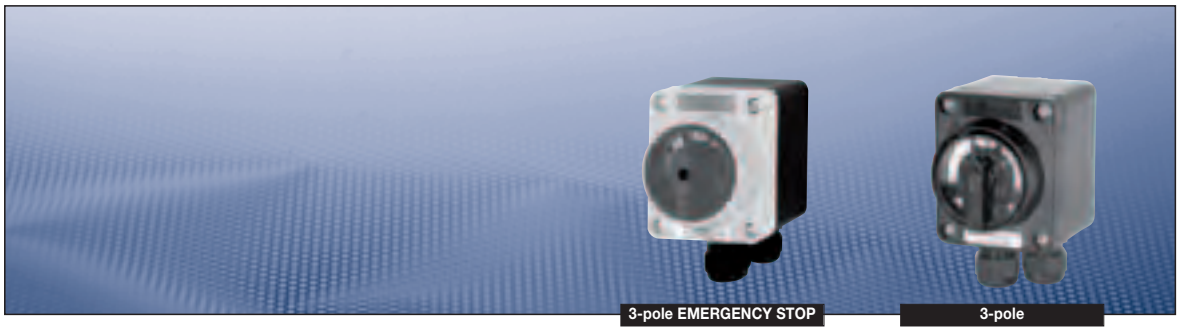
impact-resistant, modified moulded-plastic enclosures made of glass-fibre-reinforced polyester, powder-coated steel or stainless steel 316 L. These can be optionally supplied with snap-on moulded plastic or brass flanges.

Metal versions can be equipped with screw-on flanges.

Up to 630 A the high degree of protection, IP66, is guaranteed.



- **Full AC-3 switching capacity**
- **Double safety: additional auxiliary contact**
- **Cost-saving installation**
- **Up to 40 A: snap mounting**
- **Up to 630 A: IP66 protection**



Technical data

Industrial-Safety switch 10 A		
Permissible ambient temperature		–20 °C to +40 °C
Rated voltage		up to max. 500 V
Rated current		max. 10 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 10 A
accd. to EN 60947-3		U_e 400 V / I_e 10 A
		U_e 500 V / I_e 10 A
Back-up fuse		up to 400 V AC: 20 A gL
		up to 500 V AC: 16 A gL
Connecting terminals	Main contact	2 x 1.5 - 2.5 mm^2
	Auxiliary-/Signal contact	2 x 0.5 - 2.5 mm^2
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M20 (d = 5 - 13 mm) see ordering details
		M25 (d = 8 - 17 mm) see ordering details
Weight		0.55 kg
Enclosure material		impact resistant polyamide
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
Padlocking		can be locked in OFF position with 3 commercially available padlocks



Ordering details

Version	Cable entry	Order No.
Industrial-Safety switch 10 A		
3-pole	2 x M25 / 1 x M20	**GHG 981 0014 R0011**
3-pole EMERGENCY STOP	2 x M25 / 1 x M20	**GHG 981 0014 R0012**

Customized version on request

Accessories

Mounting plate for industrial-safety switch 10 A 3-pole

Type	Application	Fixing technique	Order No.
Size 1	Wall mounting	screw-on	**GHG 610 1953 R0101**
Size 1	Pipe mounting	screw-on	**GHG 610 1953 R0102**
Size 1	Trellis mounting	screw-on	**GHG 610 1953 R0103**

Accessories for mounting plates

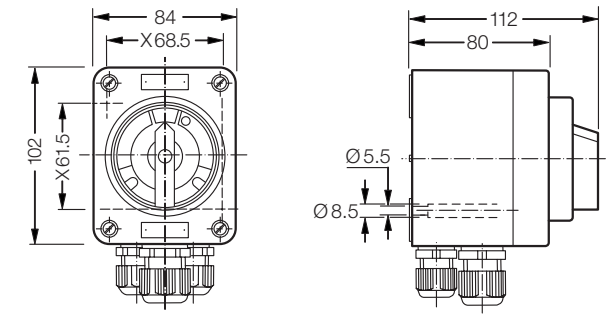
Type	OU	Order No.
Label holder with label (unlabelled) mounting plate size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Installation kit for pipes 1" (of 27 - 30 mm) mounting plate for pipe mounting	10	**GHG 610 1953 R0020**

Accessories canopies for mounting plates

Type	Application	OU	Order No.
Size 1	mounting plate size 1	1	**GHG 610 1955 R0101**

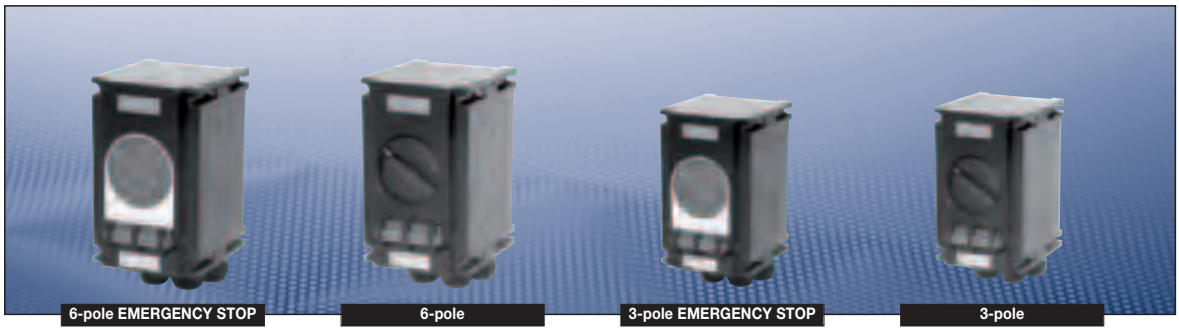
Please note that we can only deliver in the ordering units (OU) stated in the tables above

Dimension drawing



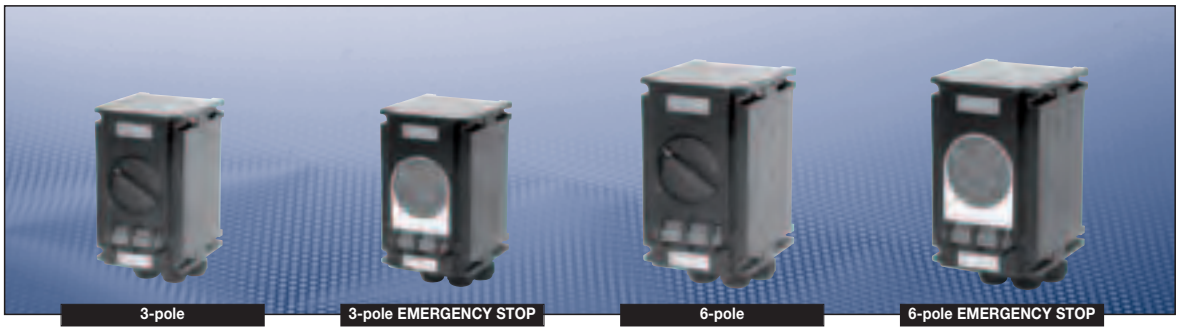
3-pole **X = fixing dimensions**

Dimensions in mm



Technical data

Industrial-Safety switch 25 A		
Permissible ambient temperature		–20 °C to +40 °C
Rated voltage		up to max. 690 V
Rated current		max. 25 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 20 A
accd. to EN 60947-3		U_e 400 V / I_e 20 A
		U_e 500 V / I_e 16 A
		U_e 690 V / I_e 10 A
Back-up fuse		up to 400 V AC: 35 A gL
		up to 500 V AC: 35 A gL
		up to 690 V AC: 25 A gL
Connecting terminals	Main contact	2 x 4 mm^2
	Auxiliary-/Signal contact	2 x 0.5 - 2.5 mm^2
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
		M32 (d = 12 - 21 mm) see ordering details
		Option: metal flange with 2 x thread
Weight	3-pole	approx. 1.48 kg
	6-pole	approx. 2.43 kg
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC (only 6-pole version) making - leading; breaking - lagging
Padlocking		can be locked in OFF position with 3 commercially available padlocks



Ordering details

Version	Cable entry	Order No.
Industrial-Safety switch 25 A 3-pole		
Version with 1 auxiliary contact (NO)		
3-pole	2 x M32 / 1 x M25	**GHG 981 0037 R0001**
3-pole EMERGENCY STOP	2 x M32 / 1 x M25	**GHG 981 0037 R0002**
Industrial-Safety switch 25 A 6-pole		
Version with 2 auxiliary contacts (1 x NO; 1 x NC)		
6-pole	4 x M32 / 1 x M25	**GHG 981 0038 R0001**
6-pole EMERGENCY STOP	4 x M32 / 1 x M25	**GHG 981 0038 R0002**

Customized version on request

Accessories

Mounting plate for industrial-safety switch 25 A 3-pole

Type	Application	Fixing technique	Order No.
Size 2	Wall mounting	snap-on	**GHG 610 1953 R0104**
Size 2	Pipe mounting	snap-on	**GHG 610 1953 R0105**
Size 2	Trellis mounting	snap-on	**GHG 610 1953 R0106**

Mounting plate for industrial-safety switch 25 A 6-pole

Type	Application	Fixing technique	Order No.
Size 3	Wall mounting	snap-on	**GHG 610 1953 R0118**
Size 3	Pipe mounting	snap-on	**GHG 610 1953 R0110**
Size 3	Trellis mounting	snap-on	**GHG 610 1953 R0118**

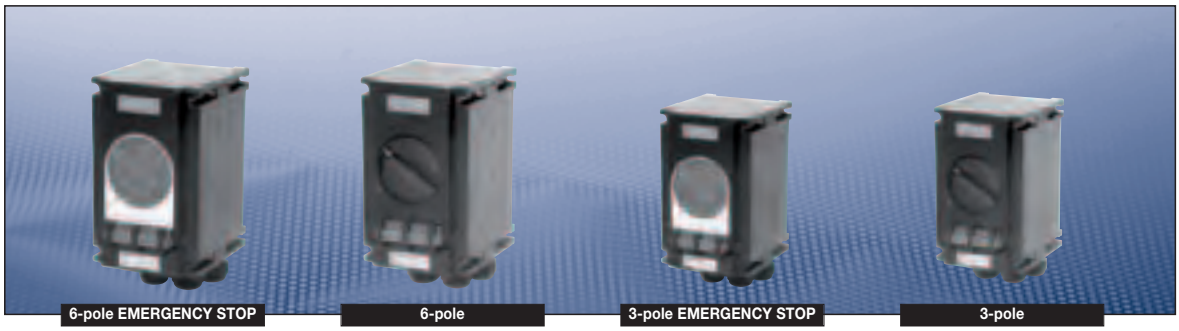
Accessories for mounting plates

Type	OU	Order No.
Label holder with label (unlabelled) for mounting plates size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Snap-on for CEAG apparatus with 5.5 mm and 11 mm mounting feet 1 set = 4 each	10	**GHG 610 1953 R0041**
Installation kit for pipes 1" (of 27 - 30 mm) for mounting plates for pipe mounting	10	**GHG 610 1953 R0020**

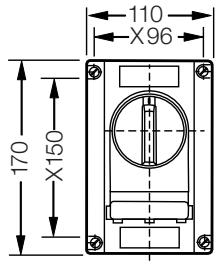
Accessories for canopies plates

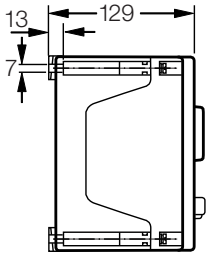
Type	Application	OU	Order No.
Size 2	for mounting plates size 2	1	**GHG 610 1955 R0102**
Size 2A	for mounting plates size 2A	1	**GHG 610 1955 R0103**
Size 3	for pipe mounting plate size 3 vertical	1	**GHG 610 1955 R0104**
Size 3A	for wall/trellis mounting plate size 3 vertical	1	**GHG 610 1955 R0105**
Size 3B	for pipe mounting plate size 3 horizontal	1	**GHG 610 1955 R0106**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

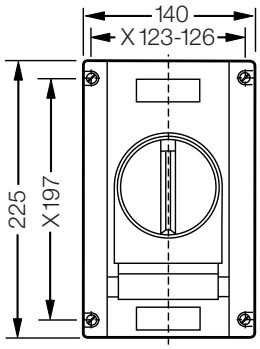


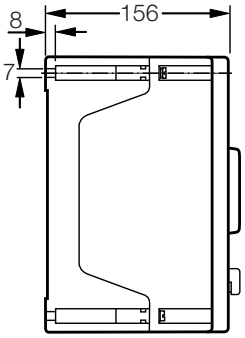
Dimension drawing





3-pole





6-pole

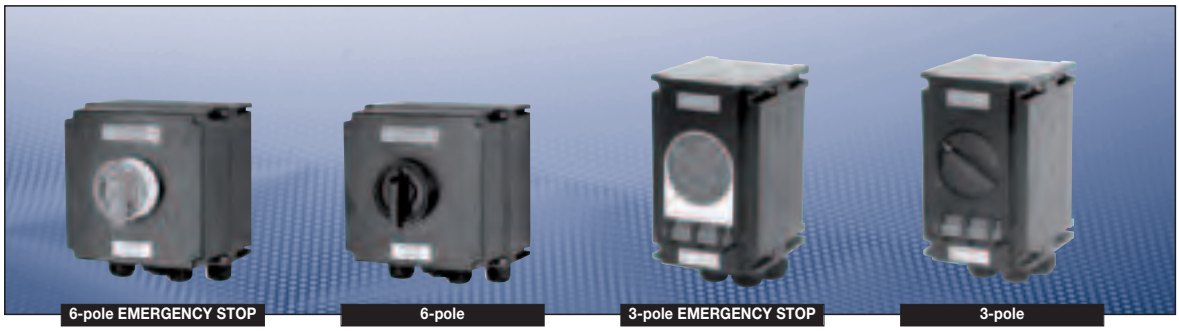
X = fixing dimensions

Dimensions in mm



Technical data

Industrial-Safety switch 40 A		
Permissible ambient temperature		–20 °C to +40 °C
Rated voltage		up to max. 690 V
Rated current		max. 40 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 40 A
accd. to EN 60947-3		U_e 400 V / I_e 40 A
		U_e 500 V / I_e 40 A
		U_e 690 V / I_e 32 A
Back-up fuse		up to 400 V AC: 80 A gL
		up to 500 V AC: 80 A gL
		up to 690 V AC: 63 A gL
Connecting terminals	Main contact	2 x 16 mm^2
	Auxiliary-/Signal contact	2 x 4 mm^2
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
		M40 (d = 16 - 28 mm) see ordering details
		Option: metal flange on request
Weight	3-pole	approx. 2.30 kg
	6-pole	approx. 6.50 kg
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC making - leading; breaking - lagging
Padlocking		can be locked in OFF position with 3 commercially available padlocks



Ordering details

Version	Cable entry	Order No.
Industrial-Safety switch 40 A 3-pole		
Version with 2 auxiliary contacts (1 x NO; 1 x NC)		
3-pole	2 x M40 / 1 x M25	**GHG 981 0039 R0001**
3-pole EMERGENCY STOP	2 x M40 / 1 x M25	**GHG 981 0039 R0002**
Industrial-Safety switch 40 A 6-pole		
Version with 2 auxiliary contacts (1 x NO; 1 x NC)		
6-pole	4 x M40 / 1 x M25	**GHG 981 0024 R0001**
6-pole EMERGENCY STOP	4 x M40 / 1 x M25	**GHG 981 0024 R0002**

Customized version on request

Accessories

Mounting plate for industrial-safety switch 40 A 3-pole

Type	Application	Fixing technique	Order No.
Size 3	Wall mounting	snap-on	**GHG 610 1953 R0118**
Size 3	Pipe mounting	snap-on	**GHG 610 1953 R0110**
Size 3	Trellis mounting	snap-on	**GHG 610 1953 R0118**

Mounting plate for industrial-safety switch 40 A 6-pole

Type	Application	Fixing technique	Order No.
Size 3	2 x Pipe mounting	screw-on[1)]	**GHG 610 1953 R0110**

[1)] observe mounting distance

Accessories for mounting plates

Type	OU	Order No.
Label holder with label (unlabelled) for mounting plates size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Snap-on for CEAG apparatus with 5.5 mm and 11 mm mounting feet 1 set = 4 each	10	**GHG 610 1953 R0041**
Installation kit for pipes 1" (of 27 - 30 mm) for mounting plates for pipe mounting	10	**GHG 610 1953 R0020**

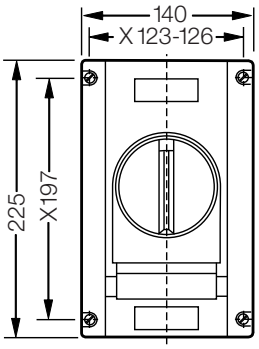
Accessories for canopies plates

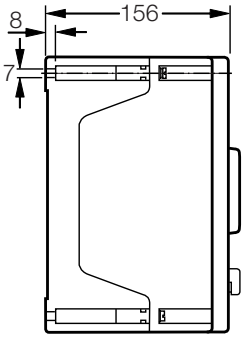
Type	Application	OU	Order No.
Size 3	for pipe mounting plate size 3 vertical	1	**GHG 610 1955 R0104**
Size 3A	for wall/trellis mounting plate size 3 vertical	1	**GHG 610 1955 R0105**
Size 3B	for pipe mounting plate size 3 horizontal	1	**GHG 610 1955 R0106**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

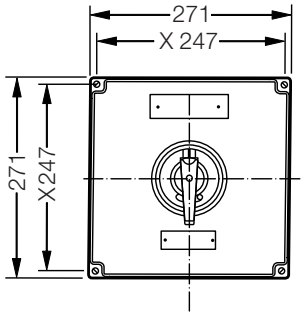


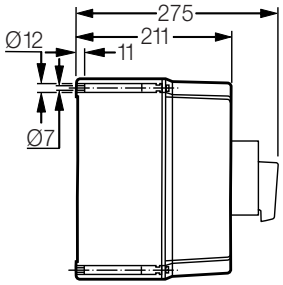
Dimension drawing





3-pole

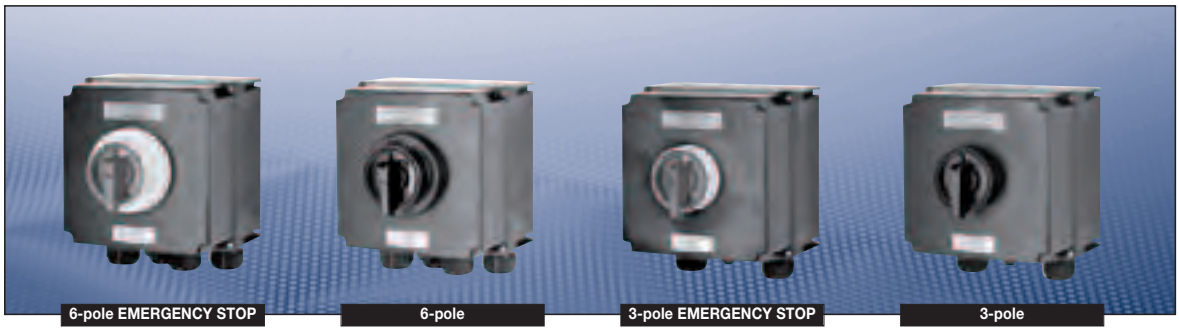




6-pole

X = fixing dimensions

Dimensions in mm



Technical data

Industrial-Safety switch 80 A		
Permissible ambient temperature		–20 °C to +40 °C
Rated voltage		up to max. 690 V
Rated current		max. 80 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 80 A
accd. to EN 60947-3		U_e 400 V / I_e 80 A
		U_e 500 V / I_e 80 A
		U_e 690 V / I_e 80 A
Back-up fuse		up to 400 V AC: 160 A gL
		up to 500 V AC: 160 A gL
		up to 690 V AC: 125 A gL
Connecting terminals	Main contact	2 x 25 mm^2
	Auxiliary-/Signal contact	2 x 4 mm^2
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
		M50 (d = 21 - 35 mm) see ordering details
		Option: metal flange with 2 x thread
Weight	3-pole	approx. 6.50 kg
	6-pole	approx. 9.00 kg
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC making - leading; breaking - lagging
Padlocking		can be locked in OFF position with 3 commercially available padlocks



Ordering details

Version	Cable entry	Order No.
Industrial-Safety switch 80 A 3-pole		
Version with 2 auxiliary contacts (1 x NO; 1 x NC)		
3-pole	2 x M50 / 1 x M25	**GHG 981 0025 R0001**
3-pole EMERGENCY STOP	2 x M50 / 1 x M25	**GHG 981 0025 R0002**
Industrial-Safety switch 80 A 6-pole		
Version with 2 auxiliary contacts (1 x NO; 1 x NC)		
6-pole	4 x M50 / 1 x M25	**GHG 981 0026 R0001**
6-pole EMERGENCY STOP	4 x M50 / 1 x M25	**GHG 981 0026 R0002**

Customized version on request

Accessories

Mounting plate for industrial-safety switch

Type	Application	Fixing technique	Order No.
Size 3	2 x Pipe mounting	screw-on[1)]	**GHG 610 1953 R0110**

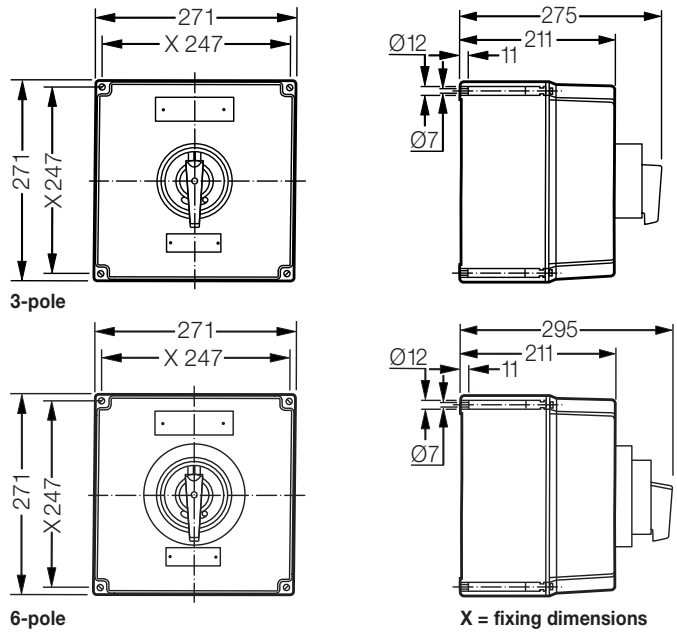
[1)] observe mounting distance

Accessories for mounting plates

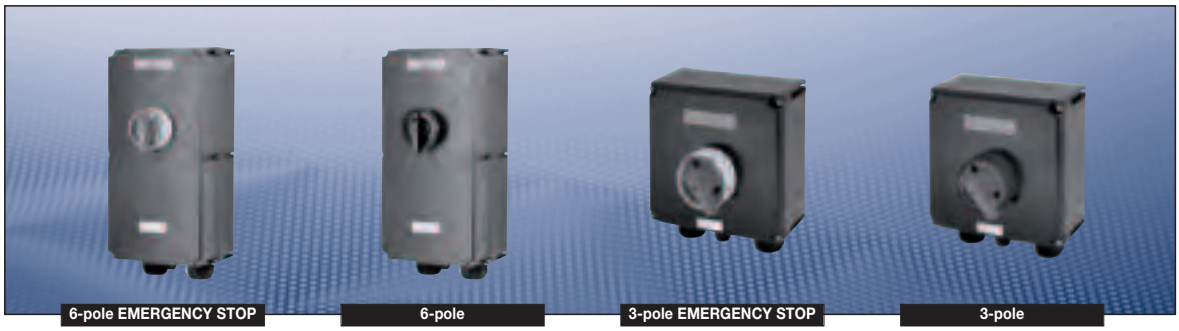
Type	OU	Order No.
Label holder with label (unlabelled) for mounting plates size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Installation kit for pipes 1" (of 27 - 30 mm) for mounting plates for pipe mounting	10	**GHG 610 1953 R0020**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

Dimension drawing



Dimensions in mm



Technical data

Industrial-Safety switch 100 A		
Permissible ambient temperature		–20 °C to +40 °C
Rated voltage		up to max. 690 V
Rated current		max. 100 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 100 A
accd. to EN 60947-3		U_e 400 V / I_e 100 A
		U_e 500 V / I_e 100 A
		U_e 690 V / I_e 100 A
Back-up fuse		up to 400 V AC: 200 A gL
		up to 500 V AC: 200 A gL
		up to 690 V AC: 160 A gL
Connecting terminals	Main contact	1 x 50/70 mm^2
	Auxiliary-/Signal contact	2 x 4 mm^2
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
		M50 (d = 21 - 35 mm) see ordering details
		Option: metal flange with 2 x thread
Weight	3-pole	approx. 9.50 kg
	6-pole	approx. 16.00 kg
Enclosure material	3-pole	glass-fibre reinforced polyester
	6-pole	steel, powder-coated
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC making - leading; breaking - lagging
Padlocking		can be locked in OFF position with 3 commercially available padlocks



Ordering details

Version	Cable entry	Order No.
Industrial-Safety switch 100 A 3-pole		
Version with 4 auxiliary contacts (2 x NO; 2 x NC)		
3-pole	2 x M50 / 1 x M25	**GHG 981 0029 R0004**
3-pole EMERGENCY STOP	2 x M50 / 1 x M25	**GHG 981 0029 R0005**
Industrial-Safety switch 100 A 6-pole		
Version with 4 auxiliary contacts (2 x NO; 2 x NC)		
6-pole	4 x M50 / 1 x M25	**GHG 981 0030 R0001**
6-pole EMERGENCY STOP	4 x M50 / 1 x M25	**GHG 981 0030 R0002**

Customized version on request

Accessories

Mounting plate for industrial-safety switch

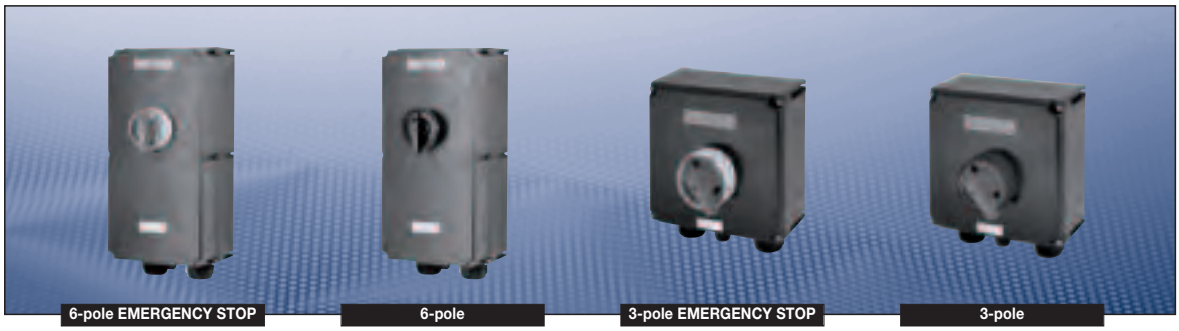
Type	Application	Fixing technique	Order No.
Size 3	2 x Pipe mounting	screw-on[1)]	**GHG 610 1953 R0110**

[1)] observe mounting distance

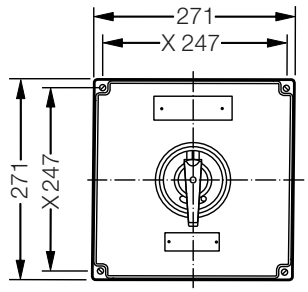
Accessories for mounting plates

Type	OU	Order No.
Label holder with label (unlabelled) for mounting plates size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Installation kit for pipes 1" (of 27 - 30 mm) for mounting plates for pipe mounting	10	**GHG 610 1953 R0020**

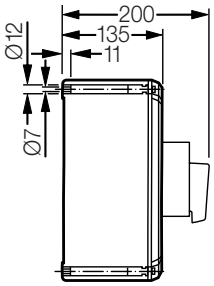
Please note that we can only deliver in the ordering units (OU) stated in the tables above

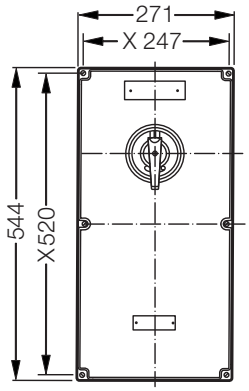


Dimension drawing

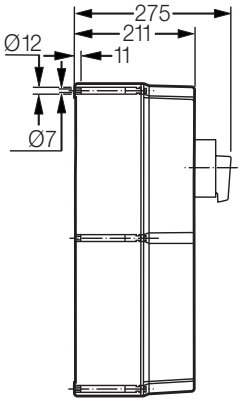


3-pole





6-pole



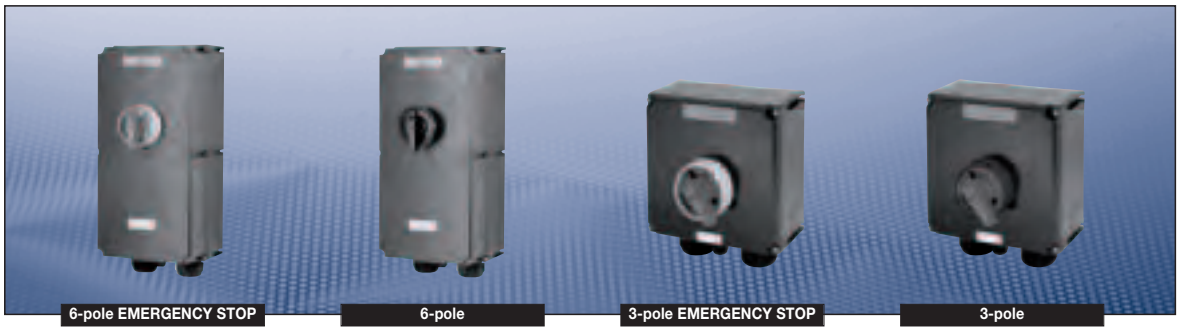
X = fixing dimensions

Dimensions in mm



Technical data

Industrial-Safety switch 160 A		
Permissible ambient temperature		–20 °C to +40 °C
Rated voltage		up to max. 690 V
Rated current		max. 160 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 160 A
accd. to EN 60947-3		U_e 400 V / I_e 160 A
		U_e 500 V / I_e 160 A
		U_e 690 V / I_e 160 A
Back-up fuse		up to 400 V AC: 250 A gL
		up to 500 V AC: 250 A gL
		up to 690 V AC: 200 A gL
Connecting terminals	Main contact	1 x 95 mm^2
	Auxiliary-/Signal contact	2 x 4 mm^2
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
		M63 (d = 27 - 48 mm) see ordering details
		Double cable end box (d = 46 -72 mm)
		Option: metal flange with 2 x thread
Weight	3-pole	approx. 9.00 kg
	6-pole	approx. 16.50 kg
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC making - leading; breaking - lagging
Padlocking		can be locked in OFF position with 3 commercially available padlocks



Ordering details

Version	Cable entry	Order No.
Industrial-Safety switch 160 A 3-pole		
Version with 4 auxiliary contacts (2 x NO; 2 x NC)		
3-pole	2 x M63 / 1 x M25	**GHG 981 0031 R0003**
3-pole EMERGENCY STOP	2 x M63 / 1 x M25	**on request**
Industrial-Safety switch 160 A 6-pole		
Version with 4 auxiliary contacts (2 x NO; 2 x NC)		
6-pole	4 x M50 / 1 x M25	**GHG 981 0032 R0001**
6-pole EMERGENCY STOP	4 x M50 / 1 x M25	**GHG 981 0032 R0002**

Customized version on request

Accessories

Mounting plate for industrial-safety switch

Type	Application	Fixing technique	Order No.
Size 3	2 x Pipe mounting	screw-on[1)]	**GHG 610 1953 R0110**

[1)] observe mounting distance

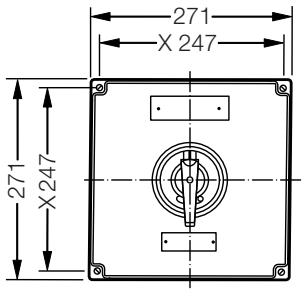
Accessories for mounting plates

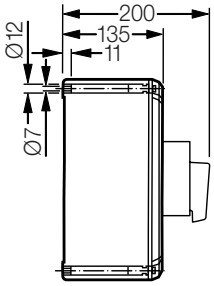
Type	OU	Order No.
Label holder with label (unlabelled) for mounting plates size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Installation kit for pipes 1" (of 27 - 30 mm) for mounting plates for pipe mounting	10	**GHG 610 1953 R0020**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

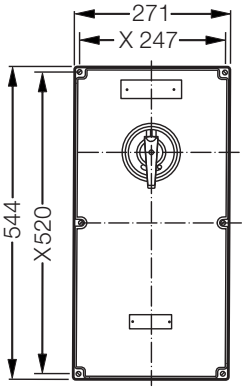


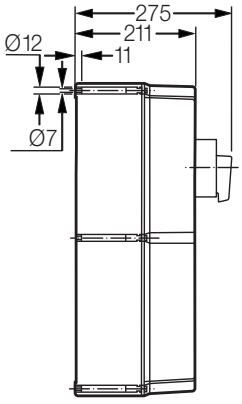
Dimension drawing





3-pole

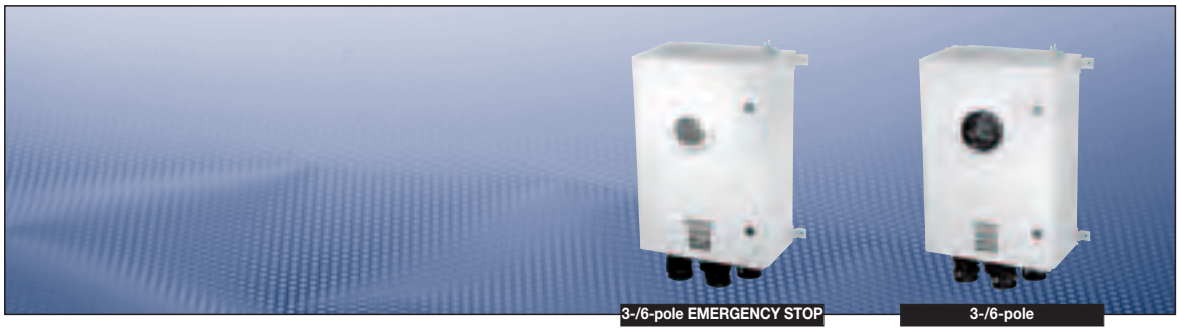




6-pole

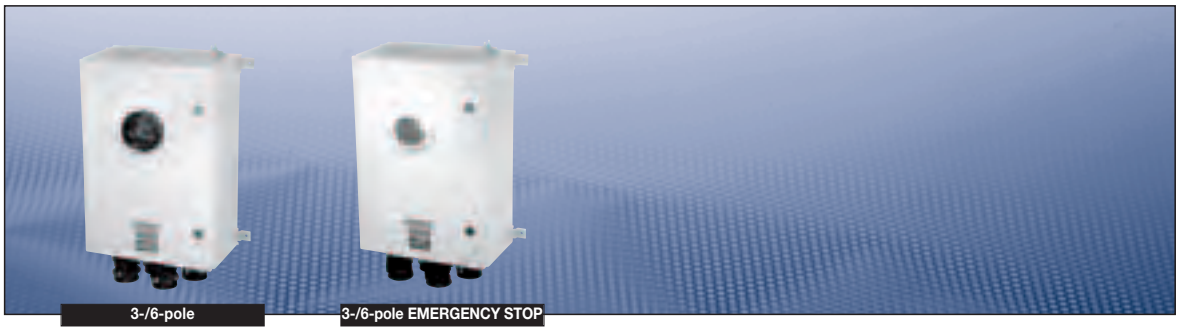
X = fixing dimensions

Dimensions in mm



Technical data

Industrial-Safety switch 250 A			
Permissible ambient temperature			–20 °C to +40 °C
Rated voltage			up to max. 690 V
Rated current			max. 250 A
Frequency			50/60 Hz
Rated making-/breaking capacity AC-3			U_e 230 V / I_e 250 A
accd. to EN 60947-3			U_e 400 V / I_e 250 A
			U_e 500 V / I_e 250 A
			U_e 690 V / I_e 250 A
Back-up fuse			up to 400 V AC: 250 A gL
			up to 500 V AC: 200 A gL
			up to 690 V AC: 200 A gL
Connecting terminals	Main contact	3-pole	3 x 150 mm²/95 mm²
		6-pole	6 x 150 mm²/2 x 95 mm²
	Auxiliary-/Signal contact		2 x 4 mm²
Insulation class			I
Degree of protection accd. EN 60529			IP65
Cable glands/enclosure drilling			M25 (d = 8 - 17 mm) see ordering details
			M63 (d = 27 - 48 mm) see ordering details
Weight	3-pole		approx. 18 kg
	6-pole		approx. 31 kg
Enclosure material			steel, powder-coated
Enclosure colour			black
Auxiliary contact			1 x NO making - lagging; breaking - leading
			1 x NC making - leading; breaking - lagging
Padlocking			can be locked in OFF position with 3 commercially available padlocks

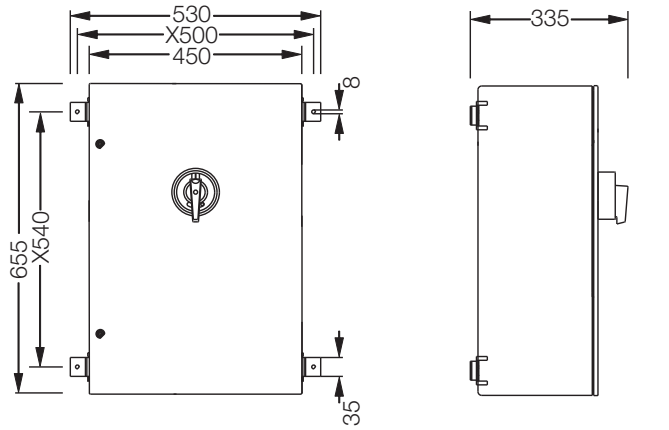


Ordering details

Version	Cable entry	Order No.
Industrial-Safety switch 250 A 3-pole		
Version with 2 auxiliary contacts (1 x NO; 1 x NC)		
3-pole	2 x M63 / 1 x M25	**KO 731713 W0001**
3-pole EMERGENCY STOP	2 x M63 / 1 x M25	**KO 731723 W0001**
Industrial-Safety switch 250 A 6-pole		
Version with 2 auxiliary contacts (1 x NO; 1 x NC)		
6-pole	4 x M63 / 1 x M25	**KO 731716 W0001**
6-pole EMERGENCY STOP	4 x M63 / 1 x M25	**KO 731726 W0001**

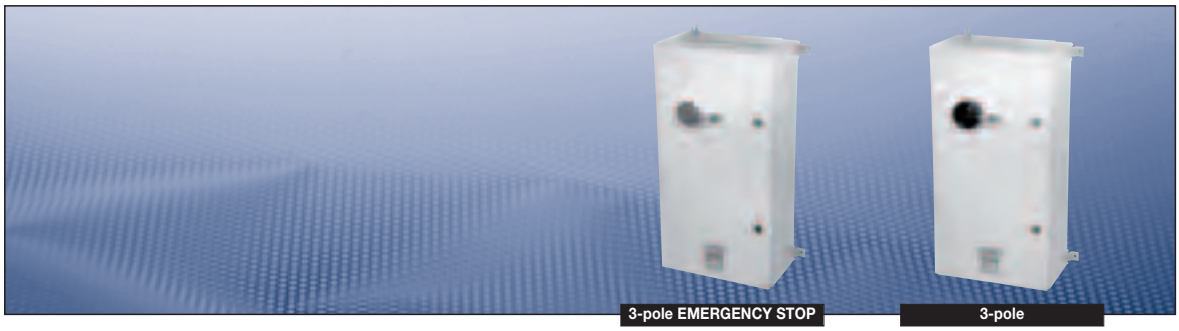
Customized version on request

Dimension drawing



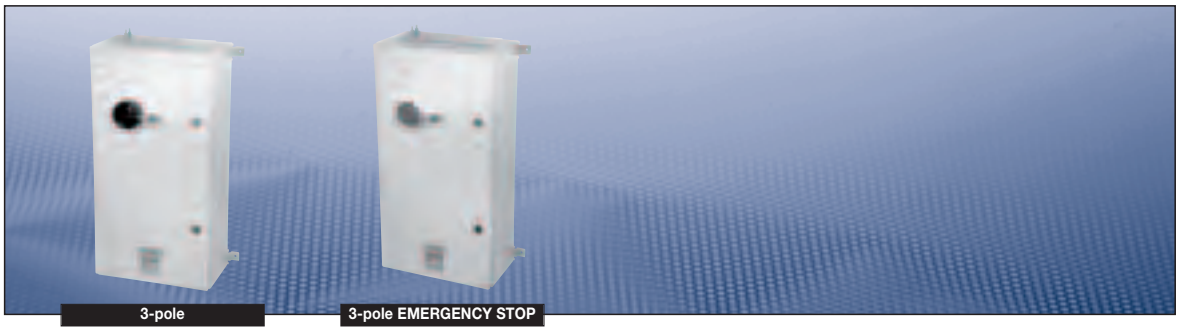
3-/6-pole **X = fixing dimensions**

Dimensions in mm



Technical data

Industrial-Safety switch 400 A		
Permissible ambient temperature		–20 °C to +40 °C
Rated voltage		up to max. 690 V
Rated current		max. 250 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 400 A
accd. to EN 60947-3		U_e 400 V / I_e 400 A
		U_e 500 V / I_e 400 A
		U_e 690 V / I_e 400 A
Back-up fuse		up to 400 V AC: 500 A gL
		up to 500 V AC: 500 A gL
		up to 690 V AC: 500 A gL
Connecting terminals	Main contact	3 x 150 mm^2/95 mm^2
	Auxiliary-/Signal contact	2 x 4 mm^2
Insulation class		I
Degree of protection accd. EN 60529		IP65
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
		M63 (d = 27 - 48 mm) see ordering details
Weight		approx. 39.50 kg
Enclosure material		steel, powder-coated
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC making - leading; breaking - lagging
Padlocking		can be locked in OFF position with 3 commercially available padlocks

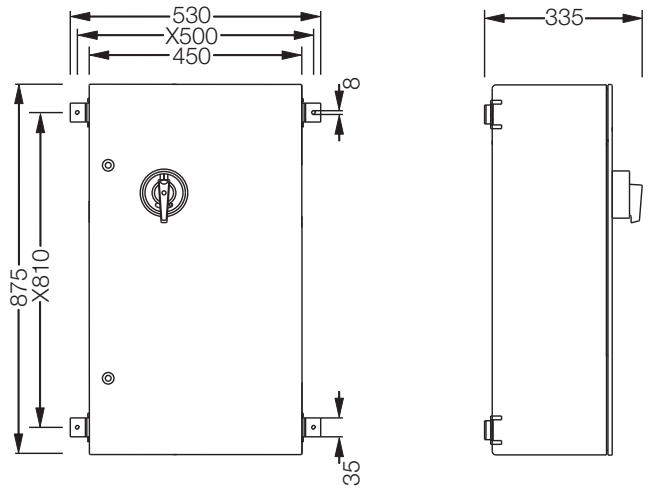


Ordering details

Version	Cable entry	Order No.
Industrial-Safety switch 400 A 3-pole		
Version with 2 auxiliary contacts (1 x NO; 1 x NC)		
3-pole	2 x M63 / 1 x M25	**KO 731713 X0001**
3-pole EMERGENCY STOP	2 x M63 / 1 x M25	**KO 731723 X0001**

Customized version on request

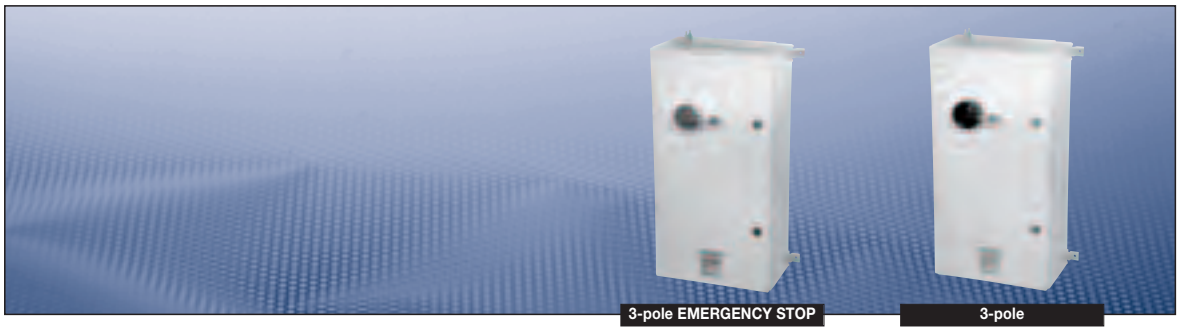
Dimension drawing



3-pole

X = fixing dimensions

Dimensions in mm



Technical data

Industrial-Safety switch 630 A		
Permissible ambient temperature		–20 °C to +40 °C
Rated voltage		up to max. 690 V
Rated current		max. 630 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 630 A
accd. to EN 60947-3		U_e 400 V / I_e 630 A
		U_e 500 V / I_e 630 A
		U_e 690 V / I_e 630 A
Back-up fuse		up to 400 V AC: 800 A gL
		up to 500 V AC: 800 A gL
		up to 690 V AC: 800 A gL
Connecting terminals	Main contact	3 x 240 mm²/120 mm²
	Auxiliary-/Signal contact	2 x 4 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP65
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
		M80 (d = 62 - 68 mm) see ordering details
Weight		approx. 40.50 kg
Enclosure material		steel, powder-coated
Enclosure colour		black
Auxiliary contact		1 x NO making - lagging; breaking - leading
		1 x NC making - leading; breaking - lagging
Padlocking		can be locked in OFF position with 3 commercially available padlocks

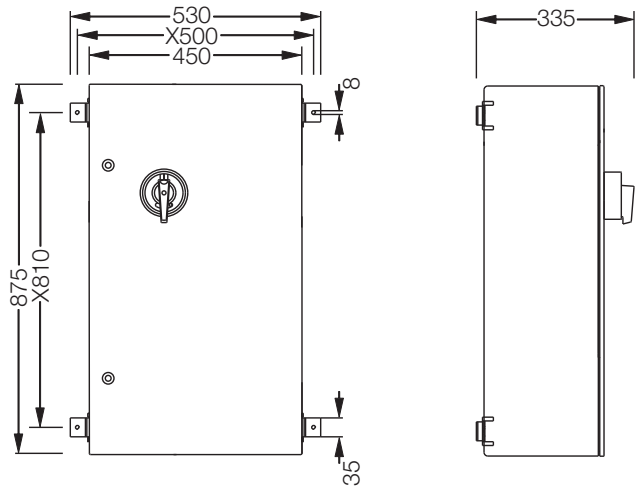


Ordering details

Version	Cable entry	Order No.
Industrial-Safety switch 630 A 3-pole		
Version with 2 auxiliary contacts (1 x NO; 1 x NC)		
3-pole	4 x M80 / 1 x M25	**KO 731713 Y0001**
3-pole EMERGENCY STOP	4 x M80 / 1 x M25	**KO 731723 Y0001**

Customized version on request

Dimension drawing



3-pole

X = fixing dimensions

Dimensions in mm

EX-MAIN CURRENT SWITCHES

Up to 630 A

CEAG main current switches in a number of versions can be protected against inadvertent switching on by our integrated locking facility for up to three padlocks in the OFF position.

Full AC-3 motor switching capacities and isolating properties according to EN 60947-4-1 with compulsory opening of the main current contacts according to EN 60204-1 are just some of the eminent features offered by CEAG's main current switches.

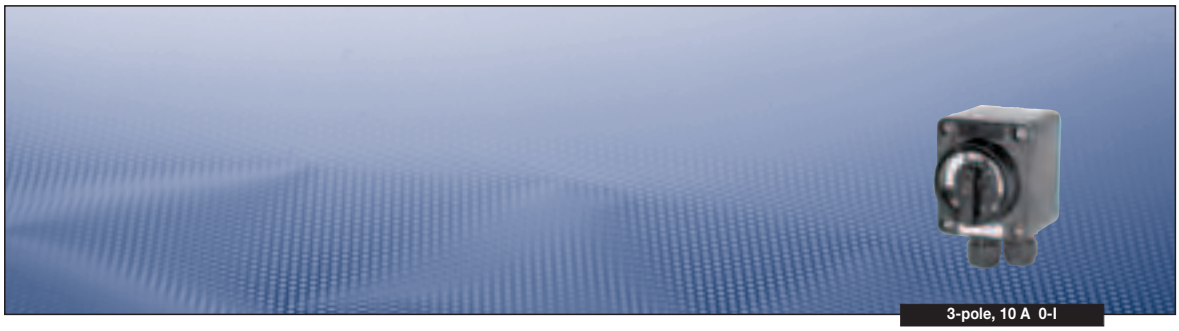
The main current switches feature an installation-friendly design and easily accessible connection terminals.
Versions in impact-resistant polyamide or glass-fibre-reinforced polyester guarantee the high degree of protection IP66 for amperages up to 180 A. These can be optionally supplied with snap-on moulded plastic or brass flanges.
They can be equipped with screw-on flanges.

Main current switches >180 A are realized in metal enclosures.

Internationally approved.



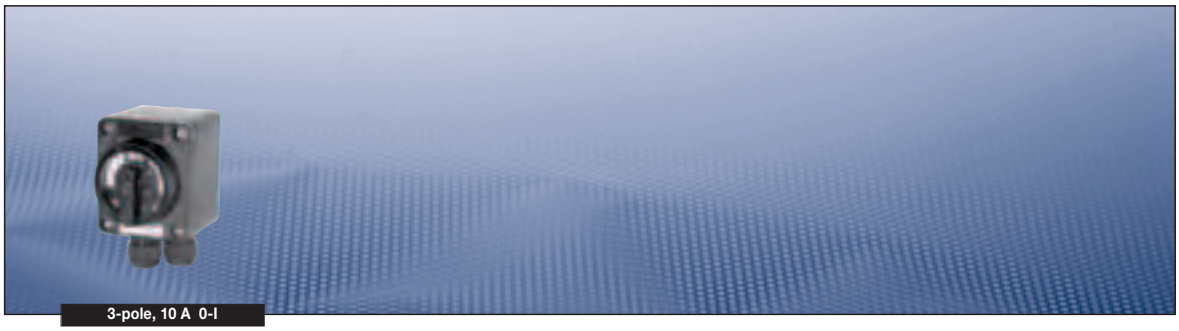
- **Full AC-3 switching capacity**
- **Cost-saving installation**
- **Variants: star, delta, Dahlander or reversing switches up to 80 A**
- **Up to 40 A: snap mounting**
- **Up to 180 A: IP66 protection**


3-pole, 10 A 0-I

Technical data

Ex-Main current switch 10 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate		PTB 00 ATEX 1074
IECEx Certificate of Conformity		BKI 07.0014
Marking accd. to IECEx		Ex ed IIC T6
		Ex tD A21 IP66 T53 °C
Permissible ambient temperature		–20 °C to +40 °C[1)]
Rated voltage		up to max. 500 V
Rated current		max. 80 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 10 A
accd. to EN 60947-3		U_e 400 V / I_e 10 A
		U_e 500 V / I_e 10 A
Back-up fuse		up to 400 V AC: 10 A gL
		up to 500 V AC: 10 A gL
Connecting terminals	Main contact	2 x 1.5 - 2.5 mm²
	Auxiliary-/Signal contact	2 x 0.5 - 2.5 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
Weight		approx. 0.60 kg
Enclosure material		impact resistant polyamide
Enclosure colour		black

[1)] Other ambient temperatures on request



3-pole, 10 A 0-I

Ordering details

Version	Cable entry		Order No.
Ex-Main current switch 10 A			
3-pole 0-I	2 x M25	ON-OFF switch	**GHG 261 0006 R0001**

Customized version on request

Accessories

Mounting plate for Ex-main current switch 10 A 3-pole

Type	Application	Fixing technique	Order No.
Size 1	Wall mounting	screw-on	**GHG 610 1953 R0101**
Size 1	Pipe mounting	screw-on	**GHG 610 1953 R0102**
Size 1	Trellis mounting	screw-on	**GHG 610 1953 R0103**

Accessories for mounting plates

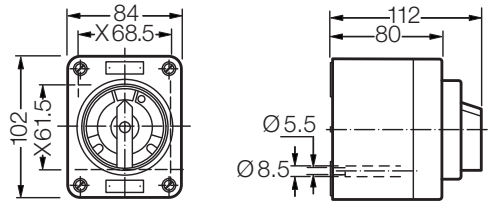
Type	OU	Order No.
Label holder with label (unlabelled) for mounting plates size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Installation kit for pipes 1" (of 27 - 30 mm) for mounting plates for pipe mounting	10	**GHG 610 1953 R0020**

Accessories for canopies plates

Type	Application	OU	Order No.
Size 1	for mounting plate size 1	1	**GHG 610 1955 R0101**

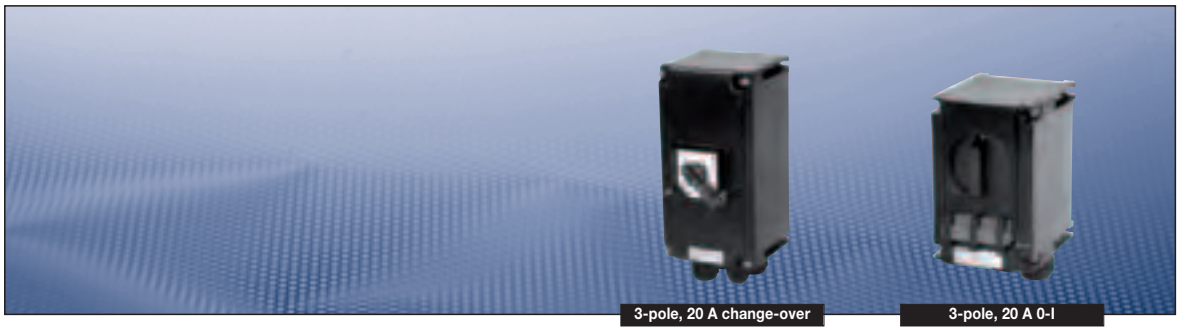
Please note that we can only deliver in the ordering units (OU) stated in the tables above

Dimension drawing



3-pole, 10 A 0-I **X = fixing dimensions**

Dimensions in mm



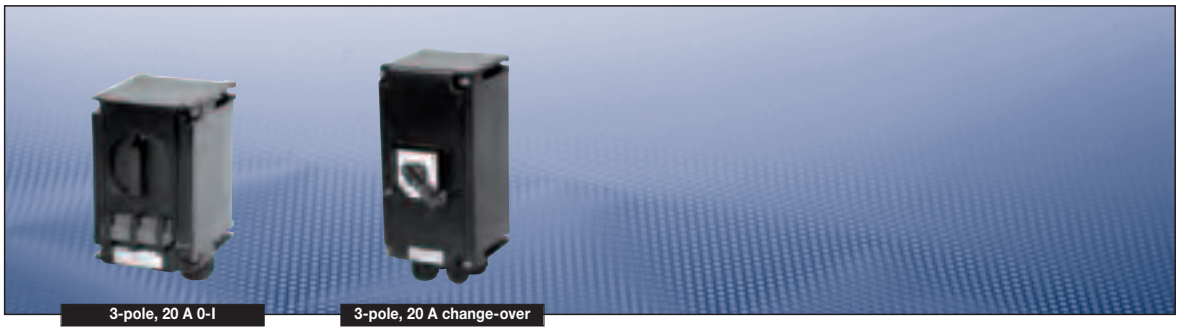
3-pole, 20 A change-over

3-pole, 20 A 0-I

Technical data

Ex-Main current switch 20 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex ed ia IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate		PTB 99 ATEX 1161
IECEx Certificate of Conformity		BKI 07.0012
Marking accd. to IECEx		Ee ed ia IIC T6
		Ex tD A21 IP66 T55 °C
Permissible ambient temperature		–20 °C to +40 °C[1)]
Rated voltage		up to max. 690 V
Rated current		max. 20 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 20 A
accd. to EN 60947-3		U_e 400 V / I_e 20 A
		U_e 500 V / I_e 16 A
		U_e 690 V / I_e 10 A
Back-up fuse		up to 400 V AC: 35 A gL
		up to 500 V AC: 35 A gL
		up to 690 V AC: 25 A gL
Connecting terminals	Main contact	2 x 4 mm²
	Auxiliary-/Signal contact	2 x 0.5 - 2.5 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
		M32 (d = 12 - 21 mm) see ordering details
		Option: metal flange with thread
Weight		approx. 1.40 kg
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black

[1)] Other ambient temperatures on request



3-pole, 20 A 0-I

3-pole, 20 A change-over

Ordering details

Version		Cable entry		Order No.
Main current switch 20 A 3-pole				
3-pole	0 - I	2 x M32	ON-OFF switch	**GHG 262 1301 R0001**
	0 - Y - D	3 x M32	star-delta	**GHG 262 0016 R0004**
	0 - I - II	3 x M32	Dahlander	**GHG 262 0016 R0005**
Main current switch 20 A 3-pole				
Version with 2 auxiliary contact (1 x NO; 1 x NC)				
3-pole	I - II	3 x M32/1 x M25	change-over switch	**GHG 262 0016 R0001**
	I - 0 - D	3 x M32/1 x M25	change-over switch	**GHG 262 0016 R0002**
	I - 0 - II	3 x M32/1 x M25	reversing switch	**GHG 262 0016 R0003**

Customized version on request, auxiliary contacts in Ex ia available

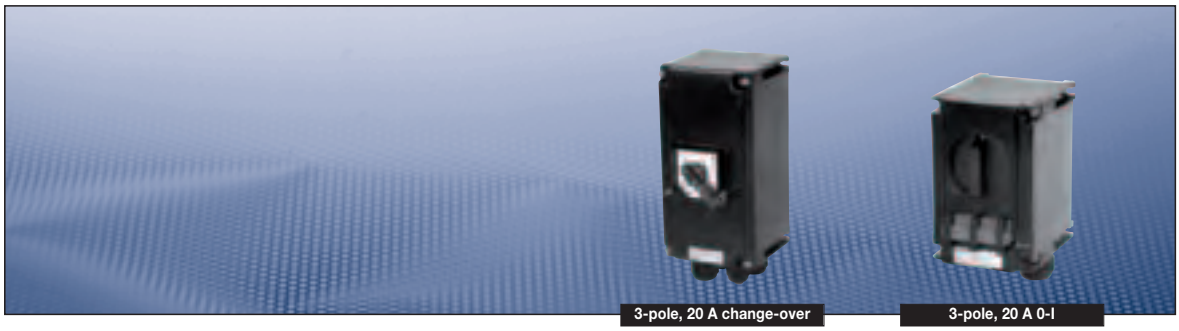
Accessories

Mounting plate for Ex-main current switch 20 A 3-pole			
Type	**Application**	**Fixing technique**	**Order No.**
Size 2	Wall mounting	snap-on	**GHG 610 1953 R0104**
Size 2	Pipe mounting	snap-on	**GHG 610 1953 R0105**
Size 2	Trellis mounting	snap-on	**GHG 610 1953 R0106**

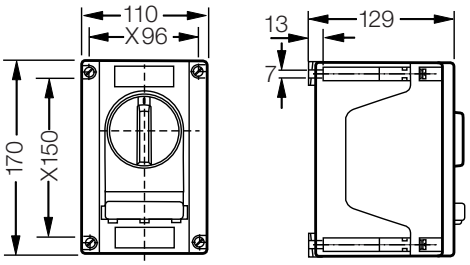
Accessories for mounting plates		
Type	**OU**	**Order No.**
Label holder with label (unlabelled) for mounting plates size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Snap-on for CEAG apparatus with 5.5 mm and 11 mm mounting feet 1 set = 4 each	10	**GHG 610 1953 R0041**
Installation kit for pipes 1" (of 27 - 30 mm) for mounting plates for pipe mounting	10	**GHG 610 1953 R0020**

Accessories for canopies plates			
Type	**Application**	**OU**	**Order No.**
Size 2	for mounting plate size 2	1	**GHG 610 1955 R0102**
Size 2A	for mounting plate size 2A	1	**GHG 610 1955 R0103**

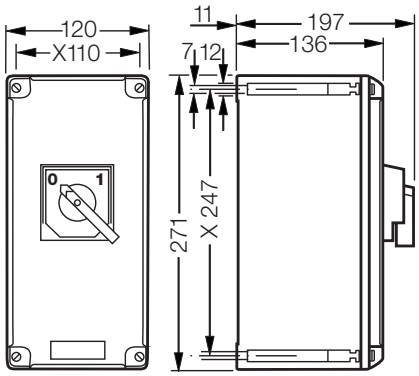
Please note that we can only deliver in the ordering units (OU) stated in the tables above



Dimension drawing



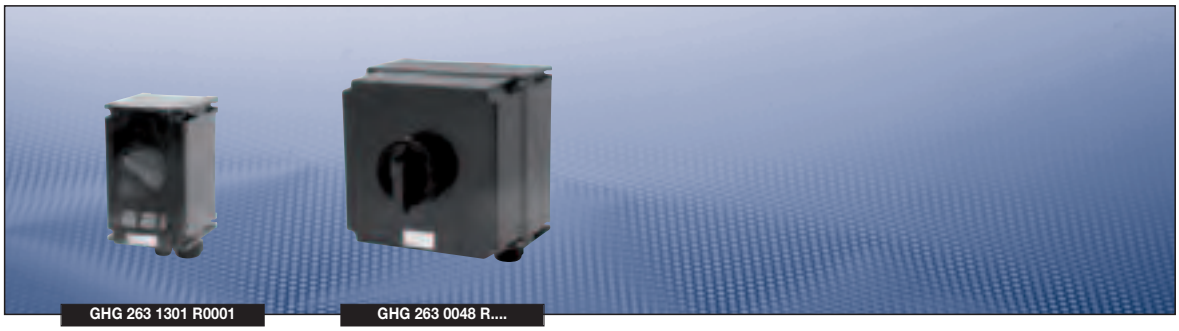
GHG 262 1301 R0001



GHG 262 0016 R...

X = fixing dimensions

Dimensions in mm

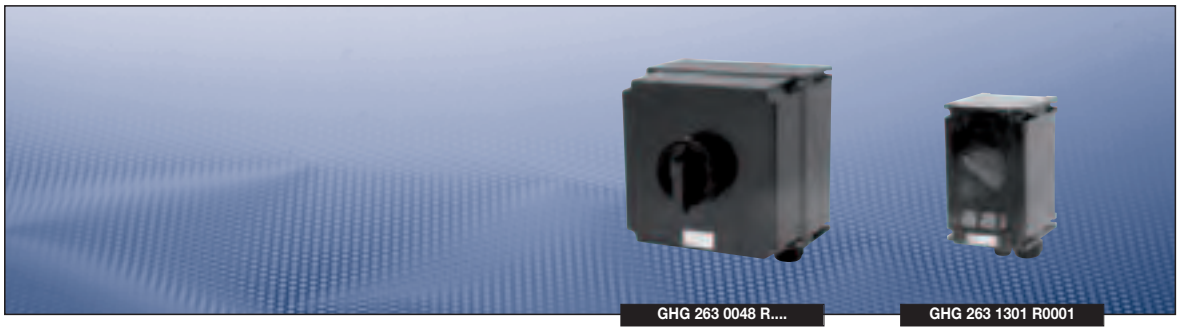


GHG 263 1301 R0001 GHG 263 0048 R....

Technical data

Ex-Main current switch 40 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate		PTB 99 ATEX 1161
IECEx Certificate of Conformity		BKI 07.0012
Marking accd. to IECEx		Ex ed ia II T6
		Ex tD A21 IP66 T55 °C
Permissible ambient temperature		–20 °C to +40 °C[1)]
Rated voltage		up to max. 690 V
Rated current		max. 40 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 40 A
accd. to EN 60947-3		U_e 400 V / I_e 40 A
		U_e 500 V / I_e 40 A
		U_e 690 V / I_e 32 A
Back-up fuse		up to 400 V AC: 80 A gL
		up to 500 V AC: 80 A gL
		up to 690 V AC: 63 A gL
Connecting terminals	Main contact	2 x 16 mm^2
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
		M40 (d = 16 - 28 mm) see ordering details
		Option: metal flange with thread
Weight	3-pole	approx. 2.30 kg
	6-pole	approx. 6.50 kg
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black

[1)] Other ambient temperatures on request



Ordering details

Version		Cable entry		Order No.
Ex-Main current switch 40 A 3-pole				
3-pole	0 - I	2 x M40, 1 x M25	ON-OFF switch	**GHG 263 1301 R0001**
	0 - Y - D	3 x M40, 2 x M25 screw plug	star-delta	**GHG 263 0048 R0005**
	0 - I - II	3 x M40, 2 x M25 screw plug	Dahlander	**GHG 263 0048 R0006**
Safety switch 40 A 3-pole				
Version with 2 auxiliary contacts (1 x NO; 1 x NC)				
3-pole	I - II	3 x M40/1 x M25, 1 x M25 screw plug	change-over switch	**GHG 263 0048 R0002**
	I - 0 - D	3 x M40/1 x M25, 1 x M25 screw plug	change-over switch	**GHG 263 0048 R0003**
	I - 0 - II	2 x M40/1 x M25, 1 x M25 screw plug	reversing switch	**GHG 263 0048 R0004**

Customized version on request, auxiliary contacts in Ex ia available

Accessories

Mounting plate for Ex-main current switch 40 A 3-pole

Type	Application	Fixing technique	Order No.
Size 3	Wall mounting	snap-on	**GHG 610 1953 R0118**
Size 3	Pipe mounting	snap-on	**GHG 610 1953 R0110**
Size 3	Trellis mounting	snap-on	**GHG 610 1953 R0118**

Mounting plate for Ex-main current switch 40 A 6-pole

Type	Application	Fixing technique	Order No.
Size 3	2 x Pipe mounting	screw-on[1)]	**GHG 610 1953 R0110**

[1)] observe mounting distance

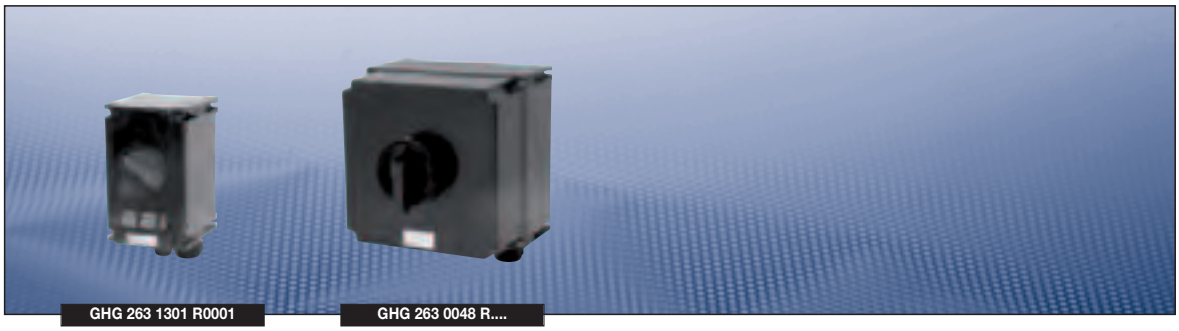
Accessories for mounting plates

Type	OU	Order No.
Label holder with label (unlabelled) for mounting plates size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Snap-on for CEAG apparatus with 5.5 mm and 11 mm mounting feet 1 set = 4 each	10	**GHG 610 1953 R0041**
Installation kit for pipes 1" (of 27 - 30 mm) for mounting plates for pipe mounting	10	**GHG 610 1953 R0020**

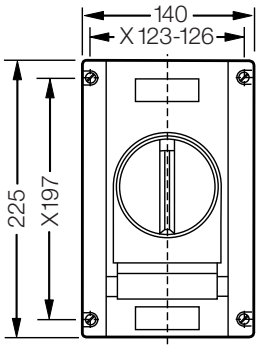
Accessories for canopies plates

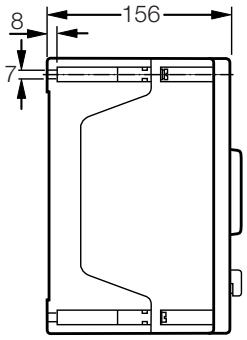
Type	Application	OU	Order No.
Size 3	for pipe mounting plate size 3 vertical	1	**GHG 610 1955 R0104**
Size 3A	for wall/trellis mounting plate size 3 vertical	1	**GHG 610 1955 R0105**
Size 3B	for pipe mounting plate size 3 horizontal	1	**GHG 610 1955 R0106**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

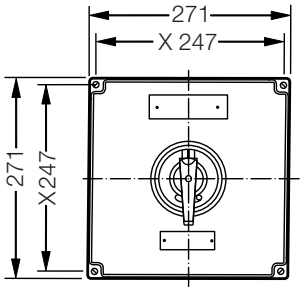


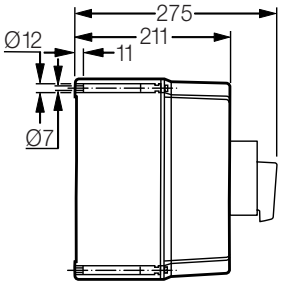
Dimension drawing





GHG 263 1301 R0001

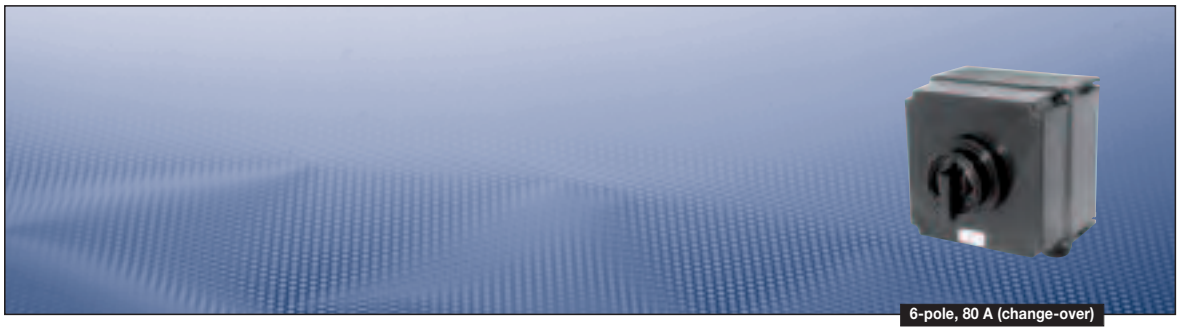




GHG 263 0048 R...

X = fixing dimensions

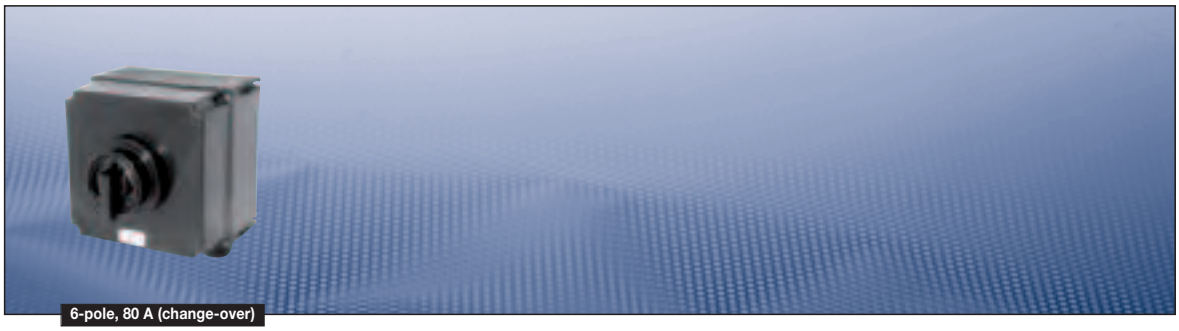
Dimensions in mm


6-pole, 80 A (change-over)

Technical data

Ex-Main current switch 80 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate		PTB 00 ATEX 1091
Permissible ambient temperature		–20 °C to +40 °C[1)]
Rated voltage		up to max. 690 V
Rated current		max. 80 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3		U_e 230 V / I_e 80 A
accd. to EN 60947-3		U_e 400 V / I_e 80 A
		U_e 500 V / I_e 80 A
		U_e 690 V / I_e 63 A
Back-up fuse		up to 400 V AC: 80 A gL
		up to 500 V AC: 80 A gL
		up to 690 V AC: 63 A gL
Connecting terminals	Main contact	2 x 16 mm²
	Auxiliary-/Signal contact	2 x 4 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP66
Cable glands/enclosure drilling		M25 (d = 8 - 17 mm) see ordering details
		M50 (d = 21 - 35 mm) see ordering details
		Option: metal flange with thread
Weight	3-pole	approx. 6.50 kg
	4-pole	approx. 9.00 kg
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black

[1)] Other ambient temperatures on request



6-pole, 80 A (change-over)

Ordering details

Version		Cable entry		Order No.
Ex-Main current switch 80 A				
Version with 2 auxiliary contacts (1 x NO; 1 x NC)				
4-pole	0 - I without auxiliary contact	2 x M50, 1 x M25 screw plug	ON-OFF switch	**GHG 264 0022 R9015**
3-pole	I - 0 - II	3 x M50, 1 x M25 screw plug	change-over switch	**GHG 264 0019 R0003**
3-pole	I - 0 - II	2 x M50, 1 x M25 screw plug	reversing switch	**GHG 264 0019 R0004**

Customized version on request, auxiliary contacts in Ex ia available

Accessories

Mounting plate for Ex-main current switch 80 A 3- and 4-pole			
Type	**Application**	**Fixing technique**	**Order No.**
Size 3	2 x Pipe mounting	screw-on[1)]	**GHG 610 1953 R0110**

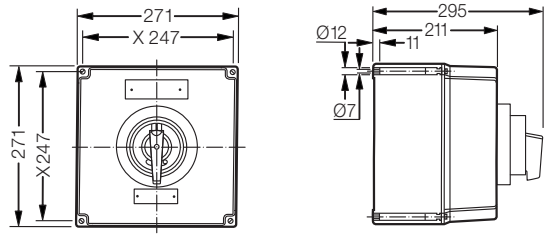
[1)] observe mounting distance

Accessories for mounting plates		
Type	**OU**	**Order No.**
Label holder with label (unlabeled) for mounting plates size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Installation kit for pipes 1" (of 27 - 30 mm) for mounting plates for pipe mounting	10	**GHG 610 1953 R0020**

Accessories for canopies plates			
Type	**Application**	**OU**	**Order No.**
Size 3	for pipe mounting plate size 3 vertical	1	**GHG 610 1955 R0104**
Size 3A	for wall/trellis mounting plate size 3 vertical	1	**GHG 610 1955 R0105**
Size 3B	for pipe mounting plate size 3 horizontal	1	**GHG 610 1955 R0106**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

Dimension drawing



GHG264 0019 R....

X = fixing dimensions

Dimensions in mm

EX-POWER CIRCUIT BREAKERS

Up to 630 A

CEAG power circuit breakers enable making or breaking of circuits under normal operating conditions as well as cutting in, briefly conducting and cutting out currents under exceptional conditions, such as short circuiting.

Full AC-3 motor switching capacities and isolating properties according to EN 60947-4-1 with compulsory opening of the main current contacts according to EN 60204-1 are just some of the eminent features offered by CEAG power circuit breakers.
Versions up to 180 A guarantee the optional high degree of protection IP65.
The switch position is always clearly indicated and easily seen.
The main current switches feature an installation-friendly design and easily accessible connection terminals.

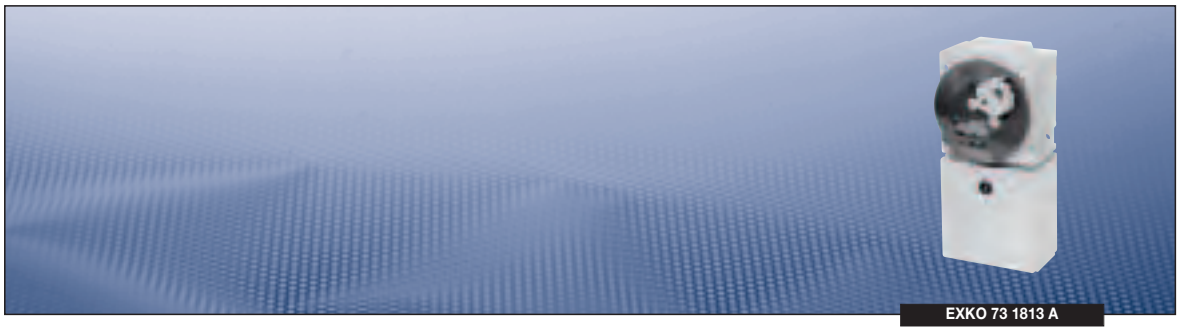
Metal versions can be equipped with metal screw-on flanges allowing simple integration in system as well as cost-efficient later extensions. These can be optionally supplied with snap-on moulded plastic or brass flanges.

The described power circuit breakers are also available for Explosion Group IIB, which is sufficiant for many of the applications.

Internationally approved.



- **Full AC-3 motor switching capacity**
- **High degree of IP protection**
- **Simple integration in systems**

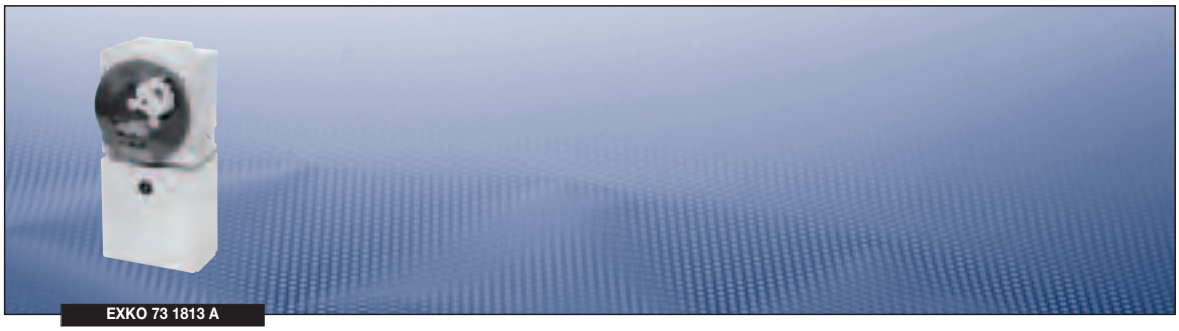


Technical data

Ex-Power circuit breaker 63 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de ia/ib [ia/ib] IIC T4 – T6[1)] Ⓔx II 2 D IP66 T80 °C / T95 °C / T130 °C
EC-Type Examination Certificate		PTB 99 ATEX 1057
IECEx Certificate of Conformity		BKI 06.0006
Marking accd. to IECEx		Ex de ia/ib [ia/ib] IIC T6/T5/T4 Ex tD A21 IP66 T80 °C / T95 °C / T130 °C
Permissible ambient temperature		–20 °C to +40 °C[2)]
Rated voltage		up to max. 690 V
Rated current		max. 63 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3 accd. to EN 60947-3		U_e 230 V / I_e 63 A U_e 400 V / I_e 63 A U_e 500 V / I_e 63 A U_e 690 V / I_e 63 A
Back-up fuse		up to 400 V AC: 80 A gL up to 500 V AC: 80 A gL up to 690 V AC: 80 A gL
Connecting terminals	Main contact	2 x 35 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP54 (optional IP 65)
Cable glands/enclosure drilling		M50 (d = 21 - 35 mm) see ordering details
Weight	3-pole 4-pole	approx. 17 kg approx. 18 kg
Enclosure material		aluminium, polyester powder-coated connection box steel, powder-coated
Colour	Enclosure Cover	pebble gray (RAL 7032) dark grey (RAL 7022)

[1)] Also available with Explosion Group IIB

[2)] Other ambient temperatures on request

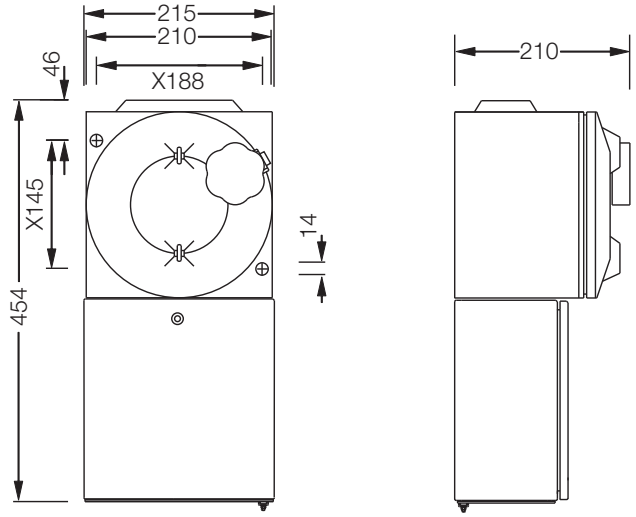


Ordering details

Version	Cable entry	Order No.
Ex-Power circuit breaker 63 A		
3-pole	2 x M50	**EXKO 73 1813 A0001**
4-pole	2 x M50	**EXKO 73 1814 A0001**

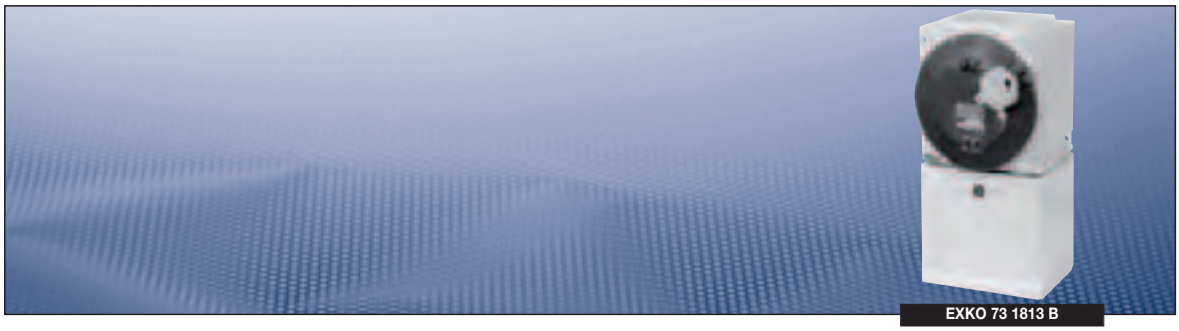
Customized version on request

Dimension drawing



X = fixing dimensions

Dimensions in mm

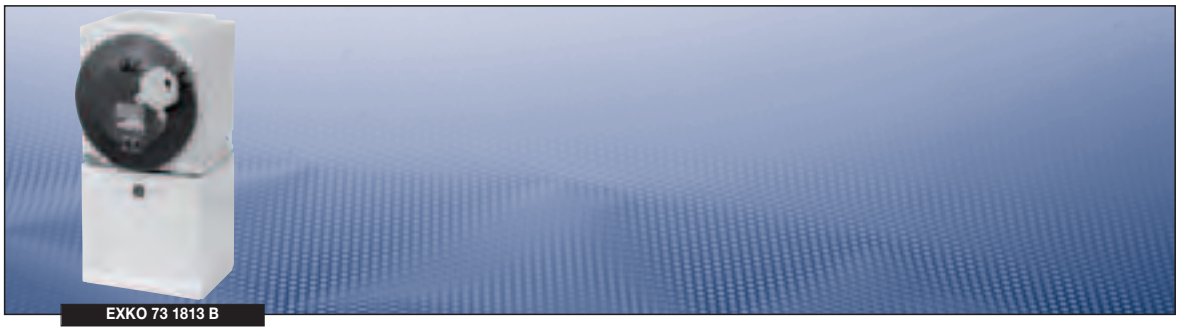


Technical data

Ex-Power circuit breaker 125 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de ia/ib [ia/ib] IIC T4 – T6[1)] Ⓔx II 2 D IP66 T80 °C / T95 °C / T130 °C
EC-Type Examination Certificate		PTB 99 ATEX 1057
IECEx Certificate of Conformity		BKI 06.0006
Marking accd. to IECEx		Ex de ia/ib [ia/ib] IIC T6/T5/T4 Ex tD A21 IP66 T80 °C / T95 °C / T130 °C
Permissible ambient temperature		–20 °C to +40 °C[2)]
Rated voltage		up to max. 690 V
Rated current		max. 125 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3 accd. to EN 60947-3		U_e 230 V / I_e 125 A U_e 400 V / I_e 125 A U_e 500 V / I_e 125 A U_e 690 V / I_e 125 A
Back-up fuse		up to 400 V AC: 160 A gL up to 500 V AC: 160 A gL up to 690 V AC: 160 A gL
Connecting terminasl	Main contact	50/35 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP54 (optional IP 65)
Cable glands/enclosure drilling		M50 (d = 21 - 35 mm) see ordering details
Weight	3-pole 4-pole	approx. 48 kg approx. 52 kg
Enclosure material		aluminium, polyester powder-coated connection box steel, powder-coated
Colour	Enclosure Cover	pebble gray (RAL 7032) dark grey (RAL 7022)

[1)] Also available with Explosion Group IIB

[2)] Other ambient temperatures on request

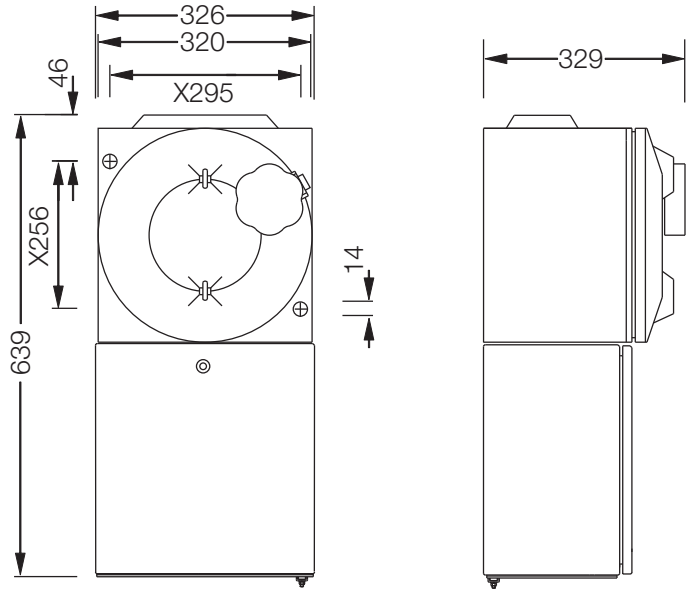

EXKO 73 1813 B

Ordering details

Version	Cable entry	Order No.
Ex-Power circuit breaker 125 A		
3-pole	2 x M50	**EXKO 73 1813 B0001**
4-pole	2 x M50	**EXKO 73 1814 B0001**

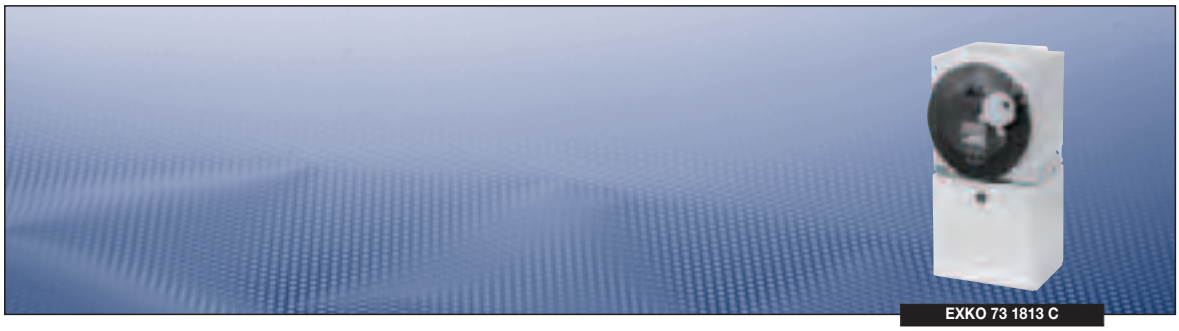
Customized version on request

Dimension drawing



X = fixing dimensions

Dimensions in mm

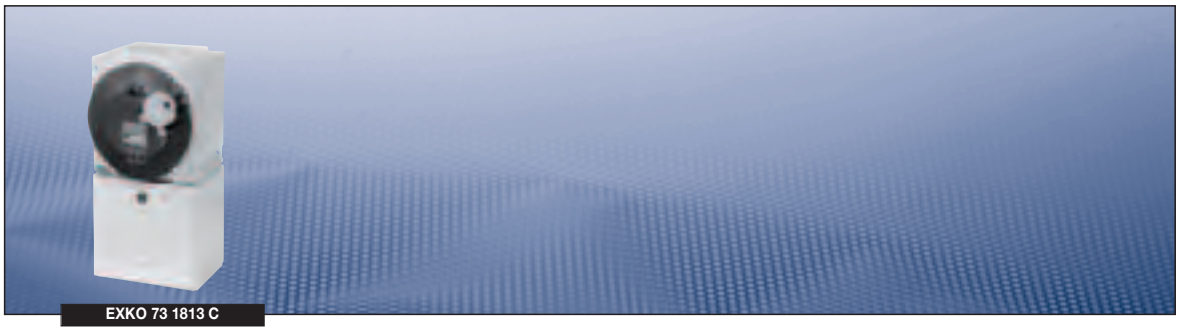


Technical data

Ex-Power circuit breaker 160 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de ia/ib [ia/ib] IIC T4 ... T6[1)] Ⓔx II 2 D IP66 T80 °C / T95 °C / T130 °C
EC-Type Examination Certificate		PTB 99 ATEX 1057
IECEx Certificate of Conformity		BKI 06.0006
Marking accd. to IECEx		Ex de ia/ib [ia/ib] IIC T6/T5/T4 Ex tD A21 IP66 T80 °C / T95 °C / T130 °C
Permissible ambient temperature		–20 °C to +40 °C[2)]
Rated voltage		up to max. 690 V
Rated current		max. 180 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3 accd. to EN 60947-3		U_e 230 V / I_e 180 A U_e 400 V / I_e 180 A U_e 500 V / I_e 150 A U_e 690 V / I_e 125 A
Back-up fuse		up to 400 V AC: 210 A gL up to 500 V AC: 210 A gL up to 690 V AC: 210 A gL
Connecting terminals	Main contact	95/50 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP54 (optional IP 65)
Cable glands/enclosure drilling		M50 (d = 21 - 35 mm) see ordering details
Weight	3-pole 4-pole	approx. 48 kg approx. 52 kg
Enclosure material		aluminium, polyester powder-coated connection box steel, powder-coated
Colour	Enclosure Cover	pebble gray (RAL 7032) dark grey (RAL 7022)

[1)] Also available with Explosion Group IIB

[2)] Other ambient temperatures on request

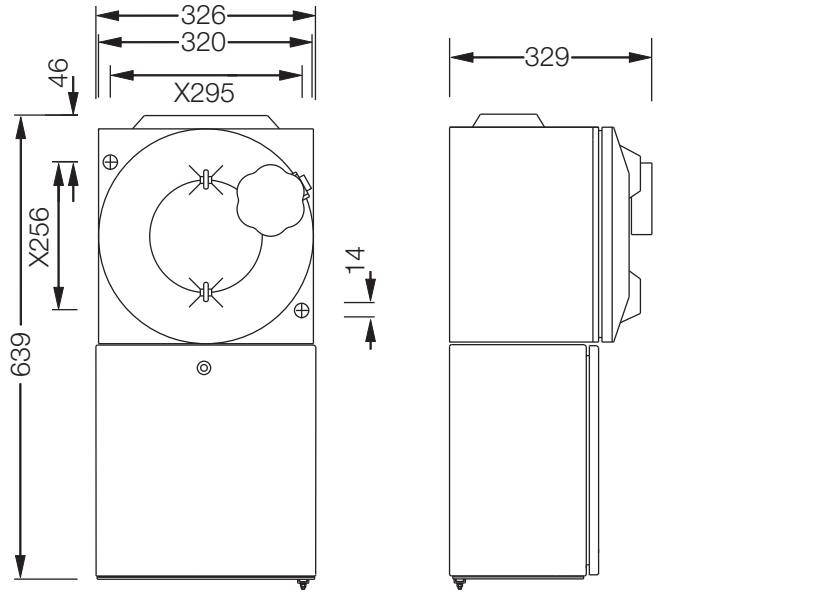


Ordering details

Version	Cable entry	Order No.
Ex-Power circuit breaker 160 A		
3-pole	2 x M50	**EXKO 73 1813 C0001**
4-pole	2 x M50	**EXKO 73 1814 C0001**

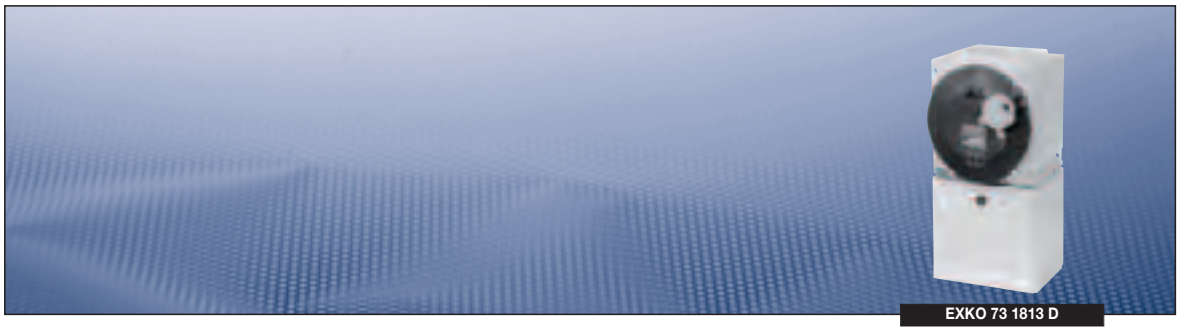
Customized version on request

Dimension drawing



X = fixing dimensions

Dimensions in mm

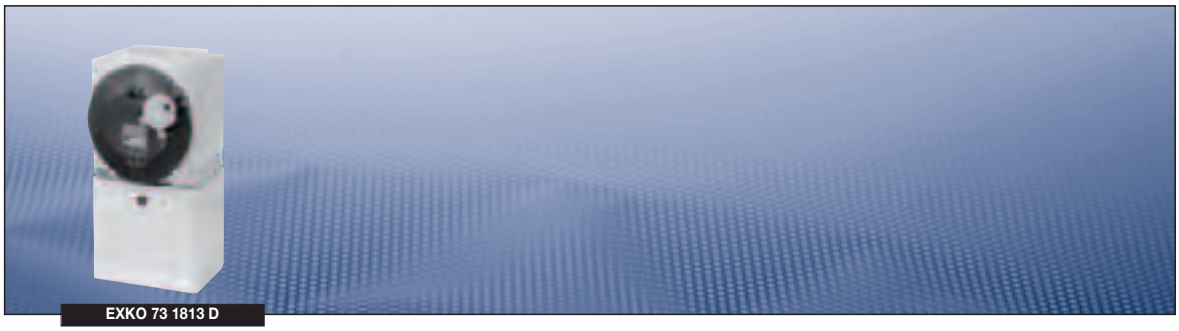


Technical data

Ex-Power circuit breaker 250 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de ia/ib [ia/ib] IIC T4 ... T6[1)] Ⓔx II 2 D IP66 T80 °C / T95 °C / T130 °C
EC-Type Examination Certificate		PTB 99 ATEX 1057
IECEx Certificate of Conformity		BKI 06.0006
Marking accd. to IECEx		Ex de ia/ib [ia/ib] IIC T6/T5/T4 Ex tD A21 IP66 T80 °C / T95 °C / T130 °C
Permissible ambient temperature		–20 °C to +40 °C[2)]
Rated voltage		up to max. 690 V
Rated current		max. 250 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3 accd. to EN 60947-3		U_e 230 V / I_e 250 A U_e 400 V / I_e 250 A U_e 500 V / I_e 250 A U_e 690 V / I_e 250 A
Back-up fuse		up to 400 V AC: 250 A gL up to 500 V AC: 250 A gL up to 690 V AC: 250 A gL
Connecting terminals	Main contact	150/95 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP54 (optional IP 65)
Cable glands/enclosure drilling		M63 (d = 27 - 48 mm) see ordering details
Weight	3-pole 4-pole	approx. 50 kg approx. 55 kg
Enclosure material		aluminium, polyester powder-coated connection box steel, powder-coated
Colour	Enclosure Cover	pebble gray (RAL 7032) dark grey (RAL 7022)

[1)] Also available with Explosion Group IIB

[2)] Other ambient temperatures on request

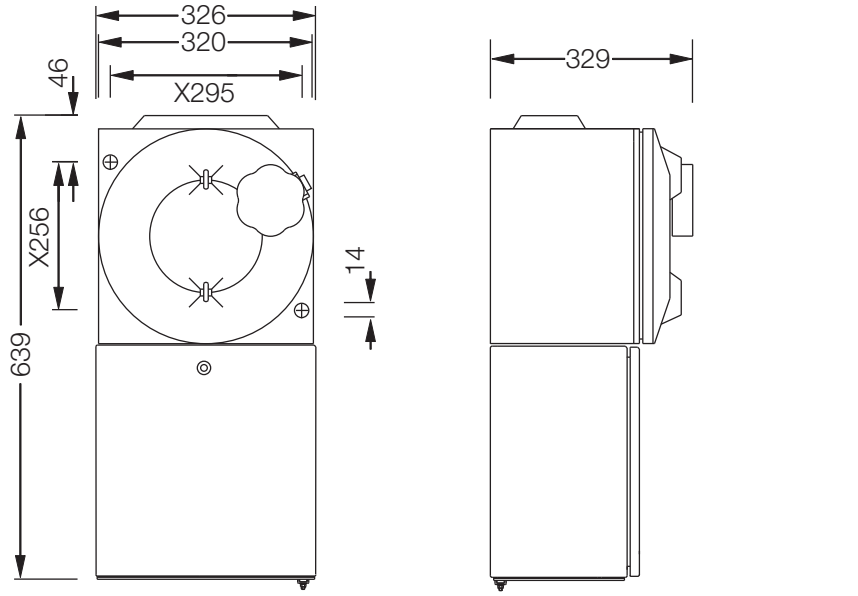


Ordering details

Version	Cable entry	Order No.
Ex-Main current switch 250 A		
3-pole	2 x M63	**EXKO 73 1813 D0001**
4-pole	4 x M63	**EXKO 73 1814 D0001**

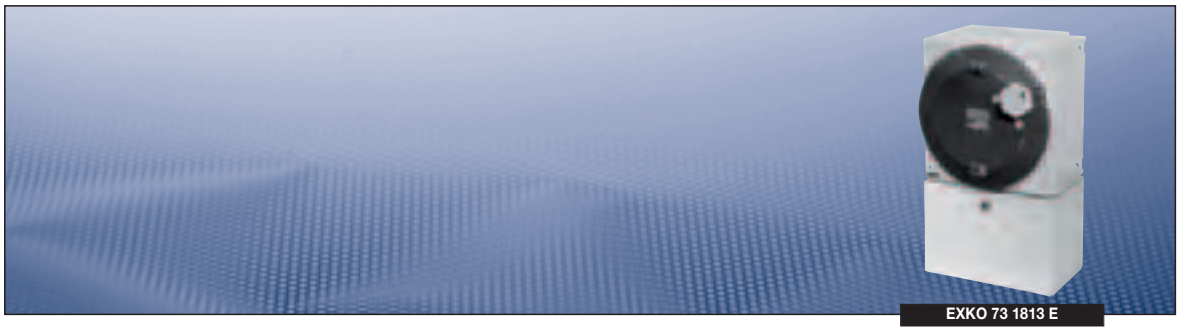
Customized version on request

Dimension drawing



X = fixing dimensions

Dimensions in mm

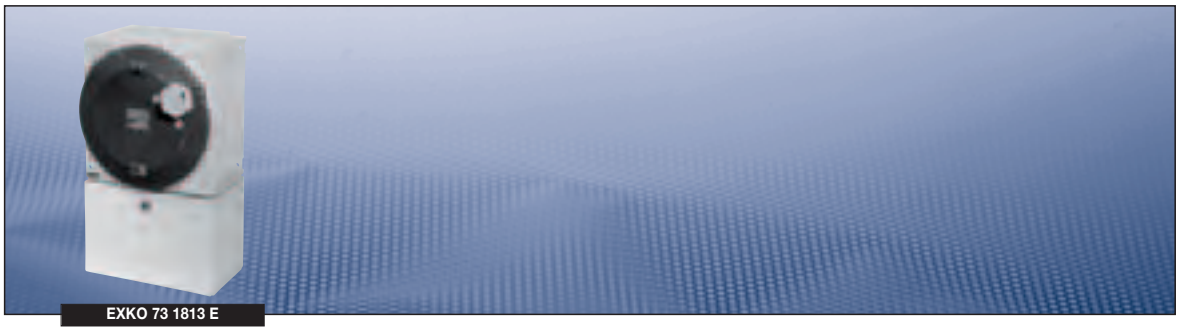


Technical data

Ex-Power circuit breaker 400 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de ia/ib [ia/ib] IIC T4 ... T6[1)] Ⓔx II 2 D IP66 T80 °C / T95 °C / T130 °C
EC-Type Examination Certificate		PTB 99 ATEX 1057
IECEx Certificate of Conformity		BKI 06.0006
Marking accd. to IECEx		Ex de ia/ib [ia/ib] IIC T6/T5/T4 Ex tD A21 IP66 T80 °C / T95 °C / T130 °C
Permissible ambient temperature		–20 °C to +40 °C[2)]
Rated voltage		up to max. 690 V
Rated current		max. 400 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3 accd. to EN 60947-3		U_e 230 V / I_e 400 A U_e 400 V / I_e 400 A U_e 500 V / I_e 400 A U_e 690 V / I_e 400 A
Back-up fuse		up to 400 V AC: 500 A gL up to 500 V AC: 500 A gL up to 690 V AC: 500 A gL
Connecting terminals	Main contact	150/95 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP54 (optional IP 65)
Cable glands/enclosure drilling		M63 (d = 27 - 48 mm) see ordering details
Weight	3-pole 4-pole	approx. 85 kg approx. 90 kg
Enclosure material		aluminium, polyester powder-coated connection box steel, powder-coated
Enclosure colour	Enclosure Cover	pebble gray (RAL 7032) dark grey (RAL 7022)

[1)] Also available with Explosion Group IIB

[2)] Other ambient temperatures on request

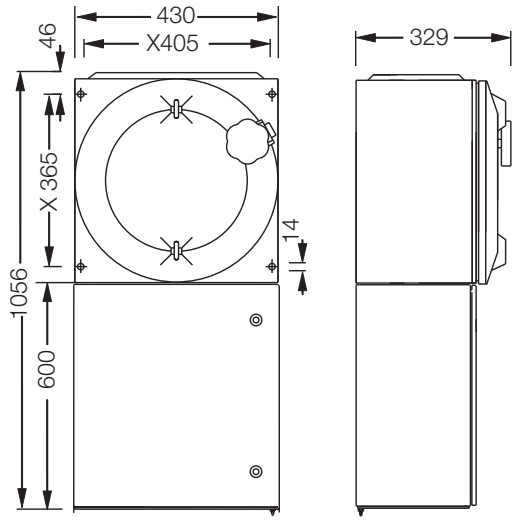


Ordering details

Version	Cable entry	Order No.
Ex-Main current switch 400 A		
3-pole	4 x M63	**EXKO 73 1813 E0001**
4-pole	4 x M63	**EXKO 73 1814 E0001**

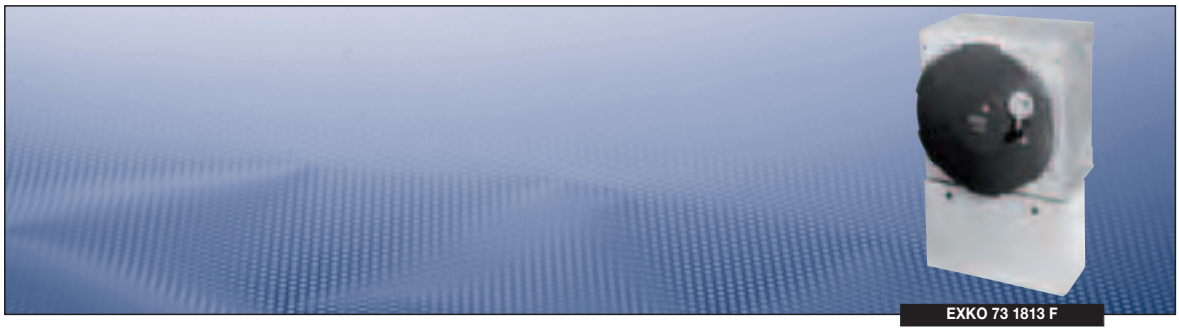
Customized version on request

Dimension drawing



X = fixing dimensions

Dimensions in mm

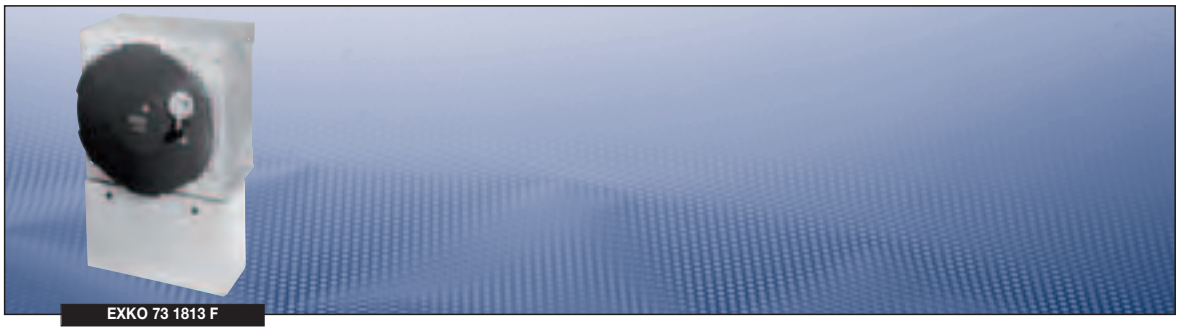


Technical data

Ex-Power circuit breaker 630 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de ia/ib [ia/ib] IIC T4 ... T6[1)] Ⓔx II 2 D IP66 T80 °C / T95 °C / T130 °C
EC-Type Examination Certificate		PTB 99 ATEX 1057
IECEx Certificate of Conformity		BKI 06.0006
Marking accd. to IECEx		Ex de ia/ib [ia/ib] IIC T6/T5/T4 Ex tD A21 IP66 T80 °C / T95 °C / T130 °C
Permissible ambient temperature		–20 °C to +40 °C[2)]
Rated voltage		up to max. 690 V
Rated current		max. 630 A
Frequency		50/60 Hz
Rated making-/breaking capacity AC-3 accd. to EN 60947-3		U_e 230 V / I_e 630 A U_e 400 V / I_e 630 A U_e 500 V / I_e 630 A U_e 690 V / I_e 630 A
Back-up fuse		up to 400 V AC: 800 A gL up to 500 V AC: 800 A gL up to 690 V AC: 800 A gL
Connecting terminals	Main contact	240/120 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP54 (IP65 optional)
Cable glands/enclosure drilling		M80 (d = 62 - 68 mm) see ordering details
Weight	3-pole 4-pole	approx. 245 kg approx. 250 kg
Enclosure material		aluminium, polyester powder-coated connection box steel, powder-coated
Enclosure colour	Enclosure Cover	pebble gray dark grey

[1)] Also available with Explosion Group IIB

[2)] Other ambient temperatures on request

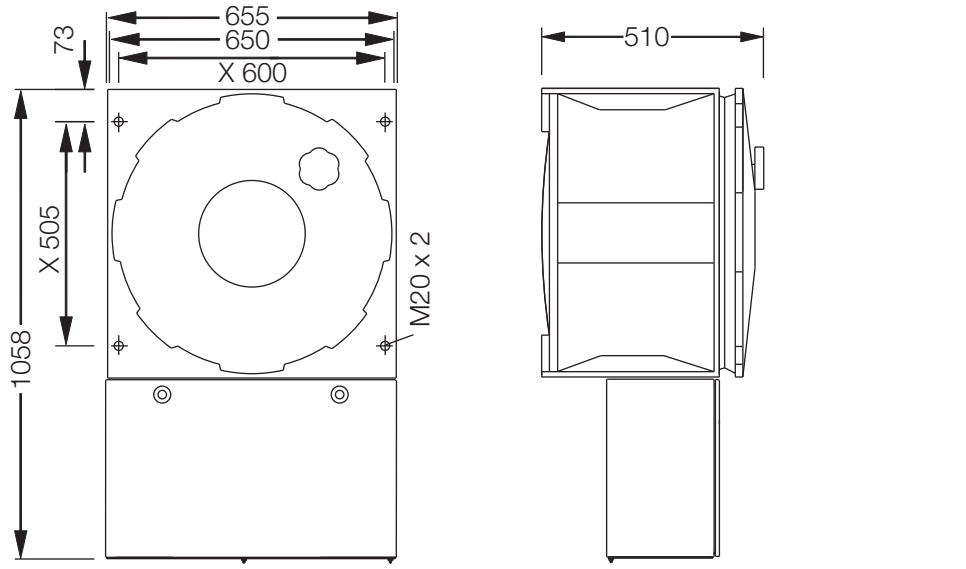


Ordering details

Version	Cable entry	Order No.
Ex-Main current switch 630 A		
3-pole	4 x M80	**EXKO 73 1813 F0001**
4-pole	4 x M80	**EXKO 73 1814 F0001**

Customized version on request

Dimension drawing



X = fixing dimensions

Dimensions in mm

EX-MANUAL MOTOR STARTERS

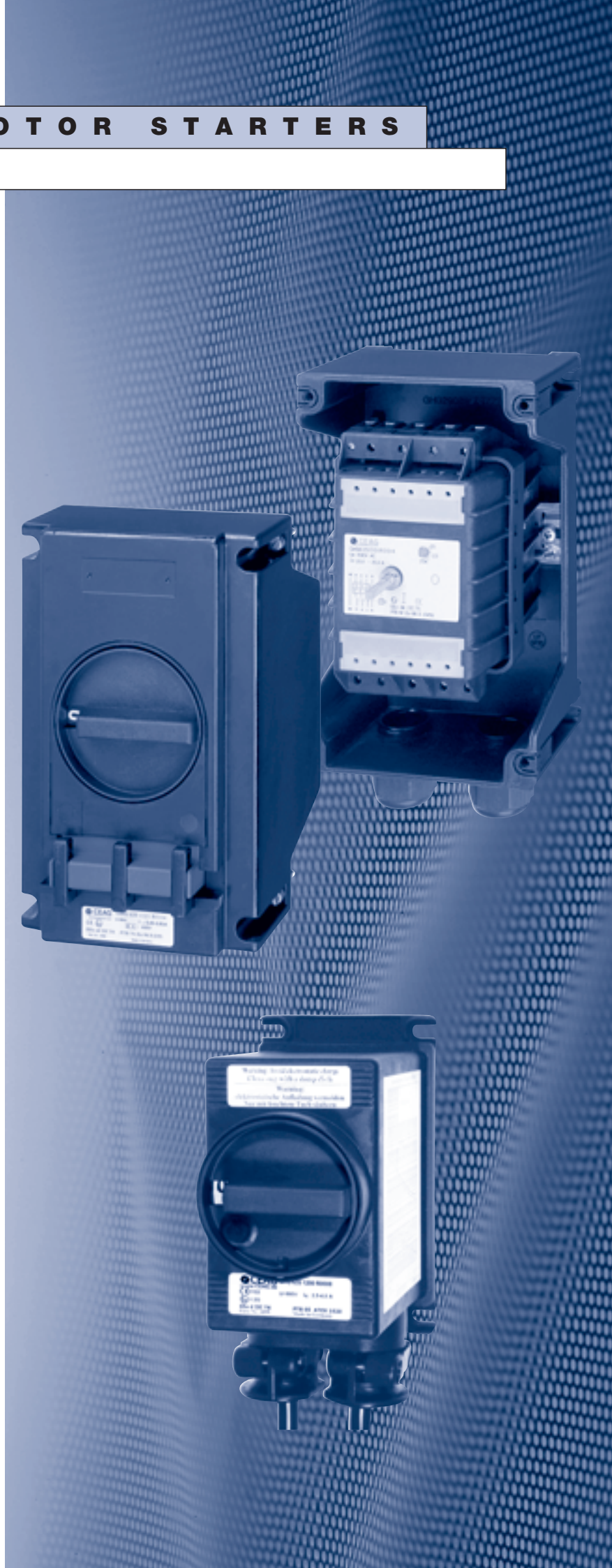
Up to 25 A

Motors have to be protected against overloads, phase failures and overheating: CEAG's power circuit breaker and manual motor starter features phase-failure protection as well as thermal and electromagnetic tripping for reliable motor protection.

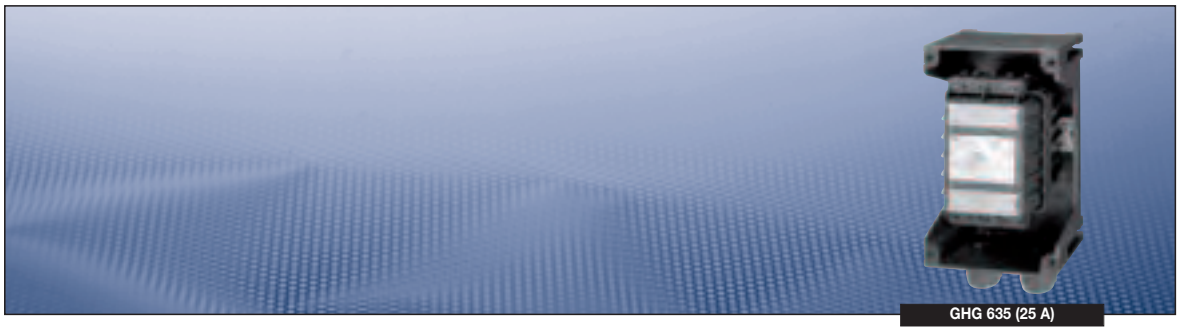
An optional under-voltage trip or auxiliary contact complements the safety package. The switch position is always indicated by the switch handle – practically excluding wrong operation.

A special safety feature offered by the manual motor starter: It can only be switched on on-site – where the drive is.
An operating-current trip for remote switch-off is optional.
CEAG manual motor starters have such a precise tripping time that they are equally suited for the protection of Ex-e as well as Ex-d motors – just to put you on the safe side.

Internationally approved.



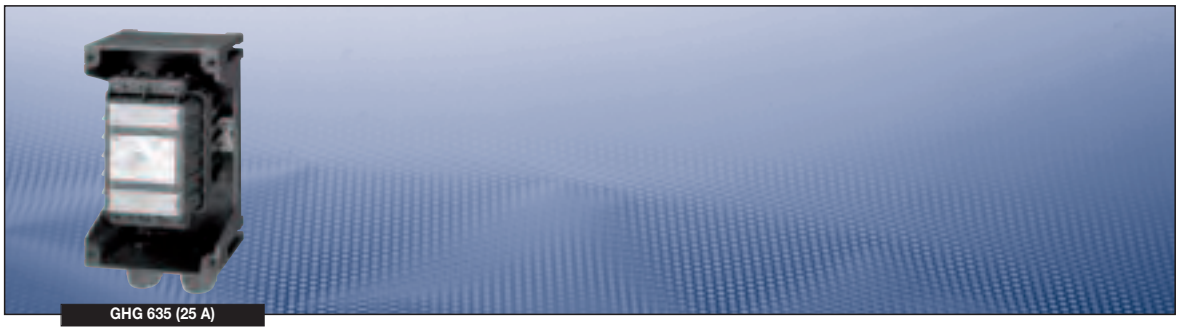
- **Full AC-3 motor switching capacity**
- **Decisive cost savings with CEAG's mounting system**
- **Easily accessible connection terminals**
- **High degree of protection IP66**
- **Isolating properties according to DIN EN 60947-4-1**
- **Clear indication of switch position**
- **Phase-failure protection**
- **Integrated locking facility**


GHG 635 (25 A)

Technical data

Ex-Manual motor starters GHG 635 (25 A)	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T5/T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1162
Permissible ambient temperature	
at T6 Ie ≤ 16 A	–20 °C to +40 °C
at T5 Ie > 16 A; ≤ 25 A	–20 °C to +55 °C
Rated voltage	up to max. 690 V
Rated current	max. 25 A
Rated current auxiliary contact	max. 2 A
Frequency	50/60 Hz
Rated making-/breaking capacity AC-3	
accd. to EN 60947-4-1	U_e 690 V / I_e 25 A
Back-up fuse	see table
Undervoltage trip	tripping at 15 % - 75 % Un
	can be switched on at U > 80 % Uc
Main contact	10 mm²
Auxiliary contact	2 x 0.75 - 4.0 mm²
Thermal tripping characteristic	T II
Insulation class	I
Degree of protection accd. EN 60529	IP66
Cable glands/enclosure drilling	
0.1 - 6.3 A	2 x M25 (d = 8 - 17 mm)[1)]
6.3 - 25 A	2 x M32 (d = 12 - 21 mm)[1)]
Weight	2.5 kg
Enclosure material	Glass-fibre reinforced polyester
Enclosure colour	black
Padlock facility	can be locked in OFF position with 3 commercially available padlocks

[1)] Version with aux. contact or under voltage trip with additional cable gland M25



GHG 635 (25 A)

Ordering coding for special version

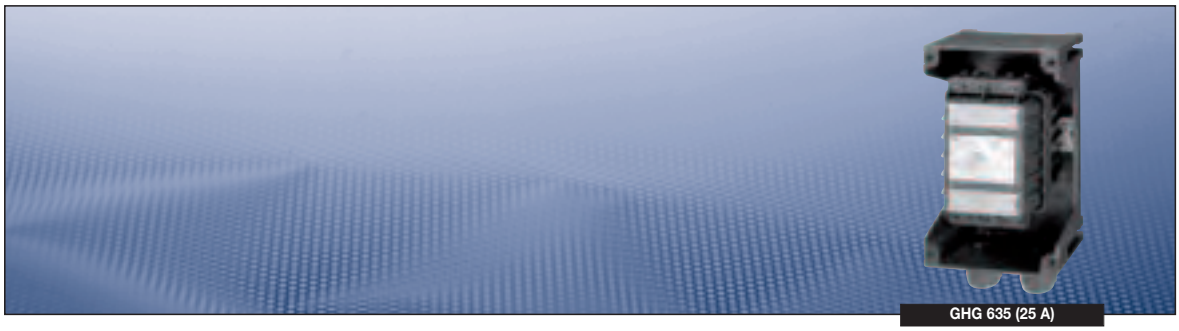
Description	Version	Undervoltage trip	Auxiliary contact	
GHG 635 1	**A**	**B**	**C**	**R...**

Coding					
A	Version	1	=	Standard version	
B	Undervoltage trip	0	=	without undervoltage trip	
		1	=	undervoltage trip	230 V
		2	=	undervoltage trip	400 V
		3	=	undervoltage trip	440 V
		4	=	undervoltage trip	500 V
		5	=	undervoltage trip	24 V
		6	=	undervoltage trip	48 V
		7	=	undervoltage trip	60 V
		8	=	undervoltage trip	110 V
		9	=	undervoltage trip	415 V
C	Auxiliary contact	1	=	without auxiliary contact	
		2	=	with auxiliary contact 1 NO + 1 NC	
		3	=	with auxiliary contact 2 NO	

Short-circuit protection up to 100 kA and maximum backup fuse

Setting range	230 V AC		400 V AC		500 V AC		690 V AC		Temp.-	Order No.				
	Ics	gL, aM	Ics	gL, aM	Ics	gL, aM	Ics	gL, aM	class	A	B	C	R...	
0.1 A ... 0.16 A									T6	**GHG 635 1**	**1**	**0**	**1**	**R0101**
0.16 A ... 0.25 A									T6	**GHG 635 1**	**1**	**0**	**1**	**R0102**
0.25 A ... 0.40 A			short-circuit proof						T6	**GHG 635 1**	**1**	**0**	**1**	**R0103**
0.40 A ... 0.63 A			no backup-fuse						T6	**GHG 635 1**	**1**	**0**	**1**	**R0104**
0.63 A ... 1.0 A			required						T6	**GHG 635 1**	**1**	**0**	**1**	**R0105**
1.0 A ... 1.6 A									T6	**GHG 635 1**	**1**	**0**	**1**	**R0106**
1.6 A ... 2.5 A							40 kA	25 A	T6	**GHG 635 1**	**1**	**0**	**1**	**R0107**
2.5 A ... 4.0 A					40 kA	35/40 A	10 kA	40 A	T6	**GHG 635 1**	**1**	**0**	**1**	**R0108**
4.0 A ... 6.3 A					30 kA	50 A	3 kA	40 A	T6	**GHG 635 1**	**1**	**0**	**1**	**R0109**
6.3 A ... 9.0 A					30 kA	80 A	3 kA	50 A	T6	**GHG 635 1**	**1**	**0**	**1**	**R0110**
9.0 A ... 12.5 A			50 kA	80 A	20 kA	80 A	3 kA	50 A	T6	**GHG 635 1**	**1**	**0**	**1**	**R0111**
12.5 A ... 16.0 A			50 kA	100 A	20 kA	100 A	3 kA	50 A	T6	**GHG 635 1**	**1**	**0**	**1**	**R0112**
16.0 A ... 20.0 A			50 kA	100 A	20 kA	100 A	2 kA	50 A	T5	**GHG 635 1**	**1**	**0**	**1**	**R0113**
20.0 A ... 25.0 A	50 kA	125 A	50 kA	125 A	20 kA	125 A	2 kA	50 A	T5	**GHG 635 1**	**1**	**0**	**1**	**R0114**

Customized version on request


GHG 635 (25 A)

Accessories

Mounting plate for Ex-main current switch 25 A

Type	Application	Fixing technique	Order No.
Size 3	Wall mounting	screw-on	**GHG 610 1953 R0118**
Size 3	Pipe mounting	screw-on	**GHG 610 1953 R0110**
Size 3	Trellis mounting	screw-on	**GHG 610 1953 R0118**

Accessories for mounting plates

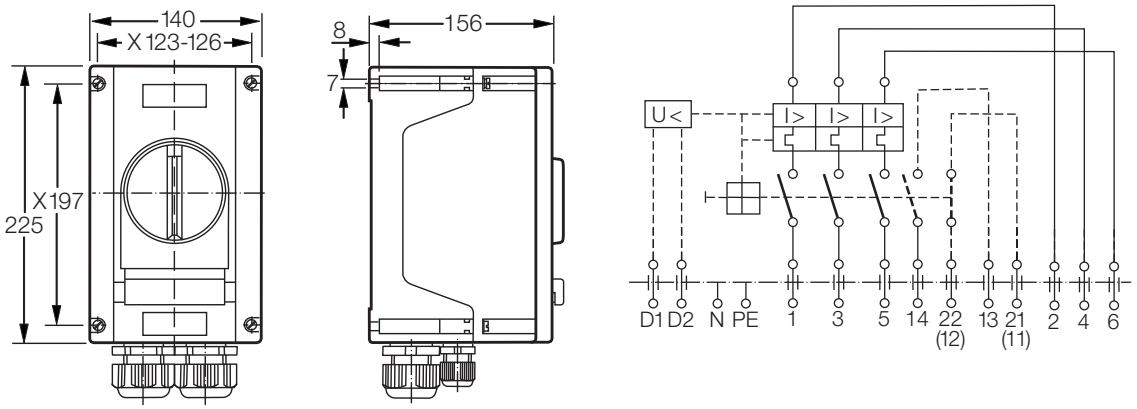
Type	OU	Order No.
Label holder with label (unlabelled) for mounting plates size 1, 2, 2A and 3	10	**GHG 610 1953 R0057**
Installation kit for pipes 1" (of 27 - 30 mm) for mounting plates for pipe mounting	10	**GHG 610 1953 R0020**

Accessories for canopies plates

Type	Application	OU	Order No.
Size 3	for pipe mounting plate size 3 vertical	1	**GHG 610 1955 R0104**
Size 3A	for wall/trellis mounting plate size 3 vertical	1	**GHG 610 1955 R0105**
Size 3B	for pipe mounting plate size 3 horizontal	1	**GHG 610 1955 R0106**

Please note that we can only deliver in the ordering units (OU) stated in the tables above

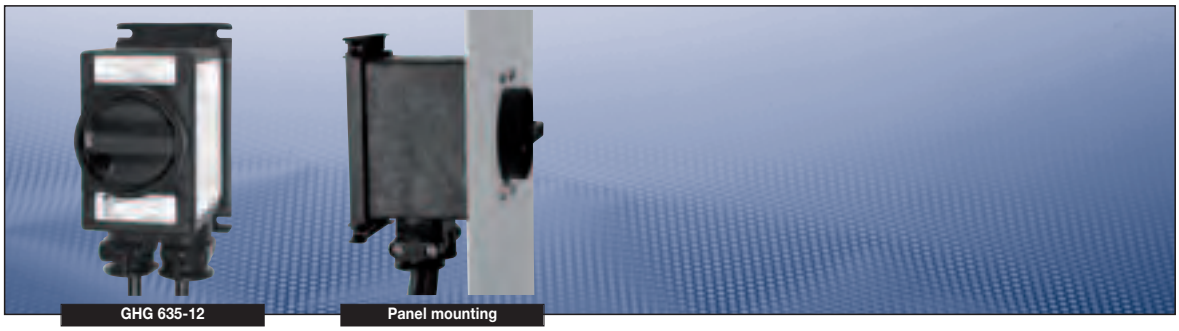
Dimension drawing / Wiring diagram



GHG 635

X = fixing dimensions

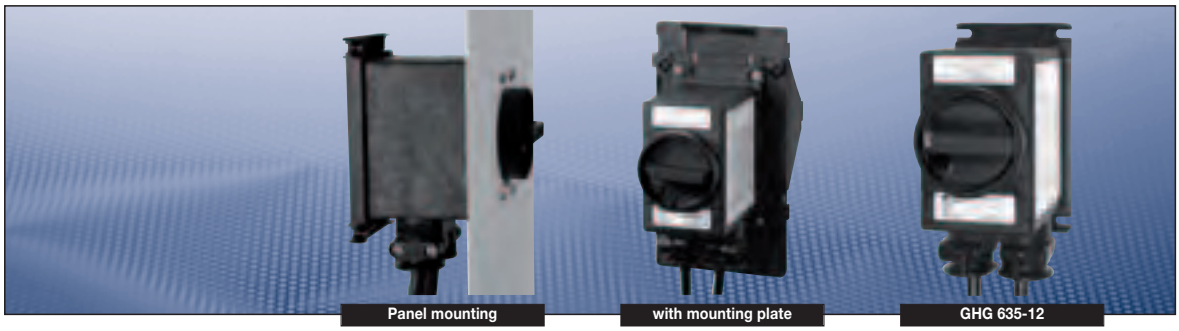
Dimensions in mm



GHG 635-12 | Panel mounting

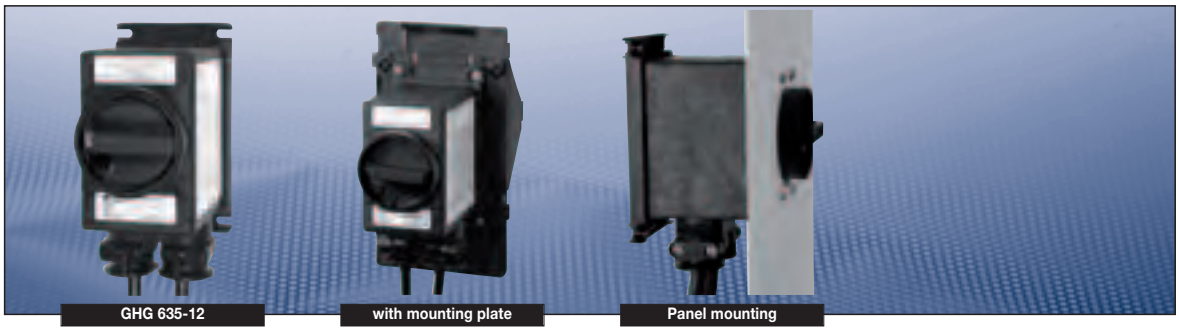
Technical data

Ex-Manual motor starter GHG 635-12	
Marking to 94/9/EC	Ⓔx II 2 G Ex d IIC T6 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C
EC-Type Examination Certificate	PTB 05 ATEX 1020
Permissable ambient temperature	–20 °C to +40 °C
Rated voltage	up to 650 V
Rated current	0.1 up to 16 A
Frequency	50/60 Hz
Rated making-/breaking capacity AC-3	
accd. to EN 60947-4-1	U_e 650 V / I_e 16 A
Rated voltage undervoltage trip	230/400 V 50/60 Hz (Standard version)
	440 V / 500 V / 24 V / 48 V / 60 V on request
Undervoltage trip	tripping at 35 % – 70 % Uc
	can be switched on at U > 85 % Uc
Back-up fuse	up to 400 V AC short circuit proof up to 50 kA up to 6.3 A; 30 kA up to 16 A
Thermal ripping characteristic	T II
Insulation class	I
Degree of protection accd. EN 60529	IP66
Connecting cable	H07RN-F (standard 3 m, other lenght on request)
Weight	1 kg (without cable)
Enclosure material	Glass-fibre reinforced polyamide
Enclosure colour	black



Ordering details

Setting range	Undervoltage trip	Cord length	Order No.
Ex-Manual motor starter GHG 635-12			
0.1 - 0.16 A	no	2 x 3 m	**GHG 635 1200 R0001**
	230 V	2 x 3 m	**GHG 635 1210 R0001**
	400 V	2 x 3 m	**GHG 635 1220 R0001**
0.16 - 0.25 A	no	2 x 3 m	**GHG 635 1200 R0002**
	230 V	2 x 3 m	**GHG 635 1210 R0002**
	400 V	2 x 3 m	**GHG 635 1220 R0002**
0.25 - 0.40 A	no	2 x 3 m	**GHG 635 1200 R0003**
	230 V	2 x 3 m	**GHG 635 1210 R0003**
	400 V	2 x 3 m	**GHG 635 1220 R0003**
0.40 - 0.63 A	no	2 x 3 m	**GHG 635 1200 R0004**
	230 V	2 x 3 m	**GHG 635 1210 R0004**
	400 V	2 x 3 m	**GHG 635 1220 R0004**
0.63 - 1.0 A	no	2 x 3 m	**GHG 635 1200 R0005**
	230 V	2 x 3 m	**GHG 635 1210 R0005**
	400 V	2 x 3 m	**GHG 635 1220 R0005**
1.0 - 1.6 A	no	2 x 3 m	**GHG 635 1200 R0006**
	230 V	2 x 3 m	**GHG 635 1210 R0006**
	400 V	2 x 3 m	**GHG 635 1220 R0006**
1.6 - 2.5 A	no	2 x 3 m	**GHG 635 1200 R0007**
	230 V	2 x 3 m	**GHG 635 1210 R0007**
	400 V	2 x 3 m	**GHG 635 1220 R0007**
2.5 - 4.0 A	no	2 x 3 m	**GHG 635 1200 R0008**
	230 V	2 x 3 m	**GHG 635 1210 R0008**
	400 V	2 x 3 m	**GHG 635 1220 R0008**
4.0 - 6.3 A	no	2 x 3 m	**GHG 635 1200 R0009**
	230 V	2 x 3 m	**GHG 635 1210 R0009**
	400 V	2 x 3 m	**GHG 635 1220 R0009**
6.3 - 9 A	no	2 x 3 m	**GHG 635 1200 R0010**
	230 V	2 x 3 m	**GHG 635 1210 R0010**
	400 V	2 x 3 m	**GHG 635 1220 R0010**
9 - 12.5 A	no	2 x 3 m	**GHG 635 1200 R0011**
	230 V	2 x 3 m	**GHG 635 1210 R0011**
	400 V	2 x 3 m	**GHG 635 1220 R0011**
12.5 - 16 A	no	2 x 3 m	**GHG 635 1200 R0012**
	230 V	2 x 3 m	**GHG 635 1210 R0012**
	400 V	2 x 3 m	**GHG 635 1220 R0012**

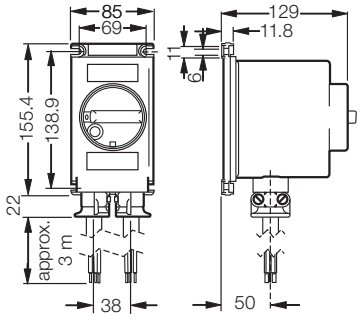


Accessories

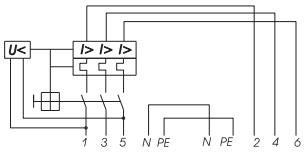
Mounting plate Ex-manual motor starter GHG 635-12

Type	Content	Order No.
Mounting plate	Mounting plate for pipe mounting (1" or 2") and square profile 41 x 41 mm or U-profile 60 x 40 mm incl. snap-on fixing clips	GHG 630 1926 R0001
Screws size 1	5 self-tapping screws for panel mounting 1 - 2 mm wall thickness	GHG 630 1925 R0001
Screws size 2	5 self-tapping screws for panel mounting 2 - 3 mm wall thickness	GHG 630 1925 R0002

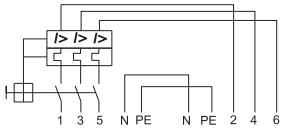
Dimension drawing | Wiring diagram



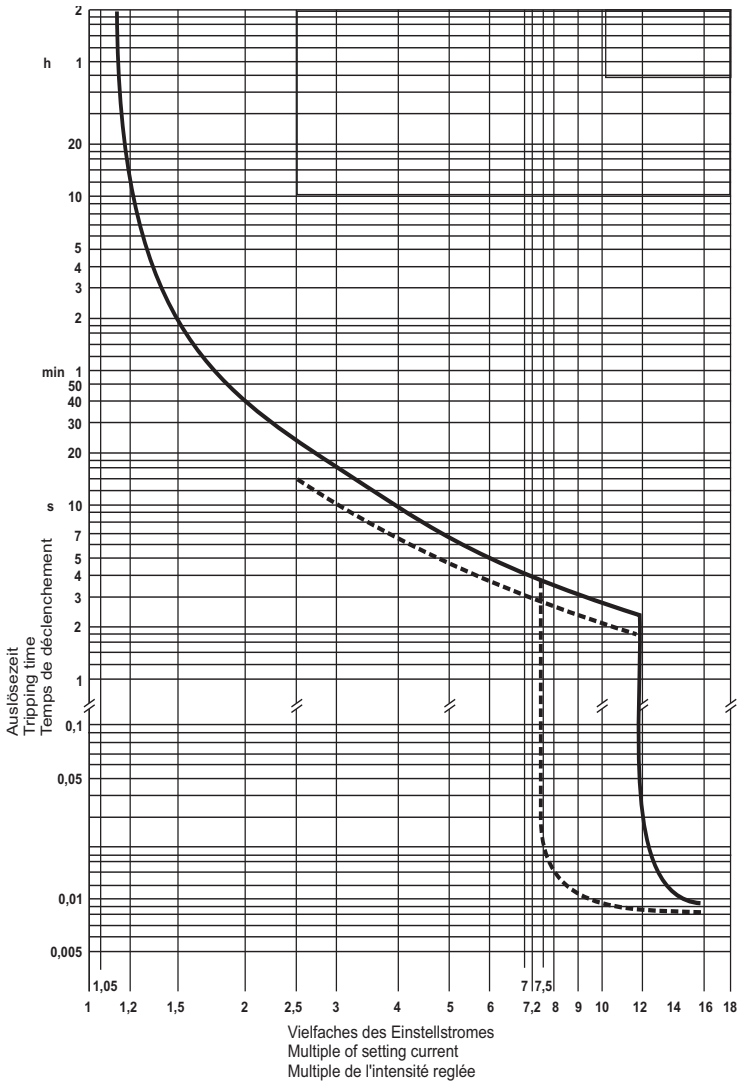
GHG 635-12



with undervoltage trip



without undervoltage trip



Dimensions in mm

Order No.	Page
PX 819105	5.21
PX 819106	5.21
PX 819107	5.21
PX 819108	5.21
PX 869101	5.7
PX 869111	5.53
PX 869115	5.53
PX 869121	5.31
PX 869122	5.31
PX 869125	5.31
PX 869126	5.31
PX 869131	5.55
PX 869132	5.55
PX 869135	5.55
PX 869142	5.63
PX 869144	5.63
PX 869145	5.63
PX 869150	5.58
PX 869161	5.23
PX 869162	5.23
PX 869165	5.23
PX 869166	5.23
PX 869171	5.25
PX 869172	5.25
PX 869173	5.25
PX 869174	5.25
PX 869175	5.25
PX 869181	5.33
PX 869182	5.33
PX 869185	5.33
PX 869186	5.33
SCT 4 04 07	9.67
SCT 4 24 07	9.67
SCT 5 05 07	9.67
SCT 5 26 07	9.67
SCT 6 01 02	9.67
SCT 6 02 02	9.67
SCT 6 03 01	9.67
SCT 6 21 02	9.67
SCT 6 22 02	9.67
SCT 6 23 01	9.67
SCT 7 07 01	9.67
SCT 7 27 01	9.67
SGT 0 13 01 3 1	9.63
SGT 0 14 01 3 1	9.63
SGT 0 15 01 3 1	9.63
SGT 0 25 01 3 1	9.63
SGT 0 26 01 3 1	9.63
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SGT 0 28 01 3 1	9.63
SGT 0 29 01 3 1	9.63
SGTE 0 13 1 1 2	9.63
SGTE 0 14 1 1 2	9.63
SGTE 0 15 1 1 2	9.63
SGTE 0 20 1 1 2	9.63
SGTE 0 21 1 1 2	9.63
SGTE 0 22 1 1 2	9.63
SGTE 0 23 1 1 2	9.63
SGTE 0 24 1 1 2	9.63
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SIL 3 11	9.69
SIL 4 34	9.69
SLT 0 13 10	9.56
SLT 0 14 10	9.56
SLT 0 15 10	9.56
SLT 0 20 0	9.56
SLT 0 20 10	9.56
SLT 0 21 10	9.56
SLT 0 22 10	9.56
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SLT 0 24 10	9.56
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STBPS151509UL	7.66
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STBS1151208	7.66
STBS1151509	7.66
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STBS11638121UL	7.67
STBS1191509	7.66
STBS1191910	7.67
STBS1252512	7.67
STBS1254013	7.67
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STBS13838223	7.65
STBS14060220	7.68
STBS16040220	7.68
STBS3838223	7.68
XLHPS 3020153-B-HASP	7.50
XLHPS6050203-HASP	7.52
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XLHS12626150	7.50
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XLHS14050150	7.51
XLHS14050200	7.51
XLHS14050201-B-HASP	7.51
XLHS15040150	7.51
XLHS15040200	7.51
XLHS15050150	7.52
XLHS15050200	7.52
XLHS15060200	7.52
XLHS16040150	7.52
XLHS16040200	7.52
XLHS16050150	7.52
XLHS16050200	7.52
XLHS16060150	7.53
XLHS16060200	7.53
XLHS16076200	7.53
XLHS16076203-B-HASP	7.53
XLHS17650200	7.53
XLHS17660200	7.53
XLHS17676200	7.53
XLVPS2016083-B-HASP	7.56
XLVPS2416061-B-HASP	7.58
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XLVS11208060	7.54
XLVS11212060	7.54
XLVS11212080	7.54
XLVS11612060	7.55
XLVS11612080	7.55
XLVS11616060	7.55
XLVS11616080	7.55
XLVS11620060	7.56
XLVS11620080	7.56
XLVS12016060	7.56
XLVS12016080	7.56
XLVS12020060	7.57
XLVS12020080	7.57
XLVS12020081-B	7.57
XLVS12024080	7.57
XLVS12416060	7.58
XLVS12416080	7.58
XLVS12420060	7.58
XLVS12420080	7.58
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XLVS13020080	7.60
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XLVS13030080	7.60
XLVS21616061-HASP	7.55
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NOR 000 005 140 906	4.47
NOR 000 000 514 687	4.47
NOR 000 005 140 776	4.47
NOR 000 000 514 530	4.47

EX-CONTROL AND DISTRIBUTION SYSTEMS



EX-DISTRIBUTION IN PLASTIC DESIGN 11.6

EX-DISTRIBUTION IN STAINLESS STEEL 11.12

EX-D BUILT-IN COMPONENTS 11.16

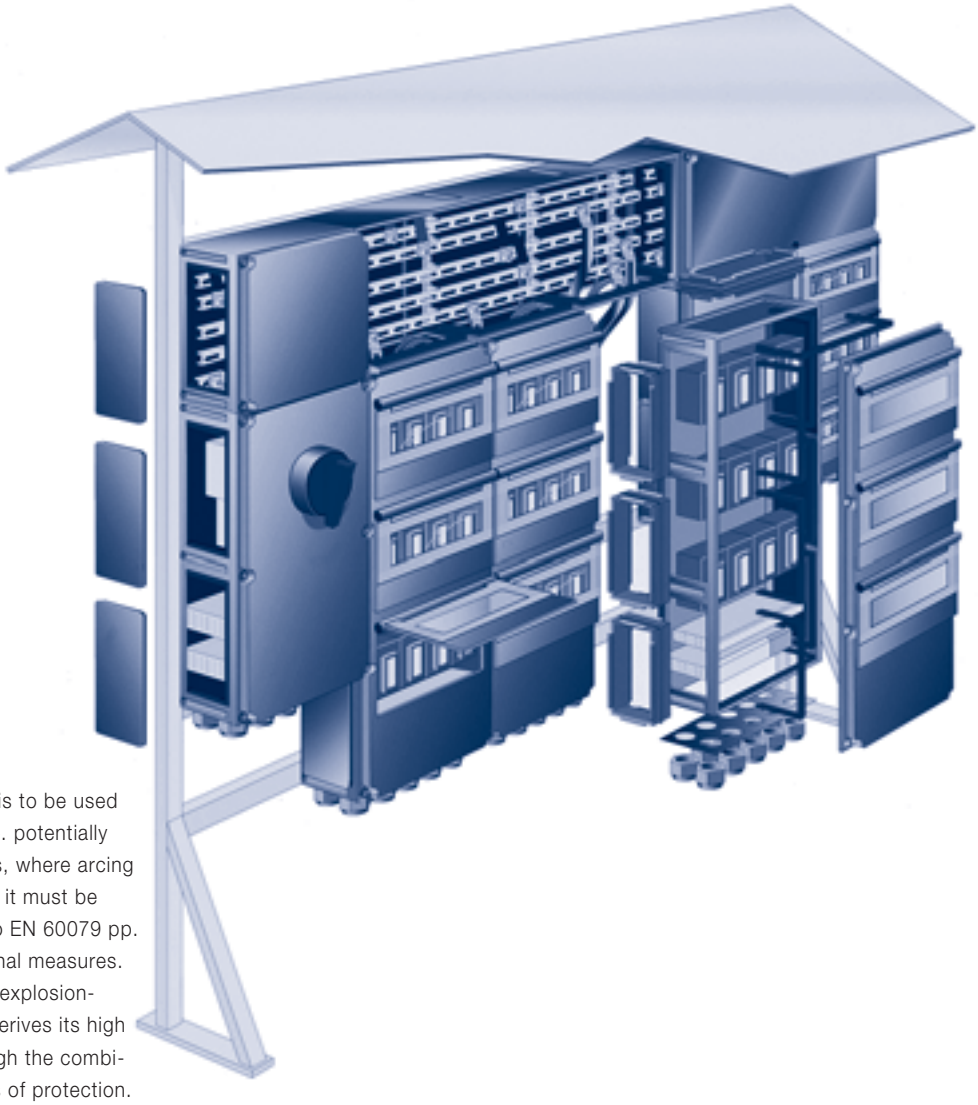
EX-E EMPTY ENCLOSURES 11.58

EX-D/E SWITCH- AND CONTROL-EQUIPMENT 11.63

EX-D ENCLOSURES AND DISTRIBUTIONS FOR GAS GROUP IIB 11.74

EX-D ENCLOSURES AND DISTRIBUTIONS FOR GAS GROUP IIC 11.86

EX-D CONTROL- AND SIGNAL UNITS 11.94

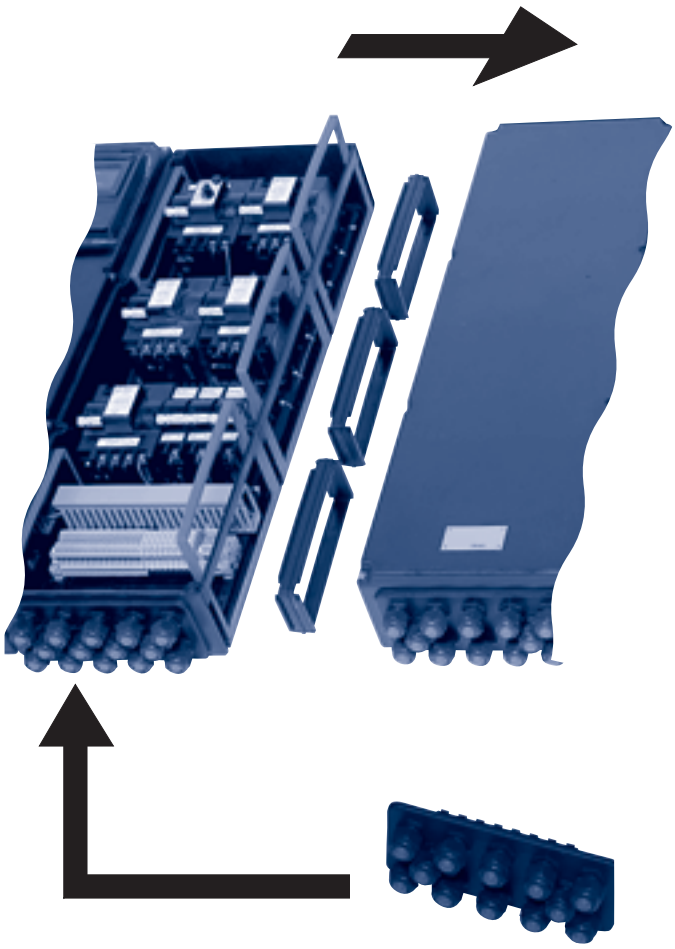


Distributions

If electrical apparatus is to be used in hazardous areas, i.e. potentially explosive atmospheres, where arcing or sparking can occur, it must be protected according to EN 60079 pp. by special constructional measures. Cooper Crouse-Hinds explosion-protected apparatus derives its high degree of safety through the combination of various types of protection. Thus, flameproof encapsulated devices (Ex-d), for instance, are also integrated in enclosures of the "Increased Safety" type (Ex-e). As these components are of modular design, they can be combined according to customers' requirements. The modules are inserted by simple snap-on rail mounting. Electrical apparatus with metal enclosures may be used in type "flameproof enclosure" (EE-d) without any volume limit. Up to three high-capacity apparatus with non-metal enclosures may take up an enclosure volume of up to 2000 cm^3. However, the heat generated in the enclosure must be dissipated, so that the temperature on the external surface of the enclosure does not exceed the limit set by the respective temperature class.

Product Range

The extensive Cooper Crouse-Hinds product range offers everything you're looking for – just in time: no matter whether you need a flameproof encapsulated component, an encapsulation of the components in a flameproof enclosure – or a combination of both. Whatever material you care for, CEAG has it: Distributions are available in the most diverse materials, such as glass-fibre reinforced polyester, electro-polished stainless steel or die-cast light alloy in explosion group IIB and IIC or alternatively polyester powder-coated steel. The explosion-protected CEAG distributions are certified for hazardous areas of Zones 1 and 2. We also have the right solution for Zones 21 and 22 for you.

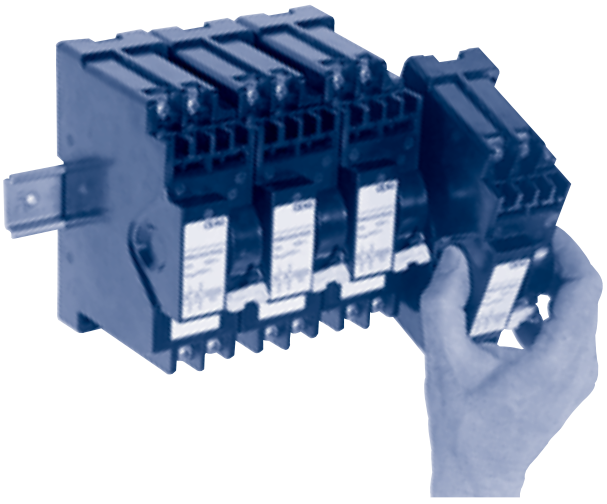


Snappy snap-on

The Cooper Crouse-Hinds GmbH gives you explosion protection in a snap – even with distributions. The enclosures and the main switches are of modular design in standardised sizes and can thus be combined as desired using the reliable flange snap-on mounting technique. Cable entries of all kinds can be mounted individually on the screwless plastic or brass flanges. And since these flanges can be inserted in a snap, cable entries can be easily mounted at any time. The same applies to other extensions or modifications. The snap-on technique gives you greater flexibility and cost-effectiveness for installations in hazardous areas.

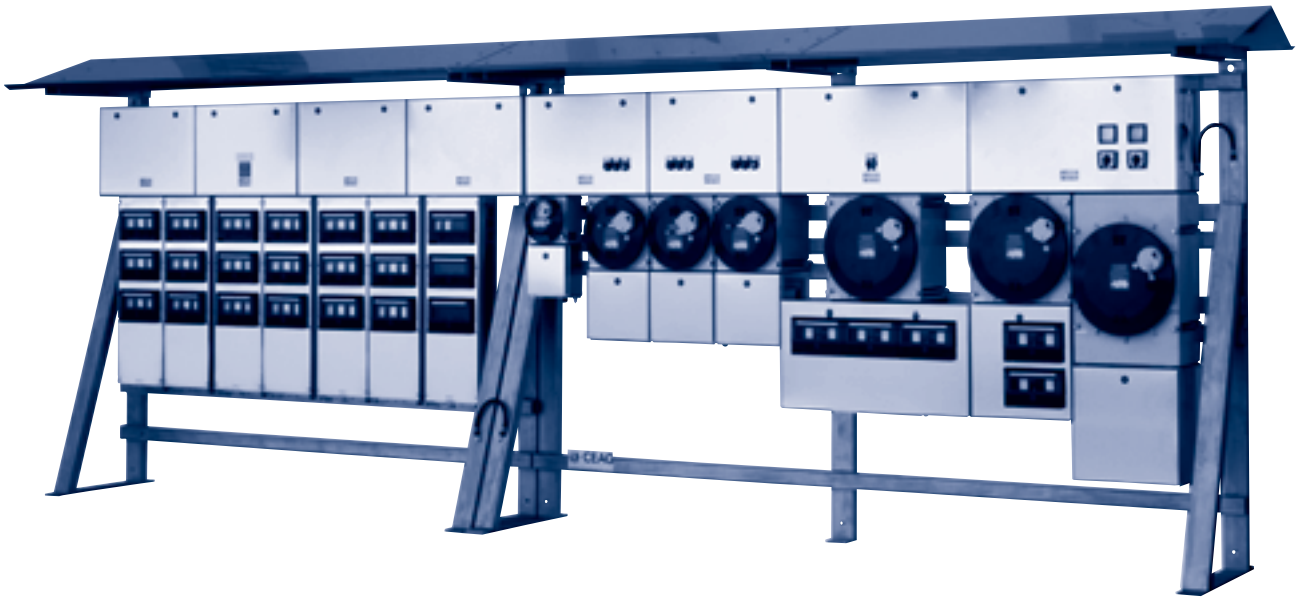
Modular design

The modular distribution design makes modifications and extensions a snap: Remove the flange, insert the new enclosure, connect the apparatus, done! Moreover, you can do this as often as your system demands. The only limitation is space.



Rational component replacement

Components which can be quickly and reliably removed and inserted with the snap-on technique provide you with a rational method of replacing components for servicing as well as a simple and easy means of system extension.



Frameworks

Modular CEAG enclosures of different series can be combined into large distribution systems on standardised wall-mounting or free-standing frameworks. The frameworks come in standardised sizes to accommodate the enclosure modules and can be extended as required. For outdoor installations, we recommend canopies to protect the distribution system from the sun and rain. Smaller distributions are mounted on flat or U-rails. All enclosures are made of galvanised steel or – as an option – stainless steel.



Bus bars

Inexpensive installations: Using the CEAG bus-bar system, a number of circuits can be simply and quickly connected for high cost-effectiveness. If required, individually encapsulated control and indicating units, such as pushbuttons, control switches or measuring instruments, can also be connected to the bus bars.

Worldwide approvals

We have years of experience with explosion- protection approvals worldwide and we carefully monitor the latest trends and developments. For our customers, this means not only better consultation, but future-proof products, such as ATEX-compatible systems and components. IECEx-Scheme conform products will be taken for granted.



Actuating flaps

Via actuating flaps, integrated in the enclosure cover, switches and relays can be actuated without opening the enclosure. The switch positions of the built-in components can be seen from the outside. As an added security measure, the actuating flaps can be locked.

Explosion groups IIB and IIC

CEAG offers a complete product line of Ex-d distributions for gas explosion groups IIB and IIC. All common industrial switchgear that gives off arcs or sparks can be built into flame-proof enclosures. The distributions for explosion group IIC are designed for easy installation via "Increased Safety" type connection boxes. Enclosures in explosion group IIB are interconnected via flameproof cable bushings.



Planning and customized solutions

Regardless of whether you have an idea in mind or functional descriptions and wiring diagrams on paper, talk to our experienced project specialists. Our highly-qualified engineers and master technicians will provide you with expert advice and an offer. If you wish, they will also compile the needed documentation for your project (including a parts list as well as dimension, wiring and terminal diagrams as necessary) – on paper or as data files. You can rely on our flexible production for the assembly of your system. All systems and their components are 100% inspected and tested. You're welcome to perform a final acceptance test – including a complete electrical function test – in our laboratory.

E X - D I S T R I B U T I O N S

Moulded plastic in modular design

Cooper Crouse-Hinds GmbH makes explosion protection a snap – and that also applies to distributions.

Electrical distributions for Ex-areas must be protected according to EN 60079 pp by constructional measures. Thus, the Cooper Crouse- Hinds GmbH flameproof moulded-plastic distributions provide type Ex-e protection.

The enclosure and main-switch modules are available in the following materials: fibreglass reinforced polyester, electro-polished stainless steel and polyester powder-coated steel. Moulded plastic enclosures are flame-retardant according to UL 94 VO. All modules come in standardised sizes and can be interconnected as desired.

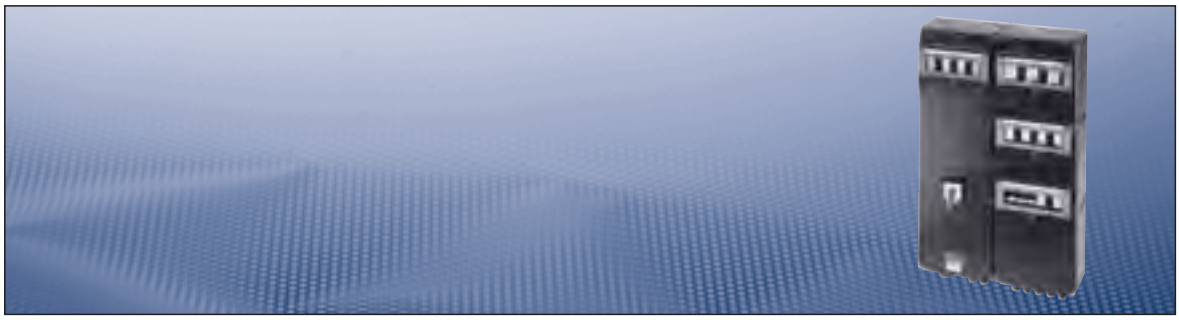
Cable entries of all kinds can be mounted individually on the screwless plastic or brass flanges. Since these flanges can be inserted in a snap, cable entries can be easily mounted at any time. The same applies to other extensions or modifications.

A bus-bar system can be used to provide power to the individual components. The flameproof encapsulated modules (Ex-d) can be combined according to customers' specifications. Five enclosure sizes provide enough space for whatever modules are required: MCBs, RCDs, contactors, motor starters, over current trips, star-delta time relays or main switches. The modules are inserted in the distribution by simple snap-on rail mounting. Thus, modules can be replaced or added quickly and reliably. Lockable actuating flaps allow operation without opening the enclosure.

Internationally approved.



- **Modular slip-on assembly**
- **High IP66 protection**
- **Snap-on components**
- **Retrofitting**



Technical data

MCB distribution for lighting circuits | heating circuits | socket distributions	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib m [ia/ib] IIC T6, T5, T4 / Ⓔx II 2 D Ex tD A21 IP66/IP65 T95 °C
EC Type Examination Certificate	PTB 99 ATEX 1044
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
IECEx Certificate of Conformity	IECEx BKI 06.0007
Marking accd. to IECEx	Ex de ia/ib m [ia/ib] T4 ... T6
	Ex tD A21 IP66 T80 °C
Rated voltage	690 V
Rated current	180 A
Insulation class	I
Terminal cross-section	up to 240 mm²
Degree of protection acc. to EN 60529	IP65
Weight	see ordering details
Enclosure material	Glass-fibre reinforced polyester
Enclosure colour	black

Ordering details MCB distribution for lighting circuits

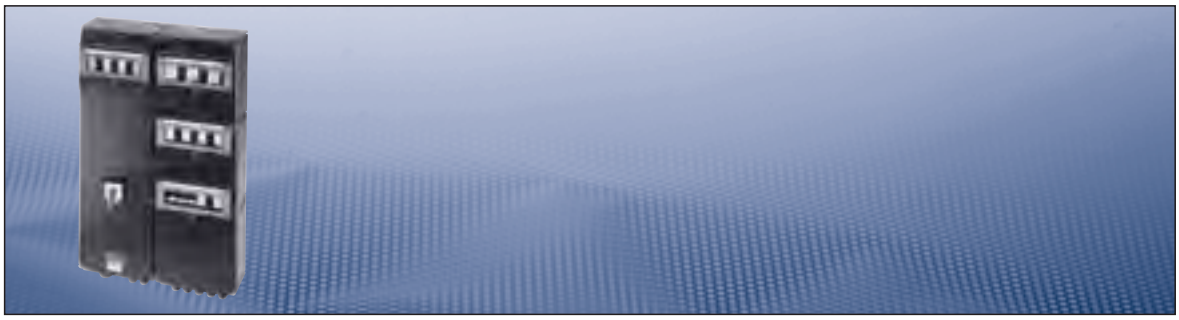
Version	Type	MCB 2-pole	Connection terminals	Cable glands	Weight approx.	Order No.
40 A	1	8 x 16 A	10 mm²	1 x M40 (17 - 28 mm Ø)		
				8 x M25 (8 - 17 mm Ø)	20 kg	**EXKO 214 600 G 0000**
80 A	2	12 x 16 A	16 mm²	1 x M50 (22 - 35 mm Ø)		
				12 x M25 (8 - 17 mm Ø)	32 kg	**EXKO 214 600 G 0001**
80 A	3	24 x 16 A	16 mm²	1 x M50 (22 - 35 mm Ø)		
				24 x M25 (8 - 17 mm Ø)	56 kg	**EXKO 214 600 G 0002**

Ordering details MCB distribution for heating circuits

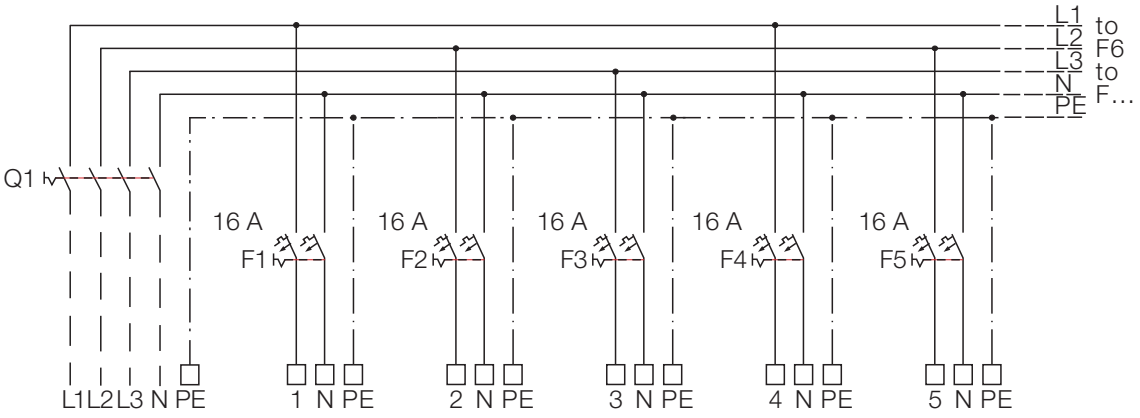
Version	Type	MCB with RCD 2-pole	Connection terminals	Cable glands	Weight approx.	Order No.
40 A	1	8 x 16 A, 30 mA	10 mm²	1 x M40 (17 - 28 mm Ø)		
				8 x M25 (8 - 17 mm Ø)	20 kg	**EXKO 214 600 G 0003**
80 A	2	12 x 16 A, 30 mA	16 mm²	1 x M50 (22 - 35 mm Ø)		
				12 x M25 (8 - 17 mm Ø)	32 kg	**EXKO 214 600 G 0004**
80 A	3	24 x 16 A, 30 mA	16 mm²	1 x M50 (22 - 35 mm Ø)		
				24 x M25 (8 - 17 mm Ø)	56 kg	**EXKO 214 600 G 0005**

Ordering details MCB distribution for sockets

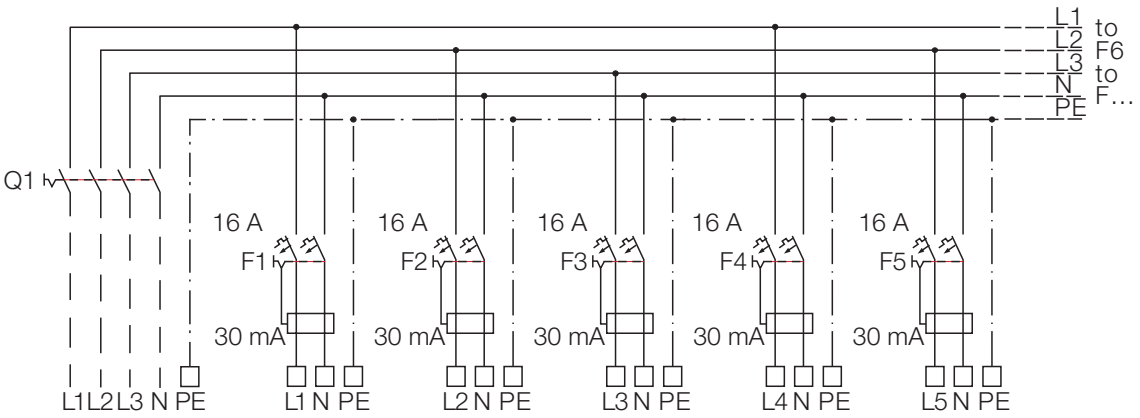
Version	Type	Socket outlets	Cable glands	Weight approx.	Order No.
2 x 16 A	1	2 x 16 A 3-pole	1 x M40 (17 - 28 mm Ø)	10 kg	**EXKO 233 800 C 0001**
2 x 16 A	2	1 x 16 A 3-pole			
1 x 32 A		1 x 16 A 5-pole			
		1 x 32 A 5-pole	1 x M40	20 kg	**EXKO 233 800 C 0002**
4 x 16 A	3	2 x 16 A 3-pole			
		2 x 16 A 5-pole	1 x M40	25 kg	**EXKO 233 800 C 0003**



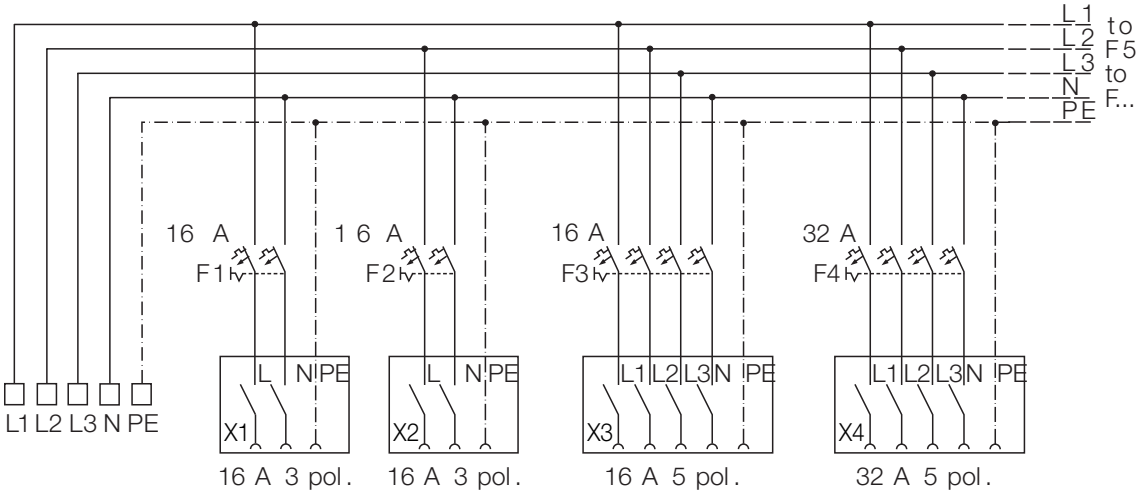
Wiring diagram lighting distribution | heating circuit distribution | socket distribution



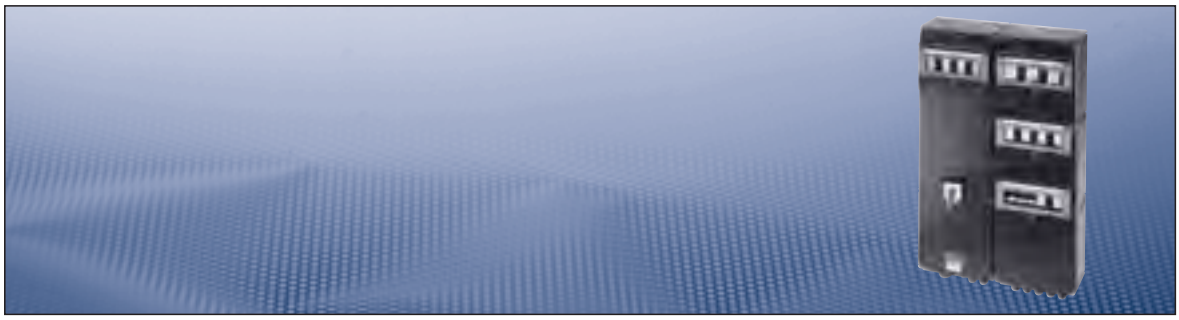
Lighting distribution



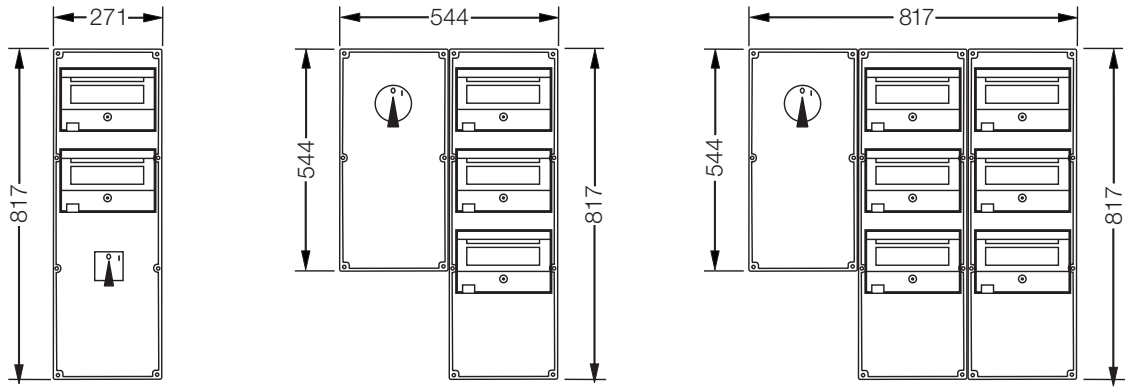
Heating circuits



Socket distributions

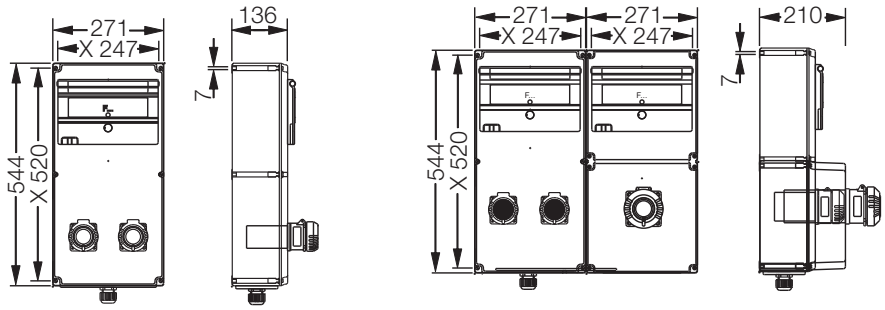


Dimension drawing lighting distribution | heating circuit distribution | socket distribution

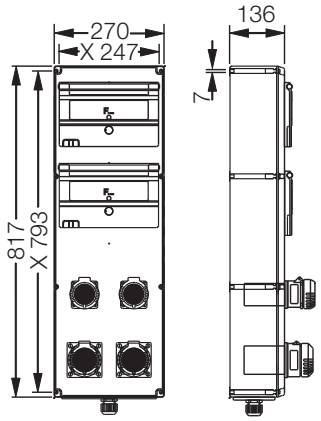


Type 1 **Type 2** **Type 3**

Lighting distribution/heating circuit distribution



Type 1 **Type 2**



Type 3

Socket distributions **X = fixing dimension**

Dimensions in mm



EXKO 208900 C 0001 EXKO 208900 A 0003

Technical data

Complete motor starter distributions	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib m [ia/ib] IIC T6, T5, T4 / Ⓔx II 2 D Ex tD A21 IP66/IP65 T95 °C
EC Type Examination Certificate	PTB 99 ATEX 1044
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
IECEx Certificate of Conformity	IECEx BKI 06.0007
Marking accd. to IECEx	Ex de ia/ib m [ia/ib] T4 ... T6
	Ex tD A21 IP66 T80 °C
Rated voltage	690 V
Rated current	up to 180 A
Insulation class	I
Terminal cross-section	up to 240 mm²
Degree of protection acc. to EN 60529	IP66
Weight	see ordering details
Enclosure material	Glass-fibre reinforced polyester
Enclosure colour	black

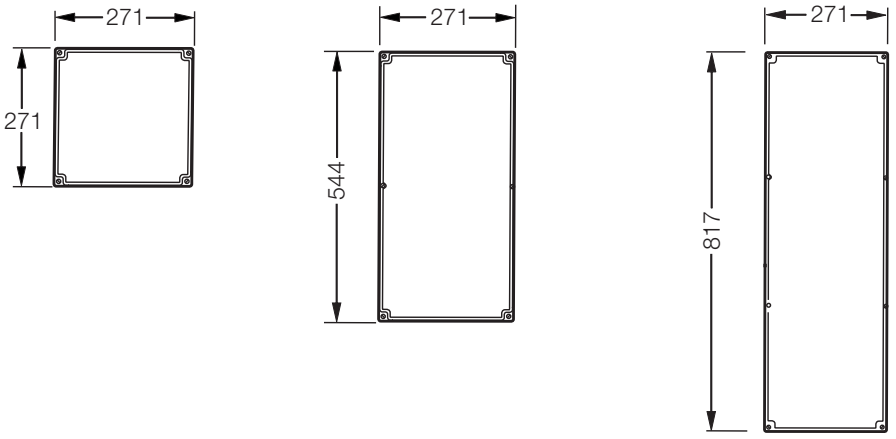
Ordering details complete motor starter distributions

Version Motor capacity to AC 3	Type	Connection terminals	Cable glands	Weight approx.	Order No.
Direct circuit					
4 KW	1	10 mm²	3 x M25 (8 - 17 mm Ø)	20 kg	**EXKO 208 900 A 0001**
5.5 KW	2	16 mm²	3 x M25 (8 - 17 mm Ø)	32 kg	**EXKO 208 900 A 0002**
7.5 KW	2	16 mm²	3 x M25 (8 - 17 mm Ø)	36 kg	**EXKO 208 900 A 0003**
Reversing circuit					
4 KW	2	10 mm²	3 x M25 (8 - 17 mm Ø)	20 kg	**EXKO 208 900 B 0001**
5.5 KW	2	16 mm²	3 x M25 (8 - 17 mm Ø)	32 kg	**EXKO 208 900 B 0002**
7.5 KW	2	16 mm²	3 x M25 (8 - 17 mm Ø)	36 kg	**EXKO 208 900 B 0003**
Star-delta starter					
4 KW	2	10 mm²	4 x M25 (8 - 17 mm Ø)	20 kg	**EXKO 208 900 C 0001**
5.5 KW	2	16 mm²	4 x M25 (8 - 17 mm Ø)	32 kg	**EXKO 208 900 C 0002**
7.5 KW	2	16 mm²	4 x M25 (8 - 17 mm Ø)	32 kg	**EXKO 208 900 C 0003**
11 KW	3	16 mm²	1 x M25 (8 - 17 mm Ø)		
			3 x M25 (8 - 17 mm Ø)	56 kg	**EXKO 208 900 C 0004**

The motor starters are completely wired for connection by customer.

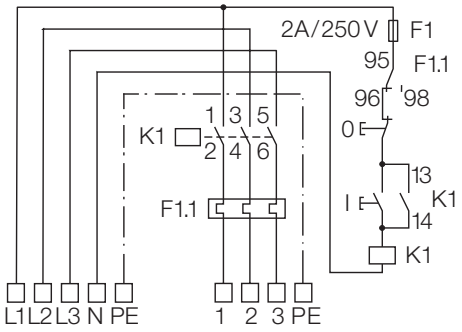


Dimension drawing | Wiring diagram

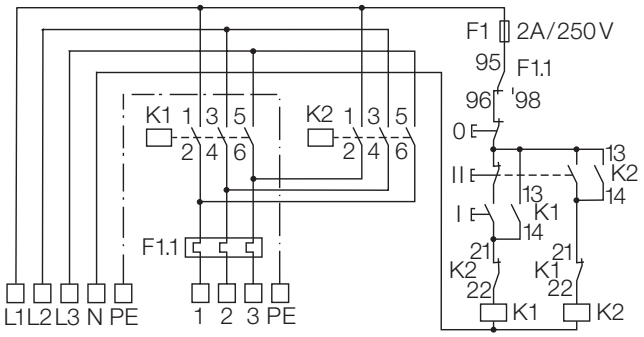


Type 1 Type 2 Type 3

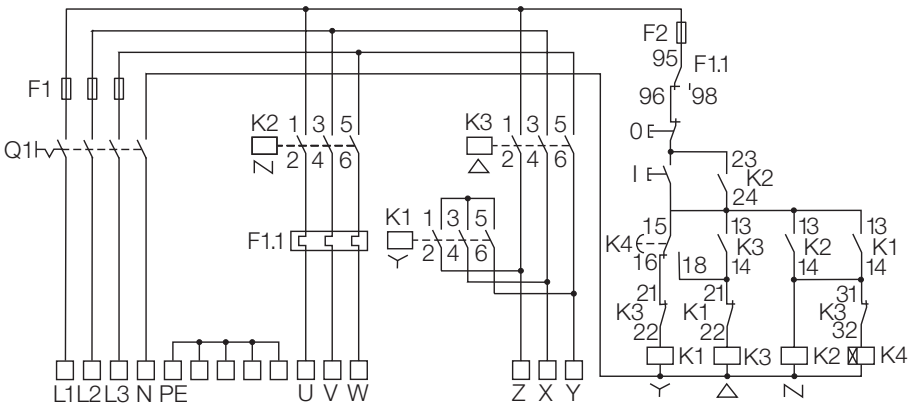
Direct circuit



Reversing circuit



Star-delta starter



Dimensions in mm

EX-DISTRIBUTIONS

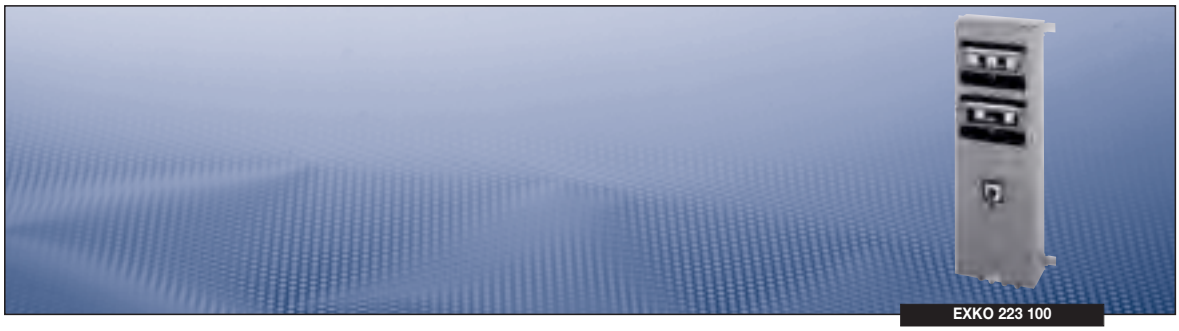
Stainless steel in modular design

Distributions made of stainless steel for protection against aggressive environments are used for lighting, heating, motor and socket circuits in potentially explosive atmospheres. The distributions contain components with flameproof enclosures. These flameproof components, such as MCBs, fuses etc., provide thermal and magnetic protection and can be snapped on individually on the DIN rails. The distribution systems are available in stainless steel enclosures of various sizes. On standardised wall-mounting or free-standing frameworks, the enclosures can be combined into large distribution systems. The frameworks come in standardised sizes to accommodate the enclosures and can be extended as required. MCBs, RCDs and other components can be operated via lockable actuating flaps, integrated in the enclosure cover, without opening the enclosure. CEAG fuse and MCB distributions provide cost-effective solutions. They fulfil all the requirements specified by the chemical, petrochemical and offshore industries.

Internationally approved.



- **Combinable for larger distributions**
- **Actuating flaps for easy operation**
- **Snap-on components**
- **Protection type IP66**
- **Retrofitting**



Technical data

MCB distribution for lighting circuits | heating circuits | socket distributions	
Marking to 94/9/EC	Ex II 2 G Ex de ia/ib m [ia/ib] IIC T6, T5, T4
	Ex II D Ex tD A21 IP66/IP65 T80 °C, T95 °C
EC Type Examination Certificate	PTB 99 ATEX 1044
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (Option)
IECEx Certificate of Conformity	IECEx BKI 06.0007
Marking accd. to IECEx	Ex de ia/ib m [ia/ib] T4 ... T6
	Ex tD A21 IP66 T80 °C
Rated voltage	690 V
Rated current	180 A
Insulation class	I
Terminal cross-section	up to 240 mm²
Degree of protection acc. to EN 60529	IP66
Enclosure material	Stainless steel AISI 316 L
Enclosure colour	electro-polished

Ordering details MCB distribution for lighting circuits

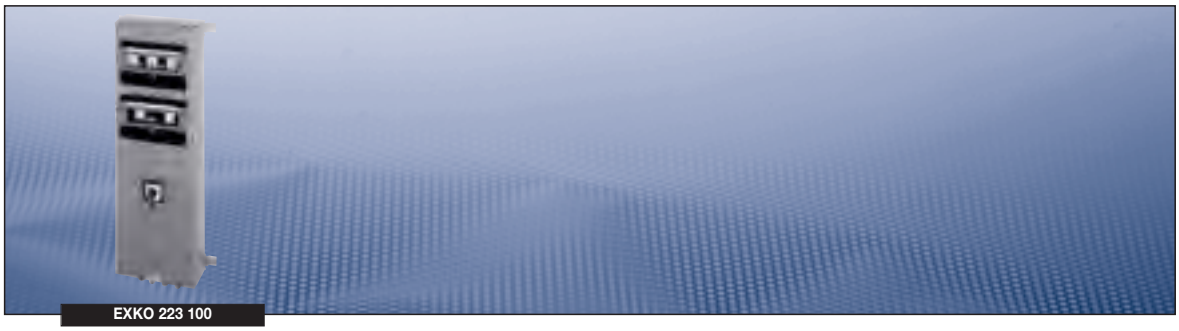
Version	Type	MCB 2-pole	Conection terminals	Cable glands	Weight approx.	Order No.
40 A	1	8 x 16 A	10 mm²	1 x M40 (17 - 28 mm Ø) 8 x M25 (8 - 17 mm Ø)	22 kg	**EXKO 223 100 Q 0000**
80 A	2	12 x 16 A	16 mm²	1 x M50 (22 - 35 mm Ø) 12 x M25 (8 - 17 mm Ø)	34 kg	**EXKO 223 100 Q 0001**
80 A	3	24 x 16 A	16 mm²	1 x M50 (22 - 35 mm Ø) 24 x M25 (8 - 17 mm Ø)	58 kg	**EXKO 223 100 Q 0002**

Ordering details MCB distribution for heating circuits

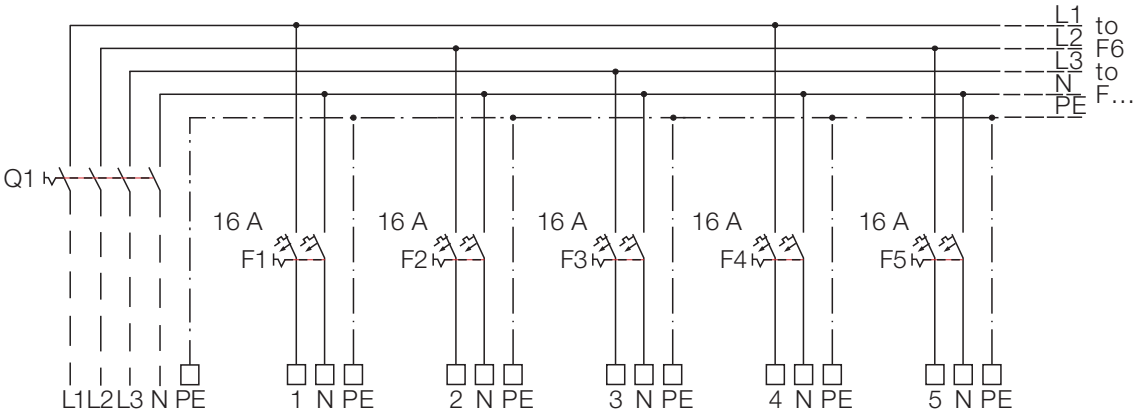
Version	Type	MCB wit RCD 2-pole	Connection terminals	Cable glands	Weight approx.	Order No.
40 A	1	8 x 16 A, 30 mA	10 mm²	1 x M40 (17 - 28 mm Ø) 8 x M25 (8 - 17 mm Ø)	22 kg	**EXKO 223 100 Q 0003**
80 A	2	12 x 16 A, 30 mA	16 mm²	1 x M50 (22 - 35 mm Ø) 12 x M25 (8 - 17 mm Ø)	34 kg	**EXKO 223 100 Q 0004**
80 A	3	24 x 16 A, 30 mA	16 mm²	1 x M50 (22 - 35 mm Ø) 24 x M25 (8 - 17 mm Ø)	58 kg	**EXKO 223 100 Q 0005**

Ordering details MCB distribution for sockets

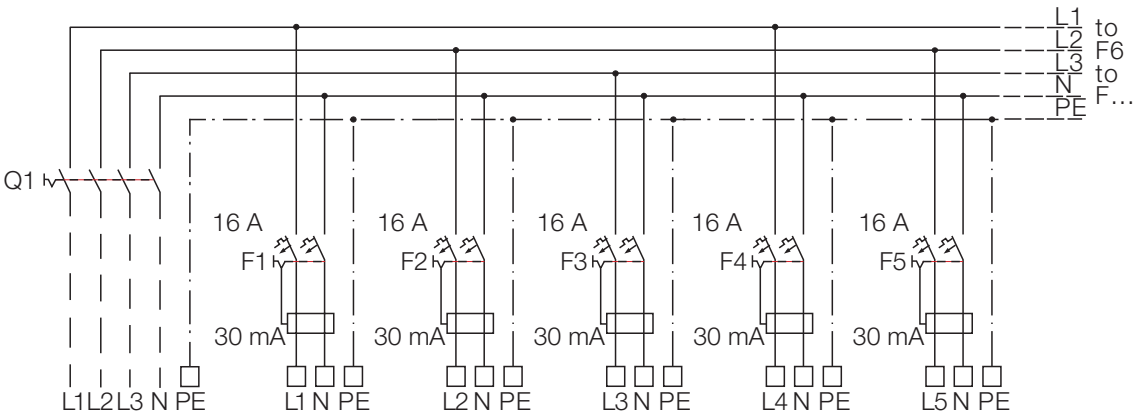
Version	Type	Socket outlets	Cable glands	Weight approx.	Order No.
2 x 16 A	1	2 x 16 A 3-pole	1 x M40 (17 - 28 mm Ø)	12 kg	**EXKO 223 800 C 0004**
2 x 16 A 1 x 32 A	2	1 x 16 A 3-pole 1 x 16 A 5-pole 1 x 32 A 5-pole	1 x M40	22 kg	**EXKO 223 800 C 0005**
4 x 16 A	3	2 x 16 A 3-pole 2 x 16 A 5-pole	1 x M40	27 kg	**EXKO 223 800 C 0006**



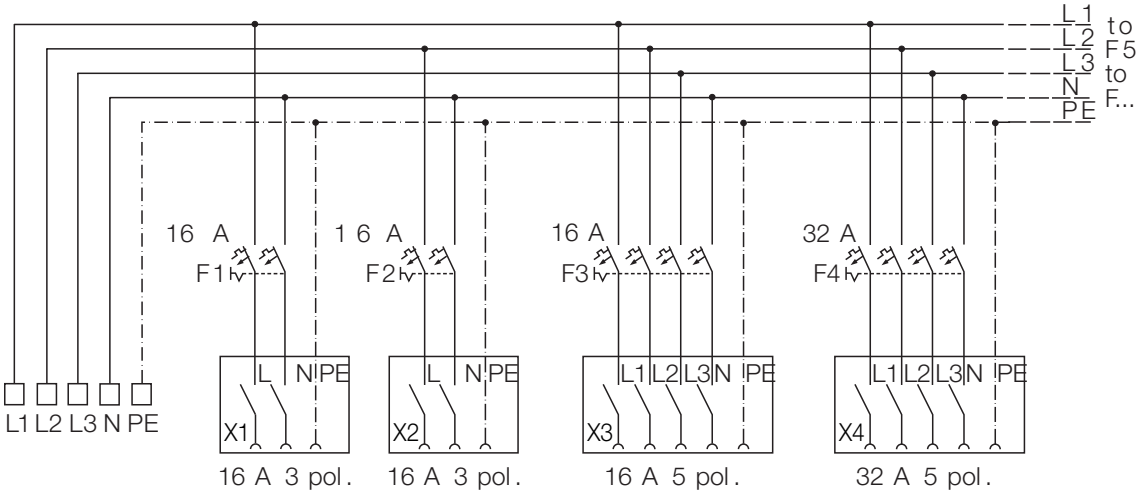
Wiring diagram lighting distribution | heating circuit distribution | socket distribution



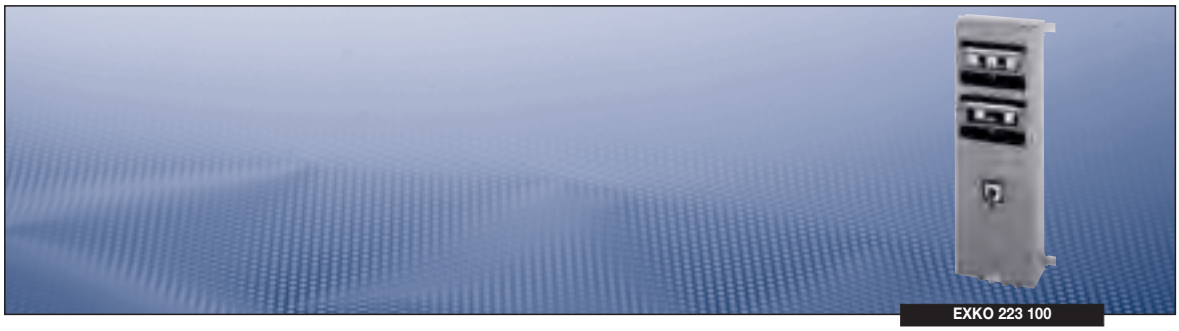
Lighting circuit



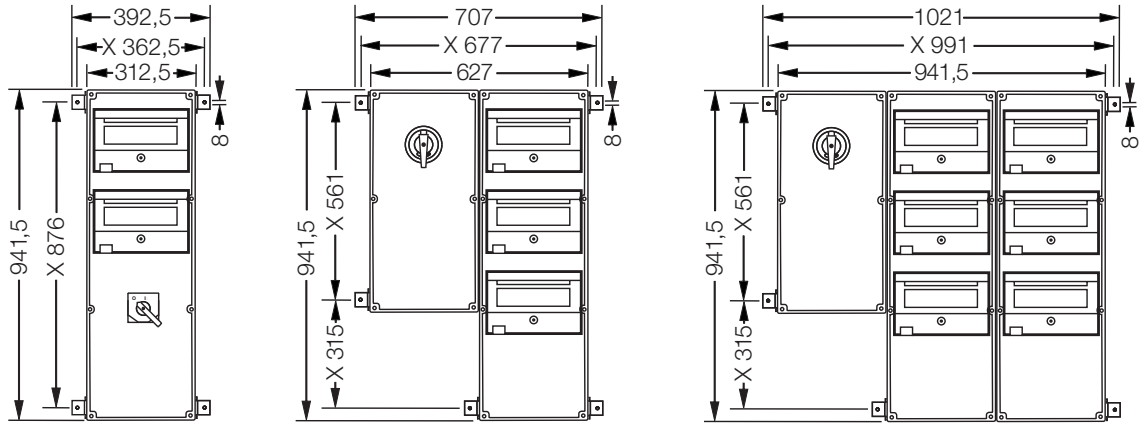
Heating circuit



Socket distribution

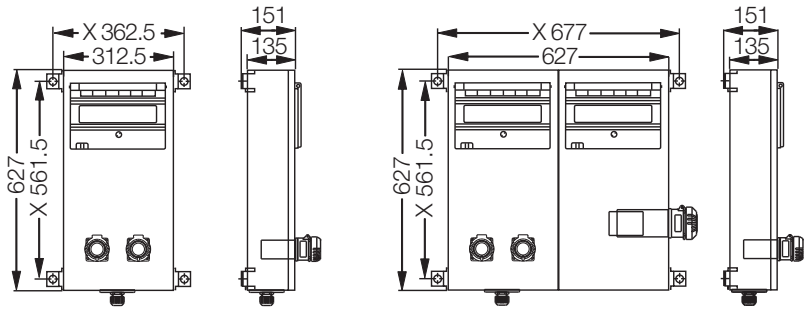


Dimension drawing lighting distribution | heating circuit distribution | socket distribution

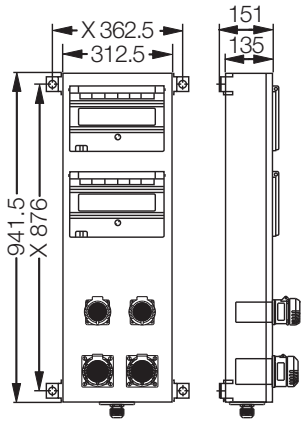


Type 1 **Type 2** **Type 3**

Lighting distribution/Heating circuit distribution **X = fixing dimensions**



Type 1 **Type 2**



Type 3

Socket distribution **X = fixing dimensions**

Dimensions in mm

EX-D-BUILT-IN COMPONENTS

Flameproof encapsulation

If electrical apparatus is to be used in hazardous areas, i.e. potentially explosive atmospheres, where arcing or sparking can occur, it must be protected according to EN 60079 pp by special constructional measures. The Cooper Crouse-Hinds GmbH explosion-protected apparatus, such as the modules in Ex-e distributions, derives its high degree of safety through the combination of various types of protection. Thus, flameproof encapsulated components (Ex-d), for instance, are also integrated in enclosures of the type "Increased Safety" (Ex-e). As these components are of modular design, they can be combined according to customers' requirements. Five enclosure sizes provide enough space for whatever modules are required: MCBs, RCDs, contactors, motor starters, over-current trips, star-delta time relays or main switches. Protected by a transparent flap, all modules can be conveniently monitored and operated.

The modules are inserted in the distribution by simple snap-on rail mounting. Thus, modules can be replaced or added quickly and reliably. That makes servicing and extension work simpler and faster – and thus more cost-efficient.

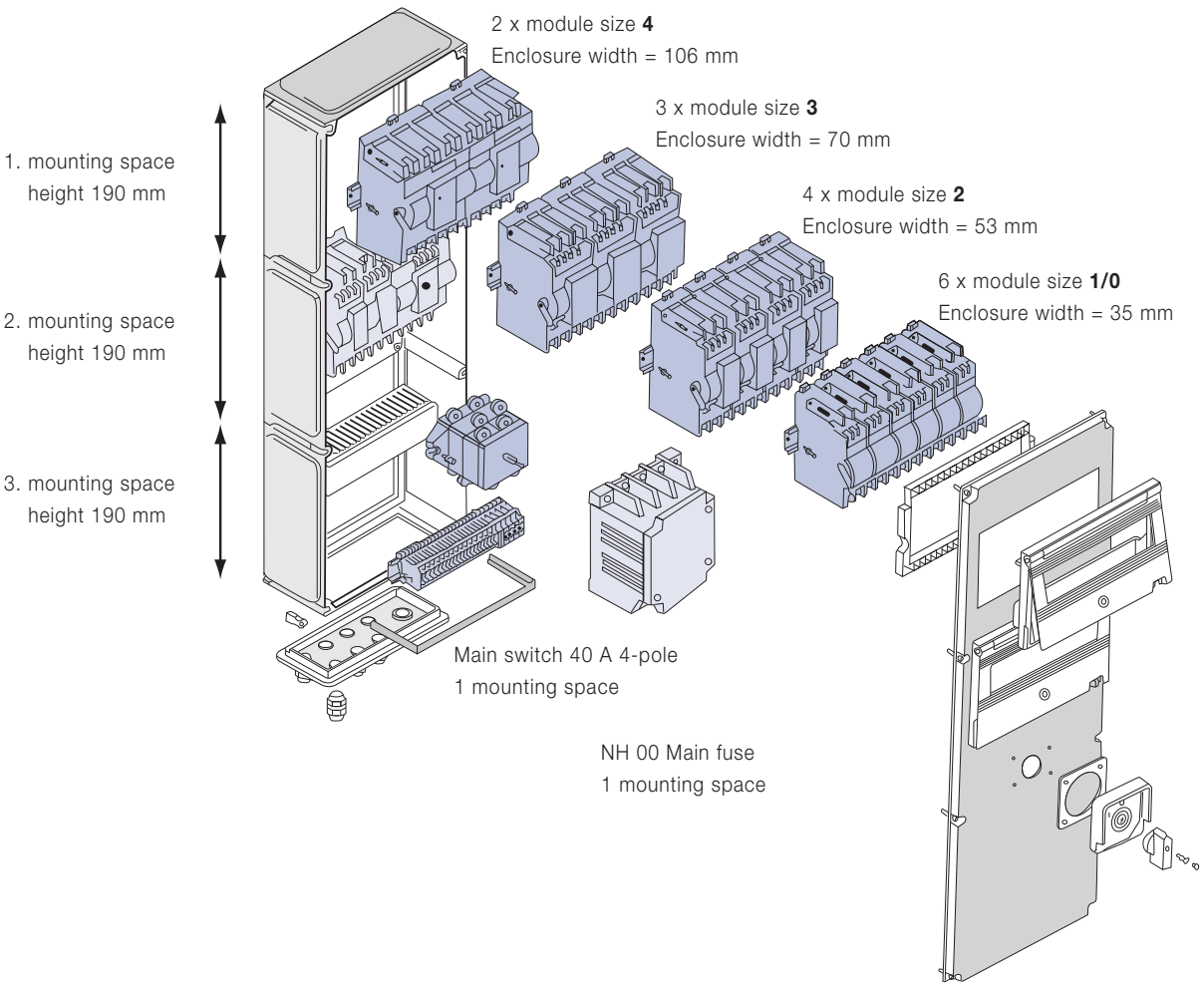
We've also provided for your personal safety: MCBs, RCDs, and power circuit breakers can be equipped with a lock in the OFF position. That protects you during your work on the system against inadvertent switching on – better safe than sorry!

International certification.



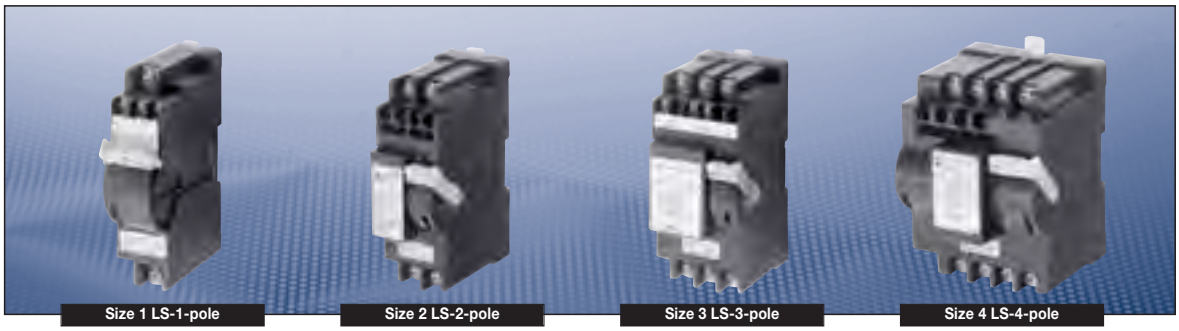
- **Snap-on**
- **Individually combinable**
- **Operation via actuating flap**
- **Optimum space utilisation with 5 enclosure sizes**

Enclosure module size 4
with 3 mounting spaces



Individual modular distributions

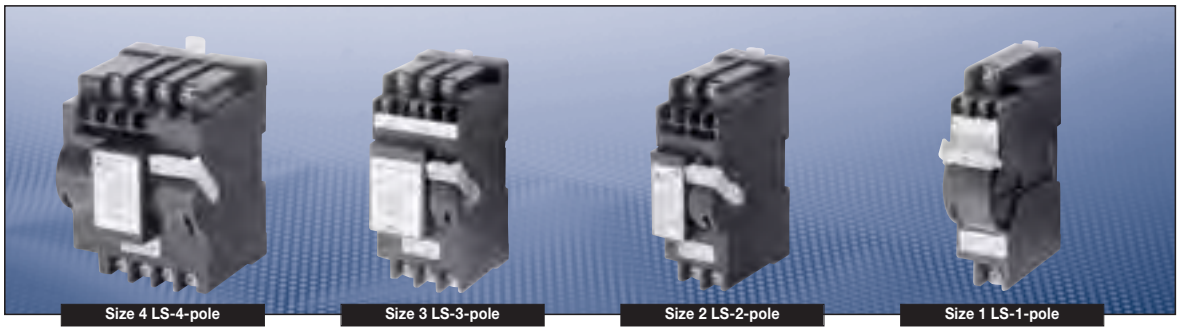
Cooper Crouse-Hinds explosion protected Ex-e moulded-plastic distributions can be individually assembled and equipped with various components. Enclosure modules of size 1, 2, 3 and 4 are available for combining flameproof encapsulated modules (Ex-d) according to customers' specifications. Five enclosure sizes provide enough space for whatever modules are required: MCBs, RCDs, contactors, motor starters, over-current trips, star-delta time relays or main switches. Different module sizes can be placed side by side in one mounting space. The modules are inserted in the distribution by simple snap-on rail mounting. Thus, modules can be replaced or added quickly and reliably. Lockable actuating flaps allow easy operation without opening the enclosure.



Technical data

MCB 0.5 A to 40 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC / Ⓔx I M 2 Ex de I
EC Type Examination Certificate		PTB 98 ATEX 1087 U
IECEx Certificate of Conformity		IECEx BKI 07.0038 U
Marking accd. to IECEx		Ex de IIC
Application temperature[1)]		–20 °C to +40 °C / –55 °C to +40 °C (option)
Rated voltage	Main contact	max. 440 V AC
	Auxiliary contact	max. 250 V AC
Rated current	Main contact	0.5 A to 40 A
	Auxiliary contact	max. 5 A
Rated switching capacity 2/3 phase		10 kA
230 V AC (133/230 V AC) kA/cos φ		10/0.5
400 V AC (230/400 V AC) kA/cos φ		10/0.5
Back-up fuse		depend on rated current up to 100 A
Connection terminals	Main contact	2 x 10 mm^2 fine wire with wire end sleeve/single wire
	Auxiliary contact	2 x 2.5 mm^2 fine wire with wire end sleeve/single wire
Weight	1 pole	0.55 kg size 1
	2 pole	0.95 kg size 2
	3 pole	1.25 kg size 3
	4 pole	1.57 kg size 4
Enclosure material		Glass-fibre reinforced polyester
Enclosure colour		black
Options		auxiliary-signal contact
Padlocking facility		in OFF position with a commercially available padlock

[1)] Depend on installation



Ex-Built-in components

MCB 0.5 A to 40 A

GHG 612 XXXX R0YYY

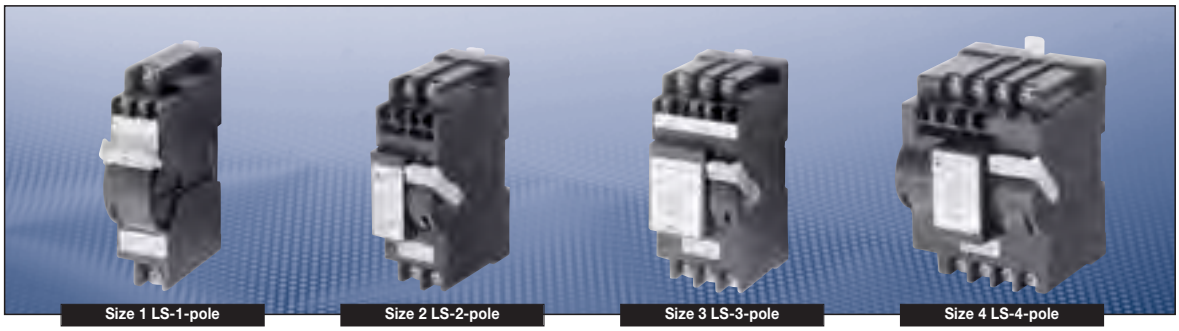
1. Contacts

1. Contacts

Contacts	Termination diagram[1]	1 pole (xxxx)	Module size[2]	2 pole (xxxx)	Module size[2]	3 pole (xxxx)	Module size[2]	4 pole (xxxx)	Module size[2]
Only main contact	A1 to A5	**1141**	**1**	**2141**	**2**	**3141**	**3**	**4141**	**4**
+ auxiliary contact (1 change-over)	B3	**1142**	**1**	**2142**	**2**	**3142**	**3**	**4142**	**4**
+ auxiliary contact (1NO+1NC)	B1, B2			**3150**	**3**				
+ auxiliary contact (2NO)	B4					**4168**	**4**		
+ N + auxiliary contact (1NO+1NC)	A5, B1, B2					**4166**	**4**		
+ signal contact (1 change-over)	C3	**2148**	**2**	**3157**	**3**	**4147**	**4**	**4143**	**4**
+ signal contact (1NC) + auxiliary contact (1NO)	C2 + B1					**4148**	**4**		
+ signal contact (1NO) + auxiliary contact (1NO)	C1 + B1					**4161**	**4**	**4160**	**4**
+ signal contact (1NC) + auxiliary contact (1NC)	C2 + B2					**4163**	**4**		
+ overload release (12 - 60 V)	D	**2150**	**2**	**3147**	**3**				
+ overload release (110 - 415 V)	D	**2151**	**2**	**3146**	**3**	**4146**	**4**		
+ undervoltage trip	E			**3148**	**3**	**4144**	**4**		
+ signal contact (1 change-over)	C3								
+ auxiliary contact (1 change-over)	B3			**3143**	**3**	**4164**	**4**		
+ overload release (110 - 415 V)	D								
+ signal contact (1 change-over)	C3			**4159**	**4**				
+ overload release (12 - 60 V)	D								
+ auxiliary contact (1 change-over)	B3			**3149**	**3**				
+ overload release (110 - 415 V)	D								
+ signal contact (1 change-over)	C3								
+ auxiliary contact (1 change-over)	B3			**4165**	**4**				
+ overload release (12 - 60 V)	D								
+ signal contact (1 change-over)	C3								
+ auxiliary contact (1 change-over)	B3			**4169**	**4**				
+ undervoltage trip	E								
+ signal contact (1 change-over)	C3					**4167**	**4**		
+ undervoltage trip	E								
+ signal contact (1 change-over)	C3								
+ auxiliary contact (1 change-over)	B3					**4174**	**4**		

[1] Termination diagram see page 11.20

[2] Module size see dimension drawing page 11.21



Ex-Built-in components

MCB 0.5 A to 40 A

GHG 612 XXXX R0YYY

2. Tripping current

2. Tripping current, characteristic, max. back-up fuse, power dissipation per pole

Tripping current	Characteristic K		Characteristic Z		Characteristic B		Characteristic C	
	Max. back-up fuse gL	YYY	Max. back-up fuse gL	YYY	Max. back-up fuse gL	YYY	Max. back-up fuse gL	YYY
0,5 A	not necessary	**013**	not necessary	**081**			not necessary	**121**
0,75 A		**014**						
1,0 A		**015**		**082**				**122**
1,6 A		**016**		**083**				**123**
2 A		**017**		**084**				**124**
3 A	20 A	**018**	20 A	**085**			20 A	**125**
4 A	25 A	**019**	20 A	**086**			20 A	**126**
6 A	63 A	**020**	35 A	**087**	63 A	**101**	40 A	**127**
8 A	63 A	**021**	40 A	**088**			63 A	**128**
10 A	63 A	**022**	63 A	**089**	100 A	**102**	100 A	**129**
13 A					100 A	**103**	100 A	**130**
16 A	80 A	**023**	63 A	**090**	100 A	**104**	100 A	**131**
20 A	81 A	**024**	80 A	**091**	100 A	**105**	100 A	**132**
25 A	100 A	**025**	80 A	**092**	100 A	**106**	100 A	**133**
32 A	100 A	**026**	100 A	**093**	100 A	**107**	100 A	**134**
40 A	125 A	**027**	100 A	**094**	125 A	**108**	125 A	**135**

Bach-up fuse is only required if at the installation point the max. prospective, unaffected short-circuit current will exceed the rated switching capacity.

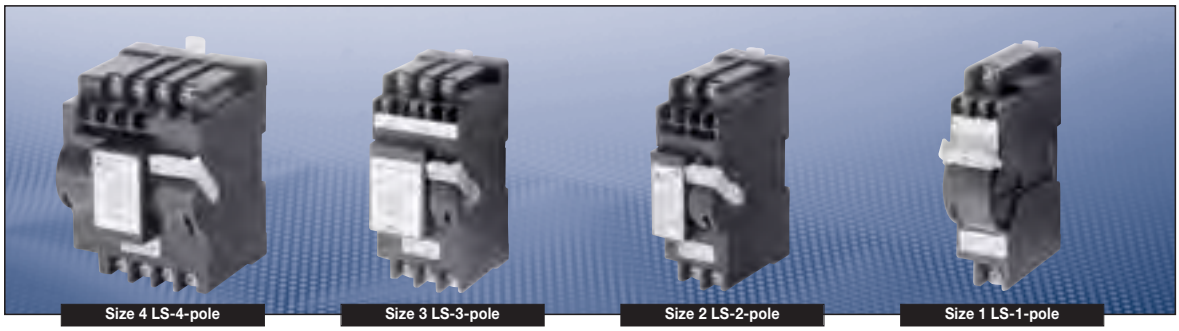
Example

GHG 612 XXXX R 0YYY

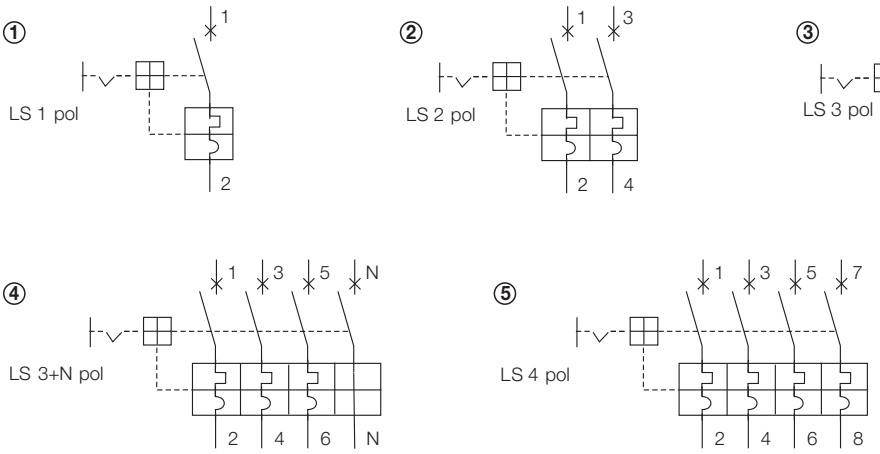
GHG 612 **3143** R 0**023**

3-pole
+ Signal contact (1 change-over)
+ Auxiliary contact (1 change-over)

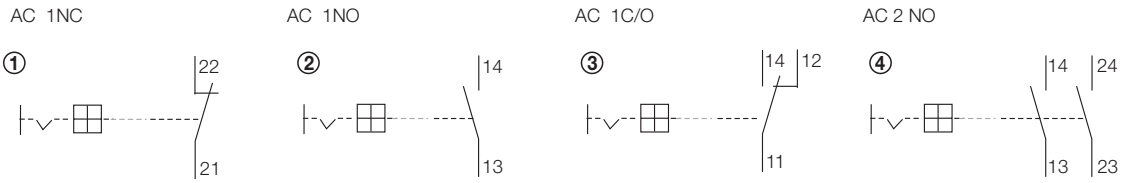
16 A
K-Characteristic



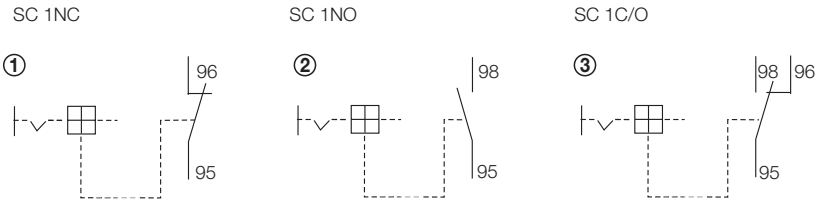
Termination diagram



A. Main contact



B. Auxiliary contacts



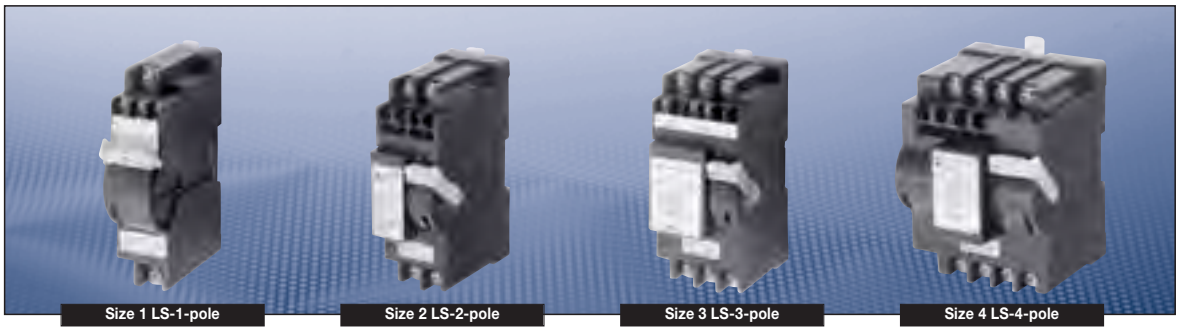
C. Signal contacts



D. Overload release

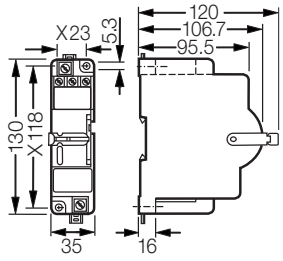
E. Undervoltage trip

MC = Main contact
AC = Auxiliary contact
SC = Signal contact
OR = Overload release
UT = Undervoltage trip

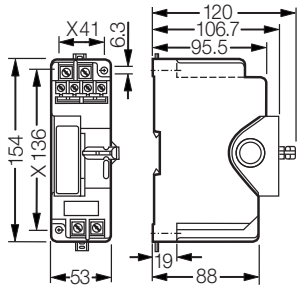


Size 1 LS-1-pole | Size 2 LS-2-pole | Size 3 LS-3-pole | Size 4 LS-4-pole

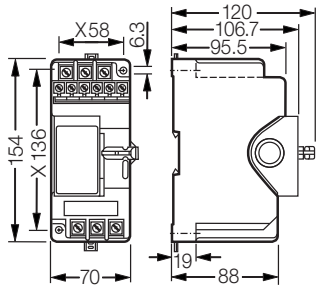
Dimension drawing



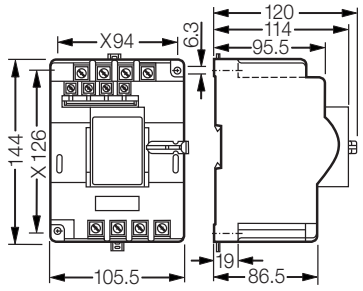
Module size 1



Module size 2



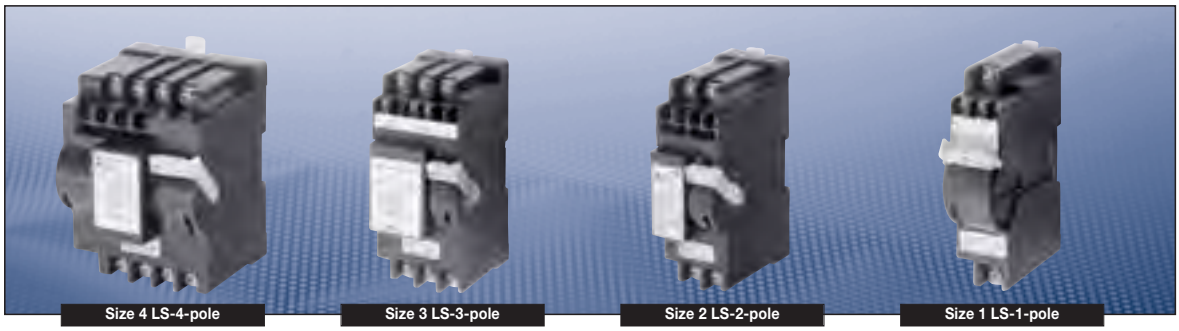
Module size 3



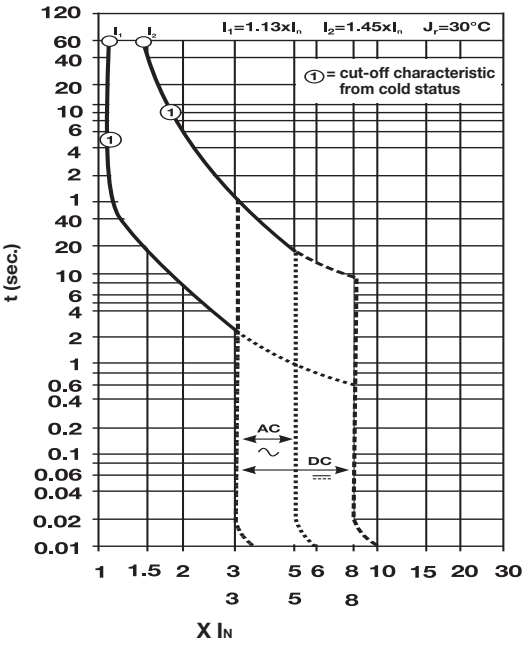
Module size 4

X = fixing dimensions

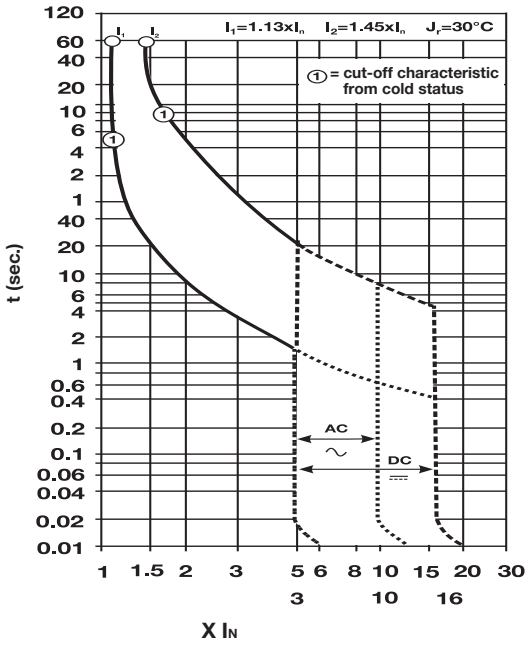
Dimensions in mm



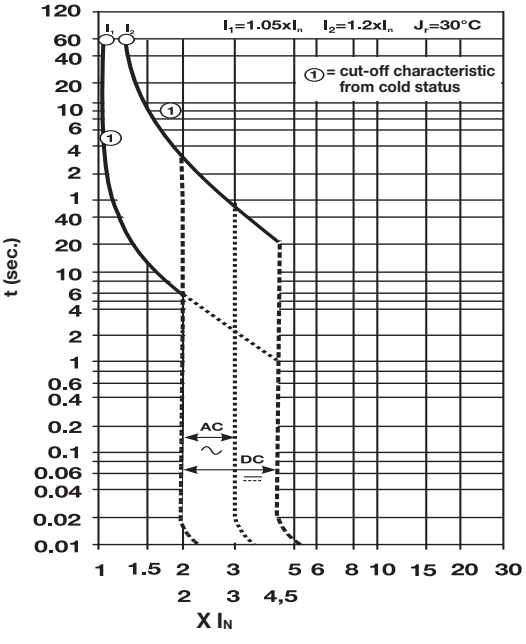
Tripping characteristic



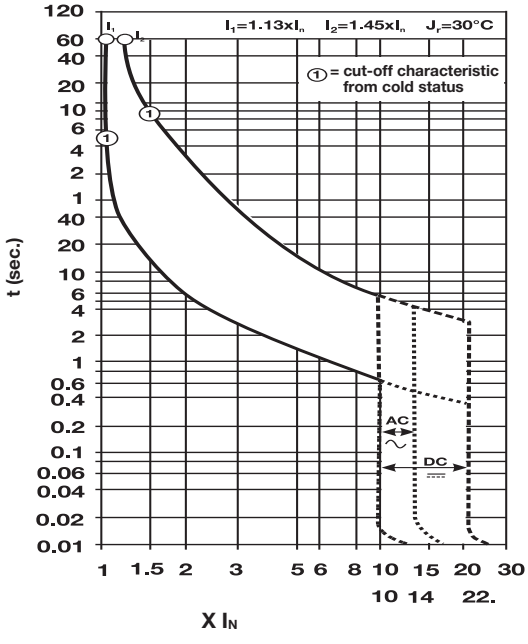
B-Characteristic



C-Characteristic

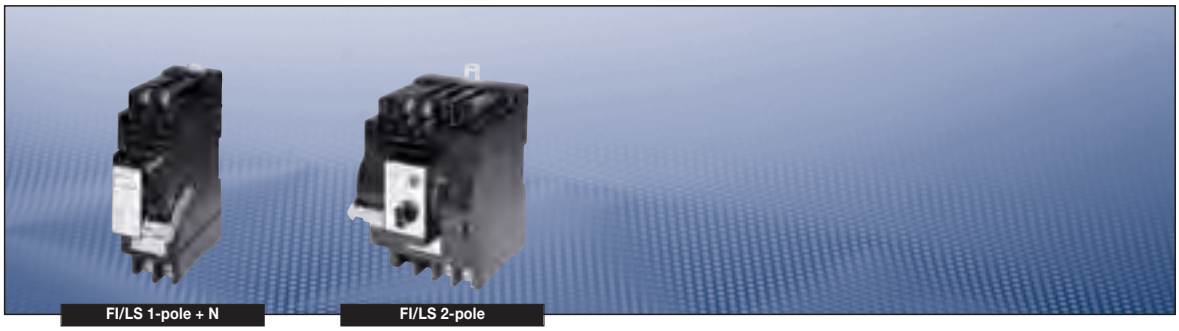


Z-Characteristic



K-Characteristic

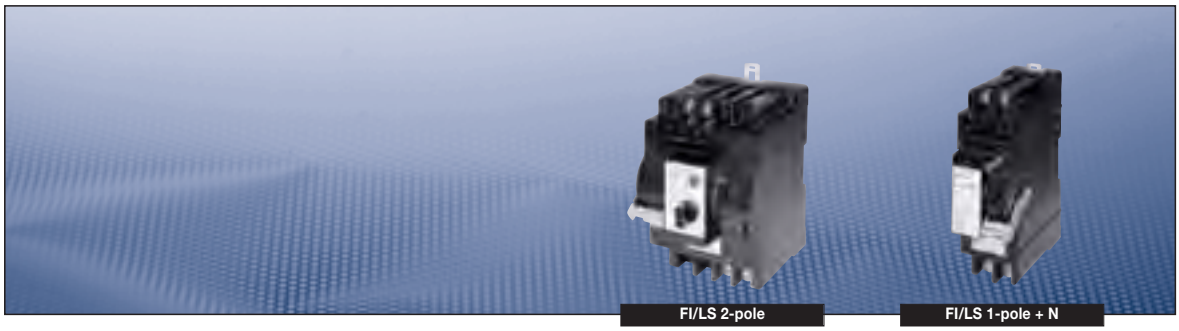
Dimensions in mm



Technical data

MCB 0.5 A to 40 A with RCD		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC / Ⓔx I M 2 Ex de I
EC Type Examination Certificate		PTB 98 ATEX 1087 U
IECEx Certificate of Conformity		IECEx BKI 07.0038 U
Marking accd. to IECEx		Ex de IIC
Application temperature[1)]		–20 °C to +40 °C / –55 °C to +40 °C (option)
Rated voltage	Main contact	max. 440 V AC
	Auxiliary contact	max. 250 V AC
Rated current	RCD	25 A; 40 A
	Main contact	1,0 A to 40 A
	Auxiliary contact	max. 5 A
Rated switching capacity 2/3 phase		6 KA (1-pole + N) / 10 KA (2-pole)
Back-up fuse	RCD	63 A gL
	MCB	depend on rated current up to 100 A
Terminal cross-section	Main contact	2 x 10 mm^2 fine wire with wire end sleeve/single wire
	Auxiliary contact	2 x 2.5 mm^2 fine wire with wire end sleeve/single wire
Weight	1 pole + N	0.95 kg size 2
	2 pole	1.57 kg size 4
Enclosure material		Glass-fibre reinforced polyester
Enclosure colour		black
Options		auxiliary-/signal contact
Padlocking facility		in OFF position with a commercially available padlock

[1)] Depend on installation



Ex-Built-in components

MCB 0.5 A to 40 A with RCD

GHG 612 XXXX RXYYY

1. Contacts
2. Release current

1. MCB with RCD 6 kA

Pole	Characteristic	Contacts	Termination diagram	Module size	XXXX RX
1 pole + N	B, C, K		1	2 53.0 mm	**2143 R 2**
1 pole + N	B, C, K	Signal contact (1 change-over)	2	3 70.0 mm	**3144 R 2**
1 pole + N	B, C, K	Auxiliary contact (1 change-over)	3		**3159 R 2**
2 pole	K		4	4 105.5 mm	**4156 R 0**
2 pole	K	Auxiliary contact (1 change-over)	5		**4157 R 0**
2 pole	K	Signal contact (1 change-over)	6		**4158 R 0**
2 pole	B, C				**4156 R 2**
2 pole	B, C	Auxiliary contact (1 change-over)	5		**4157 R 2**
2 pole	B, C	Signal contact (1 change-over)	6		**4158 R 2**

1. MCB with RCD 10 kA

Pole	Characteristic	Contacts	Termination diagram	Module size	XXXX RX
1 pole + N	B, C		1	2 53,0 mm	**2143 R 5**
1 pole + N	B, C	Signal contact (1 change-over)	2	3 70.0 mm	**3144 R 5**
1 pole + N	B, C	Auxiliary contact (1 change-over)	3		**3159 R 5**
2 pole	K		4	4 105.5 mm	**4156 R 5**
2 pole	K	Auxiliary contact (1 change-over)	5		**4157 R 5**
2 pole	K	Auxiliary contact (1 change-over)	6		**4158 R 5**

2. Release current and characteristic

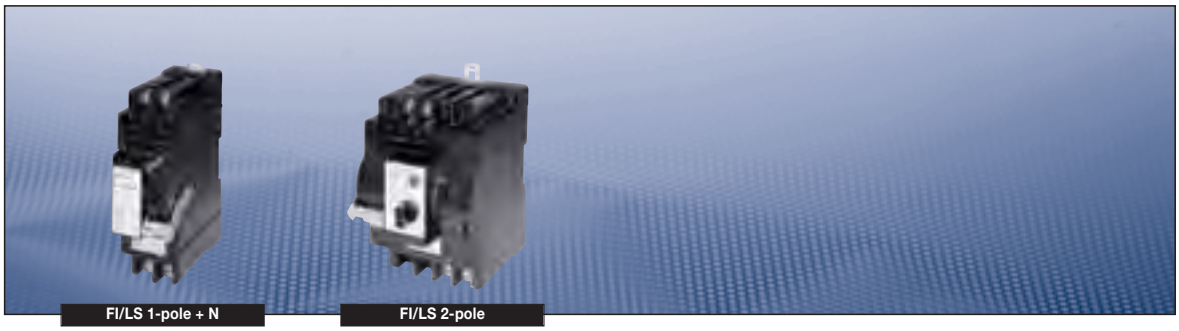
Tripping current	Characteristic C (YYY) 30 mA	300 mA	Characteristic B (YYY) 30 mA	300 mA	Characteristic K (YYY) 30 mA	300 mA	Characteristic C (YYY) 100 mA
2 A	**004**	**024**			**084**	**104**	**204**
4 A	**005**	**025**			**085**	**105**	**205**
6 A	**006**	**026**	**046**	**066**	**086**	**106**	**206**
8 A	**007**	**027**	**047**	**067**	**087**	**107**	**207**
10 A	**008**	**028**	**048**	**068**	**088**	**108**	**208**
16 A	**009**	**029**	**049**	**069**	**089**	**109**	**209**
20 A	**010**	**030**	**050**	**070**	**090**	**110**	**210**
25 A	**011**	**031**	**051**	**071**	**091**	**111**	**211**
32 A	**012**	**032**	**052**	**072**	**092**	**112**	**212**
40 A			**053**	**073**	**093**	**113**	**213**

Example

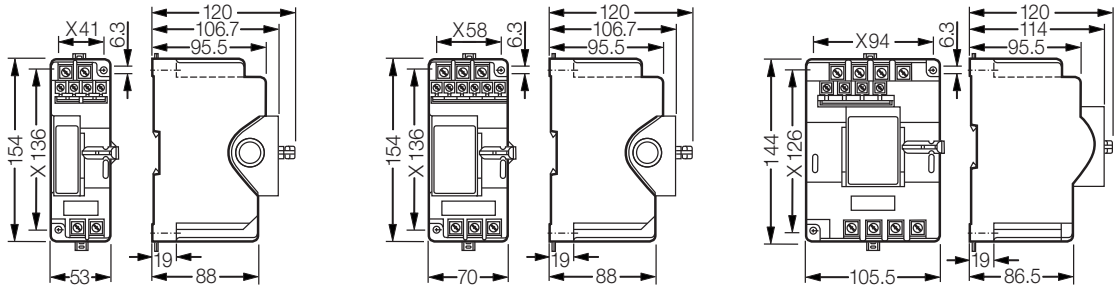
GHG 612 XXXX R XYYY

GHG 612 **4157** R 0**090**

K-Characteristic 6 kA; with auxiliary contact — 20 A; 30 mA; K

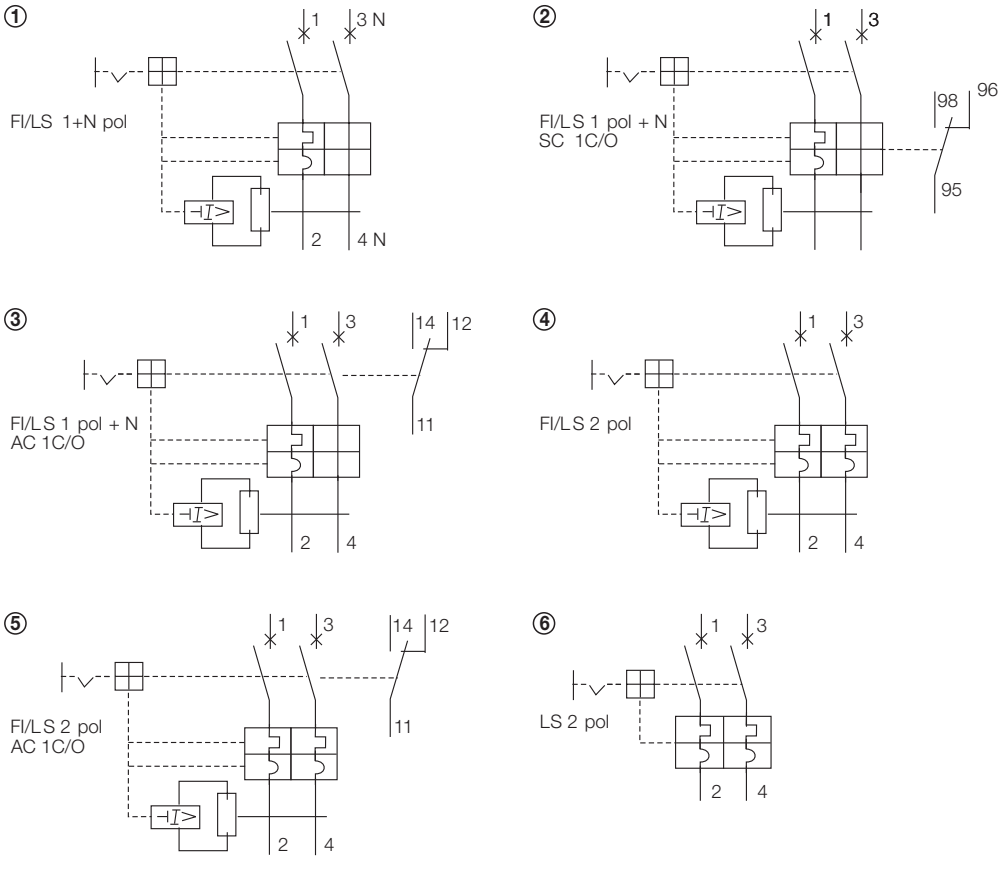


Dimension drawing | Termination diagram



Module size 2 **Module size 3** **Module size 4**

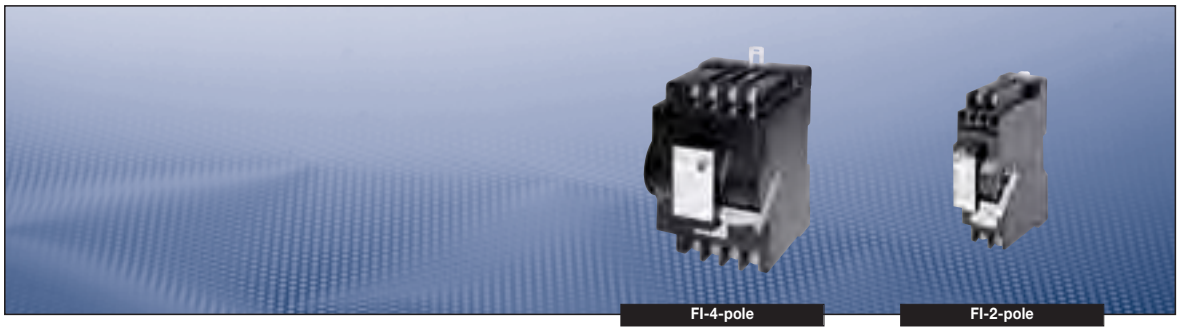
X = fixing dimensions



Tripping characteristic see page 11.23

MC = Main contact
AC = Auxiliary contact
SC = Signal contact

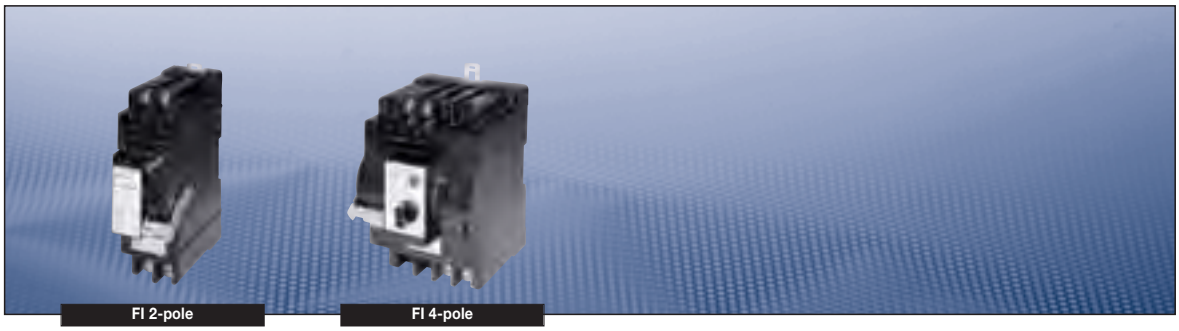
Dimensions in mm



Technical data

RCD from 30 mA		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC / Ⓔx I M 2 Ex de I
EC Type Examination Certificate		PTB 98 ATEX 1087 U
IECEx Certificate of Conformity		IECEx BKI 07.0038 U
Marking accd. to IECEx		Ex de IIC
Application temperature[1)]		–20 °C to +40 °C / –55 °C to +40 °C (option)
Rated voltage	Main contact	max. 440 V AC
	Auxiliary contact	max. 250 V AC
Rated current	RCD	25 A; 40 A; 63 A
	Auxiliary contact	max. 5 A
Rated switching capacity		10 kA
Back-up fuse	RCD	63 A gL
	Release current FI	30 mA to 500 mA
Terminal cross-section	Main contact	2 x 10 mm^2 fine wire with wire end sleeve/single wire
	Auxiliary contact	2 x 2,5 mm^2 fine wire with wire end sleeve/single wire
Weight	2 pole	0.95 kg size 2
	4 pole	1.57 kg size 4
Enclosure material		Glass-fibre reinforced polyester
Enclosure colour		black
Options		Auxiliary contact
Padlocking facility		in OFF position with a commercially available padlock

[1)] Depend on installation



Ex-Built-in components

RCD from 30 mA

GHG 612 XXXX RYYYY

1. Contacts
2. Release current

1. Contacts

Contacts	Characteristic	Enclosure width	XXXX
2 pole	only main contact	Enclosure size 2, 53.0 mm	**2144**
2 pole	auxiliary contact (1 change-over) (F200)		**2147**
4 pole	only main contact	Enclosure size 4, 105.4 mm	**4149**
4 pole	auxiliary contact (1 change-over) (F200)		**4150**

2. Release current and tripping current

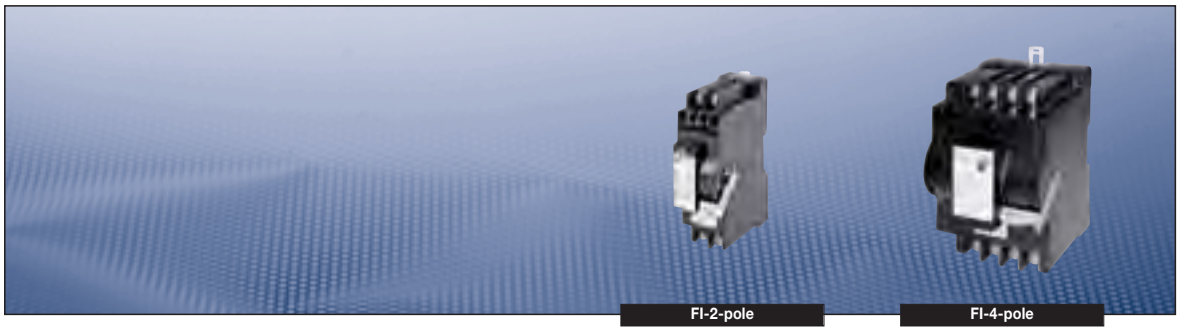
Release current	Tripping current	Power dissipation in W		YYYY
		2 pole	4 pole	
25 A	0.03 A	2.0	4.8	**0002**
40 A	0.03 A	4.8	8.4	**0003**
63 A	0.03 A	7.2	13.2	**0004**
25 A	0.1 A	2.0	4.8	**0005**
40 A	0.1 A	4.8	8.4	**0006**
63 A	0.1 A	7.2	13.2	**0007**
25 A	0.3 A	2.0	4.8	**0008**
40 A	0.3 A	4.8	8.4	**0009**
63 A	0.3 A	7.2	13.2	**0010**
25 A	0.5 A	2.0	4.8	**0011**
40 A	0.5 A	4.8	8.4	**0012**
63 A	0.5 A	7.2	13.2	**0013**

Example

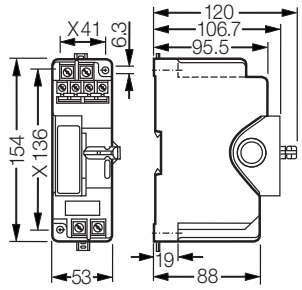
GHG 612 XXXX RYYYY

GHG 612 **21 44** R **0002**

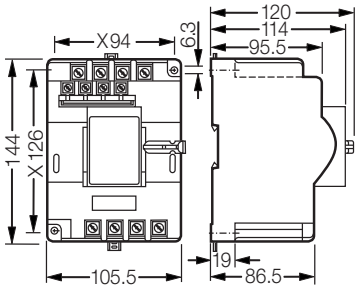
- **21**: Enclosure size 2, 53 mm
- **44**: 2 pole
- **0002**: Release current 25 A, Tripping current 0.03 A



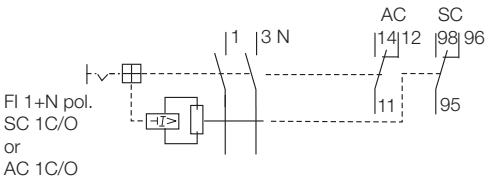
Dimension drawing | Termination diagram



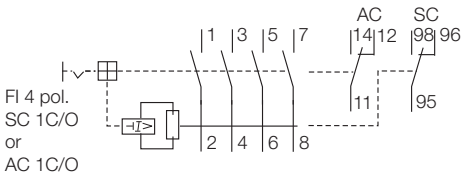
Module size 2



Module size 4 **X = fixing dimensions**



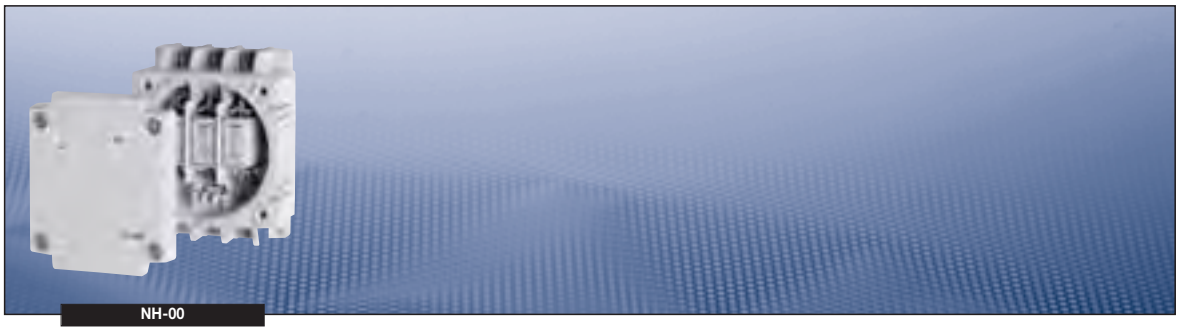
1-pole + N + AC or SC



4-pole + AC or SC

MC = Main contact
AC = Auxiliary contact
SC = Signal contact

Dimensions in mm

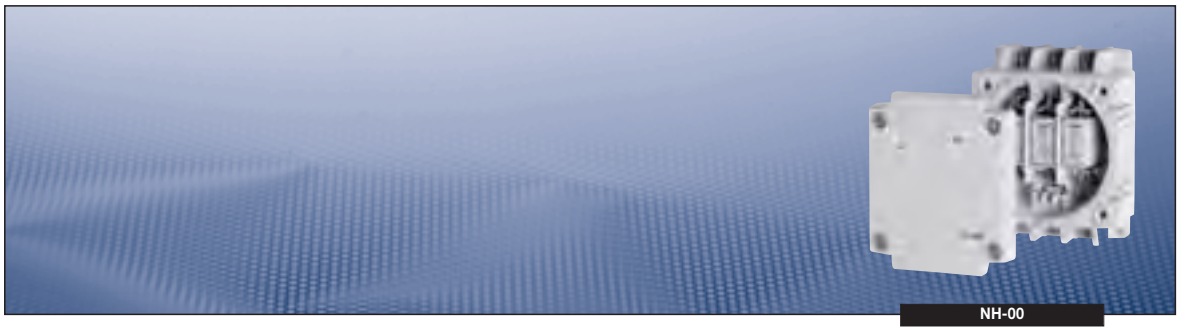


NH-00

Technical data

NH 00 Main fuse up to 125 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC / Ⓔx I M 2 Ex de I
EC Type Examination Certificate		PTB 99 ATEX 1066 U
IECEx Certificate of Conformity		IECEx BKI 07.0035 U
Marking accd. to IECEx		Ex de IIC
Application temperature[1)]		–20 °C to +55 °C
Rated voltage		690 V
	Signal contact	max. 250 V AC
Rated current		2 A to 125 A
	Signal contact	max. 5 A
Rated switching capacity		100 kA
Terminal cross-section		up to 95 mm^2
Signal contact		2 x 2.5 mm^2 fine wire
Pin wire cross-section		up to 25 A 4 mm^2
		up to 35 A 6 mm^2
		up to 50 A 10 mm^2
		up to 63 A 25 mm^2
		up to 100 A 50 mm^2
		up to 125 A 70 mm^2
Weight		approx. 3.5 kg (without fuse)
Enclosure material		Glass-fibre reinforced polyester
Enclosure colour		white
Options		Signal contact

[1)] Depend on installation

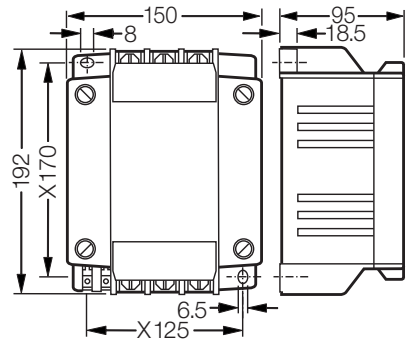


Ordering details NH 00 Main fuse up to 125 A

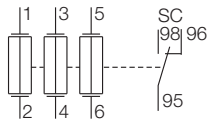
Version	Rated current	Mounting width	Order No.
Equipped without signal contact (SPP 2 pcs.)			
3-pole	2 A - 125 A	150 mm	**GHG 610 1940 R0001**
Equipped with signal contact (1 change-over) (SPP 2 pcs.)			
3-pole	2 A - 125 A	150 mm	**GHG 610 1940 R0002**

Delivery with fuses on request

Dimension drawing | Termination diagram



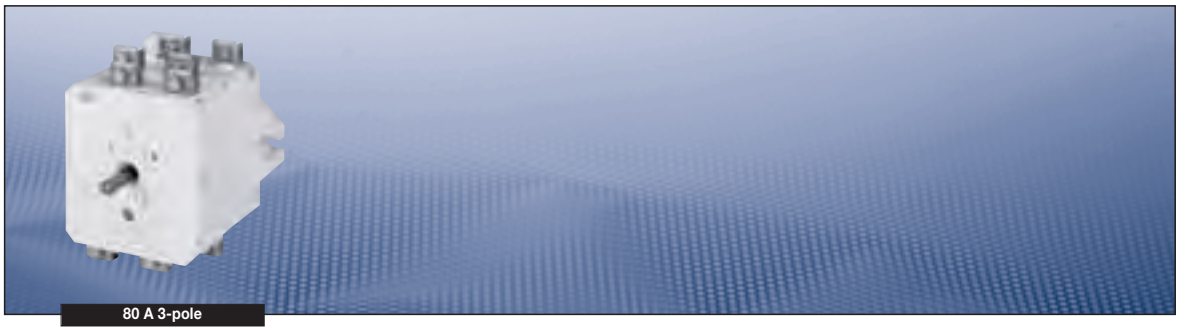
X = fixing dimensions



NH 00

SC = Signal contact

Dimensions in mm

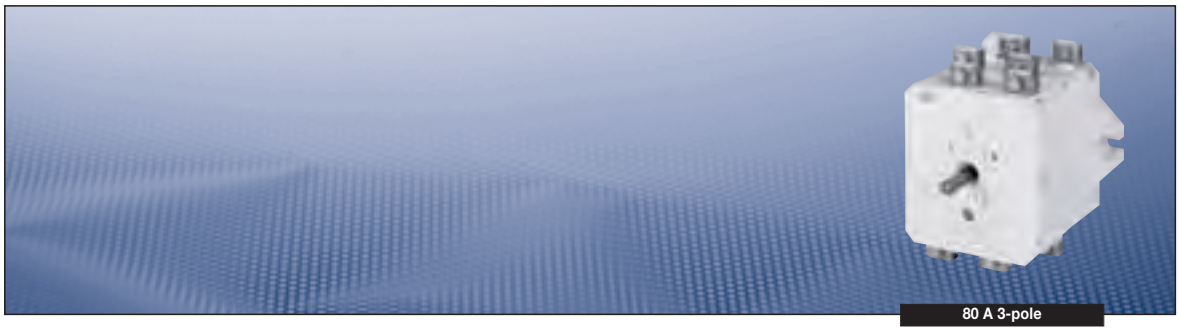


80 A 3-pole

Technical data

Main switch up to 180 A							
Marking to 94/9/EC			Ⓔx II 2 G Ex de IIC / Ⓔx I M 2 Ex de I				
EC Type Examination Certificate							
	Switch 20 A		PTB 98 ATEX 1117 U				
	Switch 40 A		PTB 99 ATEX 1031 U				
	Switch 80 A		PTB 00 ATEX 1069 U				
	Switch 125 A to 180 A		PTB 99 ATEX 1062 U				
IECEx Certificate of Conformity							
	Switch 20 A		IECEx BKI 07.0004 U				
	Switch 40 A		IECEx BKI 07.0006 U				
	Switch 80 A		IECEx BKI 07.0006 U				
	Switch 125 A to 180 A		IECEx BKI 07.0003 U				
Marking accd. to IECEx			Ex de (ia/ib) IIC				
Application temperature[1)]			–20 °C up to +40 °C				
Rated voltage			690 V				
Type of switch			20 A	40 A	80 A	125 A	180 A
Rated current			20 A	40 A	80 A	125 A	180 A
Rated making-/rated breaking capacity AC-3		U_e 400 V	I_e 20 A	I_e 40 A	I_e 80 A	I_e 125 A	I_e 180 A
accd. to EN 60947-5-1 AC-3		U_e 500 V	I_e 16 A	I_e 40 A	I_e 80 A	I_e 125 A	I_e 150 A
		U_e 690 V	I_e 10 A	I_e 32 A	I_e 63 A	I_e 110 A	I_e 125 A
Back-up fuse			up to 500 V 35 A gL				
			up to 500 V 80 A gL				
			up to 500 V 160 A gL				
			up to 500 V 200 A gL				
			up to 500 V 250 A gL				
Terminal cross-section	Switch 20 A		2 x 1.5 to 4 mm^2				
	Switch 40 A		2 x 4 to 16 mm^2				
	Switch 80 A		2 x 4 to 25 mm^2 with cable lug 1 x 35 mm^2				
	Switch 125 A		2 x 4 to 70 mm^2 with cable lug 1 x 120 mm^2				
	Switch 180 A		2 x 50 to 150 mm^2				
Weight			1.0 kg	1.2 kg	3.68 kg	6.3 kg	6.5 kg
Enclosure material			glass-fibre reinforced polyester				
Enclosure colour			white				

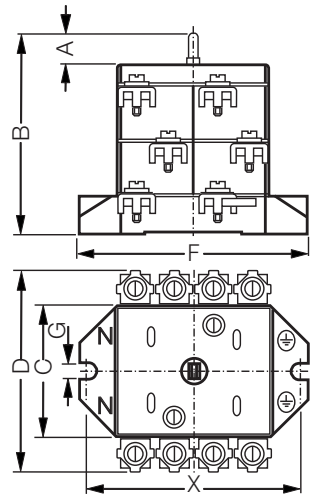
[1)] Depend on installation


80 A 3-pole

Ordering details Main switch up to 180 A

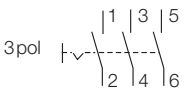
Version	Rated current	Order No.
Type 3-pole		
3-pole	20 A	**GHG 260 1004 R0005**
3-pole	40 A	**GHG 260 1005 R0005**
3-pole	80 A	**GHG 260 1006 R0005**
3-pole	125 A	**GHG 260 1007 R0003**
3-pole	180 A	**GHG 260 1008 R0003**
Type 4-pole		
4-pole	20 A	**GHG 260 1004 R0006**
4-pole	40 A	**GHG 260 1005 R0006**
4-pole	80 A	**GHG 260 1006 R0006**
4-pole	125 A	**GHG 260 1007 R0004**
4-pole	180 A	**GHG 260 1008 R0004**

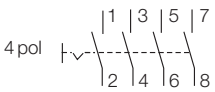
Dimension drawing | Termination diagram



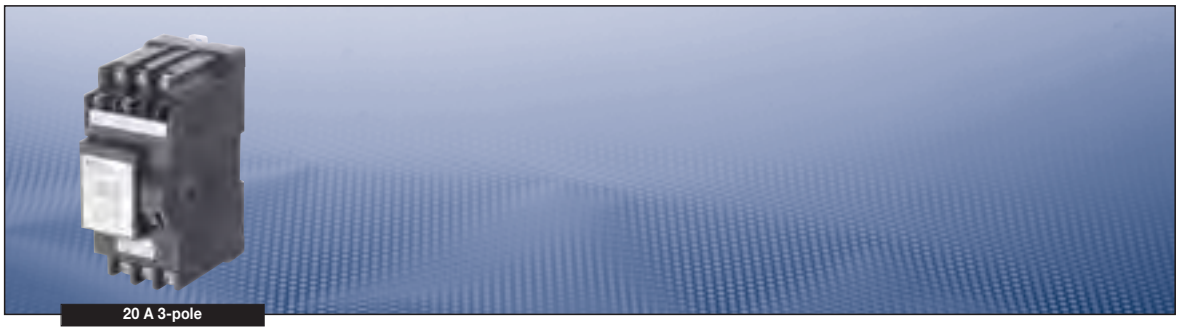
Main switch

Dimensions	Switch 20 A	40 A	80 A	125 A/180 A
A	21.5	34	38.5	16
B	83	87	130	159
C	50	73	131	146
D	70.4	118	165	194
X	72	115	141	170
F	80	128	161	193
G	6.3	6.3	9.5	12





Dimensions in mm

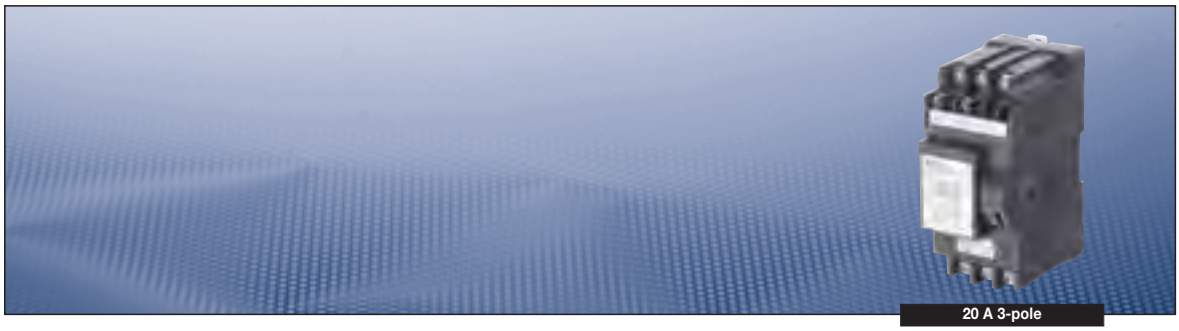


20 A 3-pole

Technical data

Air-break contactor 20 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC / Ⓔx I M 2 Ex de I
EC Type Examination Certificate		PTB 98 ATEX 1087 U
IECEx Certificate of Conformity		IECEx BKI 07.0038 U
Marking accd. to IECEx		Ex de IIC
Application temperature[1)]		–20 °C to +40 °C
		–55 °C to +40 °C (option)
Rated voltage	Main contact	max. 690 V/AC
	Auxiliary contact	max. 250 V/AC
	Control A1-A2	12 V up to 690 V/AC 50-60 Hz / 12 V up to 250 V/DC
Rated current	Main contact	max. 20 A
	Auxiliary contact	max. 6 A
Rated making-/rated breaking capacity		U_e 230 V / P_e 2,2 KW
accd. to EN 60947-4-1 AC-3		U_e 400 V / P_e 4 KW
		U_e 690 V / P_e 4 KW
Rated making-/rated breaking capacity auxiliary contact		
accd. to EN 60947-4-1 AC-11		U_e 230 V / I_e 4 A
Terminal cross-section		
	Main contact	2 x 10 mm^2 fine wire with wire end sleeve/single wire
	Auxiliary contact	2 x 2.5 mm^2 fine wire with wire end sleeve/single wire
	Control contact A1-A2	2 x 2.5 mm^2 fine wire with wire end sleeve/single wire
Weight		1.26 kg size 3
Enclosure material		glass-fibre reinforced polyester
Enclosure colour		black
Options		Auxiliary contact

[1)] Depend on installation



Ex-Built-in components

Air-break contactor 20 A

GHG 618 3104 RXXXX ← Auxiliary contact

One auxiliary contact for mounting width 70mm

Control voltage A1-A2	Auxiliary contacts (XXXX)	
	1 NO	1 NC
24 V AC	**0101**	**0201**
42 V AC	**0102**	**0202**
48 V AC	**0103**	**0203**
110 V AC	**0104**	**0204**
220 V AC	**0105**	**0205**
240 V AC	**0106**	**0206**
380 V AC	**0107**	**0207**
400 V AC	**0110**	**0210**
12 V DC	**0131**	**0231**
24 V DC	**0132**	**0232**
42 V DC	**0133**	**0233**
48 V DC	**0134**	**0234**
60 V DC	**0135**	**0235**
110 V DC	**0136**	**0236**
220 V DC	**0137**	**0237**

GHG 618 3105 RXXXX ← Auxiliary contact

Two auxiliary contacts mounting width 70mm

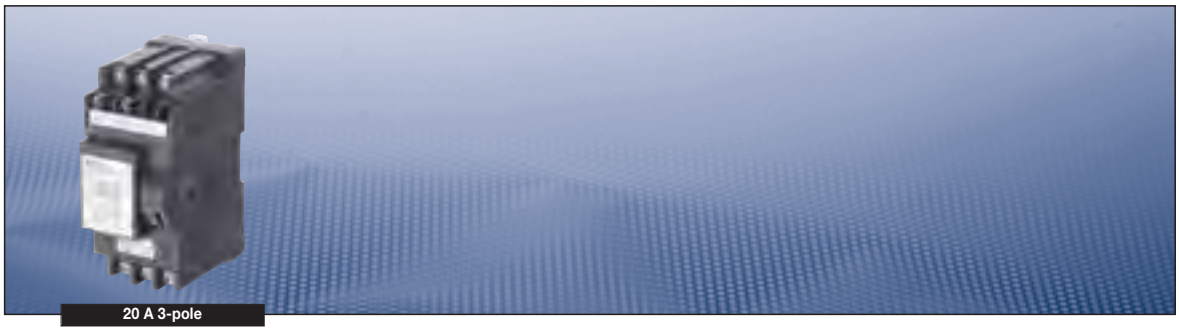
Control voltage A1-A2	Auxiliary contacts (XXXX)		
	1 NO / 1 NC	2 NC	2 NO
24 V AC	**0101**	**0201**	**0301**
42 V AC	**0102**	**0202**	**0302**
48 V AC	**0103**	**0203**	**0303**
110 V AC	**0104**	**0204**	**0304**
220 / 230 V AC	**0105**	**0205**	**0305**
230 / 240 V AC	**0106**	**0206**	**0306**
400 V AC	**0107**	**0207**	**0307**
440 V AC	**0108**	**0208**	**0308**
24 V DC	**0111**	**0211**	**0311**
12 V DC	**0112**	**0212**	**0312**
48 V DC	**0114**	**0214**	**0314**
60 V DC	**0115**	**0215**	**0315**
110 V DC	**0116**	**0216**	**0316**
220 V DC	**0117**	**0217**	**0317**

Example

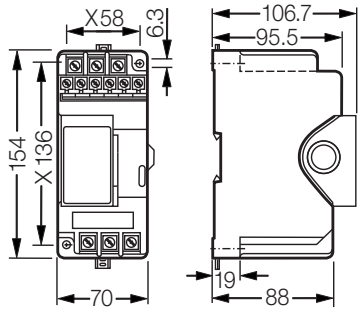
GHG 618 31 05 R XXXX

GHG 618 3105 R **0206**

Air-break contactor coil voltage 230/240 V 2 NC



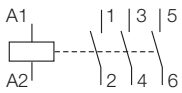
Dimension drawing | Main contact | Auxiliary contact



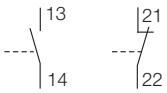
Module size 3

X = fixing dimensions

3pol + 1 AC

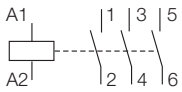


1 NO



1 NC

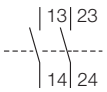
3pol + 2 AC



1NO + 1NC



2 NO

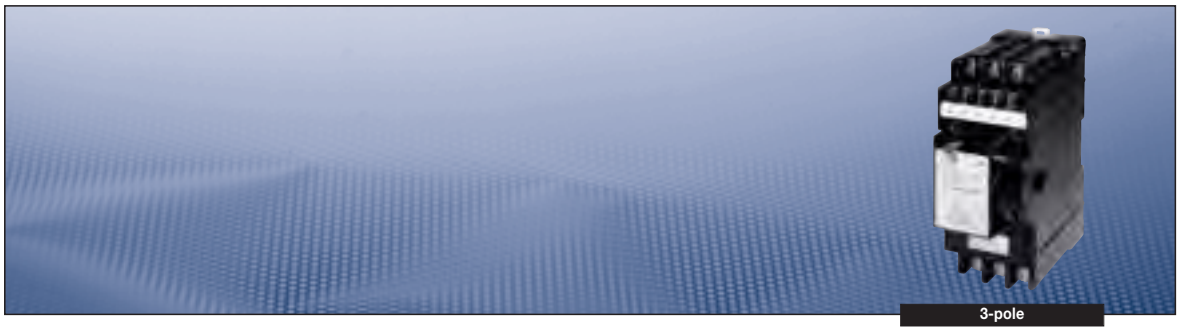


2 NC



AC = Auxiliary contact

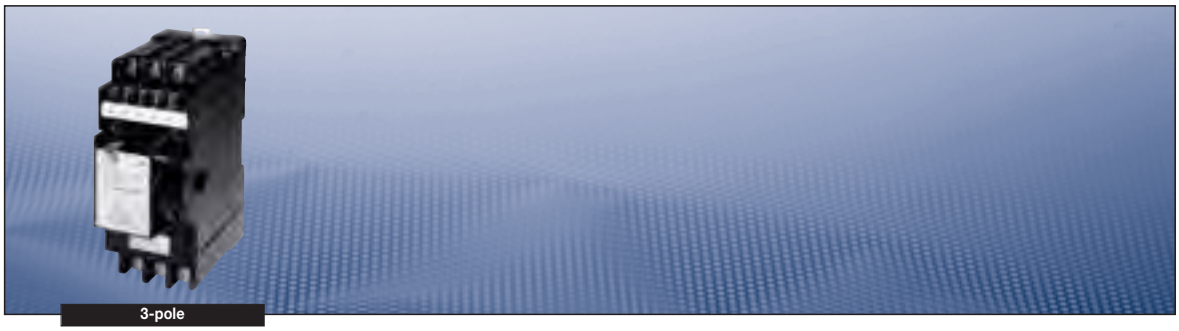
Dimensions in mm



Technical data

Motor starter for direct on-line starting with thermal release 4 kW		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC / Ⓔx I M 2 Ex de I
EC Type Examination Certificate		PTB 98 ATEX 1087 U
IECEx Certificate of Conformity		IECEx BKI 07.0038 U
Marking accd. to IECEx		Ex de IIC
Application temperature[1)]		–20 °C to +40 °C
Rated voltage	Main contact	max. 690 V/AC / 50-60 Hz
	Control contact A1-A2	12 V to 690 V/AC / 12 V bis 230 V/DC
Rated current	Main contact	max. 20 A
	Auxiliary contact	max. 6 A
Rated making-/rated breaking capacity		U_e 230 V / P_e 2,2 KW
accd. to EN 60947-4-1 AC-3		U_e 400 V / P_e 4 KW
		U_e 690 V / P_e 4 KW
Rated making-/rated breaking capacity auxiliary contact		
accd. to EN 60947-4-1 AC-15		U_e 230 V / I_e 4 A
Back-up fuse		20 A gL
Terminal cross-section	Main contact	2 x 10 mm² fine wire with wire end sleeve/single wire
	Auxiliary contact/	
	Control contact A1-A2	2 x 2.5 mm² fine wire with wire end sleeve/single wire
	Signal contact	2 x 2.5 mm² fine wire with wire end sleeve/single wire
Weight		1.72 kg size 3
Enclosure material		Glass-fibre reinforced polyester
Enclosure colour		black
Options		Auxiliary contact

[1)] Depend on installation



Ex-Built-in components

Motor starter for direct on-line starting with thermal release 4 kW

GHG 618 3102 RXXYY

1. Rated current | 2. Coil voltage

Ordering details Type: 3-pole

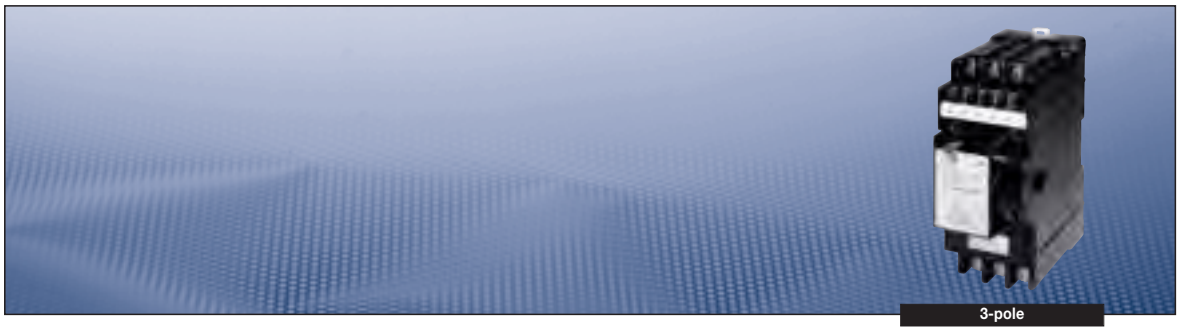
1. Rated current	XX	2. Contact voltage A1-A2	YY
Module size 3 (70 mm)			
0.11 A - 0.16 A	**01**	110 V AC	**04**
0.16 A - 0.23 A	**02**	230 V AC	**05**
0.23 A - 0.36 A	**03**	240 V AC	**06**
0.36 A - 0.54 A	**04**	120 V AC	**07**
0.54 A - 0.80 A	**05**	400 V AC	**08**
0.80 A - 1.20 A	**06**	440 V AC	**09**
1.20 A - 1.8 A	**07**	380 / 400 V AC	**10**
1.8 A - 2.6 A	**08**	24 V DC	**32**
2.6 A - 3.7 A	**09**	48 V DC	**34**
3.7 A - 5.5 A	**10**	110 V DC	**36**
5.5 A - 8.0 A	**11**		
8.0 A - 11.5 A	**12**		

Example

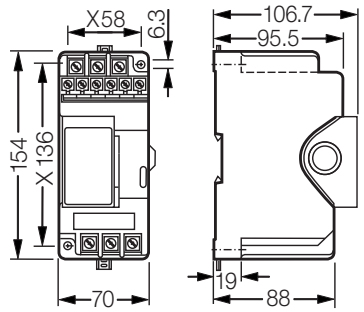
GHG 618 3102 RXXYY

GHG 618 31 02 R **08** **05**

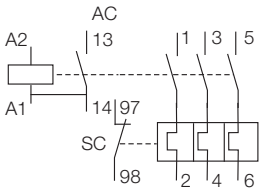
Rated current 230 V | Coil voltage 230 V



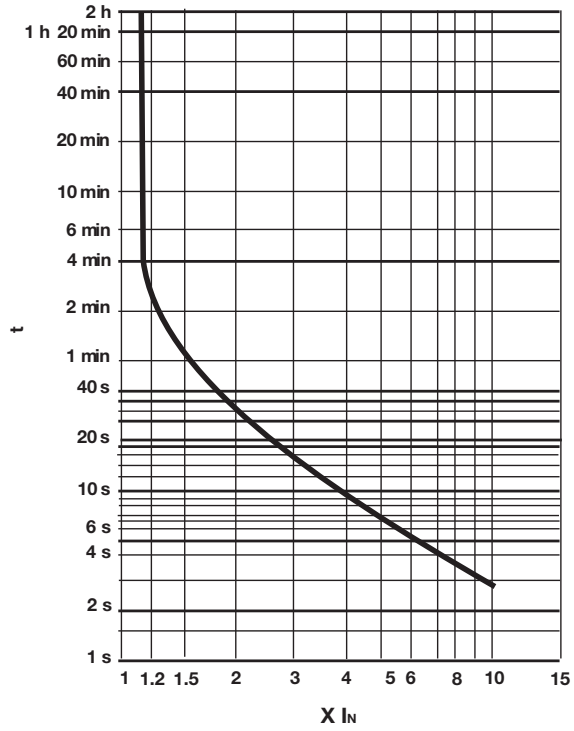
Dimension drawing | Main contacts



Module size 3

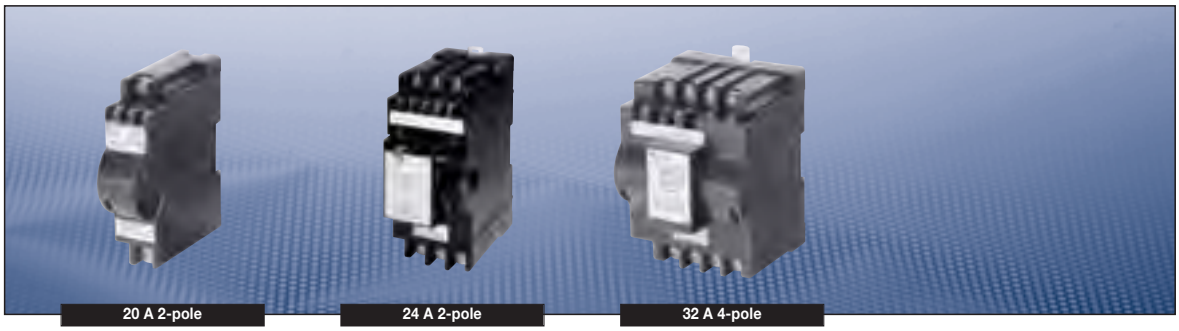


Main contacts



AC = Auxiliary contact
SC = Signal contact

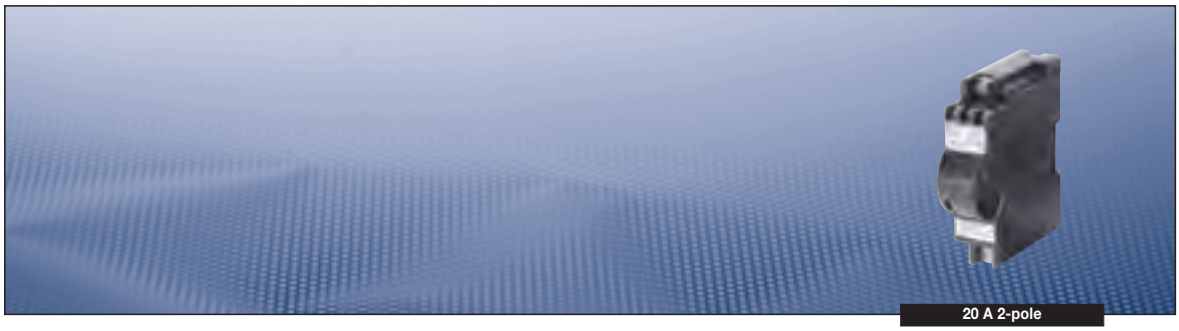
Dimensions in mm



Technical data

Installation contactor 20 A up to 32 A			
Marking to 94/9/EC	Ⓔx II 2 G Ex de IIC / Ⓔx I M 2 Ex de I		
EC Type Examination Certificate	PTB 98 ATEX 1087 U		
IECEx Certificate of Conformity	IECEx BKI 07.0038 U		
Marking accd. to IECEx	Ex de IIC		
Application temperature[1)]	–20 °C to +40 °C		
	–55 °C to +40 °C (option)		
Contactor	20 A	24 A	32 A
Rated voltage			
Main contact	max. 250 V	440 V	440 V
Auxiliary contact	–	440 V	440 V
Control voltage	24 V to 400 V AC		
Rated current			
Main contact NC	20 A	24 A	32 A
Main contact NO	20 A	24 A	32 A
Auxiliary contact			6 A
Rated making-/rated breaking capacity accd. to EN 60947-4-1			
Main contact AC1 - U_e 230 V	P_e 4.0 kW	P_e 9.0 kW	P_e 15.2 kW
Main contact AC1 - U_e 400 V	–	P_e 16 kW	P_e 26 kW
Main contact AC3 - U_e 230 V	P_e 1.3 kW	P_e 2.2 kW	P_e 5.5 kW
Main contact AC3 - U_e 400 V	–	P_e 4.0 kW	P_e 11 kW
DC3 1 current path U_e 60 V/230 V	–	I_e 4 A/0.2 A	I_e 5 A/0.3 A
DC3 2 current paths U_e 60 V/230 V	–	I_e 14 A/1.0 A	I_e 16 A/1.1 A
DC3 3 current paths U_e 60 V/230 V	–	I_e 24 A/4.0 A	I_e 34 A/4.5 A
Auxiliary contact at U_e 230 V	–		I_e 4 A
Auxiliary contact at U_e 400 V	–	I_e 3 A	I_e 3 A
Back-up fuse	20 A gL	35 A gL	63 A gL
Terminal cross-section			
Main contact	2 x 10 mm² fine wire with wire end sleeve/single wire		
Auxiliary contact/Coil connection	2 x 2.5 mm² fine wire with wire end sleeve/single wire		
Control contact	2 x 2.5 mm² fine wire with wire end sleeve/single wire		
Weight	0.55 kg size 0	1.2 kg size 3	1.65 kg size 4
Enclosure material	Glass-fibre reinforced polyester		
Enclosure colour	black		
Options	Auxiliary contact		

[1)] Depend on installation

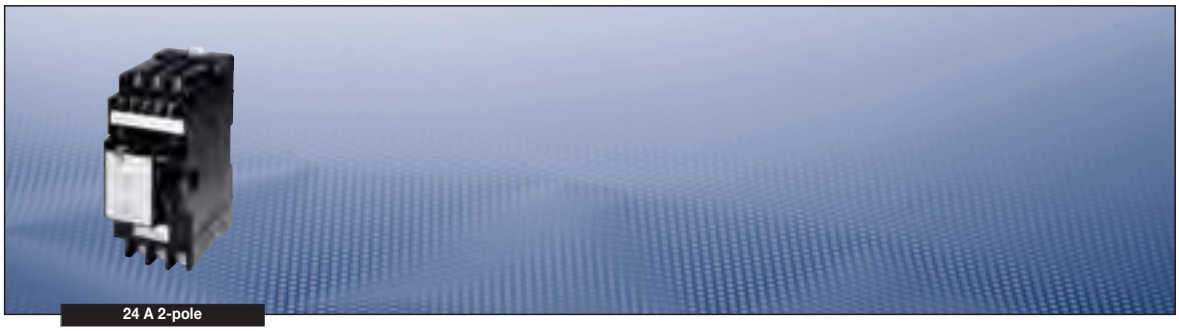

20 A 2-pole

Ex-Built-in components

Installation contactor 20 A

Ordering details

Control voltage A1-A2	Contacts	Order No.
24 V AC	2 NO	**GHG 618 0001 R0010**
24 V AC	2 NC	**GHG 618 0001 R0011**
24 V AC	1 NO / 1 NC	**GHG 618 0001 R0012**
42 V AC	2 NO	**GHG 618 0001 R0007**
42 V AC	2 NC	**GHG 618 0001 R0008**
42 V AC	1 NO / 1 NC	**GHG 618 0001 R0009**
110 V AC	2 NO	**GHG 618 0001 R0004**
110 V AC	2 NC	**GHG 618 0001 R0005**
110 V AC	1 NO / 1 NC	**GHG 618 0001 R0006**
230 V AC	2 NO	**GHG 618 0001 R0001**
230 V AC	2 NC	**GHG 618 0001 R0002**
230 V AC	1 NO / 1 NC	**GHG 618 0001 R0003**
240 V AC	2 NO	**GHG 618 0001 R0016**
240 V AC	2 NC	**GHG 618 0001 R0017**
240 V AC	1 NO / 1 NC	**GHG 618 0001 R0018**
380 V AC	2 NO	**GHG 618 0001 R0013**
380 V AC	2 NC	**GHG 618 0001 R0014**
380 V AC	1 NO / 1 NC	**GHG 618 0001 R0015**



Ex-Built-in components

Installation contactor 24 A

GHG 618 3118 RXXXX

Coil voltage / Contacts

Coil voltage and contacts

Control voltage A1-A2	Contacts (XXXX)			
AC 40 – 400 Hz/DC	1 NO / 3 NC	2 NO / 2 NC	3 NO / 1 NC	4 NO
24 V	**1301**	**2201**	**3101**	**4001**
42 V	**1302**	**2202**	**3102**	**4002**
48 V	**1303**	**2203**	**3103**	**4003**
110-127 V	**1304**	**2204**	**3104**	**4004**
240 V	**1305**	**2205**	**3105**	**4005**
230-240 V	**1306**	**2206**	**3106**	**4006**
380-415 V	**1307**	**2207**	**3107**	**4007**

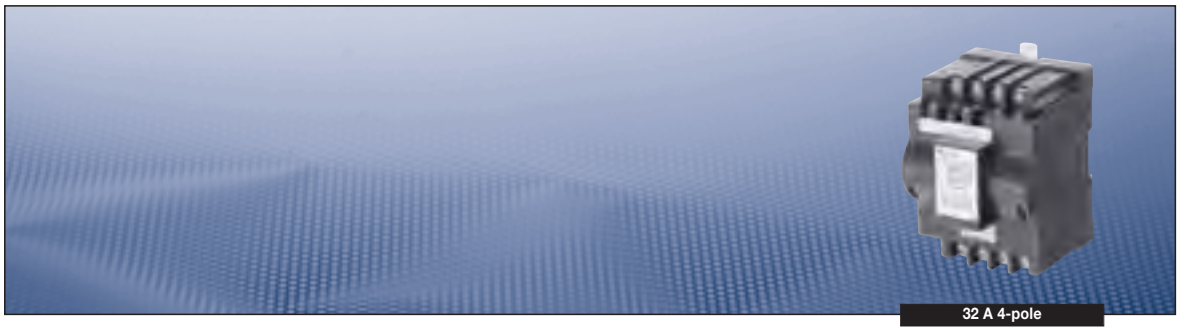
Control voltage A1-A2	Contacts (XXXX)		
AC 40 – 400 Hz/DC	1 NO / 2 NC + 1 HSK	2 NO / 1 NC + 1 HSK	3 NO + 1 HSK
12 V	**1309**	**2209**	**3109**
24 V	**1311**	**2211**	**3111**
110 V	**1314**	**2214**	**3114**
220-240 V	**1316**	**2216**	**3116**
380-415 V	**1317**	**2217**	**3117**

Example

GHG 618 3118 RXXXX

GHG 618 31 18 R **2206**

Installation contactor 24 A — Coil voltage 230 - 240 V 2NO 2NC



Ex-Built-in components

Installation contactor 32 A

GHG 618 4109 RYYYY

Coil voltage / Contacts

Coil voltage and contacts

Contorl voltage A1-A2	Contacts (YYYY)		
AC 40 – 400 Hz/DC	4 x NO	4 x NO + 1NC (AC)	4 x NO + 1NO (AC)
24 V	**4001**	**4011**	**4101**
48 V	**4003**	**4013**	**4103**
110 V	**4004**	**4014**	**4104**
240 V	**4005**	**4015**	**4105**
230 V	**4006**	**4016**	**4106**
380 V	**4007**	**4017**	**4107**
415 V	**4008**	**4018**	**4108**

Example

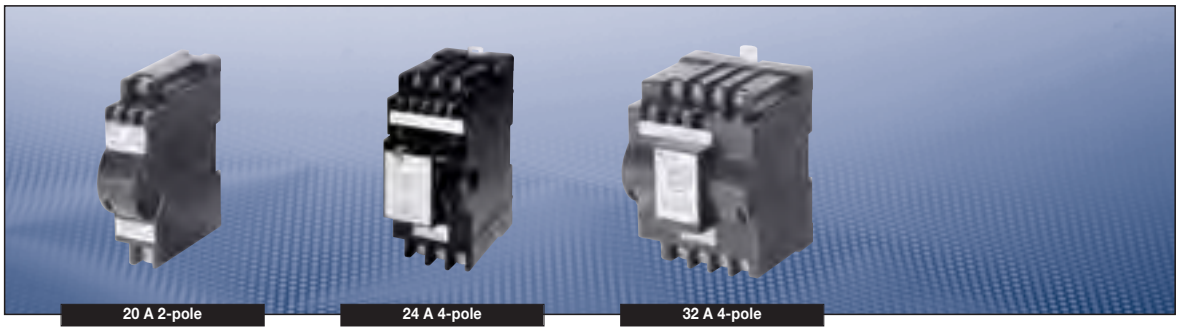
GHG 618 41 09 RXXXX

GHG 618 41 **09** R **4015**

Installation contactor 32 A — Coil voltage 240 V 1NC

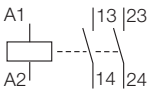
MC = Main contact

AC = Auxiliary contact

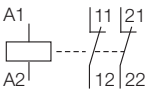


Termination diagram

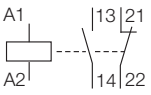
2 NO



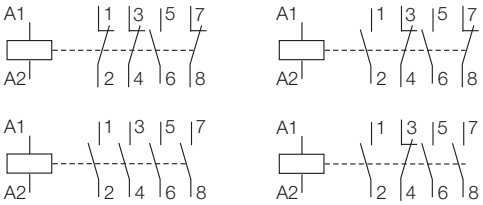
2 NC



1 NO + 1 NC

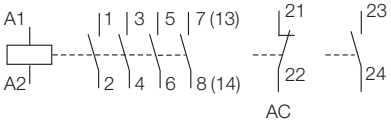


Installation contactor 20 A



Installation contactor 24 A

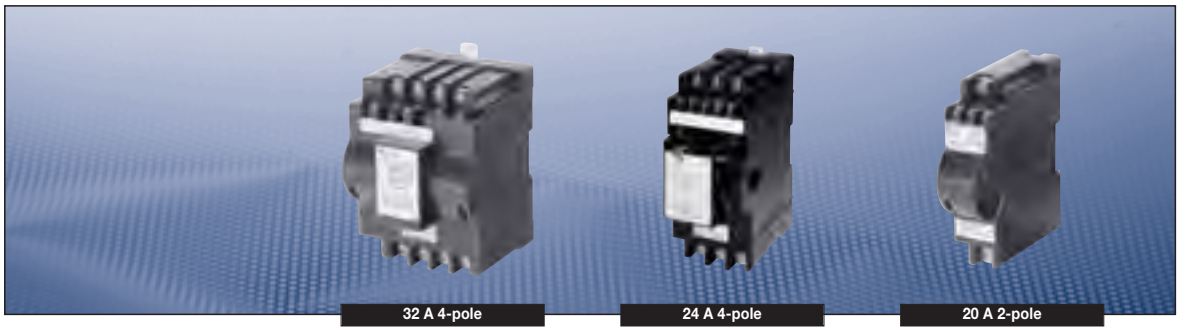
1 NC 1 NO



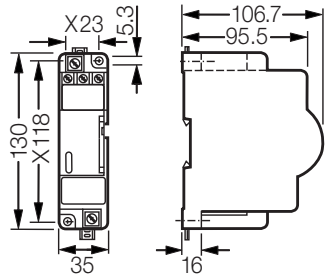
Installation contactor 32 A

AC = Auxiliary contact

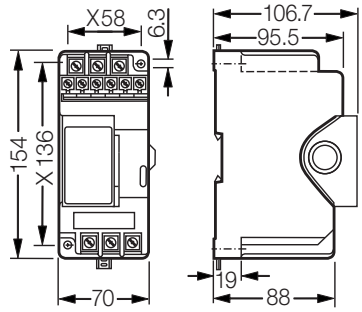
Dimensions in mm



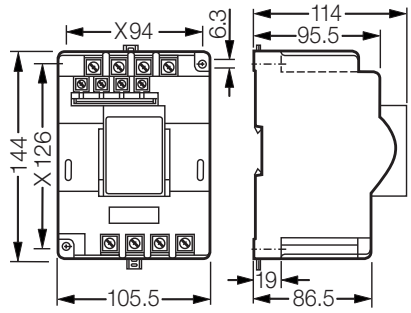
Dimension drawing



Module size 0



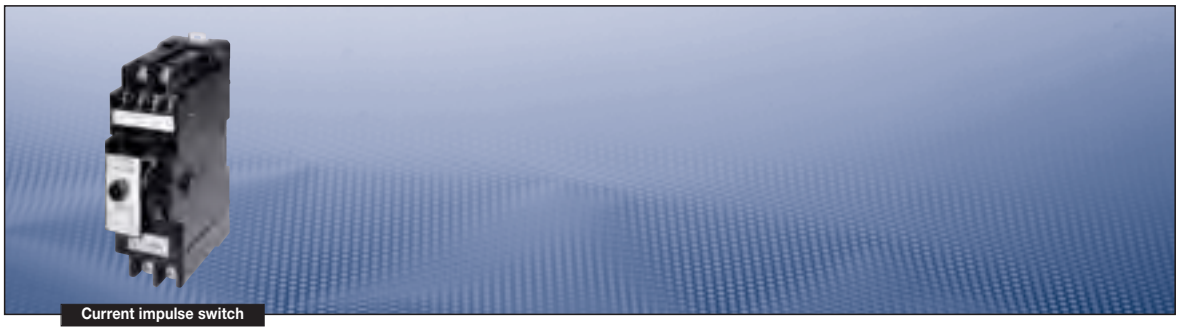
Module size 3



Module size 4

X = fixing dimensions

Dimensions in mm

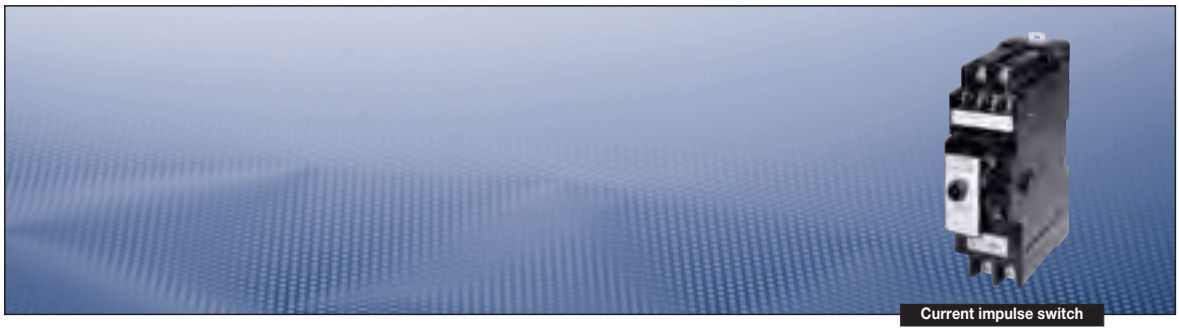


Current impulse switch

Technical data

Current impulse switch up to 16 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC / Ⓔx I M 2 Ex de I
EC Type Examination Certificate		PTB 98 ATEX 1087 U
IECEx Certificate of Conformity		IECEx BKI 07.0038 U
Marking accd. to IECEx		Ex de IIC
Application temperature[1)]		–20 °C to +40 °C
Rated voltage	Main contact	400 V AC
	Control contact A1-A2	230 V AC
Rated current	Contact	16 A
Rated making-/rated breaking capacity AC-3		U_e 250 V / I_e 16 A
accd. to EN 60947-4-1 AC-3		U_e 400 V / I_e 10 A
Back-up fuse		16 A gL
Terminal cross-section	Main contact	2 x 10 mm² fine wire with wire end sleeve/single wire
	Control contact	2 x 2.5 mm² fine wire with wire end sleeve/single wire
Weight		0.95 kg size 2
Enclosure material		Glass-fibre reinforced polyester
Enclosure colour		black

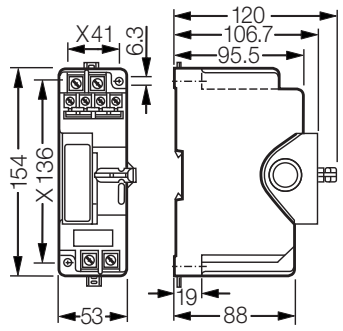
[1)] Depend on installation


Current impulse switch

Ordering details

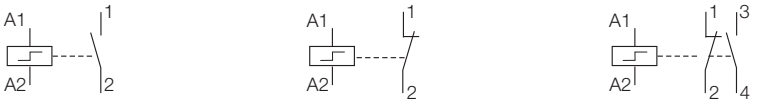
Rated current	Contact	Voltage	Mounting width	Order No.
16 A	1 NO	230 V AC 50 Hz	53 mm	**GHG 618 0002 R0004**
16 A	2 NC	230 V AC 50 Hz	53 mm	**GHG 618 0002 R0008**
16 A	1 NO + 1NC	230 V AC 50 Hz	53 mm	**GHG 618 0002 R0012**

Dimension drawing | Termination diagram



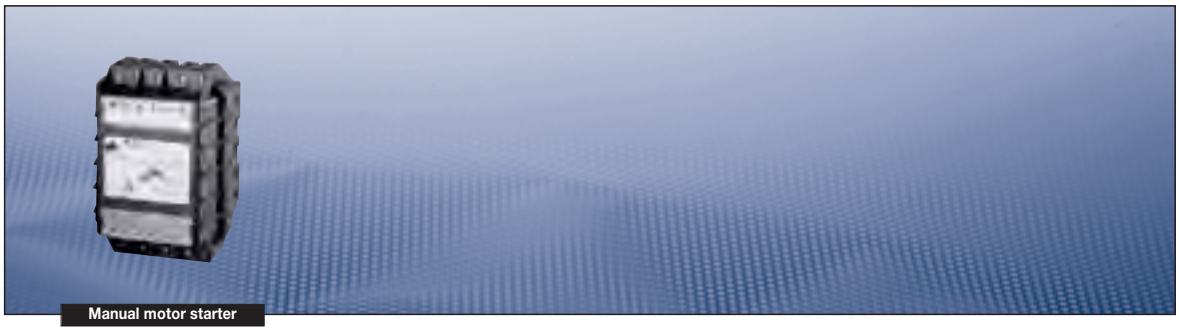
Module size 2

X = fixing dimensions



Termination diagram current impulse switch

Dimensions in mm



Manual motor starter

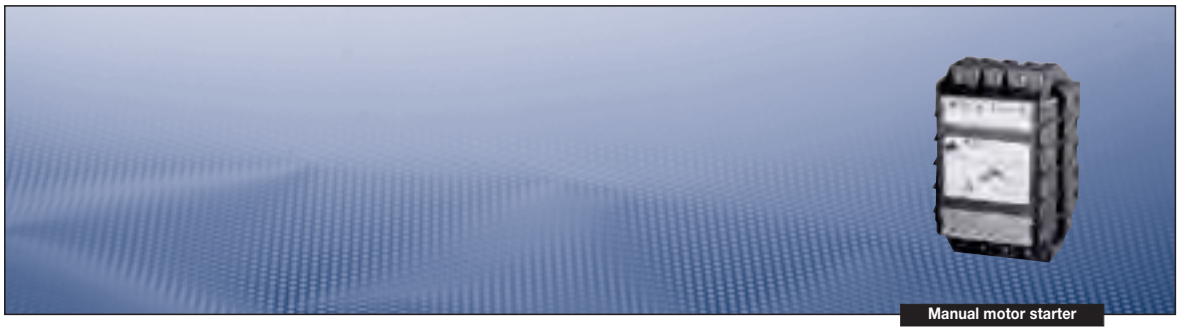
Technical data

Manual motor starter 0.1 A up to 25 A		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC / Ⓔx I M 2 Ex de I
EC Type Examination Certificate		PTB 99 ATEX 1007 U
IECEx Certificate of Conformity		IECEx BKI 07.0038 U
Marking accd. to IECEx		Ex de IIC
Application temperature[1)]		–20 °C to +55 °C
Rated voltage	Main contact	690 V AC, 50/60 Hz, 440 V DC
	Auxiliary contact	110 V; 230; 400 V; 500 V 50/60 Hz
Rated current		25 A
Rated current	Auxiliary contact	230 V/2 A 400 V/0.5 A
Rated making-/rated breaking capacity AC-3		
accd. to EN 60947-4-1 AC-3		U_e 690 V / I_e 25 A
Thermal tripping characteristic		T II
Tripping time at 6x Ie		≥ 5 sec.
Back-up fuse	Main contact	see table
	Auxiliary contact	not required
Terminal cross-section	Main contact	2 x (0.75 to 4.0 mm²)
	Auxiliary contact	2 x 2.5 mm²
Dimensions (L x W x H)		Mounting width 106 mm
Weight		1.3 kg
Enclosure material		Glass-fibre reinforced polyester
Enclosure colour		black
Mounting		35 mm top hat rail (DIN-rail)
Options		Auxiliary contact

[1)] Depend on installation

Short-circuit protection up to 100 kA and max. back-up fuse protection

Setting range	230 V AC		400 V AC		500 V AC		690 V AC	
	Ics	gL, aM	Ics	gL, aM	Ics	gL, aM	Ics	gL, aM
0.1 ... 0.16 A								
1.0 ... 1.6 A		short-						
1.6 ... 2.5 A		circuit					40 kA	25 A
2.5 ... 4.0 A		proof,			60 kA	35/40 A	10 kA	40 A
4.0 ... 6.3 A		no back-up			40 kA	50 A	7 kA	40 A
6.3 ... 9.0 A		fuse			30 kA	80 A	5 kA	50 A
9.0 ... 12.5 A		required	75 kA	80 A	27 kA	80 A	4.5 kA	50 A
12.5 ... 16.0 A			60 kA	100 A	25 kA	100 A	4.0 kA	50 A
16.0 ... 20.0 A			55 kA	100 A	22 kA	100 A	3.5 kA	50 A
20.0 ... 25.0 A	50 kA	125 A	50 kA	125 A	20 kA	125 A	3.0 kA	50 A


Manual motor starter

Ex-Built-in components

Manual motor starter 0.1 A to 25 A

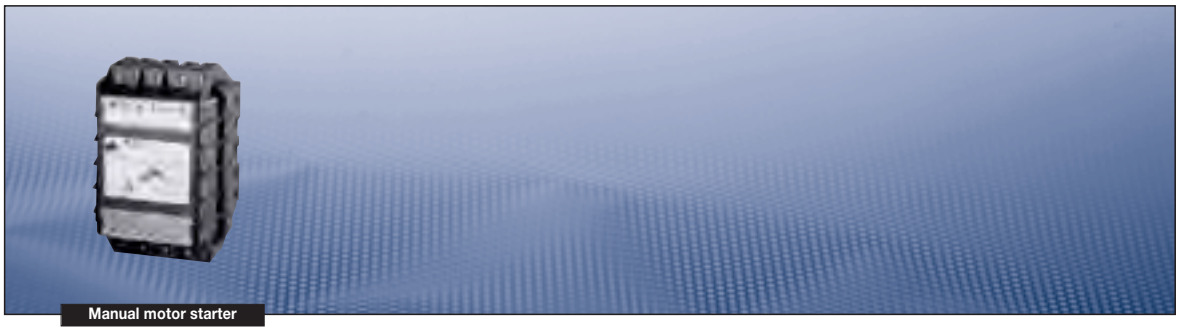
GHG 635 XXXX RYYYY

1. Auxiliary contacts
2. Setting range

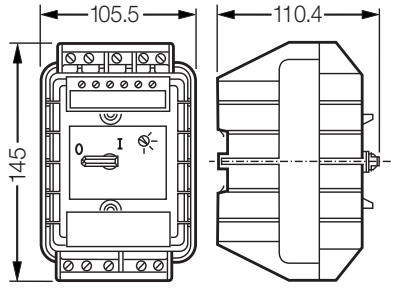
Ordering details

Setting range	Undervoltage trip (UT)	Auxiliary contacts XXXX without AC	1NO / 1NC AC	2NO AC	1NC AC	Setting range YYYY
0.10 – 0.16 A	–	–	1032	1033	–	0001
0.16 – 0.25 A	–	–	1032	1033	–	0002
0.25 – 0.40 A	–	1031	1032	1033	–	0003
0.40 – 0.63 A	–	1031	1032	1033	–	0004
0.63 – 1.00 A	–	1031	1032	1033	1034	0005
1.00 – 1.60 A	–	1031	1032	1033	1034	0006
1.60 – 2.50 A	–	1031	1032	1033	–	0007
2.50 – 4.00 A	–	1031	1032	1033	–	0008
4.00 – 6.30 A	–	1031	1032	1033	–	0009
6.30 – 9.00 A	–	1031	1032	1033	–	0010
9.00 – 12.50 A	–	1031	1032	1033	–	0011
12.50 – 16.00 A	–	1031	1032	1033	–	0012
16.00 – 20.00 A	–	1031	1032	1033	–	0013
20.00 – 25.00 A	–	–	1032	1033	–	0014
0.25 – 0.40 A	230 V	–	–	–	–	0103
0.40 – 0.63 A	230 V	1031	–	–	–	0104
0.63 – 1.00 A	230 V	–	1032	–	–	0105
1.00 – 1.60 A	230 V	1031	1032	–	–	0106
1.60 – 2.50 A	230 V	1031	1032	–	–	0107
2.50 – 4.00 A	230 V	1031	1032	–	–	0108
4.00 – 6.30 A	230 V	–	1032	–	–	0109
6.30 – 9.00 A	230 V	1031	1032	–	–	0110
9.00 – 12.50 A	230 V	1031	–	–	–	0111
16.00 – 20.00 A	230 V	–	–	–	–	–
20.00 – 25.00 A	230 V	–	–	–	–	–
0.25 – 0.40 A	400 V	–	1032	–	–	0203
2.50 – 4.00 A	400 V	1031	1032	–	–	0208
4.00 – 6.30 A	400 V	–	1032	–	–	0209

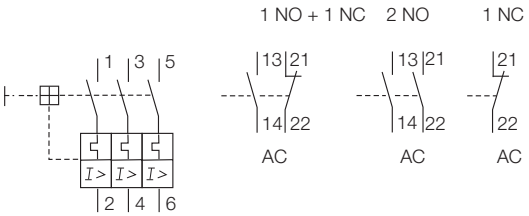
AC = Auxiliary contact



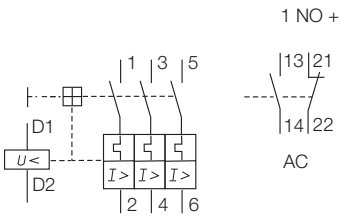
Dimension drawing



Manual motor starter 25 A



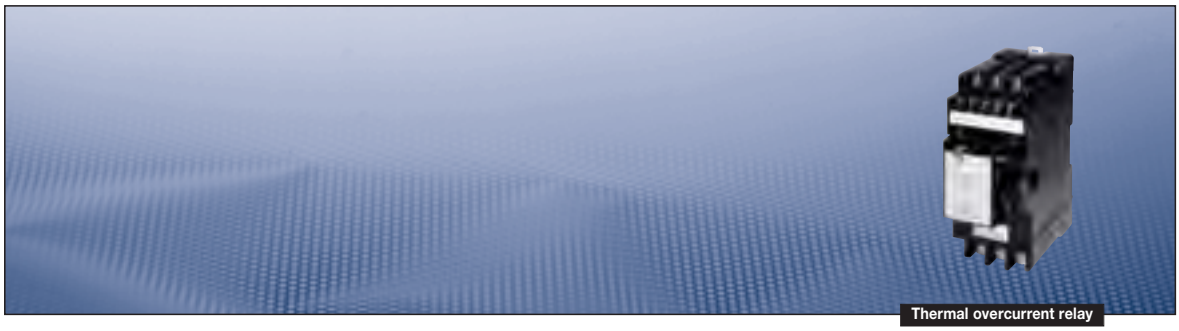
without undervoltage trip



with undervoltage trip

AC = Auxiliary contact

Dimensions in mm

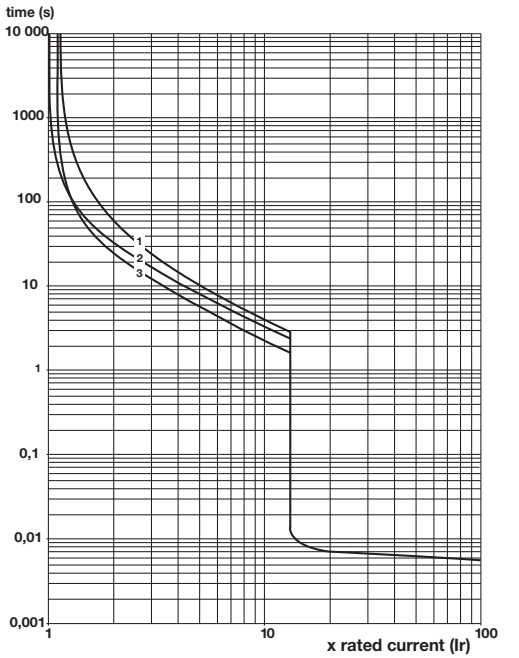

Thermal overcurrent relay

Technical data

Thermal overcurrent relay		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC / Ⓔx I M 2 Ex ed I
EC Type Examination Certificate		PTB 98 ATEX 1087 U
IECEx Certificate of Conformity		IECEx BKI 07.0038 U
Marking accd. to IECEx		Ex de IIC
Application temperature[1)]		–20 °C to +40 °C
Rated voltage		690 V AC, 50/60 Hz
Release current		Thermal tripping with phase failure function, manual reset
Rated voltage	Auxiliary contact	690 V AC
Rated current	Auxiliary contact	6 A
Terminal cross-section	Main contact	2 x 10 mm² fine wire with wire end sleeve/single wire
	Auxiliary contact	2 x 2.5 mm² fine wire with wire end sleeve/single wire
Dimensions (L x W x H)		Mounting width 70 mm
Weight		1.1 kg size 3
Enclosure material		Glass-fibre reinforced polyester
Enclosure colour		black
Options		Auxiliary contact

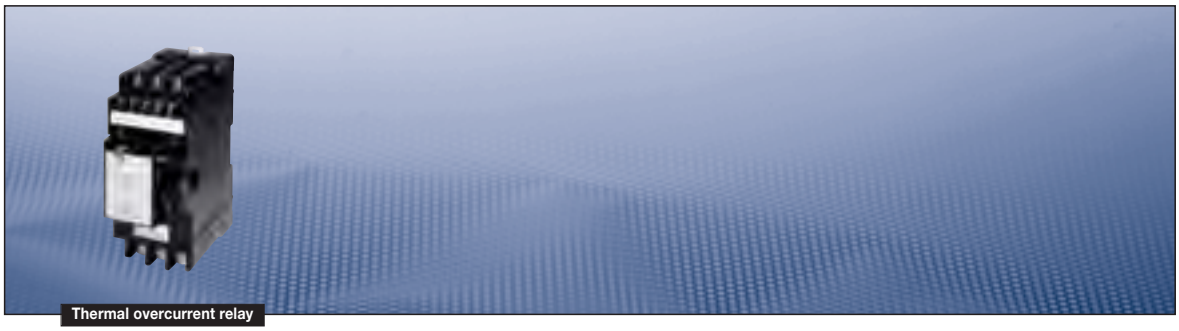
[1)] Depend on installation

Tripping characteristic



Mean tripping time at 20°C in relationship to the multiple rated current

1. 3-pole load at cold condition
2. 2-pole load at cold condition
3. 3-pole load at warm condition



Thermal overcurrent relay

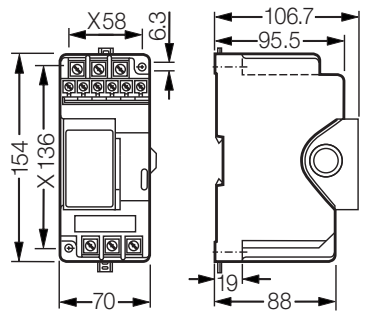
Ex-Built-in components

Thermal overcurrent relay

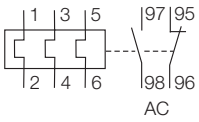
Release current

Release current	Order No.
0.1 A - 0.16 A	**GHG 618 3103 R0012**
0.16 A - 0.23 A	**GHG 618 3103 R0001**
0.23 A - 0.36 A	**GHG 618 3103 R0002**
0.36 A - 0.54 A	**GHG 618 3103 R0003**
0.54 A - 0.8 A	**GHG 618 3103 R0004**
0.8 A - 1.2 A	**GHG 618 3103 R0005**
1.2 A - 1.8 A	**GHG 618 3103 R0006**
1.8 A - 2.6 A	**GHG 618 3103 R0007**
2.6 A - 3.7 A	**GHG 618 3103 R0008**
3.7 A - 5.5 A	**GHG 618 3103 R0009**
5.5 A - 8.0 A	**GHG 618 3103 R0010**
8.0 A - 11.5 A	**GHG 618 3103 R0011**

Dimension drawing | Termination diagram



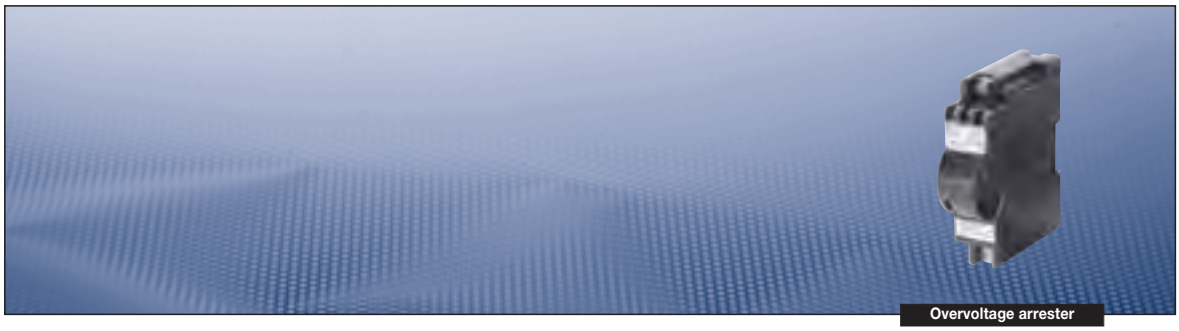
Module size 3



X = fixing dimensions

AC = Auxiliary contact

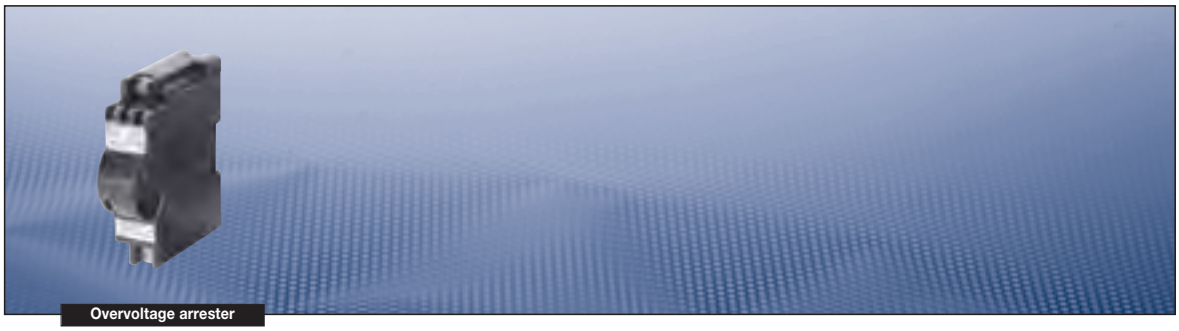
Dimensions in mm


Overvoltage arrester

Technical data

Overvoltage arrester	
Marking to 94/9/EC	Ⓔx II 2 G Ex de IIC / Ⓔx I M 2 Ex de I
EC Type Examination Certificate	PTB 98 ATEX 1087 U
IECEx Certificate of Conformity	IECEx BKI 07.0038 U
Marking accd. to IECEx	Ex de IIC
Application temperature[1)]	–20 °C to +40 °C
Rated voltage	275 V
Rated discharge surge current I_{sn}	max. 5 kA
Rated forward surge current I_s	max. 25 kA
Response time	25 ns
Residual voltage U_P	approx. 1000 V
Extinction voltage U_L to earth	280 V AC
Tripping current of cut-off device	5 A
Short-circuit protection	25 kA eff
Back-up fuse	max. 63 A gL
Terminal cross-section	2 x 10 mm² fine wire with wire end sleeve/single wire
Dimensions (L x W x H)	Mounting width 35 mm
Weight	0.52 kg size 1
Enclosure material	Glass-fibre reinforced polyester
Enclosure colour	black
Options	tripping indication in inspection window

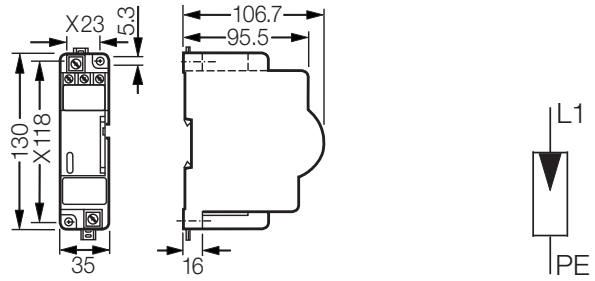
[1)] Depend on installation


Overvoltage arrester

Ordering details

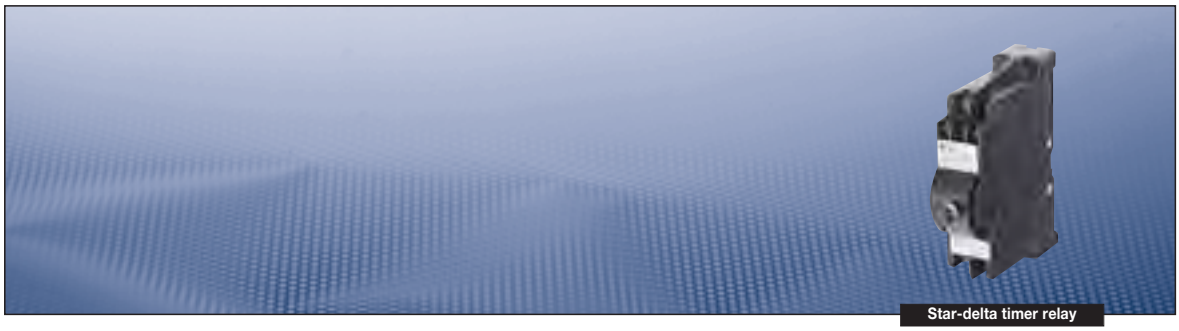
Version	Mounting width	Order No.
Type: 1-pole Equipped with optional tripping indication		
1-pole overvoltage arrester	35 mm	**GHG 612 1003 R0001**

Dimension drawing | Termination diagram



Module size 1

Dimensions in mm


Star-delta timer relay

Technical data

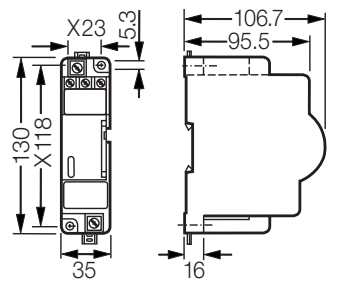
Star-delta timer relay		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC / Ⓔx I M 2 Ex de I
EC Type Examination Certificate		PTB 98 ATEX 1087 U
IECEx Certificate of Conformity		IECEx BKI 07.0038 U
Marking accd. to IECEx		Ex de IIC
Application temperature[1)]		–20 °C to +40 °C
Rated voltage	Main contact	max. 250 V
	Control contact A1-A2	110 V - 127 V AC; 220 V - 240 V AC; 24 V AC/DC
Rated continuous I_{th}		3 A
Power dissipation per pole		2 W
Rated switching capacity AC-15		230 V/3 A
Tripping time		1.5 s to 30 s continuously externally adjustable
Terminal cross-section	Main contact	2 x 10 mm² fine wire with wire end sleeve/single wire
	Auxiliary contact/	
	Control contact A1-A2	2 x 2.5 mm² fine wire with wire end sleeve/single wire
Dimensions (L x W x H)		Mounting width 35 mm
Weight		0.53 kg size 0
Enclosure material		Glass-fibre reinforced polyester
Enclosure colour		black
Options		Auxiliary contact

[1)] Depend on installation

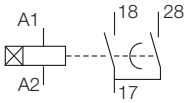
Ordering details

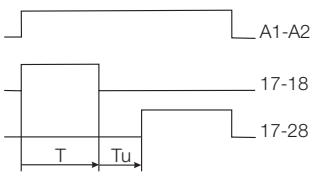
Version	Rated current	Response time	Mounting width	Order No.
Type: 1-pole Equipped with 1 change-over				
1-pole	3 A	1,5 s - 30 s	35 mm	**GHG 618 1102 R 0001**

Dimension drawing | Termination diagram



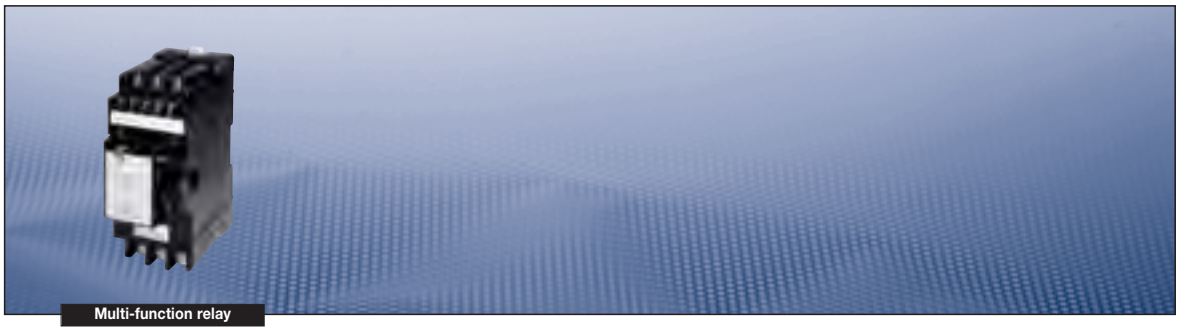
Module size 1





Characteristic

Dimensions in mm



Multi-function relay

Technical data

Multi-function relay		
Marking to 94/9/EC		Ⓔx II 2 G Ex de IIC / Ⓔx I M 2 Ex de I
EC Type Examination Certificate		PTB 98 ATEX 1087 U
IECEx Certificate of Conformity		IECEx BKI 07.0038 U
Marking accd. to IECEx		Ex de IIC
Application temperature[1)]		–20 °C to +40 °C
Rated voltage		max. 440 V AC
Rated swichting capacity		24 V AC to 440 V AC or 24 V DC to 240 V DC
Rated current		6 A
Power dissipation per pole		2 W
Rated switching capacity AC-11		440 V/3 A
Rated switching capacity DC-22		24 V / 1 A; 60 V / 0.35 A; 220 V / 0.20 A
Terminal cross-section	Main contact	2 x 10 mm²
	Auxiliary contact/	
	Control contact A1-A2	2 x 2.5 mm²
Dimensions (L x W x H)		Mounting width 70 mm
Weight		1.26 kg, size 2
Enclosure material		Glass-fibre reinforced polyester
Enclosure colour		black
Options		Control contact

[1)] Depend on installation

Ex-Built-in components

Multi-function relay

GHG 618 2910 RXXYY

1. Control function | 2. Response time/time range

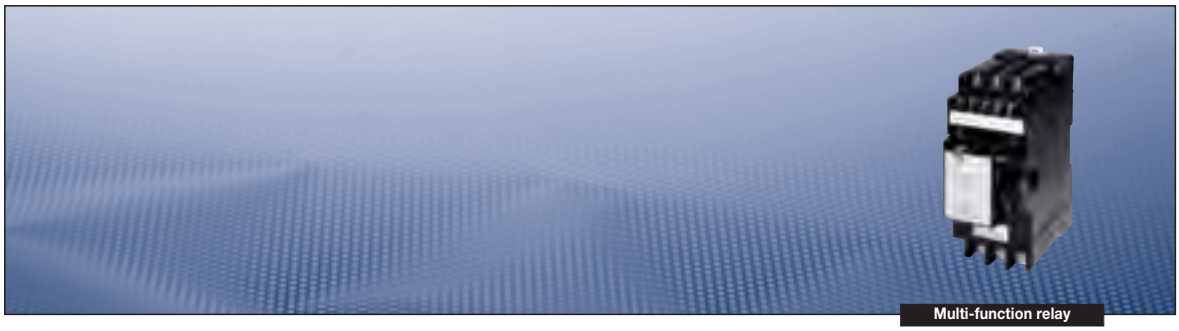
1. Control function

Control function	XX
delayed response	**11**
delayed OFF response	**12**
delayed ON and OFF response	**16**
impulse ON	**21**
impulse OFF	**22**
flashing	**42**
pulsing	**81**
pulse shaper	**82**

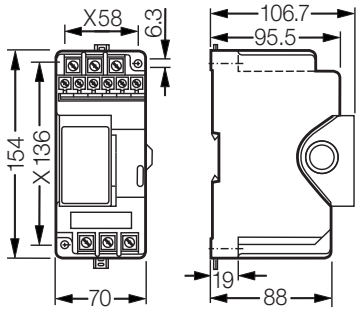
2. Response time/time range

Response time/time range	YY
0.15 min - 3 min	**01**
3 s - 60 s	**02**
0.5 s - 10 s	**03**
0.15 s - 3 s	**04**
0.05 s - 1 s	**05**
0.5 s - 10 min	**06**
3 - 60 min	**07**
0.15 h - 3 h	**08**
0.5 h - 10 h	**09**
3 h - 60 h	**10**

Note: The time setting within the time ranges is performed via potentiometer 10 K Ω (GHG 417 1901 R 0194) to be connected externally.

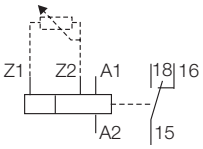


Dimension drawing | Termination diagram | Function diagram

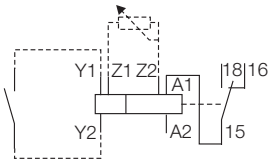


Module size 2

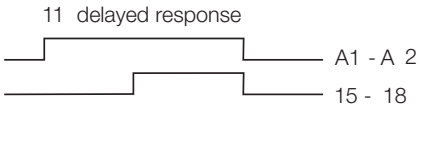
Termination diagram multi-function relay

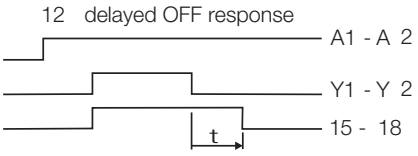


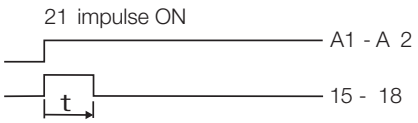
Contacts for function 11, 21, 42 and 81

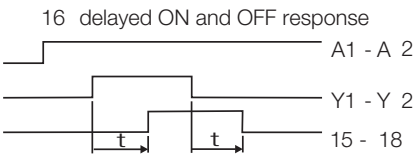


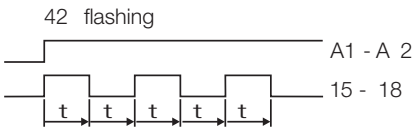
Contacts for function 12, 16, 22 and 81

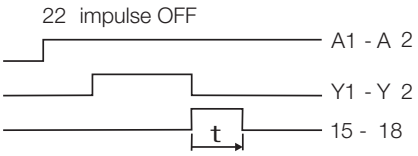


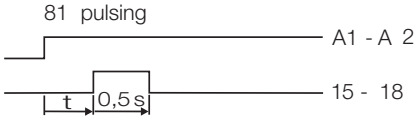


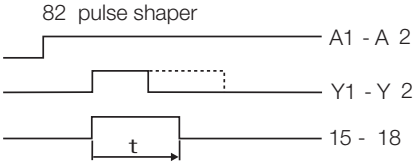




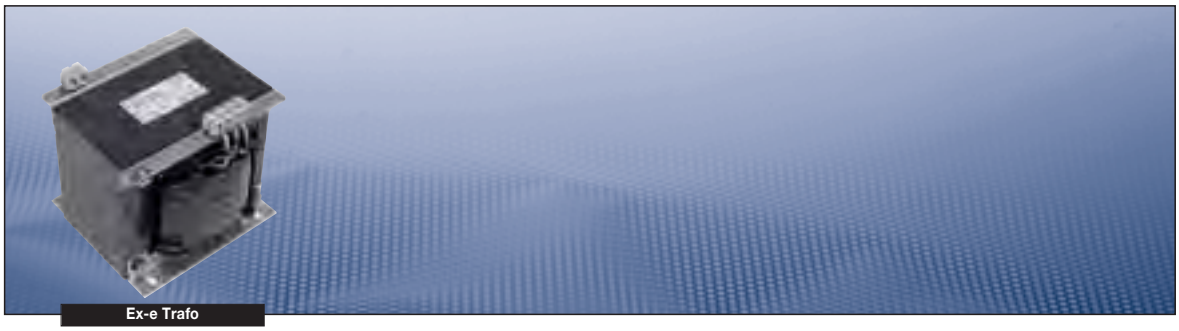








Dimensions in mm



Ex-e Trafo

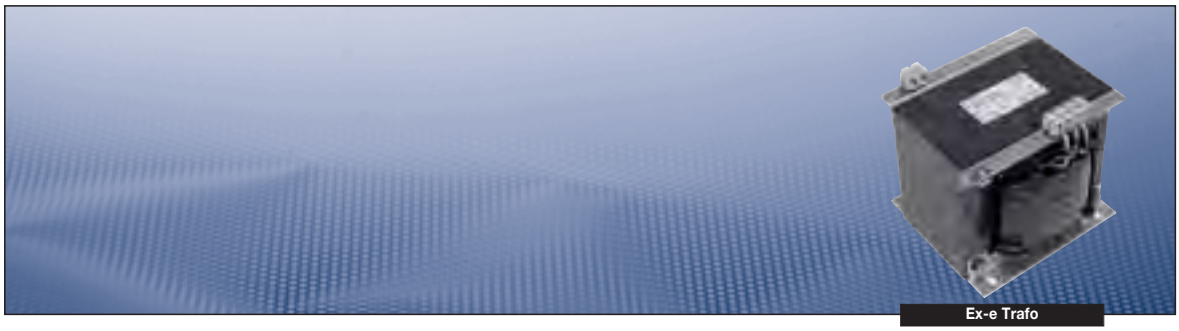
Technical data

Ex-e safety and isolating transformer	
Marking to 94/9/EC	Ⓔx II 2 G Ex e II T1, T2, T3 or T4
EC-Type Examination Certificate	PTB 04 ATEX 3019 X
Permissible ambient temperature	–20 °C to +40 °C
Rated voltage	110 V to 690 V
Frequency	50 – 60 Hz
Power consumption	100 VA up to 1200 VA
Short-circuit voltage	4.2 %
Duty type	S1
Thermal class	E
Back up fuse	max. 1.5 x of secondary rated current
Connecting terminals	2.5 – 16 mm², Option direct wire connections
Insulation class	I
Degree of protection accd. EN 60529	1)

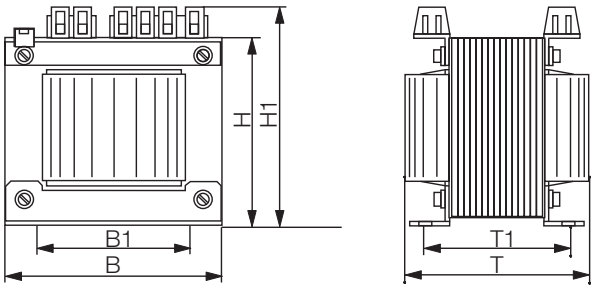
1) The transformer may only be mounted in a certified enclosure with minimum degree of protection IP54

Ordering details

Type	Prim. / sec.	Max. input power	Order No.
Ex-e safety and isolating transformer			
Ex-e Trafo	110 V / 24 V	100 VA	**GHG 410 1992 R0001**
Ex-e Trafo	220 V / 24 V	100 VA	**GHG 410 1992 R0002**
Ex-e Trafo	230 V / 24 V	100 VA	**GHG 410 1992 R0003**
Ex-e Trafo	230 V / 48 V	100 VA	**GHG 410 1992 R0004**
Ex-e Trafo	400 V / 24 V	100 VA	**GHG 410 1992 R0005**
Ex-e Trafo	500 V / 24 V	100 VA	**GHG 410 1992 R0006**
Ex-e Trafo	230 V / 230 V	100 VA	**GHG 410 1992 R0007**
Ex-e Trafo	400 V / 230 V	100 VA	**GHG 410 1992 R0008**
Ex-e Trafo	500 V / 120 V	100 VA	**GHG 410 1992 R0009**
Ex-e Trafo	230 V / 24 V	200 VA	**GHG 410 1992 R0010**
Ex-e Trafo	400 V / 24 V	200 VA	**GHG 410 1992 R0011**
Ex-e Trafo	400 V / 230 V	200 VA	**GHG 410 1992 R0012**
Ex-e Trafo	230 V / 24 V	400 VA	**GHG 410 1992 R0013**
Ex-e Trafo	400 V / 24 V	400 VA	**GHG 410 1992 R0014**
Ex-e Trafo	400 V / 230 V	400 VA	**GHG 410 1992 R0015**
Ex-e Trafo	230 V / 24 V	550 VA	**GHG 410 1992 R0016**
Ex-e Trafo	400 V / 24 V	550 VA	**GHG 410 1992 R0017**
Ex-e Trafo	400 V / 230 V	550 VA	**GHG 410 1992 R0018**
Ex-e Trafo	230 V / 24 V	1200 VA	**GHG 410 1992 R0019**
Ex-e Trafo	400 V / 24 V	1200 VA	**GHG 410 1992 R0020**
Ex-e Trafo	400 V / 230 V	1200 VA	**GHG 410 1992 R0021**



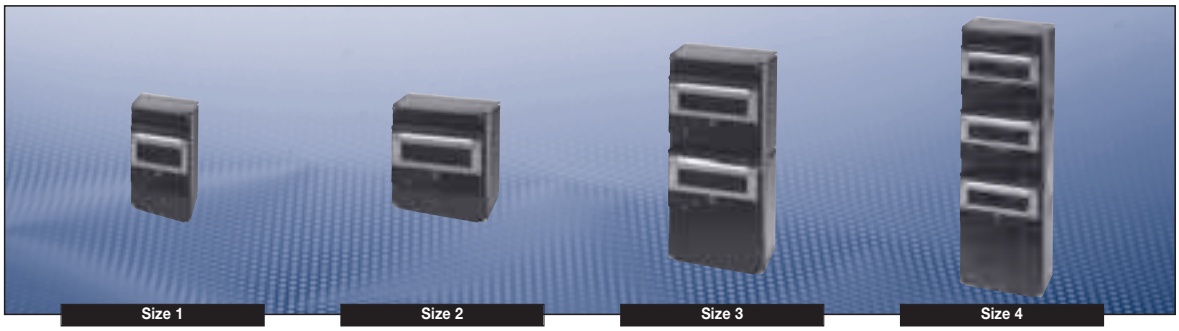
Dimension drawing



Ex-e Trafo

Power (VA)	B	B1	T	T1	H	H1 (mini terminal)	H1 (4 mm²)	H1 (16 mm²)
100	105	84	80	66	91	108	124	128
200	120	90	102	88	106	123	139	143
400	135	104	128	106	120	137	153	157
550	150	122	150	126	134	151	167	171
1200	174	135	170	136	154	171	187	191

Dimensions in mm



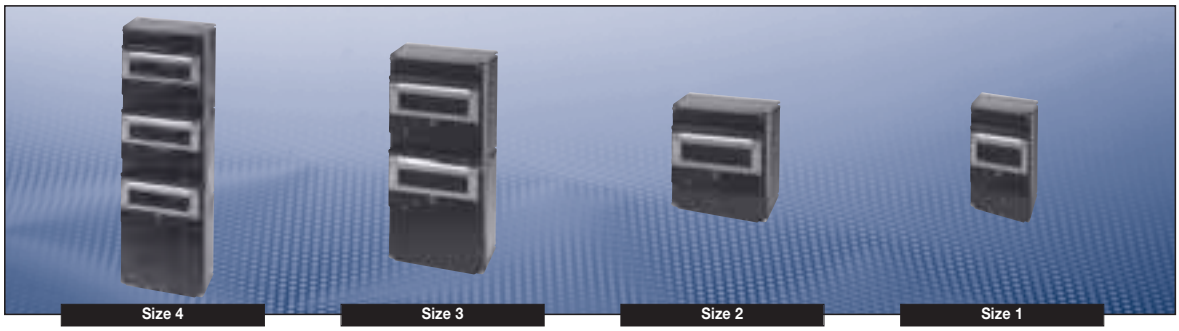
Technical data

Empty enclosures made of moulded plastic	
Marking to 94/9/EC	Ⓔx II 2 G Ex de IIC T6, T5, T4 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C / T95 °C[1)]
EC Type Examination Certificate	PTB 99 ATEX 1044
IECEx Certificate of Conformity	IECEx BKI 06.0007
Marking accd. to IECEx	Ex de ia/ib m [ia/ib] T4 ... T6
	Ex tD A21 IP66 T80 °C
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	690 V
Rated current	180 A
Insulation class	I
Terminal cross-section	up to 240 mm²
Cable gland	acc. to customer specification
Degree of protection acc. to EN 60529	IP66
Weight	see ordering details
Enclosure material	Glass-fibre reinforced polyester
Enclosure colour	black

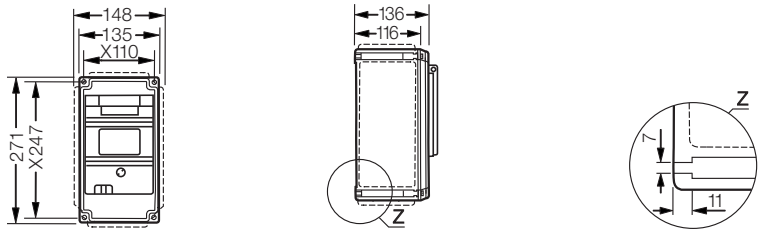
[1)] depents on installed components

Ordering details

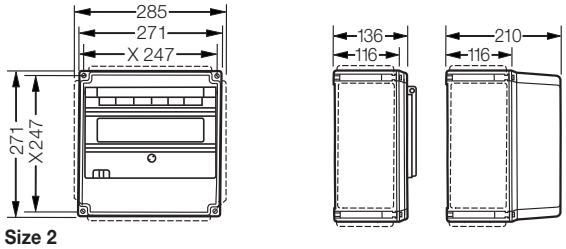
Version	Mounting width	Weight approx.	Order No.
Size 1: 1 Mounting space 106 mm			
Cover closed	106 mm	1.5 kg	**GEH 001 00**
Cover cut-out with small actuating flap	106 mm	1.9 kg	**GEH 001 01**
Size 2: 1 Mounting space 213 mm			
Cover closed	213 mm	2.5 kg	**GEH 002 00**
Cover cut-out with 1 actuating flap	213 mm	3.2 kg	**GEH 002 01**
Cover raised for insertion of main switch = 80 A		3.3 kg	**GEH 002 02**
Size 3: 2 Mounting space 213 mm			
Cover closed	2 x 213 mm	4.5 kg	**GEH 003 00**
Cover cut-out with 1 actuating flap	2 x 213 mm	5.2 kg	**GEH 003 01**
Cover cut-out with 2 actuating flaps	2 x 213 mm	5.9 kg	**GEH 003 02**
Cover with 1 actuating flap and main switch ≤ 40 A	1 x 213 mm	6.2 kg	**GEH 003 03**
Cover raise for insertion of main switch ≥ 80 A to 180 A		5.5 kg	**GEH 003 04**
Size 4: 3 Mounting space 213 mm			
Cover closed	3 x 213 mm	5.5 kg	**GEH 004 00**
Cover cut-out with 1 actuating flap	3 x 213 mm	6.2 kg	**GEH 004 01**
Cover cut-out with 2 actuating flaps	3 x 213 mm	6.9 kg	**GEH 004 02**
Cover cut-out with 3 actuating flaps	3 x 213 mm	7.6 kg	**GEH 004 03**
Cover with 2 actuating flaps and main switch ≤ 40 A	1 x 213 mm	8.1 kg	**GEH 004 04**



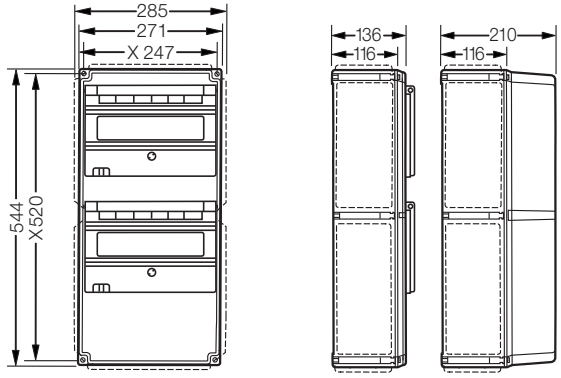
Dimension drawing



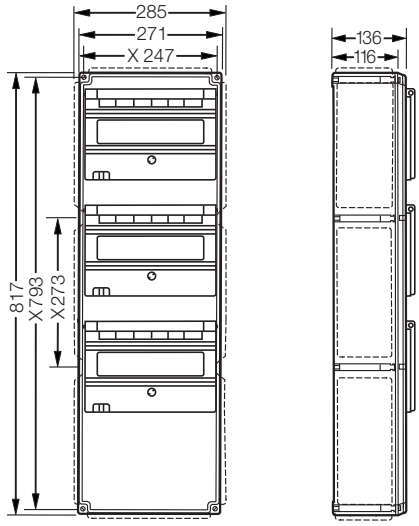
Size 1



Size 2



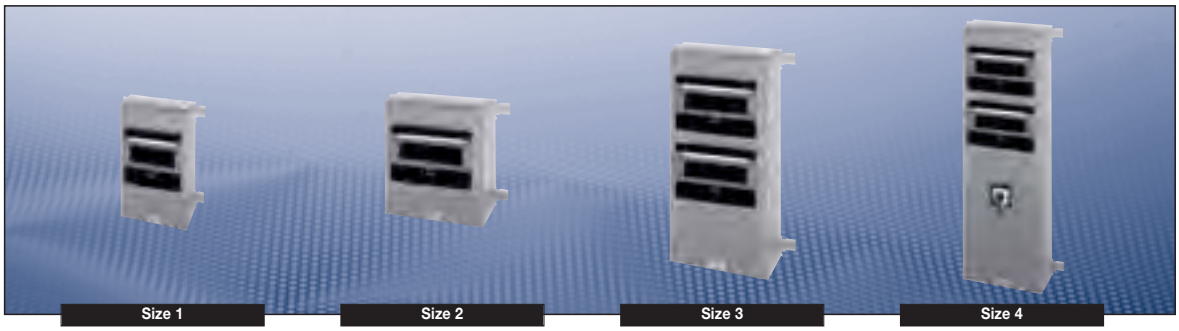
Size 3



Size 4

X = fixing dimensions

Dimensions in mm



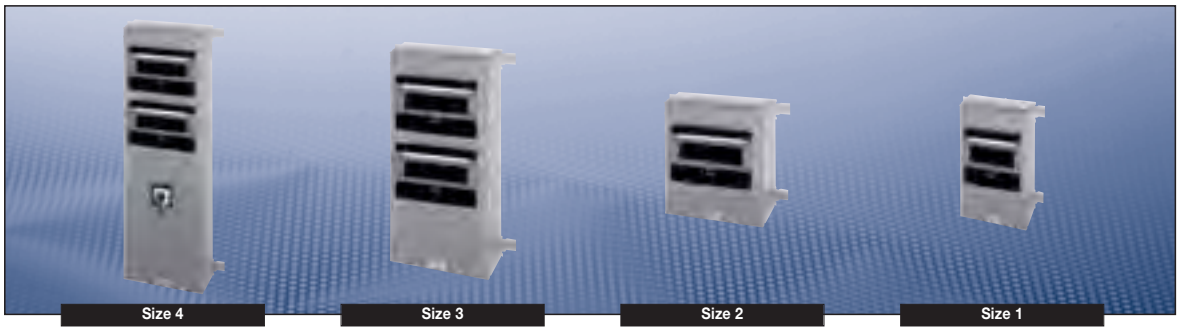
Technical data

Empty enclosures made of stainless steel	
Marking to 94/9/EC	Ⓔx II 2 G Ex de IIC T6, T5, T4 / Ⓔx II 2 D Ex tD A21 IP66 T80 °C / T95 °C[1)]
EC Type Examination Certificate	PTB 99 ATEX 1044
IECEx Certificate of Conformity	IECEx BKI 06.0007
Marking accd. to IECEx	Ex de ia/ib m [ia/ib] T4 ... T6
	Ex tD A21 IP66 T80 °C
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (Option)
Rated voltage	440 V
Rated current	180 A
Insulation class	I
Terminal cross-section	up to 240 mm²
Cable gland	acc. to customer specification
Degree of protection acc. to EN 60529	IP66
Enclosure material	Stainless steel AISI 316 L
Enclosure colour	electro-polished

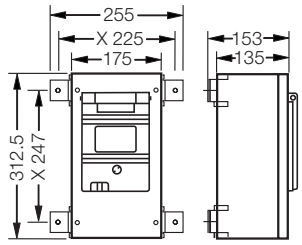
[1)] depents on installed components

Ordering details

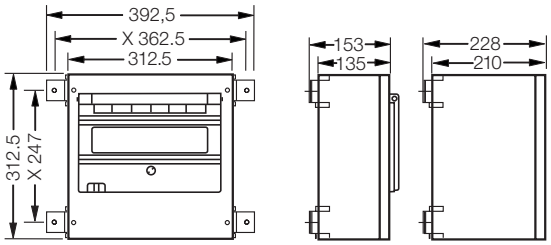
Version	Mounting width	Weight approx.	Order No.
Size 1: 1 Mounting space 106 mm			
Cover closed	106 mm	3.5 kg	**GEH 100 00**
Cover cut-out with small actuating flap	106 mm	3.8 kg	**GEH 100 01**
Size 2: 1 Mounting space 213 mm			
Cover closed	213 mm	7.5 kg	**GEH 200 00**
Cover cut-out with 1 actuating flap	213 mm	8.1 kg	**GEH 200 01**
Size 3: 2 Mounting space 213 mm			
Cover closed	2 x 213 mm	11.5 kg	**GEH 300 00**
Cover cut-out with 1 actuating flap	2 x 213 mm	12.1 kg	**GEH 300 01**
Cover cut-out with 2 actuating flaps	2 x 213 mm	12.7 kg	**GEH 300 02**
Cover with 1 actuating flap and main switch ≤ 40 A	1 x 213 mm	12.9 kg	**GEH 300 03**
Size 4: 3 Mounting space 213 mm			
Cover closed	3 x 213 mm	16.5 kg	**GEH 400 00**
Cover cut-out with 1 actuating flap	3 x 213 mm	17.1 kg	**GEH 400 01**
Cover cut-out with 2 actuating flaps	3 x 213 mm	17.7 kg	**GEH 400 02**
Cover cut-out with 3 actuating flaps	3 x 213 mm	18.4 kg	**GEH 400 03**
Cover with 2 actuating flap and main switch ≤ 40 A	2 x 213 mm	18.6 kg	**GEH 400 04**



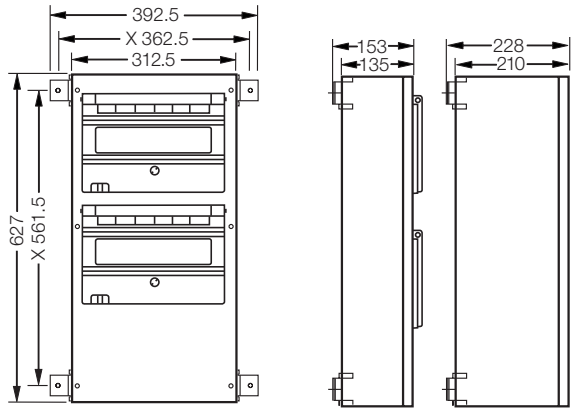
Dimension drawing



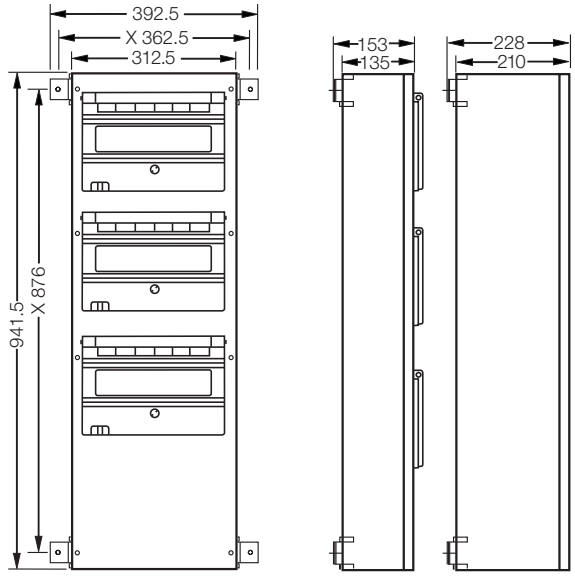
Size 1



Size 2



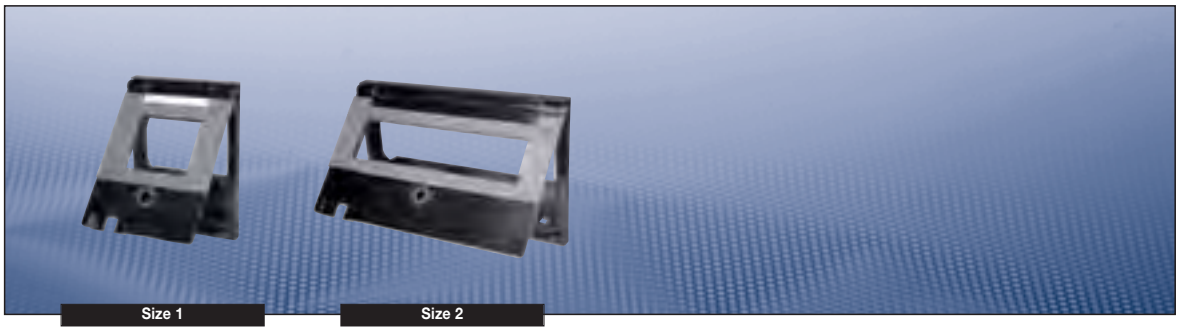
Size 3



Size 4

X = fixing dimensions

Dimensions in mm



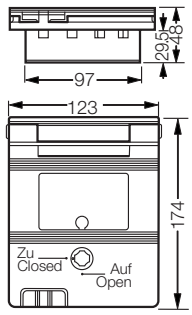
Technical data

Actuating flap	
Marking to 94/9/EC	Ⓔx II 2 G Ex e II / Ⓔx II 2 D tD A21 IP65
EC Type Examination Certificate	PTB 99 ATEX 3107U
Degree of protection acc. to EN 60529	IP65 (on installed condition)
Weight	flap size 1 0.48 kg
	flap size 1 0.78 kg

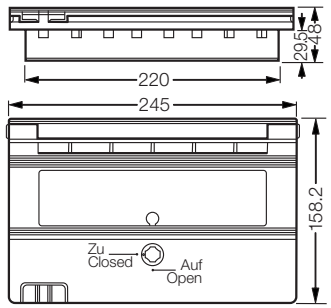
Ordering details

Version	Mounting width	Weight approx.	Order No.
Size 1: 1 Mounting space 106 mm			
Lockable	123 mm	0.48 kg	**BKL 100 00**
Size 2: 1 Mounting space 213 mm			
Lockable	245 mm	0.78 kg	**BKL 200 00**

Dimension drawing



Size 1



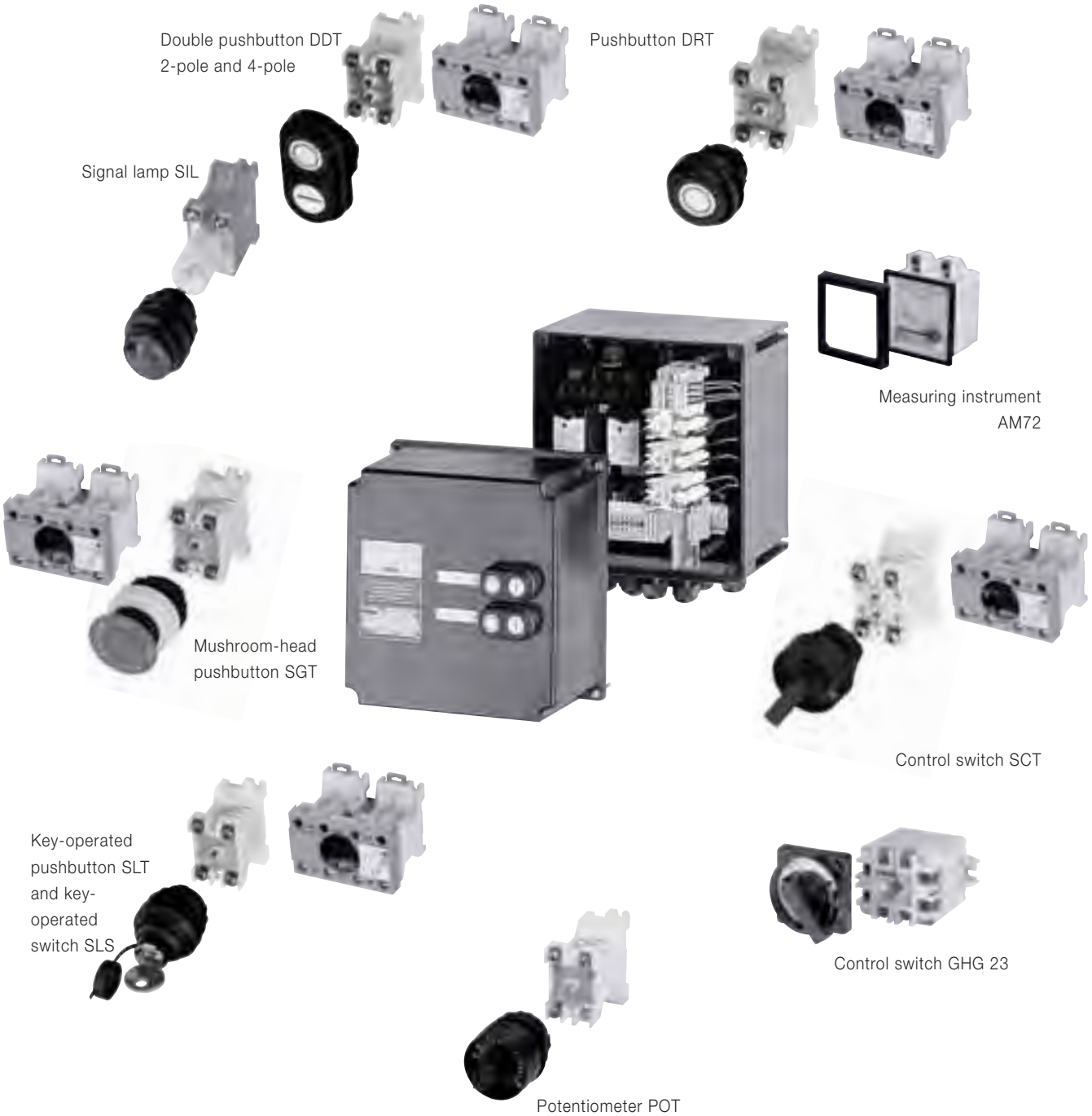
Size 2

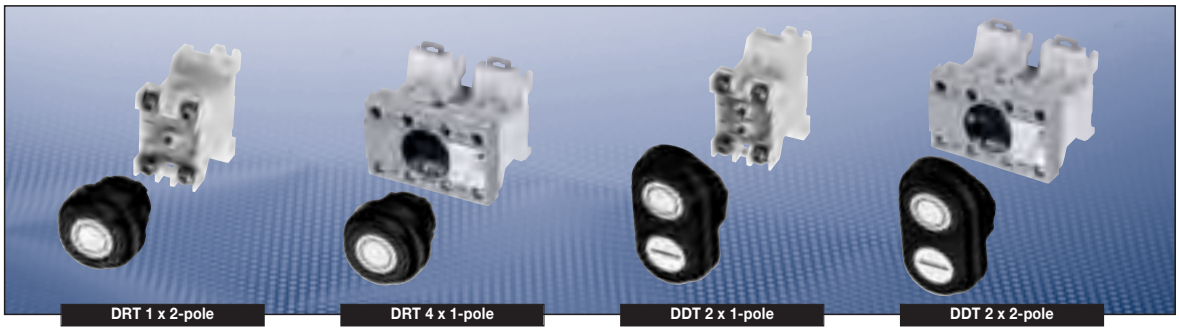
Dimensions in mm

Customised enclosure, covered by Type Examination Certificates, can be individually combined from CEAG's numerous built-in components.

A coding system for these components with unique designations can be used for planning, selection and ordering.

For the selection of control units and components, please see page 9.52 to 9.74.





Technical data

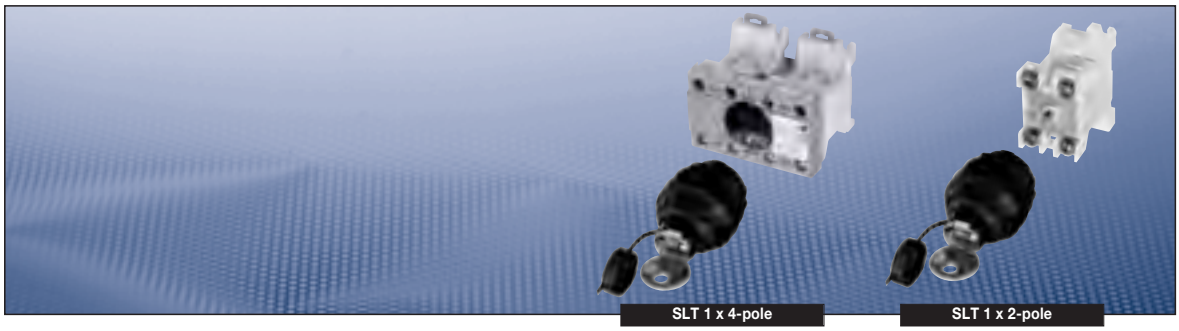
Ex-Pushbutton DRT and Double pushbutton DDT	
Marking to 94/9/EC	Ex II 2 G Ex ed IIC T6 / Ex I M2 Ex de I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
Application temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-1: U_e 400 V / I_e 16 A
accd. to EN 60947-5-1	AC-11: U_e 400 V / I_e 4 A
Degree of protection accd. EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure colour	grey
Gasket material	Neoprene (Standard), Fluoric Silicone or Viton on request

2-pole Version	
Connecting terminals	2 x 2.5 mm²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg

4-pole Version	
Connecting terminals	4 x 2.5 mm²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

[1] The 4-pole pushbutton needs two mounting areas of a 2-pole pushbutton.
The actuator will be in the middle of the two mounting areas.

For detailed information see page 9.52 – 9.74.



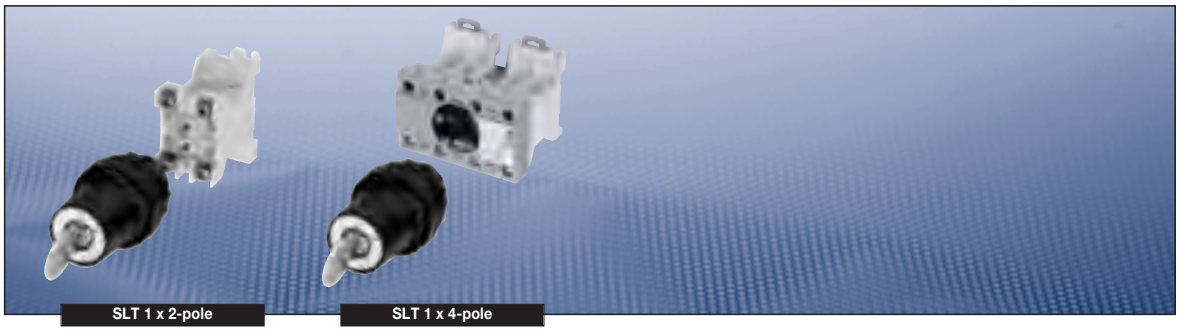
Technical data

Ex-Key operated pushbutton SLT	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex de I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
Application temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-1: U_e 400 V / I_e 16 A
accd. to EN 60947-5-1	AC-11: U_e 400 V / I_e 4 A
Degree of protection accd. EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure colour	grey
Gasket material	Neoprene (Standard), Fluoric Silicone or Viton on request
Latch point	CEAG 1 (others on request)

2-pole Version	
Connecting terminals	2 x 2.5 mm²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg

4-pole Version	
Connecting terminals	4 x 2.5 mm²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

[1] The 4-pole pushbutton needs two mounting areas of a 2-pole pushbutton.
The actuator will be in the middle of the two mounting areas.
For detailed information see page 9.52 – 9.74.



Technical data

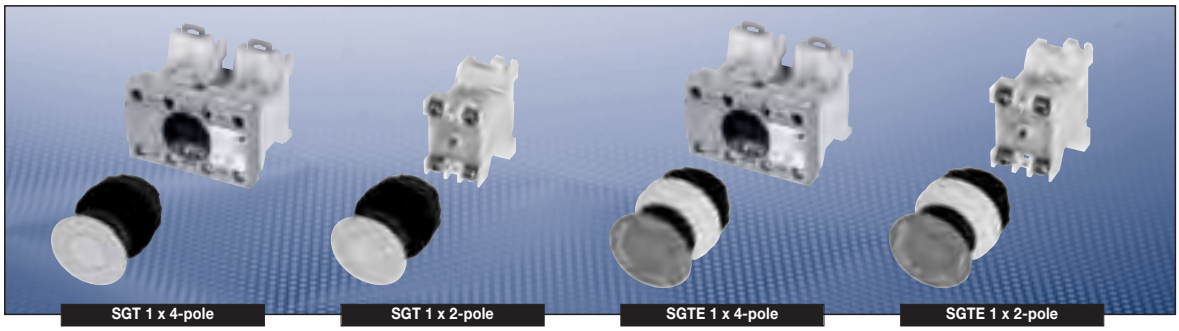
Ex-built-in Components for individual control stations Key switch SLS	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex de I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
Application temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-1: U_e 400 V / I_e 16 A
accd. to EN 60947-5-1	AC-11: U_e 400 V / I_e 4 A
Switching system	engaging – engaging – engaging
Degree of protection accd. EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure colour	grey
Latch point	CEAG 1 (others on request)

2-pole Version	
Connecting terminals	2 x 2.5 mm²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg

4-pole Version	
Connecting terminals	4 x 2.5 mm²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

[1] The 4-pole pushbutton needs two mounting areas of a 2-pole pushbutton.
The actuator will be in the middle of the two mounting areas.

For detailed information see page 9.52 – 9.74.



Technical data

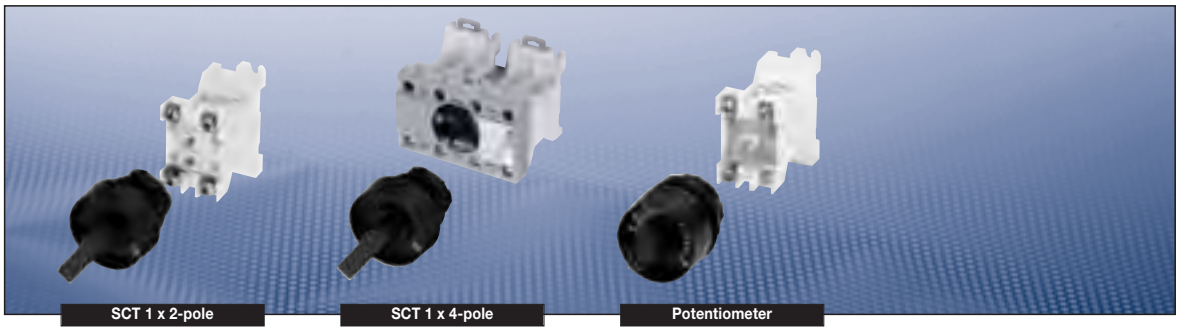
Ex-Mushroom Head Pushbutton (Emergency Stop „SGTE“ and Normal Version „SGT”)	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex de I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
Application temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-1: U_e 400 V / I_e 16 A
accd. to EN 60947-5-1	AC-11: U_e 400 V / I_e 4 A
Degree of protection accd. EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure colour	grey
Gasket material	Neoprene (Standard), Fluoric Silicone or Viton on request

2-pole Version	
Connecting terminals	2 x 2.5 mm²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg

4-pole Version	
Connecting terminals	4 x 2.5 mm²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

[1] The 4-pole pushbutton needs two mounting areas of a 2-pole pushbutton.
The actuator will be in the middle of the two mounting areas.
The pushbutton „Emergency Stop“ will be equipped with a black plate in the centre of the pushbutton actuator.

For detailed information see page 9.52 – 9.74.



Technical data

Ex-Mini-control switch SCT	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex de I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
Application temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Switch rating	400 V / 16 A AC-1 / 400 V / 4 A AC-11
Degree of protection accd. EN 60529	IP66
Type of mounting	DIN rail mounting
Enclosure colour	grey

2-pole Version	
Connecting terminals	2 x 2.5 mm²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg

4-pole Version	
Connecting terminals	4 x 2.5 mm²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

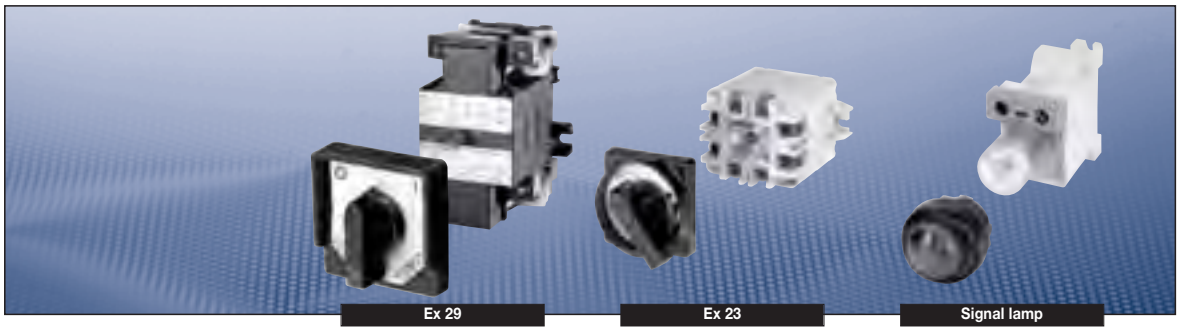
[1] The 4-pole pushbutton needs two mounting areas of a 2-pole pushbutton.
The actuator will be in the middle of the two mounting areas.

For detailed information see page 9.52 – 9.74.

Technical data

Ex-Potentiometer POT	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex de I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
Application temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage	up to 250 V
Power consumption	max. 1 W
Resistance range	100 – 10000 Ohm
Tolerance	± 20 %
Connecting terminals	2 x 2.5 mm²
Degree of protection accd. EN 60529	IP66
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	DIN rail mounting
Enclosure colour	grey
Angle of rotation	270°
Scale	0 - 100 %

For detailed information see page 9.52 – 9.74.



Technical data

Ex-Signal lamp SIL	
Marking to 94/9/EC	Ex II 2 G Ex ed IIC / Ex II 2 G Ex d ia IIC
EC-Type Examination Certificate	PTB 98 ATEX 1040 U
Application temperature	–20 °C to +40 °C
	–55 °C to +55 °C (option)
Rated voltage (Ex ed IIC)	20 V to 250 V AC/DC
(Ex d ia IIC)	10 V to 28 V DC
(Ex ed IIC)	12 V to 30 V AC/DC
Rated current (20 V to 250 V)	approx. 4 - 15 mA
(10 V to 28 V Ex d ia IIC)	max. 25 mA
12 V to 30 V	max. 24 mA
Connecting terminals	2 x 2.5 mm²
Degree of protection accd. EN 60529	IP66
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	DIN rail mounting
Enclosure colour	grey

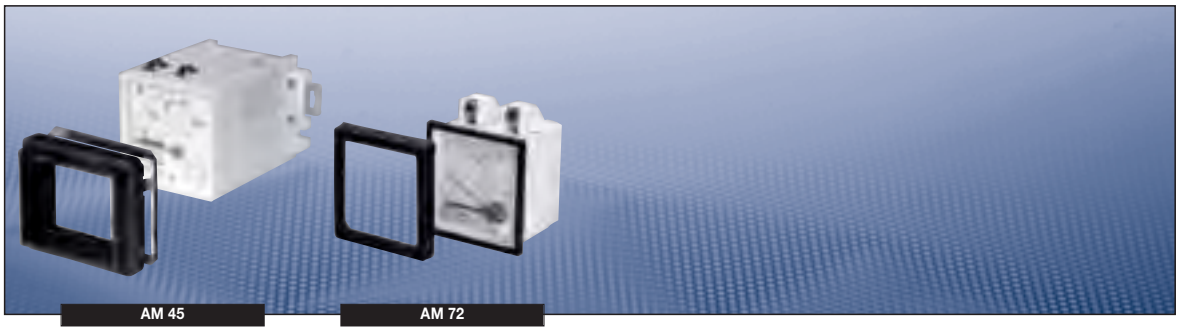
For detailed information see page 9.52 – 9.74.

Technical data

Ex-built-in Components for individual control stations Control switch Ex 23 and Ex 29			
		Ex 23	Ex 29
Marking to 94/9/EC		Ex II 2 G Ex ed IIC T6/ I M 2 Ex e I	
EC-Type Examination Certificate		PTB 98 ATEX 1116 U	PTB 98 ATEX 1118 U
Application temperature		–20 °C to +40 °C	–20 °C to +40 °C
		–55 °C to +45 °C (option)	–55 °C to +55 °C (option)
Rated voltage			up to 500 V
Rated current		10 A	16 A[1)]
Rated current gold contacts			0.4 A
Rated making-/rated breaking capacity		AC-15: U_e 230 V / I_e 6 A	U_e 400 V / I_e 4 A
accd. to EN 60947-5-1		DC-13: U_e 24 V / I_e 2 A	U_e 230 V / I_e 0,5 A
Connecting terminals		2 x 0.5 - 2.5 mm²	2 x 0.5 - 2.5 mm² or 1 x 1.0 - 6.0 mm²
Weight	1 tier:	approx. 0.2 kg	approx. 0.25 kg
	2 tiers:	approx. 0.35 kg	approx. 0.40 kg
	3 tiers:		approx. 0.55 kg
Type of mounting		DIN rail mounting	
Enclosure colour		grey	black

[1)] 12 A cable section must be 2.5 mm²

For detailed information see page 9.52 – 9.74.



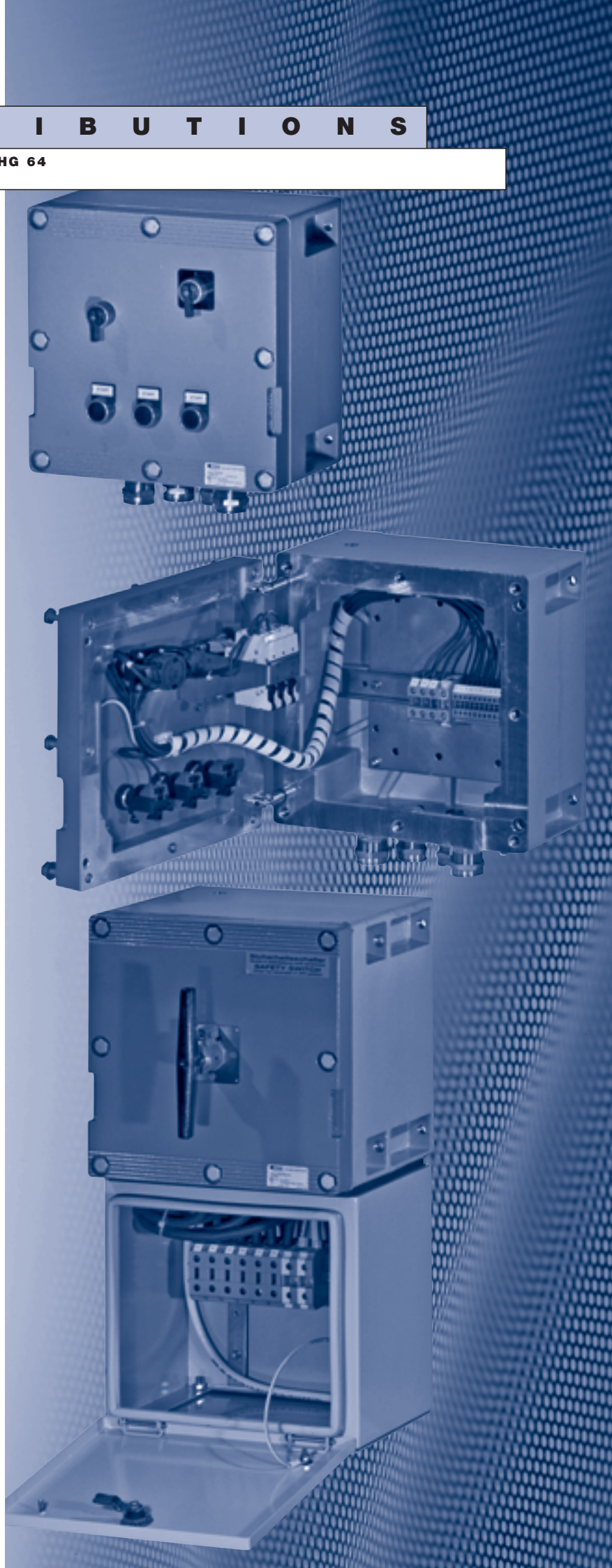
Technical data

Ex-Measuring instrument AM 45/AM 72		
	moving iron	moving coil
Marking to 94/9/EC	⟨Ex⟩ II 2 G Ex e IIC / I M 2 Ex e I	⟨Ex⟩ II 2 G Ex ib IIC / I M 2 Ex ib I
EC-Type Examination Certificate	PTB 99 ATEX 2032 U	
Application temperature	–20 °C to +40 °C –55 °C to +55 °C (option)	
Rated voltage	up to 420 V (AM 45) up to 750 V (AM 72)	
Power consumption	max. 0.31 A	
Overload range	10 fold - 25 sec. 25 fold - 4 sec. 50 fold - 1 sec. indicated 1 : 1.5	10 fold - 5 sec.
Measuring range	max. 0 - 25 A direct / n / 1A	0/4 - 24 mA
Inductance Li		≤ 0.1 mH
Capacitance Ci		≤ 0.1 nF
Winding specification of moving coil		26.5 windings
Internal resistance		2.5 Ω ±30 %
Open circuit voltage max. Ui		30 V
Short circuit current max. Ii		150 mA
Accuracy	Class 2.5	Class 1.5
Circuit	moving iron	moving coil
Connecting terminals	2 x 1.5 - 4 mm²	
Degree of protection accd. EN 60529	IP 65	
Display size	50 x 45 mm (AM 45) 72 x 72 mm (AM 72)	
Weight	0.35 kg	
Type of mounting	DIN rail mounting	
Enclosure material	grey	

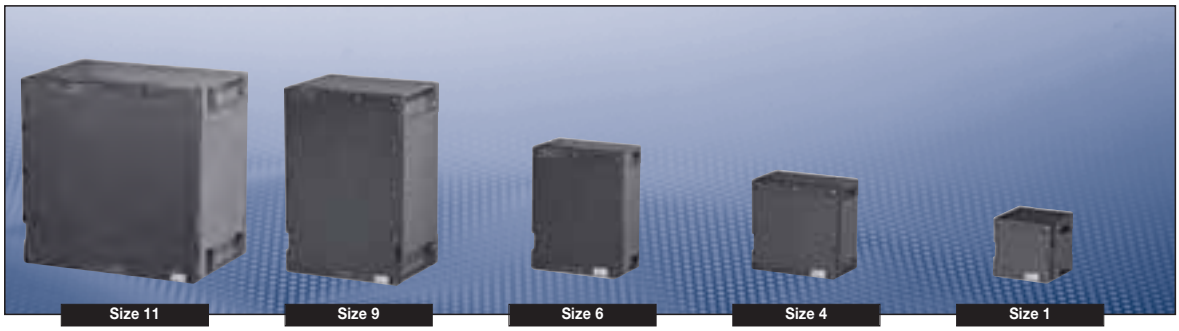
For detailed information see page 9.52 – 9.74.

The New Series of Enclosures GHG 64 for gases in explosion group IIB (IIB + H_2)

Whether offshore applications, the usage in harsh environments of chemical plants or refineries: The new powder coated light metal enclosures of the GHG 64 series provide the highest standard of explosion protection. The flat flame path, the modular design as well as the extended temperature range (from- 55 °C up to +55 °C) are highlights of the GHG 64 series. In addition, the enclosure can be equipped with an high amount of the new Ex-d actuators, due to the compact design of the enclosures. The enclosures design is optimised to merge the contrasts of weight reduction and strength increase. The extra-ordinary rugged hinges are particularly designed to open the cover even if the GHG 64 is mounted directly side by side. Therefore, just unfasten the captive screws and by means of the innovative pull and swing hinges the cover can easily be opened. This simplifies mainte-nance and speeds up both repair work and there placement of built-in components. Furthermore, the individual enclosures can be coupled together using flameproof bushings. With eleven enclosure sizes to choose from, customised solutions for any specific application can be provided.



- **Temperautre range from -55 °C to +55 °C**
- **Ex d II B + H_2**
- **Rated voltage up to 690 V**
- **rated current up to 1150 A**
- **Hinged cover with 110°**
- **openening angle**
- **Designed for easy maintenance**
- **Degree of protection IP65 (IP66 optional)**
- **Broad range of new Ex-d actuators and**
- **built-in components**



Technical data

Ex d light alloy empty enclosure GHG 64	
Marking to 94/9/EC	Ⓔx II 2 G Ex de IIB / IIB + H_2, T5, T6 / Ⓔx II 2 D tD A21 IP66
EC-Type Examination Certificate	PTB 08 ATEX 1042U
Permissible ambient temperature	-20 °C to +40 °C
	-55 °C to +55 °C (option)
Rated voltage	690 V
Rated current	1150 A
Terminal cross-section	up to 240 mm²
Degree of protection acc. to EN 60529	IP65 (IP66 as option)
Weight	see ordering details
Enclousre material	aluminium die-cast housing, powder coated
Enclosure colour	RAL 7032/7022

Ordering details empty enclosures (II B)

Version	Power dissipation ($T_{amb.}$ = 40 °C) T6	T5	Weight	Dimenensions L x W x D	Order No.
Ex d light alloy empty enclosures					
Size 1	94 W	134 W	10.5 kg	210 x 210 x 191 mm	**GHG 640 1901 R0001**
Size 2	112 W	158 W	14 kg	320 x 210 x 191 mm	**GHG 640 1902 R0001**
Size 3	140 W	195 W	17 kg	320 x 210 x 284 mm	**GHG 640 1903 R0001**
Size 4	152 W	214 W	18 kg	320 x 320 x 191 mm	**GHG 640 1904 R0001**
Size 5	197 W	280 W	21 kg	320 x 320 x 284 mm	**GHG 640 1905 R0001**
Size 6	240 W	335 W	22 kg	430 x 320 x 191 mm	**GHG 640 1906 R0001**
Size 7	270 W	390 W	27 kg	430 x 320 x 284 mm	**GHG 640 1907 R0001**
Size 8	270 W	390 W	35 kg	430 x 430 x 284 mm	**GHG 640 1908 R0001**
Size 9	390 W	430 W	53 kg	650 x 430 x 284 mm	**GHG 640 1909 R0001**
Size 10	470 W	640 W	73 kg	650 x 430 x 439 mm	**GHG 640 1910 R0001**
Size 11	470 W	640 W	105 kg	650 x 650 x 442 mm	**GHG 640 1911 R0001**

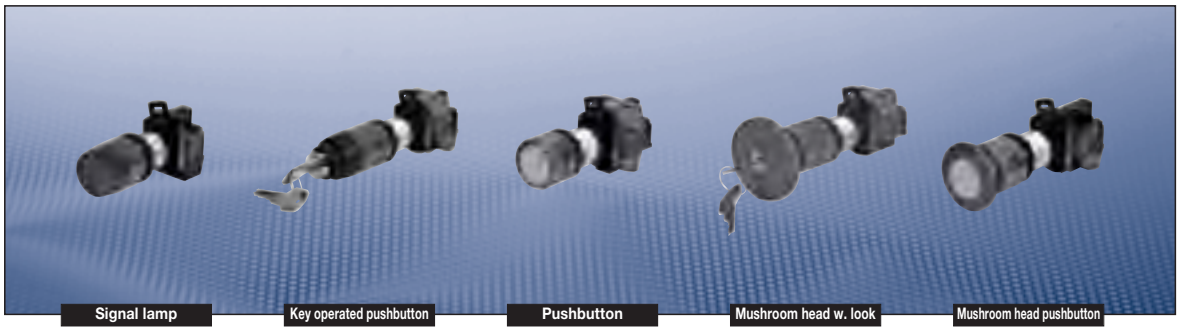
EX-BUILT-IN CONTROL UNITS

Modular Design
– Low Maintenance and Safe –

In addition to the known bus bar and connection boxes, a wide variety of new built-in components, such as switches, indicating devices, actuators and contact blocks, allow a multitude of combinations for customised complex controls. Threaded Ex-d holes in accordance with your specifications are drilled into the enclosure covers in our works. The desired components are simplys crewed into those drillings.
Each part can be easily exchanged due to the modular layout of the actuators and contact blocks: Simply by opening the bayonet coupling between the actuator and the contact block. The contact blocks provide all combinations of N/O and N/C from 1 pole up to 4 poles. Durable LED indicator lamps ensure safe operation on a lasting basis. Actuating elements for various MCBs resp. RCDs and mushroom-head pushbuttons, key-operated switches or photo-cell inserts complete the product range.

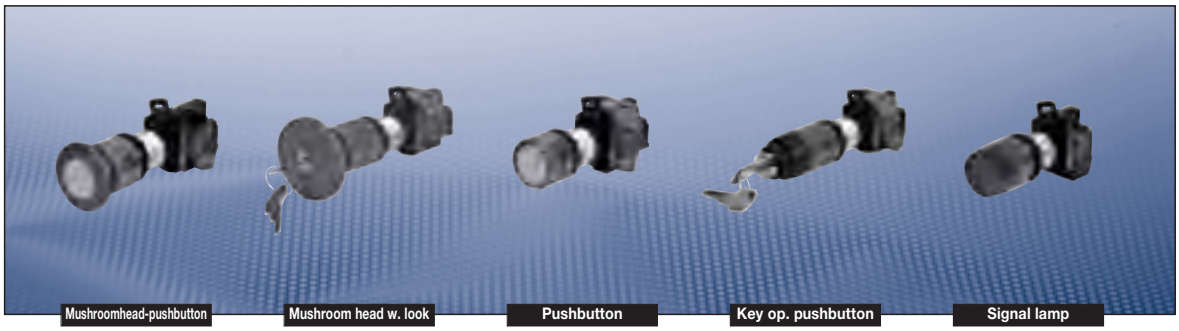


- **Pushbuttons (up to 4 poles with any combination of N/O and N/C)**
- **Pushbuttons with emergency stop function**
- **Key-operated switches / pushbuttons**
- **Indicating lamp in various colours**
- **Padlocking facilities**
- **Type labels**
- **Actuators for circuit breakers**



Technical data

Ex-d built-in control units / signal units / actuators for GHG 64	
Marking to 94/9/EC	Ex II 2 G Ex d II
EC-Type Examination Certificate	PTB 06 ATEX 1009U
Permissible ambient temperature	-20 °C to +40 °C
	-55 °C to +55 °C (option)
Rated voltage switch	690 V
Rated voltage indication lamp	230 V
Rated current (switch)	63 A
Degree of protection acc. to EN 60529	IP65 (IP66 as option)
Ex-d fixing thread	M22 x 1.5



Ordering details

Version	Order No.
Contact block	
1 NO	**GHG 640 9617 P0001**
1 NC	**GHG 640 9617 P0002**
1 NO + 1 NC	**GHG 640 9617 P0003**
2 NO	**GHG 640 9617 P0004**
2 NC	**GHG 640 9617 P0005**
2 NO + 1 NC	**GHG 640 9617 P0006**
1 NO + 2 NC	**GHG 640 9617 P0007**
2 NO + 2 NC	**GHG 640 9617 P0008**
3 NO + 1 NC	**GHG 640 9617 P0009**
1 NO + 3 NC	**GHG 640 9617 P0010**
4 NO	**GHG 640 9617 P0011**
4 NC	**GHG 640 9617 P0012**
Signal lamp unit	
Green	**GHG 640 9614 P0001**
Red	**GHG 640 9614 P0002**
Yellow	**GHG 640 9614 P0003**
Blue	**GHG 640 9614 P0004**
Clear	**GHG 640 9614 P0005**
Mushroom head pushbutton / emergency stop pushbutton	
D 36 mm with lock	**GHG 640 9603 P0001**
D 50 mm with lock	**GHG 640 9603 P0002**
with rotary latch	**GHG 640 9604 P0001**
Emergency stop pushbutton	**GHG 640 9606 P0001**
Pushbutton	
Yellow	**GHG 640 9607 P0001**
Blue	**GHG 640 9607 P0002**
Red	**GHG 640 9607 P0003**
Green	**GHG 640 9607 P0004**
White	**GHG 640 9607 P0005**
Black	**GHG 640 9607 P0006**
Key-operated pushbutton	
with 2 keys	**GHG 640 9608 P0001**
Actuator	
Rotary actuator for MCBs	**GHG 640 9602 P0001**
Rotary actuator for 20 A / 32 - 63 A	**GHG 640 9612 P0001**
Locking device	
Pushbutton pressed	**GHG 640 9614 P0001**
Pushbutton unpressed	**GHG 640 9614 P0001**
MCB actuator	**GHG 640 9614 P0003**

Ex-d(e) control units, control switches, terminal boxes and distribution can be built in accordance with the EC-Type Examination Certificate PTB 08 ATEX 1043X.

EX-D DISTRIBUTIONS

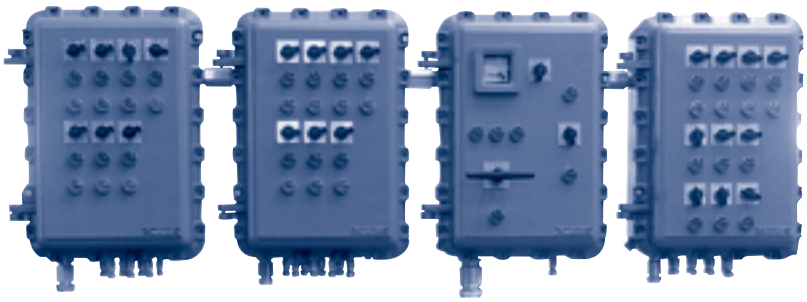
with metal EJ enclosures for gases in explosion group IIB

Apparatus which gives off arcs or sparks can be integrated in distributions at low cost using flameproof enclosures. Built-in electrical components can be actuated by means of control units mounted from the outside on the covers.

The extensive product line for use in explosion group IIB for the hazardous areas of Zones 1 and 2 fulfils the requirements of ATEX directive 94/9/EC. Due to the most diverse demands, individualised distribution systems can be put together. Enclosures are connected via flame-proof cable entries. The design and equipment of the distributions depends on customers' requirements.



- **Modular design**
- **Rated current up to 1200 A**
- **Suited for tropical and maritime climates through powder coating**
- **Apparatus can be operated from the outside**
- **Direct cable entries**



The distributions and built-in components are combined to customers' specifications for wall-mounting or free-standing frameworks, depending on the installation site.

Free-standing frameworks are designed according to the distributions or special apparatus required and fitted with standardised U-rails. For outdoor installations, we recommend a canopy to protect the distribution from the sun and rain.

The frameworks all feature a grey epoxyresin finish identical with that of the EJ enclosures. Hot-dip galvanised steel frameworks are available on request.
The modular design makes it possible to put together distributions and built-in components using standardised enclosure sizes.

The enclosures are interconnected with cable bushings and/or bus bars and are especially designed to facilitate bus-bar allocation when putting distributions together.

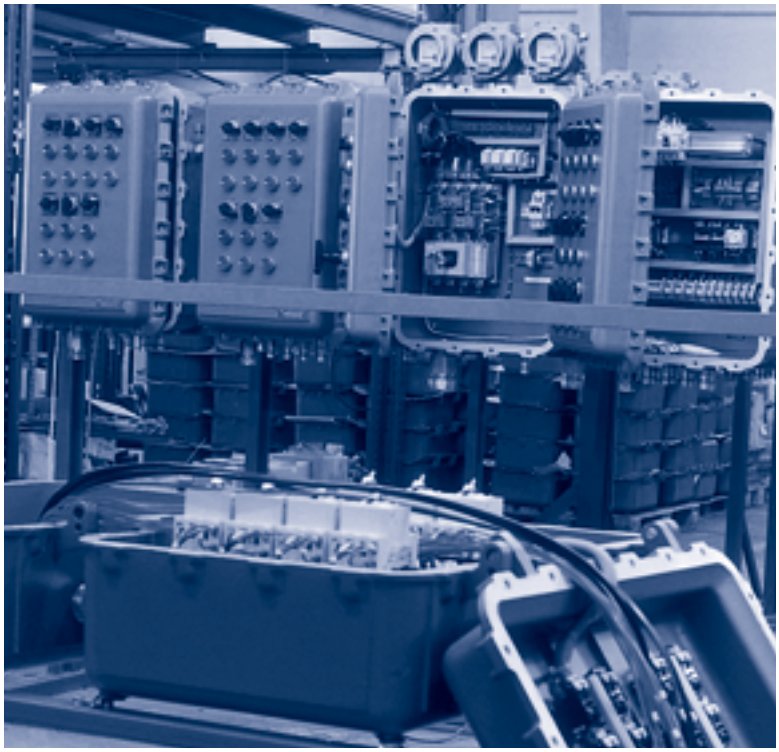
Electrical components built into the enclosures can be actuated from the outside via control units mounted on the front panels.

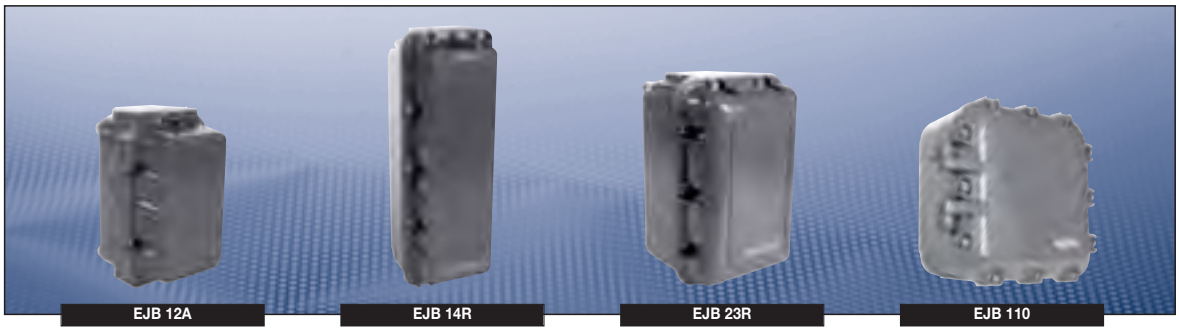
Ex-d cable entries must be used where required.

EJB enclosures are made of copper-free aluminium (<0.1%) and EJW enclosures of welded steel. All enclosures are coated with a grey epoxy resin.

Covers and enclosures are mounted on a flameproof flange plate and screwed down with stainless steel screws.

Enclosures of the types EJB 12R to EJB 23R are fitted with hinges for easy opening and closing.

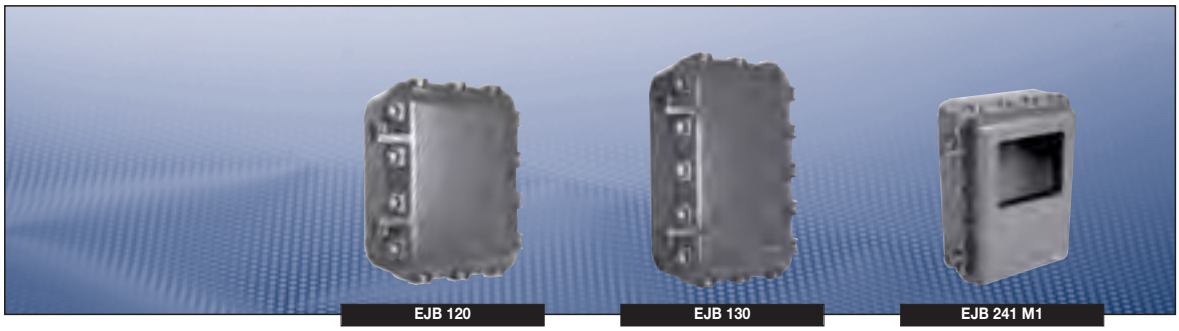




Technical data

Ex EJB Enclosures light alloy/sheet steel	
Marking to 94/9/EC	Ex II 2 G Ex de IIB
EC Type Examination Certificate	LOM 02 ATEX 3060 U
Application temperature[1)]	–20 °C to +40 °C
Rated voltage	690 V
Rated current	1200 A
Insulation class	I
Degree of protection acc. to EN 60529	IP65
Weight	see ordering details
Enclosure material	EJB in aluminium
	EJB 241 M1 and M2 cast iron
	EJW welded steel
	Front panels cast iron
Enclosure colour	epoxy-resin finish, grey

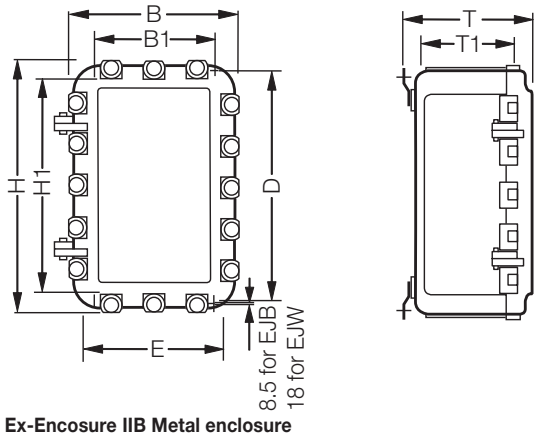
[1)] Depend on installation



Ordering details

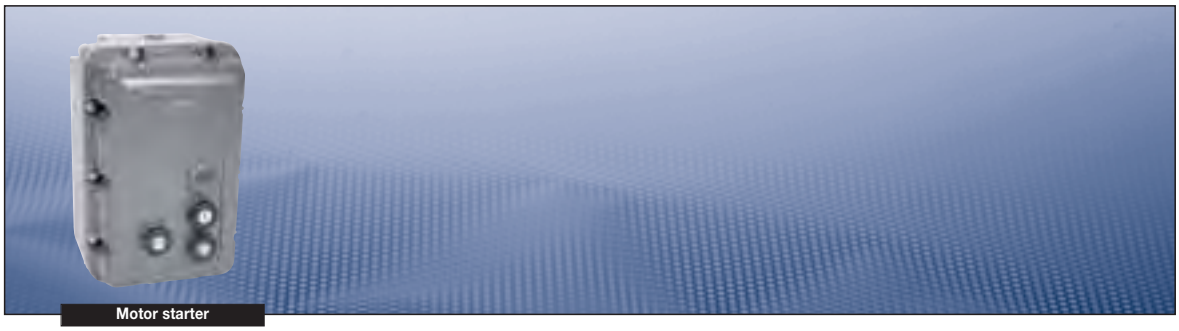
Version	Power dissipation in W			Rated current in A	Weight kg	Fixing dimensions mm		Enclosure size mm			Intern. space mm			Order No.
	T6	T5	T4			D	E	H	B	T	H1	B1	T1	
EJB 12 R	30	60	100	40	3.0	242	166	215	131	102	178	89	57	**NOR 000 001 170 438**
EJB 12 A	30	60	100	40	3.6	242	166	215	131	162	178	89	110	**NOR 000 001 170 446**
EJB 14 R	80	140	240	65	8.3	436	178	412	150	143	358	103	85	**NOR 000 001 170 462**
EJB 23 R	60	140	240	100	11.0	354	240	336	217	212	276	163	152	**NOR 000 001 170 488**
EJB 110	125	170	295	160	22.0	310	310	373	373	230	305	305	162	**NOR 000 001 170 496**
EJB 120	150	270	480	300	28.5	414	310	474	373	230	405	305	162	**NOR 000 001 170 503**
EJB 120 M3	150	270	480	300	28.5	414	310	474	373	230	405	305	162	**NOR 000 111 170 601**
EJB 120 M4	150	270	480	300	28.5	414	310	474	373	230	405	305	162	**NOR 000 111 170 606**
EJB 121	150	280	500	350	32.0	414	310	474	373	295	405	305	235	**NOR 000 001 170 511**
EJB 130	200	340	590	450	35.3	520	310	577	373	230	518	305	162	**NOR 000 001 170 529**
EJB 131	200	350	610	500	39.0	520	310	577	373	295	518	305	235	**NOR 000 001 170 537**
EJB 240	250	400	700	800	52.3	624	414	680	474	230	619	405	162	**NOR 000 001 170 545**
EJB 241	250	400	700	850	56.8	624	414	680	474	295	619	405	235	**NOR 000 001 170 553**
EJB 241 M1	250	400	700	850	54.0	624	414	680	474	295	619	405	235	**NOR 000 111 170 469**
EJB 241 M2	250	400	700	850	51.0	624	414	680	474	295	619	405	235	**NOR 000 111 170 451**
EJW 250	250	340	560	1200	145.0	852	387	890	425	280	810	345	199	**NOR 000 001 190 139**
EJW 251	380	520	850	1200	167.0	852	387	890	425	440	810	345	320	**NOR 000 001 190 197**
EJW 350	380	520	850	1200	168.0	852	502	890	540	322	810	460	250	**NOR 000 001 190 171**
EJW 351	450	600	1000	1200	175.0	852	502	890	540	446	810	460	375	**NOR 000 001 190 062**
EJW 561	600	730	1000	1200	380.0	1242	687	1280	765	386	1200	685	325	**NOR 000 001 190 064**

Dimension drawing



Ex-Encosure IIB Metal enclosure

Dimensions in mm



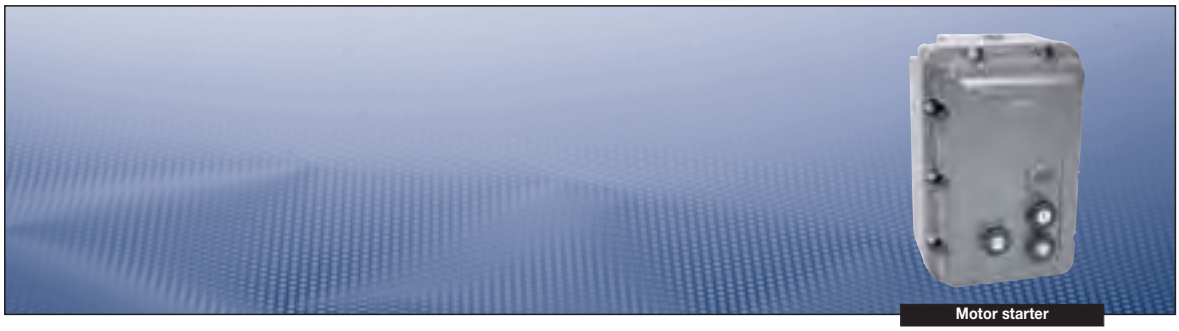
Motor starter

Technical data

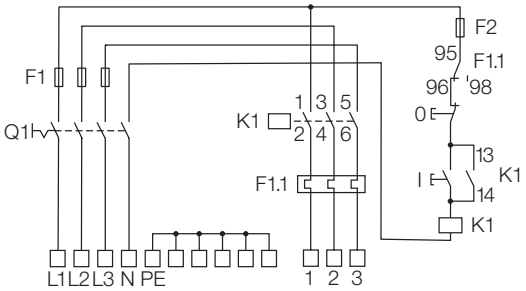
Ex EJB Light-alloy motor starter	
Marking to 94/9/EC	Ⓔx II 2 G Ex d IIB T6
EC Type Examination Certificate	LOM 03 ATEX 2004 X
Permissible ambient temperature	–20 °C to +40 °C
Rated voltage	690 V
Rated current	63 A
Insulation class	I
Terminal cross-section	up to max. 240 mm^2
Degree of protection acc. to EN 60529	IP65
Dimensions (L x W x H)	see dimension drawing
Weight	see ordering details
Enclosure material	EJB in aluminium Front panels cast iron
Enclosure colour	epoxy-resin finish, grey

Ordering details

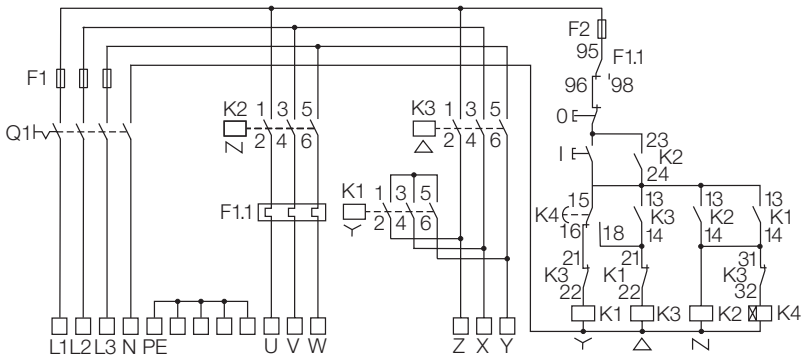
Motor capacity	Main switch	Cable gland	Weight	Version	Order No.
Type: Direct circuit					
4.0 kW	25 A	2 x M 25 Ex-d	4.0 kg	1	**EXKO 732 101 M**
4.0 kW	25 A	2 x M 25 Ex-d	12.0 kg	2	**EXKO 732 102 M**
5.5 kW	40 A	2 x M 25 Ex-d	12.0 kg	2	**EXKO 732 103 M**
8.0 kW	40 A	2 x M 25 Ex-d	16.8 kg	3	**EXKO 732 104 M**
12.5 kW	63 A	2 x M 32 Ex-d	17.2 kg	3	**EXKO 732 105 M**
15.0 kW	63 A	2 x M 32 Ex-d	18.8 kg	3	**EXKO 732 106 M**
Type: Star-delta starter					
12.5 kW	40 A	2 x M 25 Ex-d	17.2 kg	2	**EXKO 732 113 M**
18.5 kW	40 A	2 x M 32 Ex-d	19.7 kg	2	**EXKO 732 114 M**
25.0 kW	40 A	2 x M 32 Ex-d	25.3 kg	3	**EXKO 732 115 M**
Type: Reversing circuit					
4.0 kW	25 A	2 x M 25 Ex-d	4.0 kg	1	**EXKO 732 107 M**
4.0 kW	25 A	2 x M 25 Ex-d	12.0 kg	2	**EXKO 732 108 M**
5.5 kW	40 A	2 x M 25 Ex-d	12.0 kg	2	**EXKO 732 109 M**
8.0 kW	40 A	2 x M 25 Ex-d	16.8 kg	3	**EXKO 732 110 M**
12.5 kW	63 A	2 x M 32 Ex-d	17.2 kg	3	**EXKO 732 111 M**
15.0 kW	63 A	2 x M 32 Ex-d	18.8 kg	3	**EXKO 732 112 M**


Motor starter

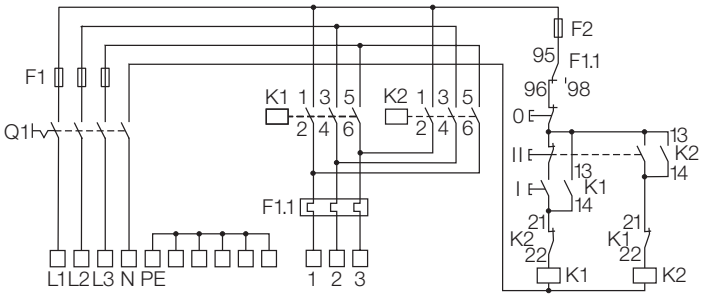
Wiring diagram | Dimension drawing



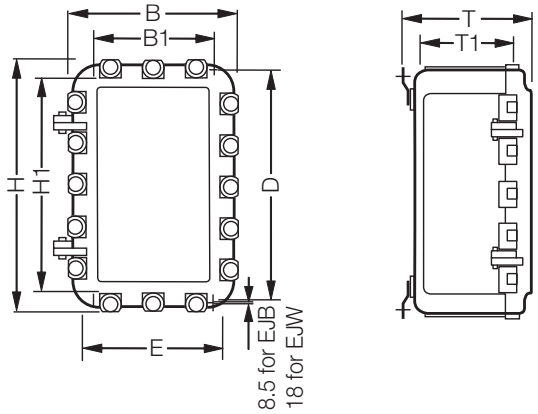
Direct on-line starter



Star-delta starter

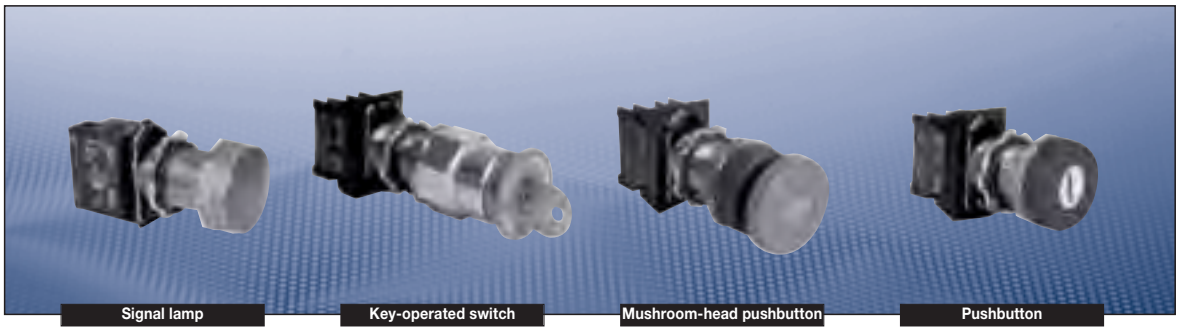


Reversing circuit



Version	Fixing dimensions mm		Enclosure size mm			Internal space mm		
	D	E	H	B	T	H1	B1	T1
1	242	166	215	131	102	178	89	57
2	436	178	412	150	143	358	103	85
3	354	240	336	217	212	276	163	152

Dimensions in mm

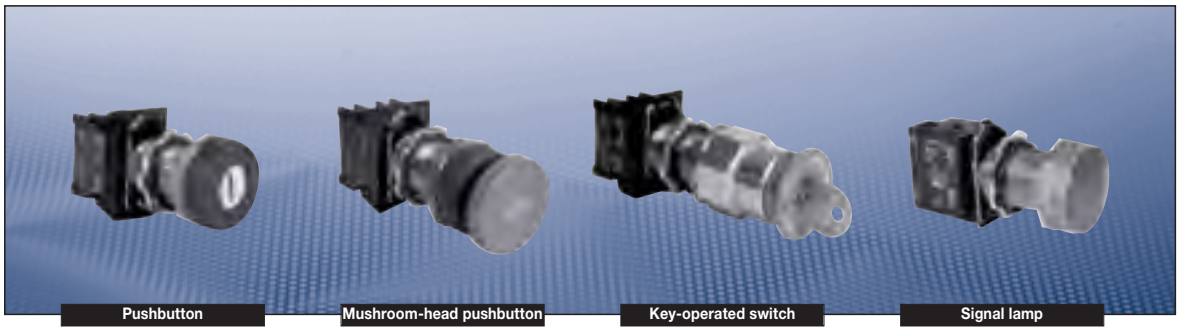


Technical data

Signal lamp	
Marking to 94/9/EC	Ex II 2 G Ex d IIB
EC Type Examination Certificate	LOM 02 ATEX 3060 U
Application temperature[1)]	–20 °C to +40 °C
Rated voltage	500 V
Rated power	3 W
Terminal cross-section	2 x 2.5 mm²
Degree of protection acc. to EN 60529	IP65
Weight	see ordering details
Enclosure material	body material aluminium
	window material white, yellow, red or green polycarbonate
Lamp cap	Ba 9 s

Pushbutton | Mushroom-head pushbutton | Key-operated switch | Contact block	
Marking to 94/9/EC	Ex II 2 G Ex d IIB
EC Type Examination Certificate	LOM 02 ATEX 3060 U
Application temperature[1)]	–20 °C to +40 °C
Rated voltage	500 V
Rated current	10 A
Terminal cross-section	2 x 2.5 mm²
Degree of protection acc. to EN 60529	IP65
Weight	see ordering details
Enclosure material	Aluminium

[1)] Depend on installation



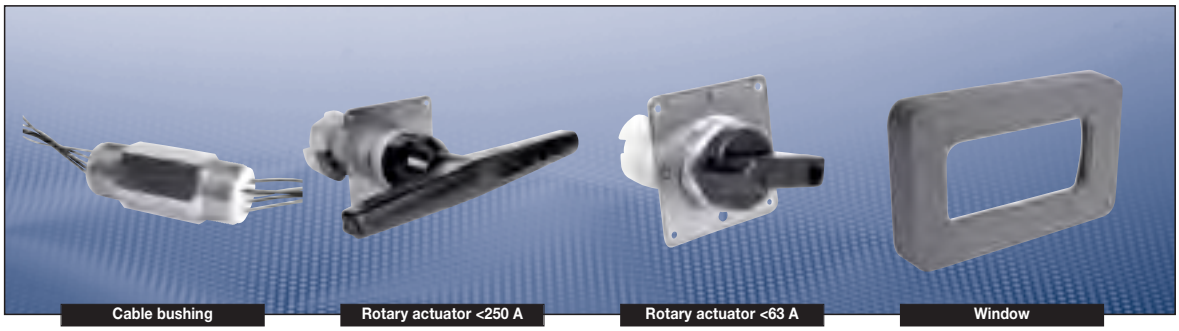
Ordering details

Version	Colour	Order No.
Signal lamps		
Incandescent lamp 240 V, 3 W	white, yellow, red, yellow-green	**NOR 000 001 170 016**
Incandescent lamp 130 V, 2.6 W	white, yellow, red, yellow-green	**NOR 000 001 170 017**
Incandescent lamp 24 V, 1.2 W	white, yellow, red, yellow-green	**NOR 000 001 170 018**
Transformer incandescent lamp 380-400/6V, 1.2 W	white, yellow, red, yellow-green	**NOR 000 001 170 019**
LED 230 V	white, yellow, red, yellow-green	**NOR 000 001 170 116**
LED 130 V	white, yellow, red, yellow-green	**NOR 000 001 170 117**
LED 24 V	white, yellow, red, yellow-green	**NOR 000 001 170 118**

Version	Colour	Marking	Order No.
Pushbutton and mushroom-head pushbutton with contact block 1NC + 1NO			
Pushbutton	white	I 0 STOP START	**NOR 000 001 170 004**
Pushbutton lockable in pushed position with padlock	white	0 STOP OFF	**NOR 000 001 170 005**
Pushbutton lockable in un-pushed position with padlock	white	I 0 STOP START	**NOR 000 001 170 006**
Mushroom-head pushbutton	red, yellow	0 STOP OFF	**NOR 000 001 170 007**
Mushroom-head pushbutton lockable in un-pushed position with padlock	red, yellow	0 STOP OFF	**NOR 000 001 170 008**
Mushroom-head pushbutton lockable in un-pushed position with padlock	red, yellow	0 STOP OFF	**NOR 000 001 170 009**
Key-operated switch			**NOR 000 001 170 010**
Mushroom-head pushbutton with key release			**NOR 000 001 170 011**
Pushbutton		RESET	**NOR 000 001 170 012**

Version	Colour	Marking	Order No.
Contact block (without pushbutton)			
1 NC			**NOR 000 001 170 013**
1 NO			**NOR 000 001 170 014**
Pushbutton label	green, red, yellow, black	II Arrow ON RESET TEST	**NOR 000 001 170 015**

Key operated switch	
0-1, 2 P 12 A	**NOR 000 001 170 020**
0-1, 2 P 25 A	**NOR 000 001 170 021**
0-1, 3 P 25 A	**NOR 000 001 170 022**
1-2, 1 P 12 A	**NOR 000 001 170 023**
1-2, 2 P 12 A	**NOR 000 001 170 024**
1-0-2, 1 P 12 A	**NOR 000 001 170 025**



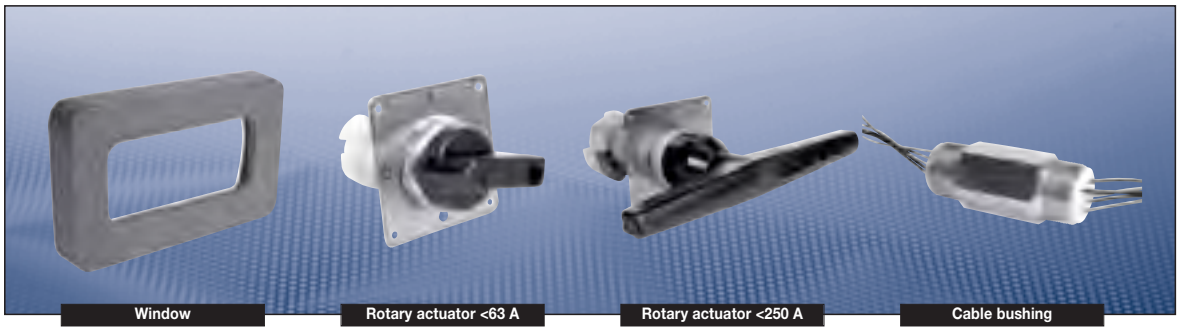
Technical data

Window		
Marking to 94/9/EC		Ⓔx II 2 G Ex d IIB
EC Type Examination Certificate		LOM 02 ATEX 3060 U
Application temperature[1)]		–20 °C to +40 °C
Degree of protection acc. to EN 60529		IP65
Dimensions (L x W x H)		60 x 60 mm
		75 x 75 mm
		110 x 50 mm
		110 x 75 mm
Enclosure material	frame material	aluminium
	window material	borosilicate glass
Enclosure colour		grey epoxy resin finish

Rotary actuator	
Marking to 94/9/EC	Ⓔx II 2 G Ex d IIB
EC Type Examination Certificate	LOM 02 ATEX 3060 U
Application temperature[1)]	–20 °C to +40 °C
Rated voltage	500 V
Rated current	25 A
	63 A
	250 A
	500 A
Degree of protection acc. to EN 60529	IP65
Enclosure material	aluminium
Enclosure colour	stainless-steel finish
Options	Locking facility for units up to 40 A
	on front panel, for units > 40 A on enclosure panel

Cable bushing	
Marking to 94/9/EC	Ⓔx II 2 G Ex d IIB
EC Type Examination Certificate	LOM 02 ATEX 3060 U
Application temperature[1)]	–20 °C to +40 °C
Rated voltage	690 V
Rated current	50 A
	75 A
	150 A
Line cross section	4 x 10 mm^2 + 1 x 6 mm^2 up to 9 x 1.5 mm^2 + as required (50 A)
	4 x 16 mm^2 + 1 x 10 mm^2 up to 9 x 1.5 mm^2 + as required (75 A)
	4 x 50 mm^2 + 1 x 10 mm^2 up to 47 x 1.5 mm^2 + as required (150 A)
Degree of protection acc. to EN 60529	IP65
Material	bichromatised hexagonal steel
Cable sealing	high-thermal and chemical-resistant compound

[1)] Depend on installation

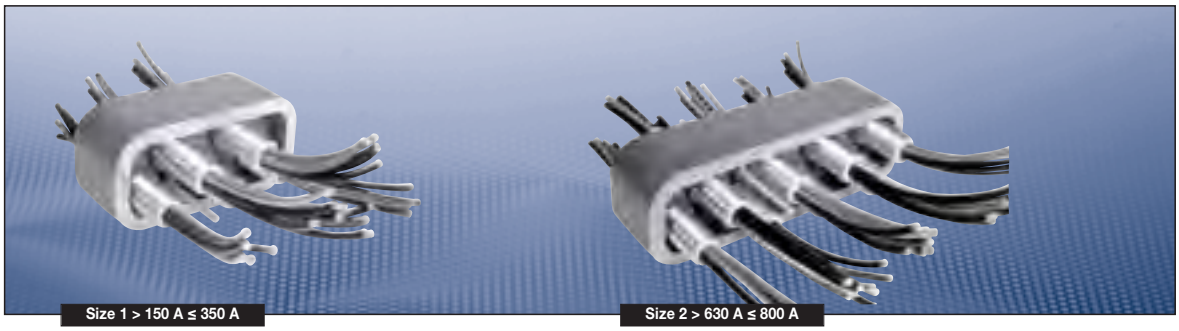


Ordering details

Version	Order No.
Rotary switch	
Rotary switch, 1-0-2, 2 P, 12 A	**NOR 000 001 170 026**
Rotary switch, 0-1, 2 P, 12 A	**NOR 000 001 170 027**
Rotary switch, 0-1-M, 2 P, 12 A	**NOR 000 001 170 028**
Rotary actuator for main switch	
Main switch, 25 A to < 63 A	**NOR 000 001 170 029**
Main switch, 63 A to < 100 A	**NOR 000 001 170 030**
Main switch, 100 A to < 250 A	**NOR 000 001 170 031**
Main switch, 250 A to < 1000 A	**NOR 000 001 170 032**
Plain labels for switch	
Plain labels for switch, 60 x 60	**NOR 000 001 170 033**
Plain labels for switch, 70 x 70	**NOR 000 001 170 034**
Plain labels for switch, 85 x 85	**NOR 000 001 170 035**
Rotary actuator for MCBs	
Rotary control switch for MCBs 1 pole ABB	**NOR 000 001 170 933**
Rotary control switch for MCBs Multipole ABB	**NOR 000 001 170 925**
Rotary control switch for MCBs 1 pole M&G	**NOR 000 001 170 600**
Rotary control switch for MCBs Multipole M&G	**NOR 000 001 170 569**
Rotary control switch for MCBs POWER	**NOR 000 001 170 565**

Cable bushing	Thread	Version	
50 A 4 x 10 mm² + 1 x 6 mm²	3/4" NPT	3P+N+PE	**NOR 000 001 170 892**
75 A 4 x 16 mm² + 1 x 10 mm²	1" NPT	3P+N+PE	**NOR 000 001 170 909**
150 A 4 x 50 mm² + 1 x 10 mm²	1 1/2" NPT	3P+N+PE	**NOR 000 001 170 917**

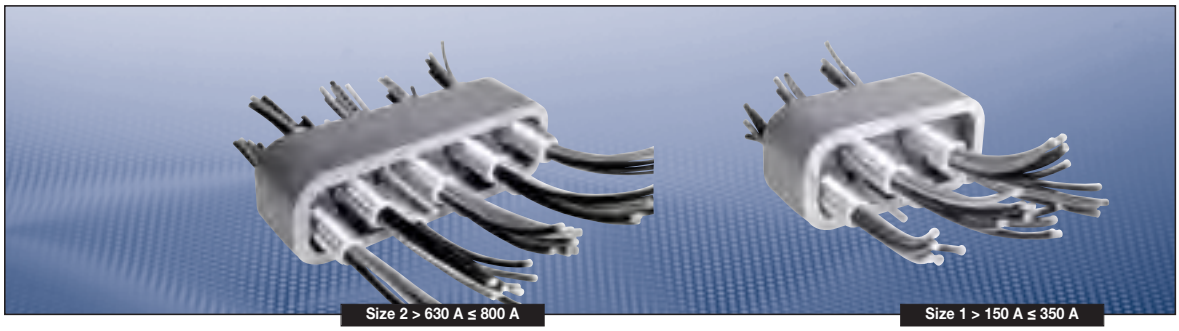
Window	
60 x 60 mm, Type M 6060	**NOR 000 001 170 000**
75 x 75 mm, Type M 7575	**NOR 000 001 170 001**
110 x 50 mm, Type M 11050	**NOR 000 001 170 002**
110 x 75 mm, Type M 11075	**NOR 000 001 170 003**
Blanking plug	
Blanking plug	**NOR 000 001 170 154**



Technical data

Bus bar for interconnection of enclosures	
Marking to 94/9/EC	Ex II 2 G Ex d IIB
EC Type Examination Certificate	LOM 02 ATEX 3060 U
Application temperature[1)]	–20 °C to +40 °C
Rated voltage	690 V AC
Rated current	150 A
	350 A
	500 A
	800 A
Wire cross-section	
Size 1 to 150 A 3P+N+PE	4 x 10 mm^2 + 1 x 6 mm^2, to 9 x 1.5 mm^2 + depends on use
Size 1 to 350 A 3P+N+PE	Aluminium coupler 208 x 102 mm, comprising 4 bars, (3P+N) 350 A, 1 auxiliary bushing max. 19 x 1.5 mm^2, 1 PE-Rail
Size 1 to 500 A	Aluminium coupler 208 x 102 mm, comprising 4 bars, (3P+N) 500 A, 1 auxiliary bushing max. 19 x 1.5 mm^2, 1 PE-Rail
Size 2 to 800 A	Aluminium coupler 310 x 102 mm, comprising 7 bars, (3P+N) 800 A, 1 auxiliary bushing max. 19 x 1.5 mm^2, 1 PE-Rail
Degree of protection acc. to EN 60529	IP65
Dimensions (L x W x H)	60 x 60 mm
	75 x 75 mm
	110 x 50 mm
	110 x 75 mm
Enclosure material	Duroplastic
Cable sealing	high-thermal and chemical-resistant compound

[1)] Depend on installation



Ordering details

Version	Enclosure size	Order No.
Bus bars for interconnection of enclosures		
Aluminium coupler 208 x 102 mm, comprising 4 bars, (3P+N+PE) ≤350 A, 1 auxiliary bushing max. 19 x 1.5 mm², 1 PE-Rail	1	**NOR 000 001 170 036**
Aluminium coupler 208 x 102 mm, comprising 4 bars, (3P+N+PE) >350 A ≤ 500 A, 1 auxiliary bushing max. 19 x 1.5 mm², 1 PE-Rail	1	**NOR 000 001 170 037**
Aluminium coupler 310 x 102 mm, comprising 4 bars, (3P+N+PE) >500 A ≤ 630 A, 1 auxiliary bushing max. 19 x 1.5 mm², 1 PE-Rail	2	**NOR 000 001 170 038**
Aluminium coupler 310 x 102 mm, comprising 3 x 2 + 1 bars, (3P+N+PE) >630 A ≤ 800 A, 1 auxiliary bushing max. 19 x 1.5 mm², 1 PE-Rail	2	**NOR 000 001 170 039**

EX-D ENCLOSURES AND DISTRIBUTIONS

made of metal
for gases of explosion group IIC

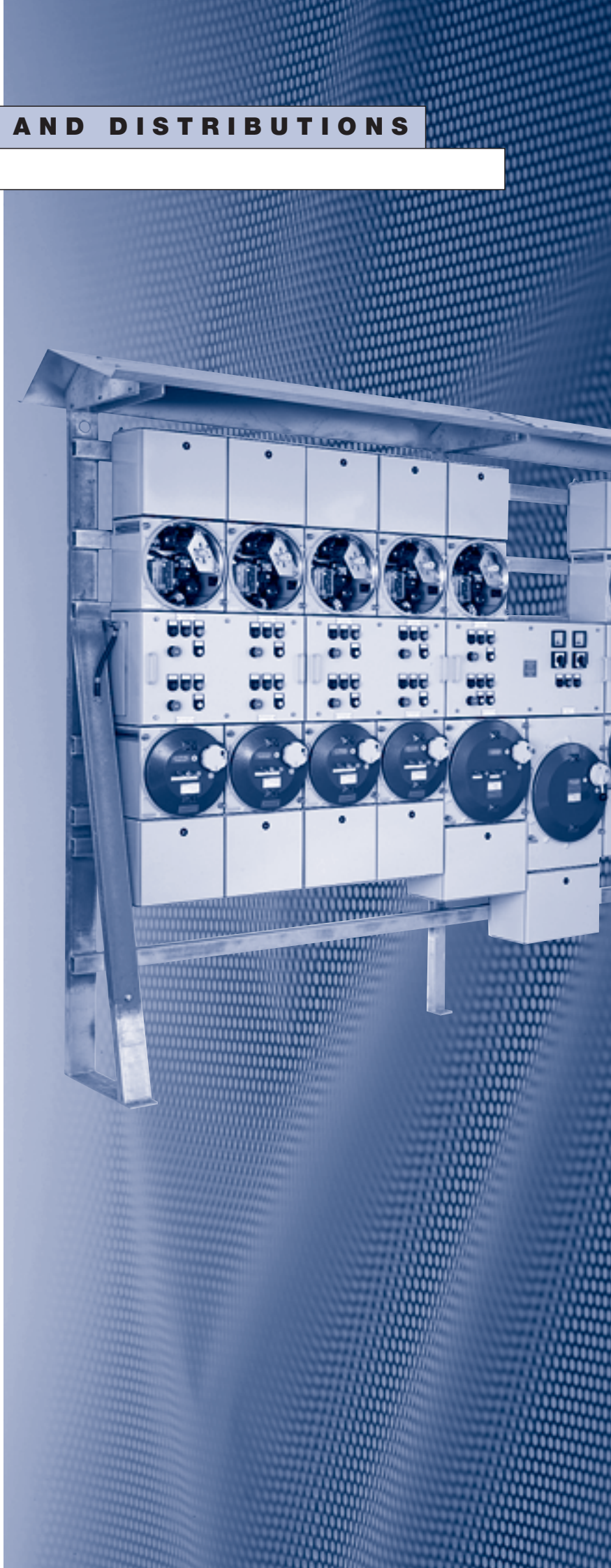
To use MCBs, fuses, contactors etc. which give off arcs in potentially hazardous areas, they must be integrated in Ex-d distributions.

For just this purpose, the Cooper Crouse-Hinds GmbH offers a distribution system comprising flameproof aluminium enclosures and Ex-e steel terminal boxes with a polyester powder coating suited for tropical and marine climates. Seven enclosure sizes can be combined into large distributions allowing integration of built-in components up to 630 A and 690 V.

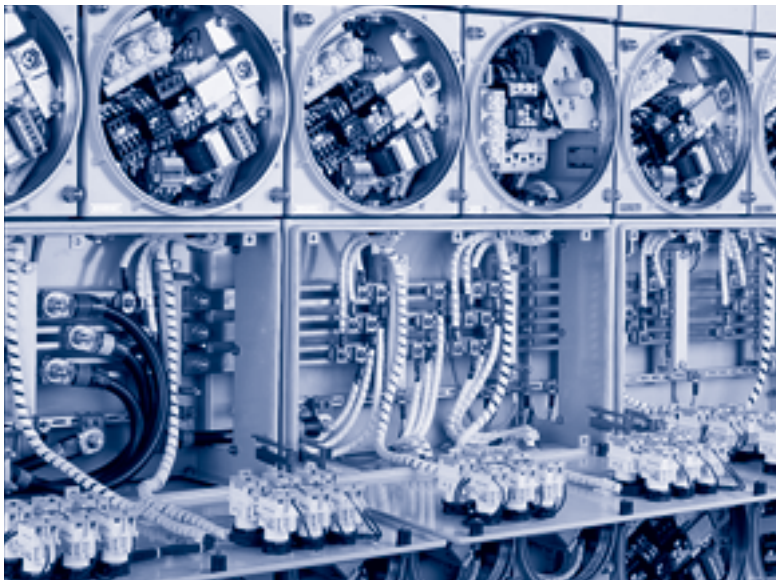
To simplify the integration of large installations, bus-bar systems for up to 630 A are used.

Customer-specified distributions are planned individually, taking explosion-protection requirements into account.

Explosion-protected signal lamps, indicating and control components are built into connection and bus-bar boxes, as required. Alternatively, these boxes can be supplied as separate terminal and control boxes. CEAG explosion-protected metal distributions fulfil all the requirements specified by the chemical, petrochemical and offshore industries.



- **Modular design**
- **Rated current up to 630 A**
- **Generously dimensioned terminal compartment**
- **Suited for tropical and maritime climates through powder coating**
- **Cable entries via removable flanges**
- **Main switch can be actuated from outside**
- **Metal parts without finish are corrosion resistant**
- **Explosion group IIC**



The modular design provides an economical and clearly arranged method of putting together distributions on the unit construction system using connection and bus bar boxes in the type of protection "Increased Safety". The individual flameproof distribution enclosures are joined together via the flange openings of the Ex-e connection boxes and the bus bar boxes. It is also possible to put together completely flameproof distributions by using flameproof cable glands.

The flameproof enclosures are also available as empty enclosures with and without Ex-e connection boxes as well as with and without main switches for equipping by the customer. In this case, please note that national standards require a special inspection by an authorized expert. Also single or multi-wire bushings with connectors can be mounted on the distributions, if required. Alternatively, these leads can be connected to a terminal rail.

Any conventional industrial switchgear that gives off arcs or sparks during operation can be built into these flameproof enclosures. The power dissipation must not exceed the values stated in the PTB certificate.

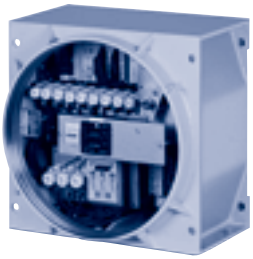
The various circuits can be connected quickly and economically via a bus-bar system.

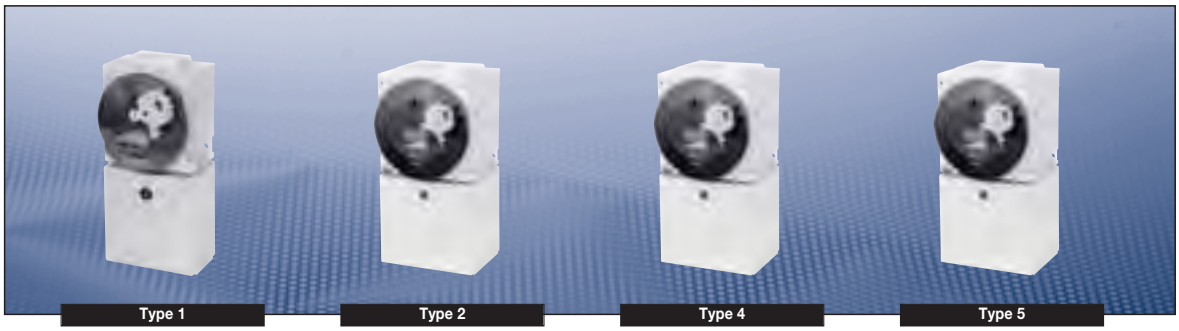


If required, individually encapsulated control and indicating units, such as pushbuttons, control switches or Ex-e measuring instruments as well as Ex-i digital indicating instruments can be built into the Ex-e connection or bus-bar boxes.



The enclosures can be combined into large distribution system on standardised wall mounting or free-standing frameworks. The frameworks come in standardized sizes to accommodate the enclosure modules and can be extended as required. For outdoor installations, we recommend canopies to protect the distribution system from the sun and rain. Smaller distributions are mounted on flat or U-rails. All enclosures are made of hot-dip galvanised steel.





Technical data

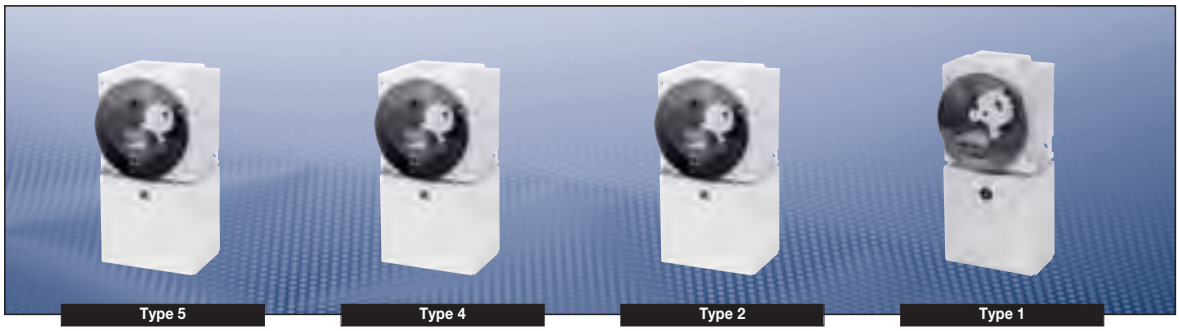
Ex d Light alloy enclosure for motor starter	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib [ia/ib] II C T4
	Ⓔx II 2 D IP66 T80 °C ... T130 °C[1)]
EC Type Examination Certificate	PTB 99 ATEX 1057
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (Option)
Rated voltage	690 V
Rated current	630 A
Insulation class	I
Terminal cross-section	up to 240 mm²
Degree of protection acc. to EN 60529	IP54 (IP66 on request)
Weight	see ordering details
Enclosure material	aluminium die-cast housing
Enclosure colour	pebbles grey, cover dark grey

[1)] Dust certification only in combination with IP66

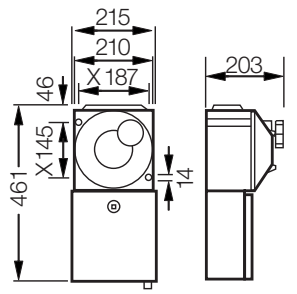
Ordering details

Version Motor capacity to AC 3	Type	Main switch	Cable glands	Weight approx.	Degree of protection EN 60529	Order No.
Direct circuit						
11 kW	1	25 A	3 x M25	14.5 kg	IP54	**EXKO 71 5000 F 0000**
15 kW	2	25 A	2 x M32 / 1 x M25	24.5 kg	IP54	**EXKO 71 5000 H 0000**
22 kW	4	40 A	2 x M40 / 1 x M25	37.5 kg	IP54	**EXKO 71 5000 K 0000**
Reversing circuit						
11 kW	1	25 A	3 x M25	14.5 kg	IP54	**EXKO 71 5100 F 0000**
15 kW	2	25 A	2 x M32 / 1 x M25	24.5 kg	IP54	**EXKO 71 5100 H 0000**
22 kW	4	40 A	2 x M40 / 1 x M25	39.5 kg	IP54	**EXKO 71 5100 K 0000**
Star-delta starter						
7.5 KW	2	40 A	4 x M25	25 kg	IP54	**EXKO 71 5200 B 0000**
12.5 KW	2	40 A	4 x M25	25 kg	IP54	**EXKO 71 5200 D 0000**
18.5 KW	4	40 A	3 x M32 / 1 x M25	37 kg	IP54	**EXKO 71 5200 F 0000**
30.0 KW	4	63 A	3 x M32 / 1 x M25	39 kg	IP54	**EXKO 71 5200 H 0000**
37.0 KW	5	100 A	1 x M40 / 2 x M32			
			1 x M25	64 kg	IP54	**EXKO 71 5200 K 0000**
55.0 KW	5	100 A	1 x M40 / 2 x M32			
			1 x M25	64 kg	IP54	**EXKO 71 5200 M 0000**

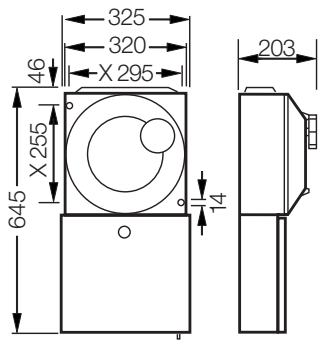
The motor starter is ready pre-wired for customised use with terminals.
Further switching capacities up to 630 A on request.
Please state motor operating voltage and rated current in your order.



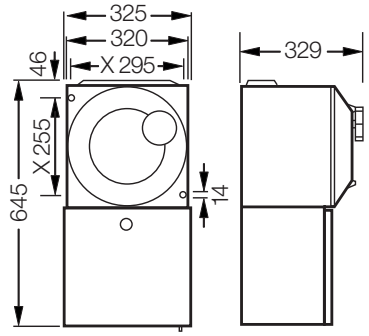
Dimension drawing | Wiring diagram



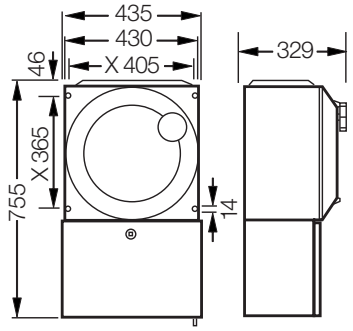
Type 1



Type 2

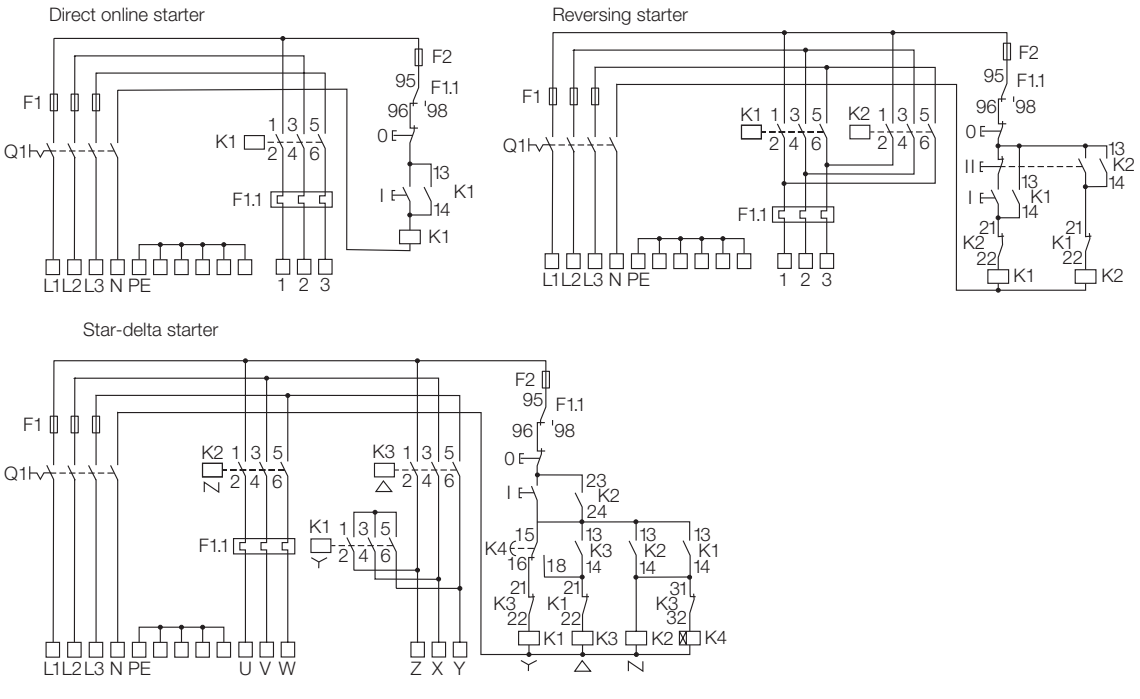


Type 4

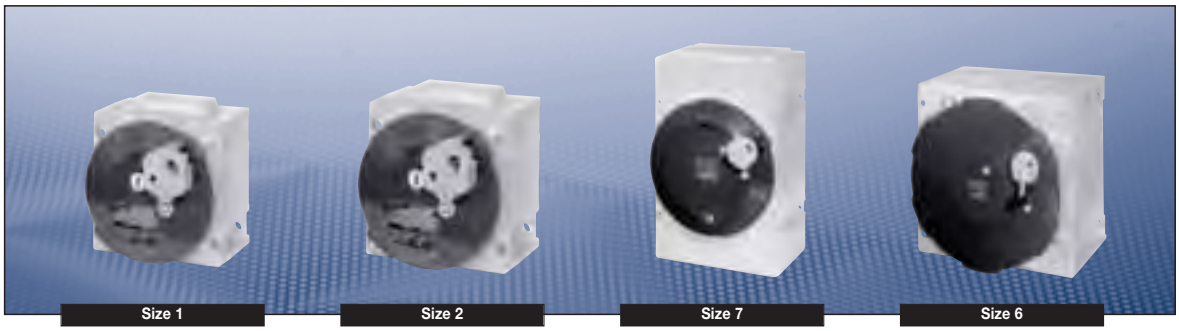


Type 5

X = fixing dimensions



Dimensions in mm

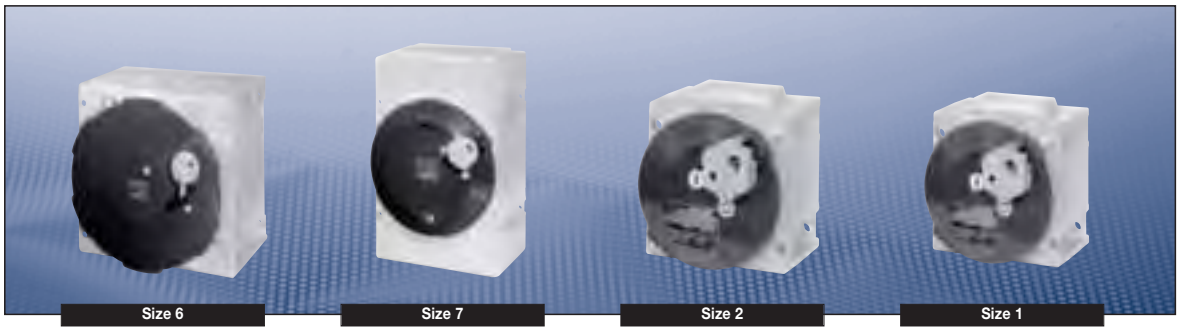


Technical data

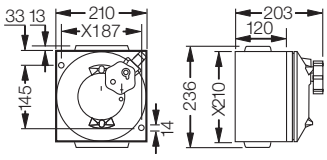
Ex d Light alloy empty enclosures	
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib [ia/ib] II Ⓔx II 2 D Ex tD A21 IP66
EC Type Examination Certificate	PTB 98 ATEX 1054 U
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (option)
Rated voltage	690 V
Rated current	630 A
Terminal cross-section	up to 240 mm^2
Degree of protection acc. to EN 60529	IP54 (IP66 on request)
Weight	see ordering details
Enclosure material	aluminium die-cast housing
Enclosure colour	coating suited for tropical and marine climates finish polyester coating in RAL 7032/7022

Ordering details

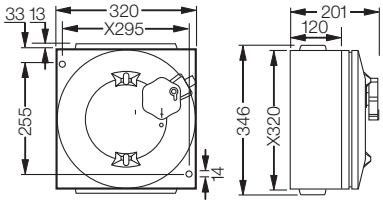
Version	Power dissipation T6	T5	Rated current	Weight	Order No.
Ex d light alloy empty enclosures					
Size 1	80 W	120 W	125 A	8 kg	**on request**
Size 2	150 W	210 W	260 A	16 kg	**on request**
Size 4	210 W	280 W	400 A	23 kg	**on request**
Size 5	300 W	420 W	400 A	40 kg	**on request**
Size 7	300 W	420 W	400 A	55 kg	**on request**
Size 6	700 W	975 W	630 A	195 kg	**on request**



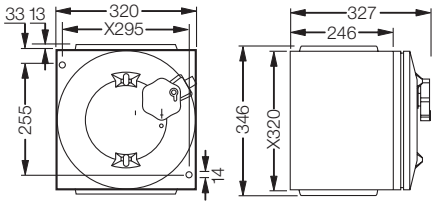
Dimension drawing



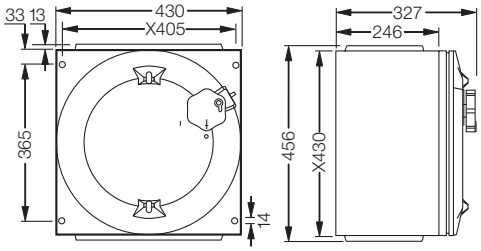
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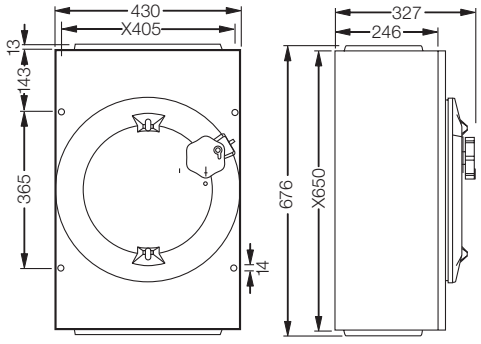
Size 2



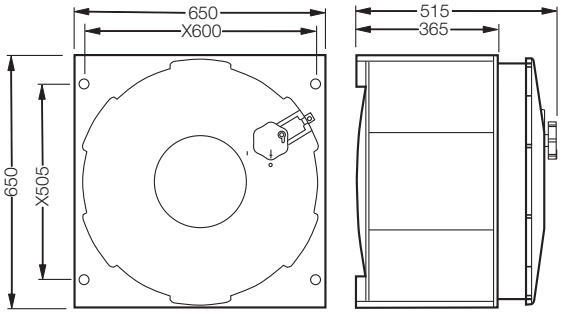
Size 4



Size 5



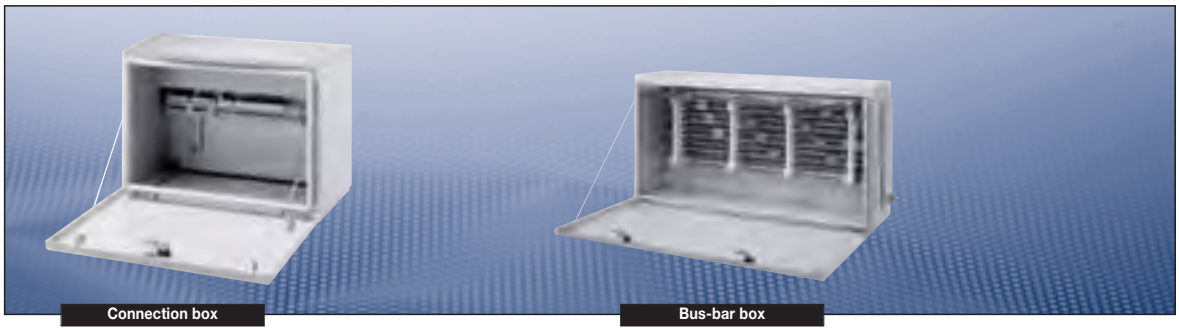
Size 7



Size 6

X = fixing dimensions

Dimensions in mm



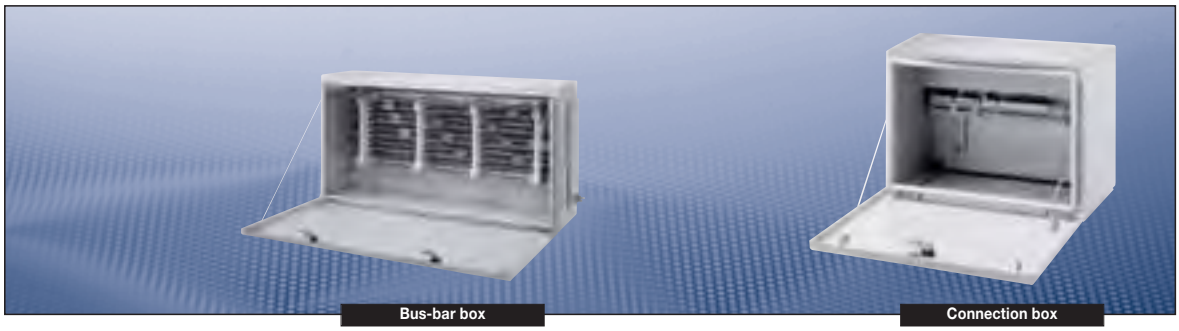
Technical data

Steel-connection box			
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib [ia/ib] IIC T4 ... T6 Ⓔx II 2 D Ex tD A21 IP66 T80 °C, T95 °C, T100 °C		
EC Type Examination Certificate	PTB 00 ATEX 1073		
Permissible ambient temperature	–55 °C to +40 °C		
Rated voltage	690 V		
Rated current	630 A		
Terminal cross-section	up to 240 mm²		
Degree of protection acc. to EN 60529	IP54 (IP65 on request)		
Weight	see ordering details		
Enclosure material	steel		
Enclosure colour	finish polyester powder coating in RAL 7032		

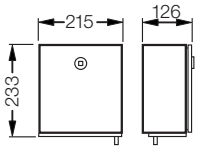
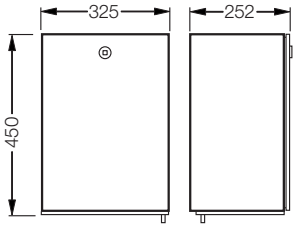
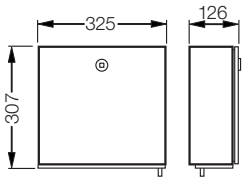
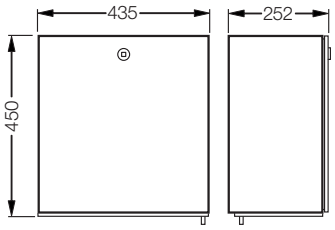
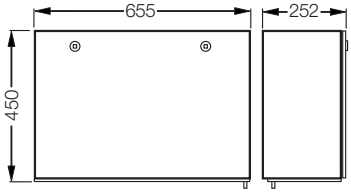
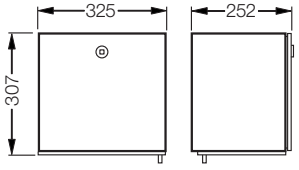
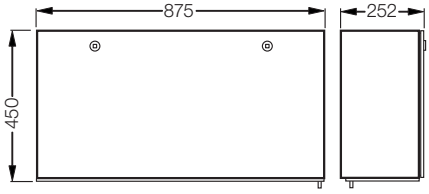
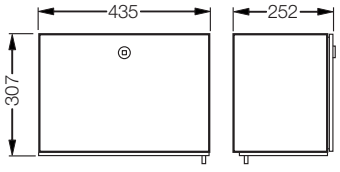
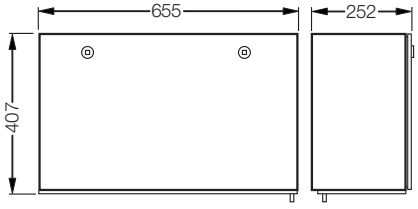
Steel-bus-bar box			
Marking to 94/9/EC	Ⓔx II 2 G Ex de ia/ib [ia/ib] IIC T4 - T6 Ⓔx II 2 D Ex tD A21 IP66 T80 °C, T95 °C, T100 °C		
EC Type Examination Certificate	PTB 00 ATEX 1073		
Permissible ambient temperature	–55 °C to +40 °C		
Rated voltage	690 V		
Rated current	250 A	400 A	630 A
Rated short-circuit current	35 kA	53 kA	59.2 kA
Rated thermal short-time current	9.4 kA (1s)	10.7 kA (1s)	13.2 kA (1s)
Terminal cross-section	up to 240 mm²		
Degree of protection acc. to EN 60529	IP54 (IP66 on request)		
Weight	see ordering details		
Enclosure material	steel		
Enclosure colour	finish polyester powder coating in RAL 7032		

Ordering details

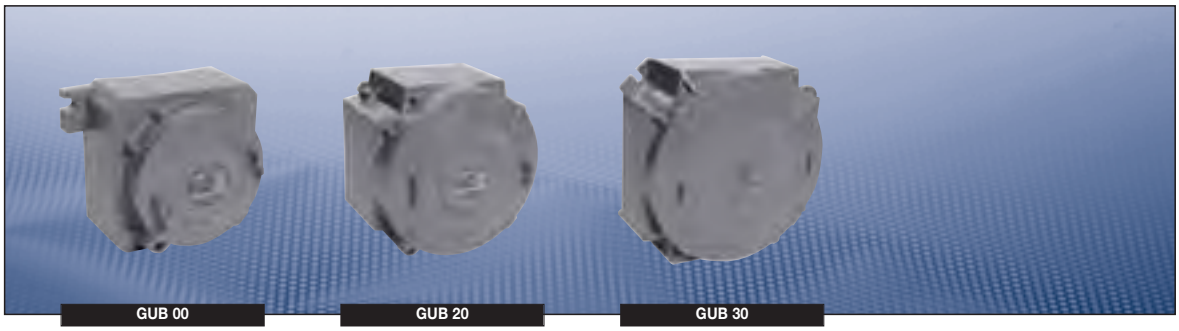
Version	Max. no. of built-in control units	Version size	Length of terminal rail	Weight	Order No.
Steel-connection box					
AK 1-2	4	1	1 x 190 mm	4.3 kg	**on request**
AK 2-2	15	2	2 x 200 mm	7.0 kg	**on request**
AK 4-1	15	4	3 x 300 mm	9.5 kg	**on request**
AK 5-1	21	5	3 x 410 mm	11.5 kg	**on request**
AK 6-1	52	6	3 x 630 mm	23.5 kg	**on request**
Steel-bus-bar box					
SSK 1	20	1	1 x 295 mm	11.0 kg	**on request**
SSK 2	28	2	2 x 405 mm	15.0 kg	**on request**
SSK 3	52	3	2 x 625 mm	23.0 kg	**on request**
SSK 4	72	4	2 x 845 mm	31.0 kg	**on request**



Dimension drawing

	Steel-connection box	Steel-bus-bar box
Size 1		
Size 2		
Size 3		
Size 4		
Size 5		
Size 6		

Dimensions in mm



Technical data

Ex d Light Alloy Enclosure	
Marking 94/9/EC	Ex II 2 G Ex d IIC T6 - T4 Ex II 2 D IP67 T[1)]
EC-Type Examination Certificate	LOM 03 ATEX 3107U
Permissible ambient temperature	–20 °C to +40 °C
Rated voltage	690 V
Rated current	max. 250 A
Insulation class	I
Degree of protection accd. EN 60529	IP67
Cable glands/enclosure drilling	[1)]
Dimensions (L x W x H)	[1)]
Weight	[1)]
Enclosure material	light alloy
Enclosure colour	grey coating

[1)] see table

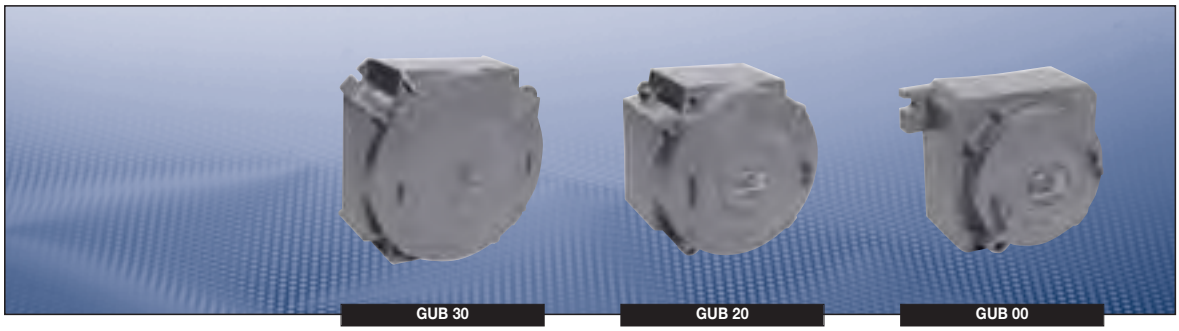
Ordering details

Type	Dissipated power T6	T5	T4	Rated current max.	Weight approx.	Order No.
Ex d Light Alloy Enclosure GUB						
GUB 00	60	85	150	60 A	3.20 kg	**NOR 000 001 160 116**
GUB 20	100	145	255	150 A	6.20 kg	**NOR 000 001 160 124**
GUB 30	140	200	360	250 A	10.20 kg	**NOR 000 001 160 132**

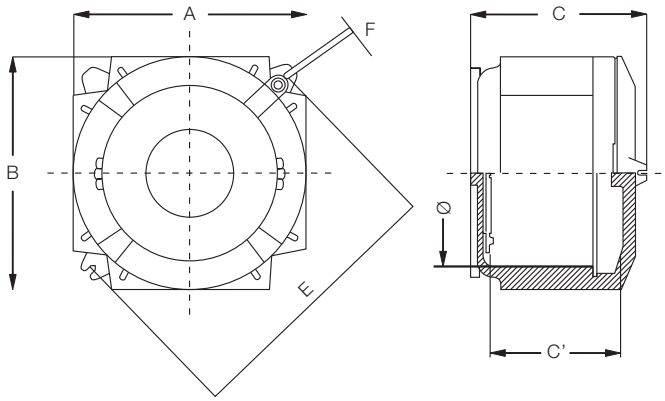
Max. entries per side

Type	1/2”	3/4”	1”	1 1/4”	1 1/2”	2 ”	2 1/2”
GUB 00	4	3	2	2	2	–	–
GUB 20	6	5	3	2	2	1	1
GUB 30	10	8	5	3	3	2	2

These enclosures can provide according to LOM 04 ATEX 2018 certification with the following electrical apparatus:
Bus-bars, Terminals, Low voltage transformers, Air circuit breakers, Automatic circuit breakers, Control and operations circuits, Servomotors without ventilation, Starters and ballasts for discharge lamps, Electronic apparatus, Associated SI apparatus, etc., According customer needs.



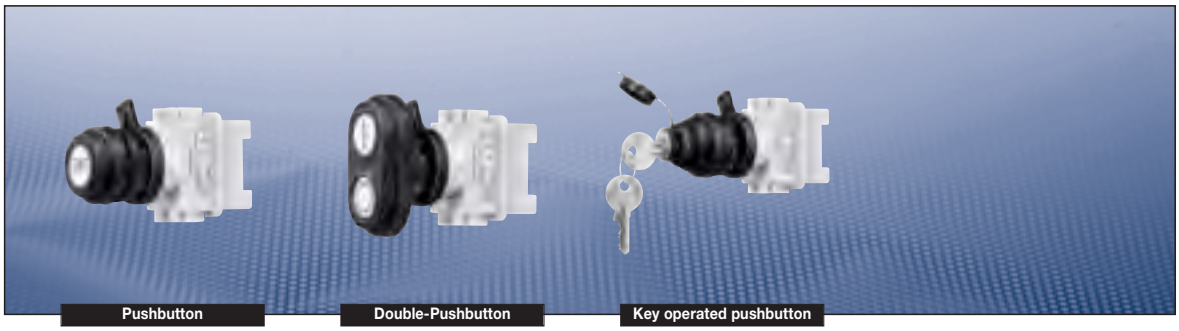
Dimension drawing



Ex d Light Alloy Enclosure GUB

Type	External		Internal			Mounting		
	A	B	C	A'	B'	C'	E	F
GUB 00	170	170	135	125	125	74	210	9
GUB 20	215	215	195	175	175	139	250	11
GUB 30	333	333	180	295	295	120	370	11

Dimensions in mm



Technical data

Ex-Control and signal units for panel mounting Pushbutton Type 418 811 and Double pushbutton Type 418 814	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex e I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
	PTB 99 ATEX 1034[1)]
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (Option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-15: U_e 250 V / I_e 6 A
accd. to EN 60947-5-1	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A
	U_e 60 V / I_e 0.8 A
	U_e 110 V / I_e 0.5 A
Connecting terminals	2 x 2.5 mm²
Degree of protection accd. EN 60529	IP66[1)]
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.20 kg
Type of mounting	Ø 30.5 mm fixing hole
Enclosure colour	grey
Gasket material	Neoprene (Standard), Fluoric silicone or viton on request

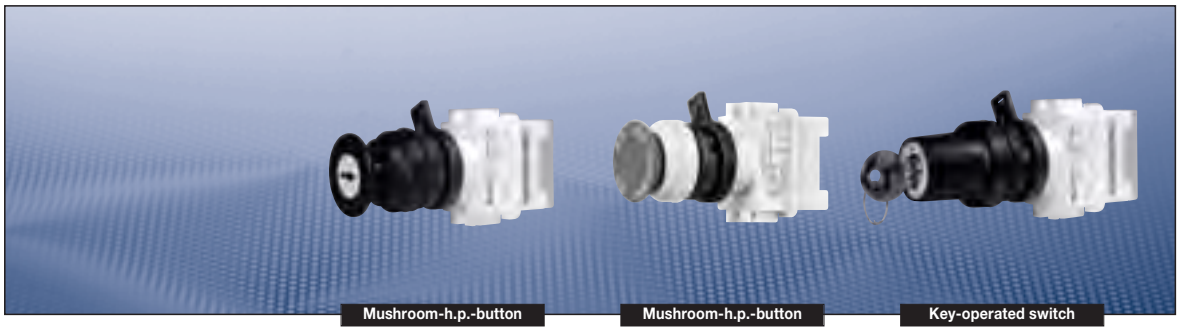
[1)] If protective covers are used

Technical data

Ex-Control and signal units for panel mounting Key operated pushbutton Type 418 812	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex e I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
	PTB 99 ATEX 1034[1)]
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (Option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-15: U_e 250 V / I_e 6 A
accd. to EN 60947-5-1	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A
	U_e 60 V / I_e 0.8 A
	U_e 110 V / I_e 0.5 A
Connecting terminals	2 x 2.5 mm²
Degree of protection accd. EN 60529	IP66[1)]
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	Ø 30.5 mm fixing hole
Enclosure colour	grey
Gasket material	Neoprene (Standard), Fluoric silicone or viton on request
Latch point	CEAG 1 (others on request)

[1)] If protective covers are used

For detailed information, see page 9.80 - 9.107.



Technical data

Ex-Control and signal units for panel mounting Key operated switch Type 418 8195	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex e I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
	PTB 99 ATEX 1034[1)]
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (Option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-15: U_e 250 V / I_e 6 A
accd. to EN 60947-5-1	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A
	U_e 60 V / I_e 0.8 A
	U_e 110 V / I_e 0.5 A
Connecting terminals	2 x 2.5 mm²
Switching system	engaging - engaging - engaging
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	Ø 30.5 mm fixing hole
Enclosure colour	grey
Latch point	CEAG 1 (others on request)

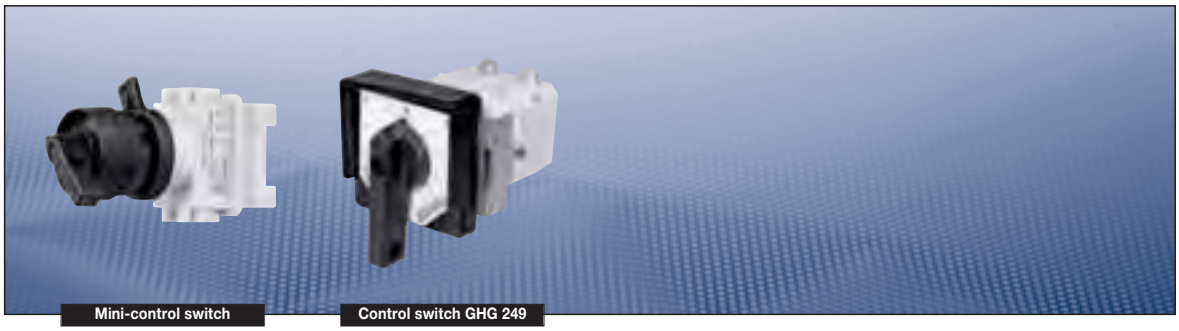
[1)] If protective covers are used

Technical data

Ex-Control and signal units for panel mounting Mushroom head pushbutton (Emergency stop and normal version)	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex e I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
	PTB 99 ATEX 1034[1)]
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (Option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-1: U_e 400 V / I_e 16 A
accd. to EN 60947-5-1	AC-11: U_e 400 V / I_e 4 A
Connecting terminals	2 x 2.5 mm²
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	Ø 30.5 mm fixing hole
Enclosure colour	grey
Gasket material	Neoprene (Standard), fluoric silicone or viton on request

[1)] If protective covers are used

For detailed information, see page 9.80 - 9.107.



Mini-control switch | Control switch GHG 249

Technical data

Ex-Control and signal units for panel mounting Mini-Control switch Type 418 8190	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex e I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U
	PTB 99 ATEX 1034[1)]
Permissible ambient temperature	–20 °C to +40 °C
	–55 °C to +55 °C (Option)
Rated voltage	500 V AC
Rated current	16 A
Rated current gold contacts	0.4 A
Rated making-/rated breaking capacity	AC-15: U_e 250 V / I_e 6 A
accd. to EN 60947-5-1	U_e 500 V / I_e 4 A
	DC-13: U_e 24 V / I_e 6 A
	U_e 60 V / I_e 0.8 A
	U_e 110 V / I_e 0.5 A
Connecting terminals	2 x 2.5 mm²
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	Ø 30.5 mm fixing hole
Enclosure colour	grey

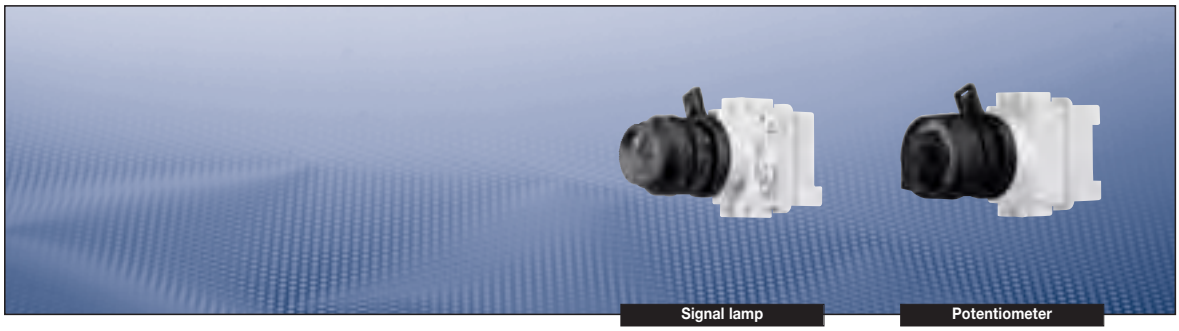
[1)] If protective covers are used

Technical data

Ex-Control and signal units for panel mounting Control switch GHG 249		
Marking to 94/9/EC		Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex e I
EC-Type Examination Certificate		PTB 98 ATEX 1117 U[1)]
Permissible ambient temperature		–20 °C to +40 °C
		–55 °C to +45 °C (Option)
Rated voltage		up to 690 V AC
Rated current		up to 20 A
Rated current gold contacts		up to 0.4 A
Switch rating	AC-1	690 V/20 A
	AC-3	400 V/20 A / 500 V/16 A
	AC-11	230 V/ 8 A / 500 V/ 6 A
	DC-11	24 V/ 6 A / 230 V/0.4 A
Connecting terminals		2 x 2.5 mm² multi wire, 6 mm² single wire
Weight		0.55 kg
Type of mounting		Ø 30.5 mm fixing hole
Enclosure colour		grey

[1)] Must be installed in a certified enclosure

For detailed information, see page 9.80 - 9.107.



Technical data

Ex-Control and signal units for panel mounting Potentiometer Type 418 8131	
Marking to 94/9/EC	Ⓔx II 2 G Ex ed IIC T6 / Ⓔx I M 2 Ex e I
EC-Type Examination Certificate	PTB 97 ATEX 1081 U PTB 99 ATEX 1034[1)]
Permissible ambient temperature	–20 °C to +40 °C –55 °C to +55 °C (Option)
Rated voltage	up to 250 V AC
Power consumption	max. 1 W
Resistance range	100 - 10000 Ω
Tolerance	± 20 %
Connecting terminals	2 x 2.5 mm²
Dimensions (L x W x H)	approx. 59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	Ø 30.5 mm fixing hole
Enclosure colour	grey
Angle of rotation	270°
Scale	0 - 100 %

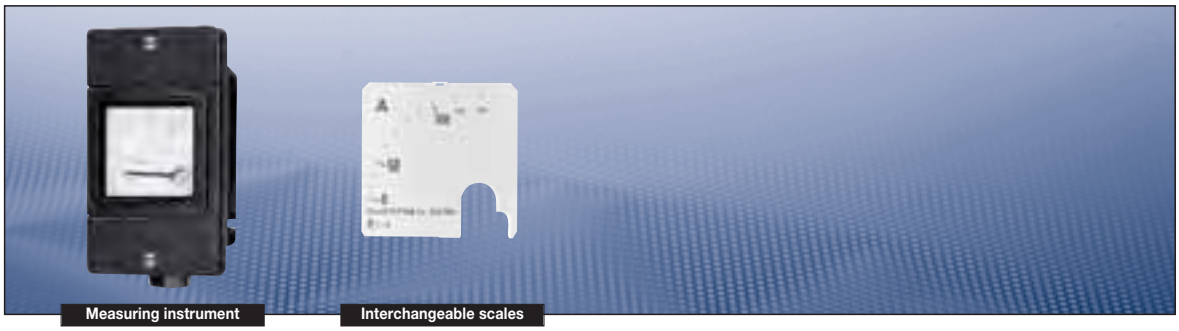
[1)] If protective covers are used

Technical data

Ex-Control and signal units for panel mounting Signal lamp Type 418 8170		
Marking to 94/9/EC		Ⓔx II 2 G Ex ed IIC / Ⓔx II 2 G Ex d ia IIC
EC-Type Examination Certificate		PTB 98 ATEX 1040 U PTB 99 ATEX 1034[1)]
Permissible ambient temperature		–20 °C to +40 °C –55 °C to +55 °C (Option)
Rated voltage	(Ex ed IIC) (Ex d ia IIC) (Ex ed IIC)	20 V to 250 V AC/DC 10 V to 28 V DC 12 V to 30 V AC/DC
Rated current	(20 V to 250 V) (10 V to 28 V Ex d ia IIC) (12 V to 30 V)	approx. 4 - 15 mA max. 25 mA max. 24 mA
Connecting terminals		2 x 2.5 mm²
Dimensions (L x W x H)		approx. 59 x 31 x 45 mm
Weight		0.15 kg
Type of mounting		Ø 30.5 mm fixing hole
Enclosure colour		grey

[1)] If protective covers are used

For detailed information, see page 9.80 - 9.107.



Measuring instrument

Interchangeable scales

Technical data

Type 413 84 with measuring instrument AM 72		
	Moving iron	Moving coil
Marking to 94/9/EC	⟨Ex⟩ II G Ex e II / ⟨Ex⟩ I M 2 Ex e I	⟨Ex⟩ II G Ex ib IIC / ⟨Ex⟩ I M 2 Ex ib I
EC-Type Examination Certificate	PTB 00 ATEX 3117	
Permissible ambient temperature	–20 °C to +40 °C	
	–55 °C to +55 °C (option)	
Rated voltage	up to 750 V	
Power consumption	max. 0.31 VA	
Overload range	10 fold - 25 sec.	10-fold - 5 sec.
	25 fold - 4 sec.	
	50 fold - 1 sec.	
	indicated 1 : 1.5	
Measuring range	max. 0 - 25 A direct / n / 1A	0/4 - 24 mA
Inductance Li		< 0.1 mH
Capacitance Ci		< 0.1 nF
Winding specification of moving coil		26.5 windings
Internal resistance		2.5 Ω ± 30 %
Open circuit voltage max. Ui		≤ 30 V
Short circuit current max. Ii		≤ 150 mA
Accuracy	Class 2.5	Class 1.5
Connecting terminals	2 x 1.5 - 4 mm²	
Degree of protection accd. EN 60529	IP66	
Cable glands/Gland plates/Enclosure drilling	1 x M25 (Ø 8 - 17 mm)	
Dimensions (L x W x H)	160 x 95 x 62 mm	
Display size AM 72	72 x 72 mm	
Weight	0.8 kg	
Type of mounting	DIN rail mounting	
Enclosure colour	grey	

For detailed information, see page 9.80 - 9.107.

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