



# Catalogue Dust-Ex 712

Dust explosion-protected luminaires and apparatus

 **COOPER** Crouse-Hinds



**PORTABLE EX-LAMPS see 1**

**EX-LIGHT FITTINGS**

Light fitting in plastic design  
Emergency light fitting in plastic design  
Recessed ceiling light fitting in metal design

**A2**

**EX-SIGNAL- AND ESCAPE SIGN LUMINAIRES**

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

**A3**

**EX-PENDANT LIGHT FITTINGS AND FLOODLIGHTS**

Pendant light fitting in metal design  
Floodlights in metal design

**A4**

**EX-PLUGS AND SOCKETS**

Plugs and sockets in plastic and metal design up to 10 A  
Plugs and sockets in plastic design up to 125 A  
Repair- and maintenance sockets in plastic design up to 63 A

**A5**

**EX-CONNECTION AND JUNCTION BOXES**

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

**A6**

**EX-CABLE GLANDS see 7**

**EX-CONTROL STATIONS AND SWITCHES**

Installationswitch in plastic design  
Control stations in plastic design  
Control switch with/without measuring instrument

**A8**

**EX-SAFETY SWITCH**

Safety switch up to 180 A  
Main current switch up to 40 A  
Manual motor starter up to 25 A

**A9**

**PORTABLE EX-LAMPS**

Torchlights  
Search lights



**EX-LIGHT FITTINGS**

Light fitting in plastic design  
Emergency light fitting in plastic design  
Recessed ceiling light fitting in metal design



**EX-SIGNAL- AND ESCAPE SIGN LUMINAIRES**

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



**EX-FLOODLIGHTS**

Floodlight in metal design



**EX-PLUGS AND SOCKETS**

Plugs and sockets in plastic and metal design up to 10 A  
Plugs and sockets in plastic design up to 125 A  
Repair- and maintenance sockets in plastic design up to 63 A



**EX-CONNECTION AND JUNCTION BOXES**

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



**EX-CABLE GLANDS**

Cable glands in plastic design  
Cable glands in metal design



**EX-CONTROL STATIONS AND SWITCHES**

Installationswitch in plastic design  
Control stations in plastic design  
Control switch with/without measuring instrument



**EX-SAFETY SWITCH**

Safety switch up to 180 A  
Main current switch up to 40 A  
Manual motor starter up to 25 A





ONE SPARK MAY BE ENOUGH!

**A DUST EXPLOSION NEEDS THREE THINGS:  
AIR, COMBUSTIBLE DUST, A SOURCE OF IGNITION!**

**A**

**DUST IS ALMOST EVERYWHERE – AIR TOO!  
BUT YOU CAN PREVENT SOURCES OF IGNITION!**

**B**

**ALWAYS THE RIGHT EQUIPMENT**

**C**

**PROTECT YOURSELF:  
NEW DUST STANDARD VALID FROM 7/1/07**

**D**

**DUST EXPLOSIONS ARE MORE DANGEROUS –  
AND MORE COMMON – THAN YOU THINK!**

**E**

**TO MAKE YOUR DUST EX-AREA SAFE**

**F**

**WHEN CAN DUST EXPLODE?**

**G**

**YOU ARE RESPONSIBLE**

**H**





**A** A dust explosion needs three things:  
**Air, combustible dust,  
a source of ignition!**

Combustible and explosive dusts occur more often than you think.

For example during the processing of

- wood and fiber materials
- foods, beverages, tobacco and fodder
- coal
- metals and metal alloys

But also chemical products of plastic, resin and rubber can create combustible dusts and explosive atmospheres.

If combustible dusts accumulate on hot surfaces such as overheated electric motors, smoldering fires may occur which can cause an explosion when the dust is kicked up, for example by opening a window. Such an explosion is particularly dangerous because its shock wave can kick up more dust and trigger a chain reaction. The result is often destruction on a dramatic scale and danger to human life.

**B** Dust is almost everywhere – air too!  
**But you can prevent sources of ignition!**

In connection with building, organizational measures and by choosing suitable equipment certified for use in dust Ex-areas the risk of an explosion can be minimized. Cooper Crouse-Hinds GmbH offers you a wide selection of electrical equipment for safe use in dust Ex-areas.

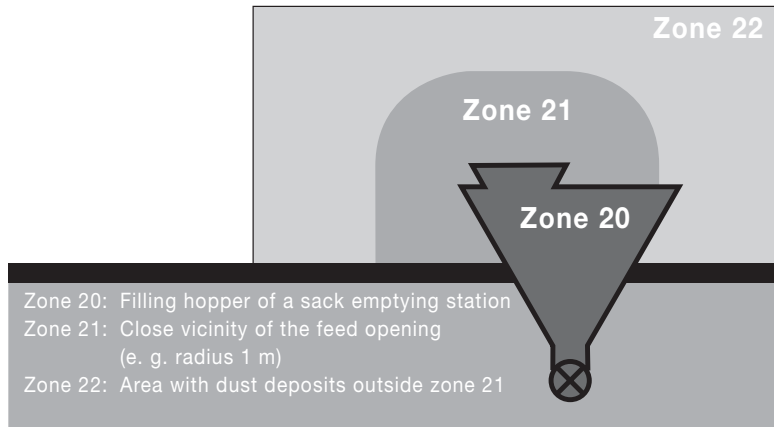
**The following three conditions must occur simultaneously for a dust explosion:**

- A cloud of combustible substances with a particle size of  $<0.5 \text{ mm}$ . The concentration of this dust cloud must be between the lower explosion limit (LEL) and the upper explosion limit (UEL). The LEL for many food dusts, for example is between 30 and  $60 \text{ g/m}^3$ , the UEL is 2 to  $6 \text{ kg/m}^3$ .
- A sufficient amount of air oxygen.
- A suitable ignition source, e.g. an electric spark which may occur when pulling a plug out of a socket or a hot surface (e.g.  $300 \text{ °C}$  to  $600 \text{ °C}$ ).



## C Always the right equipment

According to their potential risk, dust explosion areas are classified in different zones in the European Union to which equipment categories 1D to 3D are assigned. This zone classification can be demonstrated particularly well by the example of a sack emptying station without dust suction.



## D Protect yourself: New dust standard valid from 7/1/07

The new standard EN 61241... supersedes the previously valid dust standard EN 50 281 from July 1, 2007.

This new standard EN 61241... must be observed because a high risk potential in dust explosion areas is involved in which peoples' lives are in danger.

The standard takes into account that the demands on the electrical equipment in areas with a risk of dust explosion are increased in comparison with the industrial standard and the previous standard EN 50281.

This obliges the owner to use products which correspond with this state of the art and are conformant with the EN 61241 standard exclusively for new installations.

Which individual demands have changed exactly?

- Impact strength of the housings
- Electrostatic discharge capability of the housings
- Aging resistance of the plastics used

In order to always be on the safe side in future, the dust Ex-equipment of the

brand CEAG complies with the new EN 61241-0 and EN 61241-1 + A1 standards for the dust ignition protection type „protection by housing“ (tD) and are approved accordingly.

Dust explosion-protected equipment of the CEAG brand are of course subject to extensive quality assurance measures. We naturally have a quality management certified by DIN EN ISO 9001: 2000 with additional regular auditing by an independent test body (ATEX Audit). (Fig. 1)

Our dust explosion-protected light fittings and electrical equipment comply with the latest standards and have all the important national and international approvals. For instance, our products are subjected to a conformity evaluation process for use in dust Ex-areas in which a named independent body tests their technical suitability for use in Ex-areas of zones 20, 21 and 22 (device category 1/2/3D). With the EC type test certificate or type test certificate / declaration of conformity, the test body certifies the appropriate suitability and grants approval. (Fig. 2)



(Fig. 1)



(Fig. 2)



Fluorescent luminaires  
in the dust test chamber:  
Our products are tested rigorously.  
This gives you safety.

**E Dust explosions are more dangerous – and more common – than you think!**

Approximately 2,000 dust explosions occur every year in the EU with average damages of about 25,000 € per accident. In an explosion at the Rolandmühle in Bremen alone, 14 people died, 17 were injured and damages of 50 million Euro were caused!



An analysis of almost 600 damage cases in Germany revealed that 31 % were caused by wood dust, 25 % by fodder and food dusts, 13 % by plastic dust and 9 % by coal dust. Silos, dedusting and conveyor systems, mills, drying kilns, heatings, saws, carpentry shops and mixing systems are particularly affected.







## **G** When can dust explode?

Combustible dust-air mixtures have different ignition temperatures. The surface temperature of the equipment in areas with a risk of dust explosion may reach 2/3 of the minimum ignition temperature of the surrounding dust-air mixture at the maximum and with a 5 mm thick layer of dust must be at least 75 °K below the minimum ignition temperature of the dust (glow temperature). It is therefore the owner's job to ensure that the cleaning and maintenance intervals of installations with a dust explosion risk are scheduled so that no dust layers thicker than 5 mm are allowed to form. At higher dust deposits the minimum ignition temperature (glow temperature) of the dusts are reduced drastically. Examples for the ignition and glow temperatures can be taken from the table below.

## **H** You are responsible

You the owner are responsible for the work protection and safety of your plant according to the new European ATEX directive 1999/92/EC.

This work protection directive also covers electrical installations in areas where there is a risk of dust explosion. This EC directive has become valid in all member states by national laws and regulations and supplements the product-related (technical) work protection as it is governed by the ATEX directive 94/9/EC among other things (characteristic requirements). The work protection directive 1999/92/EC also governs the carrying out of a risk assessment and division of Ex-areas into zones. In accordance with this directive, only appropriately certified electrical equipment may be used in areas with a risk of dust explosion.

### When can dust explode?

Dust type (name of the solid)	Minimum ignition temperature of a dust layer (glow temperature) in acc. with IEC 61241-2-1 proc. A	Minimum ignition temperature of a dust cloud in acc. with IEC 61241-2-1 proc. B
<b>Natural products (examples)</b>		
Cotton	350	560
Cellulose	370	500
Grain	290	420
Sawdust	300	400
Cocoa	460	580
Cork	300	470
Fodder	295	520
Milk powder (full, spray)	330	520
Paper	335	570
Starch	530	380
Coal	270	590
Tobacco	300	450
Tea	300	510
Peat	320	500
Flour	470	410
Sugar	360	450
<b>Chemical-technical products (examples)</b>		
Laminate (grinding dust)	220	460
Petrol coke	280	690
Polyvinyl acetate	340	500
Polyvinyl chloride	430	680
Rubber	385	620
Scot	330	510
Sulfur	280	280
<b>Metals (examples)</b>		
Aluminium	280	530
Bronze	260	390
Iron	300	310
Magnesium	410	610
Manganese	285	330
Zinc	440	570



Source: BIA - Report (excerpt)  
Combustion and  
Explosion Variables  
Issued by: HVBG





# EX-LIGHT FITTINGS

## ZONE 22

A2

A3

A4

A5

A6

A8

EX-LIGHT FITTINGS

A2.2

EX-EMERGENCY LIGHT FITTINGS

A2.6

EX-RECESSED CEILING LIGHT FITTINGS

A2.10

A9

## EX - LIGHT FITTINGS

D22-LLK 98... 18 - 58 W  
All-plastic design for Zone 22

The explosion-protected light fittings of the series D22-LLK 98 conform to the requirements of the ATEX-Directive 94/9/EC. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas.

They are equipped with electronic ballasts (EVGs) for G13 bi-pin fluorescent lamps. The new EVG additionally fulfills 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.



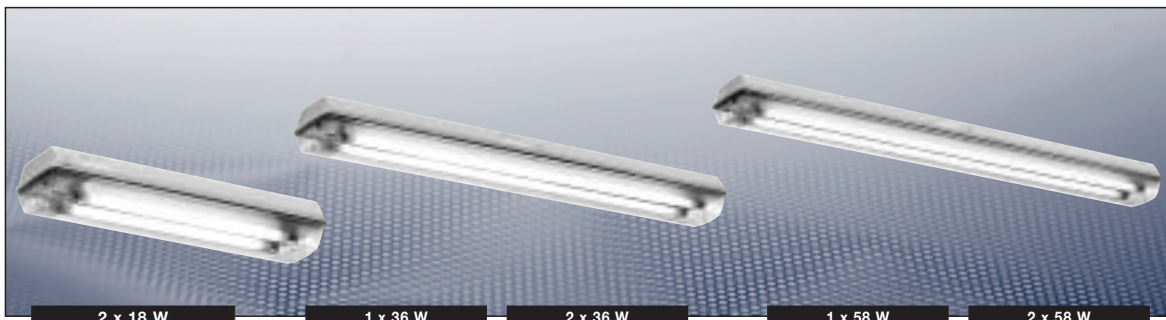
**Cost efficient installation due to single-sided through-wiring**

**With electronic ballast incl. EOL set-up**

**Double-sided safety lock**

**Safety standard IP 66**

**Integration in the CEAG Emergency Light Supply System**



Zone 22

A2

A3

A4

A5

A6

A8

A9

## Technical data

D22-LLK 98018/18	D22-LLK 98036	D22-LLK 98036/36	D22-LLK 98058	D22-LLK 98058/58
Marking to 94/9/EC	II 3 D Ex tD A22 IP66 T80 °C			
Type Examination Certificate	BVS 07 ATEX E128			
Permissible ambient temperature	-25 °C to +45 °C			
Rated voltage	220 V - 230 V AC (CG-S: 220 - 254 V) 220 V - 230 V DC (CG-S: 195 - 254 V)			
Frequency	50 - 60 Hz			
Power factor cos $\varphi$	$\geq 0.95$			
Circuit	EVG			
Connecting terminals	L, N, PE; max. 2 x 2.5 mm <sup>2</sup> , clamp terminals			
Insulation class	I			
Lamp cap	G13 accd. to IEC 60081			
Degree of protection accd. EN 60529	IP 66			
Cable glands	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			

D22-LLK 98018/18	
Rated current	0.16 A / 0.17 A (CG-S-variant)
Lamp/Illuminant	2 x T8 (26 mm)/18 W
Rated luminous flux <sup>1)</sup>	2700 lm
Light efficiency in operation	78 %
Dimensions in mm (L x W x H)	760 x 188 x 130
Weight	approx. 4.0 kg / approx. 5.5 kg (CG-S-variant)

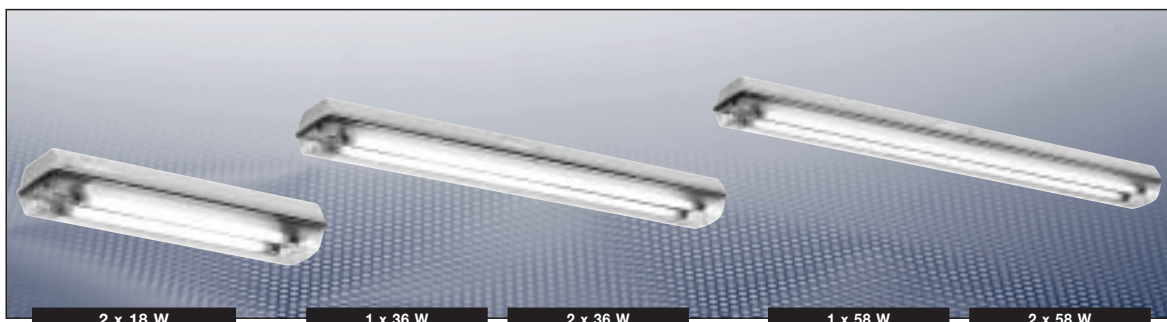
	D22-LLK 98036	D22-LLK 98036/36
Rated current	0.16 A	0.31 A / 0.35 A (CG-S-variant)
Lamp/Illuminant	1 x T8 (26 mm)/36 W	2 x T8 (26 mm)/36 W
Rated luminous flux <sup>1)</sup>	3350 lm	6700 lm
Light efficiency in operation	86 %	78 %
Dimensions in mm (L x W x H)	1360 x 188 x 130	1360 x 188 x 130
Weight	approx. 6.0 kg	approx. 6.0 kg / approx. 8.5 kg (CG-S-variant)

	D22-LLK 98058	D22-LLK 98058/58
Rated current	0.25 A	0.45 A / 0.54 A (CG-S-variant)
Lamp/Illuminant	1 x T8 (26 mm)/58 W	2 x T8 (26 mm)/58 W
Rated luminous flux <sup>1)</sup>	5200 lm	10400 lm
Light efficiency in operation	83 %	72 %
Dimensions in mm (L x W x H)	1660 x 188 x 130	1660 x 188 x 130
Weight	approx. 7.3 kg	approx. 7.3 kg / approx. 9.8 kg (CG-S-variant)

<sup>1)</sup> dep. on used lamps



| D22-LLK 98018/18 | D22-LLK 98036 | D22-LLK 98036/36 |  
| D22-LLK 98058 | D22-LLK 98058/58 |



### Ordering details

Type	Connecting terminals	Through-wiring single-ended	double-ended	Cable entries	Plugs	Order No.
Type D22-LLK 98018/18 (2 x 18 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	<b>D22 1 3465 218 001</b>
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	<b>D22 1 3465 218 011</b>
2/6-2 M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>D22 1 3465 218 021</b>
Type D22-LLK 98018/18 CG-S <sup>2)</sup> (2 x 18 W)						
2/6-2 <sup>4)</sup>	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	<b>D22 1 3465 218 912</b>
2/6-M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>D22 1 3465 218 922</b>
Type D22-LLK 98036 (1 x 36 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	<b>D22 1 3465 136 001</b>
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	<b>D22 1 3465 136 011</b>
2/6-2M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>D22 1 3465 136 021</b>
Type D22-LLK 98036/36 (2 x 36 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	<b>D22 1 3465 236 001</b>
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	<b>D22 1 3465 236 011</b>
2/6-2M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>D22 1 3465 236 021</b>
Type D22-LLK 98036/36 CG-S <sup>2)</sup> (2 x 36 W)						
2/6-2 <sup>4)</sup>	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	<b>D22 1 3465 236 912</b>
2/6-2M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>D22 1 3465 236 922</b>
Type D22-LLK 98058 (1 x 58 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	<b>D22 1 3465 158 001</b>
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	<b>D22 1 3465 158 011</b>
2/6-2M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>D22 1 3465 158 021</b>
Type D22-LLK 98058/58 (2 x 58 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	<b>D22 1 3465 258 001</b>
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	<b>D22 1 3465 258 011</b>
2/6-2M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>D22 1 3465 258 021</b>
Type D22-LLK 98058/58 CG-S <sup>2)</sup> (2 x 58 W)						
2/6-2 <sup>4)</sup>	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	<b>D22 1 3465 258 912</b>
2/6-2M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>D22 1 3465 258 922</b>

<sup>1)</sup> M: with metal thread, without cable gland

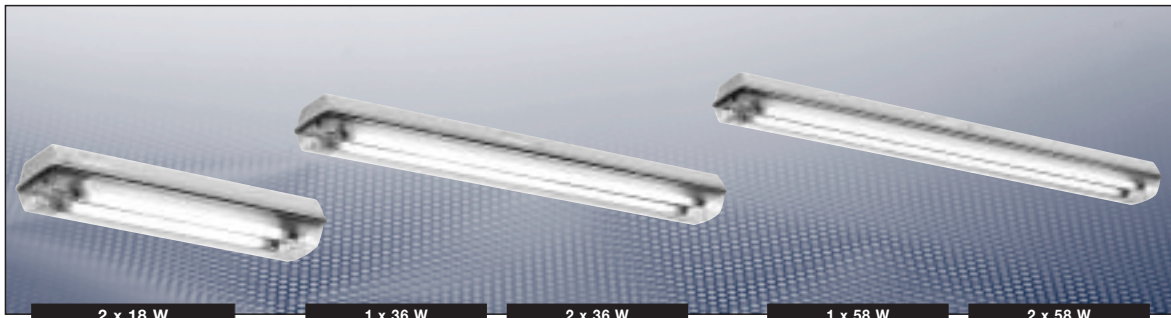
<sup>2)</sup> CG-S: Design single monitored emergency light fitting for use in CEAG Emergency light supply unit

<sup>3)</sup> With dust cap for unclosed entries/metal thread

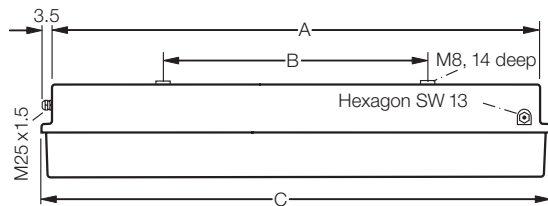
<sup>4)</sup> With screw-type terminals max. 2 x 6 mm<sup>2</sup> single wire

**Design with luminaire switch on demand.**

**Scope of delivery without lamp and fixing accessories.**

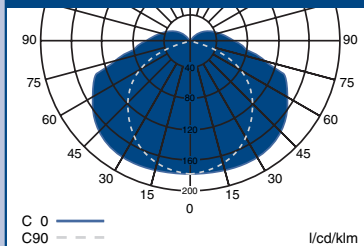


## Dimension drawing | Polar curve

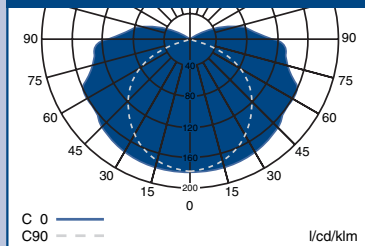


Type	A	B	C
D22-LLK 98018/18	732	400	760
D22-LLK 98036 / D22-LLK 98036/36	1332	700	1360
D22-LLK 98058 / D22-LLK 98058/58	1632	700	1660

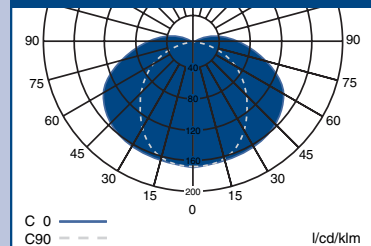
**Polar curve**  
D22-LLK 98018/18 /  
D22-LLK 98036/36



**Polar curve**  
D22-LLK 98036 /  
D22-LLK 98058



**Polar curve**  
D22-LLK 98058/58



Dimension in mm

## EX - EMERGENCY LIGHT FITTINGS

D22-LLK 98...N 18 - 36 W  
All-plastic design for Zone 22

The explosion-protected light fittings of the series D22-LLK 98 N are conform to the requirements of the ATEX-Directive 94/9/EC. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in 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.

The new EVG additionally fulfills 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 fulfill 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 and a green indication LED for charging current.

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.



**Cost efficient installation due to single-sided through-wiring**

**With electronic ballast incl. EOL set-up**

**Double-sided safety lock**

**High degree of protection IP 66**

**Self-contained NC-battery for emergency lighting 1.5 h**

**Easy battery change**





Zone 22

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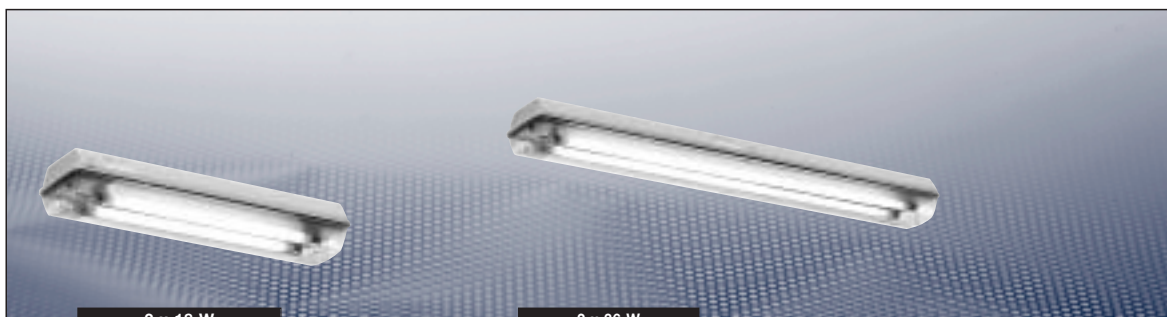
## Technical data

### D22-LLK 98018/18 N | D22-LLK 98036/36 N

Marking to 94/9/EC	II 3 D Ex tD A22 IP66 T80 °C
Type Examination Certificate	BVS 07 ATEX E 128
Permissible ambient temperature	-25 °C to +45 °C, specified data -5 °C to +75 °C
Rated voltage	220 V - 230 V AC
Frequency	50 - 60 Hz
Power factor cos $\varphi$	$\geq 0.95$
Circuit	EVG (electronic ballast) with emergency unit supply
Connecting terminals	L, L1, N, PE; max. 2 x 2.5 mm <sup>2</sup> , clamp terminals
Insulation class	I
Lamp cap	G13 accd. to IEC 60081
Degree of protection accd. EN 60529	IP 66
Light efficiency in operation	78 %
Rated emergency operating duration	1.5 h
Charging duration	> 24 h
Cable glands	Ex e-cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm, Option: M25 x 1.5 metal thread
Enclosure material	Glass-fibre reinforced polyester
Protective cover/protective bowl	Polycarbonate

	D22-LLK 98018/18 N	D22-LLK 98023/36 N
Rated current	0.18 A	0.33 A
Lamp/Illuminant	2 x T8 (26 mm)/18 W	2 x T8 (26 mm)/36 W
Rated luminous flux <sup>2)</sup>	2700 lm	6700 lm
Luminous flux in emergency operation (1.5 h, one lamp) <sup>2)</sup>	880 lm (65 %)	1240 lm (40 %)
Battery	6 V/4 Ah NC-Accu	6 V/4 Ah NC-Accu
Dimensions in mm (L x W x H)	760 x 188 x 130	1360 x 188 x 130
Weight	5.5 kg	7.5 kg

<sup>2)</sup> dep. on used lamps



### Ordering details

Type	with M25-plastic-cable gland	for M20-metal- <sup>2)</sup> cable gland	Duration time of emergency light	Order No.
Type D22-LLK 98018/18 N (2 x 18 W)				
1/6-1	X	–	1.5 h	D22 1 3470 218 001
1/6-1 M <sup>1)</sup>	–	X	1.5 h	D22 1 3470 218 031
Type D22-LLK 98036/36 N (2 x 36 W)				
1/6-1	X	–	1.5 h	D22 1 3470 236 001
1/6-1 M <sup>1)</sup>	–	X	1.5 h	D22 1 3470 236 031

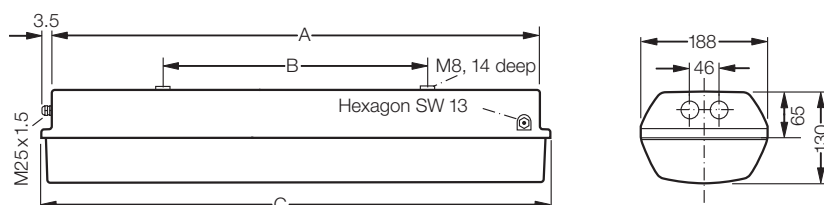
<sup>1)</sup> M: with metal thread, without cable entry

<sup>2)</sup> With dust cap for unclosed entries/metal thread

**Design with luminaire switch on demand.**

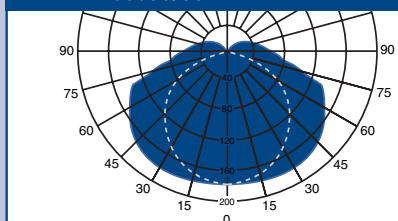
**Scope of delivery without lamp and fixing accessories.**

### Dimension drawing | Polar curve

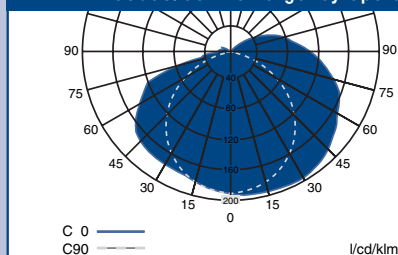


Type	A	B	C
D22-LLK 98018/18 N	732	400	760
D22-LLK 98036/36 N	1332	700	1360

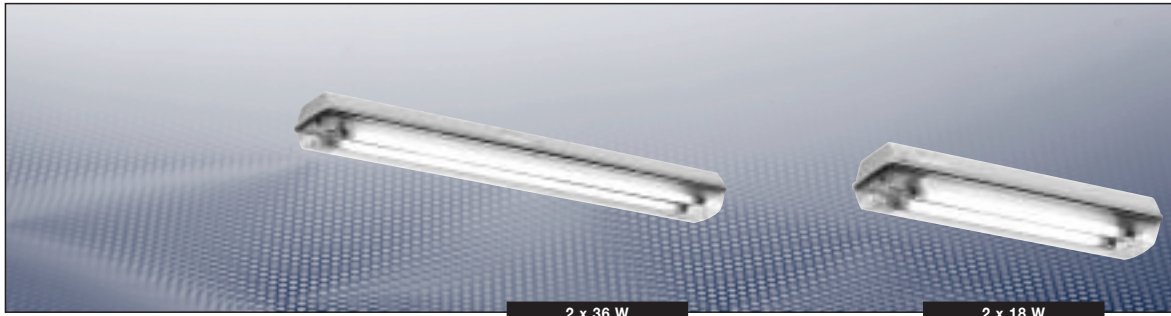
**Polar curve**  
D22-LLK 98018/18 N /  
D22-LLK 98036/36 N



**Polar curve**  
D22-LLK 98018/18 N /  
D22-LLK 98036/36 N emergency operation



Dimension in mm



Zone 22

A2

A3

A4

A5

A6

A8

A9

## Accessories

### Fixing materials and accessories D22-LLK 98

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

### Fixing materials and accessories

Type/ code	Corrosion protection	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	Order No.
Pipe clamp					
R12	hot galvanized	1 1/4"	38 - 42	2	2 2480 462 000
R14	CrNi	1 1/4"	38 - 42	2	2 2480 464 000
R22	hot galvanized	1 1/2"	47 - 51	2	2 2480 472 000
R24	CrNi	1 1/2"	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

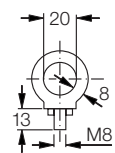
Luminaire wall suspension 30°  
inclusive screw and washer

hot galvanized

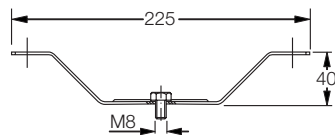
2

2 2480 000 122

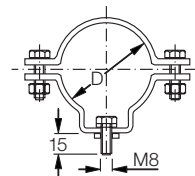
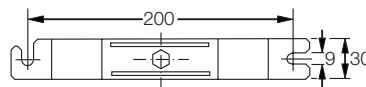
## Dimension drawing



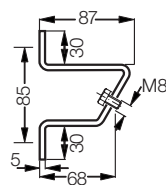
Eye bolt



Ceiling mounting bracket D92



Pipe clamp



Luminaire wall suspension 30°

Dimensions in mm

## EX - RECESSED CEILING LIGHT FITTINGS

D22-RLF 250... 18 – 58 W  
metallic design for Zone 22

The RLF 250 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. They are designed and tested acc. to the new EU standard IEC 61241-0 and –1 (EN 61241-0 and –1) for Ex equipment for use in Zone 22 of dust Ex-areas.

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. In addition, it can also be fixed by means of two M8 drilled holes on the top of the housing.

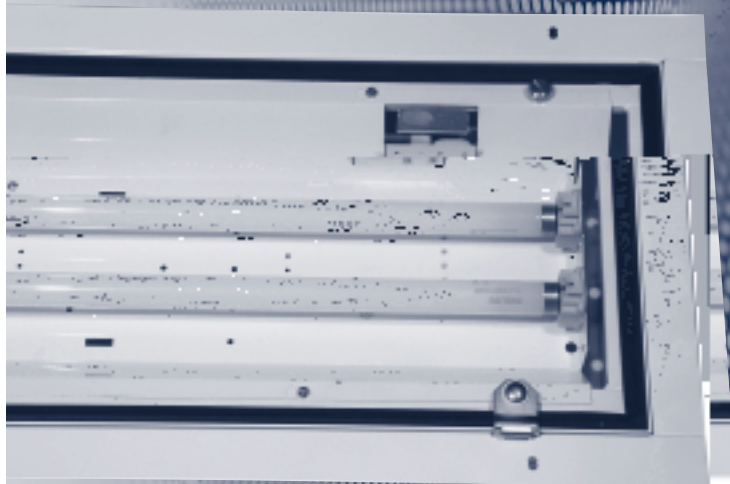
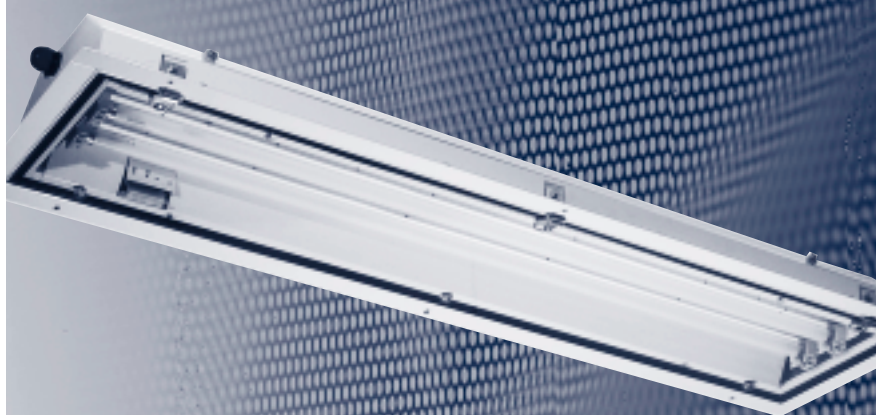
The hinged, frameless pane made of 5 mm thick safety glass is fixed with 3 alt. 4 captive screws.

The sealing material is EPDM and guarantees the high protection IP 65.

The electronic ballasts of the latest generation can be used internationally due to their large input voltage range and contains the "End of Life" disconnection acc. latest standard. The standard two-channel structure means that if one lamp fails, the other one remains in operation.

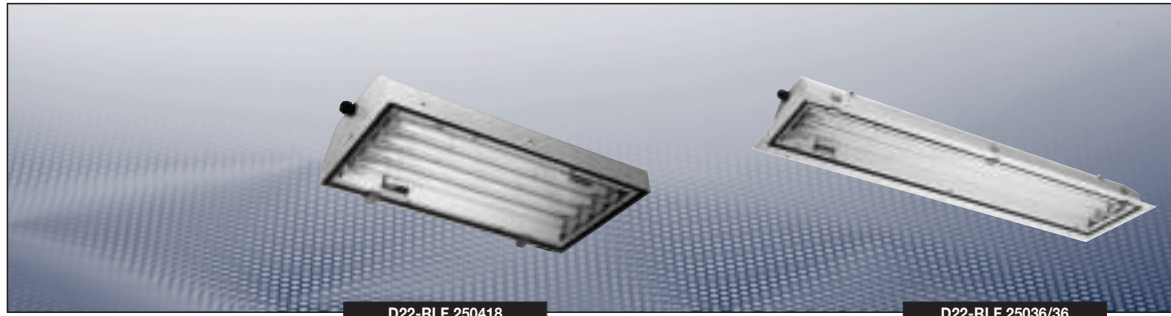
The standard two-sided through-wiring together with the generous terminal housing offers a cost-saving installation.

The light switch reliably prevents the lamp from being switched on when the cover pane is open.



- Flush installation specially for clean rooms by using the accessed mounting frame
- Standard, two-channel electronic ballast
- Safety locking due to integral disconnecter
- High degree of protection IP 65





D22-RLF 250418

D22-RLF 25036/36

Zone 22

## Technical data

### D22-RLF 250...

Marking to 94/9/EC	II 3 D Ex tD A22 IP 65 T60 °C
Type Examination Certificate	applied for
Permissible ambient temperature	-20 °C to +40 °C
Frequency	50 - 60 Hz
Power factor cos $\varphi$	> = 0.95
Circuit	EVG
Connecting terminals	L1, L2, L3, N, PE; max. 2 x 2.5 mm <sup>2</sup> single wire per terminal, through-wiring two-sided
Insulation class	I
Lamp cap	G 13 accd. IEC 60081
Degree of protection accd. EN 60529	IP 65
Cable glands/Enclosure drilling <sup>1)</sup>	Ex-e-cable glands M25 x 1.5 (plastic) for cables from Ø 8 - 17 mm, or M20 x 1.5 metal thread
Enclosure material	painted steel sheet
Enclosure colour	white
Protective cover/protective bowl	single-safety glass pane of 5 mm thick

	D22-RLF 25018/18	D22-RFL 250418
Rated voltage	110 - 254 V AC / 196 - 230 V DC	
Rated current	0.18 A	0.36 A
Lamp/Illuminant	2 x T8 (26 mm) / 18 W, see accessories	4 x T8 (26 mm) / 18 W, see accessories
Rated luminous flux <sup>2)</sup>	2700 lm	5400 lm
Light efficiency in operation	70 %	69 %
Dimensions in mm (L x W x H)	701 x 302 x 130	701 x 362 x 130
Weight	6.9 kg	9.5 kg

	D22-RLF 25036/36	D22-RFL 250336	D22-RFL 250436
Rated voltage	110 - 254 V AC / 110 - 230 V DC		
Rated current	0.34 A	0.52 A	0.68 A
Lamp/Illuminant	2 x T8 (26 mm) / 36 W, see accessories	3 x T8 (26 mm) / 36 W, see accessories	4 x T8 (26 mm) / 36 W, see accessories
Rated luminous flux <sup>2)</sup>	6700 lm	10050 lm	13400 lm
Light efficiency in operation	70 %	68 %	69 %
Dimensions in mm (L x W x H)	1312 x 302 x 130	1312 x 302 x 130	1312 x 362 x 130
Weight	12.9 kg	13.4 kg	16.5 kg

	D22-RLF 25058/58	D22-RFL 250358	D22-RFL 250458
Rated voltage	220 - 254 V AC / 196 - 230 V DC		
Rated current	0.53 A	0.80 A	1.06 A
Lamp/Illuminant	2 x T8 (26 mm) / 58 W, see accessories	3 x T8 (26 mm) / 58 W, see accessories	4 x T8 (26 mm) / 58 W, see accessories
Rated luminous flux <sup>2)</sup>	10400 lm	15600 lm	20800 lm
Light efficiency in operation	68 %	66 %	67 %
Dimensions in mm (L x W x H)	1611 x 302 x 130	1611 x 302 x 130	1611 x 362 x 130
Weight	17.2 kg	17.8 kg	19.8 kg

<sup>1)</sup> Metal tread without cable gland, <sup>2)</sup> dep. on used lamps

A2

A3

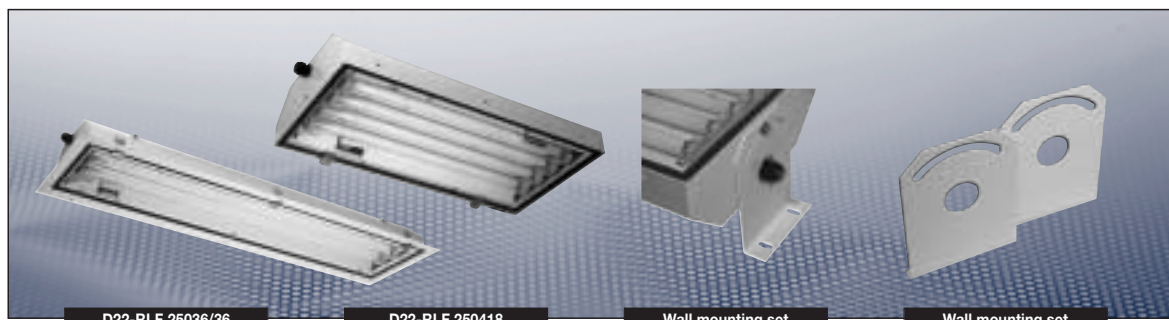
A4

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A9



D22-RLF 25036/36

D22-RLF 250418

Wall mounting set

Wall mounting set

## Ordering details

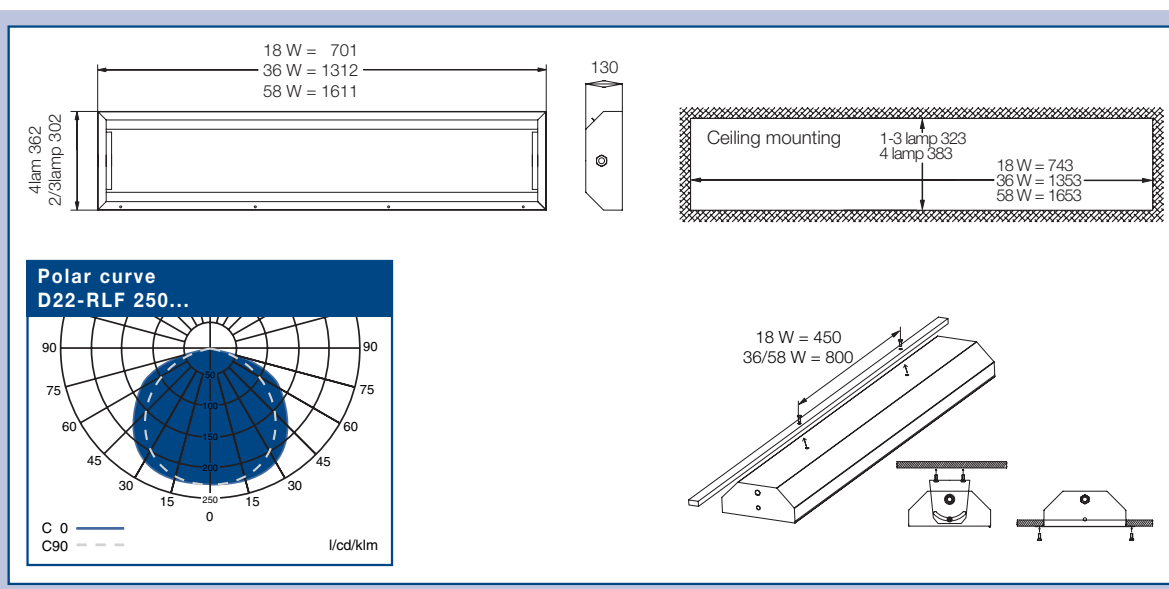
Type D22-RLF 250...	Cable gland	Thread	Order No.
D22-RLF 25018/18 2/5-2 K	M25 x 1.5	–	D22 1 2283 218 001
D22-RLF 25036/36 2/5-2 K	M25 x 1.5	–	D22 1 2283 236 001
D22-RLF 25058/58 2/5-2 K	M25 x 1.5	–	D22 1 2283 258 001
D22-RLF 25018/18 2/5-2 M	–	M20 x 1.5	D22 1 2283 218 002
D22-RLF 25036/36 2/5-2 M	–	M20 x 1.5	D22 1 2283 236 002
D22-RLF 25058/58 2/5-2 M	–	M20 x 1.5	D22 1 2283 258 002
D22-RLF 250336 2/5-2 K	M25 x 1.5	–	D22 1 2283 336 011
D22-RLF 250358 2/5-2 K	M25 x 1.5	–	D22 1 2283 358 011
D22-RLF 250336 2/5-2 M	–	M20 x 1.5	D22 1 2283 336 012
D22-RLF 250358 2/5-2 M	–	M20 x 1.5	D22 1 2283 358 012
D22-RLF 250418 2/5-2 K	M25 x 1.5	–	D22 1 2283 418 011
D22-RLF 250436 2/5-2 K	M25 x 1.5	–	D22 1 2283 436 011
D22-RLF 250458 2/5-2 K	M25 x 1.5	–	D22 1 2283 458 011
D22-RLF 250418 2/5-2 M	–	M20 x 1.5	D22 1 2283 418 012
D22-RLF 250436 2/5-2 M	–	M20 x 1.5	D22 1 2283 436 012
D22-RLF 250458 2/5-2 M	–	M20 x 1.5	D22 1 2283 458 012

## Accessories

### D22-RLF 250...

Type	Order No.
Wall mounting set, 2 pcs.	3 2283 000 007
Frame for recessed ceiling mounting:	
for lamps 2 x 18 W	3 2283 000 001
for lamps 4 x 18 W	3 2283 000 002
for lamps 2 x/3 x 36 W	3 2283 000 003
for lamps 4 x 36 W	3 2283 000 004
for lamps 2 x/3 x 58 W	3 2283 000 005
for lamps 4 x 58 W	3 2283 000 006

## Dimension drawing | Polar curve





# EX-SIGNAL- AND ESCAPE SIGN LUMINAIRES

ZONE 22

A2

A3

A4

A5

A6

EMERGENCY LIGHTING – CENTRAL OR DECENTRAL

A3.2

EX-ESCAPE SIGN LUMINAIRE D22-EXIT

A3.4

EX-ESCAPE SIGN LUMINAIRE D22-EX-LITE

A3.10

EX-SAFETY AND EMERGENCY LUMINAIRE D22-EX 6011.1

A3.16

EX-SIGNAL AND EMERGENCY LUMINAIRE D22-dKLK 23

A3.18

A8

A9



## Emergency lighting – central or decentral

Appertaining to Emergency Lighting in hazardous areas, there are two general philosophies. That of the supply assurance, the test and maintenance 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, independent from central systems. That means the battery, the charger and the electronics are integrated in the light fitting.

Taking the availability and the redundancy 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, maintenance 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.



**Ex-Escape Sign Luminaire D22-EXIT**

The CEAG Emergency light fittings with self-contained battery systems D22-EXIT N, and D22-Ex-Lite N 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.



**Ex-Escape sign luminaire D22-Ex-Lite N**





### 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 conditions as the light fittings themselves. This usually results in an extended life span of the batteries with a minimized maintenance 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-S-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 D22-EXIT CG-S, D22-Ex-Lite CG-S, D22-dKLK 23 CG and D22-Ex 6011 CG-S can be integrated into the monitoring system and be used as system light fittings.

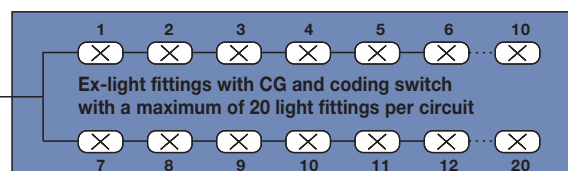
This combination offers the following advantages:

- Automatic performance of the necessary function and duration tests with a central record of all operating functions 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

Non-hazardous area  
CEAG Emergency  
supply system



One line, e.g. 3 x 1.5 mm<sup>2</sup>  
for both the mains and the emergency power supply



# EX - ESCAPE SIGN LUMINAIRE

D22-EXIT  
Moulded plastic version with LED technology for Zone 22

The D22-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. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas.

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 D22-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 LED technology throughout service life**

**High degree of protection IP 66**

**Luminaire with self-contained battery unit and automatic function monitoring**

**Connection and monitoring with CEAG emergency lighting supply systems possible**



### **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 D22-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

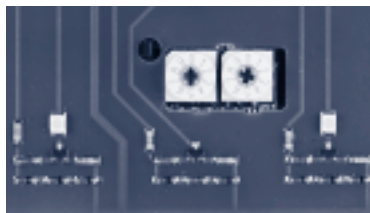
A central emergency lighting supply using CEAG group supply and central battery systems are used wherever a large number of emergency lighting luminaires can be combined and operated as system luminaires.

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 D22-EXIT for use as a mains luminaire, e.g. for specially safeguarded industrial networks in production plants, there is also the D22-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 D22-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 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.





Zone 22

A2

A3

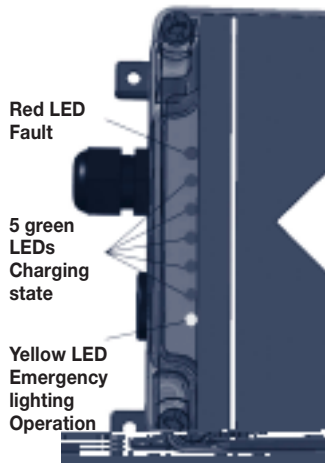
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### Emergency lighting luminaires with selfcontained battery systems

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 D22-EXIT N escape sign luminaire. Five green LEDs supply constant information on the charging

state and available battery capacity.

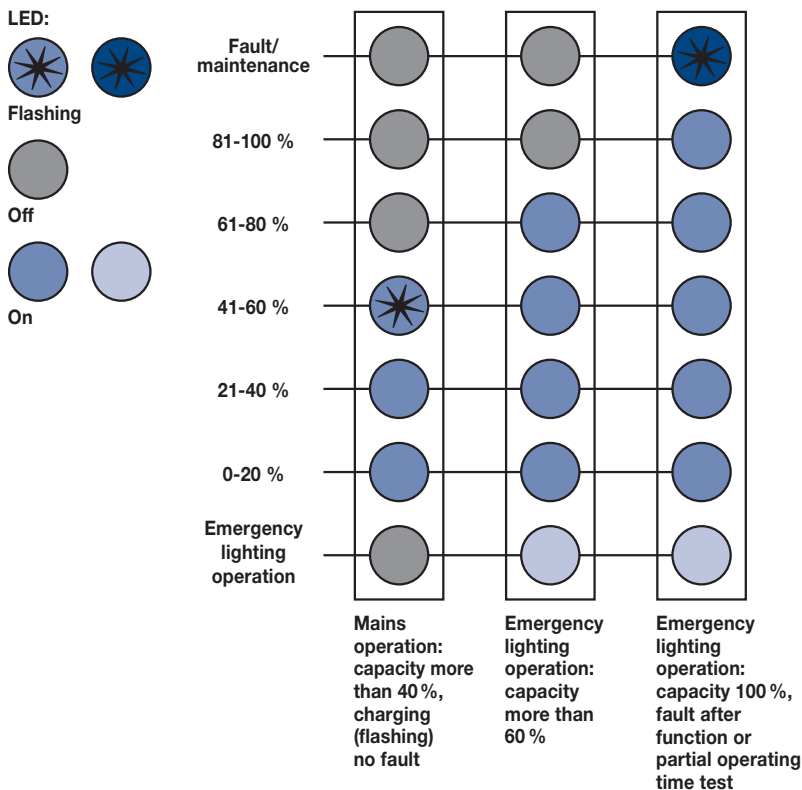
A yellow LED indicates the emergency lighting operation mode and an additional red LED indicates any faults.

### 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.





D22-EXIT / D22-EXIT CG-S

D22-EXIT N

## Technical data

### D22-EXIT | D22-EXIT CG-S | D22-EXIT N

Marking to 94/9/EC	II 3 D Ex tD A22 IP 66 T80 °C
Type examination certificate	BVS 07 ATEX E 131
Circuit	electronic power supply
Insulation class	I
Degree of protection EN 60529	IP 66
Cable glands	1 x Ex e-cable glands M20 x 1.5 (plastic) 1 x Ex e-blanking plug M20 x 1.5
Connecting terminals	3 x 2.5 mm <sup>2</sup> double terminals
Viewing distance	up to 25 m
Enclosure material	Polycarbonate
Protective cover	Polycarbonate
Enclosure colour	Grey, RAL 7035
Type of mounting	Wall mounting
Dimensions in mm (L x W x H)	340 x 150 x 75
Permissible ambient temperature	- 20 °C to + 50 °C
Lamp/illuminant	High-efficiency LEDs, white

### D22-EXIT

Rated voltage	AC: 110 - 277 V 50/60 Hz DC: 110 - 250 V DC: 12 - 24 V ±20 % (optional)
Power consumption	6 VA
Rated current	DC: 220 V = 20 mA, 110 V = 40 mA

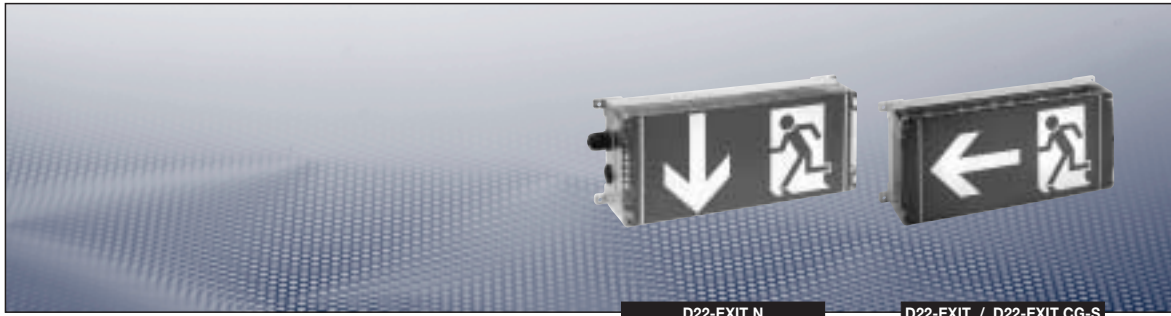
### D22-EXIT CG-S

Rated voltage	AC: 220 - 254 V, 50/60 Hz DC: 195 - 250 V
Power consumption	approx. 6 VA
Rated current	approx. 20 mA

### D22-EXIT N

Rated voltage	AC: 110 - 277 V, 50/60 Hz DC: 110 - 250 V
Power consumption	approx. 8 VA
Battery	NC-Accu 12 V/600 mAh
Charging duration (cap. > 90 %)	28 h
Rated emergency operating duration	3 h / specified data +5 °C to +35 °C



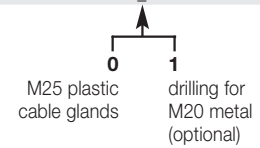


## Ordering details

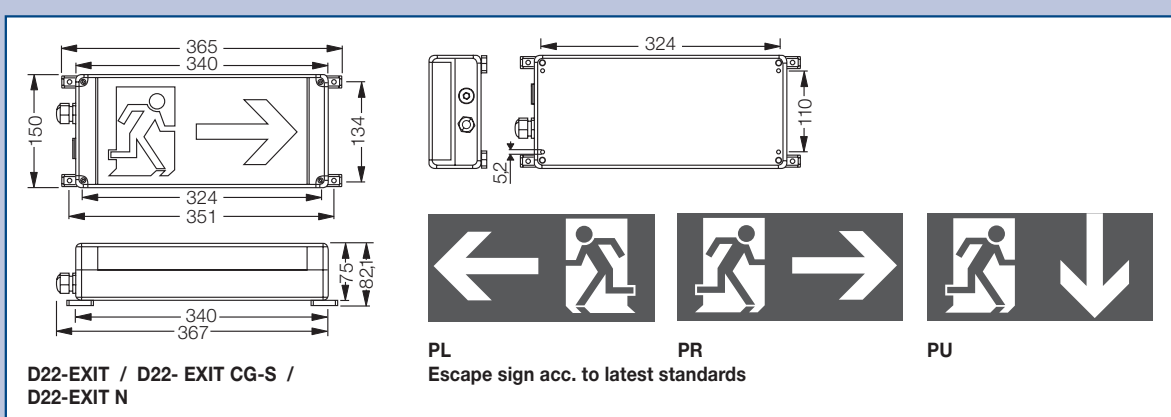
Type	Scope of delivery <sup>1)</sup>	Order No.
Type D22-EXIT		
D22-EXIT	incl. cover with silk-screen pictogram PR	D22 1 2191 000 _01
	incl. cover with silk-screen pictogram PL	D22 1 2191 000 _02
	incl. cover with silk-screen pictogram PU	D22 1 2191 000 _03
	incl. cover clear, without pictogram	D22 1 2191 000 _04
Typ D22-EXIT CG-S <sup>2)</sup>		
D22-EXIT CG-S	incl. cover with silk-screen pictogram PR	D22 1 2191 020 _01
	incl. cover with silk-screen pictogram PL	D22 1 2191 020 _02
	incl. cover with silk-screen pictogram PU	D22 1 2191 020 _03
	incl. cover clear, without pictogram	D22 1 2191 020 _04
Typ D22-EXIT N		
D22-EXIT N	incl. cover with silk-screen pictogram PR	D22 1 2191 030 _01
	incl. cover with silk-screen pictogram PL	D22 1 2191 030 _02
	incl. cover with silk-screen pictogram PU	D22 1 2191 030 _03
	incl. cover clear, without pictogram	D22 1 2191 030 _04

<sup>1)</sup> Other silk-screen pictograms on demand.

<sup>2)</sup> For connection to CEAG emergency lighting apparatus with coding switch for 20 addresses.



## Dimension drawing | Pictogram



Dimensions in mm

## EX - ESCAPE SIGN LUMINAIRES

D22-Ex-Lite  
Metal version with LED technology for Zone 22

The D22-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. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas.

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 D22-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 LED technology throughout service life**
- High degree of protection IP 66**
- 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

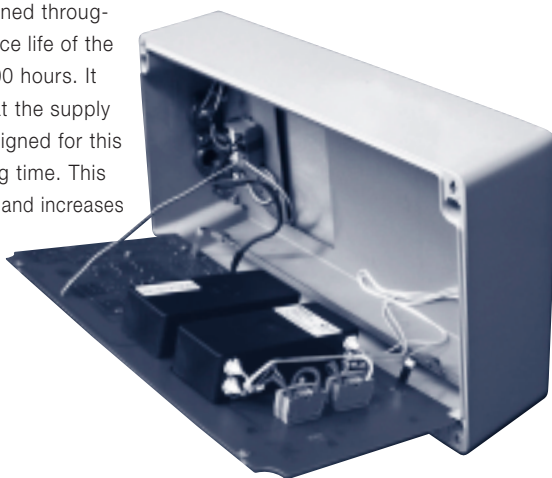
The escape sign luminaires of the D22-Ex-Lite series are available as mains luminaires "D22-Ex-Lite", e.g. for specially safeguarded industrial networks in production plants, as "D22-Ex-Lite CG-S" emergency lighting luminaires with individual function monitoring for use in CEAG emergency lighting supply 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 areas

On account of the very robust, light alloy housing in the high degree of protection IP 66, the Ex-Lite luminaire can be installed almost anywhere, both indoors and out. The luminaire is designed in the type of protection Ex tD A22 IP66 T80 °C and in accordance with the ATEX Directive. It can be used in hazardous areas with potentially explosive dust atmospheres Zone 22.

### 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 enormously, 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 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



### 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.

### 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.

Zone 22

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

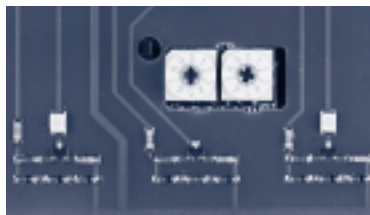
A central emergency lighting supply using CEAG group supply and central battery systems are used wherever a large number of emergency lighting luminaires can be combined and operated as system luminaires.

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 D22-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 D22-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 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.

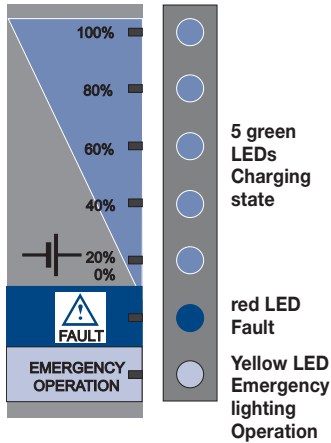






Zone 22

A2



### 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 D22-Ex-Lite N escape sign luminaire. Five green LEDs supply constant information on the charging

state and available battery capacity.

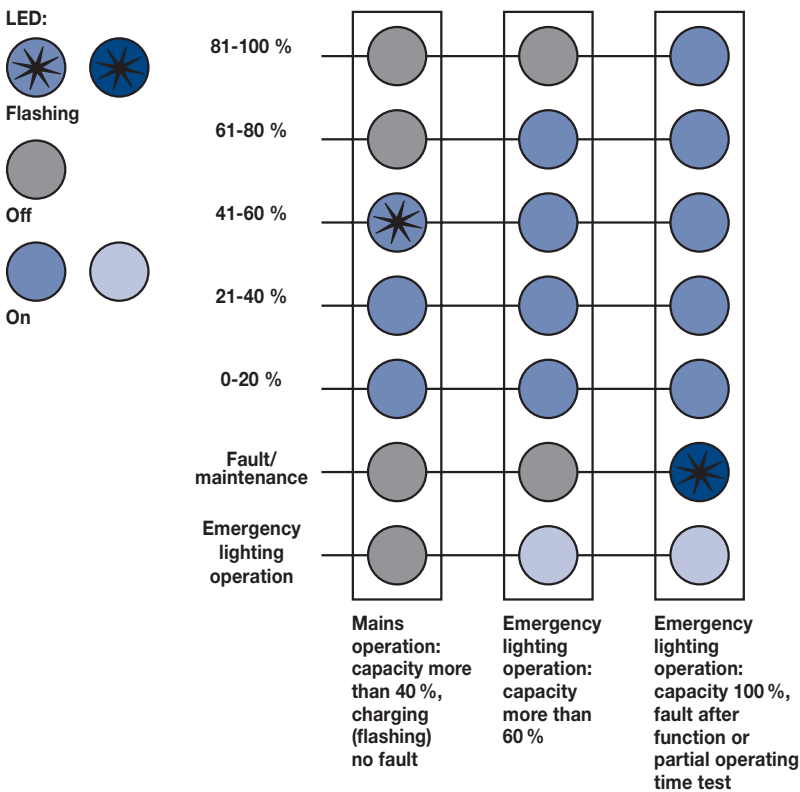
A yellow LED indicates the emergency lighting operation mode and an additional red LED indicates any faults.

### 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.



A3

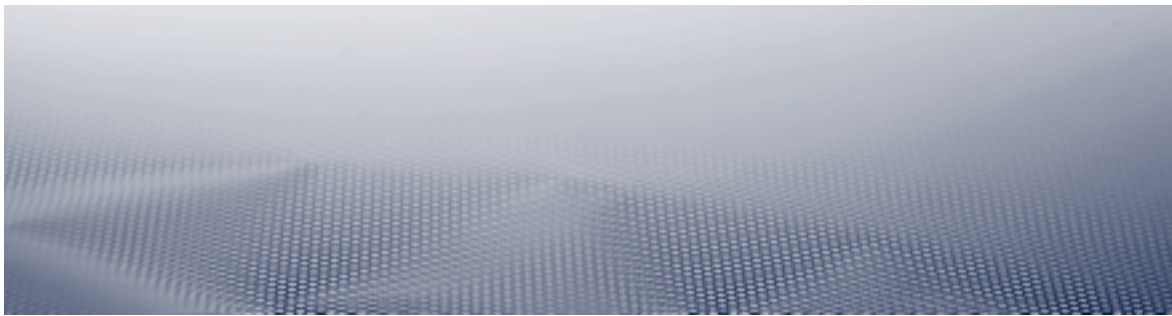
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## Technical data

### D22-Ex-Lite | D22-Ex-Lite CG-S | D22-Ex-Lite N

Marking to 94/9/EC	II 3 D Ex tD A22 IP 66 T80 °C
Type examination certificate	BVS 07 ATEX E 124
Circuit	Electronic power supply
Insulation class	I
Degree of protection EN 60529	IP 66
Cable glands	1 x Ex e-cable glands M25 x 1.5 (plastic) 1 x Ex e-blanking plug M25 x 1.5
Connecting terminals	3 x 2.5 mm <sup>2</sup> double terminals
Viewing distance	up to 28 m
Enclosure material	Light alloy
Protective cover	Mineral glass
Enclosure colour	Grey, RAL 7035
Type of mounting	Wall mounting
Dimensions in mm (L x W x H)	400 x 230 x 115
Permissible ambient temperature	- 20 °C to + 50 °C
Lamp/illuminant	High-efficiency LEDs, white

### D22-Ex-Lite

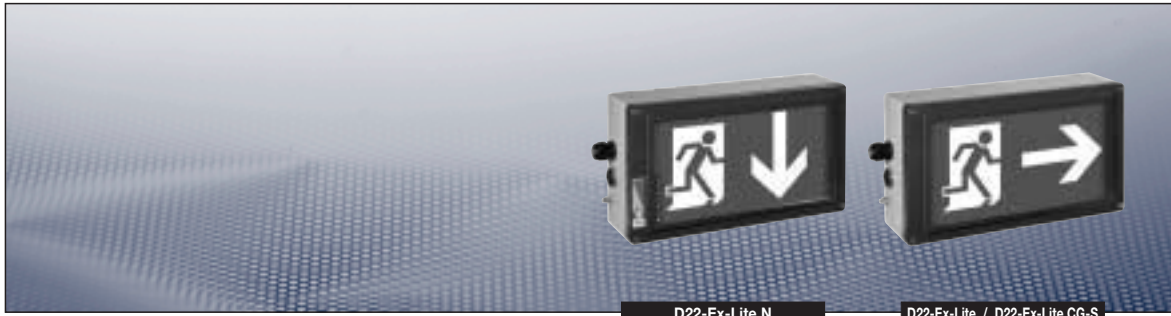
Rated voltage	AC: 110 - 277 V 50/60 Hz DC: 110 - 250 V DC: 12 - 24 V ±20 % (optional)
Power consumption	6 VA
Rated current	DC: 220 V = 20 mA, 110 V = 40 mA

### D22-Ex-Lite CG-S

Rated voltage	AC: 220 - 254 V, 50/60 Hz DC: 195 - 250 V
Power consumption	approx. 6 VA
Rated current	approx. 20 mA

### D22-Ex-Lite N

Rated voltage	AC: 110 - 277 V, 50/60 Hz DC: 110 - 250 V
Power consumption	approx. 8 VA
Battery	NC-Accu 12 V/600 mAh
Charging duration (Kap. > 90 %)	28 h
Rated emergency operating duration	3 h / specified data +5 °C to +35 °C

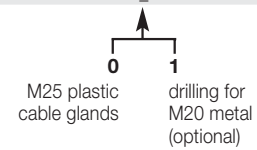


## Ordering details

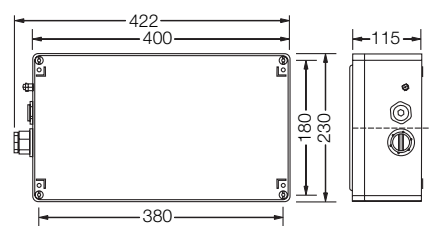
Type	Scope of delivery <sup>1)</sup>	Order No.
Type D22-Ex-Lite		
D22-Ex-Lite	incl. cover with pictogram PR	D22 1 2191 011 _01
	incl. cover with pictogram PL	D22 1 2191 011 _02
	incl. cover with pictogram PU	D22 1 2191 011 _03
	incl. cover, clear, without pictogram	D22 1 2191 011 _04
Type D22-Ex-Lite CG-S <sup>2)</sup>		
D22-Ex-Lite CG-S	incl. cover with pictogram PR	D22 1 2191 021 _01
	incl. cover with pictogram PL	D22 1 2191 021 _02
	incl. cover with pictogram PU	D22 1 2191 021 _03
	incl. cover, clear, without pictogram	D22 1 2191 021 _04
Type D22-Ex-Lite N		
D22-Ex-Lite N	incl. cover with silk screened legend PR	D22 1 2191 031 _01
	incl. cover with silk screened legend PL	D22 1 2191 031 _02
	incl. cover with silk screened legend PU	D22 1 2191 031 _03
	incl. cover, clear, without pictogram	D22 1 2191 031 _04

<sup>1)</sup> Other pictograms or inscriptions available on request.

<sup>2)</sup> For connection to CEAG emergency lighting apparatus with coding switch for 20 addresses.



## Dimension drawing | Pictogram



D22-Ex-Lite / D22-Ex-Lite CG-S /  
D22-Ex-Lite N



PL PR PU  
Escape sign acc. to latest standards

Dimensions in mm



## EX - SAFETY AND EMERGENCY LUMINAIRE

D22-Ex 6011.1  
Plastic version for Zone 22

The Ex-safety and emergency exit luminaire D22-Ex 6011.1 are in accordance to the ATEX-Directive 94/9/EG.

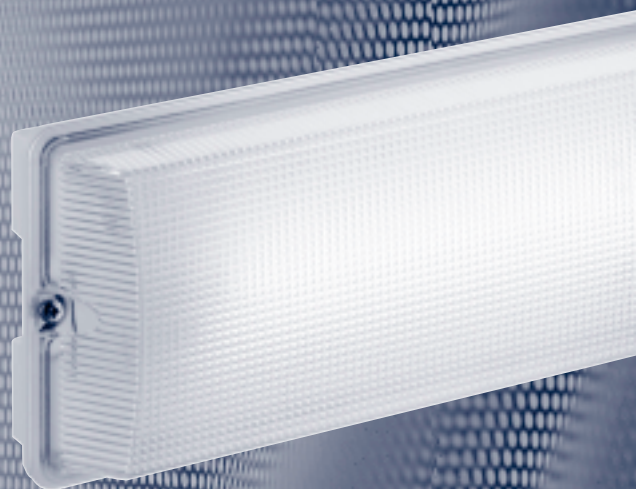
They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas as well as the European Norm EN 60598, Part 2.22 for emergency light fittings.

They are certified for the illumination of emergency exit routes, as well as for the marking of exit doors in Zone 22 hazardous areas, especially in conjunction with emergency lighting apparatus.

Housing and protective cover are made of polycarbonate. They are fitted with electronic ballasts and an 8 W fluorescent lamp.

There are 3 emergency exit stickers provided for direct application where needed. Due to their robust architecture and the high safety standard, they can be used as an in and/or outdoor light fitting.

With the CG-S-Module (for max. 20 light fittings) they can be connected as singularly monitored emergency light fittings to the CEAG emergency lighting supply system. The switching mode can be freely programmed by the operator for mixed operation in a single circuit.



**Housing/Cover made of Polycarbonate**

**Energy-saving EVG with 8 W fluorescent lamp**

**Connection to the CEAG emergency lighting supply system possible**





D22-Ex 6011.1 CG-S

D22-Ex 6011.1 CG-S

## Technical data

### D22-Ex 6011.1 | D22-Ex 6011.1 CG-S<sup>1)</sup>

Marking to 94/9/EC	II 3 D Ex tD A22 IP 55 T80 °C
Type examination certificate	BVS 07 ATEX E 129X
Viewing distance	approx. 26 m
Enclosure material	Polycarbonate
Enclosure colour	Grey RAL 7035
Protective cover	Polycarbonate
Rated voltage	AC: 230 V ± 10 %, 50-60 Hz / DC: 220 V + 25 % – 20 %
Power consumption	approx. 16 VA
Rated current	approx. 30 mA
Degree of protection accd. EN 60529	IP 55
Insulation class	I
Permissible ambient temperature	–10 °C to +40 °C
Cable glands	1 x Ex e-cable glands M20 x 1.5 1 x Ex e-blanking plug M20 x 1.5
Connecting terminals	3 x 2.5 mm <sup>2</sup> double terminals
Dimensions in mm (L x W x H)	400 x 160 x 103
Type of mounting	Wall- and ceiling-mounting
Lamp/illuminant	8 W fluorescent lamp T5
Weight	approx. 1.4 kg

## Ordering details

Type D22-Ex 6011.1	Scope of delivery	Order No.
D22-Ex 6011.1	Luminaire with cover, incl. 3 legends PR, PL, PU	<b>D22 4 0071 349 523</b>
D22-Ex 6011.1 CG-S <sup>1)</sup>	Luminaire with CG-S-module 20 addresses switch, with cover incl. 3 legends PR, PL, PU	<b>D22 4 0071 349 520</b>

<sup>1)</sup> for connection to CEAG emergency supply systems, with address switch for 20 addresses.

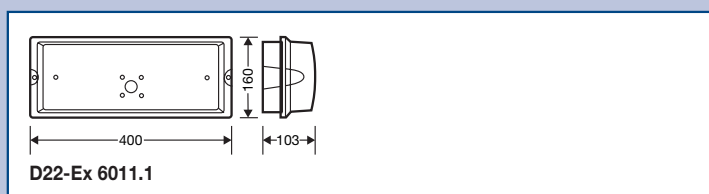
Scope of delivery with lamp and without fixing accessories.

## Accessories

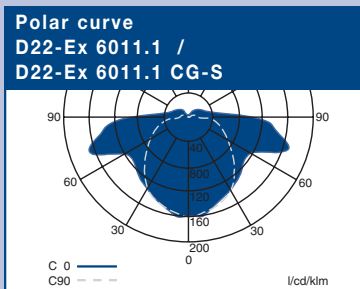
### Lamps for Ex-emergency- and signal-luminaires

For luminaire Type	Lamp type cap/diameter	Power	Luminous flux approx.	Order No.
D22-Ex 6011.1 and D22-Ex 6011.1 CG-S	T5, cap G5, Ø 16 mm	8 W	450 lm	<b>D22 4 0040 004 623</b>

## Dimension drawing | Polar curve



D22-Ex 6011.1



## EX - SIGNAL AND EMERGENCY LUMINAIRE

D22-dKLK 23  
Plastic version for Zone 22

These light fittings meet the requirements of ATEX-Directive 94/9/EC for temperature class T6. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas.

Additionally they fulfill the directive EN 60598, Part 2.22 for Emergency Lighting. The Ex-light fitting D22-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 (D22-dKLK 23 CG-S).



Signal light fitting, even with coloured protective globe or Exit cube in temperature class T80° environments

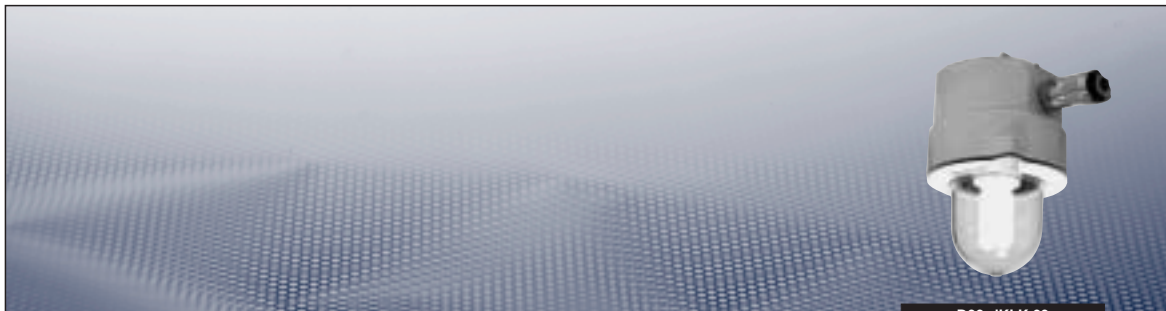
For compact fluorescent lamp with integrated EVG

For ceiling and wall mounting

Safety Standard IP 66

With possible connection to the CEAG emergency lighting supply systems

Optional flash module



D22-dKLK 23

Zone 22

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## Technical data

### D22-dKLK 23 | D22-dKLK 23 CG-S<sup>1)</sup>

Marking to 94/9/EC	II 3 D Ex tD A22 IP 66 T80 °C
Type examination certificate	BVS 07 ATEX E 130X
Enclosure material	Glass-fibre reinforced polyester
Protective cover	Polycarbonate
Rated voltage	AC: 230 V / DC: 230 V <sup>2)</sup>
Rated current	max. 25 mA <sup>2)</sup>
Degree of protection accd. EN 60529	IP 66
Insulation class	I
Permissible ambient temperature	–20 °C to max. +45 °C (depends on lamp power and mounting position, see table)
Power connection	flameproof inlet eXLink, 3pole or Ex d-cable glands
Connector (enclosed)	2 + PE cage clamp for cable from Ø 8-11 mm and max. 1.5 mm <sup>2</sup>
	or flameproof cable gland M20 x 1.5 for cables from Ø 8.5-16 mm
	terminal L, N, PE max. 2.5 mm <sup>2</sup> plug type terminals
Lamp/Illuminant	Compact fluorescent with integrated EVG, socket E27, power 5-8 W, for AC and DC
Weight	approx. 1.7 kg

### Accessories flash module type Eurolite E27 Strobe

Rated voltage	230 V/50 Hz +/- 10 %
Power consumption	5 W
Flash frequency	1-3 Hz

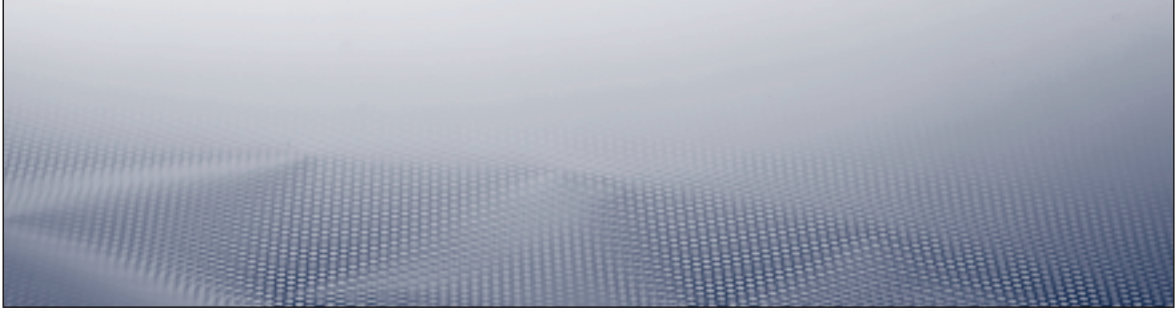
<sup>1)</sup> for connection to CEAG emergency supply systems, with address switch for 20 addresses.

<sup>2)</sup> depends on lamp

Scope of delivery without lamp and with fixing accessories.

## Illuminant

Max. power of lamp	Voltage	Ambient temp.	Light output towards	with/without Exit cube
5 W	230 V	–20 °C ... +40 °C	up	without
5 W	230 V	–20 °C ... +35 °C	up	with
5 W	230 V	–20 °C ... +45 °C	down	without
7 W	230 V	–20 °C ... +40 °C	down	without
8 W	230 V	–20 °C ... +40 °C	down	without
5 W flash light	230 V	–20 °C ... +45 °C	up	without





# EX-PENDANT LIGHT FITTINGS AND FLOODLIGHTS

ZONE 22

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EX-PENDANT LIGHT FITTING NVMV CHAMP

A4.2

EX-FLOODLIGHT NFMV

A4.6

A9

## EX - PENDANT LIGHT FITTING

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

The explosion-protected light fittings of the NVMV CHAMP series are in accordance to the ATEX-Directive 94/9/EG.

They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas.

The light fittings series NVMV CHAMP with the small housing is designed for lamps with a rating of 70 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 1 1/4" BSP is integrated in the light fitting.

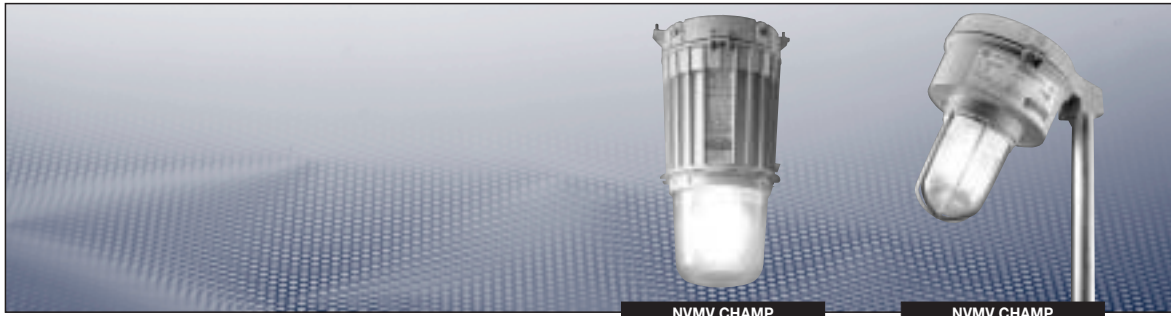
Apart from ceiling mounting, there are versions available for pole mounting (25° angle) and wall mounting.

A particularly durable sealing system for use under extreme climatic conditions brings additional reliability.

The restricted breathing 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
- Safety Standard IP 66/67
- High corrosion resistance
- Environmental temperatures up to +55 °C



NVMV CHAMP

NVMV CHAMP

Zone 22

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## Technical data

### Type NVMV CHAMP for high pressure discharge lamp up to 400 W

Marking to 94/9/EC	II 3 D IP 66/67 T <sup>1)</sup>
Conformity statement	PTB 00 ATEX 2215
Permissible ambient temperature	-20 °C to +55 °C
Rated voltage	240 V/50 Hz, other voltage on request
Power factor cos cos	> 0.9
Connecting terminals	L, N and PE; max. 2 x 2.5 mm <sup>2</sup>
Insulation class	I
Lamp cap	E 27 (70 W - 125 W) E 40 (150 W - 400 W)
Light efficiency in operation	without reflector: 74 % (70 - 150 W) / 78 % (280 - 400 W) with reflector: 64 % (70 - 150 W) / 64 % (280 - 400 W)
Degree of protection accd. EN 60529	IP 67/66
Cable glands	Drilling 4 x M25 x 1.5 with blanking plug
Dimensions in mm (L x W x H)	411 x 294 x 318 (70 - 150 W) 555 x 294 x 318 (250 - 400 W)
Weight	see ordering details
Enclosure material	copper-free aluminium with epoxy powder coating
Enclosure colour	grey
Enclosure material	Borosilicat glass

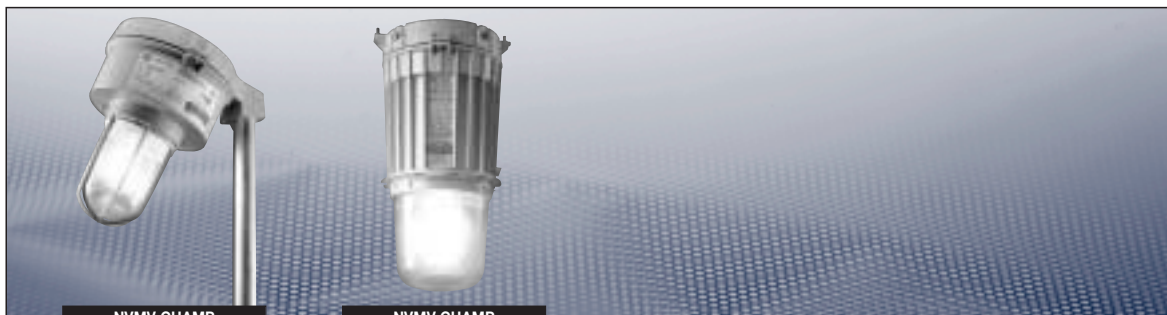
<sup>1)</sup> Max. surface temperatures see table

## Illuminant

For lamp	Power	Rated luminous flux*	Surface temperature -20 °C to +55 °C
High pressure mercury vapour lamp HME	125 W	6300 lm	195 °C
	250 W	13000 lm	195 °C
High pressure sodium vapour lamp HSE	70 W	5600 lm	130 °C
	150 W	14000 lm	195 °C
	250 W	25000 lm	195 °C
	400 W	47000 lm	195 °C
High pressure metal halide lamp HIE	250 W	17000 lm	195 °C
	400 W	30000 lm	290 °C

\* lamp based





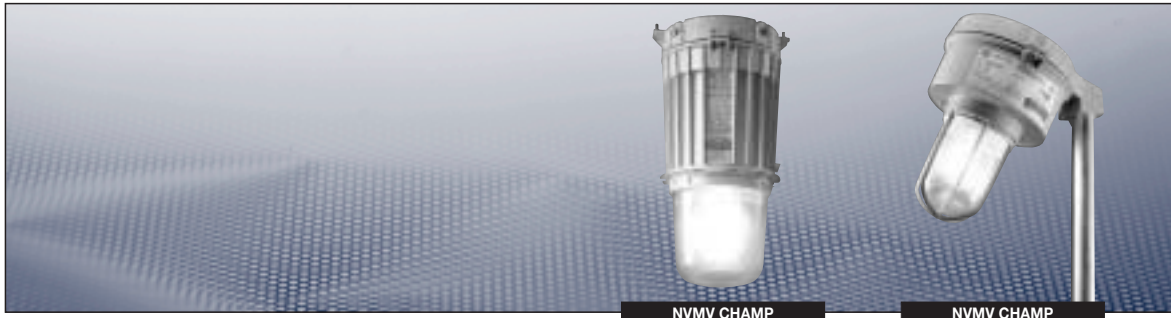
### Ordering details

Type	Mounting	HSE	HME	HIE	Weight (approx. kg)	Order No.	
NVMV... (small enclosure)							
S2MC076P000	Ceiling	70 W	125 W	70 W	6.6	1 2341 000 001	
S2MC156P000	Ceiling	150 W			7.0	1 2341 000 002	
H2MC126P000	Ceiling	70 W			7.0	1 2341 000 003	
M2MC076P000	Ceiling				150 W	6.6	1 2341 000 004
M2MC156P000	Ceiling				7.0	1 2341 000 005	
S2MW076P000	Wall	70 W	125 W	150 W	6.6	1 2341 000 051	
S2MW156P000	Wall	150 W			7.0	1 2341 000 052	
H2MW126P000	Wall	70 W			7.0	1 2341 000 053	
M2MW076P000	Wall				150 W	6.6	1 2341 000 054
M2MW156P000	Wall				7.0	1 2341 000 055	
S4BJ076P000	Thread* 1 1/4", BSP	70 W	125 W	150 W	6.6	1 2341 000 101	
S4BJ156P000	Thread* 1 1/4", BSP	150 W			7.0	1 2341 000 102	
H4BJ126P000	Thread* 1 1/4", BSP	70 W			7.0	1 2341 000 103	
M4BJ076P000	Thread* 1 1/4", BSP				6.6	1 2341 000 104	
M4BJ156P000	Thread* 1 1/4", BSP				7.0	1 2341 000 105	
NVMV... (large enclosure)							
S2MC256PL00	Ceiling	250 W	250 W	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				400 W	14.2	1 2342 000 004
M2MC406PL00	Ceiling				17.5	1 2342 000 005	
S2MW256PL00	Wall	250 W	250 W	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				400 W	15.5	1 2342 000 054
M2MW406PL00	Wall				17.6	1 2342 000 055	
S4BJ256PL00	Thread* 1 1/4", BSP	250 W	250 W	250 W	14.4	1 2342 000 101	
S4BJ406PL00	Thread* 1 1/4", BSP	400 W			17.6	1 2342 000 102	
H4BJ256PL00	Thread* 1 1/4", BSP	250 W			14.4	1 2342 000 103	
M4BJ256PL00	Thread* 1 1/4", BSP				14.4	1 2342 000 104	
M4BJ406PL00	Thread* 1 1/4", BSP				17.6	1 2342 000 105	

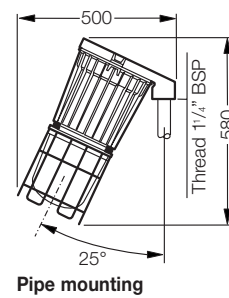
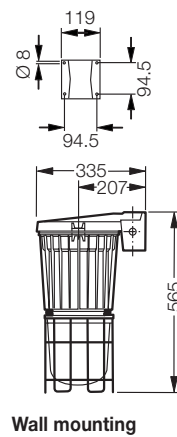
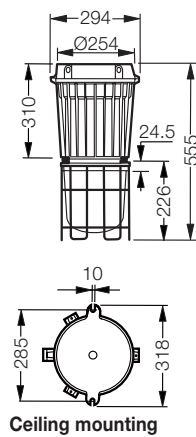
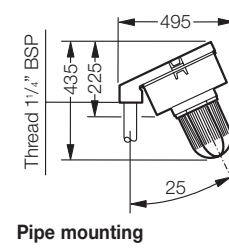
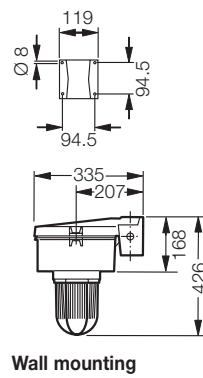
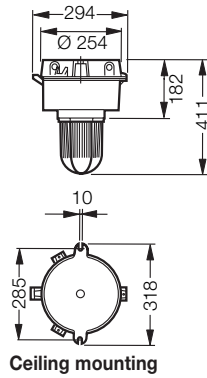
\*Thread for pole mounting

Scope of delivery without illuminant and fixing accessories.

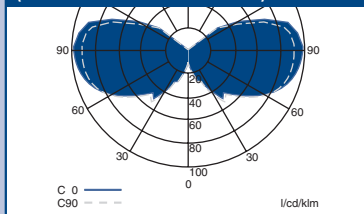




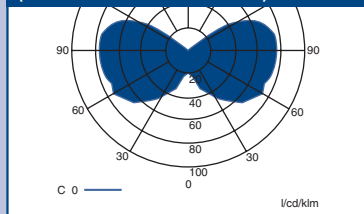
## Dimension drawing



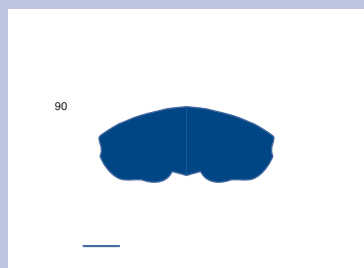
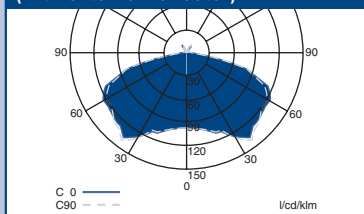
Polar curve NVMV CHAMP small encl. (without external reflector)



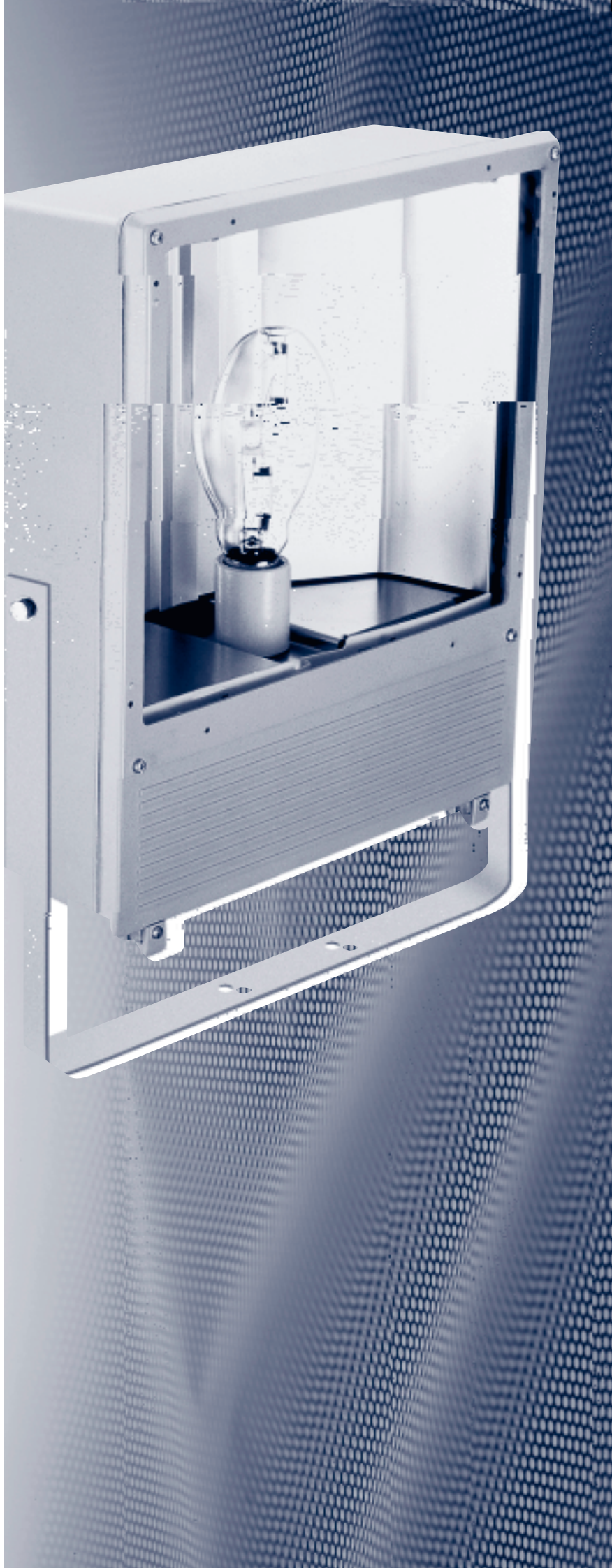
Polar curve NVMV CHAMP large encl. (without external reflector)



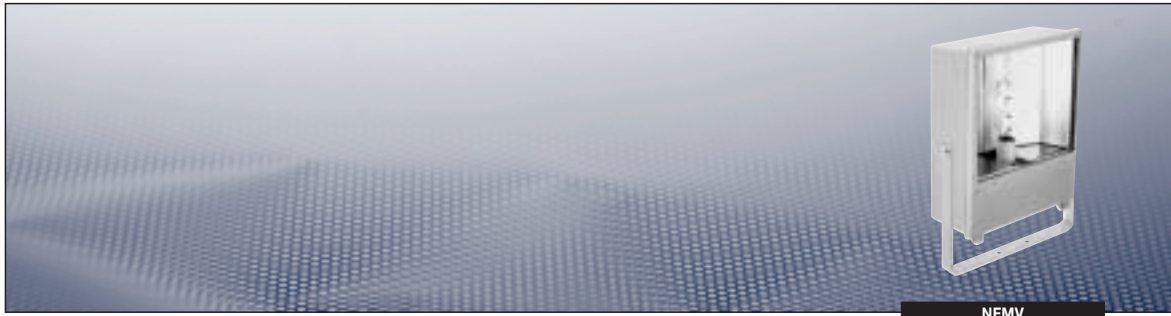
Polar curve NVMV CHAMP small encl. (with external reflector)



Dimension in mm



- Rotate and swivel light fitting housing, also for mast mounting
- Ideal for illumination of large areas and selective individual objects
- Safety Standard IP 66
- High corrosion resistance
- Environmental temperatures up to +55° C



NFMV

## Technical data

NFMV	
Marking to 94/9/EC	II 3 D IP 66 T <sup>1)</sup>
Conformity statement	PTB 00 ATEX 2214
Permissible ambient temperature	-20 °C to +55 °C
Rated voltage	240 V
Frequency	50 Hz
Power factor cos φ	> 0.9
Connecting terminals	L, N and PE; 2 x 2.5 mm <sup>2</sup>
Insulation class	I
Lamp/Illuminant	see ordering details
Lamp cap	E 40 to IEC 60238
Light efficiency in operation	44 %
Degree of protection accd. EN 60529	IP 66
Cable glands	2 x M20 x 1.5; 1 with blanking plug
Dimensions in mm (L x W x H)	660 x 430 x 175
Weight	see ordering details
Enclosure material	Copper free aluminium with epoxy powder coating
Enclosure colour	grey
Protective cover/protective bowl	Borosilicate glass

<sup>1)</sup> see table

## Ordering details

Type	Lamps			Rated luminous flux*	Max. surface temp.	Weight (approx. kg)	Order No.
	HSE	HME	HIE				
NFMV...							
HSE 150 W	150 W	250 W 400 W		14000 lm	95 °C	15.5	NOR 000 005 180 013
HSE 250 W	250 W			25000 lm	150 °C	16.9	NOR 000 005 180 014
HSE 400 W	400 W			47000 lm	195 °C	18.6	NOR 000 005 180 015
HME 250 W				13000 lm	155 °C	20.5	NOR 000 005 180 011
HME 400 W				22000 lm	195 °C	22.0	NOR 000 005 180 012
HIE 250 W				250 W	17000 lm	150 °C	16.9
HIE 400 W		400 W	30000 lm	195 °C	18.6	NOR 000 005 180 015	

Scope of delivery without illuminant and fixing accessories.

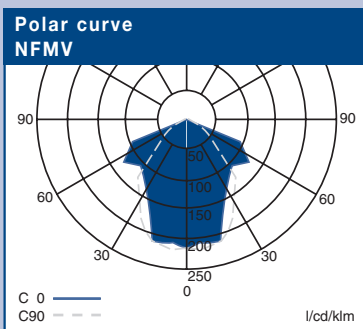
## Accessories

NFMV...		
Type	Menge	Order No.
Slip-fit adapter 2"	1	NOR 000 005 190 022

\* depends on luminaire



Technical drawings of the NFMV slip-fit adapter. The top left drawing shows a front view of the adapter with dimensions 430 (width), 660 (height), and M20x1.5 (thread). The bottom left drawing shows a side view with dimensions 175 (width) and 530 (height). The middle drawing shows a detailed view of the L-shaped bracket with dimensions 65, 450, 390, 120, 10, and Ø15. The right drawing shows a detailed view of the vertical post with dimensions 152.5, 120, 8, 254, 171.5, 70, 20, 83, and Ø163.5+1.0/-0.8. The text "Slip-fit adapter for NFMV" is located below the right drawing.





DO YOU STOP THE PRODUCTION  
JUST TO INSTALL A PLUG AND  
SOCKET

ZONE 22

A2

A3

A4

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WHAT IS EXLINK?

A5.2

EX-PLUGS AND SOCKETS

A5.5

CONNECTOR SYSTEM EXLINK

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EX-PLUGS AND SOCKETS

A5.18

EX-REPAIR AND MAINTENANCE SOCKETS

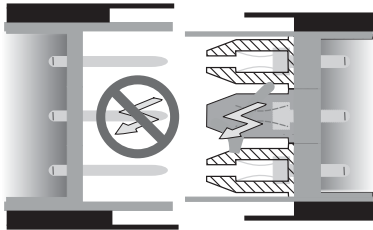
A5.32

A8

A9



### What is eXLink?



**eXLink** is a complete system for connecting and disconnecting product electrically. This system is available in different versions for different applications: 4-pole, 4-pole + PE and 6-pole + PE.

Here 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:



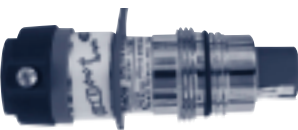
- **Moulded plastic**

The material used here 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 proved 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 substances.



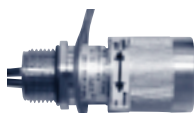
- **AISI 316L stainless steel**

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 inlets and receptacles have an integral M25 or NPT 3/4" thread.



## Components

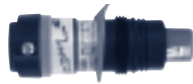
Different applications need individual solutions, who can be reached by the combination of different, well-suited components.

### • Plug:



Suitable as a cable end – with plug pins (male), must not be live when disconnected (**passive component**).

### • Coupler:



Suitable as a cable end – with contact sockets (female), can be live when disconnected (**active component**).

### • Receptacle:



Suitable for installation in products – with contact sockets (female), can be live when disconnect (**active component**).

### • Inlet:



Suitable for installation 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 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 later on.

### • 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 persons.





### 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 10 A continuously.

### Coding

Male and female connectors are coded using the IEC 309 system 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

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).

### Connection types

The **eXLink** is available in two connection types:

#### • Crimp connection

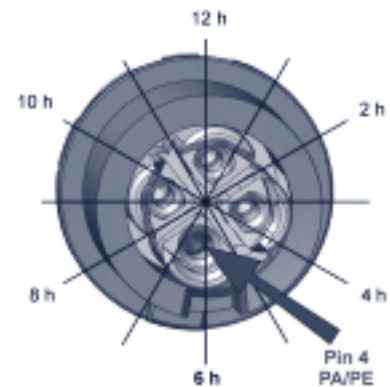
The conductors are crimped directly into the contact pins. The crimp connection is suitable for all cables from 0.75 to 1.5 mm<sup>2</sup> or in a second version up to 2.5 mm<sup>2</sup>. Cables from 0.34 mm<sup>2</sup> to 1.0 mm<sup>2</sup> or longer can be connected if they are soldered into the crimp pins.

#### • Cage clamp terminal

This solution allows conductors between 0.5 and 1.5 mm<sup>2</sup> in length to be installed 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 spring cage terminals.

### Extended ambient temperature range

The system is approved for a standard ambient temperature range of –55 °C to +75 °C. The dynamic compression of the moulded plastic version is reduced from –55 °C up to –25 °C. The temperature range from +40 °C up to +75 °C determines the dimensioning current to max. 2 A (4+1) resp. 1 A (6+1).



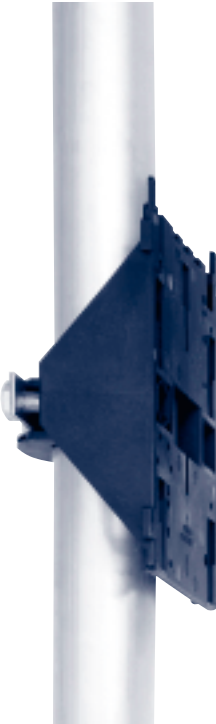




neutral conductor are switched. Therefore, arcing cannot occur when inserting or withdrawing the plug, because the socket pins are always voltage-free before the interlock is actuated or after it has been released.

#### Variable cable entries

Regardless of the application, whether using metal or plastic cable entries or hubs for the connection of conduit systems to UL, whether as standard on the bottom or optionally on the top, the new wall sockets can be fitted with a wide variety of cable entries. On request, an internal metal frame for potential equalization can be integrated when using metal cable glands.



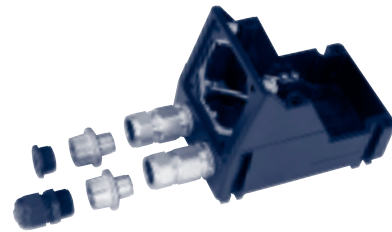
#### Simply clip on

A fully compatible clip-on mounting system is available for fixing the new wall socket onto walls, channels and pipes. Mounting plates made of glass-fibre reinforced plastic – if required, with a stainless steel canopy – are available in different sizes. They are simply pre-installed where required. The wall socket is then clipped onto the pre-installed mounting plate – its that simple! Thus, this system does not only simplify installation, but it also allows greater flexibility when replacing components and last, but not least, it saves time and money.



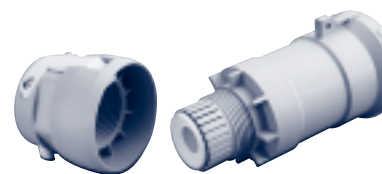
#### Voltage-free connection and disconnection

All CEAG explosion-protected sockets and couplers up to a rated current of 32 A are fitted with a flameproof interlocking switch that does not allow power to be drawn until the **correct plug** has been inserted and turned, whereby, not only the individual phases, but also the



#### All-in-One

The easily accessible cable clamp of the plugs and couplers provide strain relief and protection against twisting in one. The advantage: Any external forces on the cable are efficiently intercepted and do not affect the electrical connections.



#### Seal and IP protection

The particularly long seal of the cable entry ensures the high IP 66 ingress protection. Foreign matter and moisture have no chance. The diverse sealants that can be used allow for a generous clamp and sealing area.

# Zone 22

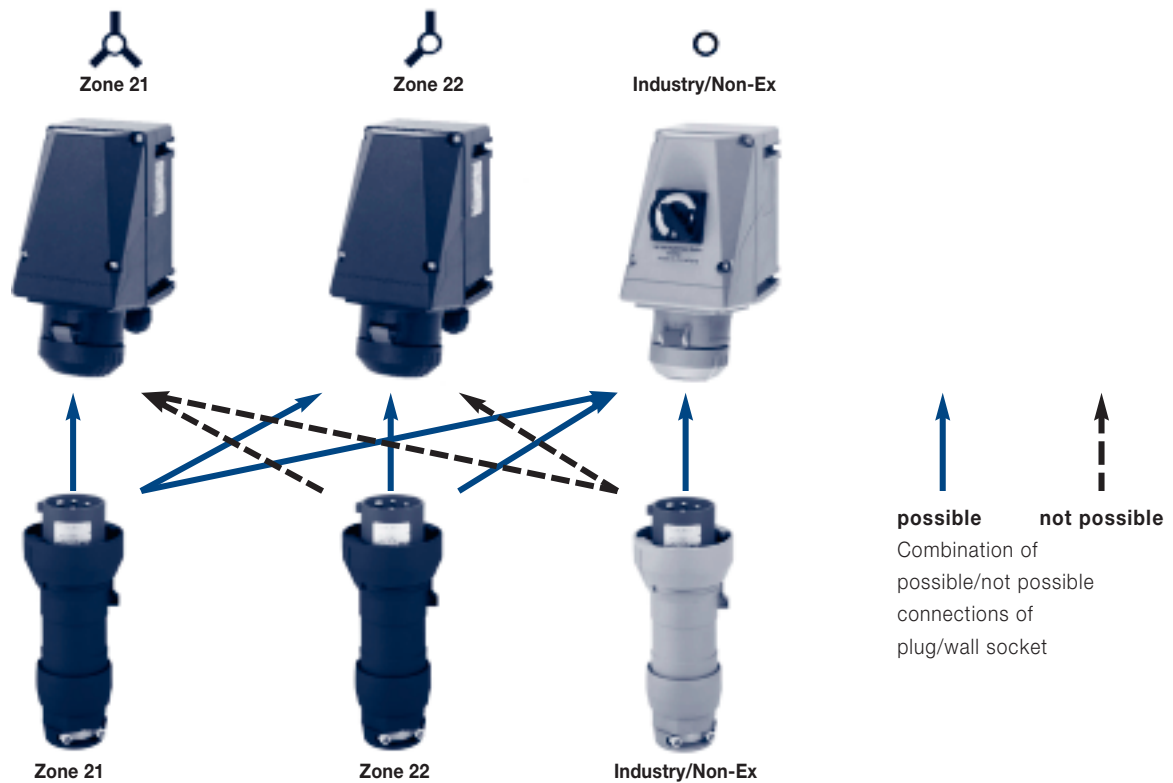
## The key to safety

Plugs and sockets with a cleverness: The innovative coding of apparatus allows plugs used for Zone 21 to be used in sockets for Zone 22 and/or for usage with industrial sockets as well. Hence, plugs and sockets for Zone 21 can be used anywhere. However, by the same token, the coding ensures that Zone 22 plugs cannot be operated in sockets with Zone 21 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 sockets.

Zone 21	Zone 22	Industrie

Coding of the plugs and sockets



### High ingress protection

The new plugs and sockets reliably supply electrical power, even under the most difficult circumstances. There are no problems with temperature change or 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 IP 66; and thanks to the new type of bayonet ring, the degree of protection IP 66 is also ensured when the plug is inserted – we tested that for you.

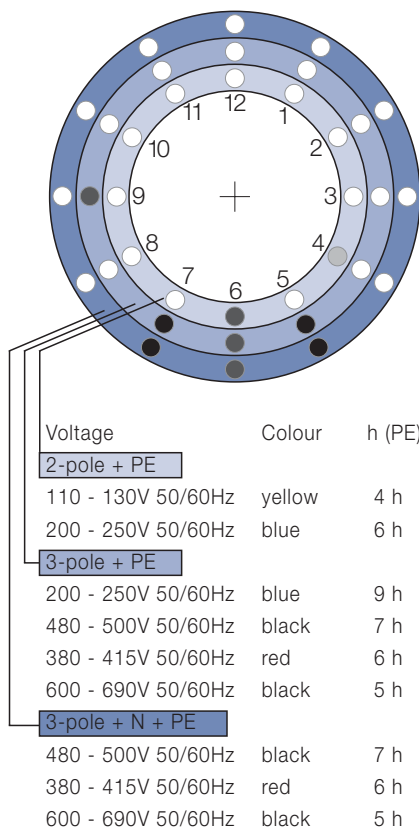


### CEE plugs and sockets

A first step towards creating an international standard for industrial plugs and sockets was taken with the IEC 60309 and CEE Publication 17, "Requirements for Plugs and Sockets for Industrial Use".

"IEC" stands for "INTERNATIONAL ELECTRICAL COMMISSION".

When selecting plugs and sockets from the existing ranges for standardization, preference was given to round plugs and sockets, as the contact-making insert can be arranged in various positions (hours of day). This allows a high degree of differentiation of plugs and sockets with regard to the various types of currents, voltages, frequencies, etc.





# CONNECTOR SYSTEM eXLink

4-pole/4-pole + PE  
Plastic and Metal design for Zone 22

## Safety with a system

Thanks to the **exLink**, the new generation of miniaturized Ex-plugs and sockets, the electrical connection of luminaires, trace heating systems, balances, actuators, sensors, etc. or even three-phase electric motors with winding monitoring (PT 100) or servo signals for controlling the revolutions with a current consumption of up to **10 A** is really easy, simply plug-and-play.

Thus, these devices can be connected and disconnected in dust-ex hazardous areas of zone 22 at all times without safe isolation and additional measures, even in hazardous areas.

The compact dimensions allows to integrate this connector series in all usual field devices and terminal boxes. A wide range of different components in 4-pole and 4-pole + PE in different designs will offer you solutions for nearly every application.

The couplers, plugs, receptacles, inlets, elbows and Y-adaptors of the series eXLink are designed in the type of protection Ex-d. They are extremely small and can be used in the instrumentation technology for all active devices and sensors. The contact pins feature the time-tested CEAG contacts made of specially treated copper-beryllium tape. They are punched out like a jalousie and have a large number of contact points that guarantee a continuous and faultless electrical contact. A coupling ring integrated in the plug enclosure guarantees the mechanical strength of the connection. Depending upon the operational area conditions and installation practice used on site, the user can choose between cold impact resistant moulded plastic, nickel-plated brass or stainless steel versions.

Similar to the CEE system, the plugs and sockets can be coded for non-interchangeability and specific applications. In accordance with the requirements for an up-to-date, safe and time-saving installation, none of the components has screws. The available connection methods include crimping or cage-type spring-tension terminals.

### Compact design

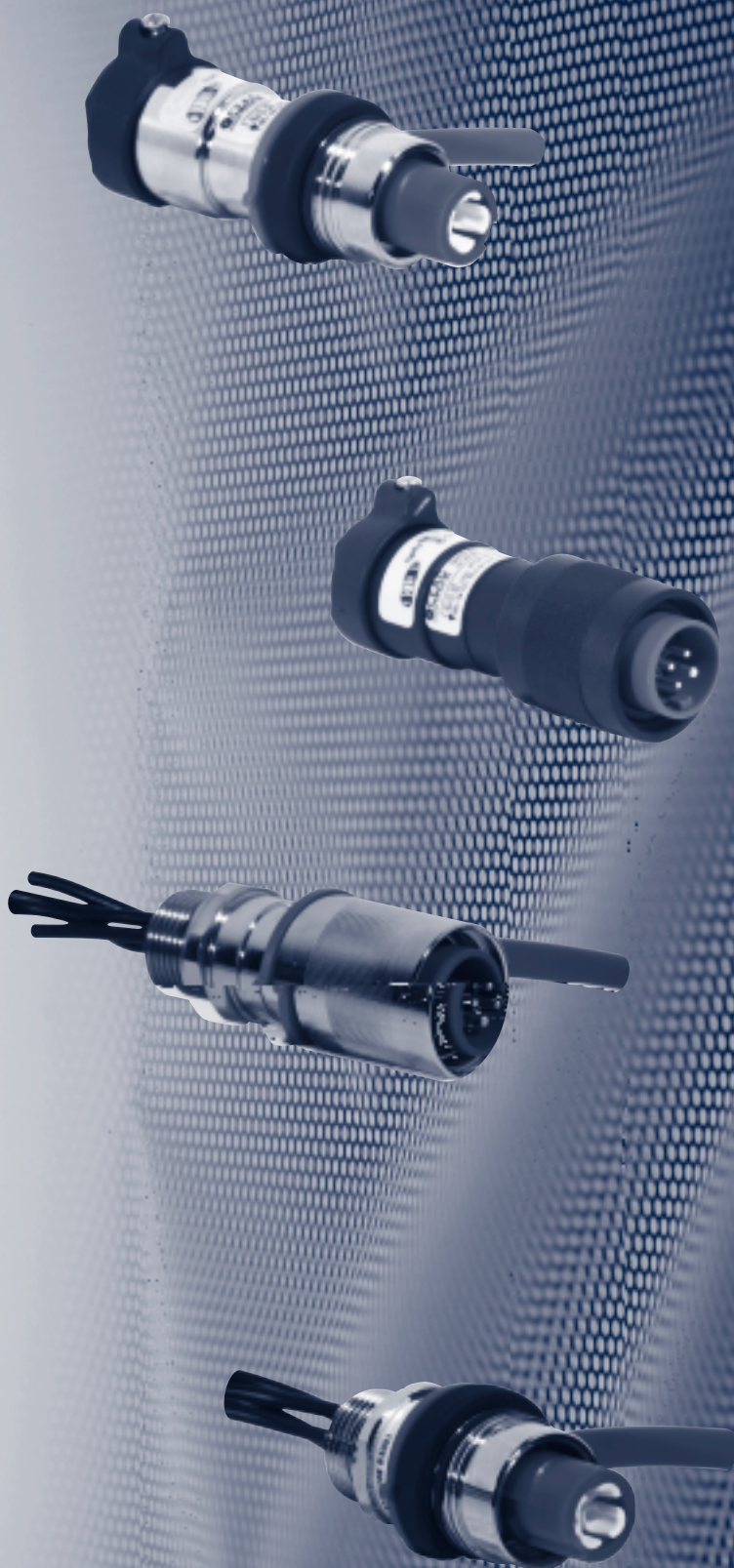
### Safety standard IP 66 (IP68)

### Self-cleaning lamellar contacts, low transition resistance

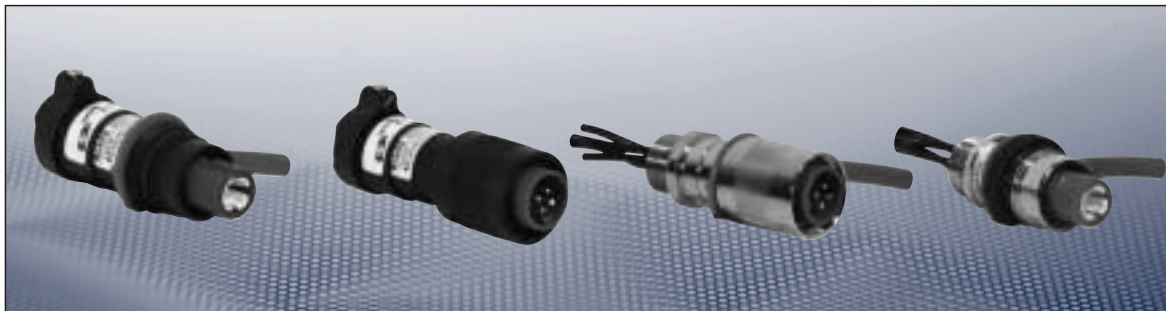
### All-pole on/off switching

### Easy plugging

### International approvals







Zone 22

## Technical data

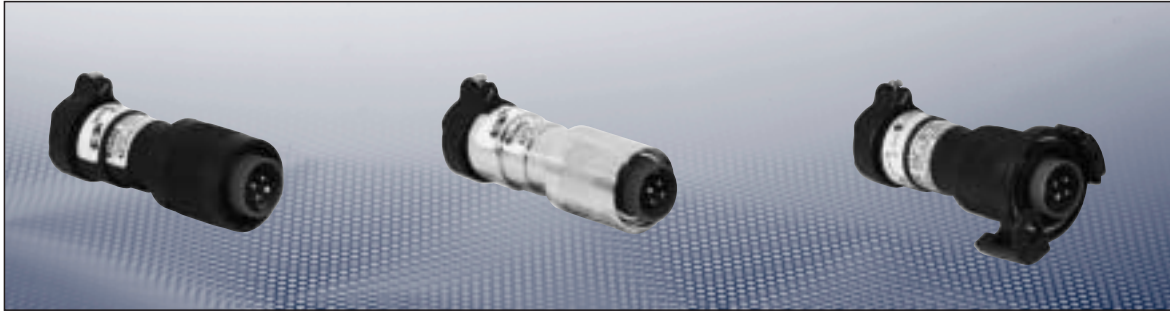
eXLink 4-pole / 4-pole + PE	
Marking to 94/9/EC	II 3 D Ex tD A22 IP 66 T80 °C
Type examination certificate	BVS 07 ATEX E 119 X
Rated voltage	AC up to 250 V, 50/60 Hz / DC up to 60 V
Rated current	max. 10 A
Switching capacity acc. EN 61 984 AC:	250 V / 10 A
DC:	60 V / 2.5 A
Switching capacity acc. EN 60 947-4 AC-3:	250 V / 1 A
DC-3:	60 V / 0.5 A
Max. back-up fuse max. without thermal protection	10 A
Max. back-up fuse max. with thermal protection	20 A gL
Insulation class accd. EN 60598	II: plastic / I: metal
Frequency range	0-100 MHz, fast Ethernet compatible
Transmission performance acc. to TIA/EIA-568-B.2	Category 5e up to 100 Mbaud
Permissible ambient temperature	-55 °C up to +40 °C (rated current 10 A)
Extended temperature range	-55 °C up to +75 °C (rated current 2 A)
Elbow, plastic	-20 °C up to +40 °C
Store temperature in original wrapping	-55 °C up to +80 °C
Degree of protection accd. EN 60529	IP 66/IP 68 with closed and locked protective caps or duly plugged and locked components
Enclosure material	
Plug, coupler, inlet < 2000 cm <sup>3</sup> and receptacle	Polyamid, nickel plated brass or stainless steel AISI 316L
Inlet > 2000 cm <sup>3</sup> and plug/coupler for armoured cables	Nickel plated brass or stainless steel AISI 316L
Terminal cross section	
Plug, coupler	Crimp 1.5 mm <sup>2</sup> : 0.75 - 1.5 mm <sup>2</sup> / Solder: 0.34 - 1.0 mm <sup>2</sup>
	Crimp 2.5 mm <sup>2</sup> : 1.5 - 2.5 mm <sup>2</sup>
	Cage clamp <sup>1)</sup> : 0.5 - 1.0 mm <sup>2</sup> multi wire, 0.5 - 1.5 mm <sup>2</sup> single wire
Inlet, receptacle in plastic	Crimp 1.5 mm <sup>2</sup> : 0.75 - 1.5 mm <sup>2</sup> / Solder: 0.34 - 1.0 mm <sup>2</sup>
	Crimp 2.5 mm <sup>2</sup> : 1.5 - 2.5 mm <sup>2</sup>
Inlet, receptacle in metal	30 cm multi wire: 1.5 mm <sup>2</sup> / 2.5 mm <sup>2</sup>
Cable entry plug and coupler	Ø 4 - 7.5 mm / Ø 7.5 - 11 mm
Cable entry plug and coupler for armoured cables	external isol. Ø 12 - 21 mm / internal isol. Ø 8.5 - 16 mm / armour 0 - 1.5 mm
Cable entry inlet and receptacle	M20 x 1.5 / 1/2" NPT

<sup>1)</sup> not for 4-pole + PE

2. Type
1 = Elbow
3 = Coupler
6 = Inlet > 2000 cm <sup>3</sup>
7 = Plug
8 = Receptacle
9 = Inlet

3. Connection technology
1 = Crimp up to 1.5 mm <sup>2</sup>
2 = Crimp up to 2.5 mm <sup>2</sup>
6 = Cage clamp

4. Coding
01 = 1 h / Ethernet*
02 = 2 h / Bus
03 = 3 h / Special code*
04 = 4 h / 110 V AV 2p + PE
05 = 5 h / 24 V DC 4p + PE*
06 = 6 h / 230 V AC 2p + PE
07 = 7 h / Special code*
08 = 8 h / 24 V DC 4p



Zone 22

## Ordering key eXLink plug 4-pole

# D22 571 7XXX RXX0X

1. Connection technology	2. Coding	3. Material	4. Accessories	5. Diameter of connection cable
1 = Crimp up to 1.5 mm <sup>2</sup>	02 = 2 h	0 = Plastic	0 = without locking device	1 = 4 – 7.5 mm
2 = Crimp up to 2.5 mm <sup>2</sup>	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	
	08 = 8 h			
	12 = 12 h			

## Ordering details

Voltages	No. of poles	Coding	Connection	Diameter of connection cable	
				4 – 7.5 mm Order No.	7.5 – 11 mm Order No.
Plug made of plastic					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm²	D22 571 7102 R0001	D22 571 7102 R0002
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm²	D22 571 7106 R0001	D22 571 7106 R0002
24 V DC	4-pol	8 h	Crimp up to 1.5 mm²	D22 571 7108 R0001	D22 571 7108 R0002
Plug made of nickel-plated brass					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm²	D22 571 7102 R3001	D22 571 7102 R3002
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm²	D22 571 7106 R3001	D22 571 7106 R3002
24 V AC	3-pol + PE	8 h	Crimp up to 1.5 mm²	D22 571 7108 R3001	D22 571 7108 R3002

Other versions on request.

A2

A3

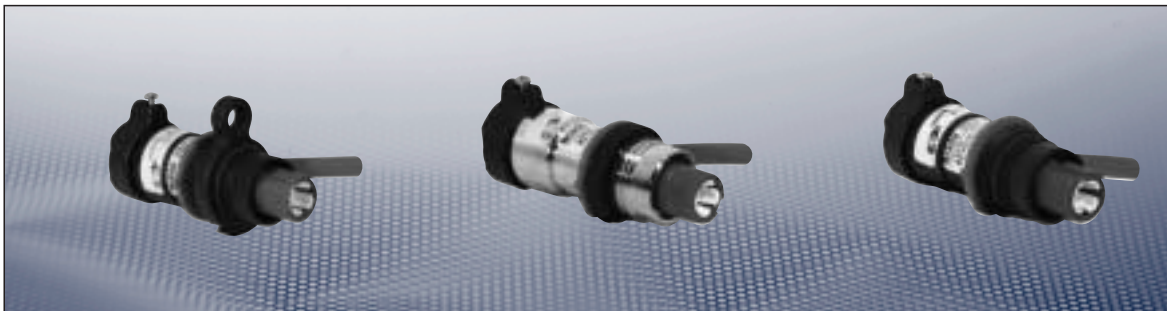
A4

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### Ordering key eXLink coupler 4-pole

## D22 571 3XXX RXX0X

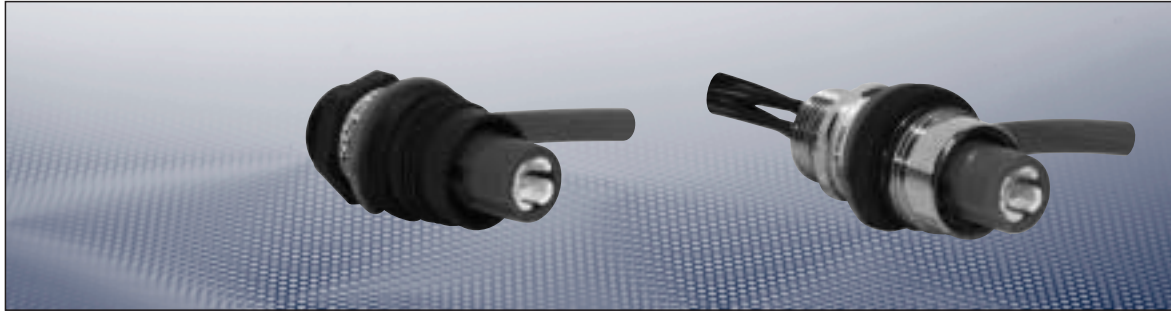
1. Connection technology	2. Coding	3. Material	4. Accessories	5. Diameter of connection cable
1 = Crimp up to 1.5 mm <sup>2</sup>	02 = 2 h	0 = Plastic	0 = without locking device	1 = 4 – 7.5 mm
2 = Crimp up to 2.5 mm <sup>2</sup>	04 = 4 h	1 = Stainless steel AISI 316L	9 = with locking device	2 = 7.5 – 11 mm
6 = Cage-clamp	06 = 6 h	3 = Nickel-plated brass		
	08 = 8 h			
	12 = 12 h			

### Ordering details

Voltage	No. of poles	Coding	Connectiong	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 mm <sup>2</sup>	<b>D22 571 3102 R0001</b>	<b>D22 571 3102 R0002</b>
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm <sup>2</sup>	<b>D22 571 3106 R0001</b>	<b>D22 571 3106 R0002</b>
24 V DC	4-pol	8 h	Crimp up to 1.5 mm <sup>2</sup>	<b>D22 571 3108 R0001</b>	<b>D22 571 3108 R0002</b>
Coupler made of nickel-plated brass					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm <sup>2</sup>	<b>D22 571 3102 R3001</b>	<b>D22 571 3102 R3002</b>
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm <sup>2</sup>	<b>D22 571 3106 R3001</b>	<b>D22 571 3106 R3002</b>
24 V DC	4-pol	8 h	Crimp up to 1.5 mm <sup>2</sup>	<b>D22 571 3108 R3001</b>	<b>D22 571 3108 R3002</b>

Other versions on request.





Zone 22

## Ordering key eXLink receptacle 4-pole

**D22 571 8XXX RXX0X**

X = Count No.

1. Connecting technology	2. Coding	3. Material	4. Diameter of connection cable
1 = Crimp <sup>1)</sup> /30 cm multi wire up to 1.5 mm <sup>2</sup>	02 = 2 h	0 = Plastic	0 = without locking device
2 = Crimp <sup>1)</sup> /30 cm multi wire up to 2.5 mm <sup>2</sup>	04 = 4 h	1 = Stainless steel AISI 316L with M20 thread	9 = with locking device
<sup>1)</sup> only plastic version	06 = 6 h	3 = Nickel-plated brass with M20 thread	
	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	

## Ordering details

Voltage	No. of poles	Coding	Connection	Thread	Order No.
Receptacle made of plastic					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>D22 571 8102 R0001</b>
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>D22 571 8106 R0001</b>
24 V DC	4-pol	8 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>D22 571 8108 R0001</b>
Receptacle made of nickel-plated brass					
BUS	3-pol + PA	2 h	30 cm multi wire 1.5 mm <sup>2</sup>	M20 x 1.5	<b>D22 571 8102 R3001</b>
230 V AC	2-pol + PE	6 h	30 cm multi wire 1.5 mm <sup>2</sup>	M20 x 1.5	<b>D22 571 8106 R3001</b>
24 V DC	4-pol	8 h	30 cm multi wire 1.5 mm <sup>2</sup>	M20 x 1.5	<b>D22 571 8108 R3001</b>

Other versions on request.

A2

A3

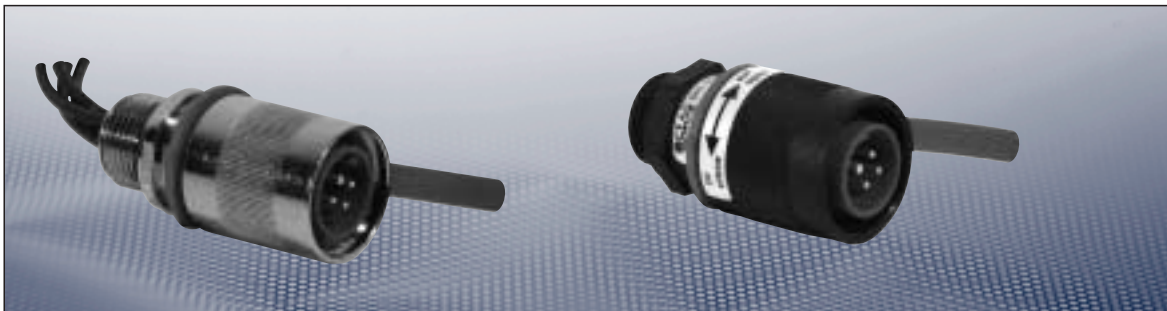
A4

A5

A6

A8

A9



### Ordering key eXLink inlet 4-pole

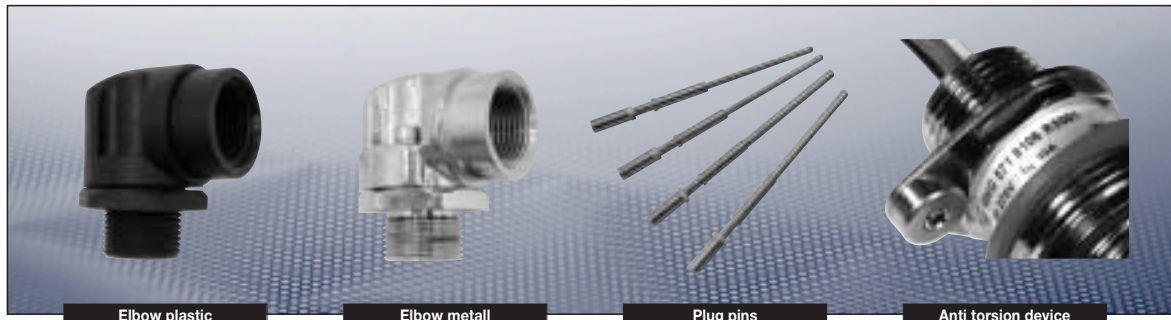
**D22 571 9XXX RXX0X** — X = Count No.

1. Connection technology	2. Coding	3. Material	4. Diameter of connection cable
1 = Crimp/30 cm multi wire <sup>1)</sup> up to 1.5 mm <sup>2</sup>	02 = 2 h	0 = Plastic	0 = without locking device
2 = Crimp/30 cm multi wire <sup>1)</sup> up to 2.5 mm <sup>2</sup>	04 = 4 h	1 = Stainless steel AISI 316L with M20 thread	9 = with locking device
<sup>1)</sup> only in plastic version	06 = 6 h	3 = Nickel-plated brass with M20 thread	
	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	

### Ordering details

Voltage	No. of poles	Coding	Connection	Thread	Order No.
Inlet made of plastic					
Ethernet/Bus	3-pol + PA	2 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>D22 571 9102 R0001</b>
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>D22 571 9106 R0001</b>
24 V DC	4-pol	8 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>D22 571 9108 R0001</b>
Inlet made of nickel-plated brass V < 2000 cm <sup>3</sup>					
Ethernet/Bus	3-pol + PA	2 h	30 cm up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>D22 571 9102 R3001</b>
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>D22 571 9106 R3001</b>
24 V DC	4-pol	8 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>D22 571 9108 R3001</b>

Other versions on request.



## Ordering key eXLink elbow

# GHG 571 1000 RX001

### Material

0 = Plastic

1 = Stainless steel AISI 316L

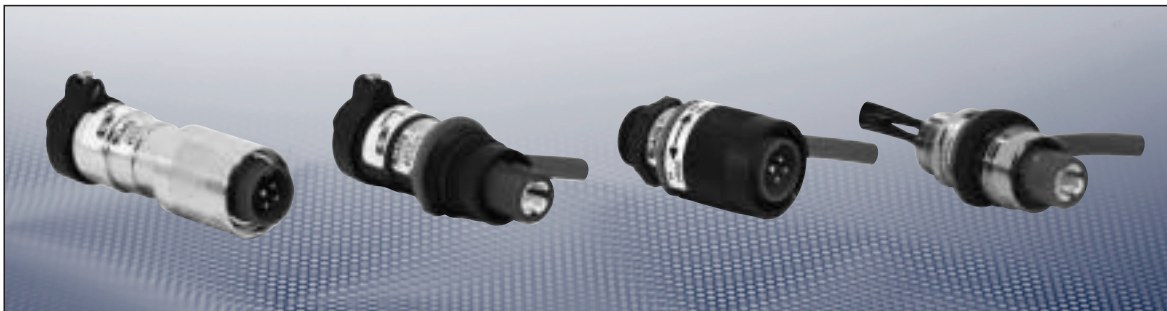
3 = Nickel-plated brass

## Ordering details

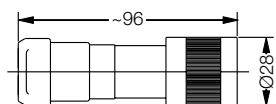
Type	Material	Order No.
Elbow M20	Plastic	GHG 571 1000 R0001
Elbow M20	Stainless steel AISI 316L	GHG 571 1000 R1001
Elbow M20	Nickel-plated brass	GHG 571 1000 R3001

## Accessories

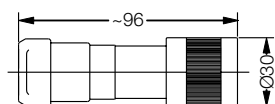
Type	BE	Version 3+PE	4 pol.	4+PE	Order No.
Set of socket contacts 1.5 mm <sup>2</sup> , 4-pole	1	X	X	–	GHG 570 1905 R0001
Set of socket contacts 2.5 mm <sup>2</sup> , 4-pole	1	X	X	–	GHG 570 1905 R0002
Set of socket contacts 1.5 mm <sup>2</sup> , 4-pole + PE-contact	1	–	–	X	GHG 570 1905 R0003
Set of socket contacts 2.5 mm <sup>2</sup> , 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 coupler/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 coupler/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 1.5 mm <sup>2</sup> , 3-pole + PE (PE leading AC)	1	X	–	–	GHG 570 1904 R0003
Set of plug pins 1.5 mm <sup>2</sup> , 4-pole (legging DC)	1	–	X	–	GHG 570 1904 R0001
Set of plug pins 2.5 mm <sup>2</sup> , 3-pole + PE (PE leading AC)	1	X	–	–	GHG 570 1904 R0004
Set of plug pins 2.5 mm <sup>2</sup> , 4-pole (legging DC)	1	–	X	–	GHG 570 1904 R0002
Set of plug pins 1.5 mm <sup>2</sup> , 4-pole + PE-contact	1	–	–	X	GHG 570 1904 R0005
Set of plug pins 2.5 mm <sup>2</sup> , 4-pole + PE-contact	1	–	–	X	GHG 570 1904 R0006
Screw 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	1	X	X	X	GHG 570 1901 R0001



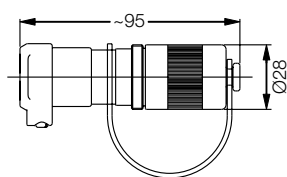
## Dimension drawing eXLink



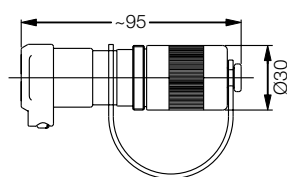
Plug metal version



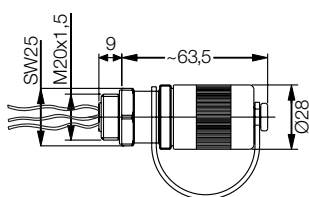
Plug plastic version



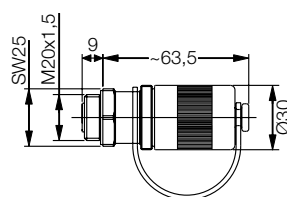
Coupler metal version



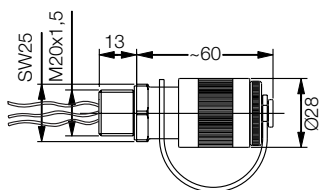
Coupler plastic version



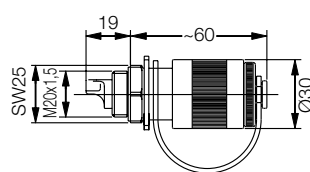
Inlet metal version



Inlet plastic version



Receptacle metal version



Receptacle plastic



A2

A3

A4

A5

A6

A8

A9

# E X - P L U G S   A N D   S O C K E T S

16 A to 125 A  
Plastic version for Zone 22

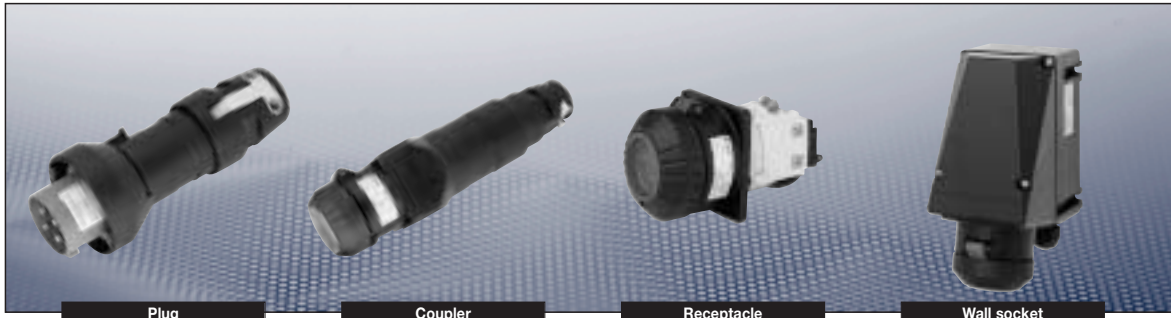
## A good contact

Providing electrical energy there, where it is most needed – even in explosion hazardous areas for the Zone 22. CEAG plugs and sockets are designed and tested acc. to the new EU standard IEC 61241-0 and –1 (EN 61241-0 and –1) for Ex equipment for use in Zone 22 of dust Ex-areas.

Portable electrical apparatus have generally high requirements on the energy/power supply. 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. 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 utilization. CEAG plugs and sockets 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 pertaining 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.

- Safety standard IP 66 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





Plug

Coupler

Receptacle

Wall socket

Zone 22

## Technical data

### Ex-plugs and sockets acc. to IEC 60309-1/2 16A

Marking to 94/9/EC	II 3 D Ex tD A22 IP 66 T80 °C
Type examination certificate	Wall socket, plug and coupler: BVS 07 ATEX E 115 Receptacle: BVS 07 ATEX E 126 U
Permissible ambient temperature	-20 °C to +40 °C <sup>1)</sup>
Rated voltage	up to 400 V~ (3-pole) / 690 V (4-pole) / 500 V (5-pole)
Rated current	up to 16 A
Frequency	up to 400 Hz
Switch rating AC-3	16 A/400 V
Back up fuse, max.	without thermal protection: 16 A with thermal protection: 35 A gL (rated current 16 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP 66

### Wall socket

Cable gland	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 mm <sup>2</sup>
Enclosure material	Glass-fibre reinforced polyester

### Plug

Cable gland	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 mm <sup>2</sup>
Enclosure material	Polyamide

### Coupler

Cable gland	Ø 8 - 19 mm (3-pole) / Ø 8 - 21 mm (4-pole) / 12 - 21 mm (5-pole)
Connecting terminals	2 x 1 - 4 mm <sup>2</sup>
Enclosure material	Polyamide

### Receptacle

Connecting terminals	2 x 1 - 4 mm <sup>2</sup>
Enclosure material	Polyamide

<sup>1)</sup> Other ambient temperature on request

A2

A3

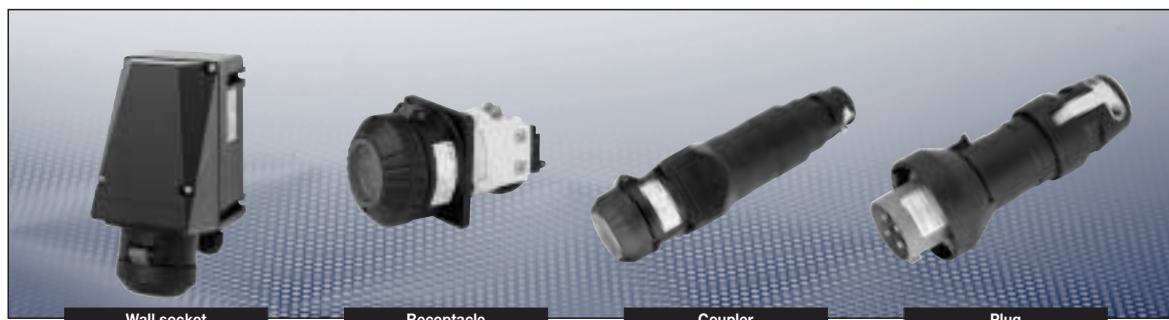
A4

A5




A6

A8

A9



## Ordering details

Voltage	h	Type	Auxiliary contact	Cable glands	Weight approx.	Order No.
Type 16 A 3-pole						
200-250 V		Wall socket		M25 KU	1.2 kg	<b>D22 516 4306 R0001</b>
		Wall socket		M20 ME	1.3 kg	<b>D22 516 4306 R3001</b>
		Receptacle			0.4 kg	<b>D22 516 8306 R0001</b>
		Coupler			0.7 kg	<b>D22 516 3306 R0001</b>
		Plug			0.35 kg	<b>D22 516 7306 R0001</b>
Type 16 A 4-pole						
380-415 V	 6	Wall socket		M25 KU	1.8 kg	<b>D22 516 4406 R0001</b>
		Wall socket		M20 ME	1.9 kg	<b>D22 516 4406 R3001</b>
		Wall socket	yes	M25 KH	1.8 kg	<b>D22 516 4406 R0501</b>
		Receptacle			1.0 kg	<b>D22 516 8406 R0001</b>
		Coupler			1.7 kg	<b>D22 516 3406 R0001</b>
Plug			0.7 kg	<b>D22 516 7406 R0001</b>		
Type 16 A 5-pole						
200-250 V 380-415 V	 6	Wall socket		M25 KU	1.8 kg	<b>D22 516 4506 R0001</b>
		Wall socket		M20 ME	1.9 kg	<b>D22 516 4506 R3001</b>
		Wall socket	yes	M25 KH	1.8 kg	<b>D22 516 4506 R0501</b>
		Receptacle			1.0 kg	<b>D22 516 8506 R0001</b>
		Coupler			1.7 kg	<b>D22 516 3506 R0001</b>
Plug			0.7 kg	<b>D22 516 7506 R0001</b>		

Other voltage ranges and versions 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

Fixing material and accessories see page A5.22





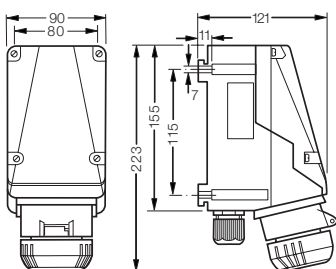
Plug

Coupler

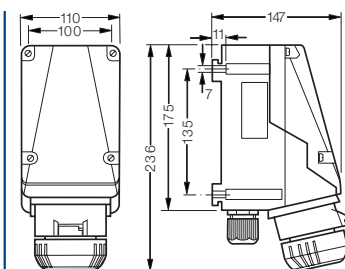
Receptacle

Wall socket

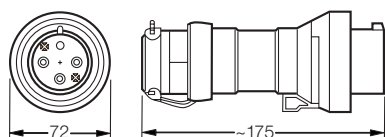
## Dimension drawing | circuit diagram



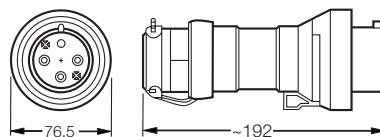
Wall socket 3-pole



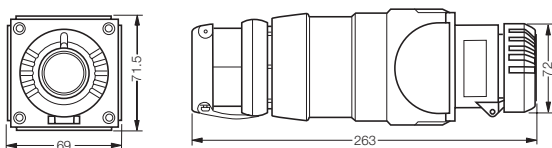
Wall socket 4/5-pole



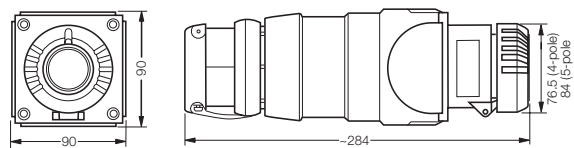
Plug 3-pole



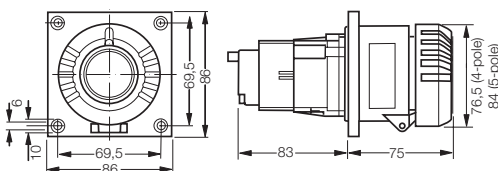
Plug 4/5-pole



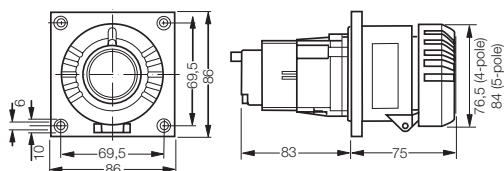
Coupler 3-pole



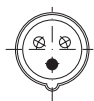
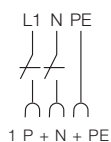
Coupler 4/5-pole



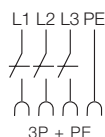
Receptacle 3-pole



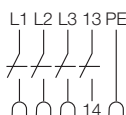
Receptacle 4/5-pole



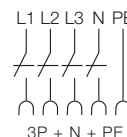
without  
auxiliary contact



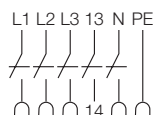
with  
auxiliary contact



without  
auxiliary contact



with  
auxiliary contact



Dimensions in mm



## Accessories

### Mounting plates for wall socket 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

### 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

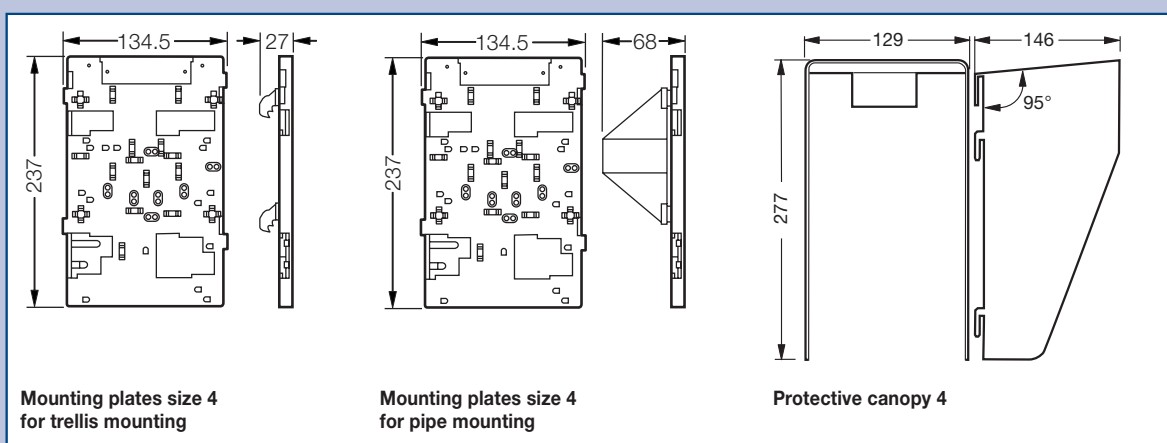
Type	Ordering unit	Order No.
Mounting set for pipes 1" (Ø 27 - 30 mm) for mounting plates with pipe fixing	10	GHG 610 1953 R0020

Please pay attention to that only order units (OU) according to the ordering details can be delivered.

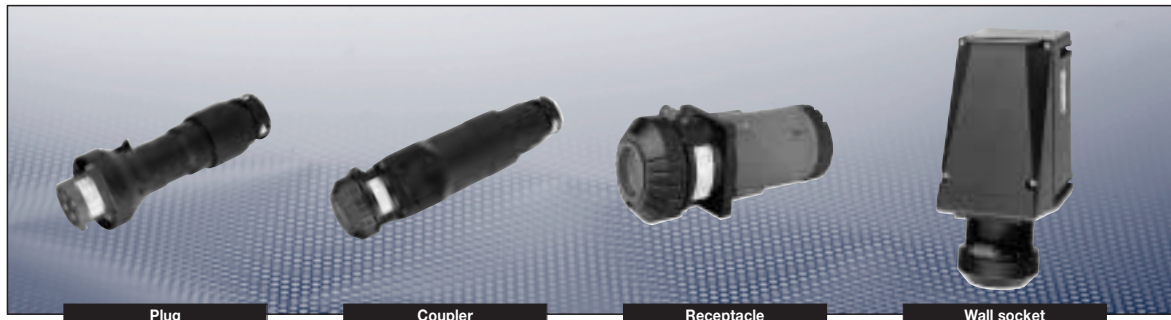
### Protective canopy for mounting plate

Type	Application	Order No.
Size 4	for mounting plate size 4	GHG 610 1955 R0107

## Dimension drawing



Dimensions in mm



Plug

Coupler

Receptacle

Wall socket

Zone 22

A2

A3

A4

A5

A6

A7

A8

A9

## Technical data

### Ex-plugs and sockets accd. to IEC 60309-1/2

Marking to 94/9/EC	II 3 D Ex tD A22 IP 66 T80 °C
Type examination certificate	Wall socket, plug and coupler: BVS 07 ATEX E 116 Receptacle: BVS 07 ATEX E 127 U
Permissible ambient temperature	-20 °C to +40 °C <sup>1)</sup>
Rated voltage	up to 750 V
Rated current	32 A
Frequency	up to 400 Hz
Switch rating	AC3: 690 V/32 A
Back up fuse	without thermal protection: 35 A with thermal protection: 50 A gL (rated current 32 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Enclosure colour	black

### Wall socket

Cable gland	1 x M40 Ø 17 - 28 mm, 1 x M40 Ex-screw plug plastic or 2 x M32 metal thread mit 2 Ex-screw plug plastic
Connecting terminals	2 x 4 - 10 mm <sup>2</sup>
Enclosure material	Glass-fibre reinforced polyester

### Plug

Cable gland	Ø 17 - 28 mm
Connecting terminals	1.0 - 6 mm <sup>2</sup>
Enclosure material	Polyamide

### Coupler

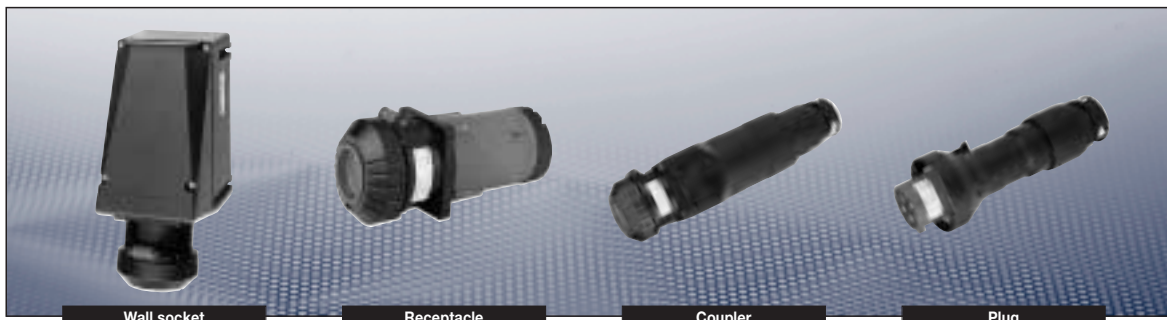
Cable gland	Ø 17 - 28 mm
Connecting terminals	2 x 4 - 10 mm <sup>2</sup>
Enclosure material	Polyamide

### Receptacle


Connecting terminals	2 x 4 - 10 mm <sup>2</sup>
Enclosure material	Polyamide


<sup>1)</sup> Other ambient temperature on request

| 32A 4-pole up to 415 V |  
| 32A 5-pole up to 415 V |



### Ordering details

Voltage	h	Type	Auxiliary contact	Cable glands	Weight approx.	Order No.
<b>Type 32 A 4-pole</b>						
380-415 V		Wall socket	yes	KU	1.8 kg	<b>D22 517 4406 R0001</b>
		Wall socket		ME	1.9 kg	<b>D22 517 4406 R3001</b>
		Wall socket		KH	1.8 kg	<b>D22 517 4406 R0501</b>
		Receptacle			1.0 kg	<b>D22 517 8406 R0001</b>
		Coupler			1.7 kg	<b>D22 517 3406 R0001</b>
		Stecker			0.7 kg	<b>D22 517 7406 R0001</b>

Type 32 A 5-pole						
200-250 V		Wall socket	yes	KU	1.8 kg	<b>D22 517 4506 R0001</b>
380-415 V		Wall socket		ME	1.9 kg	<b>D22 517 4506 R3001</b>
		Wall socket		KH	1.8 kg	<b>D22 517 4506 R0501</b>
		Receptacle			1.0 kg	<b>D22 517 8506 R0001</b>
		Coupler			1.7 kg	<b>D22 517 3506 R0001</b>
		Stecker			0.7 kg	<b>D22 517 7506 R0001</b>

Other voltage ranges and versions on request.

KU = 1 x plastic cable glands M40 for Ø 17-28 mm, 1 x M40 Ex-screw plug plastic

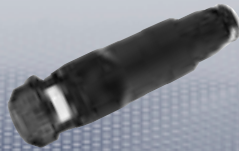
KH = 1 x plastic cable glands M40 for Ø 16-28 mm,

1 x plastic cable glands M25 for Ø 8 - 17 mm, with auxiliary contact, 1 NO

ME = 2 x metal thread M32 with Ex-screw plug plastic

Fixing material and accessories see page A5.26

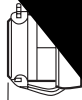




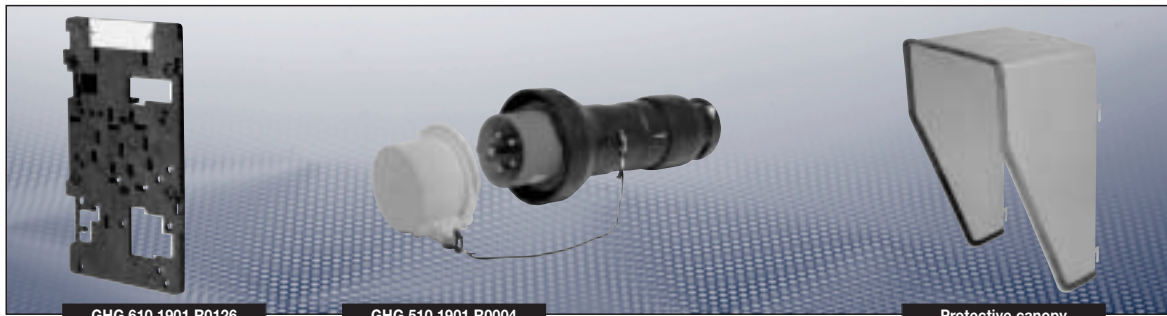
Coupler

| circuit diagram

all socket 4-p



| 32A 4-pole up to 415 V |  
| 32A 5-pole up to 415 V |



## Accessories

### Mounting plates for wall socket 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

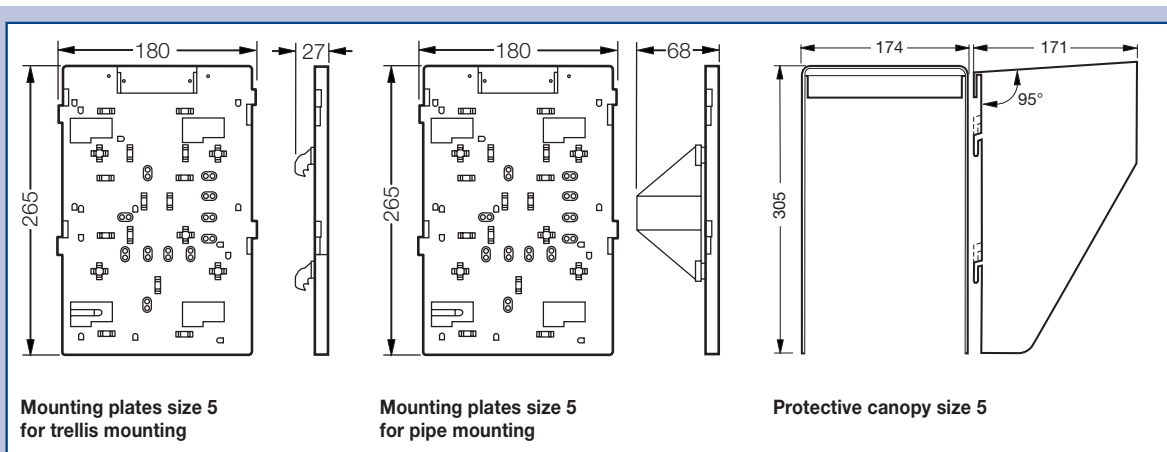
Type	OU	Order No.
Mounting set for pipes 1" (Ø 27 - 30 mm) for mounting plates with pipe fixing	10	GHG 610 1953 R0020

Please pay attention to that only order units (OU) according to the ordering details can be delivered.

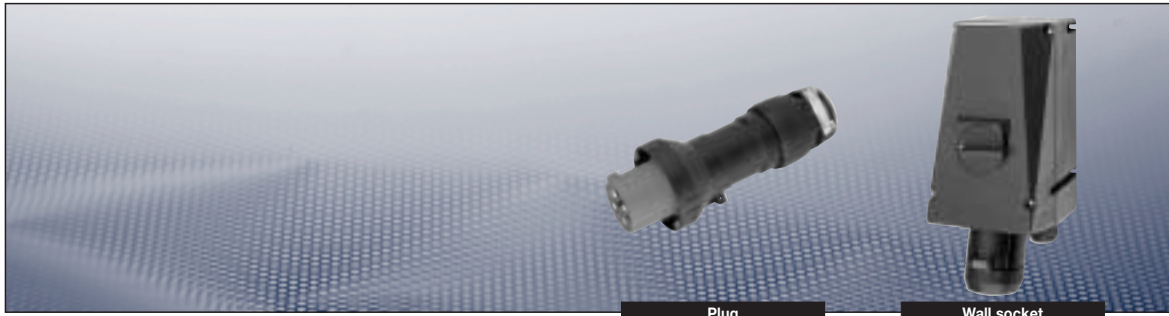
### Protective canopy for mounting plate

Type	Application	Order No.
Size 5	for mounting plate size 5	GHG 610 1955 R0108

## Dimension drawing



Dimensions in mm



Plug

Wall socket

## Technical data

### Ex-plug and socket acc. to IEC 60309-1/2, up to 690 V

Marking to 94/9/EC	II 3 D Ex tD A22 IP 66 T80 °C
Type examination certificate	BVS 07 ATEX 117
Permissible ambient temperature	-20 °C to + 40 °C <sup>1)</sup>
Rated voltage	up to 690 V
Rated current	63 A
Frequency	up to 400 Hz
Switch rating AC3	690 V/63 A
Back up fuse	without thermal protection: 63 A with thermal protection: 80 A gL (rated current 63 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Enclosure colour	Black

### Wall socket

Cable glands	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 mm <sup>2</sup> / with cable lug <sup>2)</sup> 1 x 35 mm <sup>2</sup>
Enclosure material	Glass-fibre reinforced polyester



### Plug

Cable glands	Ø 19 - 34 mm
Connecting terminals	4 - 16 mm <sup>2</sup>
Enclosure material	Polyamide

<sup>1)</sup> Other ambient temperature on request

<sup>2)</sup> use delivered cable lugs

## Ordering details

Voltage	h	Type	Auxiliary contact	Cable glands	Weight approx.	Order No.
Type 63 A 4-pole						
380-415 V		Wall socket	no	KU	8.1 kg	<b>D22 518 4406 R0001</b>
		Wall socket	no	ME	8.2 kg	<b>D22 518 4406 R3001</b>
		Wall socket	yes	KH	8.2 kg	<b>D22 518 4406 R0501</b>
		Plug			0.75 kg	<b>D22 518 7406 R0001</b>
Type 63 A 5-pole						
200-250 V 380-415 V		Wall socket	no	KU	8.1 kg	<b>D22 518 4506 R0001</b>
		Wall socket	no	ME	8.1 kg	<b>D22 518 4506 R3001</b>
		Wall socket	yes	KH	8.2 kg	<b>D22 518 4506 R0501</b>
		Plug			0.75 kg	<b>D22 518 7506 R0001</b>
Accessories						
Plug cap for plug 4-pole						<b>GHG 510 1901 R0006</b>
Plug cap for plug 5-pole						<b>GHG 510 1901 R0006</b>

Other voltage ranges and versions on request.

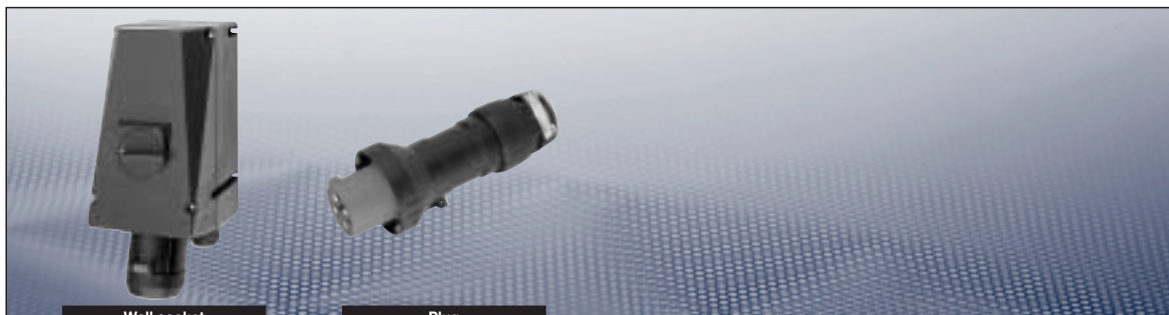
KU = 1 x plastic cable glands M50 for Ø 21-35 mm, 1 x M50 Ex-screw plug plastic

KH = 1 x plastic cable glands M50 for Ø 21-35 mm,

1 x M25 Ø 8 - 17 mm with Ex-blanking plug, with auxiliary contact, 1 NO

ME = 2 x metal thread M40 with Ex-screw plug plastic

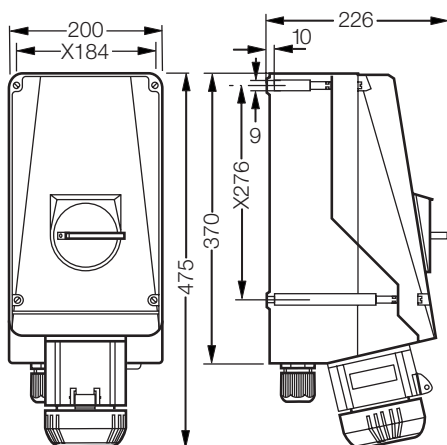
| 63 A 4- and 5-pole up to 415 V |



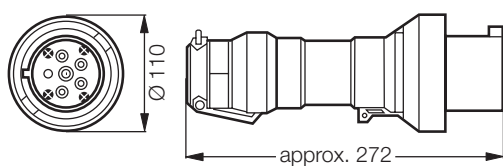
Wall socket

Plug

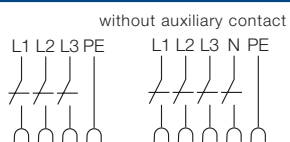
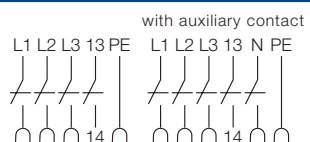
## Dimension drawing | circuit diagram



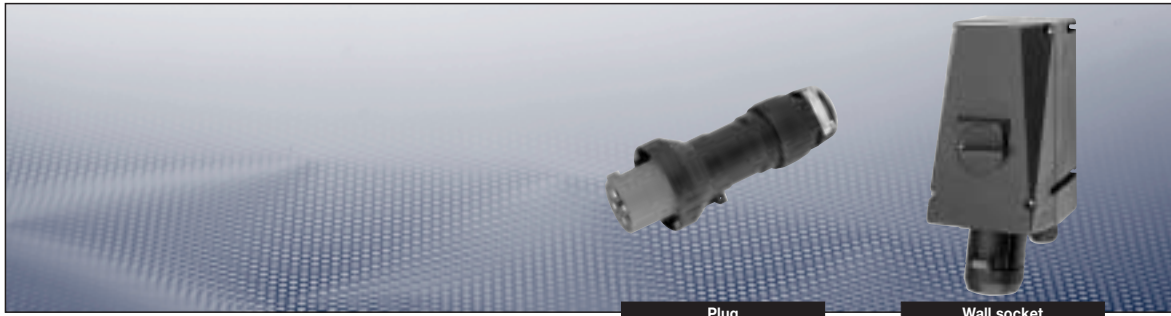
Wall socket



Plug







Plug

Wall socket

Zone 22

A2

A3

A4

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## Technical data

### Ex-plug and socket acc. to IEC 60309-1/2, up to 690 V

Marking to 94/9/EC	II 3 D Ex tD A22 IP 66 T80 °C
Type examination certificate	BVS 07 ATEX E 118
Permissible ambient temperature	-20 °C to + 40 °C <sup>1)</sup>
Rated voltage	690 V
Rated current	125 A
Frequency	up to 400 Hz
Switch rating AC3	690 V/125 A
Back up fuse	without thermal protection: 125 A with thermal protection: 160 A gL (rated current 125 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Enclosure colour	black

### Wall socket

Cable glands	1 x M63 Ø 27 - 48 mm, 1 x M63 Ex-screw plug plastic or 2 x M50 metal thread 2 Ex-screw plug plastic
Connecting terminals	2 x 4 - 50 mm <sup>2</sup> / with cable lug <sup>2)</sup> 1 x 120 mm <sup>2</sup>
Enclosure material	glass-fibre reinforced polyester



### Plug

Cable gland	Ø 31 - 55 mm
Connecting terminals	1 x 4 - 35 mm <sup>2</sup> / with pin cable lug <sup>2)</sup> 1 x 50 mm <sup>2</sup>
Enclosure material	Polyamide

<sup>1)</sup> Other ambient temperature on request

<sup>2)</sup> use delivered cable lugs

## Ordering details

Voltage	h	Type	Auxiliary contact	Cable glands	Weight approx.	Order No.
Type 125 A 4-pole						
380-415 V		Wall socket	no	KU	12.3 kg	<b>D22 519 4406 R0001</b>
		Wall socket	no	ME	12.5 kg	<b>D22 519 4406 R3001</b>
		Wall socket	yes	KH	12.5 kg	<b>D22 519 4406 R0501</b>
		Plug			0.9 kg	<b>D22 519 7406 R0001</b>
Type 125 A 5-pole						
200-250 V		Wall socket	no	KU	13.0 kg	<b>D22 519 4506 R0001</b>
380-415 V		Wall socket	no	ME	13.2 kg	<b>D22 519 4506 R3001</b>
		Wall socket	yes	KH	13.2 kg	<b>D22 519 4506 R0501</b>
		Plug			1.2 kg	<b>D22 519 7506 R0001</b>
Accessories						
Protective cover for plug 4-pole						<b>GHG 510 1901 R0007</b>
Protective cover for plug 5-pole						<b>GHG 510 1901 R0007</b>

Other voltage ranges and versions on request.

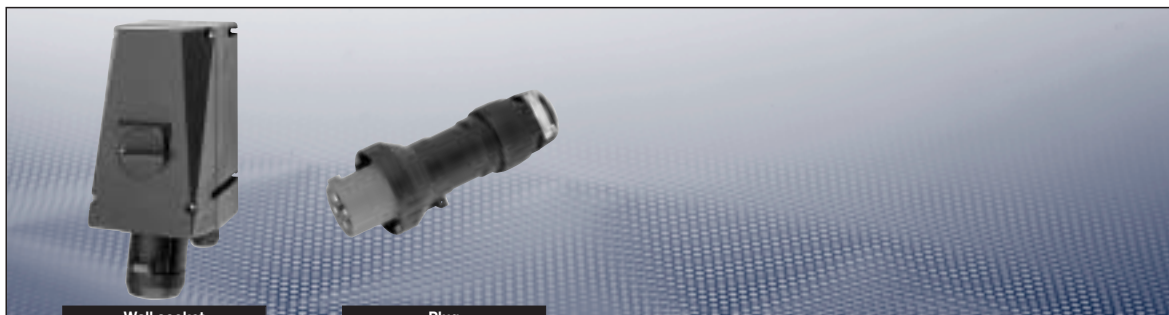
KU = 2 x plastic cable glands M63 for Ø 27-48 mm, 1 x with Ex-blanking plug plastic

KH = 1 x plastic cable glands M63 for Ø 27-48 mm,

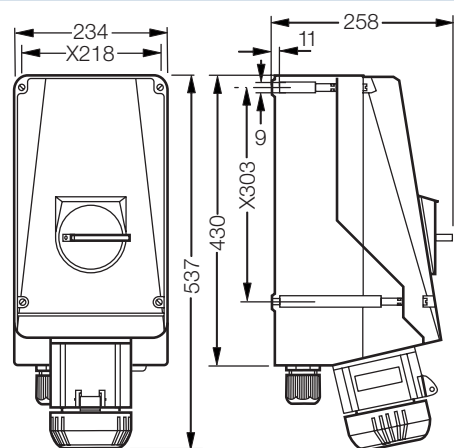
1 x M25 Ø 8 - 17 mm with auxiliary contact, 1 NO

ME = 2 x metal thread M50 with Ex-screw plug plastic

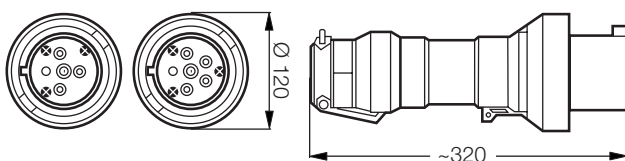
| 125A 4- and 5-pole up to 415 V |



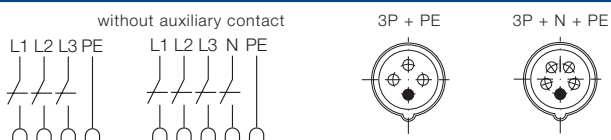
## Dimension drawing | circuit diagram



Wall socket



Plug



A2

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## EX-REPAIR AND MAINTENANCE SOCKETS

16 A – 63 A  
Plastic version for Zone 22

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 22 dust-explosion hazardous area 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 sockets are in accordance to regulations that in parts require a stationary installation.

With the lockable cover the utilization of the repair and maintenance socket is selectively possible after a hot work permit has been issued.

The CEAG repair and maintenance sockets can be used with both industry and Ex-plugs. Interlocked repair and maintenance sockets have an internal switch which prevents that a plug can be pulled out while energized.



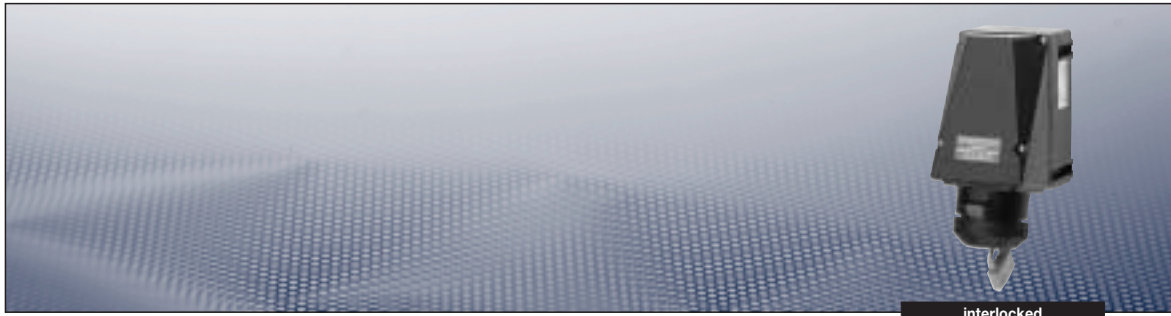
Commercially available industrial apparatus can be used with a “hot work permit”

Sockets with lamellar contacts for a secure contact

Switch and/or socket cover are lockable

High mechanical, chemical and thermal stability







interlocked

## Technical data

Ex-plug and socket acc. to IEC 60309-1/2	
Marking to 94/9/EC	II 3 D Ex tD A22 IP 66 T80 °C
Type examination certificate	BVS 07 ATEX E 123X
Permissible ambient temperature	-20°C to +40°C
Rated voltage	up to 440 V~
Rated current	16 A
Frequency	up to 400 Hz
Switch rating AC-3	up to 440 V~/16 A
Back up fuse, max.	without thermal protection: 16 A with thermal protection: 35 A gL (rated current 16 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Cable glands	1 x M25 Ø 8 - 17 mm, 1 x M25 Ex-screw plug plastic or 2 x metal thread M20 with Ex-thread plug plastic
Connecting terminals	2 x 1,5 - 4 mm <sup>2</sup>
Enclosure material	glass-fibre reinforced polyester

## Ordering details

Voltage	h	Type	Cable gland	Weight approx.	Order No.
Type 16 A 3-pole, interlocked					
200-250 V		Wall socket	KU	1.1 kg	D22 516 4306 R0901
		Wall socket	ME	1.2 kg	D22 516 4306 R3901
	6				

Voltage	h	Type	Auxiliary contact	Cable gland	Weight approx.	Order No.
Type 16 A 5-pole, interlocked						
380-415 V		Wall socket	no	KU	1.6 kg	D22 516 4506 R0901
		Wall socket	no	ME	1.7 kg	D22 516 4506 R3901
		Wall socket	yes	KH	1.6 kg	D22 516 4506 R0903
	6					

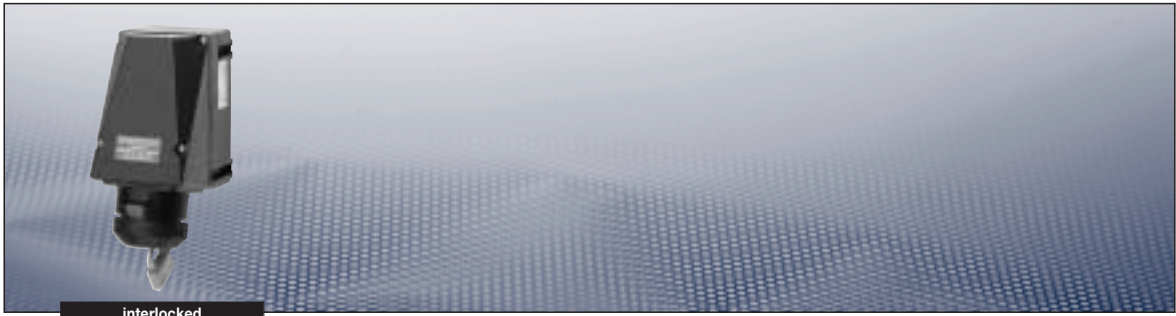
KU = 1 x plastic cable glands M25, 1 x M25 Ex-thread plug plastic

ME = 2 x metal thread M20 with Ex-thread plug plastic

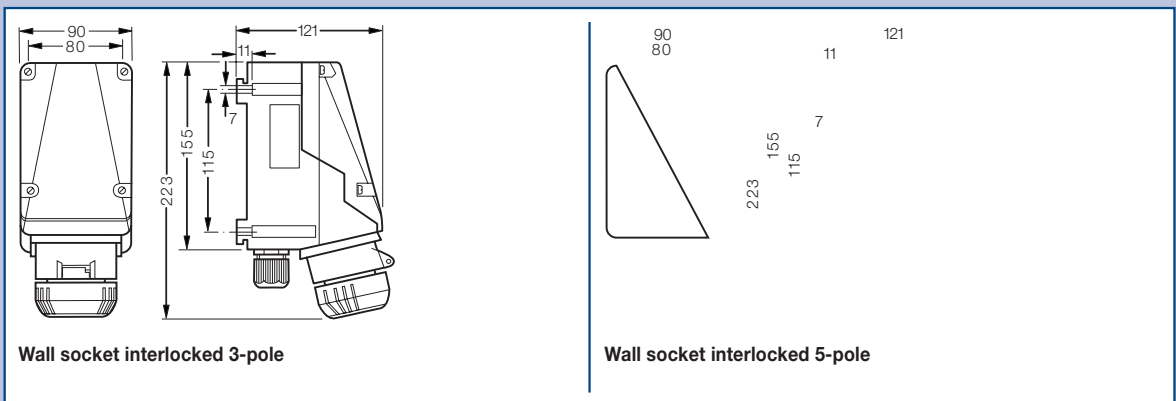
KH = 2 x plastic cable glands M25 Ø 8 - 17 mm, with auxiliary contact, 1 NO

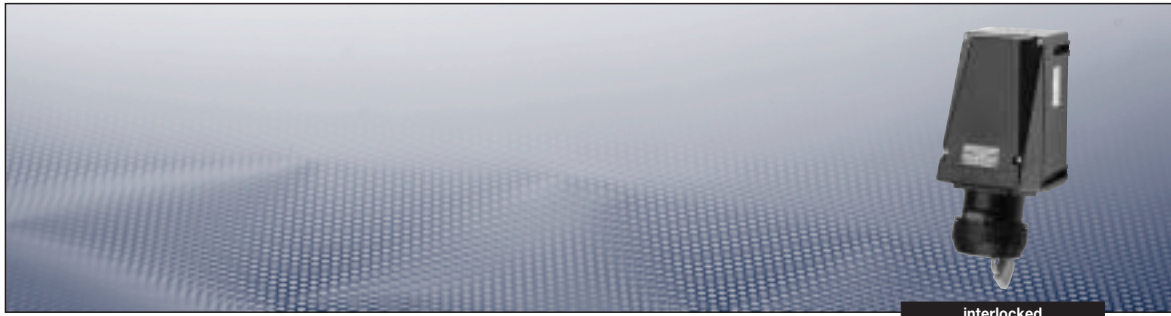
Fixing material and accessories see page A5.24

| 16A 3-pole and 5-pole up to 415 V |



### Dimension drawing | circuit diagram






## Technical data

### Ex-Ex-plug and socket acc. to IEC 60309-1/2

Marking to 94/9/EC	II 3 D Ex tD A22 IP 66 T80 °C
Type examination certificate	BVS 07 ATEX E 123X
Permissible ambient temperature	-20 °C to +40 °C
Rated voltage	up to 440 V~
Rated current	32 A
Frequency	up to 400 Hz
Switch rating AC-3	up to 440 V~/32 A
Back up fuse, max.	without thermal protection: 35 A with thermal protection: 50 A gL (rated current 32 A set to)
Degree of protection accd. EN 60529	IP 66
Cable glands	1 x M40 Ø 17 - 28 mm, 1 x M40 Ex-screw plug plastic or 2 x metal thread M32 with Ex-thread plug plastic
Connecting terminals	2 x 4 - 10 mm <sup>2</sup>
Enclosure material	glass-fibre reinforced polyester

## Ordering details

Voltage	h	Type	Auxiliary contact	Cable glands	Weight approx.	Order No.
Type 32 A 5-pole, interlocked						
380-415 V		Wall socket	no	KU	2.3 kg	<b>D22 517 4506 R0901</b>
		Wall socket	no	ME	2.4 kg	<b>D22 517 4506 R3901</b>
		Wall socket	yes	KH	2.3 kg	<b>D22 517 4506 R0903</b>

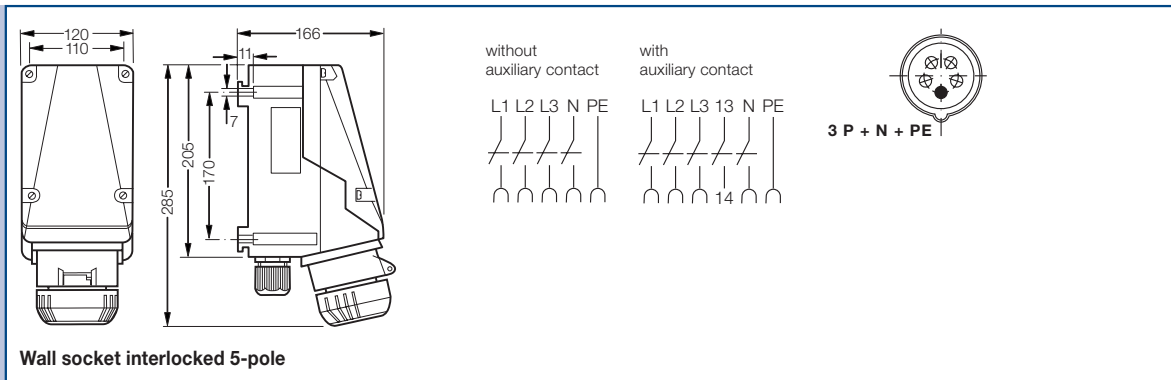
KU = 1 x plastic cable glands M40 Ø 17-28 mm, 1 x M40 Ex-thread plug plastic

ME = 2 x metal thread M32 with Ex-thread plug plastic

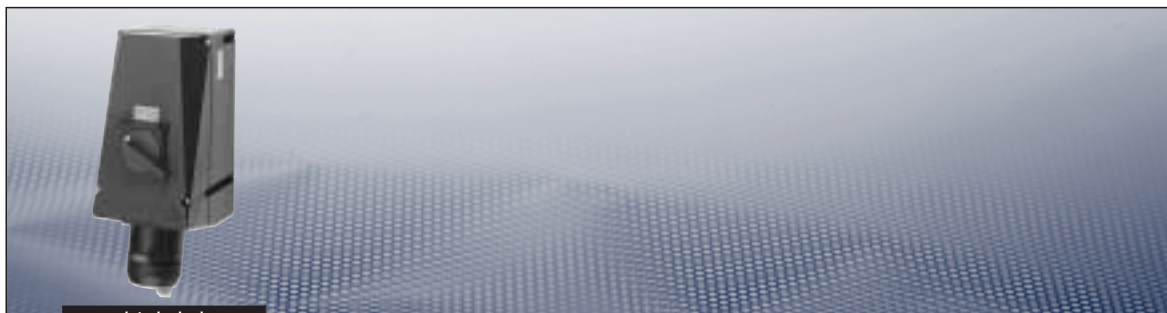
KH = 1 x plastic cable gland M40 Ø 17-28 mm,

1 x plastic cable gland M25 Ø 8-17 mm

## Dimension drawing | circuit diagram



Dimensions in mm



interlocked

## Technical data

### Ex-plug and socket acc. to IEC 60309-1/2

Marking to 94/9/EC	II 3 D Ex tD A22 IP 66 T80 °C
Type examination certificate	BVS 07 ATEX E 123X
Permissible ambient temperature	-20°C to +40°C
Rated voltage	up to 440 V~
Rated current	63 A
Frequency	up to 400 Hz
Switch rating AC-3	up to 440 V~/32 A
Back up fuse, max.	without thermal protection: 35 A with thermal protection: 50 A gL (rated current 32 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Cable gland	1 x M50 Ø 22 - 35 mm, 1 x M50 Ex-screw plug plastic or 2 x metal thread M40 with Ex-thread plug plastic
Connecting terminals	2 x 4 - 25 mm² with cable lug 1 x 35 mm²
Enclosure material	glass-fibre reinforced polyester

## Ordering details

Voltage	h	Type	Auxiliary contact	Cable gland	Weight approx.	Order No.
Type 63 A 5-pole, interlocked						
380-415 V		Wall socket	no	KU	8.1 kg	<b>D22 518 4506 R0901</b>
		Wall socket	no	ME	8.3 kg	<b>D22 518 4506 R3901</b>
		Wall socket	yes	KH	8.1 kg	<b>D22 518 4506 R0903</b>
	6					

125 A other versions on request

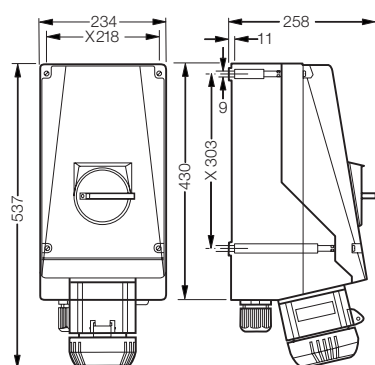
KU = 1 x plastic cable glands M50 Ø 22-35 mm, 1 x M50 Ex-thread plug plastic

ME = 2 x metal thread M40 with Ex-thread plug plastic

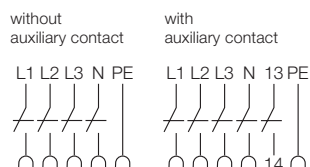
KH = 1 x plastic cable glands M50 Ø 22-35 mm,

1 x plastic cable glands M25 Ø 8-17 mm, with auxiliary contact, 1 NO

## Dimension drawing | circuit diagram



Wall socket interlocked 5-pole



3 P + N + PE



# HOW DO YOU DISTRIBUTE YOUR WIRING?

## ZONE 22

A2

A3

A4

A5

A6

A7

A8

A9

EX-JUNCTION BOXES

A6.2

EX-TERMINAL BOXES

A6.6

EX-TERMINAL BOXES IN METAL DESIGN

A6.14

EX-CONNECTION AND INTERMEDIATE MOTOR TERMINAL BOXES

A6.18



# E X - J U N C T I O N B O X

## Plastic version for Zone 22

The robust junction boxes made of plastic 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<sup>2</sup>. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas.

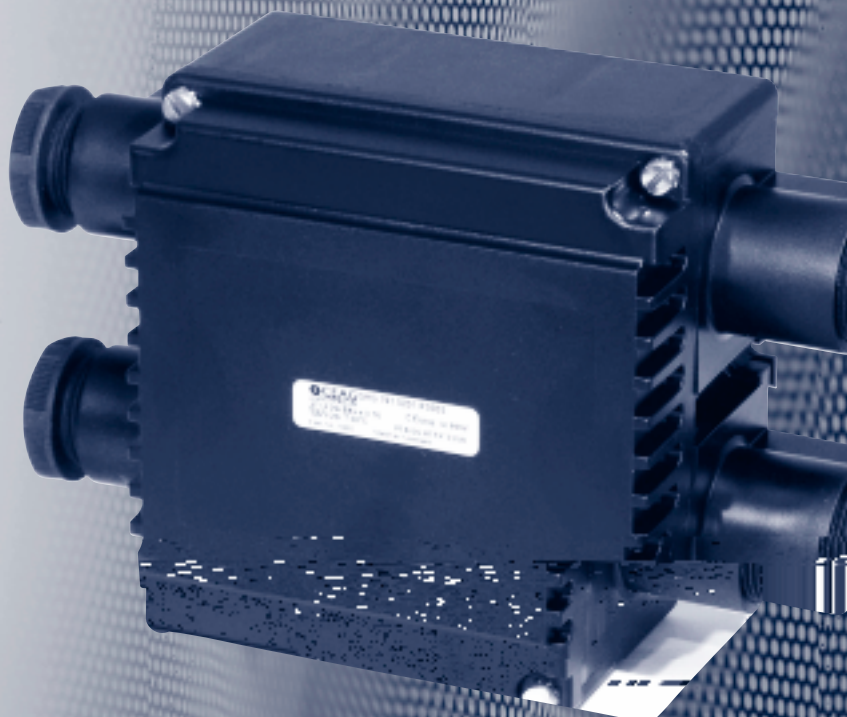
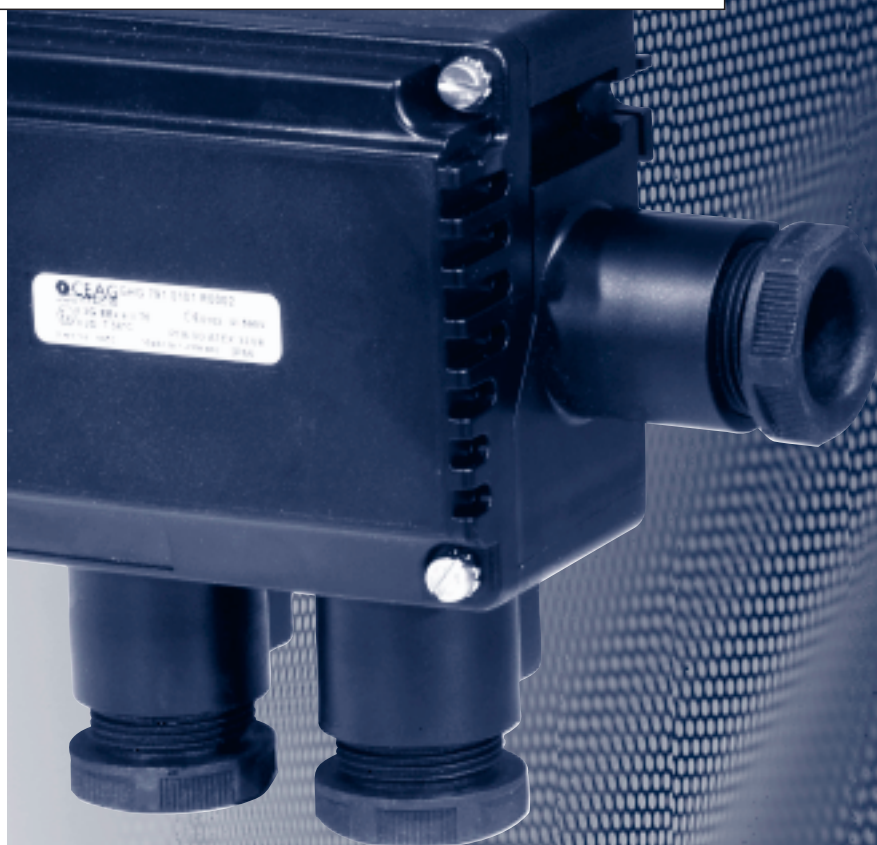
The practical orientated housing form allows for a problem-free access to the connection terminals for installation.

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 M20, M25 or M32 for Ø 8 – 17 mm or Ø 12 – 21 mm respectively, all requirements for the modern day installation technology are fulfilled.

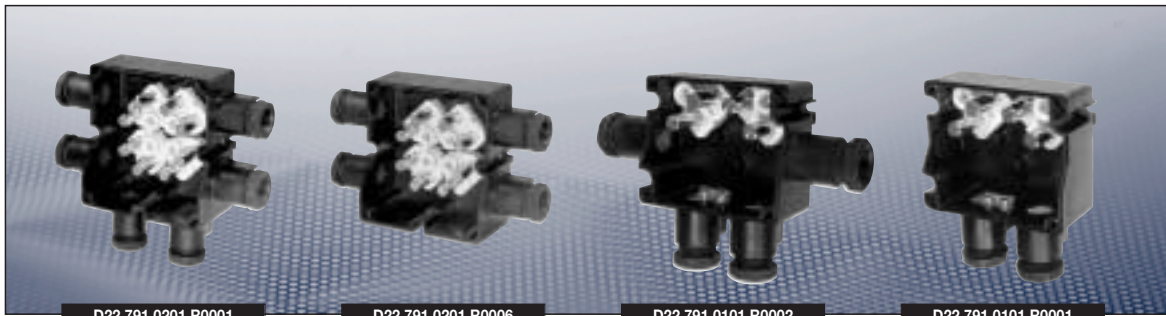
For cable with armouring there are junction boxes available with internal metal clamps versions allowing for screw joints.

For the wire and cable entries that are not used there are certified blanking plugs supplied with the junction box.

The cover screws and all other external metal parts are made of stainless steel (AISI 316L).



- Decisive cost reduction with the CEAG mounting system
- Free accessible connection terminals
- Safety standard IP 66
- Version for metal screw joints available



D22 791 0201 R0001

D22 791 0201 R0006

D22 791 0101 R0002

D22 791 0101 R0001

## Technical data

### D22 791 01 up to 4 terminal | D22 791 02 up to 6 terminal

Marking to 94/9/EC	Ex II 3 D Ex tD A22 IP 6X T80 °C
Type Examination Certificate	BVS 07 ATEX E 101
Permissible ambient temperature	-20 °C to +40 °C
Rated voltage	690 V
Rated current	depends on terminal cross section
Connecting terminals	max. 4 x 4 mm <sup>2</sup> /PE 4 x 2.5 mm <sup>2</sup> (multi-wire) max. 2 x 6 mm <sup>2</sup> /PE 4 x 4 mm <sup>2</sup> (solid-wire) or 2 x 6 mm <sup>2</sup> + 1 x 2.5 mm <sup>2</sup>
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Enclosure material	Polyamide

### D22 791 01 up to 4 terminal

Cable glands/enclosure thread	max. 4 x M25 for cable Ø 8 - 17 mm max. 4 x M20 metal thread
Dimensions in mm (L x W x H)	81.5 x 100 x 61
Weight	approx. 0.3 kg

### D22 791 02 up to 6 terminal

Cable glands/enclosure thread	max. 6 x M25 for cable Ø 8 - 17 mm max. 6 x M32 for cable Ø 12 - 21 mm max. 6 x M20 metal thread
Dimensions in mm (L x W x H)	117.5 x 113.5 x 73.5
Weight	approx. 0.5 kg

Zone 22

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# E X - T E R M I N A L B O X E S

## Plastic version for Zone 22

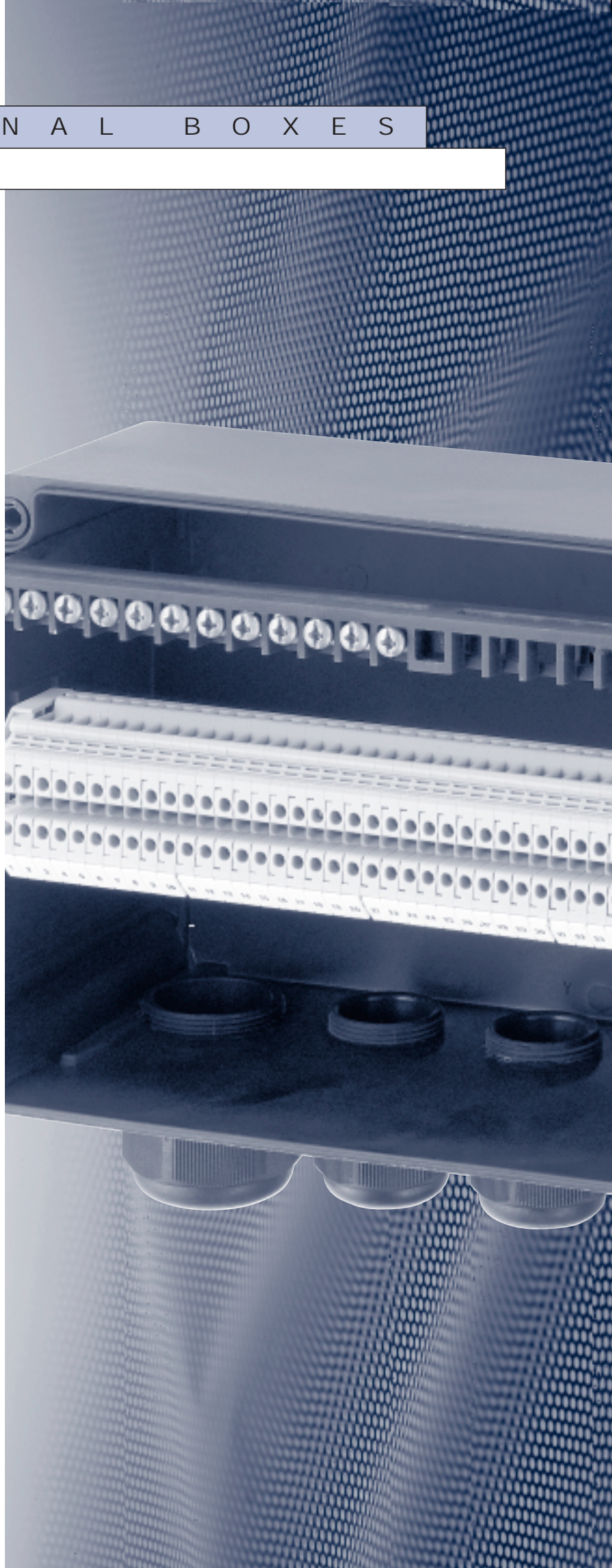
The robust CEAG terminal boxes in plastic design are based for distributing of electrical energy in dust-explosion hazardous areas zone 22. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas.

Optionally all the modular terminals up to 6 mm<sup>2</sup> are available in these terminal boxes.

The threads M20 can be fitted with different cable glands.

Drilled holes, cable and line ducts, through which no lines are conducted, should be closed with certified threaded stoppers.

Cover screws and all outside and inside metallic parts are made of stainless steel. (AISI 316L).



**Mechanical, chemical and thermal resistance**

**Decisive cost reduction with the CEAG mounting system**



D22 791 0101 R0003

D22 791 0101 R0005

## Technical data

### D22 791 01 up to 6 terminal | D22 791 02 up to 12 terminal

Marking to 94/9/EC	Ⓔ II 3 D Ex tD A22 IP 6X T80 °C
Type Examination Certificate	BVS 07 ATEX E 101
Permissible ambient temperature	-20 °C to +40 °C
Rated voltage	690 V
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Enclosure material	Polyamide

### D22 791 01 up to 6 terminal

Rated current	depends on terminal mounting
Connecting terminals	up to 4 mm <sup>2</sup>
Cable glands	max. 2 x M25 or 1 x M25 + 2 x M12
Dimensions in mm (L x W x H)	81,5 x 100 x 61
Weight	approx. 0.3 kg

Zone 22

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A4

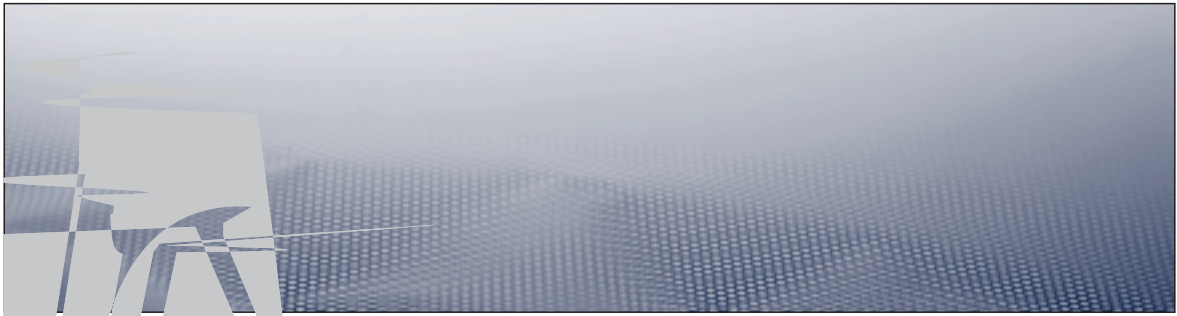
A5

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D22 791 0101 R0003

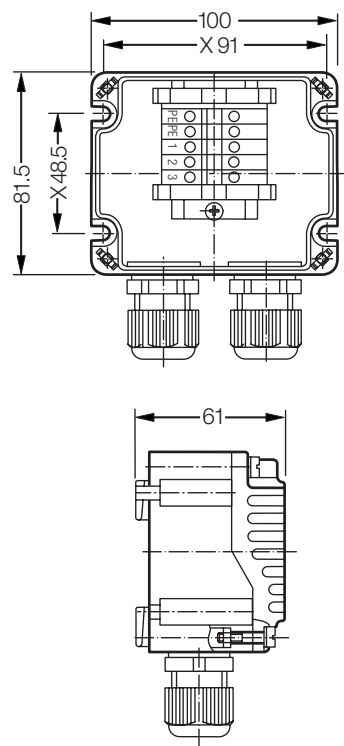
D22 791 0101 R0005

## Accessories

### Mounting plate for junction box D22 791 01

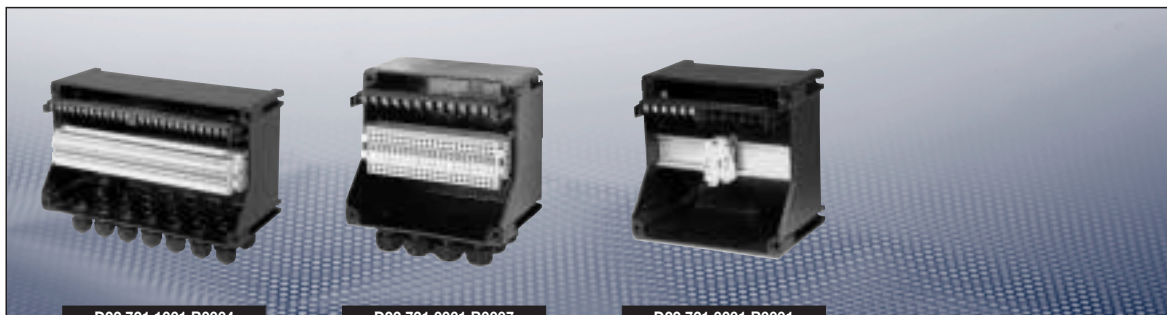
Type	Application	Fixing method	Order No.
Size 1	Wall mounting	screwless mounting	GHG 610 1953 R0101
Size 1	Trellis mounting	screwless mounting	GHG 610 1953 R0103
Size 1	Pipe mounting	screwless mounting	GHG 610 1953 R0102
Protective canopy size 1	for mounting plate size 1		GHG 610 1955 R01012

## Dimension drawing



Type 791 01

Dimensions in mm



## Technical data

### D22 721 00 up to 26 terminal | D22 721 10 up to 48 terminal

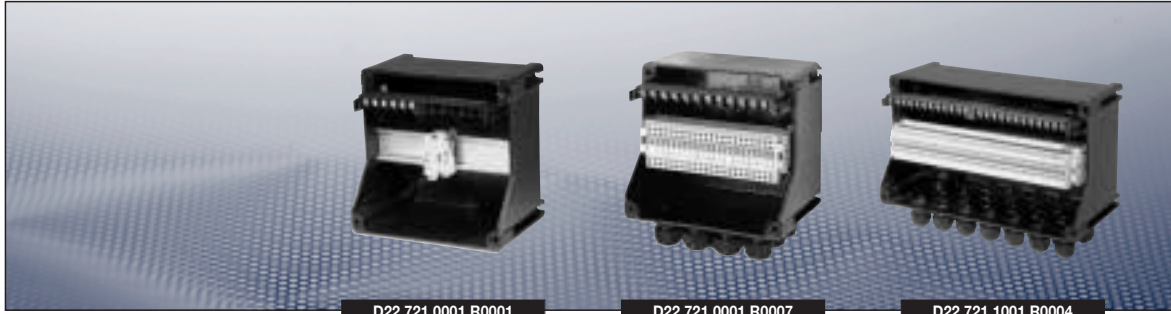
Marking to 94/9/EC	II 3 D Ex tD A22 IP 6X T80 °C
Type Examination Certificate	BVS 07 ATEX E 102
Permissible ambient temperature	-20 °C to +40 °C
Rated voltage	690 V
Rated current	depends on terminal mounting
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Enclosure material	Glass-fibre reinforced polyester

### D22 721 00 up to 26 terminal

Connecting terminals	up to 16 mm <sup>2</sup>							
Dimensions in mm (L x W x H)	165 x 165 x 131.5							
Weight	approx. 1.1 kg							
Maximum number of drillings and cable glands	M12	M16	M20	M25	M32	M40	M50	M63
Bottom	35	20	12	11	6	4	2	2
Flange plastic	11	6	4	3	2	1	1	–
Flange metal	–	–	3	2	1	–	–	–
Terminal mounting space	140 mm							
Maximum number of terminals acc. type examination certificate	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>			
	26	22	17	13	11			

### D22 721 10 up to 48 terminal

Connecting terminals	up to 16 mm <sup>2</sup>							
Dimensions in mm (L x W x H)	165 x 285 x 143							
Weight	approx. 1.7 kg							
Maximum number of drillings and cable glands	M12	M16	M20	M25	M32	M40	M50	M63
Bottom	75	42	32	21	11	8	4	3
Flange plastic	46	25	20	11	8	4	3	2
Flange metal	–	–	12	9	5	3	3	2
Terminal mounting space	262 mm							
Maximum number of terminals acc. type examination certificate	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>			
	48	40	30	24	20			



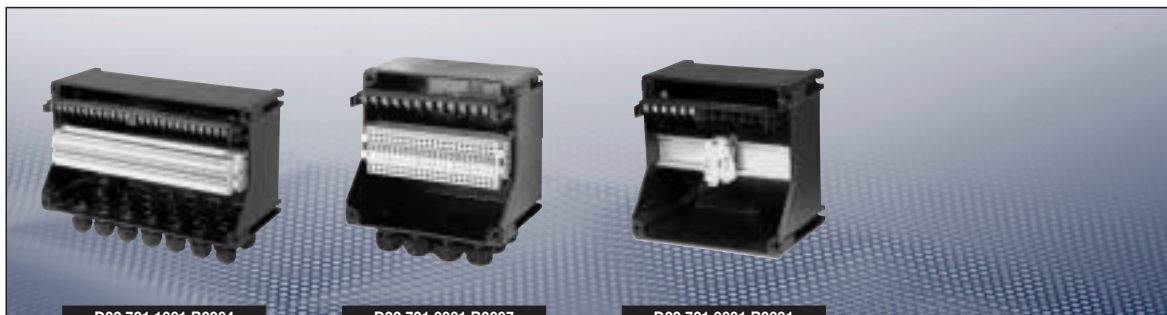
## Ordering details

Design	Cable glands	No. of terminals	Order No.
Type D22 721 00 assembled with screw terminals 2 x 4 mm <sup>2</sup> + PE-rail 2.5 mm <sup>2</sup>			
Ex-e	without drilling	1 x Ex-e <sup>1)</sup> /6 x PE/PA	<b>D22 721 0001 R0001</b>
Type D22 721 00 up to 26 terminals with screw terminals 2 x 2.5 mm <sup>2</sup> + PE/PA-rail 2.5 mm <sup>2</sup>			
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	<b>D22 721 0001 R0007</b>
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	<b>D22 721 0001 R0008</b>
Type D22 721 10 up to 48 terminal with screw terminals 2 x 2.5 mm <sup>2</sup> + PE/PA-rail 2.5 mm <sup>2</sup>			
Ex-e	1 x M40 for cable Ø 17-28 mm 24 x M20 for cable Ø 5.5-13 mm	48 x Ex-e 24 x PE/PA	<b>D22 721 1001 R0004</b>

\* screwed on

<sup>1)</sup> according to type examination certificate individual extensible

Other types on request.



## Accessories

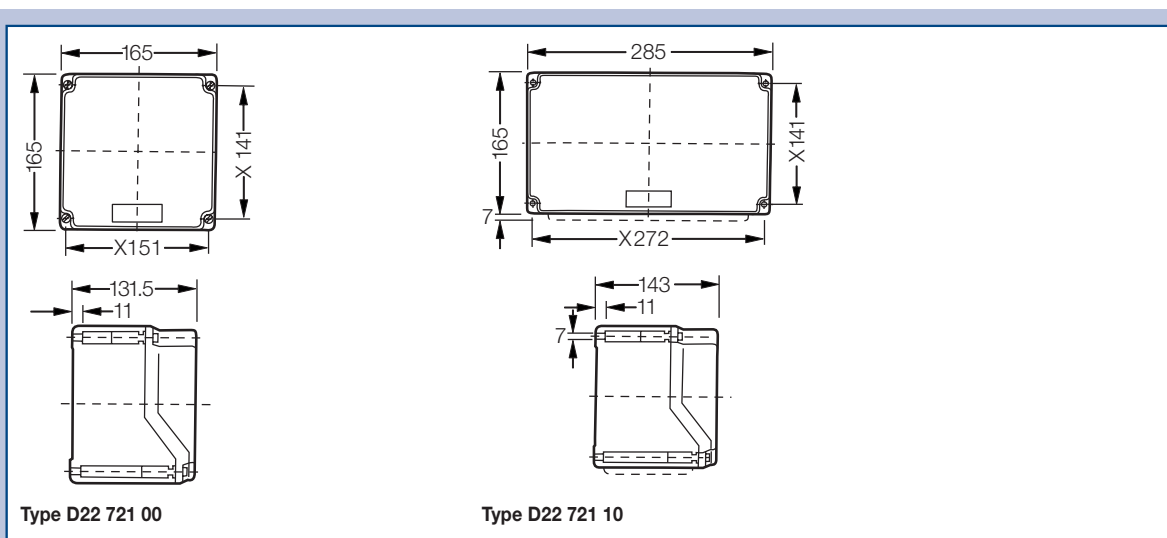
### Mounting plate for junction box D22 721 00

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 D22 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

## Dimension drawing



Dimensions in mm



A2

A3

A4

A5

A6

A8

A9

# EX - TERMINAL ENCLOSURES

Stainless steel version for Zone 22

Ex-cell

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 are designed and tested according to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas.

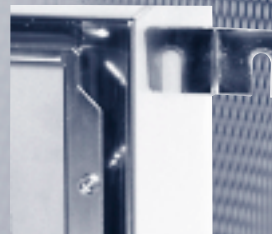
They act as a link between the main cable to the control room and the branch cables into the field. In addition to this, they may also be used for the direct connection of actuators and sensors. Here the metal cable glands also allow electromagnetically compatible connection methods.

The robust design of the stainless steel terminal boxes provides a high degree of safety for nearly all applications and in places where particularly adverse chemical, mechanical and climatic operating conditions prevail within the hazardous area.

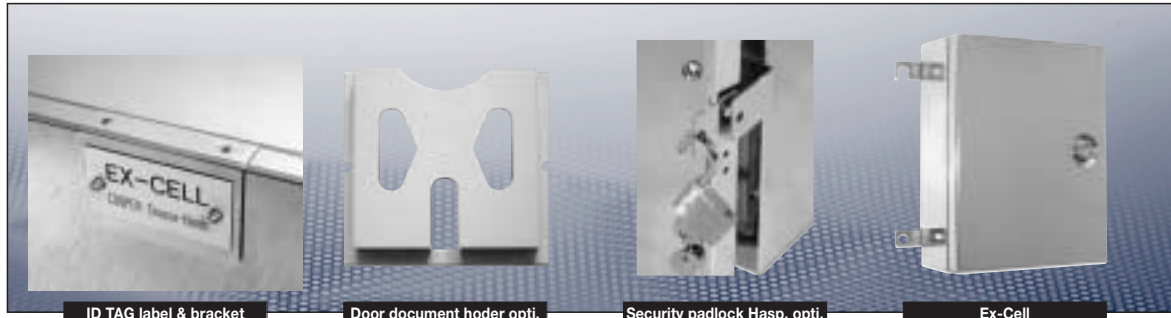
Three terminal enclosures series in various sizes are available for accommodating up to terminals. The choice between screw and tension-spring (screwless) terminals for single and multi-wire conductors makes it possible for the installation engineers to select the type of connection that is most suitable 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.

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 IP 66 rating by a high integrity Chloroprene gasket and secured by rapid fixing „Hytork“ fixing bolts.

An integral drainage channel prevents liquids or other solids contaminants from running in or falling into the enclosure when the door is opened, and to minimise gasket path contamination.



**Stainless steel AISI 316 L,  
with ground surface**  
**Highly resistant silicone seals**  
**Safety standard IP 66**



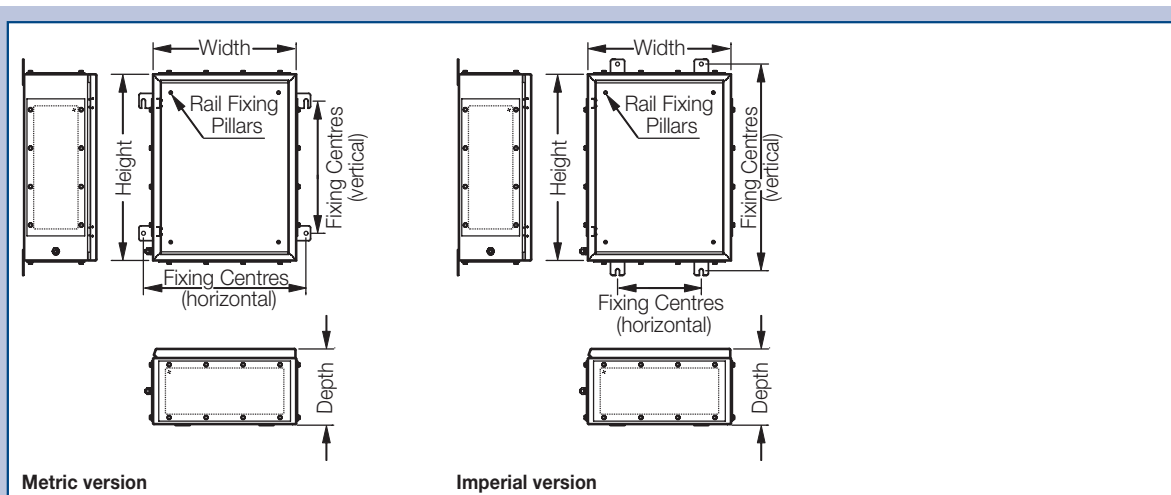
## Technical data

### Typ Ex-Cell

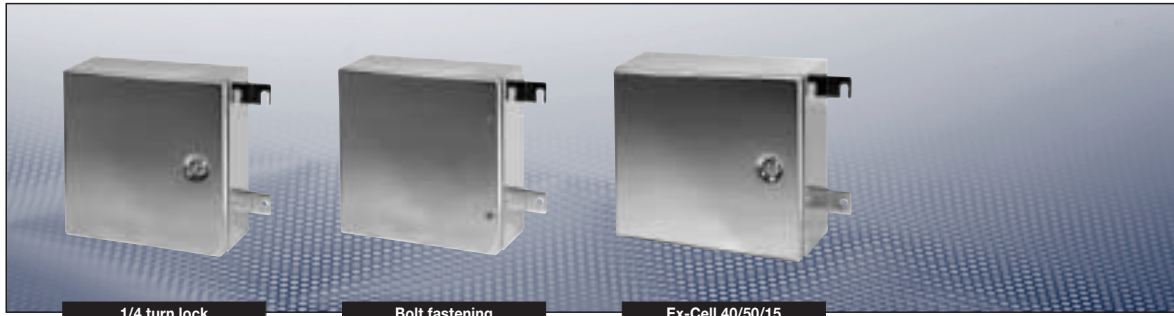
Marking to 94/9/EC	Ex II 3 D Ex tD A22 IP 6X T80 °C
Type Examination Certificate	BVS 07 ATEX E 104
Permissible ambient temperature	-20 °C to +40 °C
Rated voltage	up to 690 V*
Rated current	up to 500 A*
Connecting terminals	up to 240 mm <sup>2</sup> *
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Cable glands / glandplates / enclosure drilling	up to 4 side optional gland plate
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 chemical polished or sheet steel polyester powder coated (RAL 7032)
Material thickness	1.2 mm (body), 1.5 mm (door)
Equipment mountings	4 x stand of pillars Ø 9 mm, 25 mm height, thread M6 x 10, for rail or mounting plate
Enclosure earth	M10 external and internal brass earth stud assembly
Sealing	PUR

\* depending on type of terminal and Ex-components used

## Dimension drawing



Dimensions in mm



## Ordering details Ex-Cell METRIC up to 3 x 77 terminals

Ex-Cell 316L SS- 1/4 Turn Lock Fastening Size	Dimensions <sup>1)</sup>	Fixing	Weight	Terminal mounting rail				Terminal content					
	H x W x D in mm	Centers <sup>2)</sup>	in kg (empty enclosure)	Rail fixing		Rail length		Row orientation vertical					
		vertical x horizontal		vert.	horiz.	vert.	horiz.	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>	
Enclosure dimensions and terminal content													
23/15/13	229 x 152 x 127	152 x 208	2.35	129	52	149	72	1 x 21	1 x 17	1 x 13	1 x 10	1 x 9	
26/26/15	260 x 260 x 152	170 x 316	2.8	160	160	180	180	2 x 27	2 x 23	1 x 17	1 x 13	1 x 11	
30/20/15	305 x 203 x 152	203 x 259	3.4	205	103	225	123	1 x 36	1 x 30	1 x 23	1 x 18	1 x 15	
30/30/15	305 x 305 x 152	203 x 361	4.6	205	205	225	225	2 x 36	2 x 30	2 x 23	2 x 18	2 x 15	
30/30/20	305 x 305 x 203	203 x 361	5.8	205	205	225	225	2 x 36	2 x 30	2 x 23	2 x 18	2 x 15	
40/30/15	406 x 305 x 152	267 x 361	5.7	306	205	326	225	2 x 56	2 x 47	2 x 35	2 x 28	2 x 23	
40/30/20	406 x 305 x 203	267 x 361	6.6	306	205	326	225	2 x 56	2 x 47	2 x 35	2 x 28	2 x 23	
40/40/20	406 x 406 x 203	267 x 462	8.1	306	306	326	326	3 x 56	3 x 47	3 x 35	3 x 28	3 x 23	
40/50/20	406 x 508 x 203	267 x 564	9.7	306	408	326	428	4 x 56	4 x 47	4 x 35	4 x 28	4 x 23	
50/40/20	508 x 406 x 203	354 x 462	9.7	408	306	428	326	3 x 77	3 x 64	3 x 48	3 x 38	3 x 32	

Ex-Cell 316L SS - 1/4 Turn Lock Fastening Size	Available glanding area						Max. Entry Guide (metric)							Order No. <sup>2)</sup>
	Top & Bottom	Left	Right	Top & Bottom / Left / Right										
	(with gland plates fitted) in mm						M16	M20	M25	M32	M40	M50	M63	
Gland entry details														
23/15/13	108 x 58	108 x 58	108 x 58	6/6/6	2/2/2	2/2/2	1/1/1	0/0/0	0/0/0	0/0/0	0/0/0	D22 S12315133		
26/26/15	214 x 80	114 x 80	114 x 80	21/11/11	10/5/5	4/2/2	3/2/2	3/1/1	2/1/1	0/0/0	0/0/0	D22 S12626153		
30/20/15	156 x 80	156 x 80	156 x 80	15/15/15	7/7/7	3/3/3	2/2/2	2/2/2	2/2/2	0/0/0	0/0/0	D22 S13020153		
30/30/15	261 x 80	156 x 80	156 x 80	26/15/15	13/7/7	5/3/3	4/2/2	3/2/2	3/2/2	0/0/0	0/0/0	D22 S13030153		
30/30/20	261 x 124	214 x 124	261 x 124	34/28/34	18/15/18	15/12/15	8/6/8	6/5/6	3/2/3	2/2/2	2/2/2	D22 S13030200		
40/30/15	261 x 80	261 x 80	261 x 80	26/26/26	13/13/13	5/5/5	4/4/4	3/3/3	3/3/3	0/0/0	0/0/0	D22 S14030153		
40/30/20	261 x 124	261 x 124	261 x 124	34/34/34	18/18/18	15/15/15	8/8/8	6/6/6	3/3/3	2/2/2	2/2/2	D22 S14030203		
40/40/20	334 x 124	261 x 124	261 x 124	44/34/34	26/18/18	21/15/15	11/8/8	9/6/6	4/3/3	3/2/2	3/2/2	D22 S14040203		
40/50/20	460 x 124	261 x 124	261 x 124	62/34/34	35/18/18	29/15/15	15/8/8	13/6/6	5/3/3	4/2/2	4/2/2	D22 S14050201B		
50/40/20	334 x 124	334 x 124	334 x 124	44/44/44	26/26/26	21/21/21	11/11/11	9/9/9	4/4/4	3/3/3	3/3/3	D22 S15040203		

Options			
with 1 gland plate	D22 <b>S1</b> XXYZZ <b>1</b>	with 3 gland plates	D22 <b>S1</b> XXYZZ <b>3</b>
Ex-Cell 316L SS - Bolt fastening	D22 <b>S1</b> XXYZZ0- <b>B</b>	Ex-Cell 304 SS - 1/4 Turn Lock Fastening	D22 <b>S2</b> XXYZZ <b>0</b>
Ex-Cell 304 SS - Bolt fastening	D22 <b>S2</b> XXYZZ0- <b>B</b>	Ex-Cell Painted - 1/4 Turn Lock Fastening	D22 <b>PS</b> XXYZZ <b>0</b>
Ex-Cell Painted - Bolt fastening	D22 <b>PS</b> XXYZZ0- <b>B</b>		





### Ordering details Ex-Cell METRIC up to 7 x 128 terminals

Ex-Cell 316L SS - 1/4 Turn Lock Fastening Size	Dimensions <sup>1)</sup> H x W x D in mm	Fixing Centers <sup>2)</sup> vertical x horizontal	Weight in kg (empty enclosure)	Terminal mounting rail				Terminal content				
				Rail fixing		Rail length		Row orientation vertical				
				vert.	horiz.	vert.	horiz.	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>

#### Enclosure dimensions and terminal content

60/50/20	610 x 508 x 203	445 x 564	13.2	510	408	530	428	4 x 97	4 x 81	4 x 61	4 x 49	4 x 40
60/76/20	610 x 762 x 203	445 x 818	18.3	510	662	530	682	7 x 97	7 x 81	7 x 61	7 x 49	7 x 40

Ex-Cell 316L SS - 1/4 Turn Lock Fastening Size	Available glanding area			Max. Entry Guide (metric)							Order No. <sup>2)</sup>
	Top & Bottom	Left	Right	Top & Bottom / Left / Right							
	(with gland plates fitted) in mm			M16	M20	M25	M32	M40	M50	M63	

#### Gland entry details

60/50/20	460 x 124	460 x 124	460 x 124	62/62/62	35/35/35	29/29/29	15/15/15	13/13/13	5/5/5	4/4/4	D22 S16050203	
60/76/20	714 x 124	460 x 124	460 x 124	100/62/62	56/35/35	47/29/29	24/15/15	20/13/13	9/5/5	7/4/4	D22 S16076201	

#### Options

with 1 gland plate	D22 S1 XXYZZ 1	with 3 gland plates	D22 S1 XXYZZ 3
Ex-Cell 316L SS - Bolt Fastening	D22 S1 XXYZZ0-B	Ex-Cell 304 SS - 1/4 Turn Lock Fastening	D22 S2 XXYZZ 0
Ex-Cell 304 SS - Bolt Fastening	D22 S2 XXYZZ0-B	Ex-Cell Painted - 1/4 Turn Lock Fastening	D22 PS XXYZZ 0
Ex-Cell Painted - Bolt Fastening	D22 PS XXYZZ0-B	Permanent Padlock Hasp Facility (Factory Fitted ONLY)	D22 NN XXYZZ0-HASP

Type	Order No.
Example	
60/50/20 with 3 gland plates, painted with bolt fastening and permanet padlock HASP facility	D22 PS6050203-HASP

Remarks: 1. Dimensions drawing see page A6.15

2. Refer „OPTIONS“ for full order number detail

## EX - CONNECTION AND JUNCTION BOX

up to 70 mm<sup>2</sup>  
Plastic version for Zone 22

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. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas.

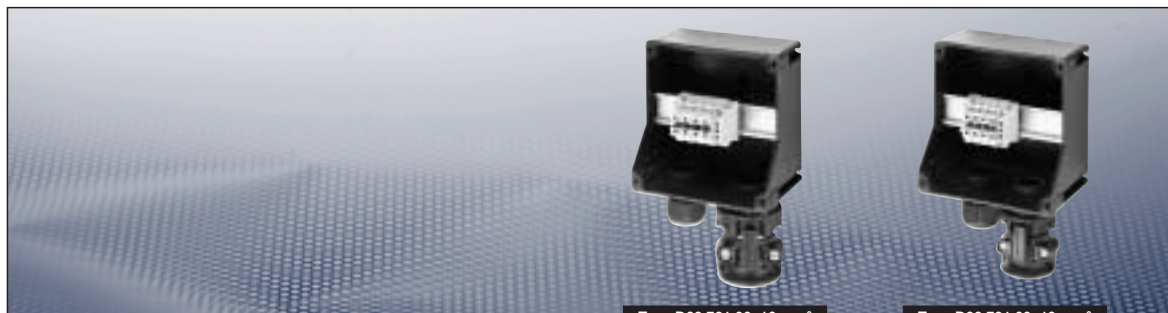
The connection and junction boxes are fitted with certified terminals accommodating for 240 mm<sup>2</sup> according to EN 50 019. For larger terminal cross sections, versions with terminal bolts are also used.

The terminal boxes are fitted with trumpet shaped cable glands or strain reliefs for a flexible cable outing.



**Decisive cost reduction with the  
CEAG mounting system**

**Mechanical, chemical and thermal  
durability**



## Technical data

### Type D22 721 00

Marking to 94/9/EC	Ⓔ II 3 D Ex tD A22 IP 6X T80 °C
Type Examination Certificate	BVS 07 ATEX E 102
Permissible ambient temperature	-20 °C ... +40 °C
Rated voltage	up to 690 V
Rated current	depends on terminal mounting
Degree of protection accd. EN 60529	IP 66
Enclosure material	Glass-fibre reinforced polyester
Terminal cross section	max. 16 mm <sup>2</sup>
Weight	approx. 1.1 kg

## Ordering details

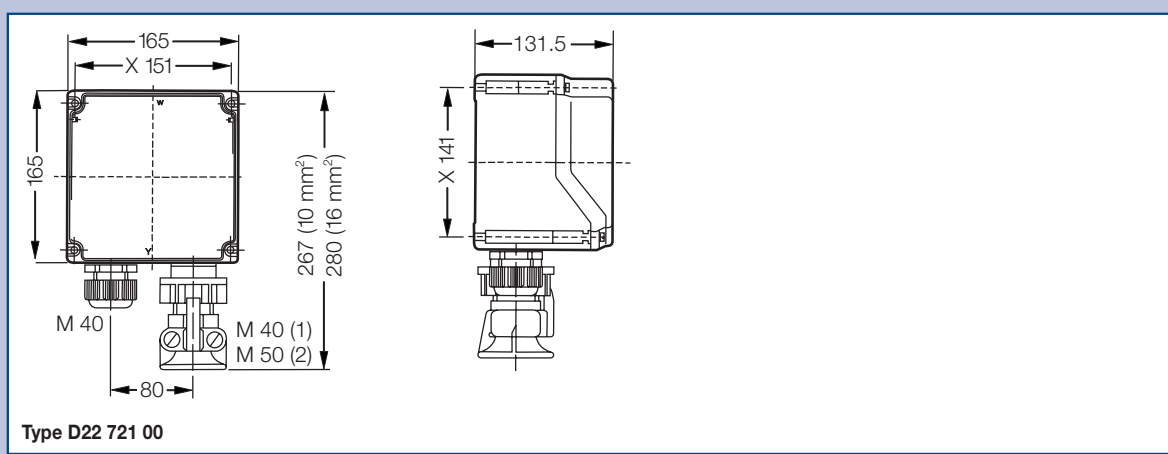
Design	Cable glands	No. of terminals	Order No.
Type D22 721 00 mounted with screw terminals 2 x 10 mm <sup>2</sup> + 1 x PE-terminal 2 x 10 mm <sup>2</sup>			
Ex-e	1 x M40 for cable Ø 17-28 mm 1 x M40 trumpet-shaped gland for cable Ø 19-27 mm	4 x Ex-e 1 x PE	D22 721 0001 R0013

Design	Cable glands	No. of terminals	Order No.
Type D22 721 00 mounted with screw terminals 2 x 16 mm <sup>2</sup> + 1 x PE-terminal 2 x 16 mm <sup>2</sup>			
Ex-e	1 x M40 for cable Ø 17-28 mm 1 x M50 trumpet-shaped gland for cable Ø 26-34 mm	4 x Ex-e 1 x PE	D22 721 0001 R0014

Design	Cable glands	No. of terminals	Order No.
Type D22 721 00 mounted with screw terminals 2 x 16 mm <sup>2</sup> + 1 x PE-terminal 2 x 16 mm <sup>2</sup>			
Ex-e	1 x M40 for cable Ø 17-28 mm 1 x M50 trumpet-shaped gland for cable Ø 5.5-13 mm 1 x M20 for cable Ø 26-34 mm	3 x Ex-e 2 x PE	D22 721 0001 R0020

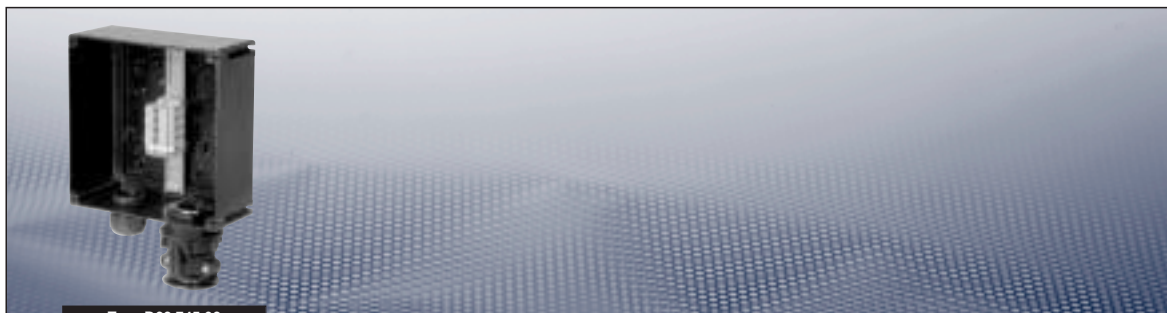
Other types on request.

## Dimension drawing



Dimensions in mm





Type D22 745 02

### Technical data

#### Type D22 745 02

Marking to 94/9/EC	Ⓔ II 3 D Ex tD A22 IP 6X T80 °C
Type Examination Certificate	BVS 07 ATEX E 103
Permissible ambient temperature	-20 °C ... +40 °C
Rated voltage	up to 690 V
Rated current	depends on terminal mounting
Degree of protection accd. EN 60529	IP 66
Enclosure material	Glass-fibre reinforced polyester
Terminal cross section	up to 70 mm <sup>2</sup>
Weight	745 0201 R0002 approx. 3.0 kg / 745 0201 R0003 approx. 3.2 kg

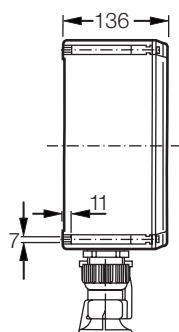
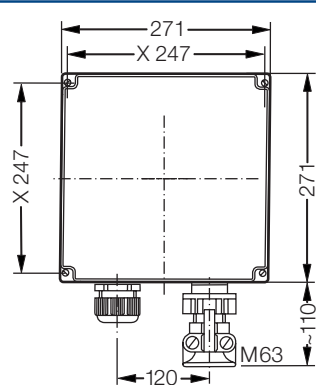
### Ordering details

Design	Cable glands	No. of terminals	Order No.
Type D22 745 02 mounted with screw	terminals 2 x 35 mm <sup>2</sup> + 1 x PE-terminal 2 x 35 mm <sup>2</sup>		
Ex-e	1 x M50 for cable Ø 21-35 mm 1 x M63 trumpet-shaped gland for cable Ø 35-46 mm	4 x Ex-e 1 x PE	D22 745 0201 R0002

Design	Cable glands	No. of terminals	Order No.
Type D22 745 02 mounted with screw	terminals 2 x 50/70 mm <sup>2</sup> + 1 x PE-terminal 2 x 50/70 mm <sup>2</sup>		
Ex-e	1 x M50 for cable Ø 21-35 mm 1 x M63 trumpet-shaped gland for cable Ø 35-46 mm	4 x Ex-e 1 x PE	D22 745 0201 R0003

Other types on request.

### Dimension drawing



Type D22 745 02

Dimensions in mm



CAN YOU OPERATE YOUR  
MASCHINES IN A SAFE WAY?

ZONE 22

A2

A3

A4

A5

A6

EX-INSTALLATION SWITCH

A8.2

EX-CONTROL STATIONS

A8.4

EX-CONTROL SWITCHES

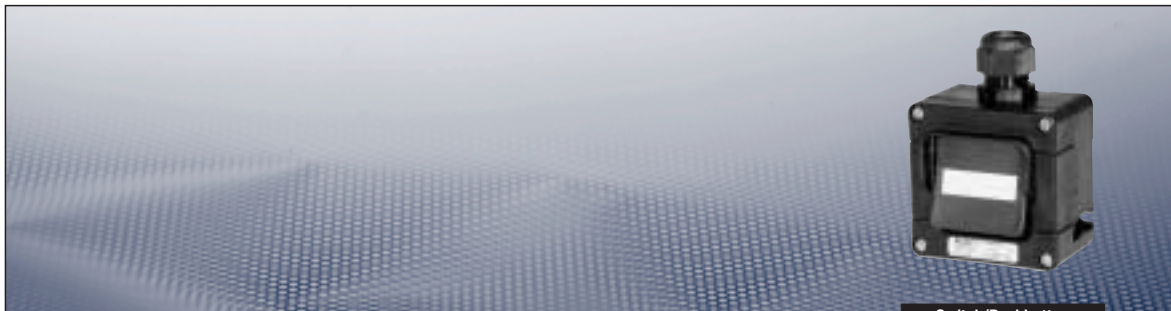
A8.10

A8

A9







Switch/Pushbutton

Zone 22

A2

A3

A4

A5

A6

## Technical data

### Ex-installation switches and Ex-pushbuttons

Marking to 94/9/EC	Ex II 3 D Ex tD A22 IP 6X T80 °C
Type examination certificate	BVS 07 ATEX E 111
Permissible ambient temperature	-20 °C to +40 °C
Rated voltage	250 V~
Rated current	16 A
Connecting terminals	Switch terminals: 2 x 2.5 mm <sup>2</sup> / PE-terminals: 4 x 2.5 mm <sup>2</sup>
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Cable gland <sup>1)</sup>	Ex-e cable glands M25 for cables from Ø 8 - 17 mm
Enclosure material	Polyamide
Weight	0.32 kg

## Ordering details

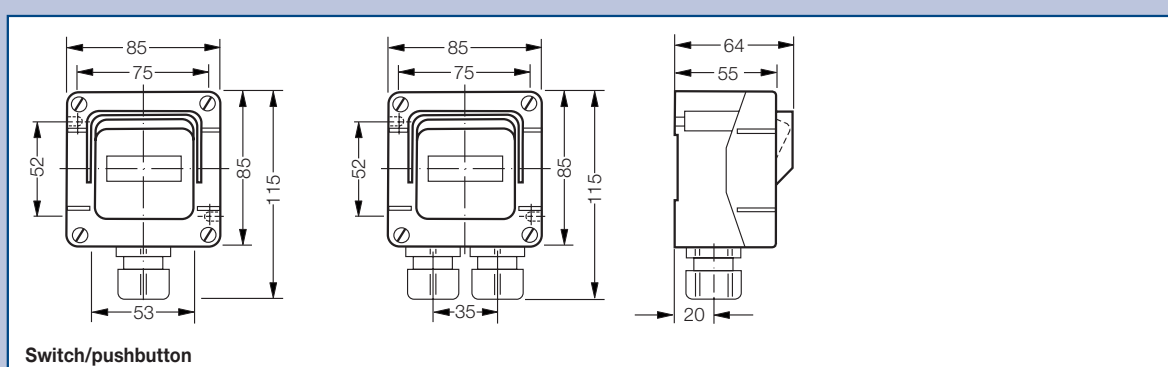
Type	Contact arrangement	Cable gland <sup>1)</sup>	Order No.
ON-OFF switch 2-pole		1 x M25 2 x M25 2 x M20 <sup>2)</sup> 2 x M20 metal flange 2 x M20 + hole 2 x M20 WO thread	D22 273 2000 R0017 D22 273 2000 R0018 D22 273 2000 R0003 D22 273 2000 R0010 D22 273 2000 R0012 D22 273 2000 R9006
Change-over switch		1 x M25 2 x M20 <sup>2)</sup> 2 x M25	D22 273 6000 R0011 D22 273 6000 R0003 D22 273 6000 R0014
Pushbutton		1 x M25	D22 273 4000 R0004

<sup>1)</sup> Base enclosure can be rotated afterwards (entry from top or down)

<sup>2)</sup> only thread

Other versions available on request.

## Dimension drawing



Switch/pushbutton

Dimensions in mm

A8

A9



## E X - C O N T R O L S T A T I O N S

Moulded plastic  
Version for Zone 22

Even under the most adverse conditions, CEAG control stations can be used and operated reliably. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas.

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.



Flat side walls

Quick fixing of all built-in components

High chemical resistance

Different enclosures can be combined





Type D22 411 83

Type D22 411 82

Type D22 411 81

## Technical data

### Ex-Control stations Type D22 411 81 | Type D22 411 82 | Type D22 411 83

Marking to 94/9/EC	Ex II 3 D Ex tD A22 IP 6X T80 °C
Type Examination Certificate	BVS 07 ATEX E 114
Permissible ambient temperature	-20 °C to +40 °C
Rated voltage	690 V AC
Rated current	16 A
Connecting terminals	2 x 2.5 mm <sup>2</sup>
Insulation class	I
Degree of protection accd. EN 60529	IP 66 (list version) IP 65 (with measuring instrument AM45, double-pushbutton)
Cable gland	1 x M25 Ex-e cable glands for cable Ø 8 - 17 mm or 1 x M20 thread
Enclosure material	Polyamid
Enclosure colour	Black

### Type D22 411 81

Dimensions in mm (L x W x H)	85 x 85 x 77.5
Weight (empty weight)	0.25 kg

### Type D22 411 82

Dimensions in mm (L x W x H)	125 x 85 x 77.5
Weight (empty weight)	0.35 kg

### Type D22 411 83

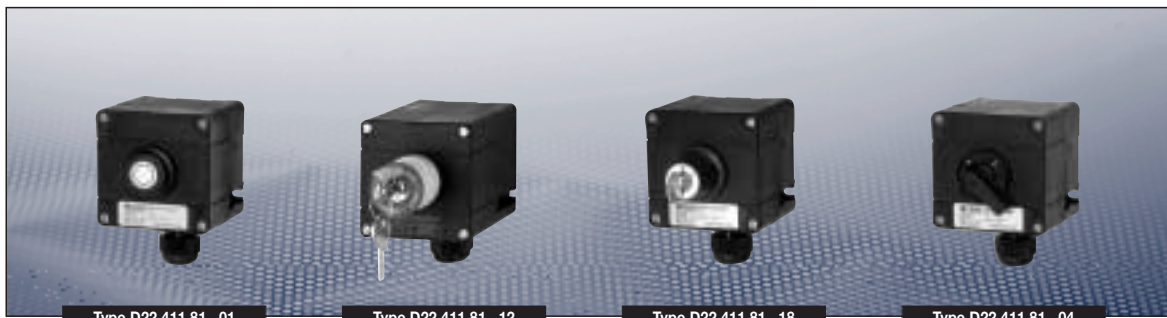
Dimensions in mm (L x W x H)	165 x 85 x 77.5
Weight (empty weight)	0.45 kg

### Type D22 411 82 with measuring instrument AM 72

	Moving iron	Moving coil
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 ranges	n / 1A 0 - 25 A direct	0 - 20 mA 4 - 20 mA
Li	-	max. 0.1 mH
Ci	-	max. 0.1 nF
Ui	-	max. 30 V
Ii	-	max. 150 mA
Connecting terminals	2 x 1.5 - 4 mm <sup>2</sup>	
Weight	0.70 kg	

<sup>1)</sup> Base enclosure can be rotated afterwards (entry from top or down)

Other versions available on request



### Ordering details Type D22 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	<b>D22 411 8100 R0001</b>
	1 x mushroom-head pushbutton SGT 1 NO + 1 NC "Emergency stop"	0.45 kg	<b>D22 411 8100 R0002</b>
	1 x double pushbutton DDT 1 NO + 1 NC label: "0, I, START, STOP"	0.45 kg	<b>D22 411 8100 R0009</b>
	1 x control switch SCT 1 change-over SW 6 "engaging-engaging" label: "HAND – AUTO" label: "0 – I"	0.45 kg 0.45 kg	<b>D22 411 8100 R0003</b> <b>D22 411 8100 R0004</b>
	1 x control switch SCT 2 NO SW 5 "engaging-engaging-engaging" label: "HAND – 0 – AUTO" label: "I 0 II"	0.45 kg 0.45 kg	<b>D22 411 8100 R0006</b> <b>D22 411 8100 R0007</b>



Ordering details Type D22 411 82 with 2 built-in components

Version	Built-in components	Weight approx.	Order No.
	2 x pushbutton DRT 1 NO + 1 NC label: "0, I, START, STOP"	0.54 kg	D22 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	D22 411 8200 R0003



Type D22 411 83...01

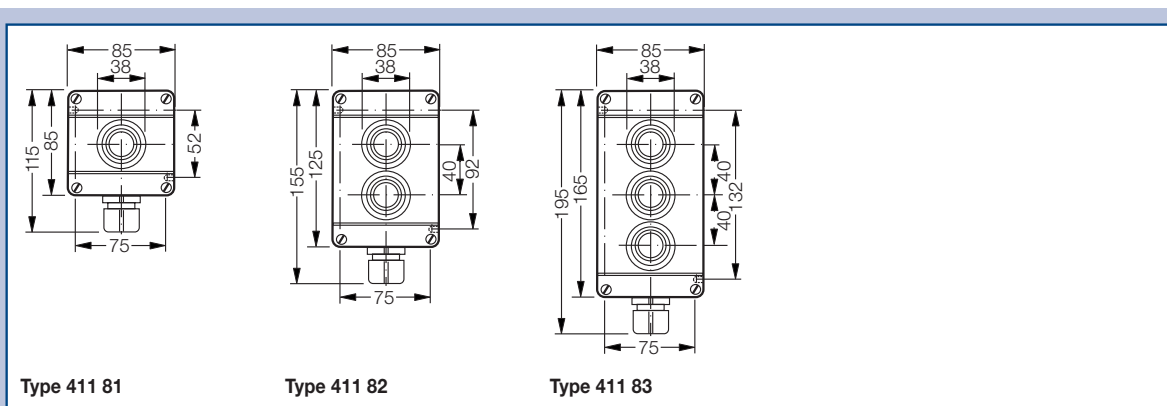
Type D22 411 83...03

Type D22 411 83...04

### Ordering details Type D22 411 83 with 3 built-in components

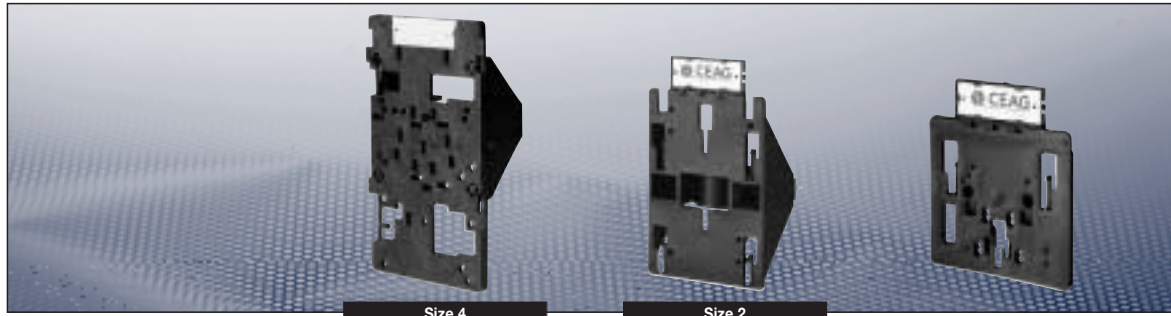
Version	Built-in components	Weight approx.	Order No.
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: "white, red, green, yellow" 2 x pushbutton DRT 1 NO + 1 NC label: "0, I, START, STOP"	0.76 kg	<b>D22 411 8300 R0001</b>
	1 x signal lamp SIL 20-250 V AC/DC coloured lens cover: "white, red, green, yellow" 1 x double-pushbutton DDT 1 NO + 1 NC label: "0, I, START, STOP" 1 x mushroom-head pushbutton SGT 1 NO + 1 NC "Emergency stop"	0.80 kg	<b>D22 411 8300 R0003</b>
	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	<b>D22 411 8300 R0004</b>

### Dimension drawing



Dimensions in mm





## Accessories

### Mounting plate for Type D22 411 81

Type	Application	Fixing method	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 mounting	screw-on	1	GHG 610 1953 R0103
Size 4	Wall mounting	snap-on*	1	GHG 610 1953 R0126
Size 4	Trellis mounting	snap-on*	1	GHG 610 1953 R0126
Size 4	Pipe mounting	snap-on*	1	GHG 610 1953 R0130

### Mounting plate for Type D22 411 82 and D22 411 83

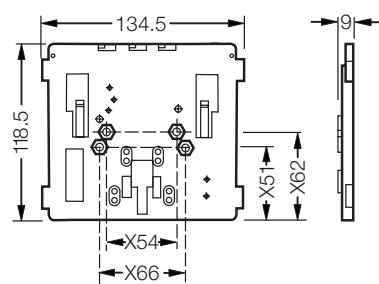
Type	Application	Fixing method	OU	Order No.
Size 2	Wall mounting	screw-on	1	GHG 610 1953 R0104
Size 2	Pipe mounting	screw-on	1	GHG 610 1953 R0105
Size 2	Trellis mounting	screw-on	1	GHG 610 1953 R0106
Size 4	Wall mounting	snap-on*	1	GHG 610 1953 R0126
Size 4	Trellis mounting	snap-on*	1	GHG 610 1953 R0126
Size 4	Pipe mounting	snap-on*	1	GHG 610 1953 R0130

### Accessories for mounting plates

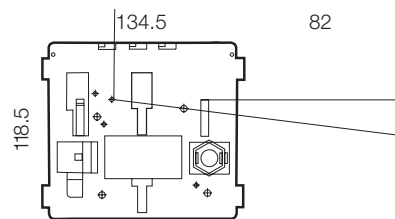
Type	OU	Order No.
Snap-on mounting for CEAG apparatus with 5.5 mm and 11 mm mounting feet set = 4 pcs.	10	GHG 610 1953 R0041

\* snap-on with plug-in fastener 5.5 mm

## Dimension drawing



Size 1 Wall mounting



Size 1 Pipe mounting



Size 1 Trellis mounting

Dimension drawing in mm

# EX - CONTROL SWITCHES

With and without  
measuring instruments for Zone 22

The new GHG 29 control switch series features an easy-to-install and easy-to-connect design. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas.

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 mm<sup>2</sup> 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 IP 66. 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**

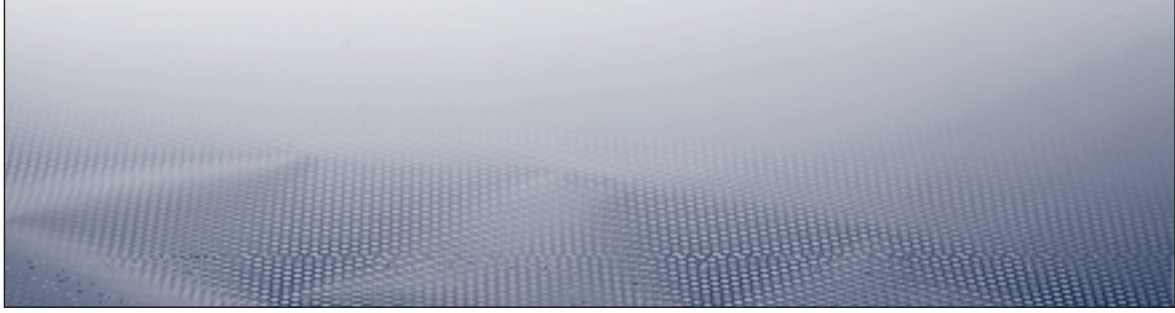
**Easily accessible connection terminals**

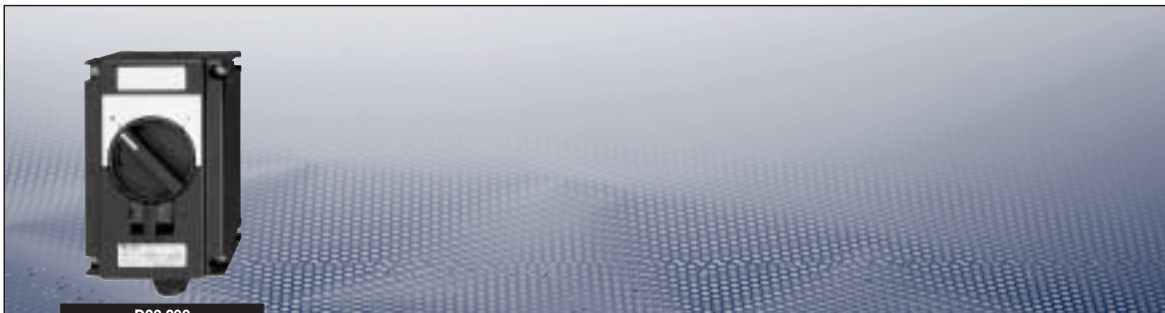
**Degree of protection IP 66**

**Cable connection range up to 6 mm<sup>2</sup>**

**Integrated locking facility**

**Optional forced contact on request**





D22 292

## Ordering code for control switches (2.) Code A - B1 - B2 - C - D - E1 - E2 - F

Code	Designation	Code
A	Control switch	D22 292

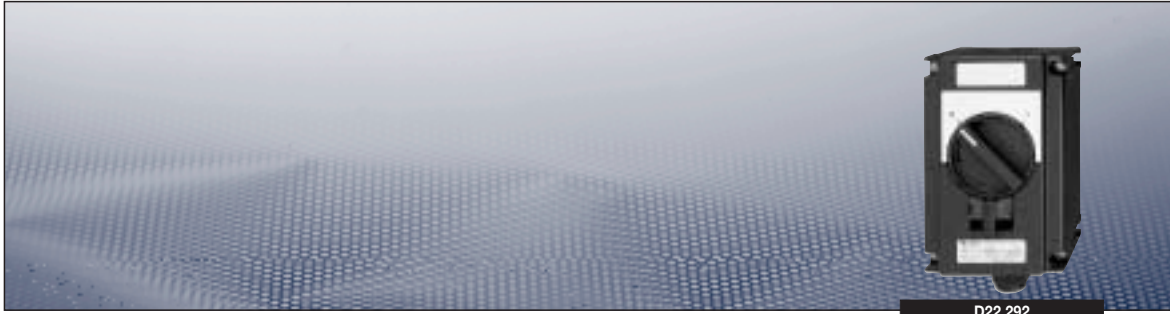
Code	Switch mechanism	Code
B1	spring - latching - spring	4
	latching - latching - latching	5
	latching - latching	6
	spring - latching - latching	7
	latching - latching - spring	8

Code	Contacts	Silver contacts	Code	Silver contacts
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	Code	Inscription	Code
C	0	I	001	0
	I	II	002	AUS
	STOP	START	003	AUS
	HAND	AUTO	004	ÖRTLICH
	SENKEN	HEBEN	005	START
	REMOTE	LOCAL	006	OFF
	I	II	007	HAND
	AUS	BETRIEB	008	0
	AUS	0	009	MAN
	AUF	0	010	START
				018
				019
				020
				021
				022
				023
				024
				025
				026
				027





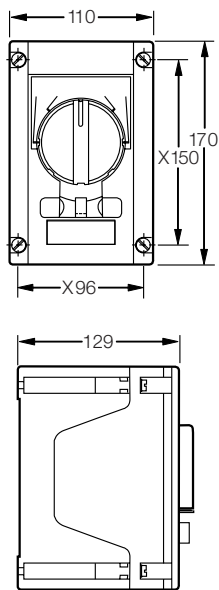
D22 292

## Ordering code for control switches (2.) Code A - B1 - B2 - C - D - E1 - E2 - F

Code	Built-in components		
F1	Entry type	Entry direct in enclosure Entry via plastic flange Entry via metal flange	GEH FLK FLM
F2	Entry element	only threaded entry Threaded plug Cable entry moulded plastic Cable entry metal* Cable entry with plug	BO SV GK GM* GV
F3	Size	M12, M16, M20, M25, M32, M40	M1 Ø ..
F4	Number	Ø21, Ø26 No. of entries	..

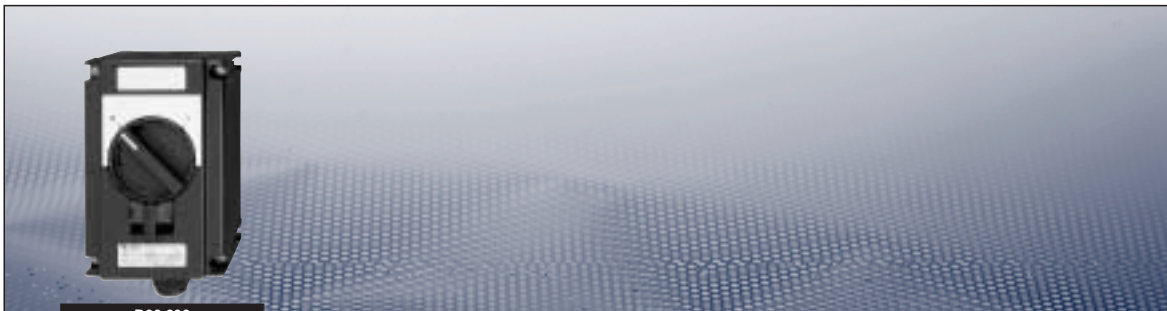
For metal glands, the type of cable/entry must be stated in plain language in the order

## Dimension drawing



Type 292

Dimension drawing in mm



D22 292

### Ordering details

Switch mechanism	Contact code	Order No.
6	062	D22 292 1000 R0001
6	065	D22 292 1000 R0002
4	067	D22 292 1000 R0003
8	067	D22 292 1000 R0004
4	037	D22 292 2000 R0002
8	037	D22 292 2000 R0003
5	024	D22 292 2000 R0004

### Accessories

Mounting plate for Type D22 292				
Type	Application	Fixing method	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 mounting	snap-on	1	GHG 610 1953 R0106
Size 4	Wall mounting	snap-on *	1	GHG 610 1953 R0128
Size 4	Trellis mounting	snap-on *	1	GHG 610 1953 R0128
Size 4	Pipe mounting	snap-on *	1	GHG 610 1953 R0132

\*snap-on with plug-in fastener 5.5 mm



ARE YOU ALWAYS TURNING  
YOUR MOTORS ON AND OFF  
SMOOTHLY?

ZONE 22

EX-SAFETY SWITCHES

A9.2

EX-MAIN CURRENT SWITCHES

A9.18

EX-MANUAL MOTOR STARTERS

A9.26

A2

A3

A4

A5

A6

A8

A9



# E X - S A F E T Y   S W I T C H E S

Up to 180 A for Zone 22

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.

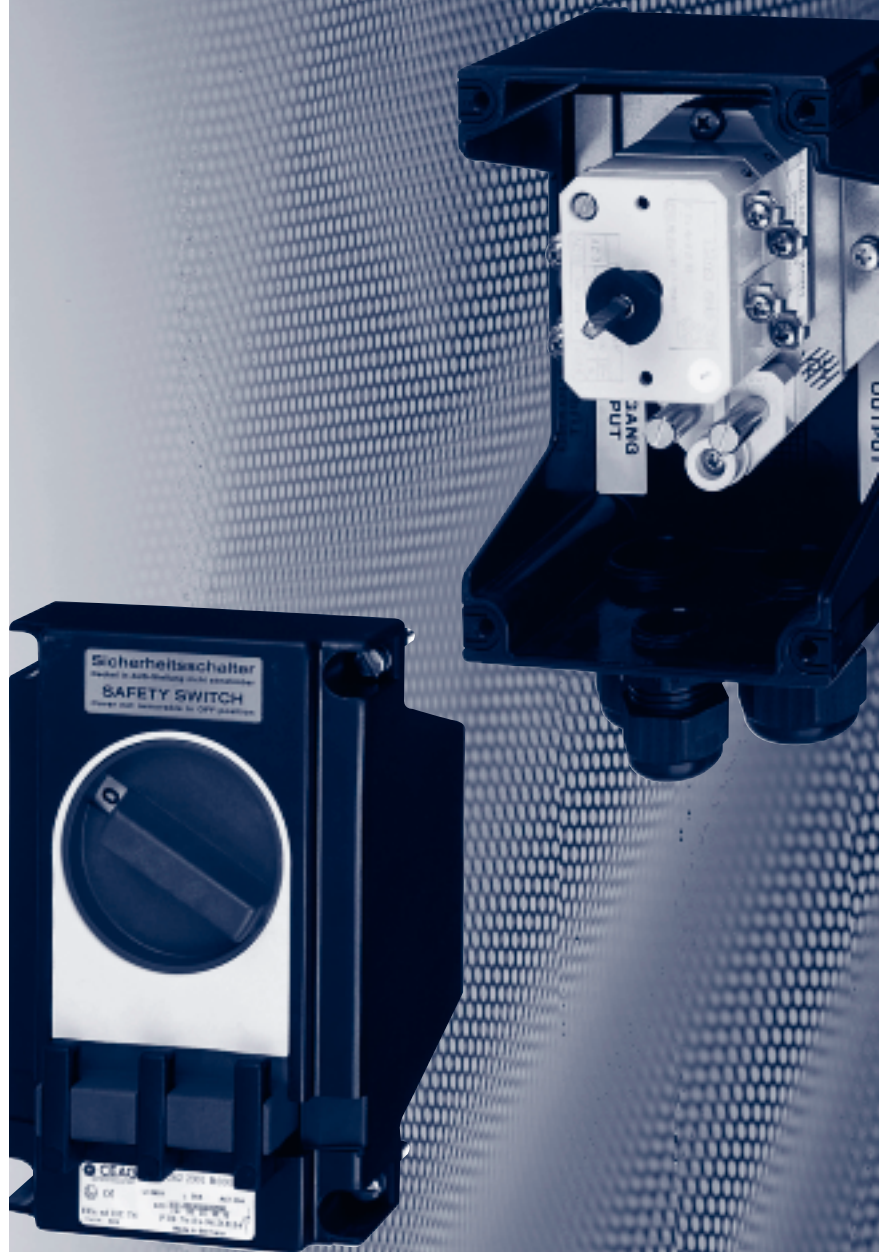
All CEAG safety switches feature full AC-3 motor switching capacities and isolating properties according to EN 60947-4-1 with compulsory opening of the main current contacts; optional EMERGENCY STOP versions according to EN 60204-1 are also available.

Additional lagging/leading auxiliary contacts guarantee double safety for extreme switching conditions.

They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas.

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 IP 66 for safety switches up to 180 A. These can be optionally supplied with snap-on moulded plastic or brass flanges.



**Full AC-3 switching capacity**

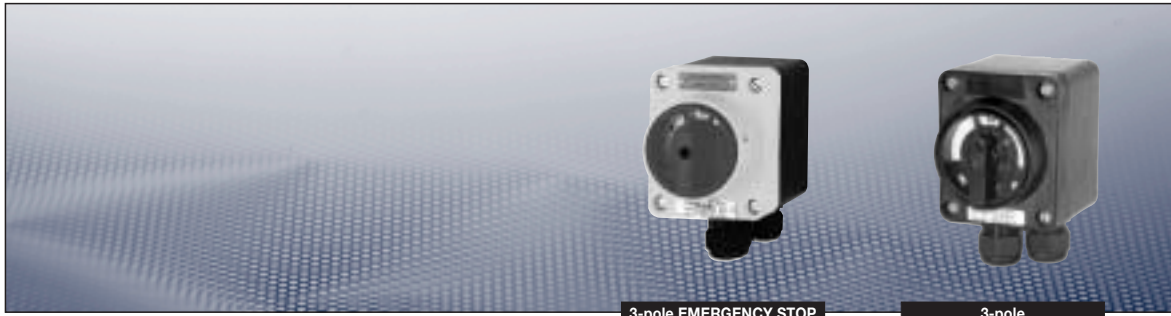
**Double safety: additional auxiliary contact**

**Cost-saving installation up to 180 A**

**Snap-on mounting up to 40 A**

**IP 66 protection up to 180 A**





3-pole EMERGENCY STOP

3-pole

## Technical data

Ex-Safety switch 10 A		
Marking to 94/9/EC	II 3 D Ex tD A22 IP 6X T80 °C	
Type Examination Certificate	BVS 07 ATEX E 105	
Permissible ambient temperature	-55 °C to +55 °C	
Rated voltage	max. 500 V	
Rated current	max. 10 A	
Frequency	50/60 Hz	
Switch rating AC3	230 V AC	10 A
	400 V AC	10 A
	500 V AC	10 A
Back up fuse	up to 400 V AC	max. 20 A gL
	up to 500 V AC	max. 16 A gL
Main contact	2 x 1.5 - 2.5 mm <sup>2</sup>	
Auxiliary contact	2 x 0.5 - 2.5 mm <sup>2</sup>	
Insulation class	I	
Degree of protection accd. EN 60529	IP 66	
Cable glands	M20 (d = 5.5 - 13 mm) see ordering details or	
	M25 (d = 8 - 17 mm) see ordering details	
Weight	0.55 kg	
Enclosure material	Polyamide	
Enclosure colour	black	
Auxiliary contact	1 x NO making - lagging; breaking - leading	
Padlock device	can be locked in OFF position	
	with 3 commercially available padlocks	

## Ordering details

Version	Cable glands	Order No.
3-pole	2 x M25 / 1 x M 20	D22 261 0005 R0009
3-pole	2 x M20	D22 261 0005 R0005
3-pole EMERGENCY STOP	2 x M25 / 1 x M 20	D22 261 0005 R0010

Customised versions on request, auxiliary contact in EEx ia available.

## Dimension drawing

3-pole

Dimensions in mm



6-pole EMERGENCY STOP

6-pole

3-pole EMERGENCY STOP

3-pole

Zone 22

A2

A3

A4

A5

A6

A7

A8

A9

## Technical data

Ex-Safety switch 20 A		
Marking to 94/9/EC	II 3 D Ex tD A22 IP 6X T80 °C	
Type Examination Certificate	BVS 07 ATEX E 106	
Permissible ambient temperature	-20 °C to +40 °C	
Rated voltage	max. 690 V	
Rated current	max. 20 A	
Frequency	50/60 Hz	
Switch rating AC3	230 V AC	20 A
	400 V AC	20 A
	500 V AC	16 A
	690 V AC	10 A
Back up fuse	up to 400 V AC	max. 35 A gL
	up to 500 V AC	max. 35 A gL
	up to 690 V AC	max. 25 A gL
Main contact	2 x 4 mm <sup>2</sup>	
Auxiliary contact	2 x 0.5 - 2.5 mm <sup>2</sup>	
Insulation class	I	
Degree of protection accd. EN 60529	IP 66	
Cable glands	M20 (d = 5.5 - 13 mm) see ordering details or	
	M25 (d = 8 - 17 mm) see ordering details or	
	M32 (d = 12 - 21 mm) see ordering details	
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	
Padlock device	can be locked in OFF position with 3 commercially available padlocks	

## Ordering details

Version	Cable glands	Order No.
Safety switch 20 A 3-pole, version with 1 auxiliary contact (NO)		
3-pole	2 x M32 / 1 x M25	D22 262 2301 R0001
3-pole EMERGENCY STOP	2 x M32 / 1 x M25	D22 262 2301 R0002
3-pole (1 x NO, 1 x NC)	2 x M32 / 1 x M25	D22 262 2301 R0003
Safety switch 20 A 4-pole, version with 2 auxiliary contacts (1 x NO; 1 x NC)		
4-pole	2 x M20	D22 262 2301 R0007
4-pole EMERGENCY STOP	2 x M32 / 1 x M25	D22 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	D22 262 2601 R0001
6-pole	4 x M25	D22 262 2601 R0005
6-pole EMERGENCY STOP	4 x M32 / 1 x M25	D22 262 2601 R0002

Customised versions on request, auxiliary contact in EEx ia available.

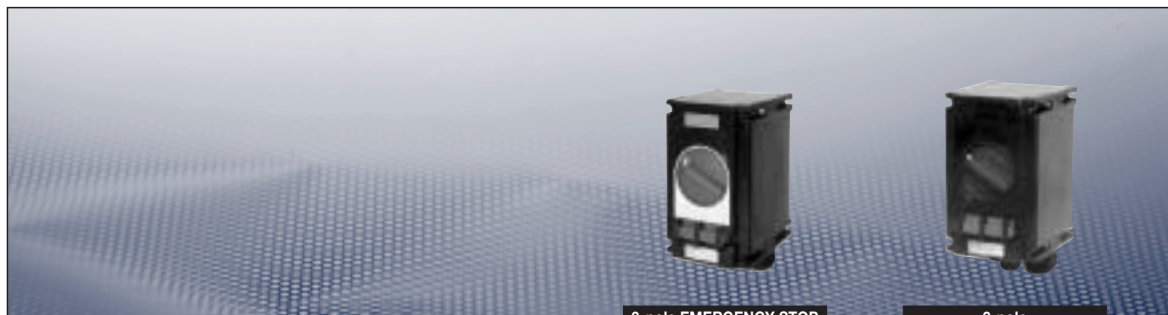
## Dimension drawing

3/4-pole

6-pole

Dimensions in mm





## Technical data

Ex-Safety switch 40 A		
Marking to 94/9/EC	II 3 D Ex tD A22 IP 6X T80 °C	
Type Examination Certificate	BVS 07 ATEX E 107	
Permissible ambient temperature	3-pole	-20 °C to +40 °C
Rated voltage	max. 690 V	
Rated current	max. 40 A	
Frequency	50/60 Hz	
Switch rating AC3	230 V AC	40 A
	400 V AC	40 A
	500 V AC	40 A
	690 V AC	32 A
Back up fuse	up to 400 V AC	max. 80 A gL
	up to 500 V AC	max. 80 A gL
	up to 690 V AC	max. 63 A gL
Main contact	2 x 16 mm <sup>2</sup>	
Auxiliary contact	2 x 4 mm <sup>2</sup>	
Insulation class	I	
Degree of protection accd. EN 60529	IP 66	
Cable glands	M25 (d = 8 - 17 mm) see ordering details or M40 (d = 17 - 28 mm) see ordering details	
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	making - leading; breaking - lagging	
Locking device	can be locked in OFF position with 3 commercially available padlocks	

## Ordering details

Version	Cable glands	Order No.
Safety switch 40 A 3-pole, version with 1 auxiliary contact (NO)		
3-pole	2 x M40 / 1 x M25	D22 263 2301 R0001
3-pole EMERGENCY STOP	2 x M40 / 1 x M25	D22 263 2301 R0002
Safety switch 40 A 4-pole, version with 2 auxiliary contacts (1 x NO; 1 x NC)		
4-pole	2 x M25	D22 263 2301 R0007

Customised versions on request, auxiliary contact in Ex ia available.





## Technical data

Ex-Safety switch 80 A		
Marking to 94/9/EC		II 3 D Ex tD A22 IP 6X T80 °C
Ex-type examination certificate		BVS 07 ATEX E 108
Permissible ambient temperature		-55 °C to +55 °C
Rated voltage		max. 690 V
Rated current		max. 80 A
Frequency		50/60 Hz
Switch rating AC3	230 V AC	80 A
	400 V AC	80 A
	500 V AC	80 A
	690 V AC	63 A
Back up fuse	up to 400 V AC	max. 160 A gL
	up to 500 V AC	max. 160 A gL
	up to 690 V AC	max. 125 A gL
Main contact		2 x 25 mm²
Auxiliary contact		2 x 4 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP 66
Cable glands		M25 (d = 8 - 17 mm) see ordering details or M50 (d = 21 - 35 mm) see ordering details
Weight	3-pole	approx. 6.5 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
Locking device		can be locked in OFF position with 3 commercially available padlocks

## Ordering details

Version	Cable glands	Order No.
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	D22 264 0020 R0001
3-pole EMERGENCY STOP	2 x M50 / 1 x M25	D22 264 0020 R0002

Customised versions on request, auxiliary contact in Ex ia available.







## Technical data

Ex-Safety switch 125 A		
Marking to 94/9/EC		II 3 D Ex tD A22 IP 6X T80 °C
Type Examination Certificate		BVS 07 ATEX E 109
Permissible ambient temperature		-55 °C to +55 °C
Rated voltage		max. 690 V
Rated current		max. 125 A
Frequency		50/60 Hz
Switch rating AC3	230 V AC	125 A
	400 V AC	125 A
	500 V AC	125 A
	690 V AC	110 A
Back up fuse	up to 400 V AC	max. 200 A gL
	up to 500 V AC	max. 200 A gL
	up to 690 V AC	max. 160 A gL
Main contact		1 x 50/70 mm²
Auxiliary contact		2 x 4 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP 66
Cable glands		M25 (d = 8 - 17 mm) see ordering details
		M63 (d = 27 - 48 mm) see ordering details
Weight		approx. 16 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
Locking device		can be locked in OFF position with 3 commercially available padlocks

## Ordering details

Version	Cable glands	Order No.
Safety switch 125 A 3-pole		
version with 2 auxiliary contacts (1 x NO; 1 x NC)		
3-pole	2 x M63 / 1 x M25	D22 265 0010 R0001
3-pole EMERGENCY STOP	2 x M63 / 1 x M25	D22 265 0010 R0002

Customised version on request, auxiliary contact in Ex ia available.





## Technical data

Ex-Safety switch 180 A		
Marking to 94/9/EC	II 3 D Ex tD A22 IP 6X T80 °C	
Type Examination Certificate	BVS 07 ATEX E 110	
Permissible ambient temperature	-55 °C to +55 °C	
Rated voltage	max. 690 V	
Rated current	max. 180 A	
Frequency	50/60 Hz	
Switch rating AC3	230 V AC	180 A
	400 V AC	180 A
	500 V AC	150 A
	690 V AC	125 A
Back up fuse	up to 400 V AC	max. 250 A gL
	up to 500 V AC	max. 250 A gL
	up to 690 V AC	max. 200 A gL
Main contact	1 x 120 mm <sup>2</sup>	
Auxiliary contact	2 x 4 mm <sup>2</sup>	
Insulation class	I	
Degree of protection accd. EN 60529	IP 66	
Cable glands	M25 (d = 8 - 17 mm) see ordering details	
	M63 (d = 27 - 48 mm) see ordering details	
Weight	approx. 16.5 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	
Locking device	can be locked in OFF position with 3 commercially available padlocks	

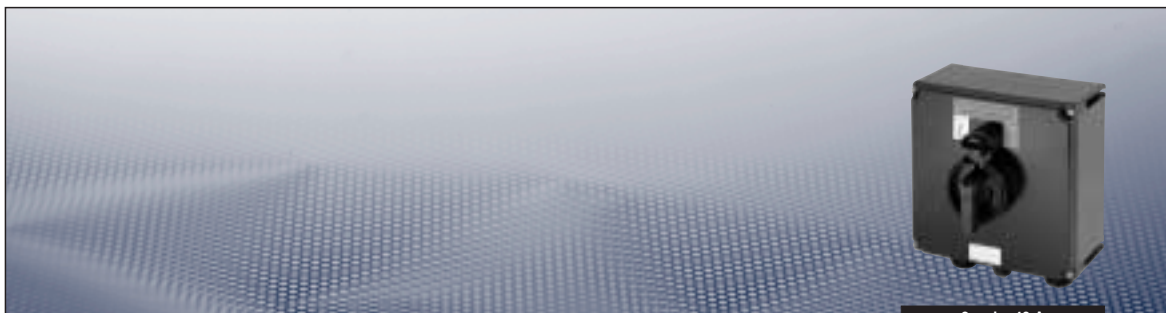
## Ordering details

Version	Cable glands	Order No.
Safety switch 180 A 3-pole		
version with 2 auxiliary contact (1 x NO; 1 x NC)		
3-pole	2 x M63 / 1 x M25	D22 266 0006 R0001
3-pole EMERGENCY STOP	2 x M63 / 1 x M25	D22 266 0006 R0002

Customised versions on request, auxiliary contact in Ex ia available.







Zone 22

A2

A3

A4

A5

A6

A7

A8

A9

## Technical data

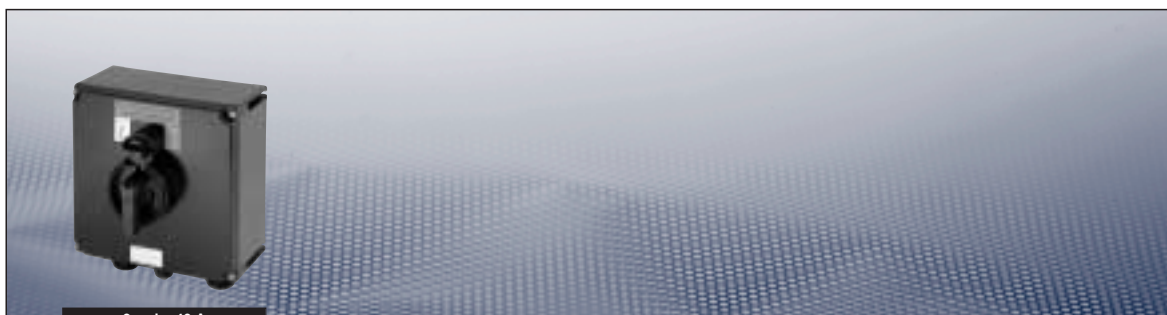
### Ex-Safety switch 40 A for variable-speed three-phase drives

Marking to 94/9/EC	II 3 D Ex tD A22 IP 6X T80 °C	
Type Examination Certificate	BVS 07 ATEX E 107	
Permissible ambient temperature	-55 °C to +55 °C	
Rated voltage	max. 690 V	
Rated current	max. 40 A	
Frequency	50/60 Hz	
Switch rating AC3	230 V AC	40 A
	400 V AC	40 A
	500 V AC	40 A
	690 V AC	32 A
Back up fuse	up to 400 V AC	max. 80 A gL
	up to 500 V AC	max. 80 A gL
	up to 690 V AC	max. 63 A gL
Main contact	2 x 16 mm <sup>2</sup> / 2 x 25 mm <sup>2</sup>	
Auxiliary contact	2 x 4 mm <sup>2</sup>	
Insulation class	I	
Degree of protection accd. EN 60529	IP 66	
Cable glands	M25 (d = 8 - 17 mm) see ordering details	
	M40 (d = 17 - 28 mm) see ordering details	
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	
Locking device	can be locked in OFF position with 3 commercially available padlocks	

## Ordering details

Version	Cable glands	Order No.
Safety switch 40 A 3-pole		
version for 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	D22 263 0053 R0001

Customised versions on request, auxiliary contact in Ex ia available.



3-pole, 40 A

## Accessories

### Mounting plate Ex-safety switch 40 A 3-pole

Type	Application	Fixing method	Order No.
Size 3	2 x Pipe mounting	screw-on <sup>1)</sup>	GHG 610 1953 R0110

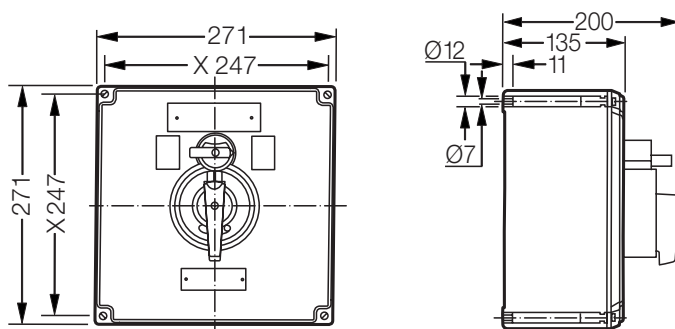
<sup>1)</sup> observe mounting distance

### Accessories for mounting plate

Type	OU	Order No.
Label holder with label (unlabelled) for label holder size 1, 2, 2A and 3	10	GHG 610 1953 R0057
Installation kit for pipes 1" (of 27 - 30 mm) for 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



Ex-Safety switch 40 A

Dimensions in mm

A2

A3

A4

A5

A6

A8

A9

## EX - MAIN CURRENT SWITCHES

Up to 40 A for Zone 22

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. To prevent manipulations, the enclosure covers cannot be opened in the locked position without destroying the enclosure itself. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas.

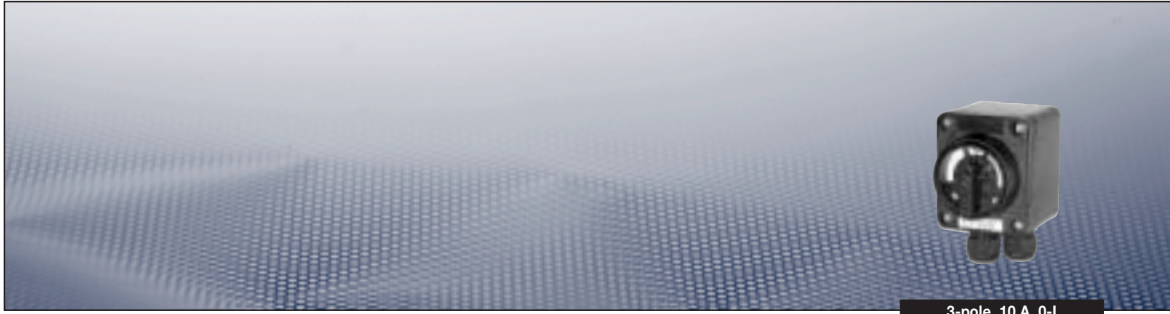
Full AC-3 motor switching capacities and isolating properties according to EN 60947-4-1 with compulsory opening of the main current contacts according to EN 60204-1 are just some of the eminent features offered by CEAG's main current switches.

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 IP 66 for amperages up to 40 A. These can be optionally supplied with snap-on moulded plastic or brass flanges. They can be equipped with screw-on flanges.

- Full AC-3 switching capacity
- Cost-saving installation
- Variants: star, delta, Dahlander or reversing switches
- Snap on mounting
- IP 66 protection







3-pole, 10 A 0-I

## Technical data

### Ex-Main current switches 10 A

Marking to 94/9/EC	II 3 D Ex tD A22 IP 6X T80 °C	
Type Examination Certificate	BVS 07 ATEX E 105	
Permissible ambient temperature	-55 °C to +55 °C	
Rated voltage	up to max. 500 V, 50/60 Hz	
Rated current	max. 10 A	
Frequency	50/60 Hz	
Switch rating AC3	230 V AC	10 A
	400 V AC	10 A
	500 V AC	10 A
Back up fuse	up to 400 V AC	max. 10 A gL
	up to 500 V AC	max. 10 A gL
Main contact	2 x 1.5 - 2.5 mm <sup>2</sup>	
Auxiliary contact	2 x 0.5 - 2.5 mm <sup>2</sup>	
Insulation class	I	
Degree of protection accd. EN 60529	IP 66	
Cable glands	M25 (d = 8 - 17 mm) see ordering details	
Weight	approx. 0.60 kg	
Enclosure material	impact resistant polyamide	
Enclosure colour	black	

## Ordering details

Version	Cable glands	Order No.
Ex-main current switches 10 A		
3-pole 0-I	2 x M25	ON-OFF switch
		D22 261 0006 R0001

Customised versions on request.



3-pole, 10 A 0-I

## Accessories

### Mounting plate for Ex-main current 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 plate

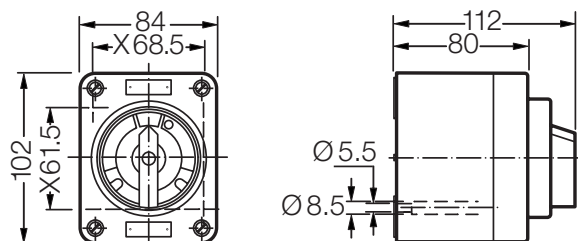
Type	OU	Order No.
Label holder with label (unlabelled) for label holder size 1, 2, 2A and 3	10	GHG 610 1953 R0057
Installation kit for pipes 1" (of 27 - 30 mm) for pipe mounting plates	10	GHG 610 1953 R0020

### Canopies for mounting plates

Type	Application	OU	Order No.
Size 1	for mounting plate size 1	1	GHG 610 1955 R0101

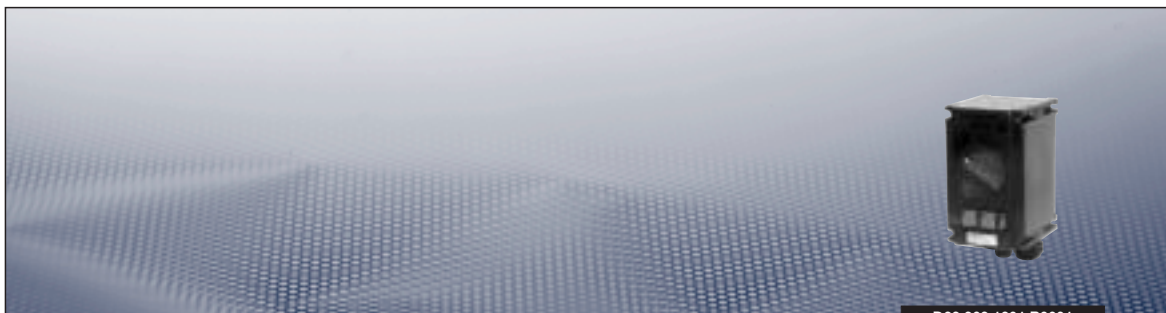
Please note that we can only deliver in the ordering units (OU) stated in the tables above.

## Dimension drawing



3-pole, 10 A 0-I

Dimensions in mm



D22 262 1301 R0001

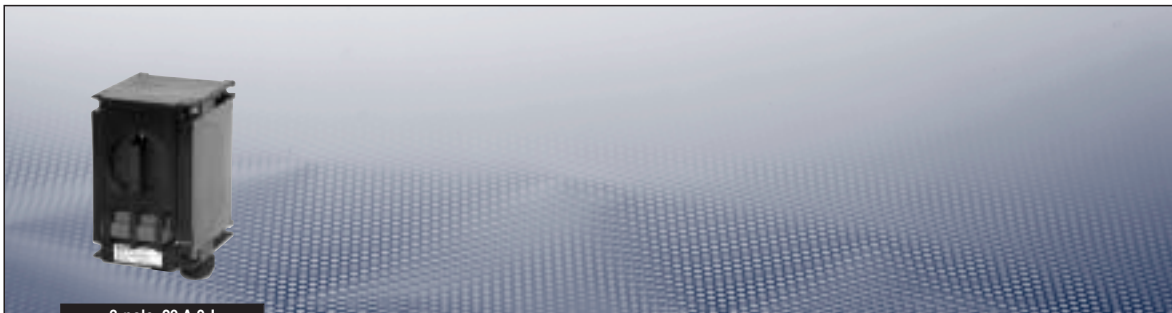
## Technical data

Ex-Main current switch 20 A		
Marking to 94/9/EC	II 3 D Ex tD A22 IP 6X T80 °C	
Ex-Type Examination Certificate	BVS 07 ATEX E 106	
Permissible ambient temperature	-20 °C to +40 °C	
Rated voltage	max. 690 V	
Rated current	max. 20 A	
Frequency	50/60 Hz	
Switch rating AC3	230 V AC	20 A
	400 V AC	20 A
	500 V AC	16 A
	690 V AC	10 A
Back up fuse	up to 400 V AC	max. 35 A gL
	up to 500 V AC	max. 35 A gL
	up to 690 V AC	max. 25 A gL
Main contact	2 x 4 mm <sup>2</sup>	
Insulation class	I	
Degree of protection accord. EN 60529	IP 66	
Cable glands	M32 (d = 12 - 21 mm) see ordering details	
Weight	approx. 1.4 kg	
Enclosure material	Glass-fibre reinforced polyester	
Enclosure colour	black	

## Ordering details

Version		Cable glands		Order No.
Main current switch 20 A 3-pole				
3-pole	0 - I	2 x M32	ON-OFF switch	D22 262 1301 R0001
Main current switch 20 A 4-pole				
4-pole	0 - I	2 x M32	ON-OFF switch	D22 262 1301 R0004

Customised versions on request, auxiliary contact in Ex ia available.



3-pole, 20 A 0-I

## Accessories

### Mounting plate Ex-main current switch 20 A 3-pole

Type	Application	Fixing method	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 plate

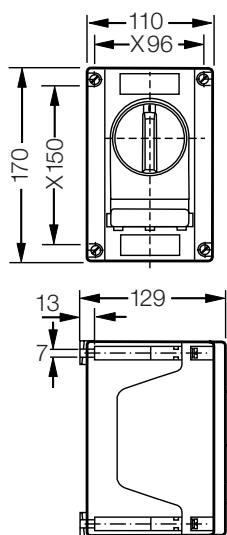
Type	OU	Order No.
Label holder with label (unlabelled) for label holder size 1, 2, 2A and 3	10	GHG 610 1953 R0057
Snap-on for CEAG apparatus with 5.5 mm and 11 mm mounting feet		
1 set = 4 pcs	10	GHG 610 1953 R0041
Installation kit for pipes 1" (of 27 - 30 mm) for label holder for pipe mounting	10	GHG 610 1953 R0020

### Canopies for mounting plates

Type	Application	OU	Order No.
Size 2	for mounting plate size 2	1	GHG 610 1955 R0102

Please note that we can only deliver in the ordering units (OU) stated in the tables above.

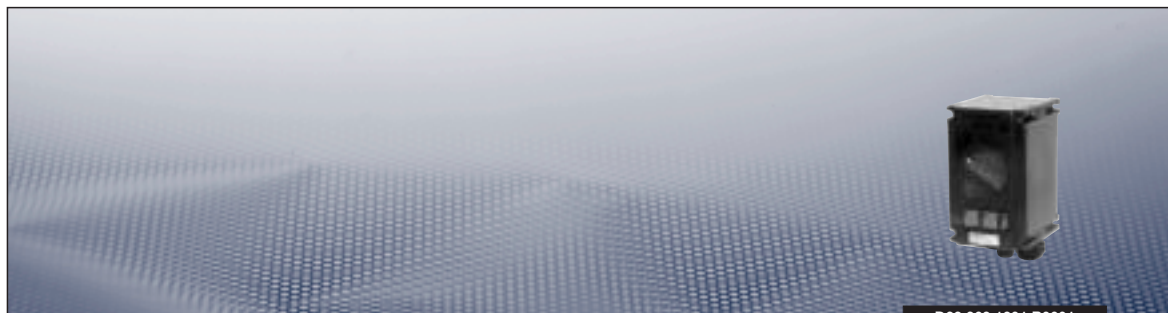
## Dimension drawing



3/4-pole

Dimensions in mm





D22 263 1301 R0001

Zone 22

## Technical data

Ex-Main current switches 40 A		
Marking to 94/9/EC	II 3 D Ex tD A22 IP 6X T80 °C	
Type Examination Certificate	BVS 07 ATEX E 107	
Permissible ambient temperature	-20 °C to +40 °C	
Rated voltage	max. 690 V (20 A)	
Rated current	max. 40 A	
Frequency	50/60 Hz	
Switch rating AC3	230 V AC	40 A
	400 V AC	40 A
	500 V AC	40 A
	690 V AC	32 A
Back up fuse	up to 400 V AC	max. 80 A gL
	up to 500 V AC	max. 80 A gL
	up to 690 V AC	max. 63 A gL
Main contact	2 x 16 mm <sup>2</sup>	
Insulation class	I	
Degree of protection accord. EN 60529	IP 66	
Cable glands	M25 (d = 8 - 17 mm) see ordering details	
	M40 (d = 17 - 28 mm) see ordering details	
Weight	3-pole	approx. 2.30 kg
Enclosure material	Glass-fibre reinforced polyester	
Enclosure colour	black	

## Ordering details

Version		Cable glands	Order No.
Ex-main current switch 40 A 3-pole			
3-pole	0 - I	2 x M40, 1 x M25	ON-OFF switch
			<b>D22 263 1301 R0001</b>

Customised versions on request, auxiliary contact in Ex ia available.

A2

A3

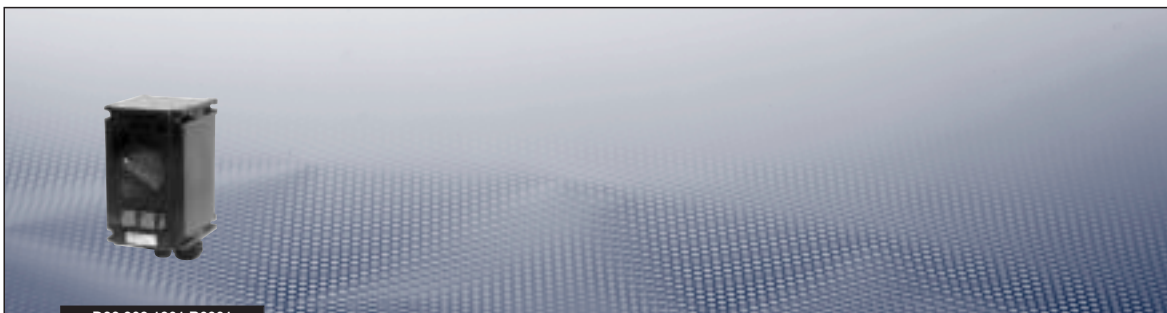
A4

A5

A6

A8

A9



D22 263 1301 R0001

## Accessories

### Mounting plate for Ex-main current switch 40 A 3-pole

Type	Application	Fixing method	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 plate

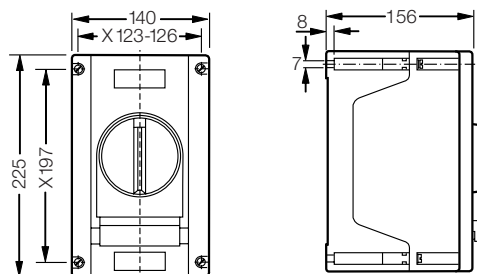
Type	OU	Order No.
Label holder with label (unlabelled) for label holder size 1, 2, 2A and 3	10	GHG 610 1953 R0057
Snap-on for CEAG apparatus with 5.5 mm and 11 mm mounting feet		
1 set = 4 pcs	10	GHG 610 1953 R0041
Installation kit for pipes 1" (of 27 - 30 mm) for pipe mounting plate	10	GHG 610 1953 R0020

### 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

Please note that we can only deliver in the ordering units (OU) stated in the tables above.

## Dimension drawing



D22 263 1301 R0001

Dimensions in mm

A2

A3

A4

A5

A6

A8

A9

# EX - MANUAL MOTOR STARTERS

Up to 25 A for Zone 22

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. They are designed and tested according to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 22 of dust Ex-areas.

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.

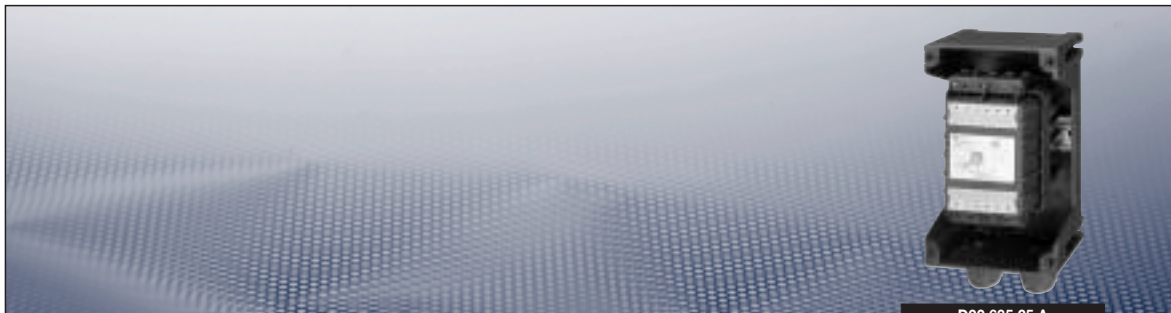
An operating-current trip for remote switch-off is optional.

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.



- Full AC-3 motor switching capacity
- Decisive cost savings with CEAG's mounting system
- Easily accessible connection terminals
- Degree of protection IP 66
- Isolating properties according to DIN EN 60947-4-1
- Clear indication of switch position
- Phase-failure protection
- Integrated locking facility





D22 635 25 A

Zone 22

## Technical data

Ex-Manual motor starters 25 A		
Marking to 94/9/EC	II 3 D Ex tD A22 IP 6X T80 °C	
Type Examination Certificate	BVS 07 ATEX E 113	
Permissible ambient temperature	-20 °C to +40 °C	
Rated voltage	up to max. 690 V, 50/60 Hz	
Rated current	max. 25 A	
Rated current auxiliary contact	max. 2 A	
Frequency	50/60 Hz	
Switch rating AC3	690 V AC	25 A
Back up fuse	see ordering details	
Undervoltage trip	tripping at 15 % - 75 % Un can be switched 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 accord. EN 60529	IP 66	
Cable glands		
	0,1 - 6.3 A	2 x M25 (d = 8 - 17 mm)
	6,3 - 25 A	2 x M32 (d = 12 - 21 mm)
Weight	2.5 kg	
Enclosure material	Glass-fibre reinforced polyester	
Enclosure colour	black	
Padlock device	can be locked in OFF position with 3 commercially available padlocks	

A2

A3

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A9



D22 635 25 A

### Order coding for special versions

Description	Version	Undervoltage trip	Auxiliary contact	
D22 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

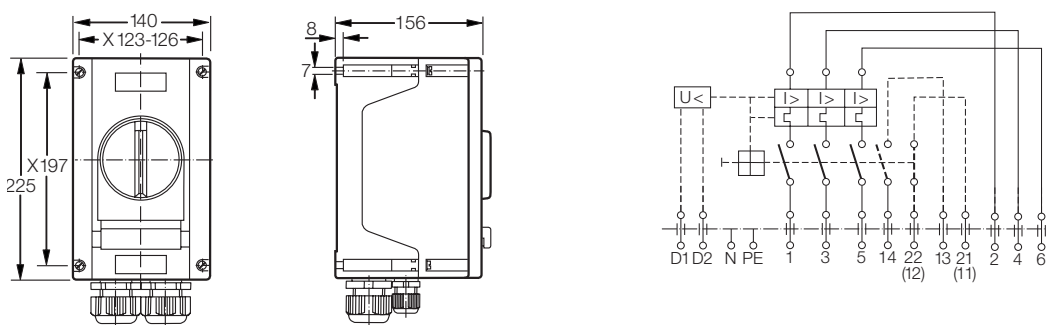
### Short-circuit protection up to 100 kA and maxime backup fuse

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		
0,63 A ... 1,0 A									T6	D22 635 1 1 0 1 R0105
1,0 A ... 1,6 A									T6	D22 635 1 1 0 1 R0106
1,6 A ... 2,5 A							40	25	T6	D22 635 1 1 0 1 R0107
2,5 A ... 4,0 A					40	35/40	10	40	T6	D22 635 1 1 0 1 R0108
4,0 A ... 6,3 A					30	50	3	40	T6	D22 635 1 1 0 1 R0109
6,3 A ... 9,0 A					30	80	3	50	T6	D22 635 1 1 0 1 R0110
9,0 A ... 12,5 A			50	80	20	80	3	50	T6	D22 635 1 1 0 1 R0111
12,5 A ... 16,0 A			50	100	20	100	3	50	T6	D22 635 1 1 0 1 R0112
16,0 A ... 20,0 A			50	100	20	100	2	50	T5	D22 635 1 1 0 1 R0113
20,0 A ... 25,0 A	50	125	50	125	20	125	2	50	T5	D22 635 1 1 0 1 R0114

Other versions on request.

Ics = short-circuit proof; gL, aM = back fuse

### Dimension drawing



D22

Dimensions in mm



# PORTABLE EX-LAMPS

ZONE 20/21

INFORMATION PORTABLE EX-LAMPS

B1.2

EX-TORCHLIGHTS

B1.6

EX-SEARCHLIGHTS

B1.10

B1

B2

B3

B4

B5

B6

B7

B8

B9

## Safety Requirements

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 21

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 21 hazardous areas. Zone 22 is automatically included.

## 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 IP 65 protection as a minimum. Especially for usage in rough environments the brand "CEAG" offers hand lamps that conform to the high standard IP 66.

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 "single-handed 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.



### 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.



**Focussing Stabex mini II**

### 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.



**Focussing Stabex HF**

### 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).

### 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 out-standing 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 recycled and are almost 100 % re-usable.



**Rechargeable battery for SEB 8**





### 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 II and the HF Stabex 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 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 ca. 5.5 h, do not pose a problem.

**Table: 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 II	2 x R6/LR6	–	–	–	–	can be focussed
Stabex HF	2 x R20/LR20	–	–	–	–	can be focussed
Stabex HF-L	–	2 x 4 Ah	–	LG 493	–	can be focussed
SEB 8	–	4 x 7 Ah	–	LG 443	Car holder 90	Capacity indication
SEB 8 L	–	4 x 7 Ah	yes	LG 443	Car holder 90	Capacity indication, can be focussed, standby light, servicing circuit, mains charger cable with plug

# EX - TORCHLIGHTS

Stabex mini II / Stabex HF

The Stabex mini II and the Stabex HF explosion-protected torchlights meets the requirements of the ATEX-Directive 94/9/EG. The torchlights have been conceived for use in Zone 21 and Zone 22. On top of that the Stabex HF is also for use in Zones 20.

Because of their compact design, the torches are used for security patrols and inspection duties. The Stabex HF model equipped with a halogen lamp can be uniformly focussed 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 II is fitted with 2 dry cells size AA and the Stabex HF with 2 dry cells size D. 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 IP 66 – Stabex mini II

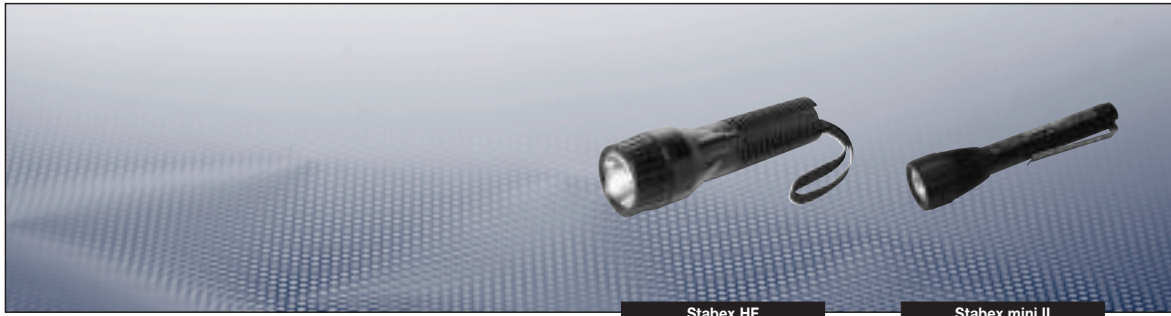
Light cone can be focussed – Stabex HF

Xenon bulb – Stabex mini II

Scratch resistant mineral glass

Internationale Approvals





Stabex HF

Stabex mini II

## Technical data

	Stabex mini II	Stabex HF
Admissible operating range	Zone 21	Zone 20, Zone 21
Marking to 94/9/EC	II 2 D T56 °C IP 66	II 1 D T90 °C IP 65
Type Examination Certificate	PTB 04 ATEX 2119	PTB 98 ATEX 2062
Permissible ambient temperature	-20 °C to +40 °C specified data: 0 °C to +30 °C (battery)	-20 °C bis +40 °C specified data: 0 °C to +30 °C (battery)
Lamp	2.3 V/0.36 A (XENON)	2.8 V/0.5 A (Halogen)
Lamp cap	E 10	E 10
Max. luminous intensity	> 4000 cd	–
Rated luminous flux	approx. 10 lm	17 lm
Battery	2 dry cell aa-size IEC 60086 R 6/LR 6	2 dry cells IEC 60086 R 20 / LR 20
Operating time	approx. 8 h	dry cells approx. 12 h
Switch	„On – Off“ (focusable)	„On – Off“
Degree of protection accd. EN 60529	IP 66	IP 65
Dimensions in mm	154 x Ø 43	220 x Ø 60
Weight	approx. 0.09 kg (without battery)	approx. 0.25 kg (without battery)
Enclosure material	Lamp head: polyamide grip: aluminium, black fixing clip: stainless steel	Polyamide/black
Colour	black	black
Light aperture	Ø 24 mm, Mineralglas	Ø 48 mm, Mineralglas

## Ordering details | Accessories

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

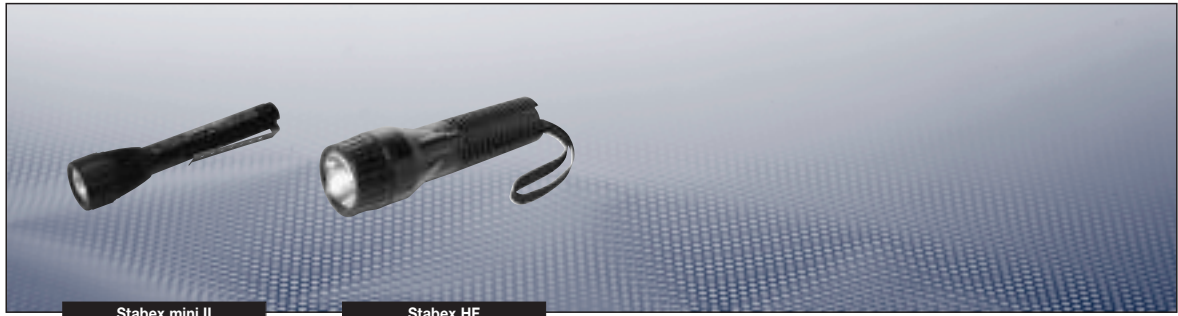
### Accessories for Ex-torchlight Stabex mini II

Type	OU	Order No.
Incandescent lamp 2.3 V/0.36 A	10	1 1360 002 001
hand strap	1	3 1360 030 005
belt bag	1	3 1360 030 006

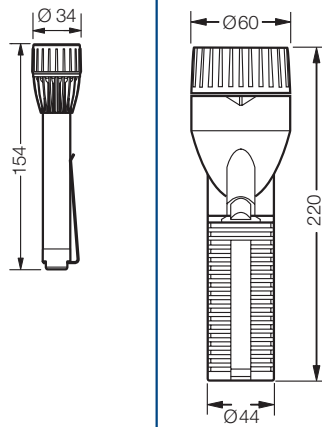
Type	Scope of delivery	OU	Order No.
Stabex HF	with incandescent lamp, without battery	1	1 1359 000 001

### Accessories for Ex-torchlight Stabex HF

Type	OU	Order No.
1 Halogen lamp 2,8 V/0,5 A	10	1 1359 000 070



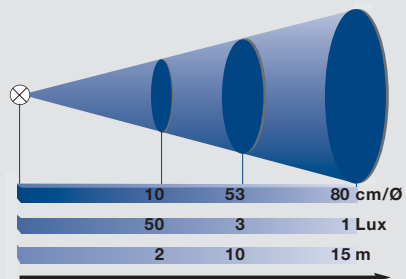
Dimension drawing | Range-diagram



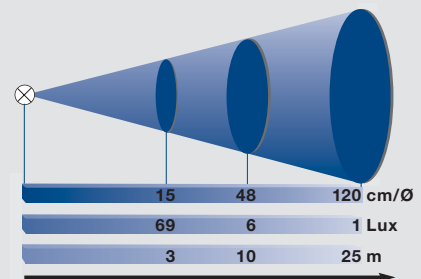
Stabex mini II

Stabex HF

Range-diagram Stabex mini II



Range-diagram Stabex HF



**B1**

**B2**

**B3**

**B4**

**B5**

**B6**

**B7**

**B8**

**B9**

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

SEB 8 / SEB 8 L

The powerfull explosion-protected portable searchlights SEB 8 and SEB 8 L are in accordance to the ATEX-Directive 94/9/EG and have therefore been certified for usage in the Zones 21 and 22.

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 IP 65 safety standard they can be used in nearly any work area subject to high mechanical stress and high humidity.

The searchlights have a light intense Halogen double bulb, a gas-tight NiCd battery 4.8 V/7 Ah and a 5 LED Display.

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.



**Indication of available duration provides safety of operation**

**Broken filament and Automatic switchover to pilot light occurs**

**No overcharging of the battery due to a recharge dependent on the capacity**

**Focussing beam**

**Degree of protection IP 65**

**International Approvals**





**SEB 8/SEB 8 L**  
as search and work light

### **SEB 8/SEB 8 L**

#### **A search and working light**

This explosion-protected portable searchlight has been developed in accordance with the new fire brigade standard DIN 14 642 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.

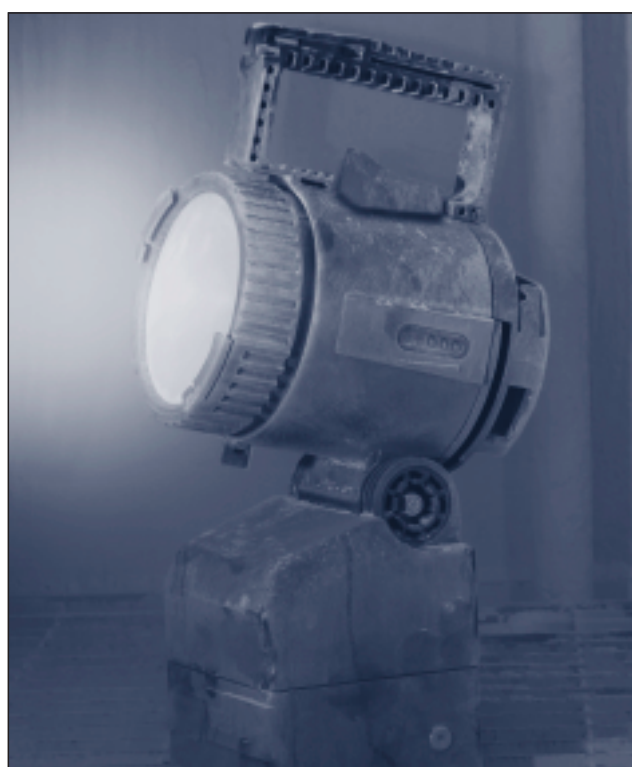
Special for operations where a constant luminosity is required the prism filter will give you a quadratic working light with a uniform, widespread luminous intensity distribution and that with no major loss.

Slip-on coloured filters extend the range of functions for the SEB 8 such as safeguarding and giving signals.

### **Charging possibilities**

#### **SEB 8 / SEB 8 L**

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



**SEB 8 by use in dust-explosion hazardous areas**



SEB 8 L

SEB 8 with vehicle charger 90

Charger LG 443

Vehicle charger 90

## Technical data

### SEB 8 L | SEB 8

Marking to 94/9/EC	II 2 D IP 66 T60 °C
Type Examination Certificate	PTB 99 ATEX 2195
Enclosure material	Polyamide/black
Light aperture	Ø 98 mm mineral glass
Pilot lamp, incandescent	4.8 V/0.3 A
Degree of protection accd. EN 60529	IP 65
Permissible ambient temperature	-20 °C to +40 °C, specified data 0 °C to +30 °C (battery)
Operating time	approx. 5.5 h
Main lamp	5.5 V/5.5 W (halogen lamp with double bulb)
Max. luminous intensity	15000 cd
Battery	NC-battery, rechargeable 4.8 V/7 Ah
Function	<ul style="list-style-type: none"> <li>– indication of available duration processor controlled</li> <li>– charge depending on the drawn capacity</li> <li>– Flashlight - emergency light</li> <li>– switching for standby light or in case of broken filament</li> </ul>
Weight	2.2 kg (SEB 8) / 2.5 kg (SEB 8L)

### SEB 8 L

Function	– internal charger
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### Charger LG 443 for SEB 8 | SEB 8 L

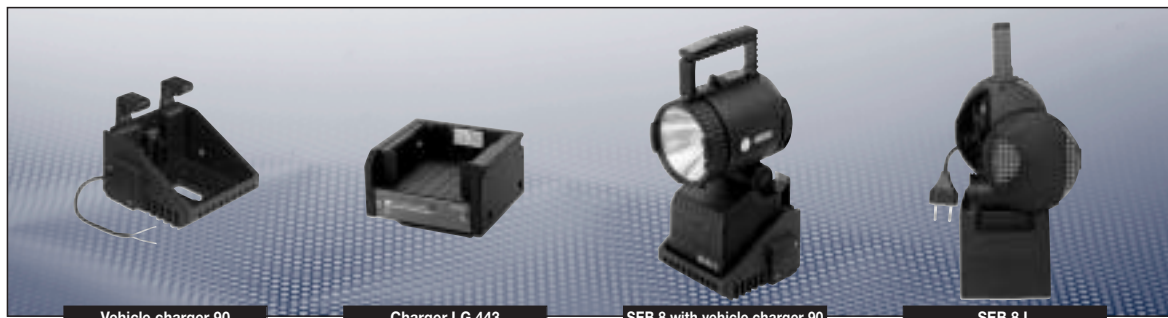
Rated voltage	220-250 V ± 10 %, 50/60 Hz
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### Motor vehicle charger 90 for SEB 8 | SEB 8 L

Rated voltage	10-33 V DC
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### Integrated charger SEB 8 L

Rated voltage	230 V ± 10 %; 50/60 Hz
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## Ordering details

Type	Scope of delivery	Order No.
SEB 8 L	Including halogen lamp with double bulb, pilot lamp, diffusing lens and battery (rechargeable by means of mains, LG 443 or motor vehicle charger 90)	1 1147 000 001
SEB 8	Including halogen lamp with double bulb, pilot lamp, diffusing lens and battery (rechargeable in LG 443 or motor vehicle charger 90)	1 1147 000 002

### Accessories for Ex-searchlight SEB 8 L / SEB 8

Type	OU	Order No.
Battery set 7 Ah, 4.8 V NC	1	2 1147 701 000
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 light)	10	1 2041 450 000
Slip-on filters red, orange, green	1	2 1147 300 000

Type	Scope of delivery	Order No.
Charger LG 443		1 1540 000 443
Motor vehicle charger 90		1 1145 000 792
Wall bracket SW	Bracket without charger	1 1145 000 795

Zone 21

B1

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B8

B9



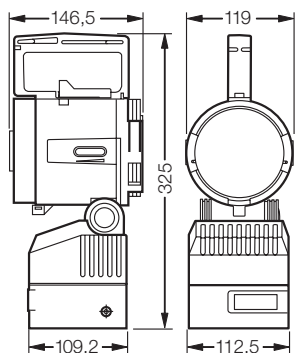
SEB 8 L

SEB 8 with vehicle charger 90

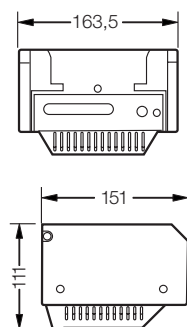
Charger LG 443

Vehicle charger 90

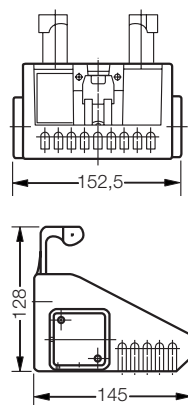
## Dimension drawing | Range-diagram | Indication of residual operating time



SEB 8/SEB 8L

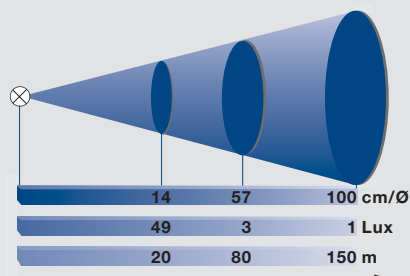


LG 443

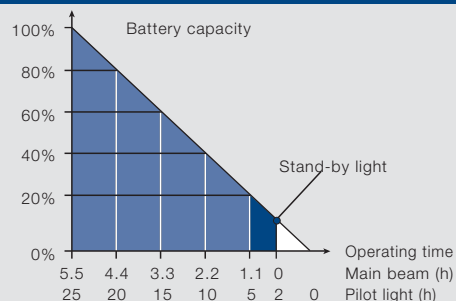


Motor vehicle charger 90

### Range diagram



### Indication of residual operating time





B1

EX-LIGHT FITTINGS

ZONE 21

B2

B3

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EX-LIGHT FITTINGS

B2.2

EX-EMERGENCY LIGHT FITTINGS

B2.6

EX-RECESSED CEILING LIGHT FITTINGS

B2.10

B9

## EX - LIGHT FITTINGS

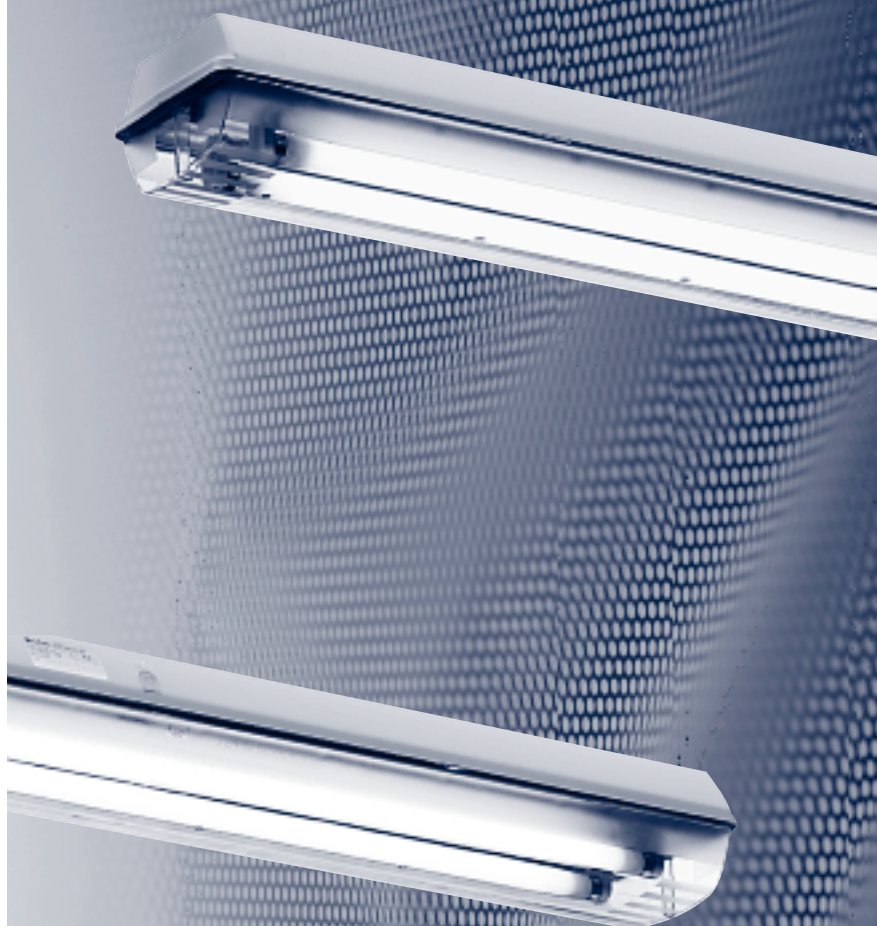
nLLK 98... 18 - 58 W  
Plastic version for Zone 21 and Zone 22

The explosion-protected light fittings of the series nLLK 98 conform to the requirements of the ATEX-Directive 94/9/EC. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment 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 fulfills 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 IP 66**

**Integration in the CEAG Emergency Light Supply System**



Zone 21

B1

B2

## Technical data

nLLK 98018/18	nLLK 98036	nLLK 98036/36	nLLK 98058	nLLK 98058/58
Marking to 94/9/EC	II 2 D T80 °C IP 66			
EC-Type Examination Certificate	DMT 02 ATEX E 116			
Rated voltage	220 V - 230 V AC (CG-S: 220 - 254 V)			
Rated voltage	220 V - 230 V DC (CG-S: 195 - 254 V)			
Frequency	50 - 60 Hz			
Power factor cos φ	≥ 0,95			
Circuit	EVG			
Connecting terminals	L, N, PE; max. 2 x 2.5 mm², clamp terminals			
Insulation class	I			
Lamp cap	G13 accd. to IEC 60081			
Degree of protection accd. EN 60529	IP 66			
Cable glands	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 98018/18	
Permissible ambient temperature	-25 °C to +50 °C
Rated current	0.16 A / 0.17 A (CG-S variant)
Lamp/Illuminant	2 x T8 (26 mm)/18 W
Rated luminous flux <sup>1)</sup>	2700 lm
Light efficiency in operation	78 %
Dimensions in mm (L x W x H)	760 x 188 x 130
Weight	approx. 4.0 kg / approx. 5.5 kg (CG-S variant)

nLLK 98036	nLLK 98036/36
Permissible ambient temperature	-25 °C to +45 °C
Rated current	0.16 A
Lamp/Illuminant	1 x T8 (26 mm)/36 W
Rated luminous flux <sup>1)</sup>	3350 lm
Light efficiency in operation	86 %
Dimensions in mm (L x W x H)	1360 x 188 x 130
Weight	approx. 6.0 kg

nLLK 98058	nLLK 98058/58
Permissible ambient temperature	-25 °C to +45 °C
Rated current	0.25 A
Lamp/Illuminant	1 x T8 (26 mm)/58 W
Rated luminous flux <sup>1)</sup>	5200 lm
Light efficiency in operation	83 %
Dimensions in mm (L x W x H)	1660 x 188 x 130
Weight	approx. 7.3 kg

<sup>1)</sup> dep. on used lamps

B3

B4

B5

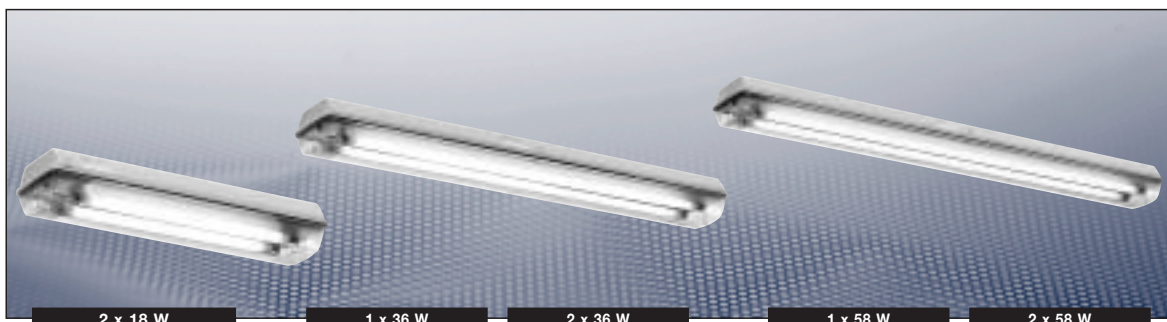
B6

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B9

| nLLK 98018/18 | nLLK 98036 | nLLK 98036/36 |  
| nLLK 98058 | nLLK 98058/58 |



### Ordering details

Type	Connecting terminals	Through-wiring single-ended	double-ended	Cable entries <sup>3)</sup>	Plugs	Order No.
Type nLLK 98018/18 (2 x 18 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	<b>1 3465 218 001</b>
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	<b>1 3465 218 011</b>
2/6-2 M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 3465 218 021</b>
Type nLLK 98018/18 CG-S <sup>2)</sup> (2 x 18 W)						
2/6-2 <sup>4)</sup>	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	<b>1 3465 218 912</b>
2/6-M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 3465 218 922</b>
Type nLLK 98036 (1 x 36 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	<b>1 3465 136 001</b>
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	<b>1 3465 136 011</b>
2/6-2M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 3465 136 021</b>
Type nLLK 98036/36 (2 x 36 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	<b>1 3465 236 001</b>
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	<b>1 3465 236 011</b>
2/6-2M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 3465 236 021</b>
Type nLLK 98036/36 CG-S <sup>2)</sup> (2 x 36 W)						
2/6-2 <sup>4)</sup>	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	<b>1 3465 236 912</b>
2/6-2M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 3465 236 922</b>
Type nLLK 98058 (1 x 58 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	<b>1 3465 158 001</b>
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	<b>1 3465 158 011</b>
2/6-2M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 3465 158 021</b>
Type nLLK 98058/58 (2 x 58 W)						
1/3-1	1 x 3	x	–	1 x M25 x 1.5	1 x threaded	<b>1 3465 258 001</b>
2/5-2	2 x 5	–	x	2 x M25 x 1.5	2 x threaded	<b>1 3465 258 011</b>
2/6-2M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 3465 258 021</b>
Type nLLK 98058/58 CG-S <sup>2)</sup> (2 x 58 W)						
2/6-2 <sup>4)</sup>	2 x 6	–	x	2 x M25 x 1.5	2 x threaded	<b>1 3465 258 912</b>
2/6-2M <sup>1)</sup> 4)	2 x 6	–	x	4 x M20 x 1.5	2 x threaded	<b>1 3465 258 922</b>

<sup>1)</sup> M: with metal thread, without cable gland

<sup>2)</sup> CG-S: Design single monitored emergency light fitting for use in CEAG emergency light supply unit

<sup>3)</sup> With dust cap for unclosed entries/metal thread

<sup>4)</sup> With screw-type terminals max. 2 x 6 mm<sup>2</sup> single wire

**Design with luminaire switch on demand.**

**Scope of delivery without lamp and fixing accessories.**



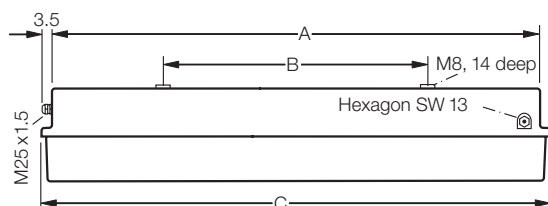


Zone 21

B1

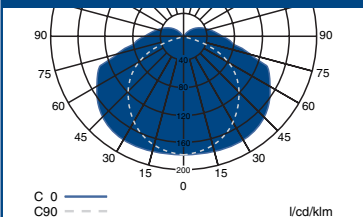
B2

## Dimension drawing | Polar curve

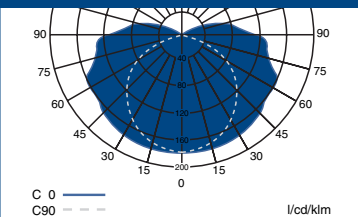


Type	A	B	C
nLLK 98018/18	732	400	760
nLLK 98036 / nLLK 98036/36	1332	700	1360
nLLK 98058 / nLLK 98058/58	1632	700	1660

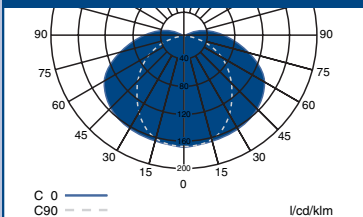
Polar curve  
nLLK 98018/18 / nLLK 98036/36



Polar curve  
nLLK 98036 / nLLK 98058



Polar curve  
nLLK 98058/58



B3

B4

B5

B6

B7

B8

B9

Dimensions in mm

## EX - EMERGENCY LIGHT FITTINGS

nLLK 98...N 18 - 36 W  
Plastic version for Zone 21 and Zone 22

The explosion-protected light fittings of the series nLLK 98 N are conform to the requirements of the ATEX-Directive 94/9/EC. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment 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.

The new EVG additionally fulfills 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 fulfill 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 and a green indication LED for charging current.

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.



**Cost efficient installation due to single-sided through-wiring**

**With electronic ballast incl. EOL set-up**

**Double-sided safety lock**

**High degree of protection IP 66**

**Self-contained NC-battery for emergency lighting 1.5 h**

**Easy battery change**



Zone 21

B1

B2

## Technical data

nLLK 98018/18 N   nLLK 98036/36 N		
Marking to 94/9/EC	II 2 D T80 °C IP 66	
EC-Type Examination Certificate	DMT 02 ATEX E116	
Rated voltage 1	220 V - 230 V AC	
Frequency	50 - 60 Hz (electronic ballast) with emergency supply unit	
Power factor cos φ	≥ 0.95	
Circuit	EVG with emergency lighting supply	
Connecting terminals	L, L1, N, PE; max. 2 x 2.5 mm², clamp terminals	
Insulation class	I	
Lamp cap	G13 accd. to IEC 60081	
Degree of protection accd. EN 60521	IP 66	
Light efficiency in operation	78 %	
Rated emergency operating duration	1.5 h	
Charging duration	> 24 h	
Cable glands	Ex e-cable gland 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 98018/18 N	nLLK 98036/36 N
Permissible ambient temperature	-25 °C to +50 °C specified data -5 °C to +35 °C	-25 °C to +45 °C
Rated current	0.18 A	0.33 A
Lamp/Illuminant	2 x T8 (26 mm)/18 W	2 x T8 (26 mm)/36 W
Rated luminous flux <sup>2)</sup>	2700 lm	6700 lm
Luminous flux in emergency operation (1.5 h, one lamp) <sup>2)</sup>	880 lm (65 %)	1240 lm (40 %)
Battery	6 V/4 Ah NC-Accu	6 V/4 Ah NC-Accu
Dimensions in mm (L x W x H)	760 x 188 x 130	1360 x 188 x 130
Weight	5.5 kg	7,5 kg

B3

B4

B5

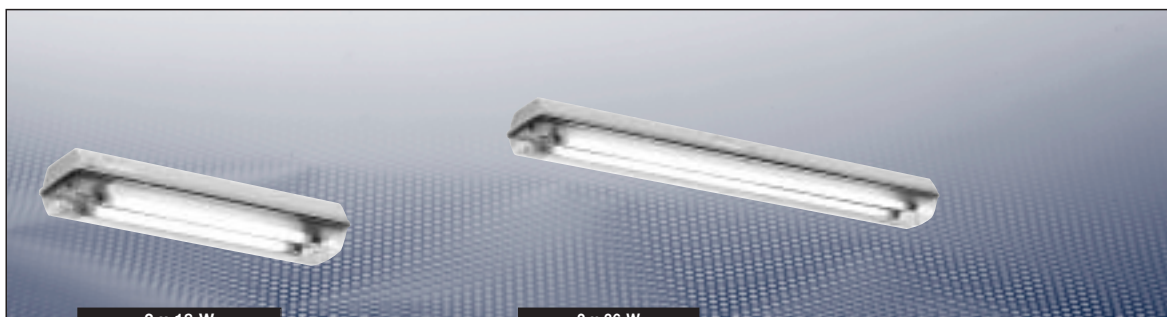
B6

B7

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B9





### Ordering details

Type	with M25-plastic cable gland	for M20-metal- <sup>2)</sup> cable gland	Duration time Emergency light	Order No.
Type nLLK 98018/18 N (2 x 18 W)				
1/6-1	X	–	1.5 h	<b>1 3470 218 001</b>
1/6-1 M <sup>1)</sup>	–	X	1.5 h	<b>1 3470 218 031</b>
Type nLLK 98036/36 N (2 x 36 W)				
1/6-1	X	–	1.5 h	<b>1 3470 236 001</b>
1/6-1 M <sup>1)</sup>	–	X	1.5 h	<b>1 3470 236 031</b>

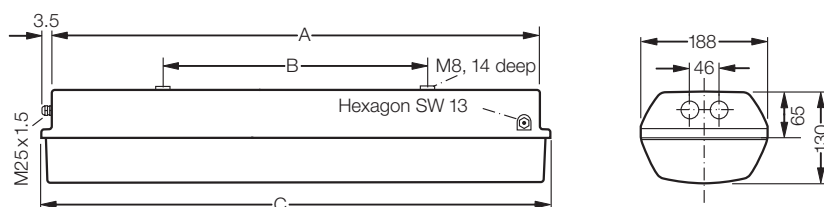
<sup>1)</sup> M: with metal thread, without cable entry

<sup>2)</sup> With dust cap for unclosed entries/metal thread

**Design with luminaire switch on demand.**

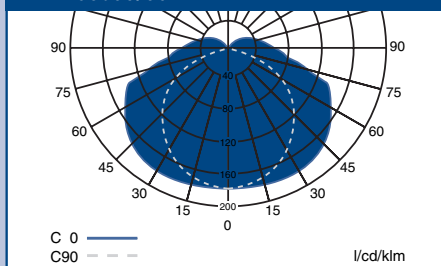
**Scope of delivery without lamp and fixing accessories.**

### Dimension drawing | Polar curve

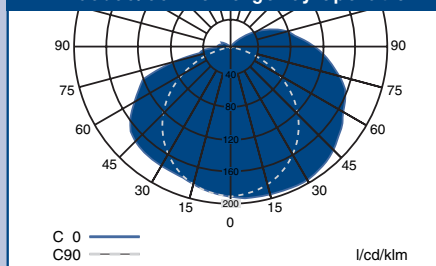


Type	A	B	C
nLLK 98018/18 N	732	400	760
nLLK 98036/36 N	1332	700	1360

**Polar curve**  
nLLK 98018/18 N /  
nLLK 98036/36 N



**Polar curve**  
nLLK 98018/18 N /  
nLLK 98036/36 N emergency operation



Dimensions in mm





Zone 21

B1

B2

B3

B4

B5

B6

B7

B8

B9

## Accessories

### Fixing materials and accessories nLLK 98

Type/ code	Corrosion protected	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 incl. screws and washer D92	stainless steel	2	2 2480 092 000

### Fixing materials and accessories

Type/ code	Corrosio protection	for pipes DIN	Outer Ø D (mm)	Qty. per light fitting	Order No.
Pipe clamp					
R12	hot galvanized	1 1/4"	38 - 42	2	2 2480 462 000
R14	CrNi	1 1/4"	38 - 42	2	2 2480 464 000
R22	hot galvanized	1 1/2"	47 - 51	2	2 2480 472 000
R24	CrNi	1 1/2"	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

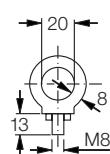
Luminaire wall suspension 30°  
inclusive screw and washer

hot galvanized

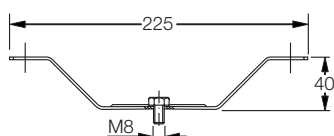
2

2 2480 000 122

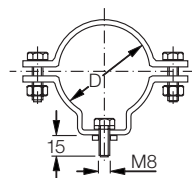
## Dimension drawing



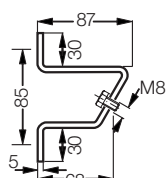
Eye bolt



Ceiling mounting bracket D92



Pipe clamp



Luminaire wall suspension 30°

Dimensions in mm

## EX - RECESSED CEILING LIGHT FITTINGS

RLF 250... 18 - 58 W  
Metal version for Zone 21 and Zone 22

The RLF 250 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. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 21 and Zone 22 of dust Ex-areas.

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.

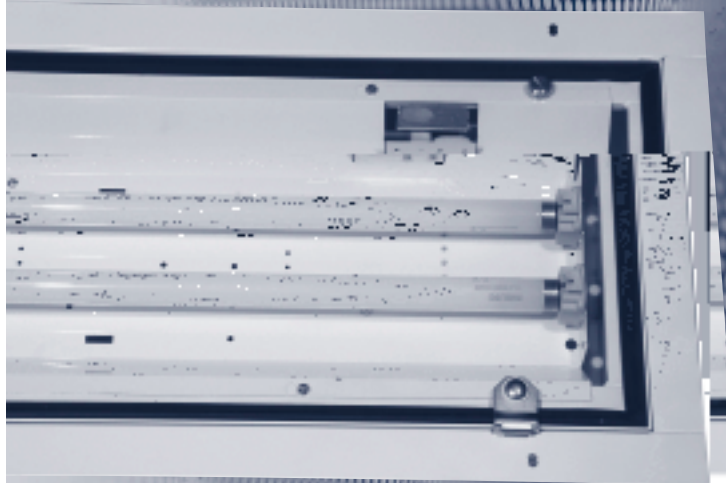
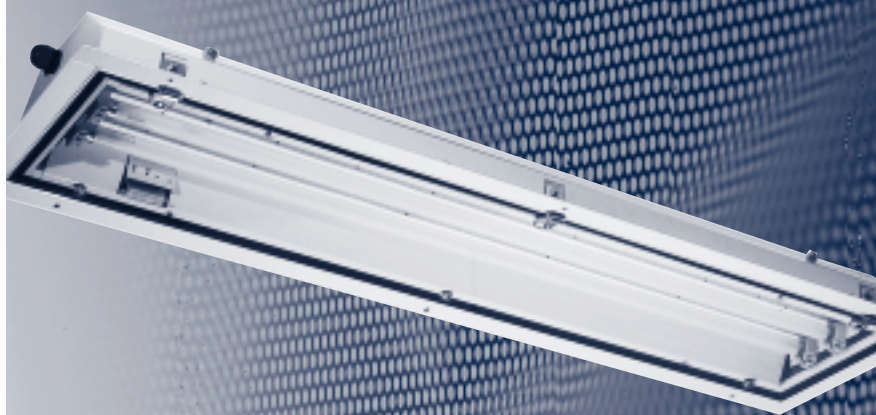
The housing comprises white-painted steel sheet with an optionally integrally moulded covering frame for safe installation in the ceiling. In addition, it can also be fixed by means of two M8 drilled holes on the top of the housing.

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 protection IP 65.

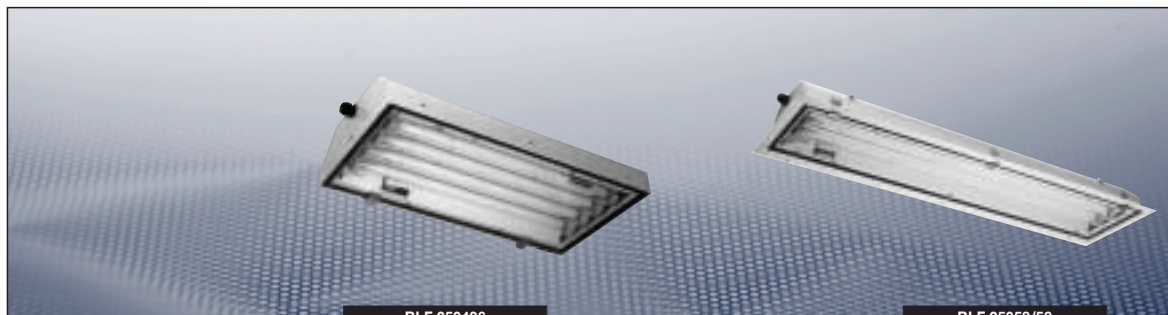
The electronic ballasts of the latest generation can be used internationally due to their large input voltage range and contains the "End of Life" disconnection acc. latest standard. The standard two-channel structure means that if one lamp fails, the other one remains in operation.

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.



- Flush installation specially for clean rooms by using the accessed mounting frame
- Standard, two-channel electronic ballast
- Safety locking due to integral disconnecter
- High degree of protection IP 65



RLF 250436

RLF 25058/58

## Technical data

### RLF 250...

Marking to 94/9/EC	II 2 D T60 °C IP 65
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 2.5 mm <sup>2</sup> single wire per terminal, two-sided through-wiring
Insulation class	I
Lamp cap	G 13 nach IEC 60081
Degree of protection accd. EN 60529	IP 65
Cable glands/Enclosure drilling <sup>1)</sup>	EEEx-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
Enclosure colour	white
Protective cover/protective bowl	single-safety, glass pane of 5 mm thick

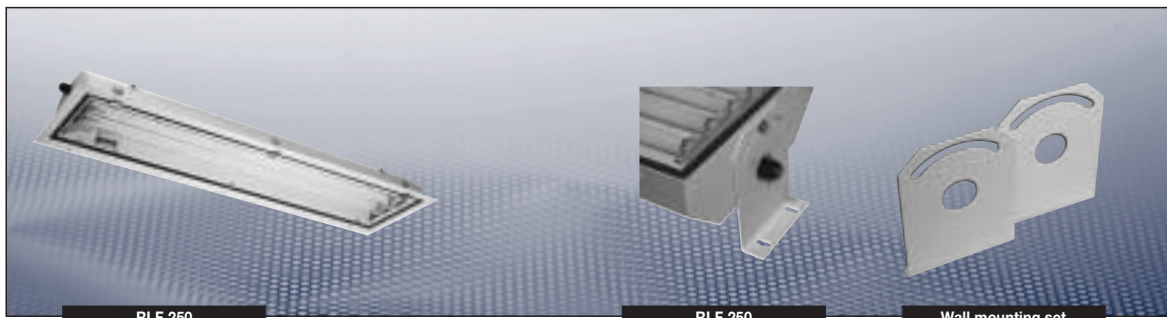
	RLF 25018/18	RFL 250418
Rated voltage	110 - 254 V AC / 196 - 230 V DC	110 - 254 V AC / 196 - 230 V DC
Rated current	0.18 A	0.36 A
Lamp/Illuminant	2 x T8 (26 mm) / 18 W, see accessories	4 x T8 (26 mm) / 18 W, see accessories
Rated luminous flux <sup>2)</sup>	2700 lm	5400 lm
Light efficiency in operation	70 %	69 %
Dimensions in mm (L x W x H)	701 x 302 x 130	701 x 362 x 130
Weight	6.9 kg	9.5 kg

	RLF 25036/36	RFL 250336	RFL 250436
Rated voltage	110 - 254 V AC / 110 - 230 V DC	110 - 254 V AC / 110 - 230 V DC	110 - 254 V AC / 110 - 230 V DC
Rated current	0.34 A	0.52 A	0.68 A
Lamp/Illuminant	2 x T8 (26 mm) / 36 W, see accessories	3 x T8 (26 mm) / 36 W, see accessories	4 x T8 (26 mm) / 36 W, see accessories
Rated luminous flux <sup>2)</sup>	6700 lm	10050 lm	13400 lm
Light efficiency in operation	70 %	68 %	69 %
Dimensions in mm (L x W x H)	1312 x 302 x 130	1312 x 302 x 130	1312 x 362 x 130
Weight	12.9 kg	13.4 kg	16.5 kg

	RLF 25058/58	RFL 250358	RFL 250458
Rated voltage	220 - 254 V AC / 196 - 230 V DC	110 - 230 V DC 196 - 230 V DC	110 - 230 V DC 196 - 230 V DC
Rated current	0.53 A	0.80 A	1.06 A
Lamp/Illuminant	2 x T8 (26 mm) / 58 W, see accessories	3 x T8 (26 mm) / 58 W, see accessories	4 x T8 (26 mm) / 58 W, see accessories
Rated luminous flux <sup>2)</sup>	10400 lm	15600 lm	20800 lm
Light efficiency in operation	68 %	66 %	67 %
Dimensions in mm (L x W x H)	1611 x 302 x 130	1611 x 302 x 130	1611 x 362 x 130
Weight	17.2 kg	17.8 kg	19.8 kg

<sup>1)</sup> Metal thread without cable gland, <sup>2)</sup> dep. on used lamps





RLF 250

RLF 250

Wall mounting set

## Ordering details

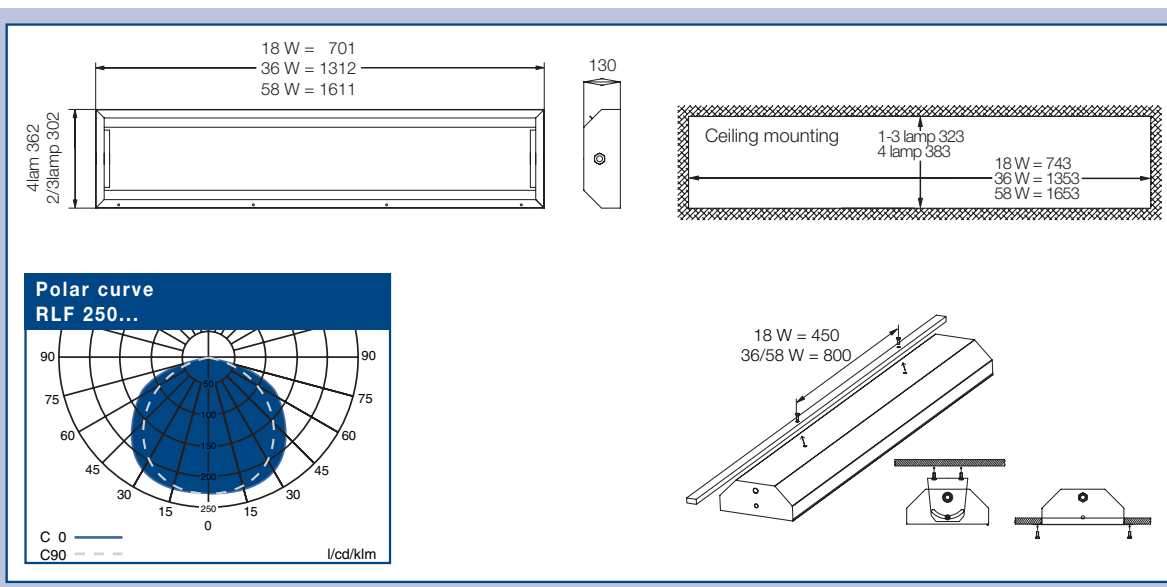
Type	Cable gland	Thread	Order No.
Type RLF 250...			
RLF 25018/18 2/5-2 K	M25 x 1.5	–	1 2283 218 001
RLF 25036/36 2/5-2 K	M25 x 1.5	–	1 2283 236 001
RLF 25058/58 2/5-2 K	M25 x 1.5	–	1 2283 258 001
RLF 25018/18 2/5-2 M	–	M20 x 1.5	1 2283 218 002
RLF 25036/36 2/5-2 M	–	M20 x 1.5	1 2283 236 002
RLF 25058/58 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

## Accessories

### RLF 250...

Type	Order No.
Wall mounting set, 2 pcs.	3 2283 000 007
Frame for recessed ceiling mounting:	
for lamps 2 x 18 W	3 2283 000 001
for lamps 4 x 18 W	3 2283 000 002
for lamps 2 x/3 x 36 W	3 2283 000 003
for lamps 4 x 36 W	3 2283 000 004
for lamps 2 x/3 x 58 W	3 2283 000 005
for lamps 4 x 58 W	3 2283 000 006

## Dimension drawing | Polar curve





# EX-SIGNAL - AND ESCAPE SIGN LUMINAIRES

ZONE 21

B1

B2

B3

B4

B5

B6

B7

EMERGENCY LIGHTING – CENTRAL OR DECENTRAL

B3.2

EX-ESCAPE SIGN LUMINAIRES EXIT

B3.4

EX-ESCAPE SIGN LUMINAIRES EX-LITE

B3.10

EX-SIGNAL AND EMERGENCY LUMINAIRE dKLK 23

B3.16

B8

B9



## Emergency lighting – central or decentral

Appertaining to Emergency Lighting in hazardous areas, there are two general philosophies. That of the supply assurance, the test and maintenance 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, independent 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 redundancy 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, maintenance 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, and Ex-Lite N 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**





### 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 conditions as the light fittings themselves. This usually results in an extended life span of the batteries with a minimized maintenance 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-S-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 and dKLK 23 CG can be integrated into the monitoring system and be used as system light fittings.

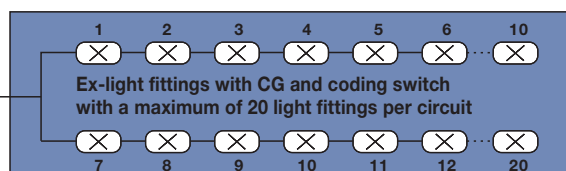
This combination offers the following advantages:

- Automatic performance of the necessary function and duration tests with a central record of all operating functions 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

Non-hazardous area  
CEAG Emergency  
supply system



One line, e.g. 3 x 1.5 mm<sup>2</sup>  
for both the mains and the emergency power supply



## EXIT - ESCAPE SIGN LUMINAIRES

EXIT  
Moulded plastic version with LED technology for 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. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 21 and Zone 22 of dust Ex-areas.

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**

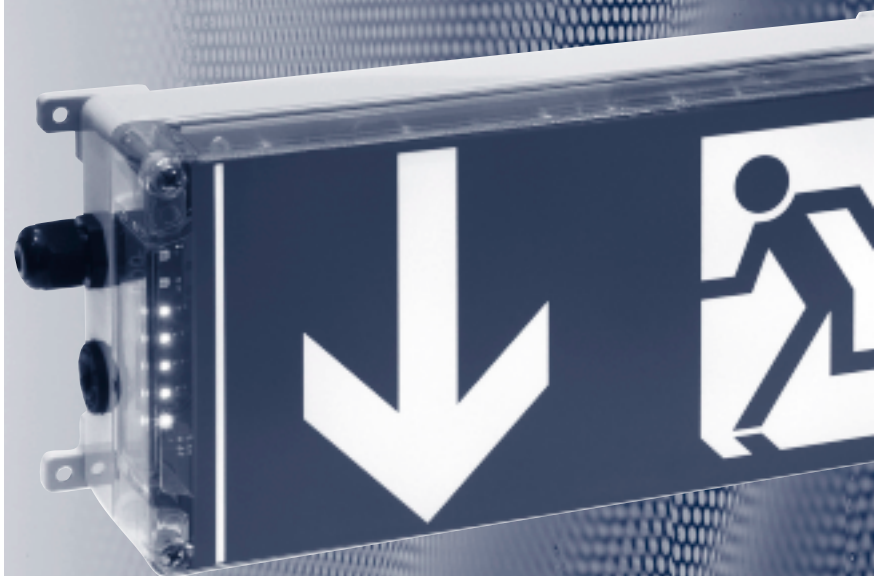
**Power-saving LED technology**

**Maintenance-free LED technology throughout service life**

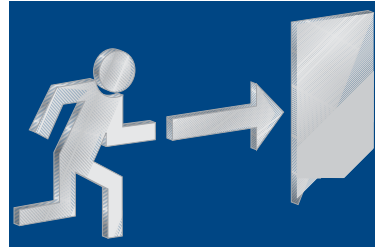
**High degree of protection IP 66**

**Luminaire with self-contained battery unit and automatic function monitoring**

**Connection and monitoring with CEAG emergency lighting supply systems possible**







## Zone 21

### 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.

# Zone 21



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

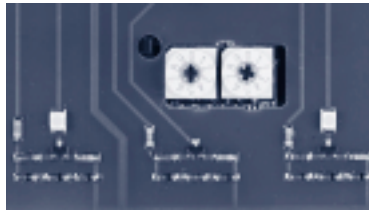
A central emergency lighting supply using CEAG group supply and central battery systems are used wherever a large number of emergency lighting luminaires can be combined and operated as system luminaires.

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.





Zone 21

B1

B2

B3

B4

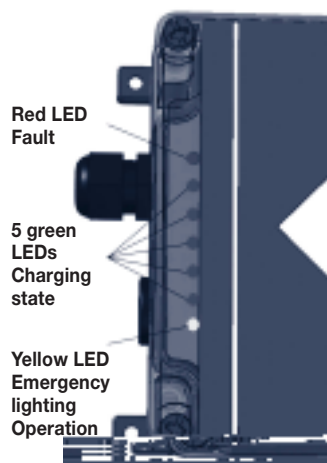
B5

B6

B7

B8

B9



### 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

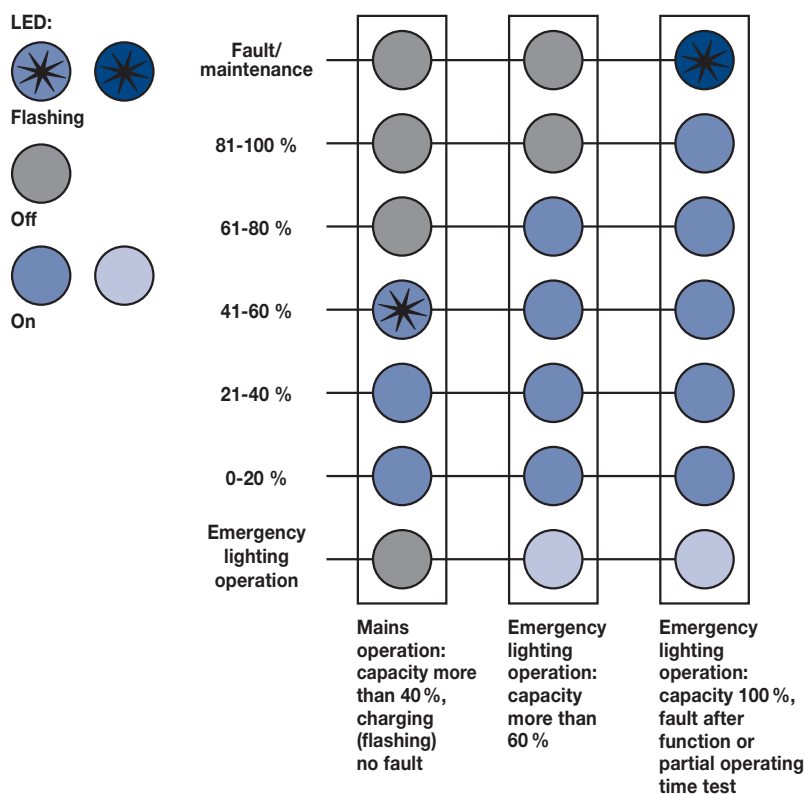
state and available battery capacity. A yellow LED indicates the emergency lighting operation mode and an additional red LED indicates any faults.

### 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.





## Technical data

### EXIT | EXIT CG-S | EXIT N

Marking to 94/9/EC	II 2 D IP 66 T60 °C
EC-Type Examination Certificate	PTB 02 ATEX 2111
Circuit	electronic power supply
Insulation class	I
Degree of protection EN 60529	IP 66
Cable glands	1 x Ex e-cable glands M20 x 1.5 (plastic) 1 x Ex e-blanking plug M20 x 1.5
Connecting terminals	3 x 2.5 mm <sup>2</sup> double terminals
Viewing distance	up to 25 m
Enclosure material	Polycarbonate
Protective cover	Polycarbonate
Enclosure colour	Grey, RAL 7035
Type of mounting	Wall mounting
Dimensions in mm (L x W x H)	340 x 150 x 75
Permissible ambient temperature	- 20 °C to + 50 °C
Lamp/Illuminant	High-efficiency LEDs, white

### EXIT

Rated voltage	AC: 110 - 277 V 50/60 Hz DC: 110 - 250 V DC: 12 - 24 V ±20 % (optional)
Power consumption	6 VA
Rated current	DC: 220 V = 20 mA, 110 V = 40 mA

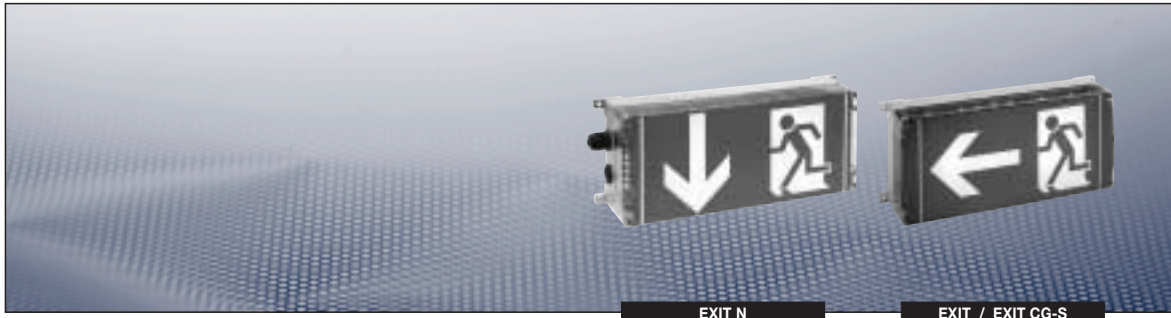
### EXIT CG-S

Rated voltage	AC: 220 - 254 V, 50/60 Hz DC: 195 - 250 V
Power consumption	approx. 6 VA
Rated current	approx. 20 mA

### EXIT N

Rated voltage	AC: 110 - 277 V, 50/60 Hz DC: 110 - 250 V
Power consumption	approx. 8 VA
Battery	NC-Accu 12 V/600 mAh
Charging duration (cap. > 90 %)	28 h
Rated emergency operating duration	3 h / specified data +5 °C to +35 °C





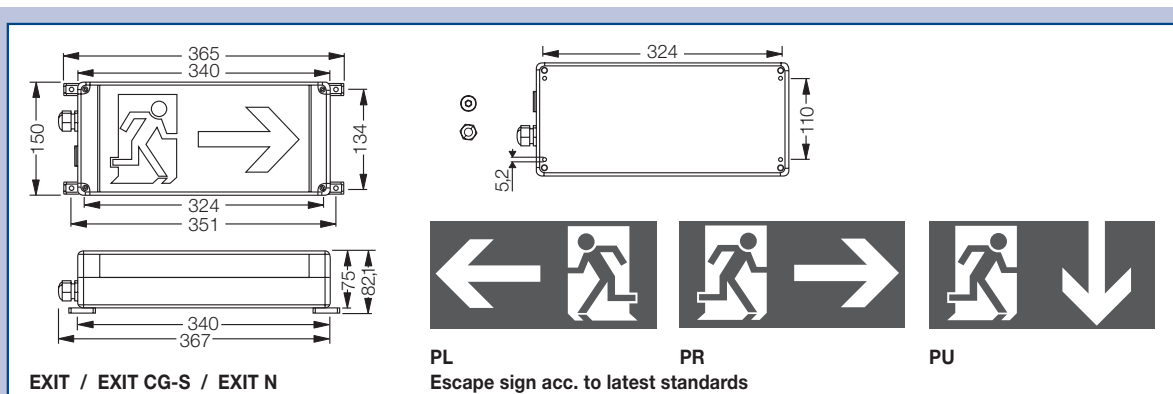
## Ordering details

Type	Scope of delivery <sup>1)</sup>	Order No.
<b>Type EXIT</b>		
EXIT	incl. cover with silk-screen pictogram PR	1 2191 000 _01
	incl. cover with silk-screen pictogram PL	1 2191 000 _02
	incl. cover with silk-screen pictogram PU	1 2191 000 _03
	incl. cover clear, without pictogram	1 2191 000 _04
<b>Type EXIT CG-S<sup>2)</sup></b>		
EXIT CG-S	incl. cover with silk-screen pictogram PR	1 2191 020 _01
	incl. cover with silk-screen pictogram PL	1 2191 020 _02
	incl. cover with silk-screen pictogram PU	1 2191 020 _03
	incl. cover clear, without pictogram	1 2191 020 _04
<b>Type EXIT N</b>		
EXIT N	incl. cover with silk-screen pictogram PR	1 2191 030 _01
	incl. cover with silk-screen pictogram PL	1 2191 030 _02
	incl. cover with silk-screen pictogram PU	1 2191 030 _03
	incl. cover clear, without pictogram	1 2191 030 _04

<sup>1)</sup> Other silk-screen pictograms on demand.

<sup>2)</sup> For connection to CEAG emergency lighting apparatus with coding switch for 20 addresses.

## Dimension drawing | Pictogram



Dimensions in mm

# EX - ESCAPE SIGN LUMINAIRES

Ex-Lite  
Metal version with LED technology for 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. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 21 and Zone 22 of dust Ex-areas.

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.

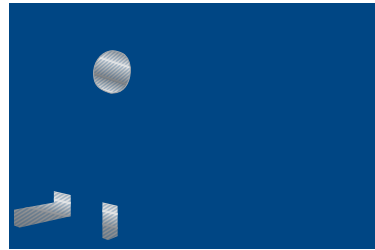
Thanks to the very robust design and high degree of protection, these luminaires are suited although under rough conditions for both indoor and outdoor use.

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 LED technology throughout service life**
- High degree of protection IP 66**
- Luminaire with self-contained battery unit and automatic function monitoring**
- Connection and monitoring with CEAG emergency lighting supply systems possible**



### 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.

# Zone 21



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

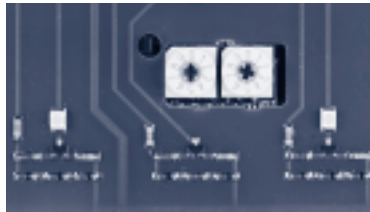
A central emergency lighting supply using CEAG group supply and central battery systems are used wherever a large number of emergency lighting luminaires can be combined and operated as system luminaires.

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 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.







Zone 21

B1

B2

B3

B4

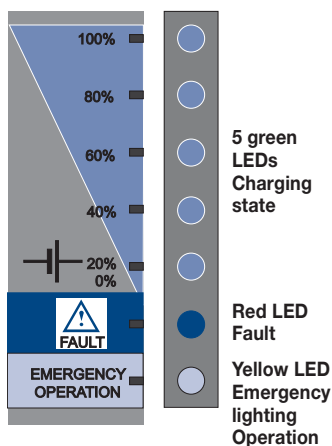
B5

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### 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

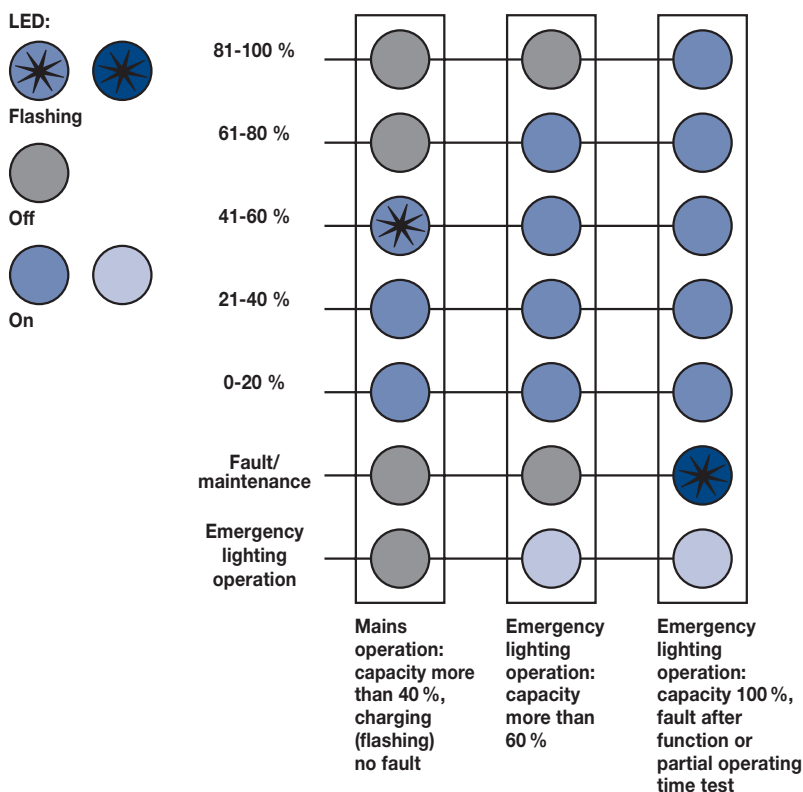
available battery capacity. A yellow LED indicates the emergency lighting operation mode and an additional red LED indicates any faults.

### 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.





## Technical data

### Ex-Lite | Ex-Lite CG-S | Ex-Lite N

Marking to 94/9/EC	II 2 D IP 66 T60 °C
EG-Type Examination Certificate	PTB 02 ATEX 2111
Circuit	Electronic power supply
Insulation class	I
Degree of protection EN 60529	IP 66
Cable glands	1 x Ex e-cable glands M25 x 1.5 (plastic) 1 x Ex e-blanking plug M25 x 1.5
Connecting terminals	3 x 2.5 mm <sup>2</sup> double terminals
Viewing distance	up to 28 m
Enclosure material	Light alloy
Protective cover	Mineral glass
Enclosure colour	Grey, RAL 7035
Type of mounting	Wall mounting
Dimensions in mm (L x W x H)	400 x 230 x 115
Permissible ambient temperature	- 20 °C up to + 50 °C
Lamp/Illuminant	High-efficiency LEDs, white

### Ex-Lite

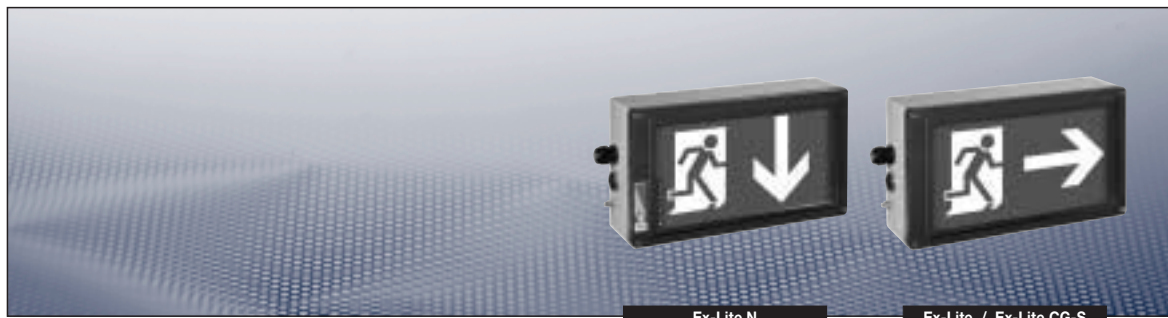
Rated voltage	AC: 110 - 277 V 50/60 Hz DC: 110 - 250 V DC: 12 - 24 V ±20 % (optional)
Power consumption	6 VA
Rated current	DC: 220 V = 20 mA, 110 V = 40 mA

### Ex-Lite CG-S

Rated voltage	AC: 220 - 254 V, 50/60 Hz DC: 195 - 250 V
Power consumption	approx. 6 VA
Rated current	approx. 20 mA

### Ex-Lite N

Rated voltage	AC: 110 - 277 V, 50/60 Hz DC: 110 - 250 V
Power consumption	approx. 8 VA
Battery	NC-Accu 12 V/600 mAh
Charging duration (Kap. > 90 %)	28 h
Rated emergency operating duration	3 h / specified data +5 °C up to +35 °C



## Ordering details

Type	Scope of delivery <sup>1)</sup>	Order No.
Type Ex-Lite		
Ex-Lite	incl. cover with pictogram PR	1 2191 011 _01
	incl. cover with pictogram PL	1 2191 011 _02
	incl. cover with pictogram PU	1 2191 011 _03
	incl. cover, clear, without pictogram	1 2191 011 _04
Type Ex-Lite CG-S <sup>2)</sup>		
Ex-Lite CG-S	incl. cover with pictogram PR	1 2191 021 _01
	incl. cover with pictogram PL	1 2191 021 _02
	incl. cover with pictogram PU	1 2191 021 _03
	incl. cover, clear, without pictogram	1 2191 021 _04
Type Ex-Lite N		
Ex-Lite N	incl. cover with pictogram PR	1 2191 031 _01
	incl. cover with pictogram PL	1 2191 031 _02
	incl. cover with pictogram PU	1 2191 031 _03
	incl. cover, clear, without pictogram	1 2191 031 _04

<sup>1)</sup> Other pictograms or inscriptions available on request.

<sup>2)</sup> For connection to CEAG emergency lighting apparatus with coding switch for 20 addresses.

## Dimensions drawing | Pictogram



Dimensions in mm

## EX - SIGNAL AND EMERGENCY LUMINAIRE

dKLK 23  
Plastic version for Zone 21

These light fittings meet the requirements of ATEX-Directive 94/9/EC for temperature class T6. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 21 and Zone 22 of dust Ex-areas.

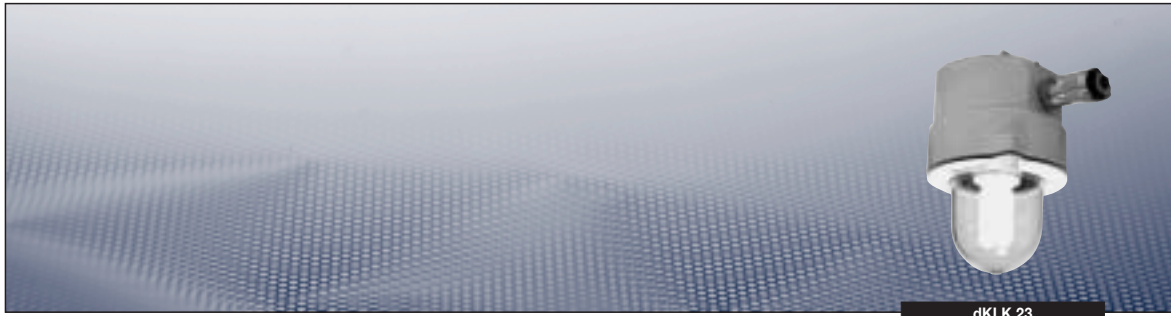
Additionally they fulfill the directive EN 60598, Part 2.22 for Emergency Lighting. The Ex-light fitting dKLK 23 are built for compact fluorescent lamps 5-8 W with integrated electronic ballast. By use of a flash module (optional) the light fitting can be used also as a strobe light. The housing is made 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 or Exit cube in temperature class T80 °C environments
- For compact fluorescent lamp with integrated EVG
- For ceiling and wall mounting
- Safety Standard IP 66
- With possible connection to the CEAG emergency lighting supply systems
- Optional flash module





dKLK 23

## Technical data

dKLK 23   dKLK 23 CG-S <sup>1)</sup>	
Marking to 94/9/EC	II 2 D IP66 T80 °C
EC-Type Examination Certificate	PTB 04 ATEX 1017X
Enclosure material	Glass-fibre reinforced polyester
Protective cover	Polycarbonate
Rated voltage <sup>2)</sup>	AC: 230 V / DC: 230 V
Rated current <sup>2)</sup>	max. 25 mA
Degree of protection EN 60529	IP 66
Insulation class	I
Permissible ambient temperature	–20 °C to max. +45 °C (depends on lamp power and mounting position, see table)
Power connection	flameproof inlet eXLink, 3pole or Ex d-cable glands
Connector (enclosed)	2 + PE cage clamp for cable from Ø 8-11 mm and max. 1.5 mm <sup>2</sup>
	or flameproof cable gland M20 x 1.5 for cables Ø 8.5-16 mm
	terminal L, N, PE max. 2-5 mm <sup>2</sup> plug type terminals
Lamp/Illuminant	Compact fluorescent with integrated EVG, socket E27, power 5-8 W, for AC- and DC
Weight	approx. 1.7 kg

## Accessories flash module type Eurolite E27 Strobe

Rated voltage	230 V/50 Hz +/- 10 %
Power consumption	5 W
Flash frequency	1-3 Hz

<sup>1)</sup> for connection to CEAG emergency supply systems, with address switch for 20 addresses.

<sup>2)</sup> depends on lamp

Scope of delivery without lamp and with fixing accessories.

## Illuminant

Max. power of lamp	Voltage	Ambient temp.	Light output towards	with/without Exit cube
5 W	230 V	–20 °C ... +40 °C	up	without
5 W	230 V	–20 °C ... +35 °C	up	with
5 W	230 V	–20 °C ... +45 °C	down	without
7 W	230 V	–20 °C ... +40 °C	down	without
8 W	230 V	–20 °C ... +40 °C	down	without
5 W flash light	230 V	–20 °C ... +45 °C	up	without



dKLK 23

Exit sign cube

## Ordering details

Type dKLK 23	Colour of protective cover	Order No.
dKLK 23/eXLink	clear	GHG 871 1001 R 0001
dKLK 23/eXLink	red	GHG 871 1101 R 0001
dKLK 23/eXLink	green	GHG 871 1201 R 0001
dKLK 23/eXLink	blue	GHG 871 1301 R 0001
dKLK 23 CG-S <sup>1)</sup> /eXLink	clear with CG-S monitoring and addressing switch	GHG 871 2001 R 0001
dKLK 23/EEEx d M20	clear	GHG 871 1001 R 0101
dKLK 23/EEEx d M20	red	GHG 871 1101 R 0101
dKLK 23/EEEx d M20	green	GHG 871 1201 R 0101
dKLK 23/EEEx d M20	blue	GHG 871 1301 R 0101
dKLK 23 CG-S <sup>1)</sup> /EEEx d M20	clear with CG-S monitoring and addressing switch	GHG 871 2001 R 0101

<sup>1)</sup> For connection to CEAG emergency supply systems, with address switch for 20 addresses.

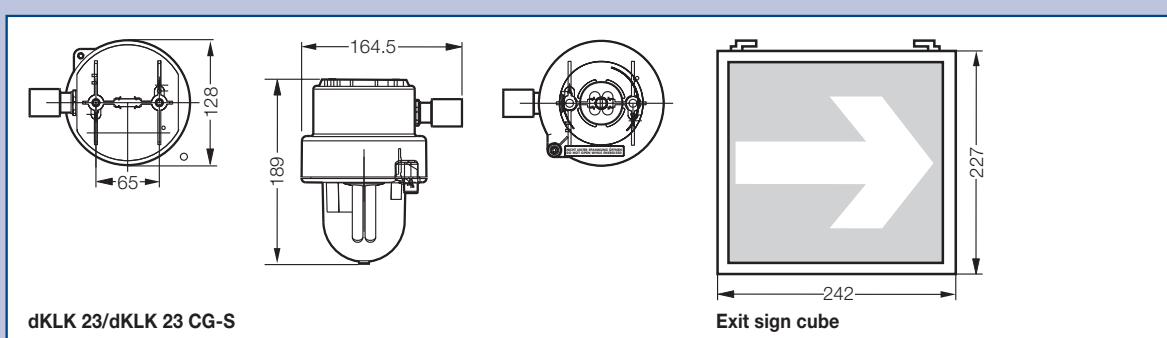
Scope of delivery without lamp and with fixing accessories.

## Accessories

### Ex-signal and exit sign luminaire dKLK 23/dKLK 23 CG-S

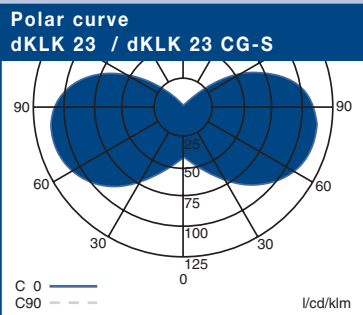
Type	Order No.
Flash module E27 Strobe (only for dKLK 23)	GHG 870 1912 R 0001
Exit sign cube (242 x 227 x 242 mm)	4 0071 344 115

## Dimension drawing | Polar curve



dKLK 23/dKLK 23 CG-S

Exit sign cube



Dimensions in mm

EX-FLOODLIGHTS

ZONE 21

B1

B2

B3

B4

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EX-FLOODLIGHT PX 04

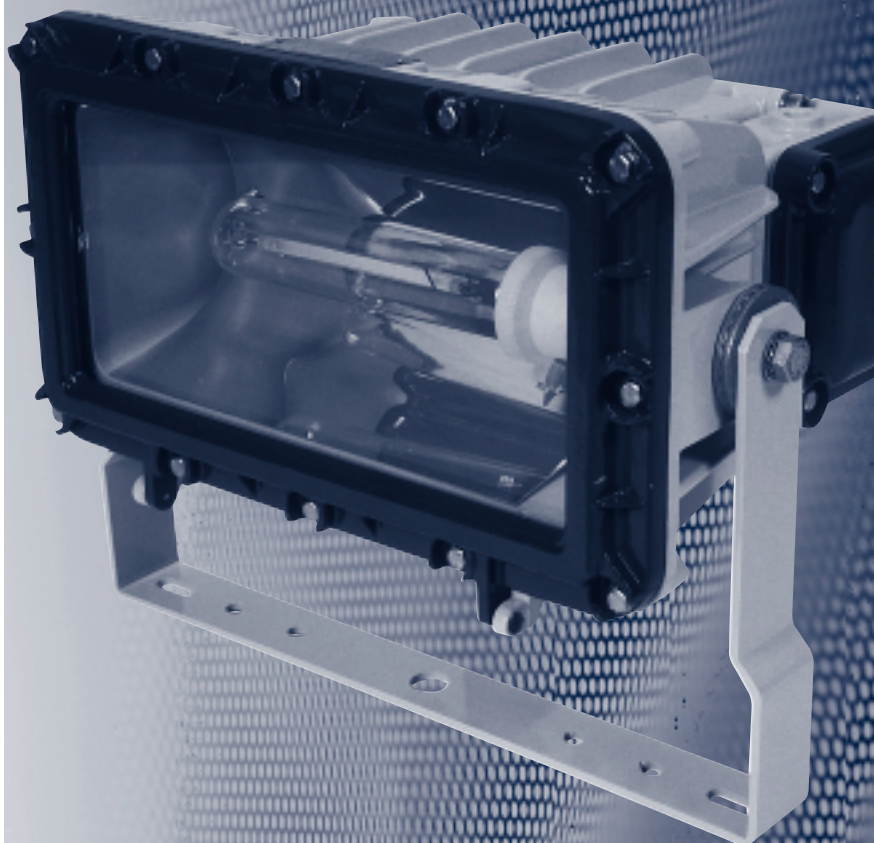
B4.2



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

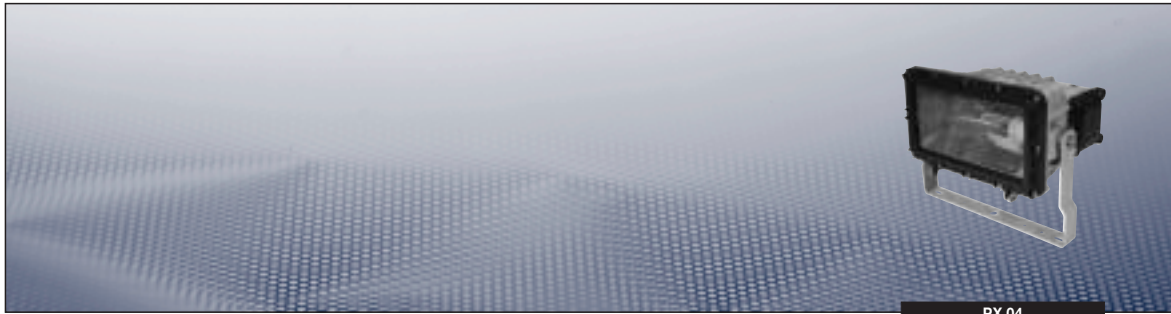
## PX 04 for high pressure discharge lamps Metal version for Zone 21 and 22

The explosion-protected floodlight PX 04 for high pressure discharge and halogen lamps are in accordance to the ATEX-Directive 94/9/EG as well as the European Norms EN 50014, EN 50018 and EN 50019. They are certified for use in the Zones 21 and 22 of dust Ex-areas. 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 thermally 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
- Safety Standard IP 67
- Robust light alloy housing
- Captive screws made of stainless steel
- Large Ex-e connection compartment
- Easy to maintain
- Easy to install





Zone 21

B1

B2

B3

B4

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B7

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## Technical data

### PX 04... for high pressure discharge lamps

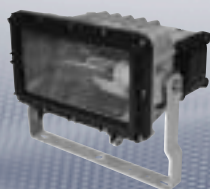
Marking to 94/9/EC	II 2 D IP 67 T (see table)	
EC-Type Examination Certificate	PTB 04 ATEX 1046	
Permissible ambient temperature	-20 °C to +55 °C	
Rated voltage	with built-in ballast	230 V AC
	without built-in ballast	< 250 V AC
Rated current	see table	
Frequency	50 Hz	
Power factor cos	> 0.85	
Circuit	compensated circuit	
Connecting terminals <sup>1)</sup>	L1, N: 2 x 4 mm <sup>2</sup> ; PE: 2 X 6 mm <sup>2</sup>	
Insulation class	I	
Lamp/Illuminant <sup>1)</sup>	see table	
Lamp cap	E 40 acc. IEC 60238	
Degree of protection EN 60529	IP 67	
Cable glands	indirect entries: 2 x M25 x 1.5 (see table)	
Dimensions in mm (L x W x H)	546 x 443 x 396 (with control gear)	
	546 x 443 x 340 (without control gear)	
Weight	ca. 31 kg (with control gear)	
	ca. 23 kg (without control gear)	
Type of mounting	ceiling mounting	
Enclosure material	Copper-free aluminium	
Enclosure colour	grey	
Protective cover/Protective bowl	Borosilicate glass	
Reflector	polished aluminium reflector	
Enclosure earth	2 x 6 mm <sup>2</sup>	

<sup>1)</sup> Through-wiring on request

## Luminaire

Type	Rated luminous flux*	Temperature class II 2 D	
		T <sub>ambient</sub> -20 °C to +40 °C	T <sub>ambient</sub> -20 °C to +55 °C
HS - 70 W	6000 lm	T85 °C	T100 °C
HL - 70 W	4700 lm	T90 °C	T105 °C
HS - 150 W	14000 lm	T115 °C	T130 °C
HL - 150 W	14000 lm	T105 °C	T120 °C
HS - 250 W	27000 lm	T130 °C	T145 °C
HL - 250 W	19000 lm	T130 °C	T145 °C
HME - 250 W	13000 lm	T150 °C	T165 °C
HST - 400 W	48000 lm	T175 °C	T190 °C
HIT - 400 W	35000 lm	T170 °C	T185 °C
HME - 400 W	22000 lm	T186 °C	T201 °C
HST - 600 W	90000 lm	T195 °C	T210 °C
QT - 500 W	10000 lm	T185 °C	T200 °C

\* depends on luminaire



PX 04

## Ordering details

Type	Reflector	Lamp	Power	Rated current	Ex-d metal cable gland for cable	Order No.
PX 0460	narrow beam	High pressure sodium	HST 600 W	3.13 A	Ø 9 - 14 mm	NOR 000 115 170 243
PX 0460	narrow beam	High pressure sodium	HST 600 W	3.13 A	–	NOR 000 115 170 215
PX 0460	wide beam	High pressure sodium	HST 600 W	3.13 A	Ø 9 - 14 mm	NOR 000 115 170 343
PX 0460	wide beam	High pressure sodium	HST 600 W	3.13 A	–	NOR 000 115 170 315
PX 0440S	narrow beam	High pressure sodium	HS_ 400 W <sup>1)</sup>	2.02 A	Ø 9 - 14 mm	NOR 000 115 170 244
PX 0440S	narrow beam	High pressure sodium	HS_ 400 W <sup>1)</sup>	2.02 A	–	NOR 000 115 170 221
PX 0440S	wide beam	High pressure sodium	HS_ 400 W <sup>1)</sup>	2.02 A	Ø 9 - 14 mm	NOR 000 115 170 344
PX 0440S	wide beam	High pressure sodium	HS_ 400 W <sup>1)</sup>	2.02 A	–	NOR 000 115 170 321
PX 0440H	narrow beam	High pressure metal halide	HI_ 400 W <sup>2)</sup>	1.98 A	Ø 9 - 14 mm	NOR 000 115 170 149
PX 0440H	narrow beam	High pressure metal halide	HI_ 400 W <sup>2)</sup>	1.98 A	–	NOR 000 115 170 222
PX 0440H	wide beam	High pressure metal halide	HI_ 400 W <sup>2)</sup>	1.98 A	Ø 9 - 14 mm	NOR 000 115 170 349
PX 0440H	wide beam	High pressure metal halide	HI_ 400 W <sup>2)</sup>	1.98 A	–	NOR 000 115 170 322
PX 0425	narrow beam	High pressure sodium/ Metal halide	HS_ / HI_250 W	1.35 A	Ø 9 - 14 mm	NOR 000 115 170 245
PX 0425	narrow beam	High pressure sodium/ Metal halide	HS_ / HI_250 W	1.35 A	–	NOR 000 115 170 227
PX 0425	wide beam	High pressure sodium/ Metal halide	HS_ / HI_250 W	1.35 A	Ø 9 - 14 mm	NOR 000 115 170 345
PX 0425	wide beam	High pressure sodium/ Metal halide	HS_ / HI_250 W	1.35 A	–	NOR 000 115 170 327
PX 0415	narrow beam	High pressure sodium/ Metal halide	HS_ / HI_150 W	1.05 A	Ø 9 - 14 mm	NOR 000 115 170 246
PX 0415	narrow beam	High pressure sodium/ Metal halide	HS_ / HI_150 W	1.05 A	–	NOR 000 115 170 233
PX 0415	wide beam	High pressure sodium/ Metal halide	HS_ / HI_150 W	1.05 A	Ø 9 - 14 mm	NOR 000 115 170 346
PX 0415	wide beam	High pressure sodium/ Metal halide	HS_ / HI_150 W	1.05 A	–	NOR 000 115 170 333
PX 0407	narrow beam	High pressure sodium	HS_ 70 W	0.35 A	Ø 9 - 14 mm	NOR 000 115 170 230
PX 0407	narrow beam	High pressure sodium	HS_ 70 W	0.35 A	–	NOR 000 115 170 229
PX 0405	narrow beam	Incandescent IGA 110	500 W	2.17 A	Ø 9 - 14 mm	NOR 000 115 170 248
PX 0405	narrow beam	Incandescent IGA 110	500 W	2.17 A	–	NOR 000 115 170 209
PX 0405	wide beam	Incandescent IGA 110	500 W	2.17 A	Ø 9 - 14 mm	NOR 000 115 170 348
PX 0405	wide beam	Incandescent IGA 110	500 W	2.17 A	–	NOR 000 115 170 309

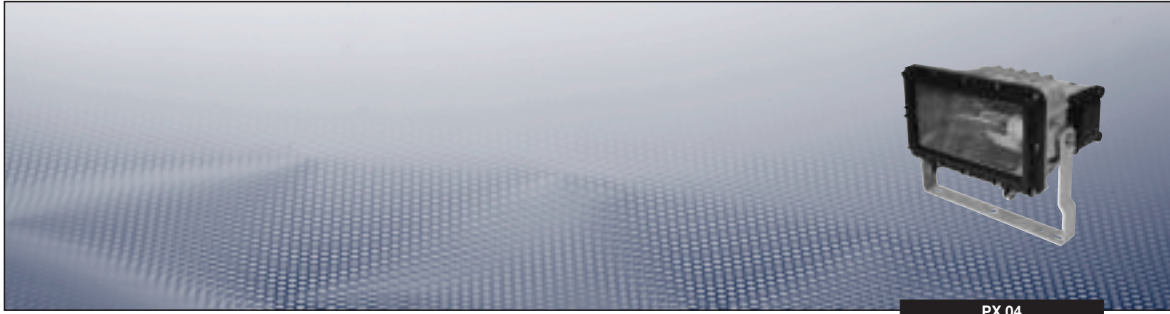
<sup>1)</sup> valid for lamps HS\_ 400 W (4.2 A) tube or bulb

<sup>2)</sup> valid for lamps HI\_ 400 W (3.5 A)

Lamps and fixing accessories are not included

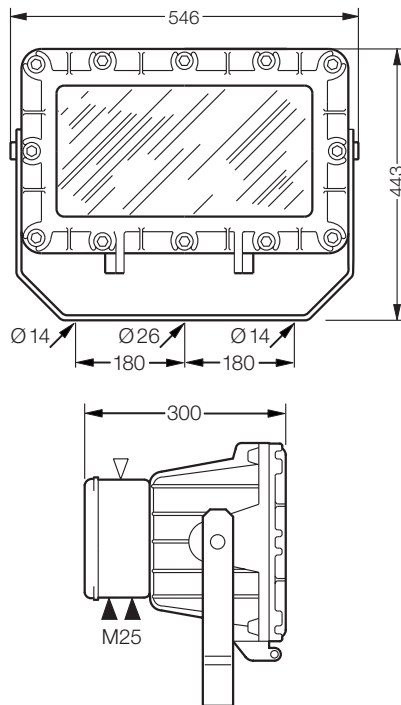
## Accessories

FZD 04	
Type	Order No.
Pipe fixing (Ø 48 mm to Ø 64 mm) SB	NOR 000 005 170 583
Portable stand ATP painted steel	NOR 000 005 170 715
Horizontal steel shade	NOR 000 005 170 608
Vertical steel shade	NOR 000 005 170 591



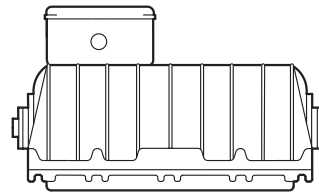
PX 04

## Dimension drawing

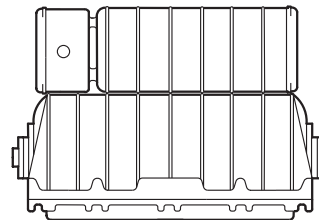


▷ optional entry, on request  
▶ entry

PX 04



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



PX 04  
with ballast for all high pressure discharge lamps

Dimensions in mm





DO YOU STOP THE PRODUCTION  
JUST TO INSTALL A PLUG AND  
SOCKET

ZONE 21

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WHAT IS EXLINK?

B5.2

EX-PLUGS AND SOCKETS

B5.5

CONNECTOR SYSTEM EXLINK

B5.8

EX-PLUGS AND SOCKETS

B5.18

EX-REPAIR AND MAINTENANCE SOCKETS

B5.32

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## Components

Different applications need individual solutions, who can be reached by the combination of different, well-suited components.

### • Plug:



Suitable as a cable end – with plug pins (male), must not be live when disconnected (**passive component**).

### • Coupler:



Suitable as a cable end – with contact sockets (female), can be live when disconnected (**active component**).

### • Receptacle:



Suitable for installation in products – with contact sockets (female), can be live when disconnect (**active component**).

### • Inlet:



Suitable for installation 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 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 later on.

### • 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 persons.



### 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 10 A continuously.

### Coding

Male and female connectors are

Male for current in

ensurent inCodingalso bT\*co TDif systemquive enTDbyalestomers.rmanentve enTla conqngJT\*keyway detlonines (ent in) TJT\*nameq(e.g. 6 h =IPE





neutral conductor are switched. Therefore, arcing cannot occur when inserting or withdrawing the plug, because the socket pins are always voltage-free before the interlock is actuated or after it has been released.

#### Variable cable entries

Regardless of the application, whether using metal or plastic cable entries or hubs for the connection of conduit systems to UL, whether as standard on the bottom or optionally on the top, the new wall sockets can be fitted with a wide variety of cable entries. On request, an internal metal frame for potential equalization can be integrated when using metal cable glands.



#### Simply clip on

A fully compatible clip-on mounting system is available for fixing the new wall socket onto walls, channels and pipes. Mounting plates made of glass-fibre reinforced plastic – if required, with a stainless steel canopy – are available in different sizes. They are simply pre-installed where required. The wall socket is then clipped onto the pre-installed mounting plate – its that simple! Thus, this system does not only simplify installation, but it also allows greater flexibility when replacing components and last, but not least, it saves time and money.



#### All-in-One

The easily accessible cable clamp of the plugs and couplers provide strain relief and protection against twisting in one. The advantage: Any external forces on the cable are efficiently intercepted and do not affect the electrical connections.

#### Voltage-free connection and disconnection

All CEAG explosion-protected sockets and couplers up to a rated current of 32 A are fitted with a flameproof interlocking switch that does not allow power to be drawn until the **correct plug** has been inserted and turned, whereby, not only the individual phases, but also the

#### Seal and IP protection

The particularly long seal of the cable entry ensures the high IP 66 ingress protection. Foreign matter and moisture have no chance. The diverse sealants that can be used allow for a generous clamp and sealing area.

# Zone 21

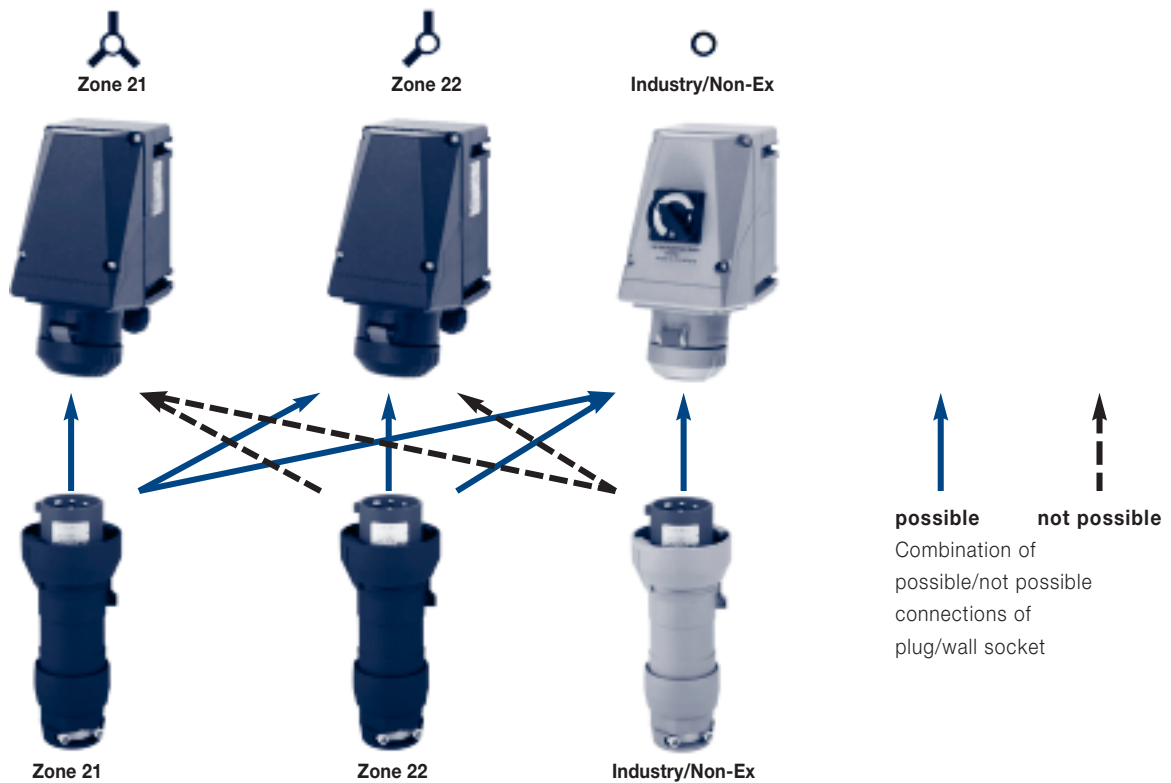
## The key to safety

Plugs and sockets with a cleverness: The innovative coding of apparatus allows plugs used for Zone 21 to be used in sockets for Zone 22 and/or for usage with industrial sockets as well. Hence, plugs and sockets for Zone 21 can be used anywhere. However, by the same token, the coding ensures that Zone 22 plugs cannot be operated in sockets with Zone 21 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 sockets.

Zone 21	Zone 22	Industrie

Coding of the plugs and sockets





### High ingress protection

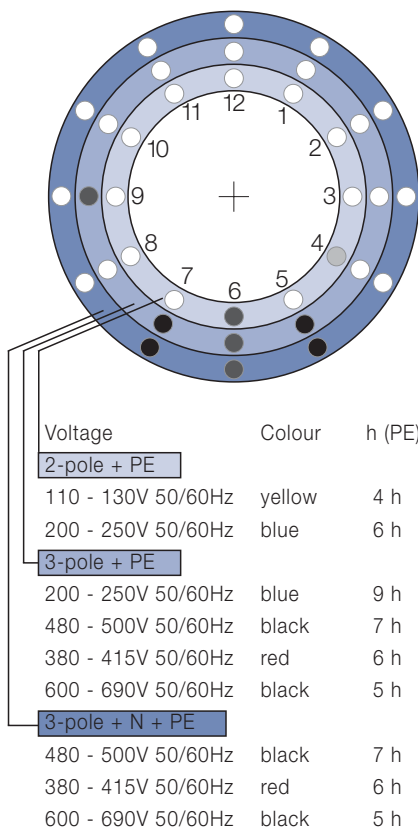
The new plugs and sockets reliably supply electrical power, even under the most difficult circumstances. There are no problems with temperature change or the ingress of water or dirt, because when the plug has been withdrawn, the sockets and couplers fulfil the requirements for the degree of protection IP 66; and thanks to the new type of bayonet ring, the degree of protection IP 66 is also ensured when the plug is inserted – we tested that for you.

### CEE plugs and sockets

A first step towards creating an international standard for industrial plugs and sockets was taken with the IEC 60309 and CEE Publication 17, "Requirements for Plugs and Sockets for Industrial Use".

"IEC" stands for "INTERNATIONAL ELECTRICAL COMMISSION".

When selecting plugs and sockets from the existing ranges for standardization, preference was given to round plugs and sockets, as the contact-making insert can be arranged in various positions (hours of day). This allows a high degree of differentiation of plugs and sockets with regard to the various types of currents, voltages, frequencies, etc.





## CONNECTOR SYSTEM eXLink

4-pole/4-pole + PE  
Plastic and Metal design for Zone 21

### Safety with a system

Thanks to the **exLink**, the new generation of miniaturized Ex-plugs and sockets, the electrical connection of luminaires, trace heating systems, balances, actuators, sensors, etc. or even three-phase electric motors with winding monitoring (PT 100) or servo signals for controlling the revolutions with a current consumption of up to **10 A** is really easy, simply plug-and-play.

Thus, these devices can be connected and disconnected in dust-ex hazardous areas of zone 21 at all times without safe isolation and additional measures, even in hazardous areas.

The compact dimensions allows to integrate this connector series in all usual field devices and terminal boxes. A wide range of different components in 4-pole and 4-pole + PE in different designs will offer you solutions for nearly every application.

The couplers, plugs, receptacles, inlets, elbows and Y-adaptors of the series eXLink are designed in the type of protection Ex-d. They are extremely small and can be used in the instrumentation technology for all active devices and sensors. The contact pins feature the time-tested CEAG contacts made of specially treated copper-beryllium tape. They are punched out like a jalousie and have a large number of contact points that guarantee a continuous and faultless electrical contact. A coupling ring integrated in the plug enclosure guarantees the mechanical strength of the connection. Depending upon the operational area conditions and installation practice used on site, the user can choose between cold impact resistant moulded plastic, nickel-plated brass or stainless steel versions.

Similar to the CEE system, the plugs and sockets can be coded for non-interchangeability and specific applications. In accordance with the requirements for an up-to-date, safe and time-saving installation, none of the components has screws. The available connection methods include crimping or cage-type spring-tension terminals.

### Compact design

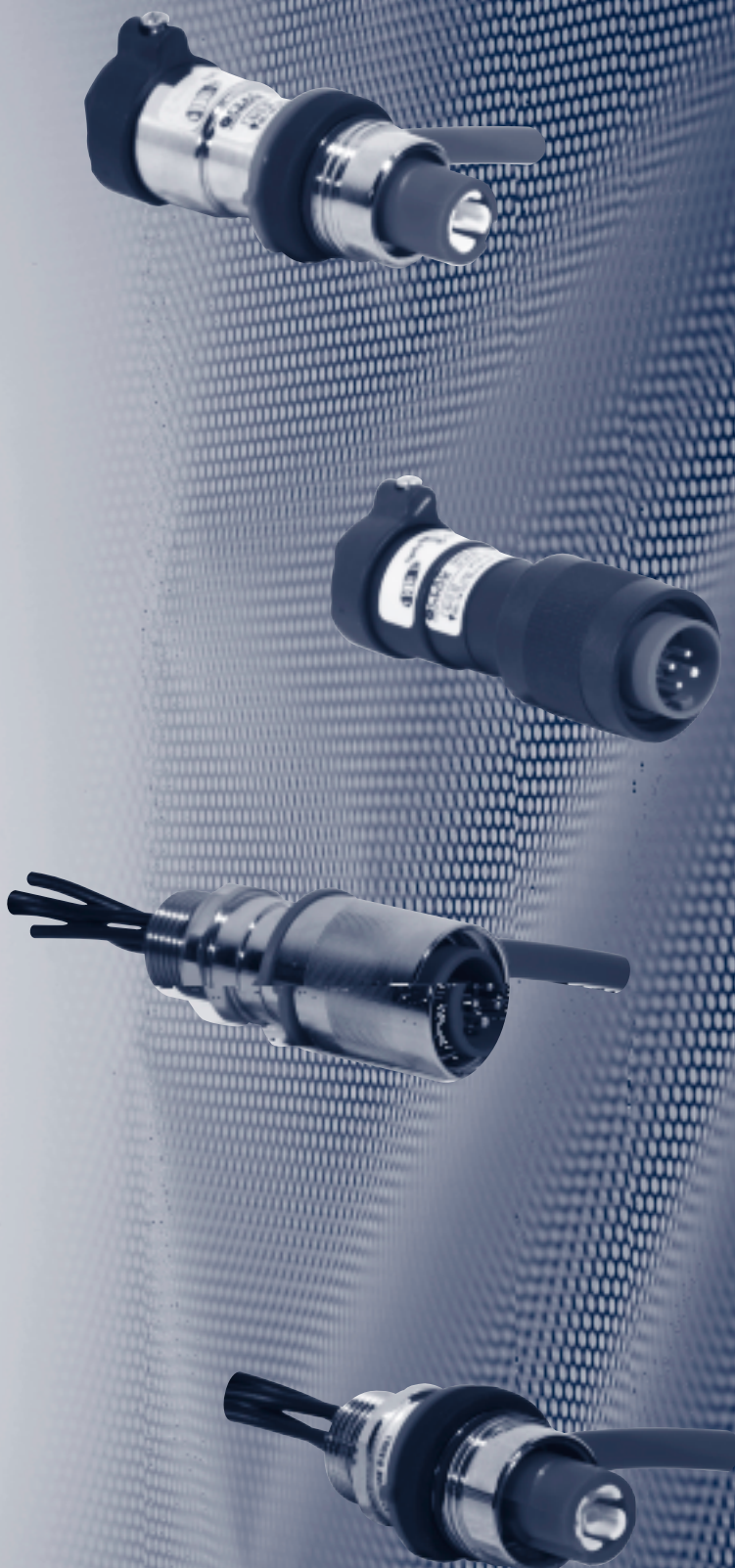
### Safety standard IP 66 (IP68)

### Self-cleaning lamellar contacts, low transition resistance

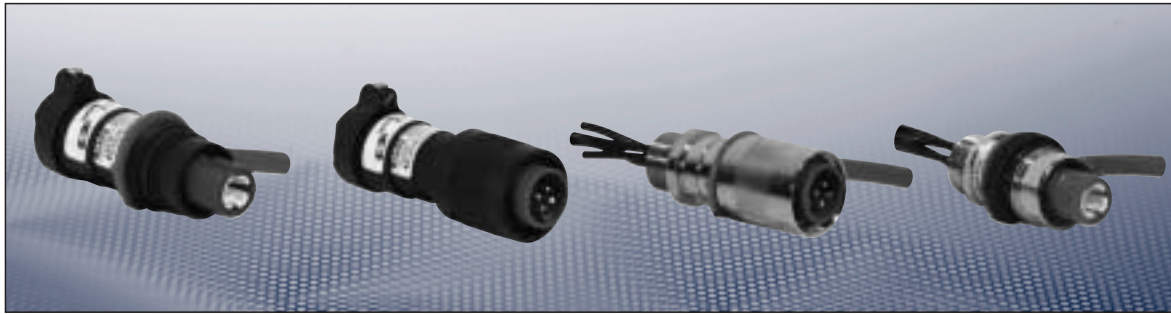
### All-pole on/off switching

### Easy plugging

### International approvals







Zone 21

B1

B2

B3

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## Technical data

eXLink 4-pole / 4-pole + PE	
Marking to 94/9/EC	II 2 D T52 °C
EC-Type Examination Certificate	PTB 03 ATEX 1016 X
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:	250 V / 10 A
DC:	60 V / 2.5 A
Switching capacity acc. EN 60 947-4 AC-3:	250 V / 1 A
DC-3:	60 V / 0.5 A
Max. back-up fuse max. without thermal protection	10 A
Max. back-up fuse max. with thermal protection	20 A gL
Insulation class accd. EN 60598	II: plastic / I: metal
Frequency range	0-100 MHz, fast Ethernet compatibel
Transmission performance acc. to TIA/EIA-568-B.2	Category 5e up to 100 Mbaud
Permissible ambient temperature	-55 °C up to +40 °C (rated current 10 A)
Extende temperature range	-55 °C up to +75 °C (rated current 2 A)
Elbow, plastic	-20 °C up to +40 °C
Store temperature in original wrapping	-55 °C up to +80 °C
Degree of protection accd. EN 60529	IP 66/IP 68 with closed and locked protective caps or duly plugged and locked components
Enclosure material	
Plug, coupler, inlet < 2000 cm <sup>3</sup> and receptacle	Polyamid, nickel plated brass or staninless steel AISI 316L
Inlet > 2000 cm <sup>3</sup> and plug/coupler for armoured cables	Nickel plated brass or staninless steel AISI 316L
Terminal cross section	
Plug, coupler	Crimp 1.5 mm <sup>2</sup> : 0.75 - 1.5 mm <sup>2</sup> / Solder: 0.34 - 1.0 mm <sup>2</sup>
	Crimp 2.5 mm <sup>2</sup> : 1.5 - 2.5 mm <sup>2</sup>
	Cage clamp <sup>1)</sup> : 0.5 - 1.0 mm <sup>2</sup> multi wire, 0.5 - 1.5 mm <sup>2</sup> singel wire
Inlet, receptacle in plastic	Crimp 1.5 mm <sup>2</sup> : 0.75 - 1.5 mm <sup>2</sup> / Solder: 0.34 - 1.0 mm <sup>2</sup>
	Crimp 2.5 mm <sup>2</sup> : 1.5 - 2.5 mm <sup>2</sup>
Inlet, receptacle in metal	30 cm multi wire: 1.5 mm <sup>2</sup> / 2.5 mm <sup>2</sup>
Cable entry plug and coupler	Ø 4 - 7.5 mm / Ø 7.5 - 11 mm
Cable entry plug and coupler for armoured cables	external isol. Ø 12 - 21 mm / internal isol. Ø 8.5 - 16 mm / armour 0 - 1.5 mm
Cable entry inlet and receptacle	M20 x 1.5 / 1/2" NPT

<sup>1)</sup> not for 4-pole + PE

## Ordering key eXLink 4-pole/4-pole + PE

## 1. Version

1 = 4-pole  
4 = 4-pole + PE\*

## 2. Type

1 = Elbow  
3 = Coupler  
6 = Inlet > 2000 cm<sup>3</sup>  
7 = Plug  
8 = Receptacle  
9 = Inlet

## 3. Connection technology

1 = Crimp up to 1.5 mm<sup>2</sup>  
2 = Crimp up to 2.5 mm<sup>2</sup>  
6 = Cage clamp

## 4. Coding

01 = 1 h / Ethernet\*  
02 = 2 h / Bus  
03 = 3 h / Special code\*  
04 = 4 h / 110 V AV 2p + PE  
05 = 5 h / 24 V DC 4p + PE\*  
06 = 6 h / 230 V AC 2p + PE  
07 = 7 h / Special code\*  
08 = 8 h / 24 V DC 4p  
09 = 9 h / Special code\*  
10 = 10 h / 230 V AC 4p + PE\*  
11 = 11 h / Special code\*  
12 = 12 h / 24 V AC 2p + PE

\* 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

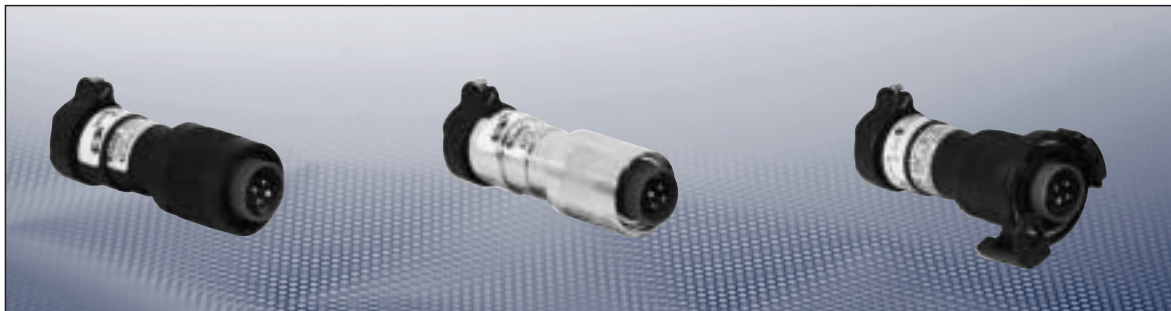
1 = 4 – 7.5 mm/12 – 21 mm<sup>1)</sup>  
2 = 7.5 – 11 mm

<sup>1)</sup> Version for armoured cables

## Version for possible configurations

	Plastic	Nickel-plated brass	Stainless steel	Crimp 1.5 mm <sup>2</sup>	Crimp 2.5 mm <sup>2</sup>	Solder	Cage clamp	15 cm multi wire 1.5 mm <sup>2</sup>	15 cm multi wire 2.5 mm <sup>2</sup>	30 cm multi wire 1.5 mm <sup>2</sup>	30 cm multi wire 2.5 mm <sup>2</sup>	xx cm multi wire <sup>2)</sup>	Cable gland Ø 4 - 7.5 mm	Cable gland Ø 7.5 - 11 mm	Cable gland Ø 12 - 21 mm	M20 x 1.5	1/2" NPT
Plug 4	x	x	x	x	x	x	x						x	x			
Plug 4+PE	x	x	x	x	x	x							x	x			
Coupler 4	x	x	x	x	x	x	x						x	x			
Coupler 4+PE	x	x	x	x	x	x							x	x			
Plug for armoured cables 4		x	x	x	x	x	x								x		
Plug for armoured cables 4+PE		x	x	x	x	x									x		
Coupler for armoured cables 4		x	x	x	x	x	x								x		
Coupler for armoured cables 4+PE		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 cm <sup>3</sup>		x	x					x	x	x	x	x				x	x
Inlet for Ex d enclosure > 2000 cm <sup>3</sup>		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 Gehäuse (no restriction on free volume)		x	x					x	x	x	x	x				x	x
Elbow for Ex e enclosure	x	x	x													x	x
Elbow for Ex d enclosure		x	x													x	x

<sup>2)</sup> on customers request



Zone 21

## 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 mm <sup>2</sup>	02 = 2 h	0 = Plastic	0 = without locking device	1 = 4 – 7.5 mm
2 = Crimp up to 2.5 mm <sup>2</sup>	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	
	08 = 8 h			
	12 = 12 h			

## Ordering details

Voltages	No. of poles	Coding	Connection	Diameter of connection	
				4 – 7.5 mm Order No.	7.5 – 11 mm Order No.
Plug made of plastic					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm <sup>2</sup>	<b>GHG 571 7102 R0001</b>	<b>GHG 571 7102 R0002</b>
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm <sup>2</sup>	<b>GHG 571 7106 R0001</b>	<b>GHG 571 7106 R0002</b>
24 V DC	4-pol	8 h	Crimp up to 1.5 mm <sup>2</sup>	<b>GHG 571 7108 R0001</b>	<b>GHG 571 7108 R0002</b>
Plug made of nickel-plated brass					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm <sup>2</sup>	<b>GHG 571 7102 R3001</b>	<b>GHG 571 7102 R3002</b>
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm <sup>2</sup>	<b>GHG 571 7106 R3001</b>	<b>GHG 571 7106 R3002</b>
24 V AC	3-pol + PE	8 h	Crimp up to 1.5 mm <sup>2</sup>	<b>GHG 571 7108 R3001</b>	<b>GHG 571 7108 R3002</b>

Other versions on request.

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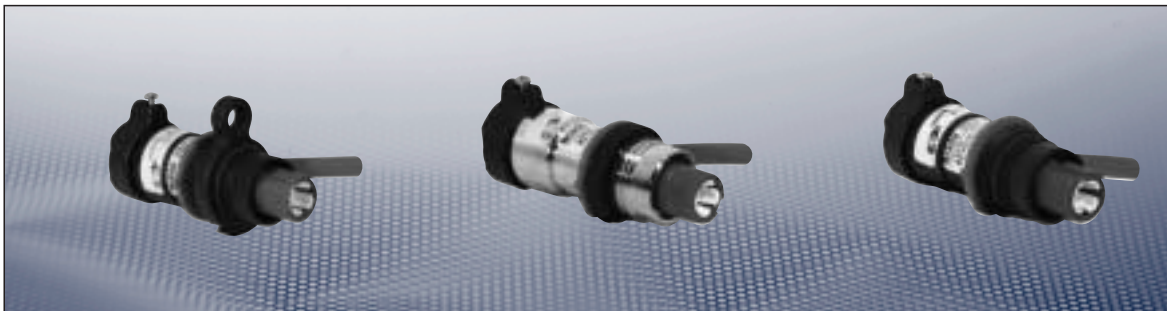
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### Ordering key eXLink coupler 4-pole

## GHG 571 3XXX RXX0X

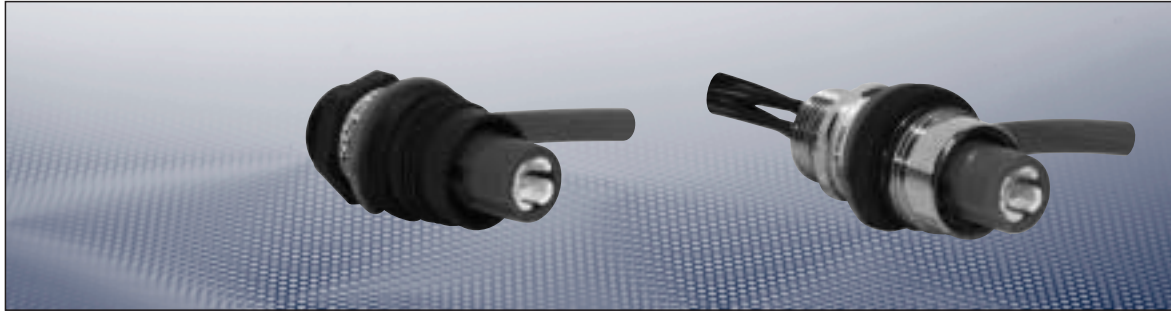
1. Connection technology	2. Coding	3. Material	4. Accessories	5. Diameter of connection cable
1 = Crimp up to 1.5 mm <sup>2</sup>	02 = 2 h	0 = Plastic	0 = without locking device	1 = 4 – 7.5 mm
2 = Crimp up to 2.5 mm <sup>2</sup>	04 = 4 h	1 = Stainless steel AISI 316L	9 = with locking device	2 = 7.5 – 11 mm
6 = Cage-clamp	06 = 6 h	3 = Nickel-plated brass		
	08 = 8 h			
	12 = 12 h			

### Ordering details

Voltage	No. of poles	Coding	Connection	Diameter of connection	
				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 mm <sup>2</sup>	<b>GHG 571 3102 R0001</b>	<b>GHG 571 3102 R0002</b>
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm <sup>2</sup>	<b>GHG 571 3106 R0001</b>	<b>GHG 571 3106 R0002</b>
24 V DC	4-pol	8 h	Crimp up to 1.5 mm <sup>2</sup>	<b>GHG 571 3108 R0001</b>	<b>GHG 571 3108 R0002</b>
Coupler made of nickel-plated brass					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm <sup>2</sup>	<b>GHG 571 3102 R3001</b>	<b>GHG 571 3102 R3002</b>
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm <sup>2</sup>	<b>GHG 571 3106 R3001</b>	<b>GHG 571 3106 R3002</b>
24 V DC	4-pol	8 h	Crimp up to 1.5 mm <sup>2</sup>	<b>GHG 571 3108 R3001</b>	<b>GHG 571 3108 R3002</b>

Other versions on request.





Zone 21

## Ordering key eXLink receptacle 4-pole

# GHG 571 8XXX RXX0X

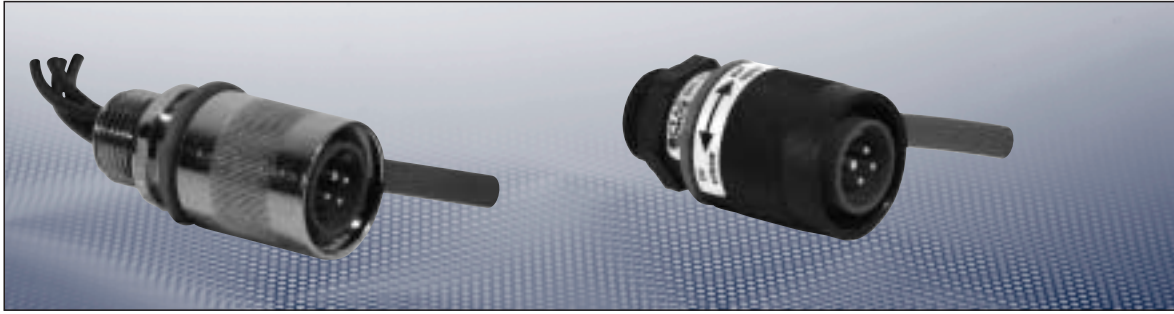
X = Count No.

1. Connecting technology	2. Coding	3. Material	4. Accessories
1 = Crimp <sup>1)</sup> /30 cm multi wire up to 1.5 mm <sup>2</sup>	02 = 2 h	0 = Plastic	0 = without locking device
2 = Crimp <sup>1)</sup> /30 cm multi wire up to 2.5 mm <sup>2</sup>	04 = 4 h	1 = Stainless steel AISI 316L with M20 thread	9 = with locking device
<sup>1)</sup> only plastic version	06 = 6 h	3 = Nickel-plated brass with M20 thread	
	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	

## Ordering details

Voltage	No. of poles	Coding	Connection	Thread	Order No.
Receptacle made of plastic					
BUS	3-pol + PA	2 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	GHG 571 8102 R0001
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	GHG 571 8106 R0001
24 V DC	4-pol	8 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	GHG 571 8108 R0001
Receptacle made of nickel-plated brass					
BUS	3-pol + PA	2 h	30 cm multi wire 1.5 mm <sup>2</sup>	M20 x 1.5	GHG 571 8102 R3001
230 V AC	2-pol + PE	6 h	30 cm multi wire 1.5 mm <sup>2</sup>	M20 x 1.5	GHG 571 8106 R3001
24 V DC	4-pol	8 h	30 cm multi wire 1.5 mm <sup>2</sup>	M20 x 1.5	GHG 571 8108 R3001

Other versions on request.



### Ordering key eXLink inlet 4-pole

## GHG 571 9XXX RXX0X

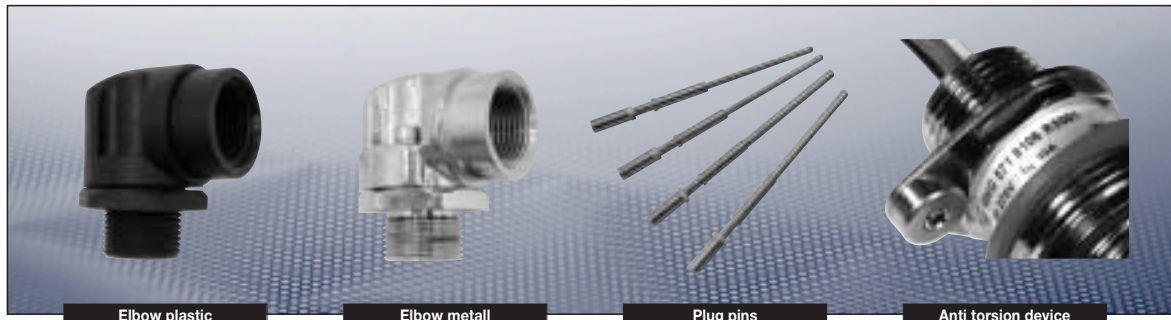
X = Count No.

1. Connection technology	2. Coding	3. Material	4. Accessories
1 = Crimp/30 cm multi wire <sup>1)</sup> up to 1.5 mm <sup>2</sup>	02 = 2 h	0 = Plastic	0 = without locking device
2 = Crimp/30 cm multi wire <sup>1)</sup> up to 2.5 mm <sup>2</sup>	04 = 4 h	1 = Stainless steel AISI 316L with M20 thread	9 = with locking device
<sup>1)</sup> only in plastic version	06 = 6 h	3 = Nickel-plated brass with M20 thread	
	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	

### Ordering details

Voltage	No. of poles	Coding	Connection	Thread	Order No.
Inlet made of plastic					
Ethernet/Bus	3-pol + PA	2 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>GHG 571 9102 R0001</b>
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>GHG 571 9106 R0001</b>
24 V DC	4-pol	8 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>GHG 571 9108 R0001</b>
Inlet made of nickel-plated brass V < 2000 cm <sup>3</sup>					
Ethernet/Bus	3-pol + PA	2 h	30 cm up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>GHG 571 9102 R3001</b>
230 V AC	2-pol + PE	6 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>GHG 571 9106 R3001</b>
24 V DC	4-pol	8 h	Crimp up to 1.5 mm <sup>2</sup>	M20 x 1.5	<b>GHG 571 9108 R3001</b>

Other versions on request.



## Ordering key eXLink elbow

# GHG 571 1000 RX001

### Material

0 = Plastic

1 = Stainless steel AISI 316L

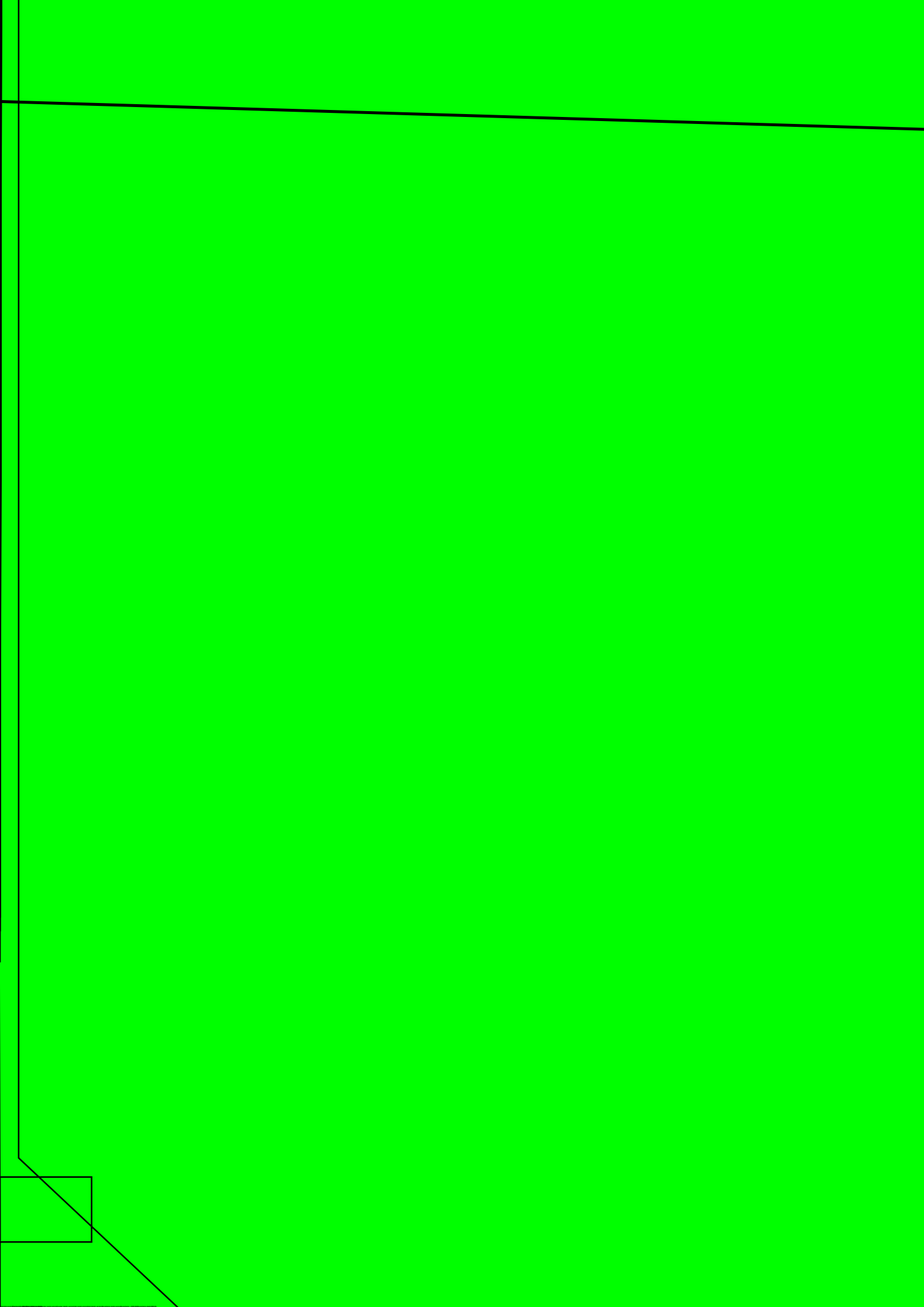
3 = Nickel-plated brass

## Ordering details

Type	Material	Order No.
Elbow M20	Plastic	GHG 571 1000 R0001
Elbow M20	Stainless steel AISI 316L	GHG 571 1000 R1001
Elbow M20	Nickel-plated brass	GHG 571 1000 R3001

## Accessories

Type	BE	Version 3+PE	4 pol.	4+PE	Order No.
Set of socket contacts 1.5 mm <sup>2</sup> , 4-pole	1	X	X	–	GHG 570 1905 R0001
Set of socket contacts 2.5 mm <sup>2</sup> , 4-pole	1	X	X	–	GHG 570 1905 R0002
Set of socket contacts 1.5 mm <sup>2</sup> , 4-pole + PE-contact	1	–	–	X	GHG 570 1905 R0003
Set of socket contacts 2.5 mm <sup>2</sup> , 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 coupler/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 coupler/receptacle	1	X	X	X	GHG 570 1903 R0003
Brass protection cap plug/receptacle	1	X	X	X	GHG 570 1903 R0004
Set of plug pins 1.5 mm <sup>2</sup> , 3-pole + PE (PE leading AC)	1	X	–	–	GHG 570 1904 R0003
Set of plug pins 1.5 mm <sup>2</sup> , 4-pole (legging DC)	1	–	X	–	GHG 570 1904 R0001
Set of plug pins 2.5 mm <sup>2</sup> , 3-pole + PE (PE leading AC)	1	X	–	–	GHG 570 1904 R0004
Set of plug pins 2.5 mm <sup>2</sup> , 4-pole (legging DC)	1	–	X	–	GHG 570 1904 R0002
Set of plug pins 1.5 mm <sup>2</sup> , 4-pole + PE-contact	1	–	–	X	GHG 570 1904 R0005
Set of plug pins 2.5 mm <sup>2</sup> , 4-pole + PE-contact	1	–	–	X	GHG 570 1904 R0006
Screw 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	1	X	X	X	GHG 570 1901 R0001





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# E X - P L U G S   A N D   S O C K E T S

16 A to 125 A  
Plastic version for Zone 21

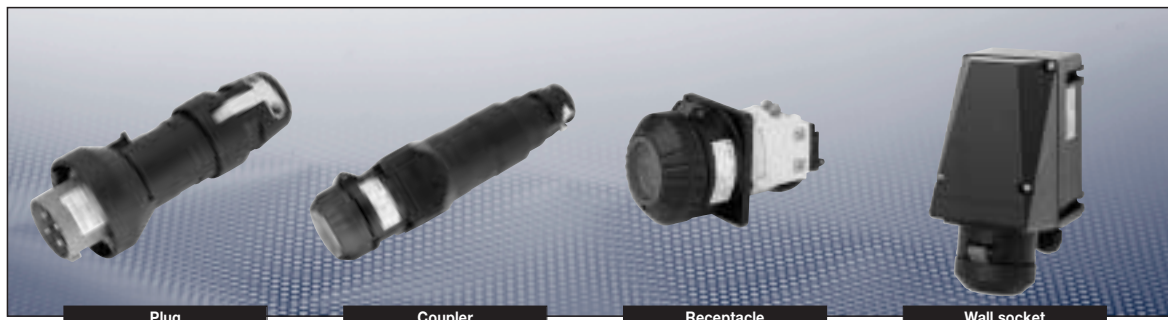
## A good contact

Providing electrical energy there, where it is most needed – even in explosion hazardous areas for the Zone 21 and 22. CEAG plug and sockets are designed and tested acc. to the new EU standard IEC 61241-0 and –1 (EN 61241-0 and –1) for Ex equipment for use in Zone 22 of dust Ex-areas.

Portable electrical apparatus have generally high requirements on the energy/power supply. 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. 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 utilization. CEAG plugs and sockets 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 pertaining 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.

- Safety standard IP 66 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





Plug

Coupler

Receptacle

Wall socket

Zone 21

B1

B2

B3

B4

B5

B6

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B9

## Technical data

### Ex-plugs and sockets acc. to IEC 60309-1/2 16A

Marking to 94/9/EC	II 2 D T60 °C
EC-Type Examination Certificate	Wall socket, plug and coupler: PTB 99 ATEX 1039 Receptacle: PTB 99 ATEX 1040 U
Permissible ambient temperature <sup>1)</sup>	-25 °C to +45 °C
Rated voltage	up to 400 V~ (3-pole) / 690 V (4-pole) / 500 V (5-pole)
Rated current	up to 16 A
Frequency	up to 400 Hz
Switch rating AC-3	16 A/400 V
Back up fuse, max.	without thermal protection: 16 A with thermal protection: 35 A gL (rated current 16 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP 66

### Wall socket

Cable gland	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 mm <sup>2</sup>
Enclosure material	Glass-fibre reinforced polyester

### Plug

Cable gland	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 mm <sup>2</sup>
Enclosure material	Polyamide

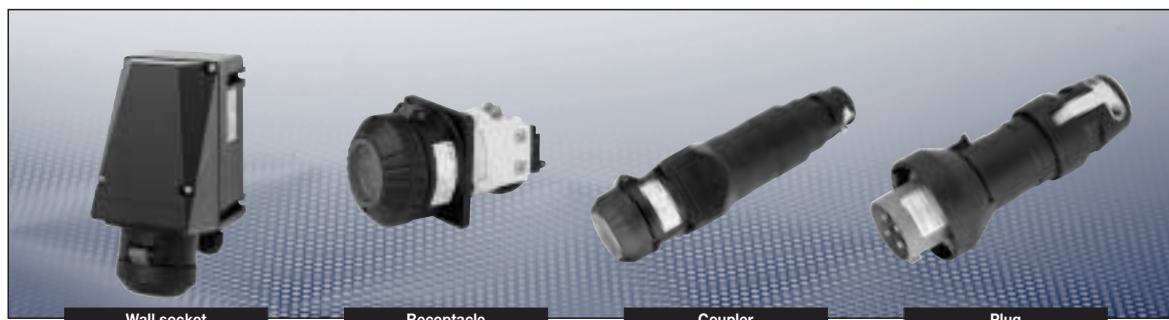
### Coupler

Cable gland	Ø 8 - 19 mm (3-pole) / Ø 8 - 21 mm (4-pole) / 12 - 21 mm (5-pole)
Connecting terminals	2 x 1 - 4 mm <sup>2</sup>
Enclosure material	Polyamide

### Receptacle

Connecting terminals	2 x 1 - 4 mm <sup>2</sup>
Enclosure material	Polyamide

<sup>1)</sup> Other ambient temperature on request



Wall socket

Receptacle

Coupler

Plug

### Ordering details

Voltage	h	Type	Auxiliary contact	Cable glands	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 ME	1.3 kg	GHG 511 4306 R3001
		Receptacle			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						
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
		Receptacle			1.0 kg	GHG 511 8406 R0001
		Coupler			1.7 kg	GHG 511 3406 R0001
	Plug			0.7 kg	GHG 511 7406 R0001	
Type 16 A 5-pole						
200-250 V		Wall socket		M25 KU	1.8 kg	GHG 511 4506 R0001
380-415 V		Wall socket		M20 ME	1.9 kg	GHG 511 4506 R3001
		Wall socket	yes	M25 KH	1.8 kg	GHG 511 4506 R0501
		Receptacle			1.0 kg	GHG 511 8506 R0001
		Coupler			1.7 kg	GHG 511 3506 R0001
	Plug			0.7 kg	GHG 511 7506 R0001	

Other voltage ranges and versions 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

Fixing material and accessories see page B5.22





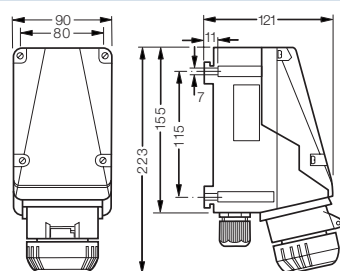
Plug

Coupler

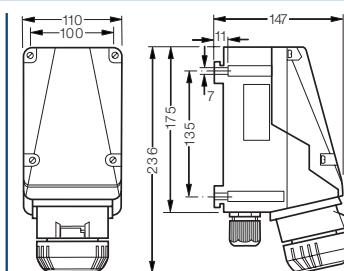
Receptacle

Wall socket

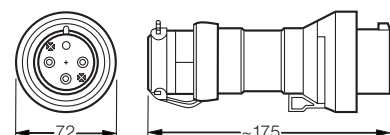
## Dimension drawing | circuit diagram



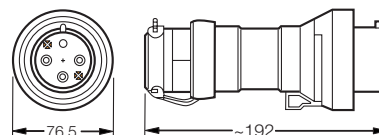
Wall socket 3-pole



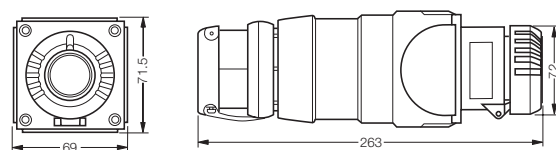
Wall socket 4/5-pole



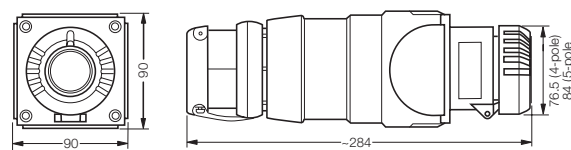
Plug 3-pole



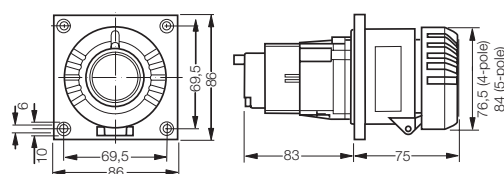
Plug 4/5-pole



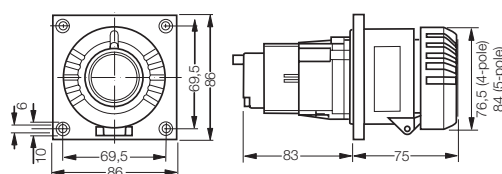
Coupler 3-pole



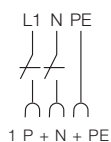
Coupler 4/5-pole



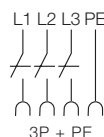
Receptacle 3-pole



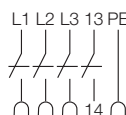
Receptacle 4/5-pole



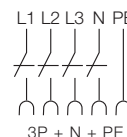
without  
auxiliary contact



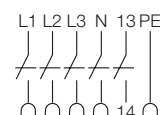
with  
auxiliary contact



without  
auxiliary contact



with  
auxiliary contact



Dimensions in mm

## Accessories

### Mounting plates for wall socket 16 A

Type	Application	Fixing method	Order No.
Size 4	for wall mounting	snapped on	<b>GHG 610 1953 R0126</b>
Size 4	for trellis mounting	snapped on	<b>GHG 610 1953 R0126</b>
Size 4	for pipe mounting	snapped on	<b>GHG 610 1953 R0130</b>

### Cap for plugs 16 A

Type	Order No.
Plug 16 A 3-pole	<b>GHG 510 1901 R0001</b>
Plug 16 A 4-pole	<b>GHG 510 1901 R0002</b>
Plug 16 A 5-pole	<b>GHG 510 1901 R0003</b>

### Accessories for mounting plates

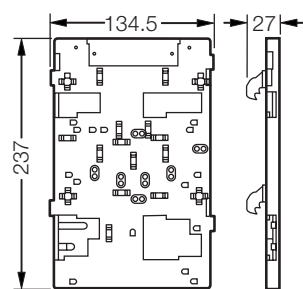
Type	OU	Order No.
Mounting set for pipes 1" (Ø 27 - 30 mm) for mounting plates with pipe fixing	10	<b>GHG 610 1953 R0020</b>

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	<b>GHG 610 1955 R0107</b>

## Dimension drawing



Mounting plates size 4  
for trellis mounting

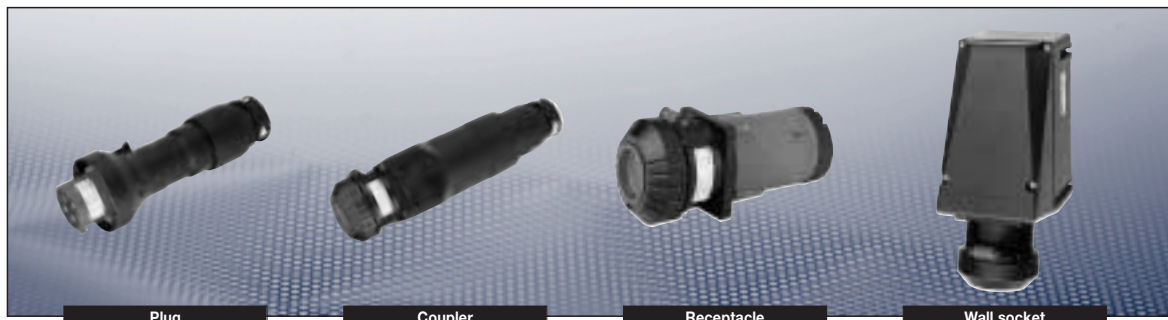


Mounting plates size 4  
for pipe mounting

Protective canopy 4

Dimensions in mm

| 32A 4-pole up to 415 V |  
| 32A 5-pole up to 415 V |



Plug

Coupler

Receptacle

Wall socket

Zone 21

## Technical data

### Ex-plugs and sockets accd. to IEC 60309-1/2

Marking to 94/9/EC	II 2 D IP 66 T60 °C
EC-Type Examination Certificate	Wall socket, plug and coupler: PTB 99 ATEX 1041 Receptacle: PTB 99 ATEX 1042 U
Permissible ambient temperature <sup>1)</sup>	-20 °C to +40 °C
Rated voltage	up to 750 V
Rated current	32 A
Frequency	up to 400 Hz
Switch rating	AC3: 690 V/32 A
Back up fuse	without thermal protection: 35 A with thermal protection: 50 A gL (rated current 32 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Enclosure colour	black

### Wall socket

Cable gland	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 mm <sup>2</sup>
Enclosure material	Glass-fibre reinforced polyester

### Plug

Cable gland	Ø 17 - 28 mm
Connecting terminals	1.0 - 6 mm <sup>2</sup>
Enclosure material	Polyamide

### Coupler

Cable gland	Ø 17 - 28 mm
Connecting terminals	2 x 4 - 10 mm <sup>2</sup>
Enclosure material	Polyamide

### Receptacle

Connecting terminals	2 x 4 - 10 mm <sup>2</sup>
Enclosure material	Polyamide

<sup>1)</sup> Other ambient temperature on request

B1

B2

B3

B4

B5

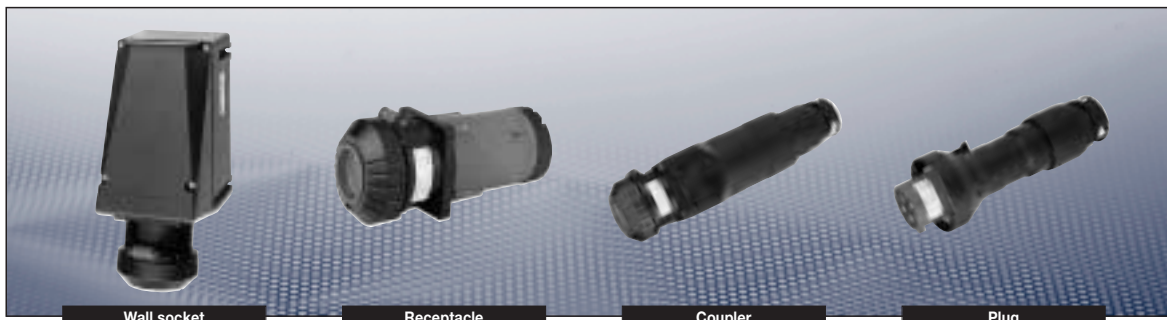
B6

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B9

| 32A 4-pole up to 415 V |  
| 32A 5-pole up to 415 V |




Wall socket


Receptacle

Coupler

Plug

### Ordering details

Voltage	h	Type	Auxiliary contact	Cable glands	Weight approx.	Order No.
<b>Type 32 A 4-pole</b>						
380-415 V		Wall socket	yes	KU	1.8 kg	<b>GHG 512 4406 R0001</b>
		Wall socket		ME	1.9 kg	<b>GHG 512 4406 R3001</b>
		Wall socket		KH	1.8 kg	<b>GHG 512 4406 R0501</b>
		Receptacle			1.0 kg	<b>GHG 512 8406 R0001</b>
		Coupler			1.7 kg	<b>GHG 512 3406 R0001</b>
		Plug			0.7 kg	<b>GHG 512 7406 R0001</b>

Type 32 A 5-pole						
200-250 V		Wall socket	yes	KU	1.8 kg	<b>GHG 512 4506 R0001</b>
380-415 V		Wall socket		ME	1.9 kg	<b>GHG 512 4506 R3001</b>
		Wall socket		KH	1.8 kg	<b>GHG 512 4506 R0501</b>
		Receptacle			1.0 kg	<b>GHG 512 8506 R0001</b>
		Coupler			1.7 kg	<b>GHG 512 3506 R0001</b>
		Plug			0.7 kg	<b>GHG 512 7506 R0001</b>

Other voltage ranges and versions 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,

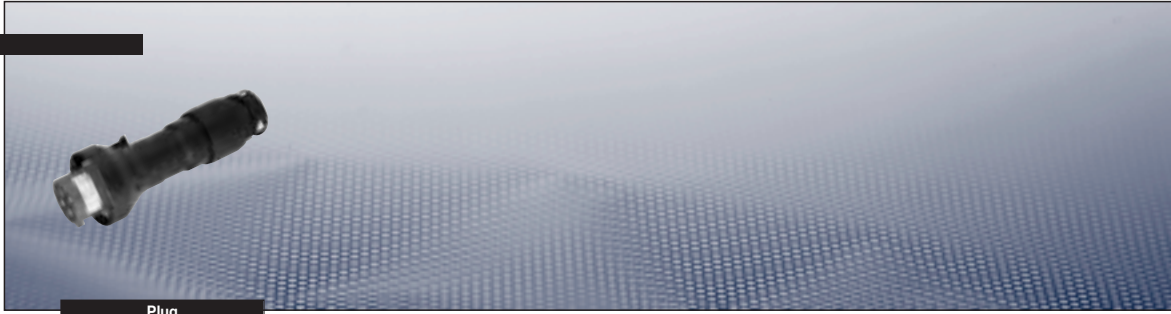
1 x plastic cable glands M25 for Ø 8 - 17 mm, with auxiliary contact, 1 NO

ME = 2 x metal thread M32 with Ex-screw plug plastic

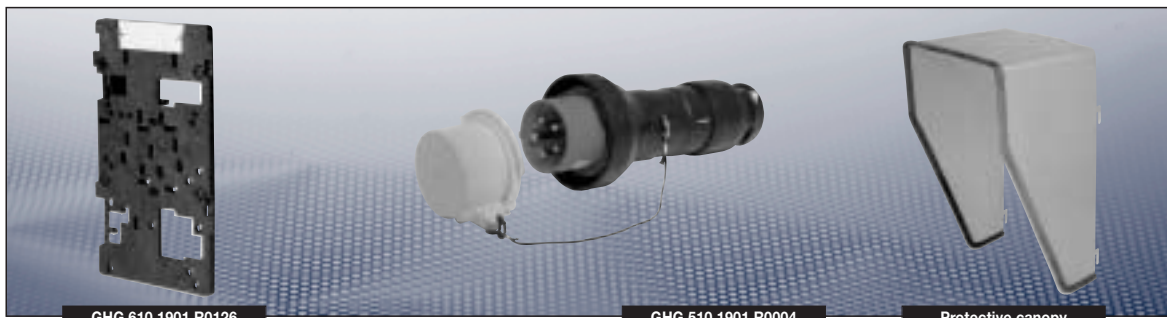
Fixing material and accessories see page B5.26.



| 32A 4-pole up to 415 V |  
| 32A 5-pole up to 415 V |



Plug



## Accessories

### Mounting plates for wall socket 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

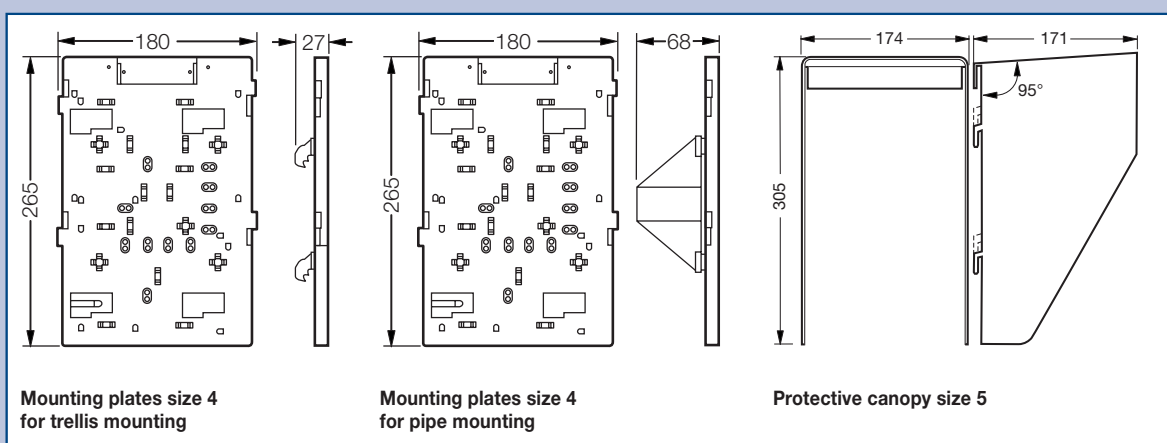
Type	OU	Order No.
Mounting set for pipes 1" (Ø 27 - 30 mm) for mounting plates with pipe fixing	10	GHG 610 1953 R0020

Please pay attention to that only order units (OU) according to the ordering details can be delivered.

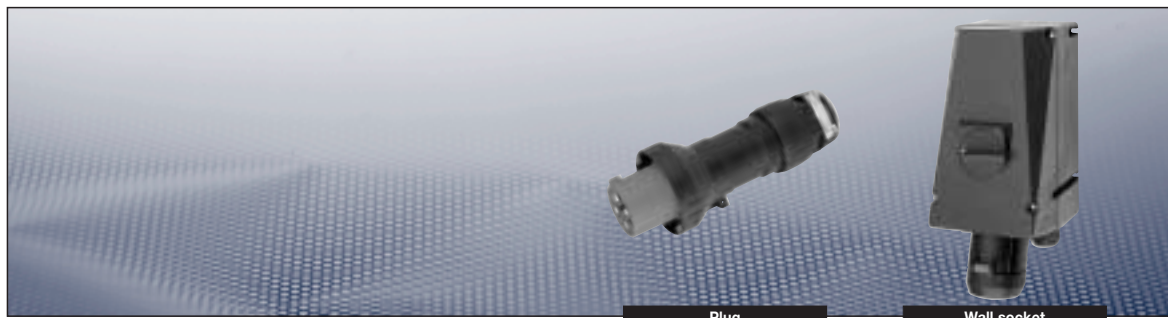
### Protective canopy for mounting plates

Type	Application	Order No.
Size 5	for mounting plate size 5	GHG 610 1955 R0108

## Dimension drawing



Dimensions in mm



Plug

Wall socket

Zone 21

B1

B2

B3

B4

B5

B6

B7

B8

B9

## Technical data

### Ex-plugs and sockets acc. to IEC 60309-1/2, up to 690 V

Marking to 94/9/EC	II 2 D Ex tD A21 IP 66 T60 °C
EC-Type Examination Certificate	PTB 00 ATEX 1070
Permissible ambient temperature <sup>1)</sup>	-20 °C to + 40 °C
Rated voltage	up to 690 V
Rated current	63 A
Frequency	up to 400 Hz
Switch rating AC3	690 V/63 A
Back up fuse	without thermal protection: 63 A with thermal protection: 80 A gL (rated current 63 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Enclosure colour	black

### Wall socket

Cable entry	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 mm <sup>2</sup> / with cable lug <sup>2)</sup> 1 x 35 mm <sup>2</sup>
Enclosure material	Glass-fibre reinforced polyester



### Plug

Cable entry	Ø 19 - 34 mm
Connecting terminals	4 - 16 mm <sup>2</sup>
Enclosure material	Polyamide

<sup>1)</sup> Other ambient temperature on request

<sup>2)</sup> use delivered cable lugs

## Ordering details

Voltage	h	Type	Auxiliary contact	Cable glands	Weight approx.	Order No.
Type 63 A 4-pole						
380-415 V		Wall socket	no	KU	8.1 kg	<b>GHG 514 4406 R0001</b>
		Wall socket	no	ME	8.2 kg	<b>GHG 514 4406 R3001</b>
		Wall socket	yes	KH	8.2 kg	<b>GHG 514 4406 R0501</b>
		Plug			0.75 kg	<b>GHG 514 7406 R0001</b>
Type 63 A 5-pole						
200-250 V		Wall socket	no	KU	8.1 kg	<b>GHG 514 4506 R0001</b>
380-415 V		Wall socket	no	ME	8.1 kg	<b>GHG 514 4506 R3001</b>
Wall socket		yes	KH	8.2 kg	<b>GHG 514 4506 R0501</b>	
Plug				0.75 kg	<b>GHG 514 7506 R0001</b>	
Accessories						
Plug cap for plug 4-pole					<b>GHG 510 1901 R0006</b>	
Plug cap for plug 5-pole					<b>GHG 510 1901 R0006</b>	

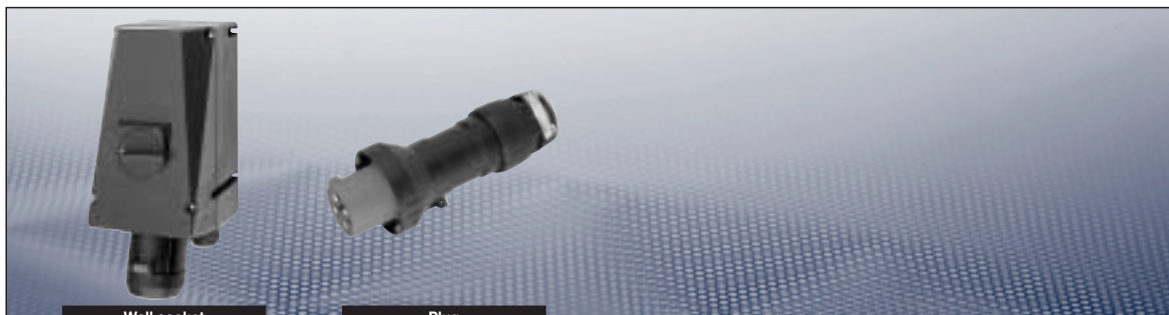
Other voltage ranges and versions on request.

KU = 1 x plastic cable glands M50 for Ø 21-35 mm, 1 x M50 Ex-screw plug plastic

KH = 1 x plastic cable glands M50 for Ø 21-35 mm,

1 x M25 Ø 8 - 17 mm with Ex-Verschlußstopfen, with auxiliary contact, 1 NO

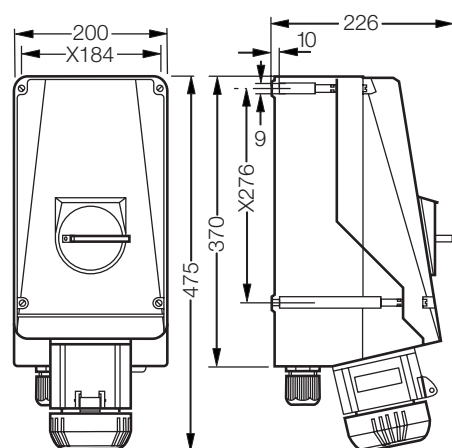
ME = 2 x metal thread M40 with Ex-screw plug plastic



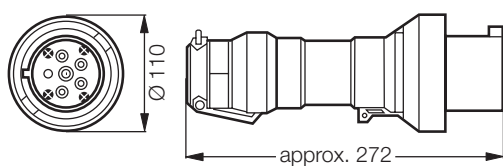
Wall socket

Plug

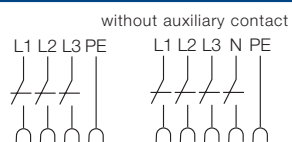
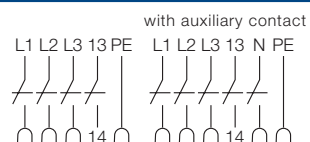
Dimension drawing | circuit diagram



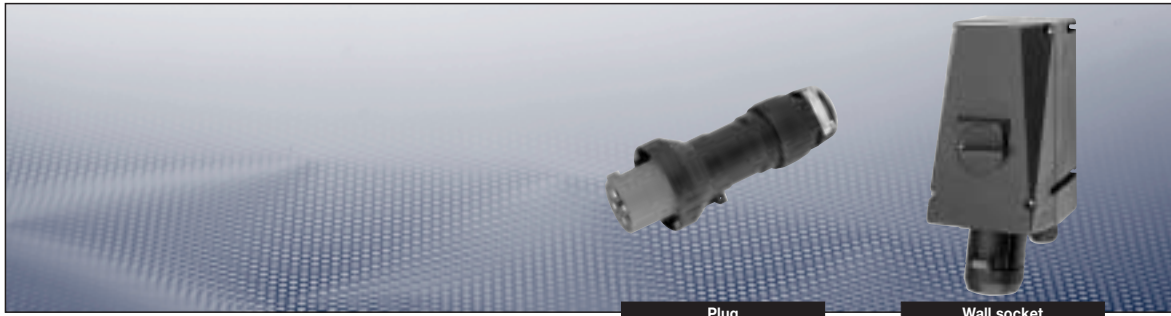
Wall socket



Plug







Plug

Wall socket

Zone 21

B1

B2

B3

B4

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B7

B8

B9

## Technical data

### Ex-plugs and sockets acc. to IEC 60309-1/2, up to 690 V

Marking to 94/9/EC	II 2 D Ex tD A21 IP 66 T60 °C
EC-Type Examination Certificate	PTB 01 ATEX 1069
Permissible ambient temperature <sup>1)</sup>	-20 °C to + 40 °C
Rated voltage	up to 690 V
Rated current	125 A
Frequency	up to 400 Hz
Switch rating AC3	690 V/125 A
Back up fuse	without thermal protection: 125 A with thermal protection: 160 A gL (rated current 125 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Enclosure colour	black

### Wall socket

Cable glands	1 x M63 Ø 27 - 48 mm, 1 x M63 Ex-screw plug plastic or 2 x M50 metal thread 2 Ex-screw plug plastic
Connecting terminals	2 x 4 - 50 mm <sup>2</sup> / with cable lug <sup>2)</sup> 1 x 120 mm <sup>2</sup>
Enclosure material	Glass-fibre reinforced polyester



### Plug

Cable gland	Ø 31 - 55 mm
Connecting terminals	1 x 4 - 35 mm <sup>2</sup> / with pin cable lug <sup>2)</sup> 1 x 50 mm <sup>2</sup>
Enclosure material	Polyamide

<sup>1)</sup> Other ambient temperature on request.

<sup>2)</sup> use delivered cable lugs

## Ordering details

Voltage	h	Type	Auxiliary contact	Cable glands	Weight approx.	Order No.
Type 125 A 4-pole						
380-415 V		Wall socket	no	KU	12.3 kg	<b>GHG 515 4406 R0001</b>
		Wall socket	no	ME	12.5 kg	<b>GHG 515 4406 R3001</b>
		Wall socket	yes	KH	12.5 kg	<b>GHG 515 4406 R0501</b>
		Plug			0.9 kg	<b>GHG 515 7406 R0001</b>
Type 125 A 5-pole						
200-250 V		Wall socket	no	KU	13.0 kg	<b>GHG 515 4506 R0001</b>
380-415 V		Wall socket	no	ME	13.2 kg	<b>GHG 515 4506 R3001</b>
		Wall socket	yes	KH	13.2 kg	<b>GHG 515 4506 R0501</b>
		Plug			1.2 kg	<b>GHG 515 7506 R0001</b>
Accessories						
Protective cover for plug 4-pole						<b>GHG 510 1901 R0007</b>
Protective cover for plug 5-pole						<b>GHG 510 1901 R0007</b>

Other voltage ranges and versions on request.

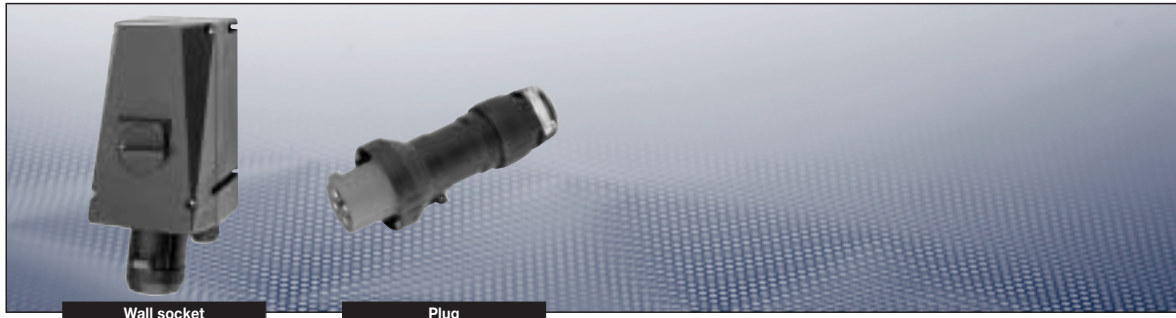
KU = 2 x plastic cable glands M63 for Ø 27-48 mm, 1 x with Ex-blanking plug plastic

KH = 1 x plastic cable glands M63 for Ø 27-48 mm,

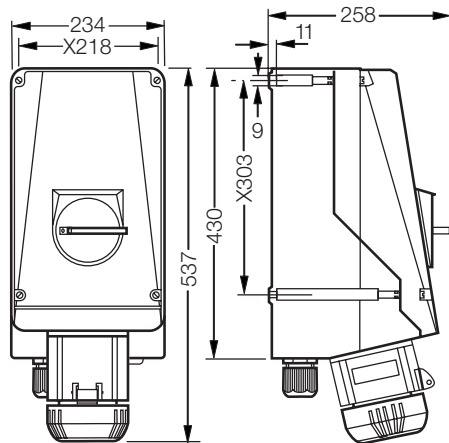
1 x M25 Ø 8 - 17 mm with auxiliary contact, 1 NO

ME = 2 x metal thread M50 with Ex-screw plug plastic

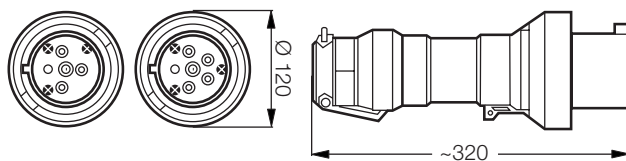
| 125A 4- and 5-pole up to 415 V |



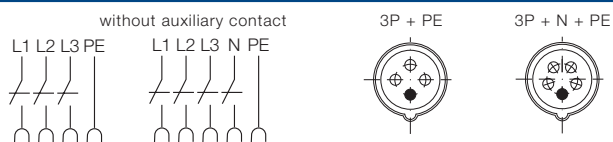
## Dimension drawing | circuit diagram



Wall socket



Plug



B1

B2

B3

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## EX-REPAIR AND MAINTENANCE SOCKETS

16 A – 63 A  
Plastic version for Zone 21 and 22

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 21 or Zone 22 dust-explosion hazardous area 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 sockets are in accordance to regulations that in parts require a stationary installation.

With the lockable cover the utilization of the repair and maintenance socket is selectively possible after a hot work permit has been issued. The CEAG repair and maintenance sockets can be used with both industry and Ex-plugs. Interlocked repair and maintenance sockets have an internal switch which prevents that a plug can be pulled out while energized.



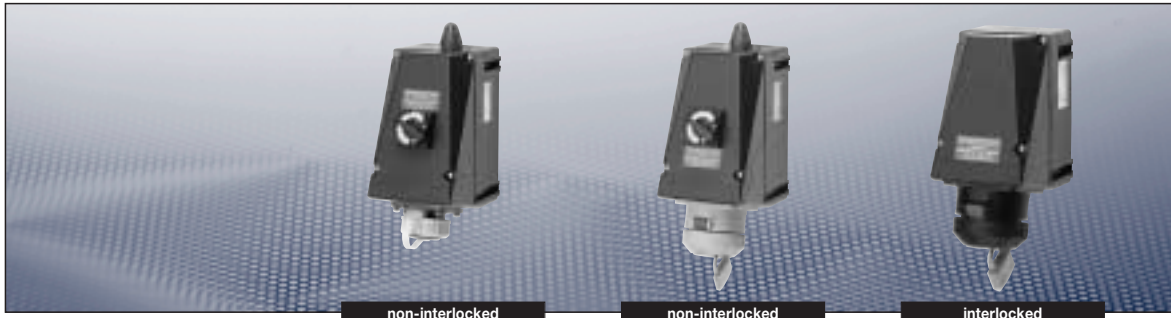
Commercially available industrial apparatus can be used with a "hot work permit"

Sockets with lamellar contacts for a secure contact

Switch and/or socket cover are lockable

High mechanical, chemical and thermal stability





Zone 21

B1

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## Technical data

### Ex-plugs and sockets acc. to IEC 60309-1/2

Marking to 94/9/EC	II 2 D T60 °C
EC-Type Examination Certificate	PTB 00 ATEX 1032 X
Permissible ambient temperature	-20°C to +40°C
Rated voltage	up to 440 V~
Rated current	16 A
Frequency	up to 400 Hz
Switch rating AC-3	up to 440 V~/16 A
Back up fuse, max.	without thermal protection: 16 A with thermal protection: 35 A gL (rated current 16 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Cable glands	1 x M25 Ø 8 - 17 mm, 1 x M25 Ex-screw plug plastic or 2 x metal thread M20 with Ex-thread plug plastic
Connecting terminals	2 x 1.5 - 4 mm²
Enclosure material	Glass-fibre reinforced polyester




### Ordering details

Voltage	h	Type	Cable gland	Weight approx.	Order No.
Type 16 A 3-pole, interlocked					
200-250 V		Wall socket	KU	1.1 kg	<b>GHG 511 4306 R0901</b>
		Wall socket	ME	1.2 kg	<b>GHG 511 4306 R3901</b>

Type 16 A 3-pole, non-interlocked					
200-250 V		Wall socket	KU	1.2 kg	<b>GHG 511 4306 R0903</b>
		Wall socket	GM	1.3 kg	<b>GHG 511 4306 R3906</b>

Type 16 A 2-pole, non-interlocked					
230 V		Wall socket	ME	1.3 kg	<b>GHG 511 4306 R3903</b>

Voltage	h	Type	Auxiliary contact	Cable gland	Weight approx.	Order No.
Type 16 A 5-pole, interlocked						
380-415 V		Wall socket	no	KU	1.6 kg	<b>GHG 511 4506 R0901</b>
		Wall socket	no	ME	1.7 kg	<b>GHG 511 4506 R3901</b>
		Wall socket	yes	KH	1.6 kg	<b>GHG 511 4506 R0903</b>

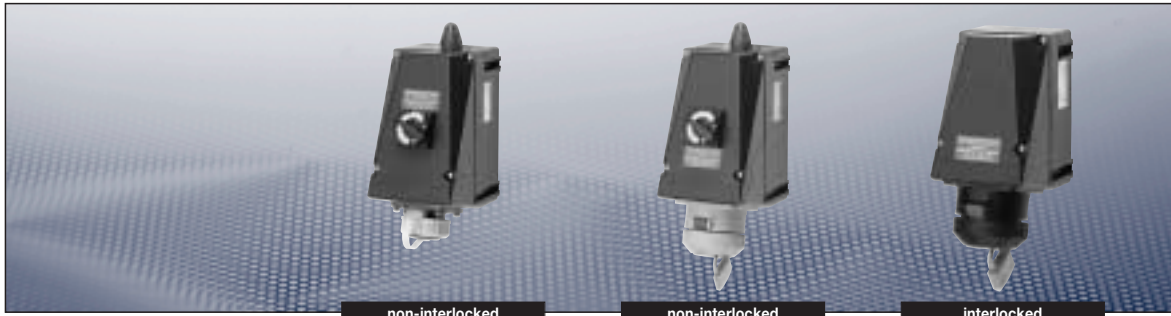
GM = 2 x metal thread M20 without cable gland/thread plug with protective earth

KU = 1 x plastic cable glands M25, 1 x M25 Ex-thread plug plastic

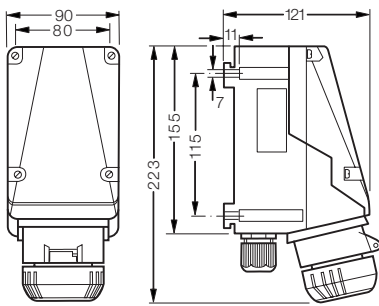
ME = 2 x metal thread M20 with Ex-thread plug plastic

KH = 2 x plastic cable glands M25 Ø 8 - 17 mm, with auxiliary contact, 1 NO

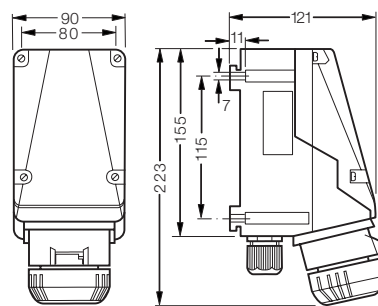
Fixing material and accessories see page B5.26



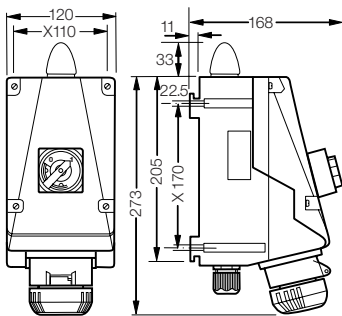
Dimension drawing | circuit diagram



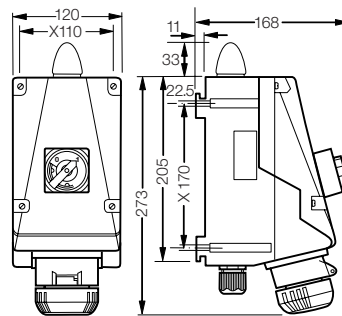
Wall socket interlocked 3-pole



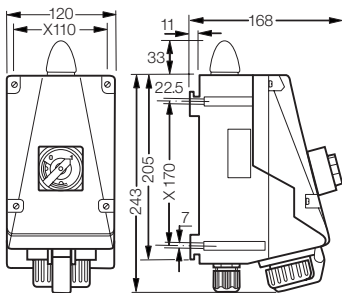
Wall socket interlocked 5-pole



Wall socket non-interlocked 3-pole



Wall socket non-interlocked 5-pole

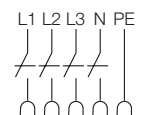


Wall socket non-interlocked with earthing contact 3-pole

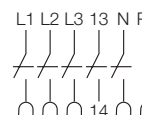
non-interlocked  
with earthing contact



without  
auxiliary contact

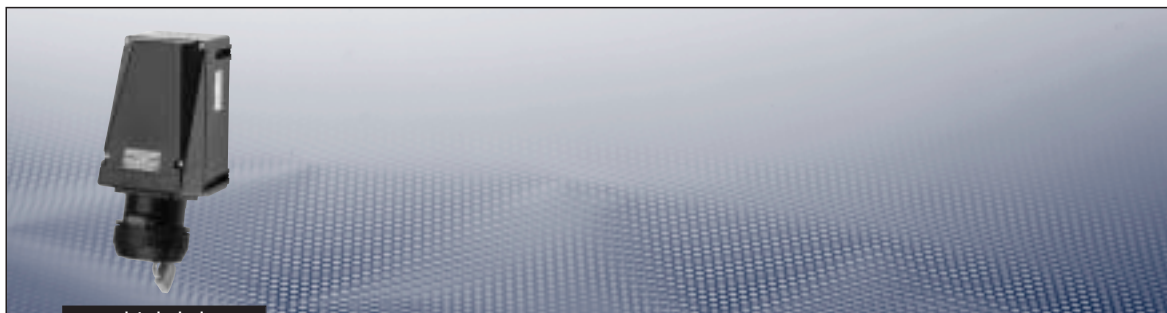


with  
auxiliary contact



Dimensions in mm

| 32 A 5-pole up to 415 V |



## Technical data

### Ex-plugs and sockets acc. to IEC 60309-1/2

Marking to 94/9/EC	II 2 D T60 °C
EC-Type Examination Certificate	PTB 00 ATEX 1032 X
Permissible ambient temperature	-20°C to +40°C
Rated voltage	up to 440 V~
Rated current	32 A
Frequency	up to 400 Hz
Switch rating AC-3	up to 440 V~/32 A
Back up fuse, max.	without thermal protection: 35 A with thermal protection: 50 A gL (rated current 32 A set to)
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Cable glands	1 x M40 Ø 17 - 28 mm, 1 x M40 Ex-screw plug plastic or 2 x metal thread M32 with Ex-thread plug plastic
Connecting terminals	2 x 4 - 10 mm²
Enclosure material	Glass-fibre reinforced polyester

## Ordering details

Voltage	h	Type	Auxiliary contact	Cable gland	Weight approx.	Order No.
Type 32 A 5-pole, interlocked						
380-415 V		Wall socket	no	KU	2.3 kg	<b>GHG 512 4506 R0901</b>
		Wall socket	no	ME	2.4 kg	<b>GHG 512 4506 R3901</b>
		Wall socket	yes	KH	2.3 kg	<b>GHG 512 4506 R0903</b>
	6					

KU = 1 x plastic cble glands M40 Ø 17-28 mm, 1 x M40 Ex-thread plug plastic

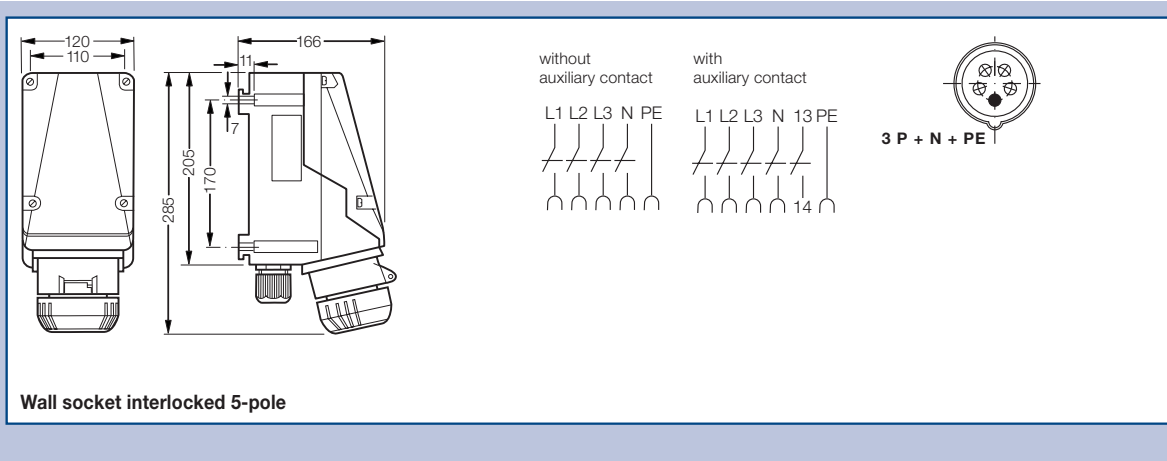
ME = 2 x metal thread M32 with Ex-thread plug plastic

KH = 1 x plastic cable gland M40 Ø 17-28 mm,

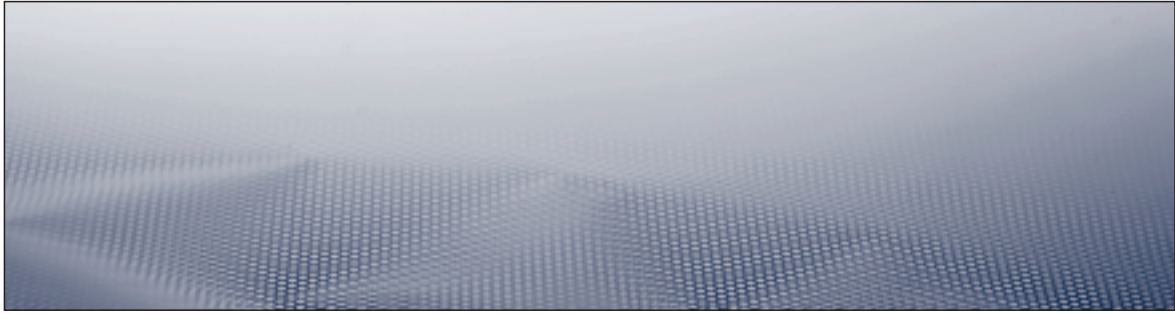
1 x plastic cable gland M25 Ø 8-17 mm

Fixing material and accessories see page B5.26

## Dimension drawing | circuit diagram









# HOW DO YOU DISTRIBUTE YOUR WIRING?

ZONE 21

EX-JUNCTION BOX

B6.2

EX-TERMINAL BOX LIGHT ALLOY

B6.6

EX-TERMINAL BOX PLASTIC VERSION

B6.10

EX-TERMINAL BOX IN METAL DESIGN

B6.18

EX-CONNECTION AND INTERMEDIATE MOTOR TERMINAL BOXES

B6.22

B1

B2

B3

B4

B5

B6

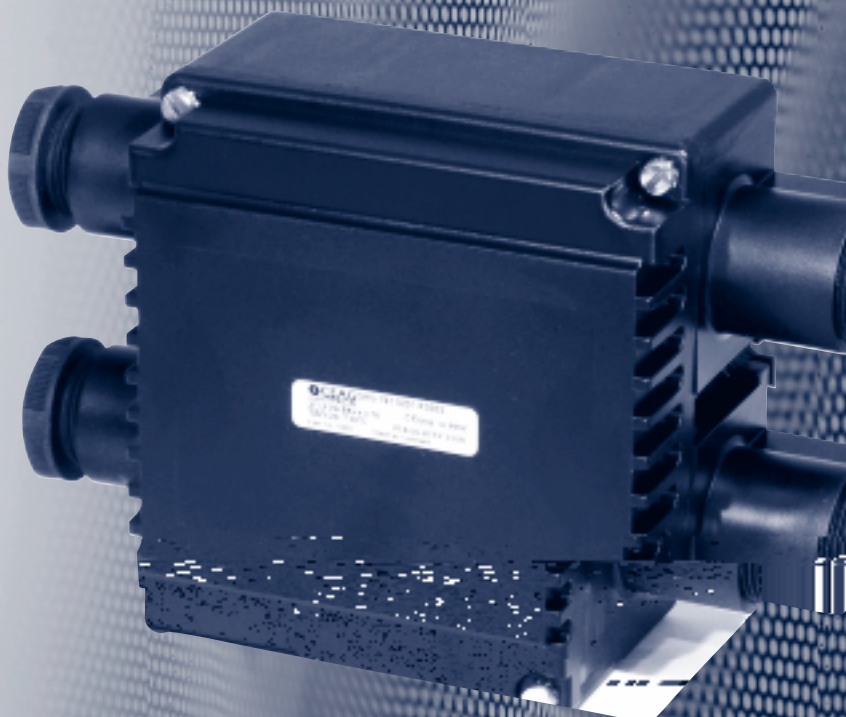
B7

B8

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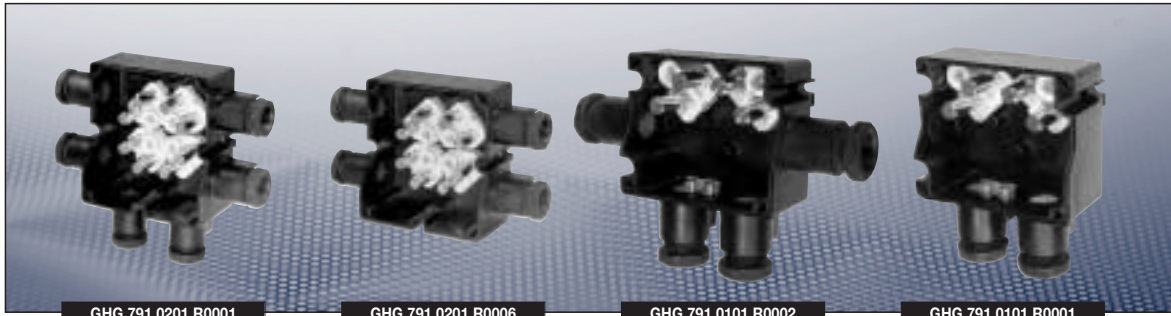


## Plastic version for Zone 21

[illegible]

- B6.2





## Technical data

### GHG 791 01 up to 6 terminal | GHG 791 02 up to 6 terminal

Marking to 94/9/EC	II 2 D IP 66 T 58 °C
EC-Type Examination Certificate	PTB 00 ATEX 3108
Permissible ambient temperature	-20 °C to +40 °C / -55 °C to +40 °C (Option)
Rated voltage	690 V
Rated current	depends on terminal cross section
Connecting terminals	max. 4 x 4 mm <sup>2</sup> /PE 4 x 2.5 mm <sup>2</sup> (multi-wire) max. 3 x 6 mm <sup>2</sup> /PE 4 x 4 mm <sup>2</sup> (solid-wire) or 2 x 6 mm <sup>2</sup> + 1 x 2.5 mm <sup>2</sup>
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Enclosure material	Polyamide

### GHG 791 01 up to 4 terminal

Cable gland/enclosure thread	max. 4 x M25 for cable Ø 8 - 17 mm max. 4 x M20 metal thread
Dimensions in mm (L x W x H)	81,5 x 100 x 61
Weight	approx. 0.3 kg

### GHG 791 02 up to 6 terminal

Cable gland/enclosure thread	max. 6 x M25 for cable Ø 8 - 17 mm max. 6 x M32 for cable Ø 12 - 21 mm max. 6 x M20 metal thread
Dimensions in mm (L x W x H)	117.5 x 113.5 x 73.5
Weight	approx. 0.5 kg

Zone 21

B1

B2

B3

B4

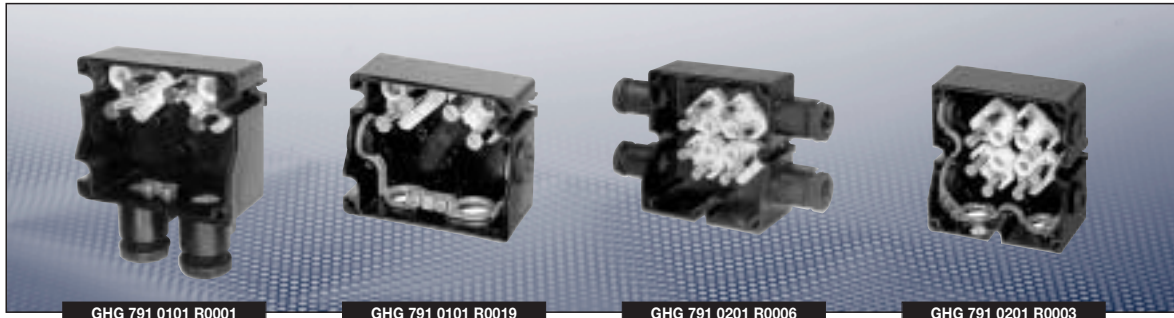
B5

B6

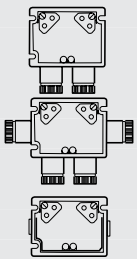
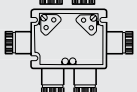

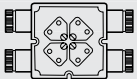
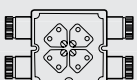
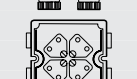
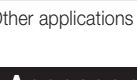
B7

B8

B9



## Ordering details

Design	Cable gland	No. of terminals	Order No.
GHG 791 01 up to 4 terminal			
	2 x M25 for cable Ø 8-17 mm	4 x Ex-e, 1 x PE	GHG 791 0101 R0001
	4 x M25 for cable Ø 8-17 mm incl. 2 x blanking plug M25 internal earth plate for 6 x M20 metal cable glands incl. 4 x threaded plugs M20	4 x Ex-e, 1 x PE	GHG 791 0101 R0002
		4 x Ex-e, 1 x PE	GHG 791 0101 R0019
GHG 791 02 up to 6 terminal			
	4 x M25 for cable Ø 12-21 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 12-21 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 internal earth plate for 6 x M20 metal cable glands incl. 4 x threaded plugs M20	6 x Ex-e, 2 x PE	GHG 791 0201 R0002
		8 x Ex-e, 1 x PE	GHG 791 0201 R0003

Other applications available on request.

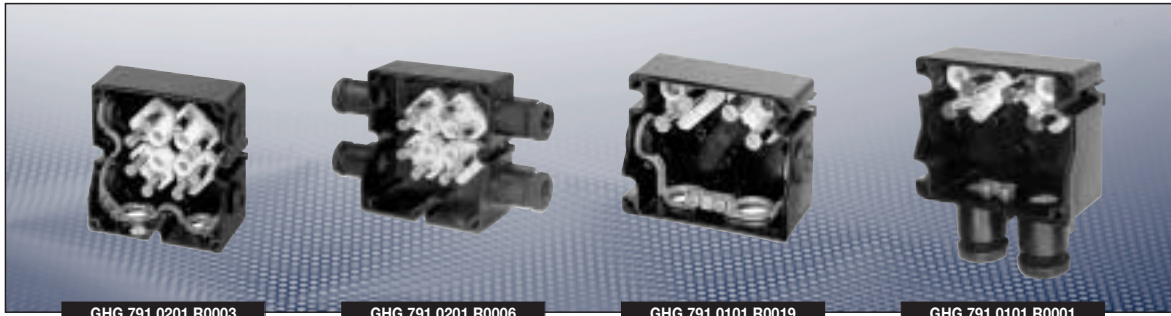
## Accessories

### Mounting plate for junction box 791 01

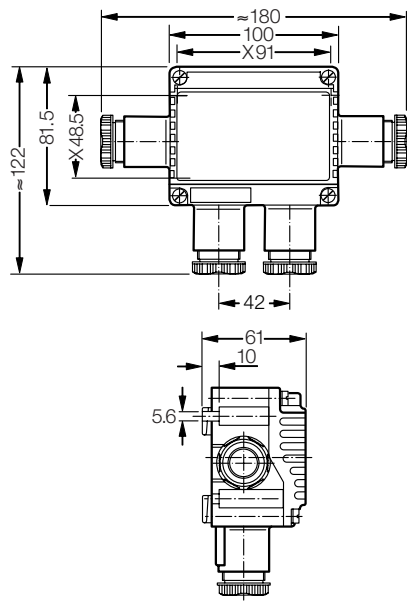
Type	Application	Fixing method	Order No.
Size 1	Wall mounting	screwless mounting	GHG 610 1953 R0101
Size 1	Trellis mounting	screwless mounting	GHG 610 1953 R0103
Size 1	Pipe mounting	screwless mounting	GHG 610 1953 R0102
Protective canopy size 2	for mounting size 1		GHG 610 1955 R0101

### Mounting plate for junction box 791 02

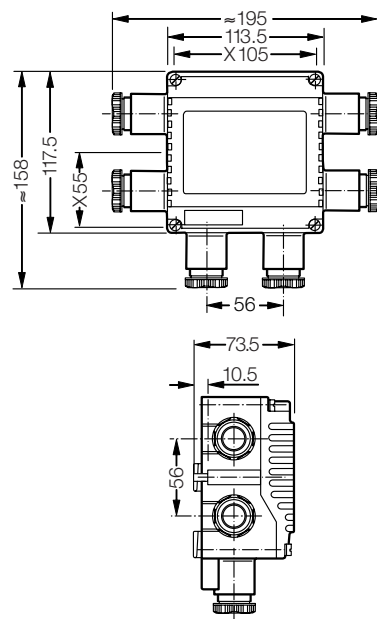
Type	Application	Fixing method	Order No.
Size 2	Wall mounting	screwless mounting	GHG 610 1953 R0104
Size 2	Trellis mounting	screwless mounting	GHG 610 1953 R0106
Size 2	Pipe mounting	screwless mounting	GHG 610 1953 R0105
Protective canopy 2	for mounting size 2		GHG 610 1955 R0102



## Dimension drawing



Type 791 01



Type 791 02

Dimensions in mm

Zone 21

B1

B2

B3

B4

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B9

# E X - T E R M I N A L   B O X E S

Light metal design, explosion-proof for Zone 21

Series C30 and C31 explosion-protected terminal boxes made of light metal are used to distribute and conduct electricity in dust Ex-areas of Zone 21 and 22 at no risk of explosion. Optionally, they are equipped with an 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<sup>2</sup> or up to 10 mm<sup>2</sup>.

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.

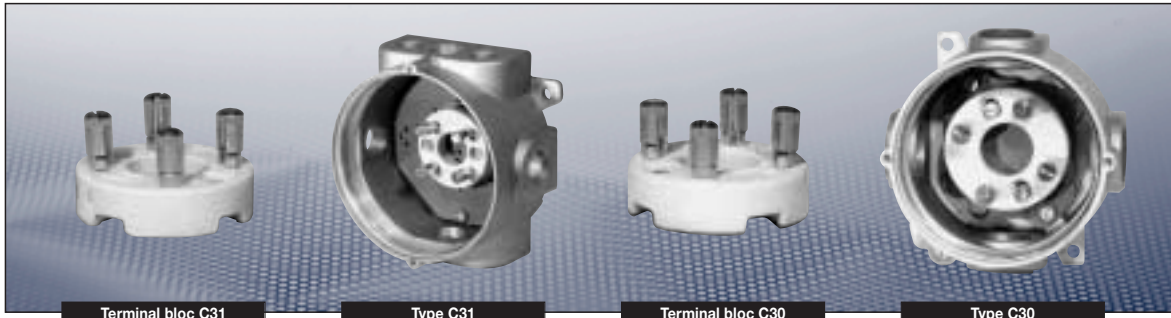
The light metal terminal boxes have an outside earthing connection.



High mechanical, chemical and thermal resistance

High degree of protection IP 66





Terminal bloc C31

Type C31

Terminal bloc C30

Type C30

Zone 21

## Technical data

### Type C30 | Type C31

Marking to 94/9/EC	II 2 D IP 67 T 85 °C
EC-Type Examination Certificate	LOM 02 ATEX 2037 X
Permissible ambient temperature	-20 °C to +55 °C
Rated voltage	690 V
Rated current	depends on terminal mounting
Insulation class	I
Degree of protection accd. EN 60529	IP 67
Enclosure material	Light metal
Enclosure colour	grey/silver

### Type C30

Connecting terminals	up to 6 mm <sup>2</sup>
Dimensions in mm (L x W x H)	Ø 98 x 90
Weight	approx. 0.8 kg (empty)
Max. no. of cable glands	4
Length of assembly of the terminal rails	45 mm

### Typ C31

Connecting terminals	up to 10 mm <sup>2</sup>
Dimensions in mm (L x W x H)	Ø 140 x 104
Weight	approx. 1.3 kg (empty)
Max. no. of cable glands	4
Length of assembly of the terminal rails	82 mm

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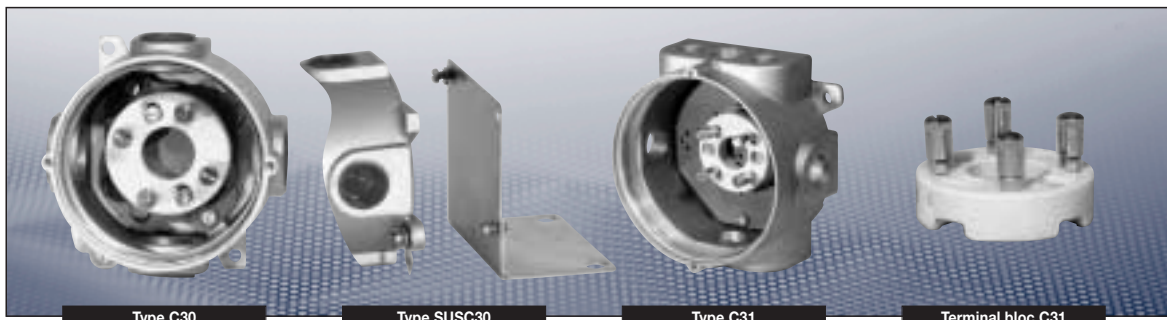
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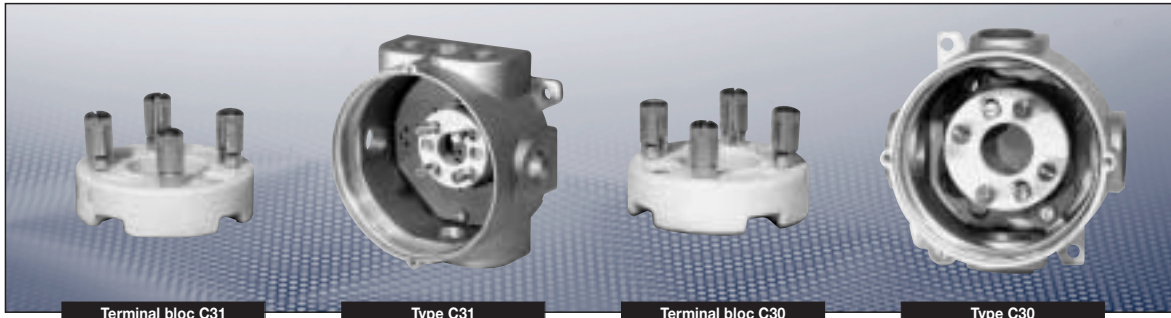
B9



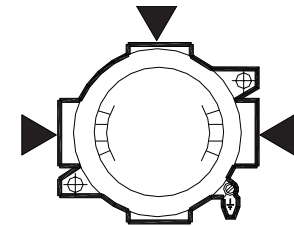
### Ordering details

Type	thread	No. of terminals	Order No.
<b>Type C30</b>			
C30 T1	3 x 1/2" NPT	–	NOR 000 001 151 181
C30 T2	3 x 3/4" NPT	–	NOR 000 001 151 199
C30 X2	4 x 3/4" NPT	–	NOR 000 001 151 214
<b>Built-in components Type C30</b>			
BC 30	Mounting plate with pillar terminals	4 x 4 mm <sup>2</sup>	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
<b>Mounting angel for housing fixing Type C30</b>			
SUSC 30			NOR 000 000 115 311
<b>Type C31</b>			
C31 T1	3 x 1/2" NPT	–	NOR 000 111 150 001
<b>Built-in components Type C31</b>			
BC31	Mounting plate with pillar terminals	4 x 4 mm <sup>2</sup> <sup>1)</sup>	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

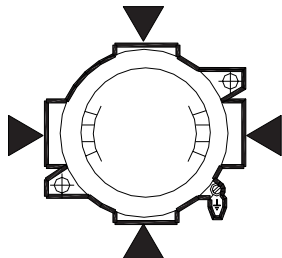
<sup>1)</sup> 4 x 4 mm<sup>2</sup> multi-wire or 2 x 6 mm<sup>2</sup> solid



## Dimension drawing

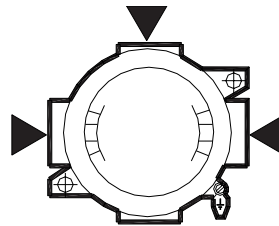
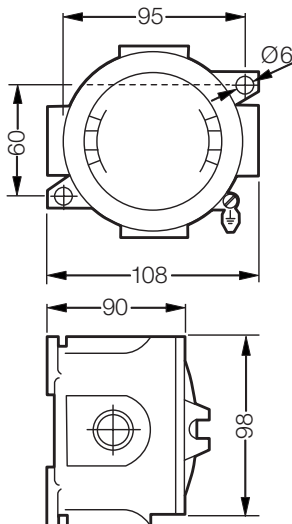


Type C30 T

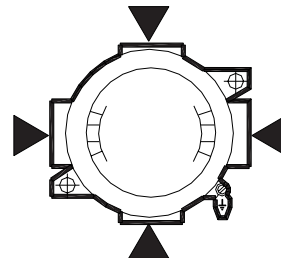


► Thread

Type C30 X

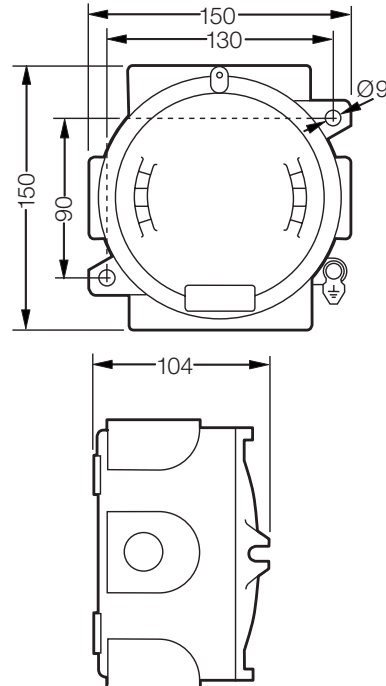


Type C31 T



► Thread

Type C31 X



Dimensions in mm

# E X - T E R M I N A L   B O X E S

## Plastic version for Zone 21

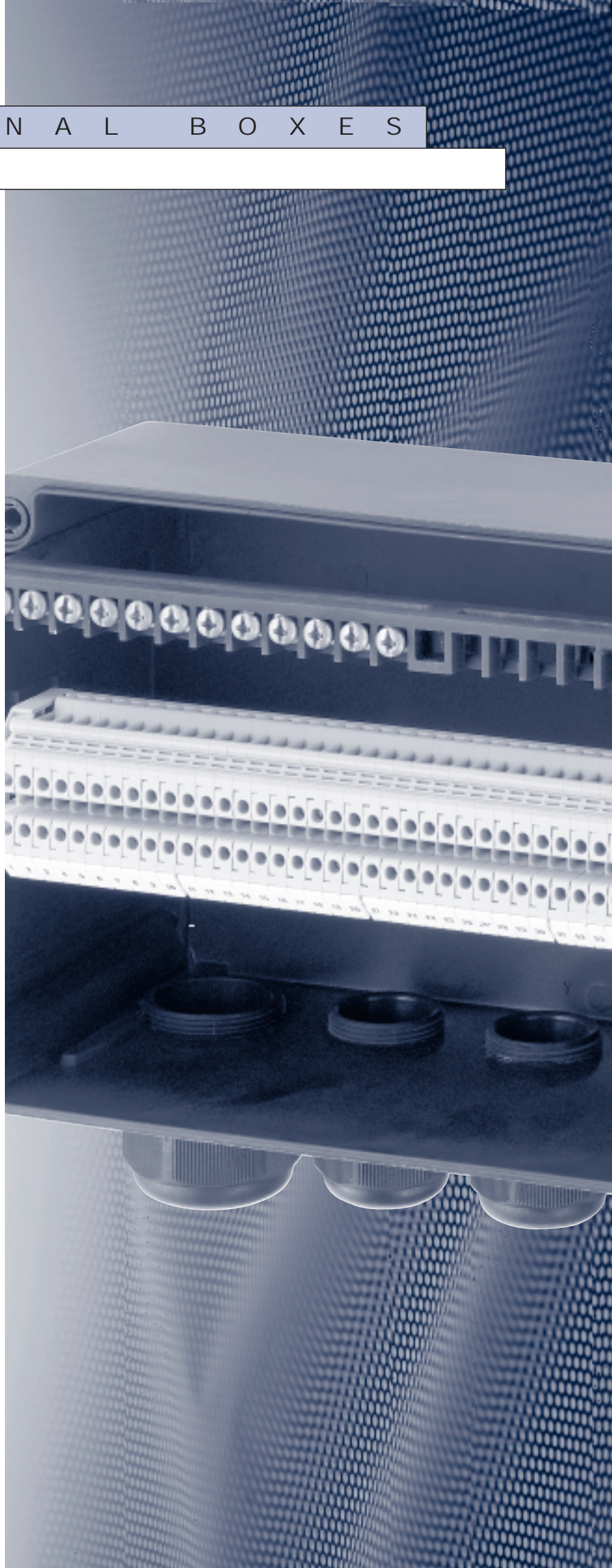
The robust CEAG terminal boxes in plastic design are based for distributing of electrical energy in dust-explosion hazardous areas in zone 21 and 22.

Optionally all the modular terminals up to 6 mm<sup>2</sup> are available in these terminal boxes.

The threads M20 can be fitted with different cable glands.

Drilled holes, cable and line ducts, through which no lines are conducted, should be closed with certified threaded stoppers.

Covered screws and all outside and inside metallic parts are made of stainless steel. (AISI 316L).



**Mechanical, chemical and thermal resistance**

**Decisive cost reduction with the CEAG mounting system**





GHG 791 0101 R0003

GHG 791 0101 R0005

## Technical data

### GHG 791 01 up to 6 terminal | GHG 791 02 up to 12 terminal

Marking to 94/9/EC	II 2 D IP 66 T 80 °C
EC-Type Examination Certificate	PTB 00 ATEX 3108
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	IP 66
Enclosure material	Polyamide

### GHG 791 01 up to 6 terminal

Rated current	depends on terminal mounting
Connecting terminals	up to 4 mm <sup>2</sup>
Cable gland	max. 2 x M25 or 1 x M25 + 2 x M12
Dimensions in mm (L x W x H)	81.5 x 100 x 61
Weight	approx. 0.3 kg

Zone 21

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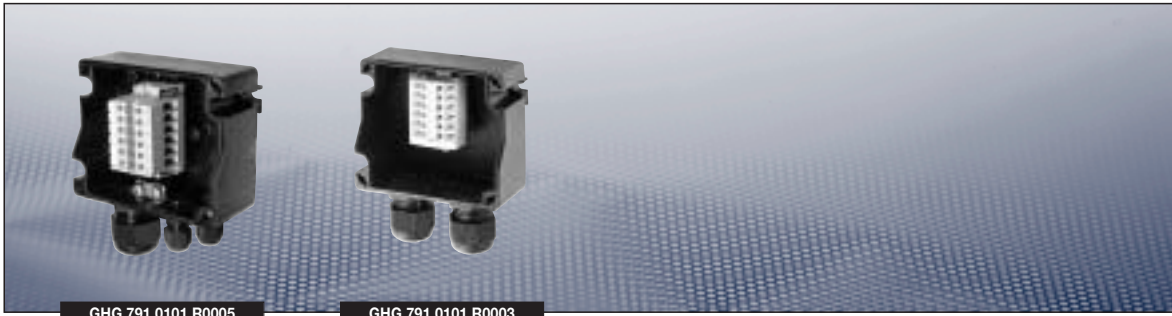
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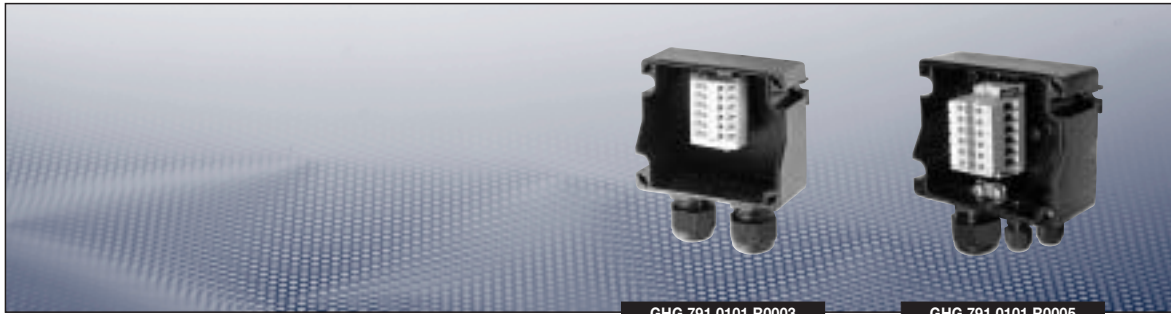
GHG 791 0101 R0005

GHG 791 0101 R0003

### Ordering details

Design	Cable gland	No. of terminals	Order No.
Type 791 01 up to 6 terminal assembled with screw terminals 2 x 2.5 mm <sup>2</sup> + PE/PA-terminal 2 x 4 mm <sup>2</sup>			
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	
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 R0004
Ex-i	1 x M25 for cable Ø 8-17 mm 2 x M12 for cable Ø 4-7 mm 1 x blanking plug M12	6 x Ex-i 4 x PE/PA	GHG 791 0101 R0005
			GHG 791 0101 R0006
Type 791 01 up to 6 terminal assembled with screwless 2 x 2.5 mm <sup>2</sup> + PE/PA-terminal 2 x 4 mm <sup>2</sup>			
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 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 M12	6 x Ex-e 1 x PE/PA	GHG 791 0101 R0009
Ex-i	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-i 1 x PE/PA	GHG 791 0101 R0010

<sup>1)</sup> according to type examination certificate individual extensible



GHG 791 0101 R0003

GHG 791 0101 R0005

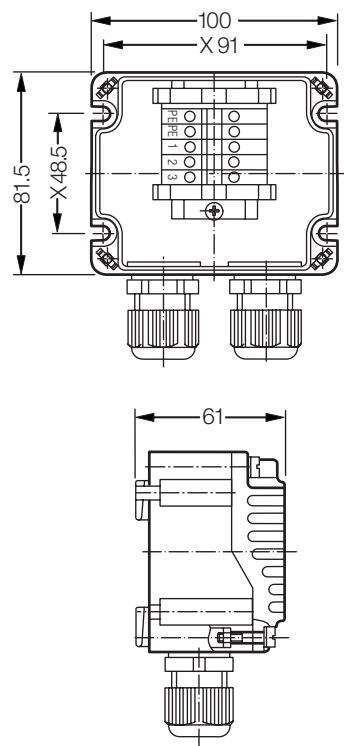
Zone 21

## Accessories

### Mounting plate for junction box 791 01

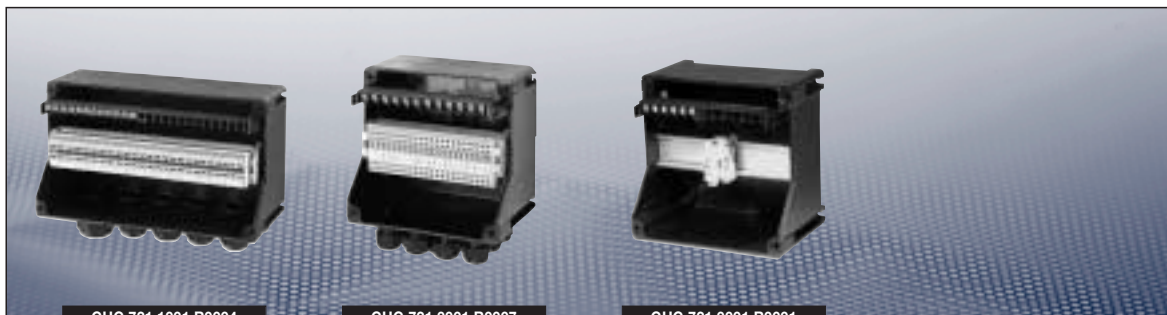
Type	Application	Fixing method	Order No.
Size 1	Wall mounting	screwless mounting	GHG 610 1953 R0101
Size 1	Trellis mounting	screwless mounting	GHG 610 1953 R0103
Size 1	Pipe mounting	screwless mounting	GHG 610 1953 R0102
Protective canopy size 1	for mounting plate size 1		GHG 610 1955 R0101

## Dimension drawing



Type 791 01

Dimensions in mm



## Technical data

### GHG 721 00 up to 26 terminal | GHG 721 10 up to 48 terminal

Marking to 94/9/EC	II 2 D IP 66 T 80 °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
Rated current	depends on terminal mounting
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Enclosure material	Glass-fibre reinforced polyester

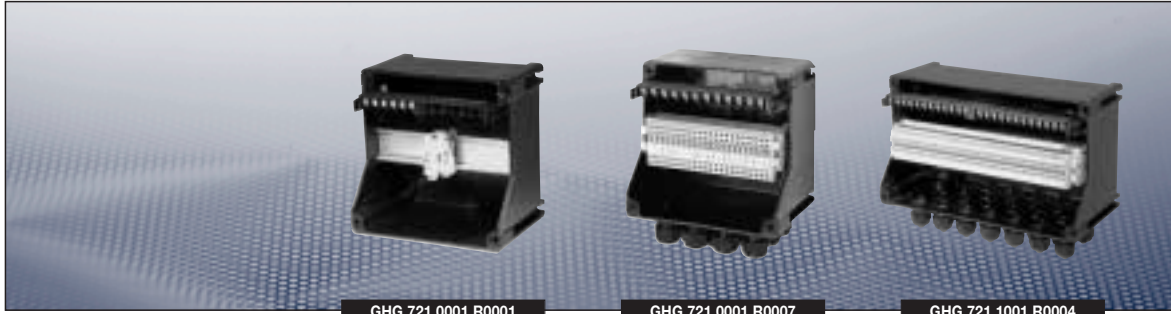
### GHG 721 00 up to 26 terminal

Connecting terminals	up to 16 mm <sup>2</sup>							
Dimensions in mm (L x W x H)	165 x 165 x 131.5							
Weight	approx. 1.1 kg							
Maximum number of drillings and cable glands	M12	M16	M20	M25	M32	M40	M50	M63
Bottom	35	20	12	11	6	4	2	2
Flange plastic	11	6	4	3	2	1	1	–
Flange metal	–	–	3	2	1	–	–	–
Terminal mounting space	140 mm							
Maximum number of terminals acc. type examination certificate	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>			
	26	22	17	13	11			

### GHG 721 10 up to 48 terminal

Connecting terminals	up to 16 mm <sup>2</sup>							
Dimensions in mm (L x W x H)	165 x 285 x 143							
Weight	approx. 1.7 kg							
Maximum number of drillings and cable glands	M12	M16	M20	M25	M32	M40	M50	M63
Bottom	75	42	32	21	11	8	4	3
Flange plastic	46	25	20	11	8	4	3	2
Flange metal	–	–	12	9	5	3	3	2
Terminal mounting space	262 mm							
Maximum number of terminals acc. type examination certificate	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>			
	48	40	30	24	20			





Zone 21

## Ordering details

Design	Cable glands	No. of terminals	Order No.
Type 721 00 assembled with screw terminals 2 x 4 mm <sup>2</sup> + PE-rail 2.5 mm <sup>2</sup>			
Ex-e	without drilling	1 x Ex-e <sup>1)</sup> /6 x PE/PA	GHG 721 0001 R0001
Type 721 00 up to 26 terminal with screw terminals 2 x 2.5 mm <sup>2</sup> + PE/PA-rail 2.5 mm <sup>2</sup>			
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 10 up to 48 terminal with screw terminals 2 x 2.5 mm <sup>2</sup> + PE/PA-rail 2.5 mm <sup>2</sup>			
Ex-e	1 x M40 for cable Ø 17-28 mm 24 x M20 for cable Ø 5.5-13 mm	48 x Ex-e 24 x PE/PA	GHG 721 1001 R0004

\* screwed on

<sup>1)</sup> according to type examination certificate individual extensible

Other applications available on request.

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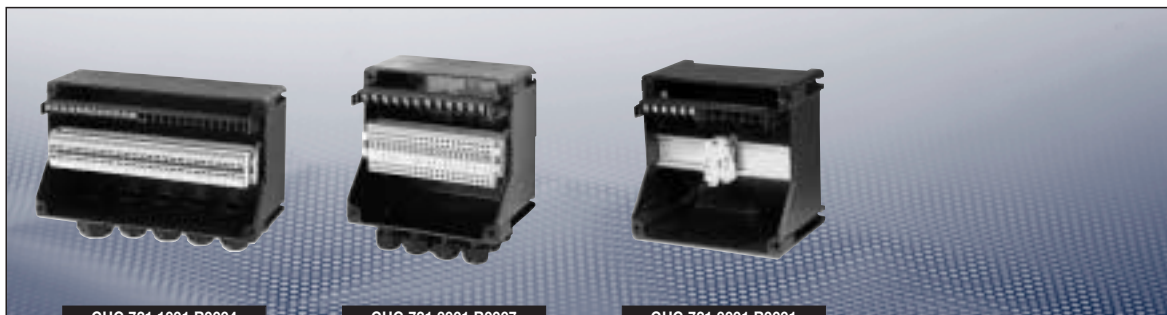
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## Accessories

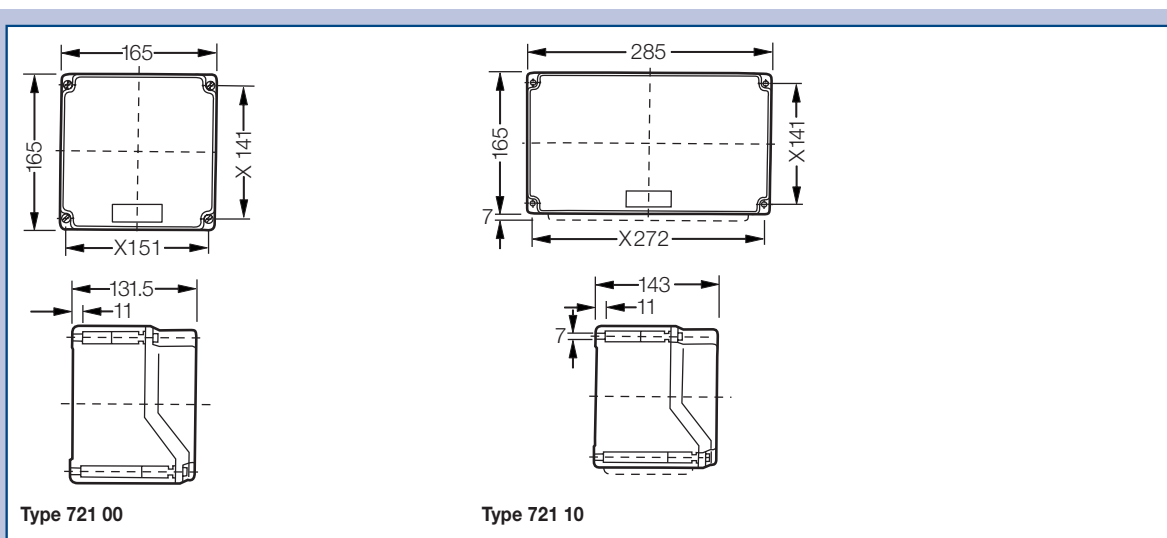
### Mounting plate for junction box 721 00

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

## Dimension drawing



Dimensions in mm

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# EX - TERMINAL ENCLOSURES

Stainless steel version for Zone 21

Ex-Cell

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 are designed and tested according to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 21 and Zone 22 of dust Ex-areas.

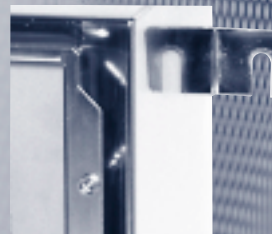
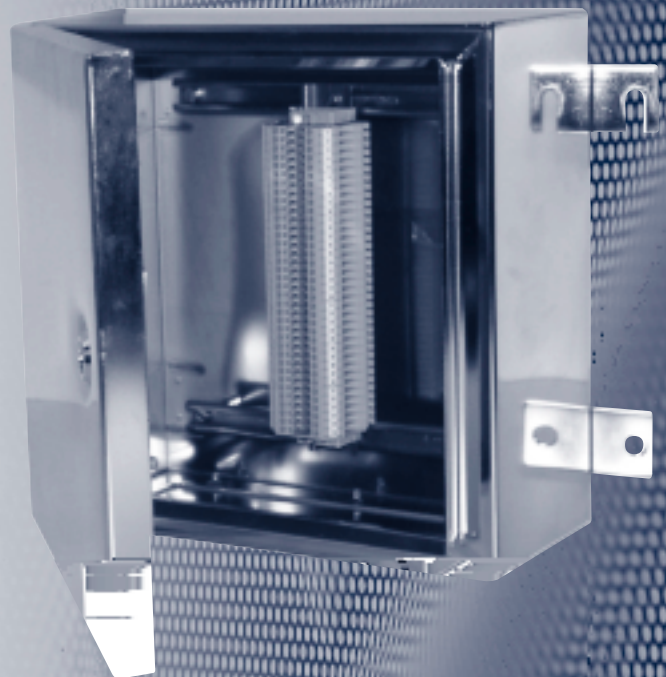
They act as a link between the main cable to the control room and the branch cables into the field. In addition to this, they may also be used for the direct connection of actuators and sensors. Here the metal cable glands also allow electromagnetically compatible connection methods.

The robust design of the stainless steel terminal boxes provides a high degree of safety for nearly all 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.

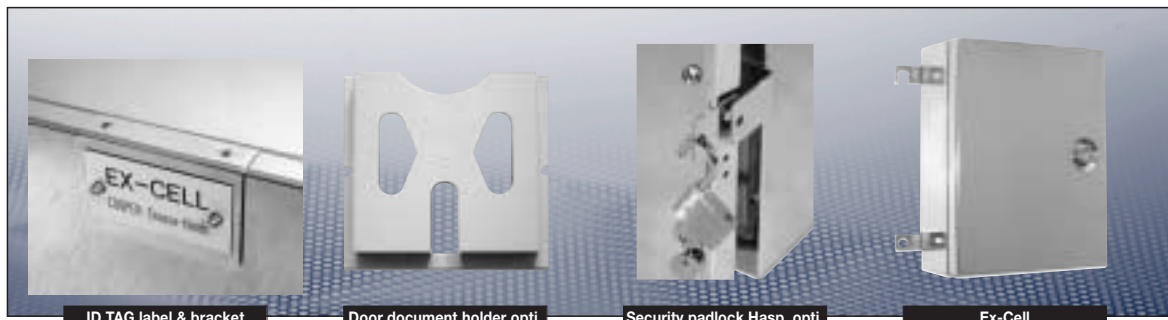
An option for up to 3 gland plates (3 mm thick) on each side. Three possible combinations of 0, 1 or 3 gland-plates available. All sealed to IP 66 rating by a high integrity Chloroprene gasket and secured by rapid fixing „Hytork“ fixing bolts.

An integral drainage channel prevents liquids or other solids contaminants from running in or falling into the enclosure when the door is opened, and to minimise gasket path contamination.



**Stainless steel AISI 316 L,  
with ground surface**  
**Highly resistant silicone seals**  
**Safety standard IP 66**





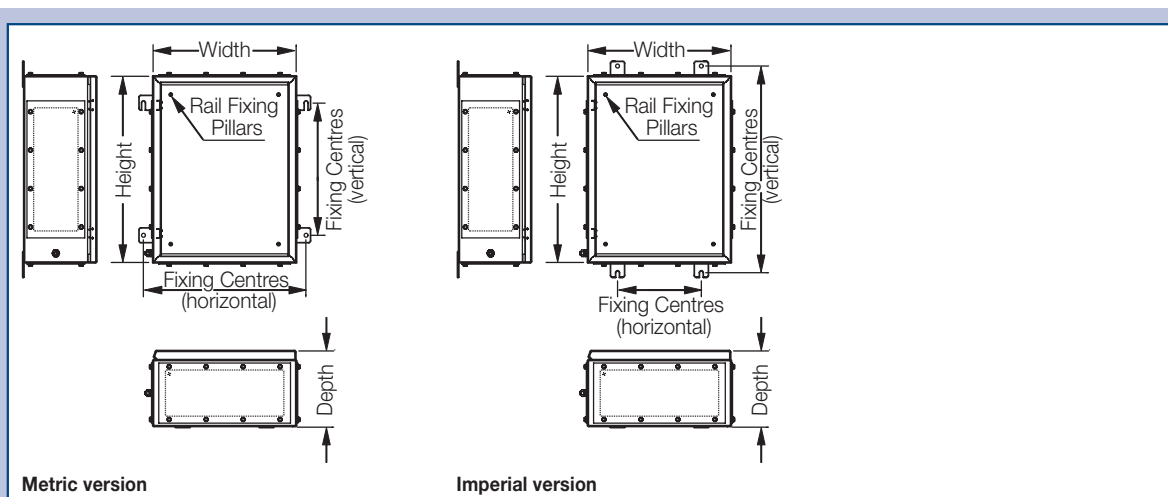
## Technical data

### Type Ex-Cell

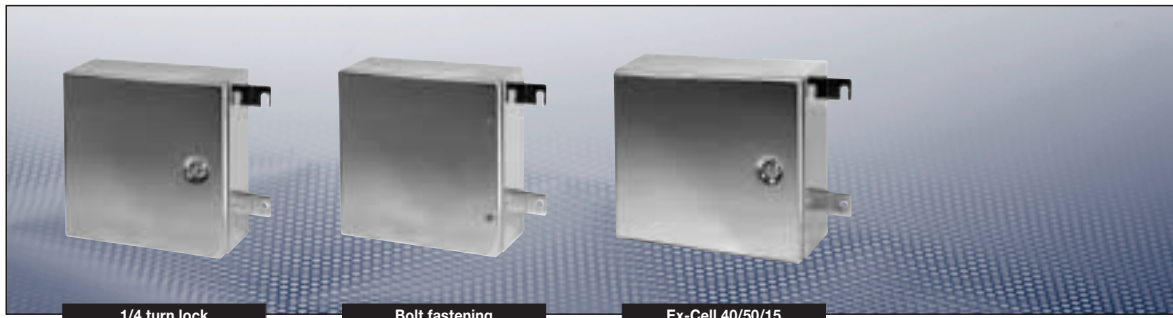
Marking to 94/9/EC	II 2 D IP 66 T80 °C, T95 °C
EC-Type Examination Certificate	PTB 02 ATEX 1014
Permissible ambient temperature	-20 °C to +40 °C -55 °C to +55 °C (Option: closed silicone seal)
Rated voltage	up to 750 V*
Rated current	up to 500 A*
Connecting terminals	up to 240 mm <sup>2</sup> *
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Cable glands / glandplates / enclosure drilling	up to 4 side optional gland plate
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 chemical polished or sheet steel polyester powder coated (RAL 7032)
Material thickness	1.2 mm (body), 1.5 mm (door)
Equipment mountings	4 x stand of pillars Ø 9 mm, 25 mm height, thread M6 x 10, for rail or mounting plate
Enclosure earth	M10 external and internal brass earth stud assembly
Sealing	PUR, Chloroprene sealing gasket (Option), Silicon sealing gasket (Option)

\* depending on type of terminal and Ex-components used

## Dimension drawing



Dimensions in mm



## Ordering details Ex-Cell METRIC up to 3 x 77 terminals

Ex-Cell 316L SS- 1/4 Turn lock Fastening Size	Dimensions <sup>1)</sup> H x W x D in mm	Fixing Centers <sup>2)</sup> vertical x horizontal	Weight in kg (empty weight)	Terminal mounting rail				Terminal content				
				Rail fixing		Rail length		Row orientation vertical				
				vert.	horiz.	vert.	horiz.	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>
Gehäuseabmessungen und Klemmenbestückung												
23/15/13	229 x 152 x 127	152 x 208	2.35	129	52	149	72	1 x 21	1 x 17	1 x 13	1 x 10	1 x 9
26/26/15	260 x 260 x 152	170 x 316	2.8	160	160	180	180	2 x 27	2 x 23	1 x 17	1 x 13	1 x 11
30/20/15	305 x 203 x 152	203 x 259	3.4	205	103	225	123	1 x 36	1 x 30	1 x 23	1 x 18	1 x 15
30/30/15	305 x 305 x 152	203 x 361	4.6	205	205	225	225	2 x 36	2 x 30	2 x 23	2 x 18	2 x 15
30/30/20	305 x 305 x 203	203 x 361	5.8	205	205	225	225	2 x 36	2 x 30	2 x 23	2 x 18	2 x 15
40/30/15	406 x 305 x 152	267 x 361	5.7	306	205	326	225	2 x 56	2 x 47	2 x 35	2 x 28	2 x 23
40/30/20	406 x 305 x 203	267 x 361	6.6	306	205	326	225	2 x 56	2 x 47	2 x 35	2 x 28	2 x 23
40/40/20	406 x 406 x 203	267 x 462	8.1	306	306	326	326	3 x 56	3 x 47	3 x 35	3 x 28	3 x 23
40/50/20	406 x 508 x 203	267 x 564	9.7	306	408	326	428	4 x 56	4 x 47	4 x 35	4 x 28	4 x 23
50/40/20	508 x 406 x 203	354 x 462	9.7	408	306	428	326	3 x 77	3 x 64	3 x 48	3 x 38	3 x 32

Ex-Cell 316L SS - 1/4 Turn Lock Fastening Size	Available galanding area				Max. Entry Guide (metric)							Order No. <sup>2)</sup>
	Top & Bottom	Left	Right	Top & Bottom / Left / Right								
	(with gland plates fitted) in mm				M16	M20	M25	M32	M40	M50	M63	
Gland entry details												
23/15/13	108 x 58	108 x 58	108 x 58	6/6/6	2/2/2	2/2/2	1/1/1	0/0/0	0/0/0	0/0/0	XLHS12315133	
26/26/15	214 x 80	114 x 80	114 x 80	21/11/11	10/5/5	4/2/2	3/2/2	3/1/1	2/1/1	0/0/0	XLHS12626153	
30/20/15	156 x 80	156 x 80	156 x 80	15/15/15	7/7/7	3/3/3	2/2/2	2/2/2	2/2/2	0/0/0	XLHS13020153	
30/30/15	261 x 80	156 x 80	156 x 80	26/15/15	13/7/7	5/3/3	4/2/2	3/2/2	3/2/2	0/0/0	XLHS13030153	
30/30/20	261 x 124	214 x 124	261 x 124	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	261 x 80	261 x 80	261 x 80	26/26/26	13/13/13	5/5/5	4/4/4	3/3/3	3/3/3	0/0/0	XLHS14030153	
40/30/20	261 x 124	261 x 124	261 x 124	34/34/34	18/18/18	15/15/15	8/8/8	6/6/6	3/3/3	2/2/2	XLHS14030203	
40/40/20	334 x 124	261 x 124	261 x 124	44/34/34	26/18/18	21/15/15	11/8/8	9/6/6	4/3/3	3/2/2	XLHS14040203	
40/50/20	460 x 124	261 x 124	261 x 124	62/34/34	35/18/18	29/15/15	15/8/8	13/6/6	5/3/3	4/2/2	XLHS14050201B	
50/40/20	334 x 124	334 x 124	334 x 124	44/44/44	26/26/26	21/21/21	11/11/11	9/9/9	4/4/4	3/3/3	XLHS15040203	

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 permanent padlock HASP facility	XLHPS 3020153-B-HASP

Remarks: 1. Dimensions drawing see page B6.19  
2. Refer „OPTIONS“ for full order number detail


**Ordering details Ex-Cell METRIC up to 7 x 128 terminal**

Ex-Cell 316L SS - 1/4 Turn lock Fastening Size	Dimensions <sup>1)</sup> H x W x D in mm	Fixing Centers <sup>2)</sup> vertical x horizontal	Weight in kg (empty weight)	Terminal mounting rail				Terminal content				
				Rail fixing		Rail length		Row orientation vertical				
				vert.	horiz.	vert.	horiz.	2.5 mm <sup>2</sup>	4 mm <sup>2</sup>	6 mm <sup>2</sup>	10 mm <sup>2</sup>	16 mm <sup>2</sup>

**Enclosure dimensions and terminal content**

60/50/20	610 x 508 x 203	445 x 564	13.2	510	408	530	428	4 x 97	4 x 81	4 x 61	4 x 49	4 x 40
60/76/20	610 x 762 x 203	445 x 818	18.3	510	662	530	682	7 x 97	7 x 81	7 x 61	7 x 49	7 x 40

Ex-Cell 316L SS - 1/4 Turn Lock Fastening Size	Available galdning area		Max. Entry Guide (metric)							Order No. <sup>2)</sup>
	Top & Bottom	Left Right	Top & Bottom / Left / Right							
	(with gland plates fitted) in mm		M16	M20	M25	M32	M40	M50	M63	

**Gland entry details**

Standard Entry Details											
60/50/20	460 x 124	460 x 124	460 x 124	62/62/62	35/35/35	29/29/29	15/15/15	13/13/13	5/5/5	4/4/4	XLHS16050203
60/76/20	714 x 124	460 x 124	460 x 124	100/62/62	56/35/35	47/29/29	24/15/15	20/13/13	9/5/5	7/4/4	XLHS16076201

**Options**

with 1 gland plate	XLH <b>S1</b> XXXYZZ <b>1</b>	with 3 gland plates	XLH <b>S1</b> XXXYZZ <b>3</b>
Ex-Cell 316L SS - Bolt fastening	XLH <b>S1</b> XXXYZZ0- <b>B</b>	Ex-Cell 304 SS - 1/4 Turn Lock Fastening	XLH <b>S2</b> XXXYZZ <b>0</b>
Ex-Cell 304 SS - Bolt fastening	XLH <b>S2</b> XXXYZZ0- <b>B</b>	Ex-Cell lackiert - 1/4 Turn Lock Fastening	XLH <b>PS</b> XXXYZZ <b>0</b>
Ex-Cell Painted - Bolt fastening	XLH <b>PS</b> XXXYZZ0- <b>B</b>	Permanent Padlock Hasp Facility (Factory Fitted ONLY)	XLH NN XXXYZZ0- <b>HASP</b>

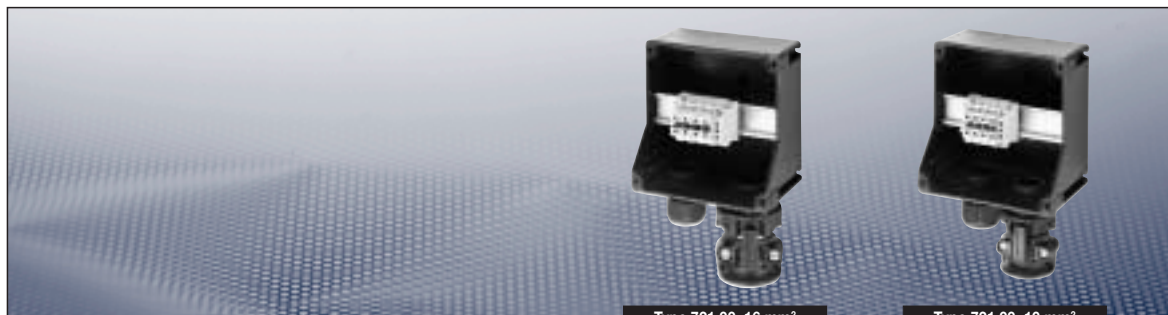
Type	Order No.
Example	
60/50/20 with 3 gland plates, painted with bolt fastening and permanent padlock HASP facility	XLHPS6050203-HASP

**Remarks:** 1. Dimensions drawing see page B6.19

2. Refer „OPTIONS“ for full order number detail







## Technical data

### Type 721 00

Marking to 94/9/EC	II 2 D T 80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1044
Permissible ambient temperature	-20 °C ... +40 °C
Rated voltage	up to 690 V
Rated current	depends on terminal mounting
Degree of protection accd. EN 60529	IP 66
Enclosure material	Glass-fibre reinforced polyester
Terminal cross section	max. 16 mm <sup>2</sup>
Weight	approx. 1.0 kg

## Ordering details

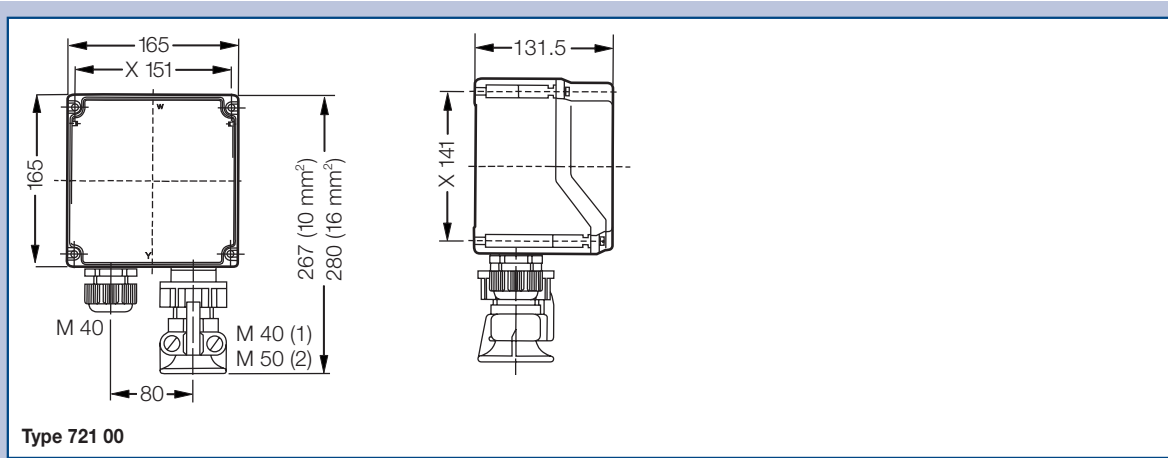
Design	Cable glands	No. of terminals	Order No.
Type 721 00 mounted with screw terminals 2 x 10 mm <sup>2</sup> + 1 x PE-terminal 2 x 10 mm <sup>2</sup>			
Ex-e	1 x M40 for cable Ø 17-28 mm 1 x M40 trumpet-shaped gland for cable Ø 19-27 mm	4 x Ex-e 1 x PE	GHG 721 0001 R0013

Design	Cable glands	No. of terminals	Order No.
Type 721 00 mounted with screw terminals 2 x 16 mm <sup>2</sup> + 1 x PE-terminal 2 x 16 mm <sup>2</sup>			
Ex-e	1 x M40 for cable Ø 17-28 mm 1 x M50 trumpet-shaped gland for cable Ø 26-34 mm	4 x Ex-e 1 x PE	GHG 721 0001 R0014

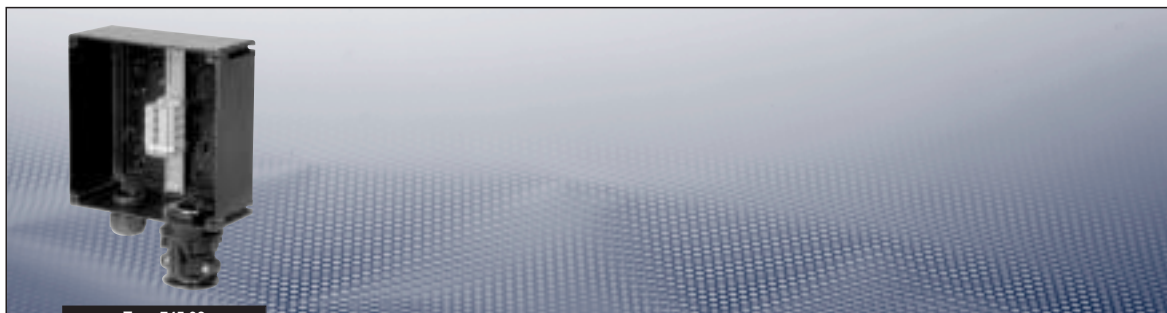
Design	Cable glands	No. of terminals	Order No.
Type 721 00 mounted with screw terminals 4 x 16 mm <sup>2</sup> + 1 x PE-terminal 2 x 16 mm <sup>2</sup>			
Ex-e	1 x M40 for cable Ø 17-28 mm 1 x M50 trumpet-shaped gland for cable Ø 26-34 mm 1 x M20 for cable 5.5-13 mm	4 x Ex-e 1 x PE	GHG 721 0001 R0020

Other types available on request.

## Dimension drawing



Dimensions in mm



Type 745 02

### Technical data

#### Type 745 02

Marking to 94/9/EC	II 2 D T 80 °C
EC-Type Examination Certificate	PTB 99 ATEX 1044
Permissible ambient temperature	-20 °C ... +40 °C
Rated voltage	up to 690 V
Rated current	depends on terminal mounting
Degree of protection accd. EN 60529	IP 66
Enclosure material	Glass-fibre reinforced polyester
Terminal cross section	up to 70 mm <sup>2</sup>
Weight	745 0201 R0002 approx. 3.0 kg / 745 0201 R0003 approx. 3.2 kg

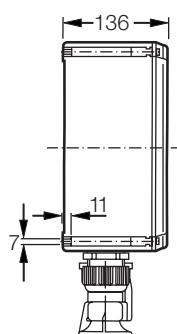
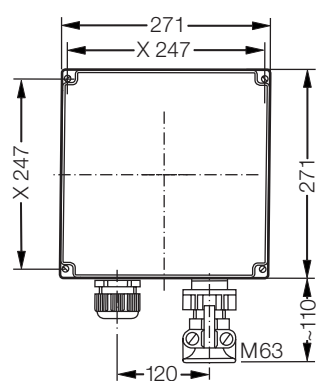
### Ordering details

Design	Cable glands	No. of terminals	Order No.
Type 745 02 mounted with screw terminals 2 x 35 mm <sup>2</sup> + 1 x PE-terminal 2 x 35 mm <sup>2</sup>			
Ex-e	1 x M50 for cable Ø 21-35 mm 1 x M63 trumpet-shaped gland for cable Ø 35-46 mm	4 x Ex-e 1 x PE	GHG 745 0201 R0002

Design	Cable glands	No. of terminals	Order No.
Type 745 02 mounted with screw terminals 2 x 50/70 mm <sup>2</sup> + 1 x PE-terminal 2 x 50/70 mm <sup>2</sup>			
Ex-e	1 x M50 for cable Ø 21-35 mm 1 x M63 trumpet-shaped gland for cable Ø 35-46 mm	4 x Ex-e 1 x PE	GHG 745 0201 R0003

Other applications available on request.

### Dimension drawing



Type 745 02

Dimensions in mm





INSTALLATION MATERIAL

ZONE 21

EX-CABLE GLANDS PLASTIC VERSION

B7.2

EX-CABLE GLANDS METAL VERSION

B7.8

B1

B2

B3

B4

B5

B6

B7

B8

B9



# E X - C A B L E G L A N D S

Plastic version for Zone 21

Cable glands with metric screw-in threads are now standard and replace the PG cable glands that were normally 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 dust Ex-areas of the Zones 21 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. The good mechanical and handling features are achieved by using a modified Polyamide material and a grippy tooling area.



Large cable connection area

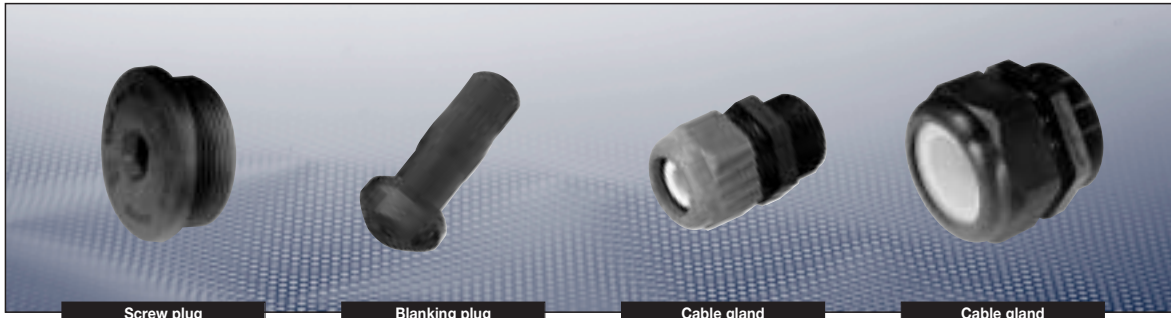
Hand tightening – only a low torque needed

Safety standard IP 66

Optimized grippy tooling area

Trapezoid thread, for a secure hold





## Technical data

### Ex-e/i cable gland | blanking plug | screw plug | reducing ring

Marking to 94/9/EC	II 2 D Ex tD A21 IP 66
Degree of EN 60529	IP 66 / IP 68: on request
Enclosure material	Polyamide

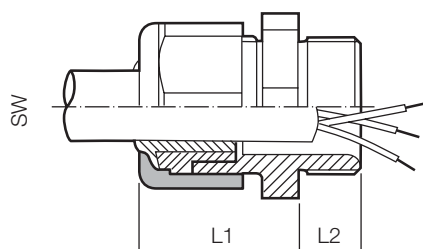
### Ex-e/i cable gland | blanking plug | reducing ring

EC-Type Examination Certificate	M12-M16 PTB 99 ATEX 3101 X / M20-M63 PTB 99 ATEX 3128 X
Permissible ambient temperature	-20 °C - +70 °C
	-55 °C - +70 °C Option

### Ex-e screw plug

EC-Type Examination Certificate	M12-M50: PTB 98 ATEX 3130 / M63: PTB 03 ATEX 1058
Permissible ambient temperature	-55 °C - +55 °C

## Dimension drawing



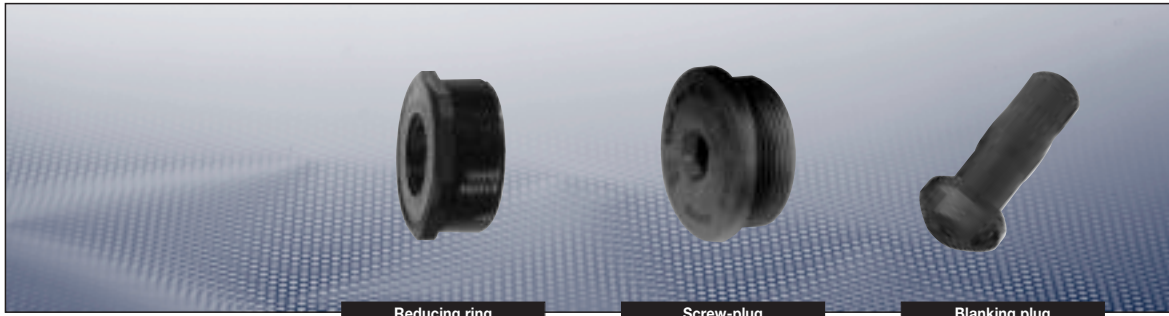
Cable gland

Blanking plug

Screw plug

## Ordering details

Thread	Cable Ø mm	SW mm	L1 mm	L2 mm	Weight approx. kg	OU	Order No.
Ex-e cable gland with short thread acc. to DIN 46319							
M12 x 1.5	4 - 7	15	19.3	8	0.003	20	<b>GHG 960 1955 R 0001</b>
M16 x 1.5	5.5 - 10	20	23.0	8	0.006	20	<b>GHG 960 1955 R 0002</b>
M20 x 1.5	5.5 - 13	24	25.0	8	0.009	20	<b>GHG 960 1955 R 0003</b>
M25 x 1.5	8 - 17	29	29.5	8	0.017	20	<b>GHG 960 1955 R 0004</b>
M32 x 1.5	12 - 21	37	37.0	8	0.037	20	<b>GHG 960 1955 R 0005</b>



Reducing ring

Screw-plug

Blanking plug

## Ordering details

Blanking plug	Ø A mm	Length B mm	Weight approx. kg	OU	Order No.
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

Threaded screw plug	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	SW mm	Weight approx. kg	OU	Order No.
Reducing ring								
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

Screw plugs with PG-thread are available on request.

The order No. will show 1 pcs.

Please pay attention to that only order units (OU) according to the ordering details can be delivered.



Trumpet shaped gland

## Technical data

### Ex-e trumpet shaped gland

Marking to 94/9/EC	II 2 D IP66
EC-Type Examination Certificate	PTB 00 ATEX 3121
Permissible ambient temperature	-40 °C - +85 °C
	-50 °C - +80 °C Option
Degree of protection EN 60529	IP 66
Enclosure material	Polyamide

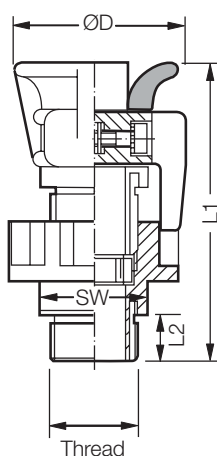
## Ordering details

Thread	Ø D mm	L1 mm	L2 mm	SW mm	Weight approx. kg	OU	Order No.
Ordering details trumpet shape cable gland							
M20 x 1.5	47	64	15	26	0.057	10	GHG 960 1949 R0111
M25 x 1.5	51	65	15	32	0.070	10	GHG 960 1949 R0112
M32 x 1.5	68	80	15	41	0.140	10	GHG 960 1949 R0113
M40 x 1.5	81	86	15	50	0.194	10	GHG 960 1949 R0114
M50 x 1.5	96	95	16	60	0.333	1	GHG 960 1949 R0115
M63 x 1.5	107	105	16	75	0.742	1	GHG 960 1949 R0116

The order No. will show 1 pcs.

Please pay attention to that only order units (OU) according to the ordering details can be delivered.

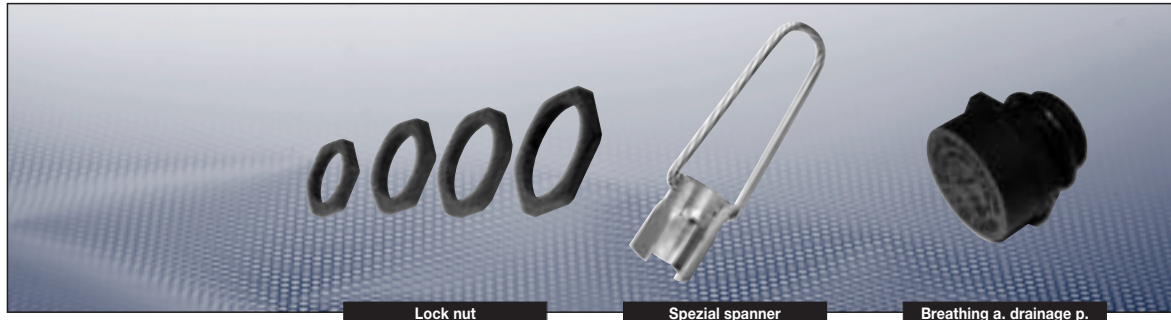
## Dimension drawing



Trumpet shaped cable gland

Dimensions in mm





Lock nut

Spezial spanner

Breathing a. drainage p.

## Accessories

### Ordering details lock nut for cable gland

Type	SW	Thickness mm	Weight approx. 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 for washer for glands

Type	Ø D mm	L mm	Weight approx. g	OU	Order No.
M12 x 1.5	18	1.2	0.0003	10	221 249
M16 x 1.5	22	1.2	0.0004	10	221 649
M20 x 1.5	24	1.2	0.0003	10	222 049
M25 x 1.5	30	1.5	0.0006	10	222 549
M32 x 1.5	42	1.5	0.0014	10	223 249
M40 x 1.5	52	1.5	0.0022	10	224 049
M50 x 1.5	63	1.5	0.0028	10	225 049
M63 x 1.5	77	2.0	0.0049	10	226 349

### Ordering details special spanner for fastening of cableD(0.t4fC9)Tj 946 0 mN10.205 w q 1 0 00.499 0 Td(5Size0001 Tw 10.

# E X - C A B L E G L A N D S

## Metal design for Zone 21

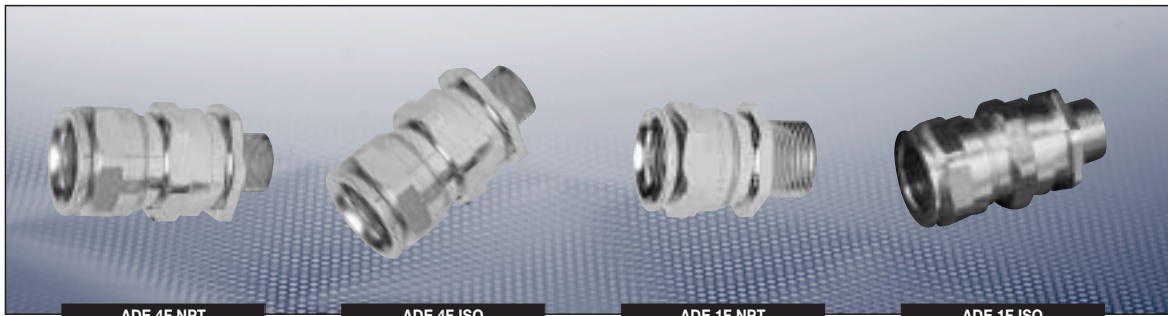
For introducing cables or lines into metal housings, explosion-protected housing or, if reinforced cables have to be introduced, metal cable glands are used. Metal glands are designed for use in dust Ex-areas of Zone 21 and Zone 22 at no risk of explosion and for cables with and without reinforcement. Depending on the area of use, these cable entries are certified with the type of protection EEx-d or EEx-e pursuant to EN 60079-1 or EN 60079-7. For special applications, the cable and line ducts are available in high-quality stainless steel 316L, natural brass, marine bronze or anodized Al4Pb.

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.



- 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	II 2 D
EC-Type Examination Certificate	LCIE 97 ATEX 6008 X
Permissible ambient temperature	-40 °C - +100 °C
Degree of protection accd. EN 60529	IP 66 / IP 68 - 10 bar
Enclosure material	nickel-plated

Zone 21

B1

B2

B3

B4

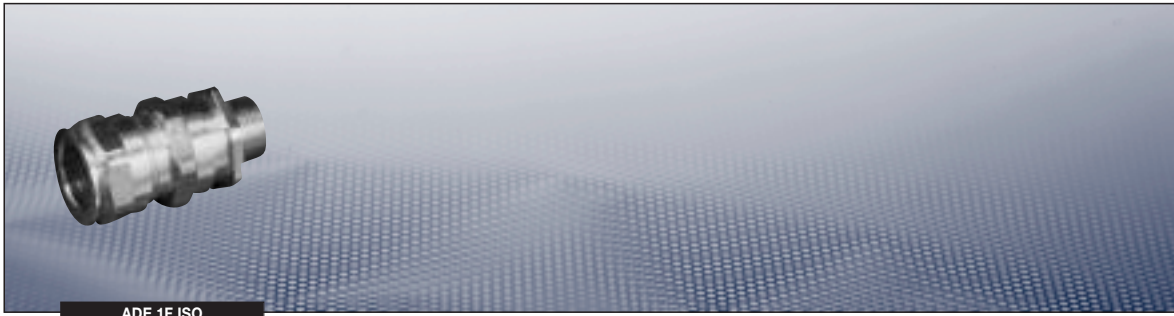
B5

B6

B7

B8

B9

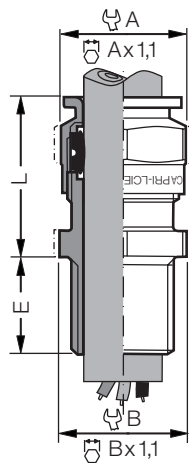


ADE 1F ISO

## Ordering details

Thread	Type	Cable Ø mm	A mm	B mm	L mm	E mm	Weight approx. kg	Order No.
Trumpet shaped cable gland type ADE 1F for unarmoured cables with ISO-thread								
M12 x 1.5	4	4.0 - 8	15	15	20	15	0.020	<b>CAP 816 404</b>
M16 x 1.5	4	4.0 - 8.5	15	19	20	15	0.025	<b>CAP 816 594</b>
M16 x 1.5	5	6.0 - 12	19	19	22	15	0.030	<b>CAP 816 504</b>
M20 x 1.5	4	4.0 - 8.5	15	24	20	15	0.056	<b>CAP 816 674</b>
M20 x 1.5	5	6.0 - 12	19	24	22	15	0.038	<b>CAP 816 694</b>
M20 x 1.5	6	8.5 - 16	24	24	25	15	0.045	<b>CAP 816 604</b>
M25 x 1.5	5	6.0 - 12	19	30	22	15	0.088	<b>CAP 816 774</b>
M25 x 1.5	6	8.5 - 16	24	30	25	15	0.055	<b>CAP 816 794</b>
M25 x 1.5	7	12 - 20.5	30	30	27	15	0.070	<b>CAP 816 704</b>
M32 x 1.5	7	12 - 21	30	36	27	15	0.100	<b>CAP 816 894</b>
M32 x 1.5	8	16 - 27.5	41	41	34	15	0.150	<b>CAP 816 804</b>
M40 x 1.5	8	16 - 27.5	41	44	34	15	0.175	<b>CAP 816 994</b>
M40 x 1.5	9	21 - 34	48	48	36	15	0.210	<b>CAP 816 904</b>
M50 x 1.5	9	21 - 34	48	55	36	16	0.245	<b>CAP 817 094</b>
M50 x 1.5	10	27 - 41	55	55	39	16	0.285	<b>CAP 817 004</b>
M63 x 1.5	11	33 - 48	64	67	41	17	0.400	<b>CAP 817 294</b>
M63 x 1.5	12	40 - 56	72	72	43	17	0.490	<b>CAP 817 204</b>
M75 x 1.5	12	40 - 56	72	80	43	18	0.560	<b>CAP 817 394</b>
M75 x 1.5	13	47 - 65	85	85	49	18	0.735	<b>CAP 817 304</b>
M80 x 1.5	13	47 - 65	85	85	49	20	0.885	<b>CAP 817 494</b>
M80 x 1.5	14	54 - 73	95	95	56	20	1.060	<b>CAP 817 404</b>
M90 x 1.5	14	54 - 74	95	95	56	22	1.300	<b>CAP 817 594</b>
M90 x 1.5	15	63 - 82	110	110	61	22	1.665	<b>CAP 817 504</b>
M100 x 1.5	15	63 - 83	110	110	61	22	1.850	<b>CAP 817 694</b>
M100 x 1.5	16	72 - 92	120	120	62	22	2.160	<b>CAP 817 604</b>

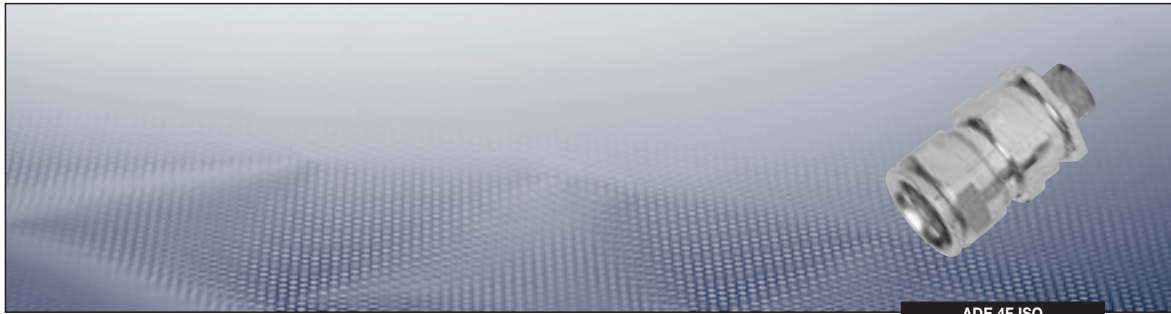
## Dimension drawing



For unarmoured cables Type ADE 1F

Dimensions in mm





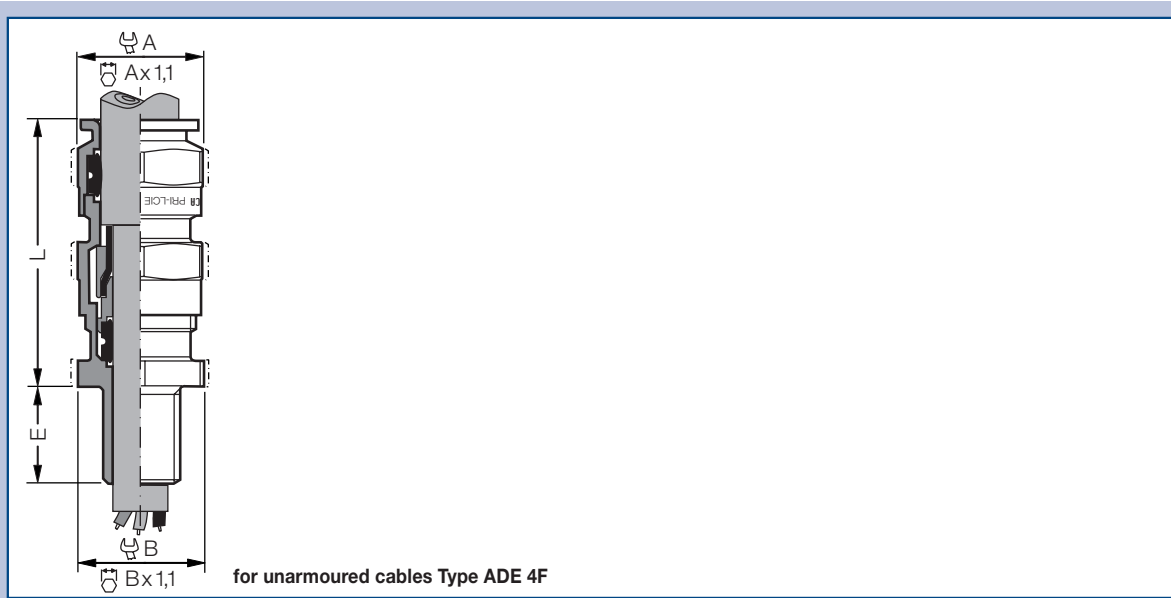
ADE 4F ISO

Zone 21

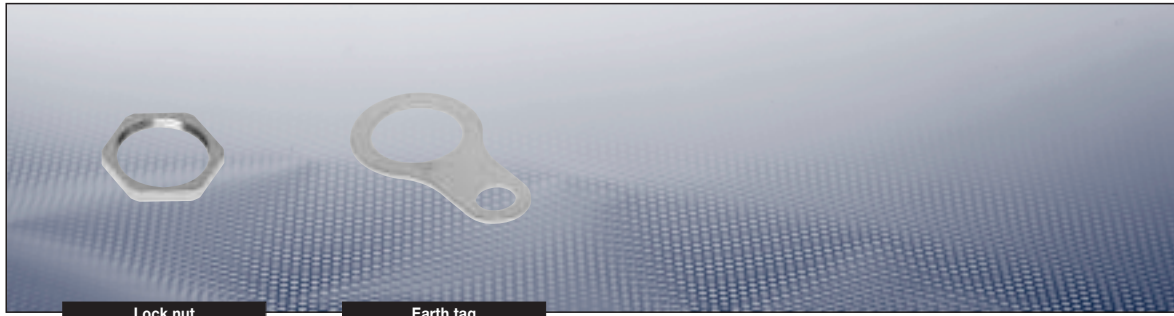
## Ordering details

Thread	Type	Cable Ø outside mm	Cable Ø inside mm	Ø Armouring up to mm	A mm	B mm	L mm	E mm	Weight approx. kg	Order No.
Trumpet shaped cable gland type ADE 4F for unarmoured cables with ISO-thread										
M12 x 1.5	5	6.0 - 12	4.0 - 8	0.9	19	19	36	15	0.048	<b>CAP 846 404</b>
M16 x 1.5	5	6.0 - 12	4.0 - 8.5	0.9	19	19	36	15	0.057	<b>CAP 846 594</b>
M16 x 1.5	6	8.5 - 16	6.0 - 12	1.25	19	24	36	15	0.078	<b>CAP 846 504</b>
M20 x 1.5	5	6.0 - 12	4.0 - 8.5	0.9	19	24	36	15	0.080	<b>CAP 846 674</b>
M20 x 1.5	6	8.5 - 16	6.0 - 12	1.25	24	24	42	15	0.090	<b>CAP 846 694</b>
M20 x 1.5	7	12 - 21	8.5 - 15.5	1.25	30	30	46	15	0.123	<b>CAP 846 604</b>
M25 x 1.5	6	8.5 - 16	6.0 - 12	1.25	24	30	42	15	0.122	<b>CAP 846 774</b>
M25 x 1.5	7	12 - 21	8.5 - 16	1.25	30	30	46	15	0.170	<b>CAP 846 794</b>
M25 x 1.5	8	16 - 27.5	12 - 20.5	1.6	41	41	56	15	0.270	<b>CAP 846 704</b>
M32 x 1.5	8	16 - 27.5	12 - 21	1.25	41	41	56	15	0.310	<b>CAP 846 894</b>
M32 x 1.5	9	21 - 34	16 - 27.5	1.6	48	48	63	15	0.400	<b>CAP 846 804</b>
M40 x 1.5	9	21 - 34	16 - 27.5	2.0	48	48	63	15	0.445	<b>CAP 846 994</b>
M40 x 1.5	10	27 - 41	21 - 34	2.0	55	55	68	15	0.540	<b>CAP 846 904</b>
M50 x 1.5	10	27 - 41	21 - 34	2.0	55	55	68	16	0.600	<b>CAP 847 094</b>
M50 x 1.5	11	33 - 48	27 - 41	2.5	64	64	74	16	0.735	<b>CAP 847 004</b>
M63 x 1.5	12	40 - 56	33 - 48	2.5	72	72	77	17	0.996	<b>CAP 847 294</b>
M63 x 1.5	13	47 - 65	40 - 56	2.5	85	85	85	17	1.480	<b>CAP 847 204</b>
M75 x 1.5	13	47 - 65	40 - 56	2.5	85	85	85	18	1.590	<b>CAP 847 394</b>
M75 x 1.5	14	54 - 74	47 - 65	2.5	95	95	92	18	2.305	<b>CAP 847 304</b>
M80 x 1.5	14	54 - 74	47 - 65	3.15	95	95	92	20	2.270	<b>CAP 847 494</b>
M80 x 1.5	15	63 - 83	54 - 73	3.15	110	110	104	20	3.150	<b>CAP 847 404</b>
M90 x 1.5	15	63 - 83	54 - 74	3.15	110	110	104	22	3.175	<b>CAP 847 594</b>
M90 x 1.5	16	72 - 93	63 - 82	3.15	120	120	108	22	3.675	<b>CAP 847 504</b>
M90 x 1.5	15	85 - 107	63 - 82	3.15	135	120	108	22	3.675	<b>CAP 847 574</b>

## Dimension drawing



Dimensions in mm



Lock nut

Earth tag

## Accessories for earth tags Type ADE

### Ordering details earth tags for cable glands

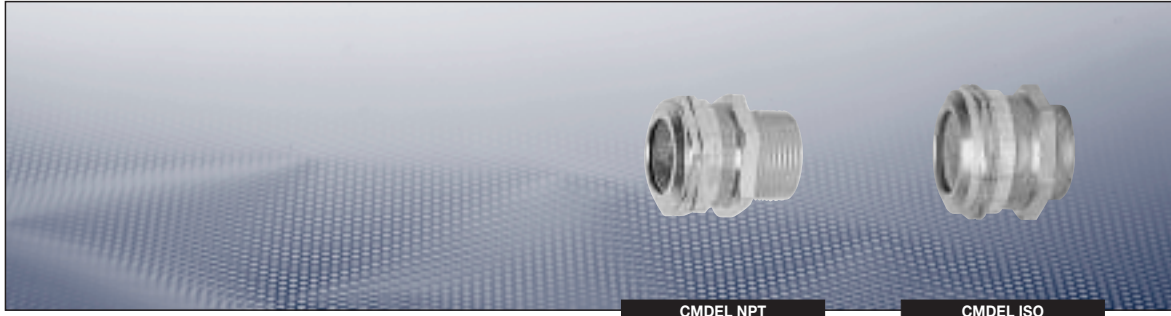
Thread	Dimensions					Weight approx. kg	OU	Order No.
	A	B	ØC	ØD	E			
M12 x 1.5 ISO	48.75	30	6.75	24.5	13	0.008	10	CAP 567 024
M16 x 1.5 ISO	48.75	30	6.75	24.5	13	0.008	10	CAP 567 034
M20 x 1.5 ISO	53.8	33	7	28.6	13	0.008	10	CAP 567 054
M25 x 1.5 ISO	61.5	36	10.5	34	17	0.011	10	CAP 567 074
M32 x 1.5 ISO	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

### Ordering details lock nuts

Thread	Dimensions		Weight approx. kg	OU	Order No.
	mm	L mm			
M12 x 1.5	14	2.8	0.002	10	CAP 221 294
M16 x 1.5	18	2.8	0.002	10	CAP 221 694
M20 x 1.5	23	3.0	0.004	10	CAP 222 094
M25 x 1.5	28	3.0	0.005	10	CAP 222 594
M32 x 1.5	36	3.5	0.010	10	CAP 223 294
M40 x 1.5	44	4.0	0.015	10	CAP 224 094
M50 x 1.5	54	5.0	0.025	10	CAP 225 094
M63 x 1.5	70	6.0	0.058	10	CAP 226 394

### Ordering details for washer for glands

Type	Dimensions		Weight approx. g	OU	Order No.
	Ø D mm	L mm			
M12 x 1.5	18	1.2	0.0003	10	221 249
M16 x 1.5	22	1.2	0.0004	10	221 649
M20 x 1.5	24	1.2	0.0003	10	222 049
M25 x 1.5	30	1.5	0.0006	10	222 549
M32 x 1.5	42	1.5	0.0014	10	223 249
M40 x 1.5	52	1.5	0.0022	10	224 049
M50 x 1.5	63	1.5	0.0028	10	225 049
M63 x 1.5	77	2.0	0.0049	10	226 349



CMDEL NPT

CMDEL ISO

## Technical data

### Ex-e cable gland CMDEL

Marking to 94/9/EC	II 2 D
EC-Type Examination Certificate	LCIE 97 ATEX 6005 X
Permissible ambient temperature	-40 °C - +100 °C
Degree of protection accd. EN 60529	IP 66 / IP 68 - 10 bar
Enclosure material	brass, nickel-plated

## Ordering detail

Thread	Cable Ø mm	A mm	L mm	E mm	Weight approx. kg	Order No.
Cable gland type CMDEL for unarmoured cables with NPT thread						
M10 x 1.5	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



Lock nut

Earth tag

### Accessories for cable glands type CMDEL

#### Ordering details earth tags for cable glands

Thread	Dimensions					Weight approx. kg	OU	Order No.
	A	B	ØC	ØD	E			
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

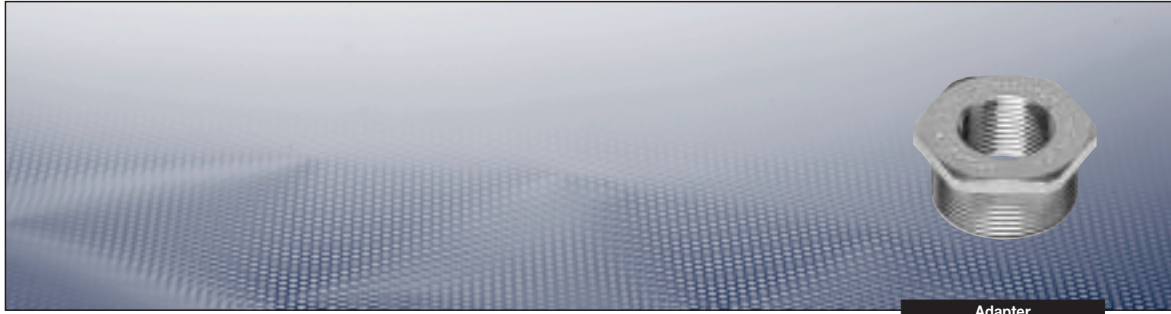
#### Ordering details for lock nuts

Thread		L	OU	Order No.
	mm	mm		
M12 x 1.5	14	2.8	10	CAP 221 294
M16 x 1.5	18	2.8	10	CAP 221 694
M20 x 1.5	23	3.0	10	CAP 222 094
M25 x 1.5	28	3.0	10	CAP 222 594
M32 x 1.5	36	3.5	10	CAP 223 294
M40 x 1.5	44	4.0	10	CAP 224 094
M50 x 1.5	54	5.0	10	CAP 225 094
M63 x 1.5	70	6.0	10	CAP 226 394

#### Ordering details for washer for glands

Type	Ø D mm	L mm	Weight approx. g	OU	Order No.
M12 x 1.5	18	1.2	0.0003	10	221 249
M16 x 1.5	22	1.2	0.0004	10	221 649
M20 x 1.5	24	1.2	0.0003	10	222 049
M25 x 1.5	30	1.5	0.0006	10	222 549
M32 x 1.5	42	1.5	0.0014	10	223 249
M40 x 1.5	52	1.5	0.0022	10	224 049
M50 x 1.5	63	1.5	0.0028	10	225 049
M63 x 1.5	77	2.0	0.0049	10	226 349





Zone 21

B1

B2

B3

B4

B5

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B8

B9

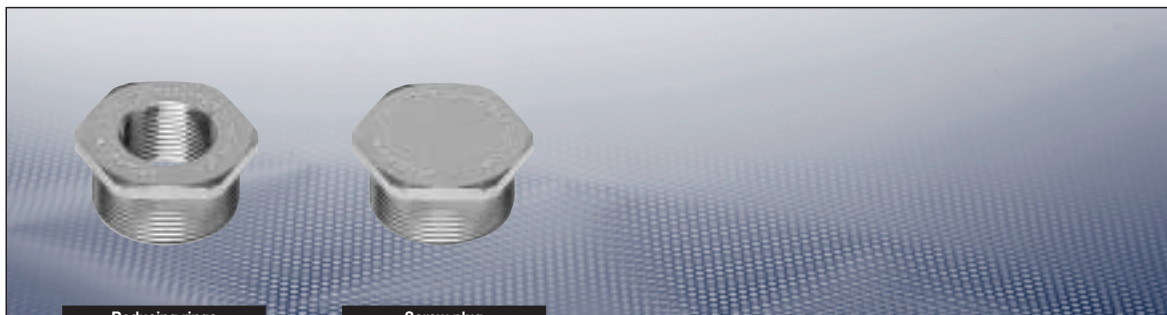
## Technical data

### Ex-e reducing rings | screw plug | adapter ISO-NPT

Marking to 94/9/EC	II 2 D
EC-Type Examination Certificate	LCIE 98 ATEX 0001 X
Permissible ambient temperature	-40 °C - +100 °C
Degree of protection accd. EN 60529	IP 66 / IP 68 - 10 bar
Enclosure material	brass, nickel-plated

## Ordering details

Thread 1 (male)	Thread 2 (female)	A mm	L mm	E mm	Order No.
Adapter ISO for metric thread					
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 1.5	M63 x 1.5	95	8.0	22	CAP 745 854
M90 x 1.5	M75 x 1.5	95	8.0	22	CAP 745 864
M100 x 1.5	M75 x 1.5	110	10.0	22	CAP 745 874
M100 x 1.5	M90 x 1.5	120	10.0	22	CAP 745 914
M110 x 1.5	M90 x 1.5	120	11.0	22	CAP 745 924
M110 x 1.5	M100 x 1.5	120	11.0	22	CAP 745 934



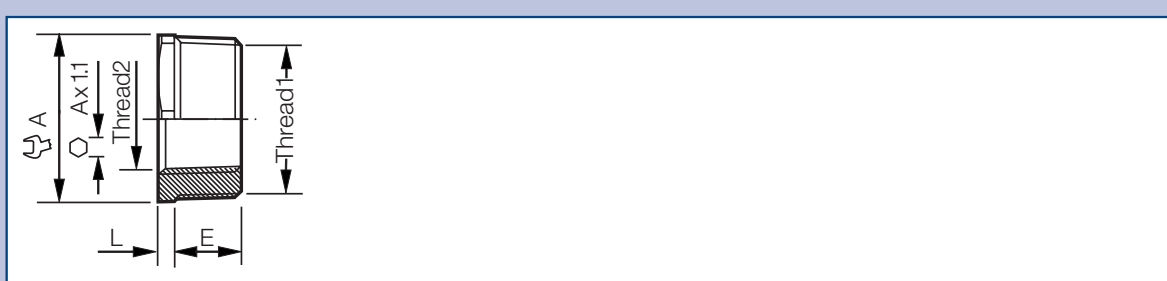
### Ordering details

Thread 1 (male)	A mm	L mm	E mm	Order No.
Screw-plug for ISO thread				
M12 x 1.5	14	2.8	15	<b>CAP 190 124</b>
M16 x 1.5	18	3.0	15	<b>CAP 190 164</b>
M20 x 1.5	23	3.0	15	<b>CAP 190 204</b>
M25 x 1.5	28	3.5	15	<b>CAP 190 254</b>
M32 x 1.5	36	4.0	15	<b>CAP 190 324</b>
M40 x 1.5	44	4.0	15	<b>CAP 190 404</b>
M50 x 1.5	54	5.0	16	<b>CAP 190 504</b>
M63 x 1.5	67	5.5	17	<b>CAP 190 634</b>

### Ordering details

Thread 1 (male)	Thread 2 (female)	A mm	L mm	E mm	Ø D mm	Order No.
Adapter ISO - NPT						
M20 x 1.5	1/2 " NPT	24	18	15	15.5	<b>CAP 744 704</b>
M20 x 1.5	3/4 " NPT	30	18.5	15	15.5	<b>CAP 744 964</b>
M25 x 1.5	3/4 " NPT	30	18.5	15	20.3	<b>CAP 744 974</b>
M25 x 1.5	1 " NPT	38	22.5	15	20.3	<b>CAP 745 234</b>
M32 x 1.5	1 " NPT	38	22.5	15	27.3	<b>CAP 745 244</b>
M32 x 1.5	1 " 1/4 NPT	48	22.5	15	27.3	<b>CAP 745 504</b>
M40 x 1.5	1 " 1/4 NPT	48	22.5	15	35.3	<b>CAP 745 514</b>
M40 x 1.5	1 " 1/2 NPT	52	22.5	15	35.3	<b>CAP 745 774</b>
M50 x 1.5	2 " NPT	64	22.5	16	45.2	<b>CAP 746 044</b>
M63 x 1.5	2 " NPT	67	22.5	17	53.6	<b>CAP 746 054</b>
M63 x 1.5	2 " 1/2 NPT	77	31	17	57.8	<b>CAP 746 314</b>

### Dimension drawing



Dimensions in mm



CAN YOU OPERATE YOUR  
MASCHINES IN A SAFE WAY?

ZONE 21

EX-INSTALLATION SWITCH

B8.2

EX-CONTROL STATIONS

B8.4

EX-CONTROL SWITCHES

B8.10

B1

B2

B3

B4

B5

B6

B7

B8

B9



# EX - INSTALLATION SWITCH

16 A, 250 V  
Plastic version for Zone 21

The explosion-protected installation switches are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 21 and Zone 22 of dust Ex-areas.

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.

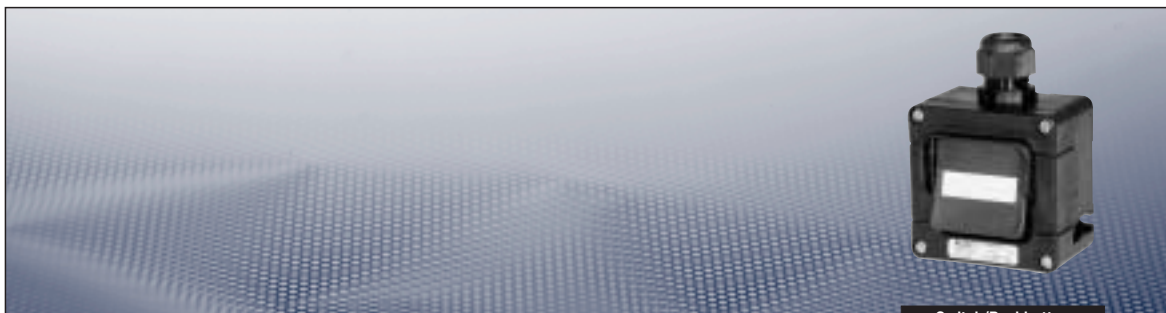
The large actuator surface of the installation switch allows perfect operation, even when wearing working gloves. A protective collar prevents inadvertent operation. The toggle has a luminescent label which is in accordance with §7 of the Workshop Regulations and is also free from radioactive additives.

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.



- Large toggle also for working gloves
- Safety standard IP 66
- 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	Ex II 2 D T 67 °C
EC-Type Examination Certificate	PTB 98 ATEX 3121
Permissible ambient temperature	-20 °C to +40 °C
Rated voltage	250 V~
Rated current	16 A
Connecting terminals	Switch terminals: 2 x 2.5 mm <sup>2</sup> / PE-terminals: 4 x 2.5 mm <sup>2</sup>
Insulation class	I
Degree of protection accd. EN 60529	IP 66
Cable glands <sup>1)</sup>	Ex-e cable glands M25 for cables from Ø 8 - 17 mm
Enclosure material	Polyamide
Weight	0.32 kg

## Ordering details

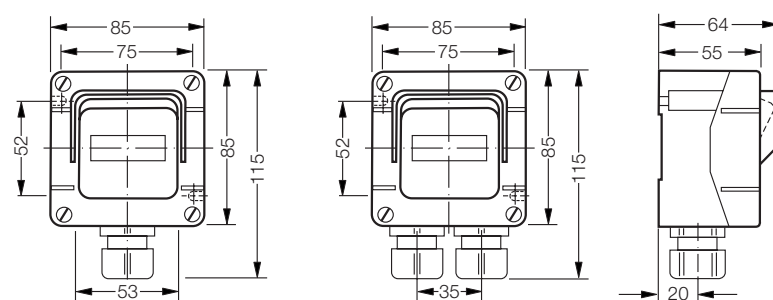
Type	Contact arrangement	Cable glands <sup>1)</sup>	Order No.
ON-OFF switch 2-pole		1 x M25	GHG 273 2000 R0017
		2 x M25	GHG 273 2000 R0018
		2 x M20 <sup>2)</sup>	GHG 273 2000 R0003
		2 x M20 metal flange	GHG 273 2000 R0010
		2 x M20 + hole	GHG 273 2000 R0012
		2 x M20 WO thread	GHG 273 2000 R9006
Change-over switch		1 x M25	GHG 273 6000 R0011
		2 x M20 <sup>2)</sup>	GHG 273 6000 R0003
Pushbutton		2 x M25	GHG 273 6000 R0014
		1 x M25	GHG 273 4000 R0004

<sup>1)</sup> Base enclosure can be rotated afterwards (entry from top or down)

<sup>2)</sup> only threaded hole

Other versions available on request

## Dimension drawing



Switch/pushbutton

Dimensions in mm

# EX - CONTROL STATIONS

Moulded plastic  
Version for Zone 21

Even under the most adverse conditions, CEAG control stations can be used and operated reliably. They are designed and tested according to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 21 and Zone 22 of dust Ex-areas. 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.

- Flat side walls
- Quick fixing of all built-in components
- High chemical resistance
- Different enclosures can be combined





Zone 21

## Technical data

### Ex-Control stations Type 411 81 | Type 411 82 | Type 411 83

Marking to 94/9/EC	Ex II 2 D IP66 T 48 °C
EC-Type Examination Certificate	PTB 00 ATEX 3117
Permissible ambient temperature	-20 °C to +40 °C -55 °C to +55 °C (Optional)
Rated voltage	690 V AC
Rated current	16 A
Connecting terminals	2 x 2.5 mm <sup>2</sup>
Insulation class	I
Degree of protection accd. EN 60529	IP 66 (list version) IP 65 (with measuring instrument AM45, double-pushbutton)
Cable gland	1 x M25 Ex-e cable glands for cable Ø 8 - 17 mm or 1 x M20 thread
Enclosure material	Polyamide
Enclosure colour	black

#### Type 411 81

Dimensions in mm (L x W x H)	85 x 85 x 77.5
Weight (empty weight)	0.25 kg

#### Type 411 82

Dimensions in mm (L x W x H)	125 x 85 x 77.5
Weight (empty weight)	0.35 kg

#### Type 411 83

Dimensions in mm (L x W x H)	165 x 85 x 77.5
Weight (empty weight)	0.45 kg

### Type 411 82 with measuring instrument AM 72

	Moving iron	Moving coil
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 ranges	n / 1A 0 - 25 A direct	0 - 20 mA 4 - 20 mA
Li	-	max. 0.1 mH
Ci	-	max. 0.1 nF
Ui	-	max. 30 V
Ii	-	max. 150 mA
Connecting terminals	2 x 1.5 - 4 mm <sup>2</sup>	
Weight	0.70 kg	

<sup>1)</sup> Base enclosure can be rotated afterwards (entry from top or down)

Other versions available on request

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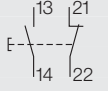
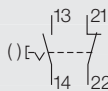
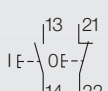
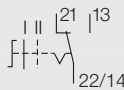
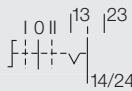
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### Ordering details Type 411 81 with 1 built-in component

Version	Built-in components	Weight approx.	Order No.
	1 x pushbutton DRT 1 NO + 1 NC label: "0, I, START, STOP"	0.40 kg	<b>GHG 411 8100 R0001</b>
	1 x mushroom-head pushbutton SGT 1 NO + 1 NC "Emergency stop"	0.45 kg	<b>GHG 411 8100 R0002</b>
	1 x double pushbutton DDT 1 NO + 1 NC label: "0, I, START, STOP"	0.45 kg	<b>GHG 411 8100 R0009</b>
	1 x control switch SCT 1 change-over SW 6 "engaging-engaging" label: HAND – AUTO label: "0 – I"	0.45 kg 0.45 kg	<b>GHG 411 8100 R0003</b> <b>GHG 411 8100 R0004</b>
	1 x control switch SCT 2 NO SW 5 "engaging-engaging-engaging" label: HAND – 0 – AUTO label: "I 0 II"	0.45 kg 0.45 kg	<b>GHG 411 8100 R0006</b> <b>GHG 411 8100 R0007</b>





Type 411 82...17

Type 411 82...03

Type 411 82...01

Zone 21

### 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 label: "0, I, START, STOP"	0.54 kg	<b>GHG 411 8200 R0001</b>
	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	<b>GHG 411 8200 R0003</b>

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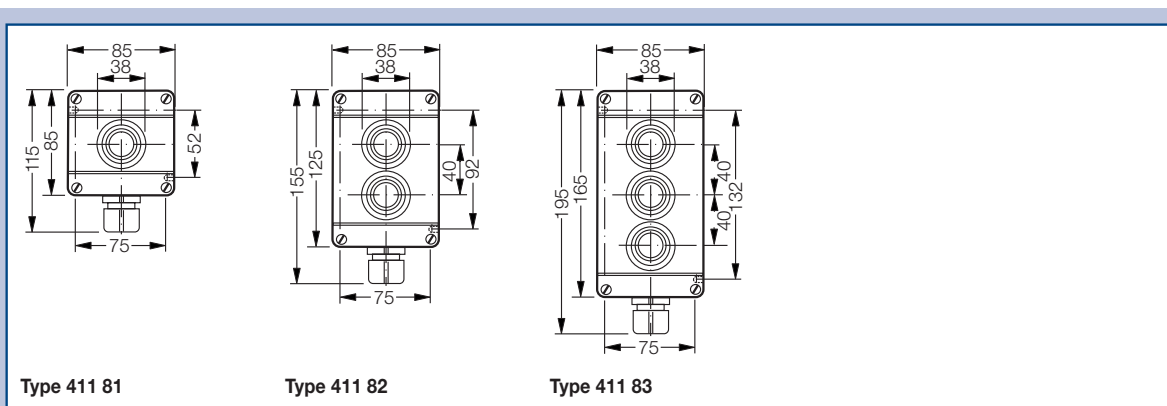
B9



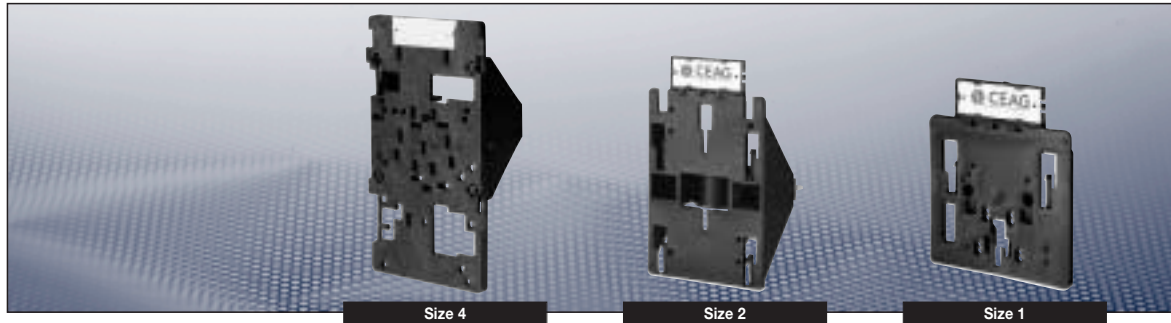
## Ordering details Type 411 83 with 3 built-in components

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 label: "0, I, START, STOP"	0.76 kg	<b>GHG 411 8300 R0001</b>
	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 SGT 1 NO + 1 NC "Emergency stop"	0.80 kg	<b>GHG 411 8300 R0003</b>
	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	<b>GHG 411 8300 R0004</b>

## Dimension drawing



Dimensions in mm



## Accessories

### Mounting plate for Type 411 81

Type	Application	Fixing method	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 mounting	screw-on	1	GHG 610 1953 R0103
Size 4	Wall mounting	snap-on *	1	GHG 610 1953 R0126
Size 4	Trellis mounting	snap-on *	1	GHG 610 1953 R0126
Size 4	Pipe mounting	snap-on *	1	GHG 610 1953 R0130

### Mounting plate for Type 411 82 and 411 83

Type	Application	Fixing method	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 mounting	screw-on	1	GHG 610 1953 R0106
Size 4	Wall mounting	snap-on*	1	GHG 610 1953 R0126
Size 4	Trellis mounting	snap-on*	1	GHG 610 1953 R0126
Size 4	Pipe mounting	snap-on*	1	GHG 610 1953 R0130

### Accessories for mounting plates

Type	OU	Order No.
Snap-on mounting for CEAG apparatus with 5.5 mm and 11 mm mounting feet set = 4 pcs.	10	GHG 610 1953 R0041

\* snap-on with plug-in fastener 5.5 mm

## Dimension drawing



Size 1 Wall mounting

Size 1 Pipe mounting

Dimension drawing in mm

# EX - CONTROL SWITCHES

With and without  
measuring instruments for Zone 21

The new GHG 29 control switch series features an easy-to-install and easy-to-connect design. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 21 and Zone 22 of dust Ex-areas.

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 mm<sup>2</sup> 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 IP 66. 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**

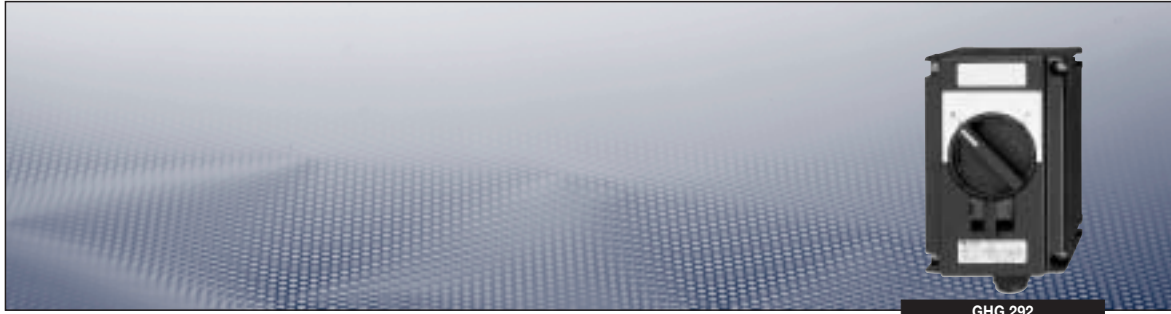
**Degree of protection IP 66**

**Cable connection range up to 6 mm<sup>2</sup>**

**Integrated locking facility**

**Optional forced contact on request**





GHG 292

Zone 21

## Technical data

### Ex-Control switch Type 292 without measuring instrument

	with GHG 29	with GHG 28
Marking to 94/9/EC	Ex II D IP66 T 49 °C	
EC-Type Examination Certificate	PTB 99 ATEX 1163	
Permissible ambient temperature	-20 °C to +40 °C	
	-55 °C to +47 °C	
Rated voltage	max. 500 V	max. 690 V
Rated current	16 A	20 A
Rated current with gold contacts	0.4 A	
Switch rating AC 3	500 V/10 A	690 V/10 A 500 V/16 A 400 V/20 A
Switch rating DC 13	24 V/6 A / 60 V/0.8 A / 110 V/0.5 A / 230 V/0.3 A	
Connection terminals	2 x 0.5 - 2.5 mm <sup>2</sup> or 1 x 1.0 - 6.0 mm <sup>2</sup>	
Degree of protection accd. EN 60529	IP 66	
Cable gland	1 x M25 (Ø 8 - 17 mm)	
Dimensions in mm (L x W x H)	170 x 110 x 129 mm	
Weight	approx. 1.10 kg (1 level), approx. 1.25 kg (2 levels), approx. 1.40 kg (3 levels)	
Enclosure material	Glass-fibre reinforced polyester	
Enclosure colour	black	

B1

B2

B3

B4

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GHG 292

### Ordering details for control switches (2.) Code A - B1 - B2 - C - D - E1 - E2 - F

Code	Designation	Code
A	Control switch	GHG 292

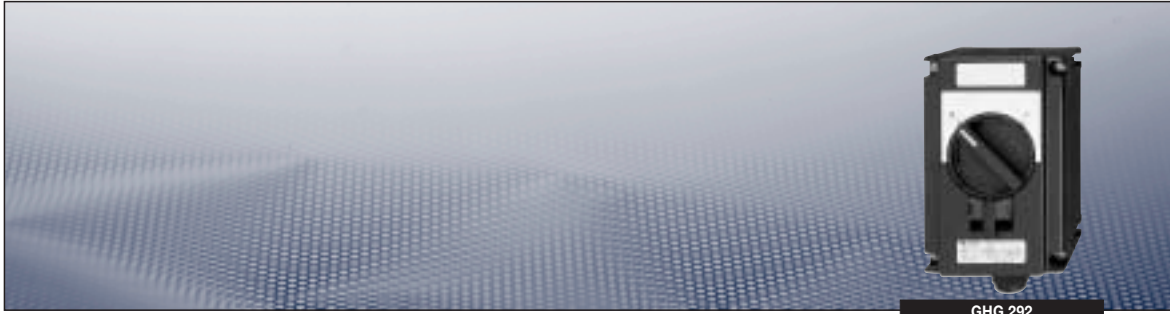
Code	Switch mechanism	Code
B1	spring - latching - spring	4
	latching - latching - latching	5
	latching - latching	6
	spring - latching - latching	7
	latching - latching - spring	8

Code	Contacts	Silver contacts	Code	Silver contacts
B2	      	060 062 065 061 063 067 011	      	034 037 049 023 019 033 024

Other versions as well as gold contact points are available on request.

Code	Inscription	Code	Inscription	Code
C	0	I	001	0
	I	II	002	I
	STOP	START	003	AUS
	HAND	AUTO	004	AUS
	SENKEN	HEBEN	005	ÖRTLICH
	REMOTE	LOCAL	006	START
	I	II	007	OFF
	AUS	BETRIEB	008	0
	AUS	0	009	HAND
	AUF	0	010	0
	Entriegelt	0	011	MAN
	OUT	OF	012	START
	LOCAL	REMOTE	013	HEBEN
	STOP	0	014	OFF
	HAND	0	015	AUS
	AUF	AUS	016	HAND
	HAND	AUS	017	ON
				I
				II
				III
				018
				019
				020
				021
				022
				023
				024
				025
				026
				027
				028
				029
				030
				031
				032
				033

Code	Locking facility	Code
D	none	0
	centre	1
	left	2
	right	3



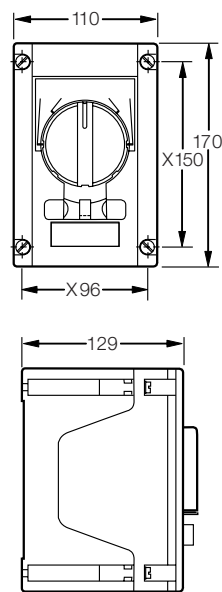
GHG 292

**Ordering code for control switches (2.) Code A - B1 - B2 - C - D - E1 - E2 - F**

Code	Built-in components		Code
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 entry	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 ..
F4	Number	Ø21. Ø26	..
		No. of entries	..

For metal glands, the type of cable/entry must be stated in plain language in the order

**Dimension drawing**



Type 292

Dimension drawing in mm



GHG 292

### Ordering details

Switch mechanism	Contact code	Order No.
6	062	GHG 292 1000 R0001
6	065	GHG 292 1000 R0002
4	067	GHG 292 1000 R0003
8	067	GHG 292 1000 R0004
4	037	GHG 292 2000 R0002
8	037	GHG 292 2000 R0003
5	024	GHG 292 2000 R0004

### 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 mounting	snap-on	1	GHG 610 1953 R0106
Size 4	Wall mounting	snap-on *	1	GHG 610 1953 R0128
Size 4	Trellis mounting	snap-on *	1	GHG 610 1953 R0128
Size 4	Pipe mounting	snap-on *	1	GHG 610 1953 R0132

\*snap-on with plug-in fastener 5,5 mm





ARE YOU ALWAYS TURNING  
YOUR MOTORS ON AND OFF  
SMOOTHLY?

ZONE 21

EX-SAFETY SWITCHES

B9.2

EX-MAIN CURRENT SWITCHES

B9.18

EX-MANUAL MOTOR STARTERS

B9.26

B1

B2

B3

B4

B5

B6

B7

B8

B9



# E X - S A F E T Y   S W I T C H E S

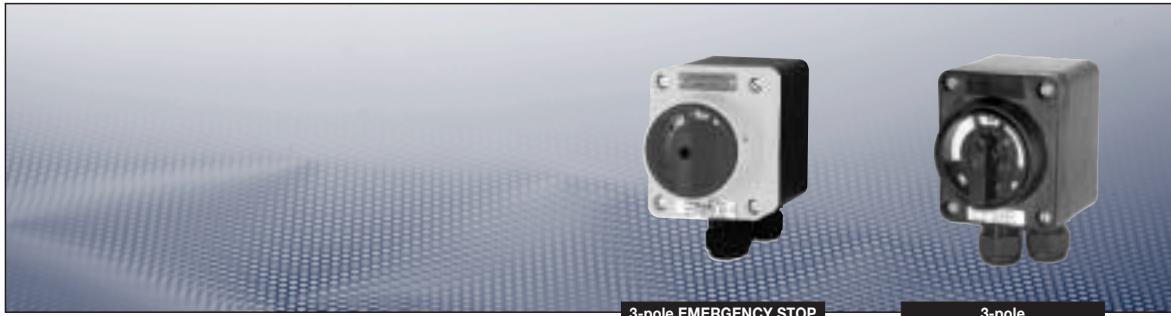
CEAG safety switches can be protected against inadvertent switching on by our integrated locking facility for up to three padlocks in the OFF position. To prevent manipulations, the enclosure covers cannot be opened in the locked position without destroying the enclosure itself.

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.

They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 0 -as term TDlitions.





Zone 21

B1

B2

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## Technical data

### Ex-Safety switch 10 A

Marking to 94/9/EC	II D T 53 °C	
EC-Type Examination Certificate	PTB 00 ATEX 1074	
Permissible ambient temperature	-55 °C to +52 °C	
Rated voltage	max. 500 V	
Rated current	max. 10 A	
Frequency	50/60 Hz	
Switch rating AC3	230 V AC	10 A
	400 V AC	10 A
	500 V AC	10 A
Back up fuse	up to 400 V AC	max. 20 A gL
	up to 500 V AC	max. 16 A gL
Main contact	2 x 1.5 - 2.5 mm <sup>2</sup>	
Auxiliary contact	2 x 0.5 - 2.5 mm <sup>2</sup>	
Insulation class	I	
Degree of protection accd. EN 60529	IP 66	
Cable glands	M20 (d = 5.5 - 13 mm) see ordering details or	
	M25 (d = 8 - 17 mm) see ordering details	
Weight	0.55 kg	
Enclosure material	Polyamide	
Enclosure colour	black	
Auxiliary contact	1 x NO making - lagging; breaking - leading	
Padlock device	can be locked in OFF position with 3 commercially available padlocks	

## Ordering details

Version	Cable glands	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

Customised versions on request, auxiliary contact in Ex ia available.



3-pole

3-pole EMERGENCY STOP

## 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

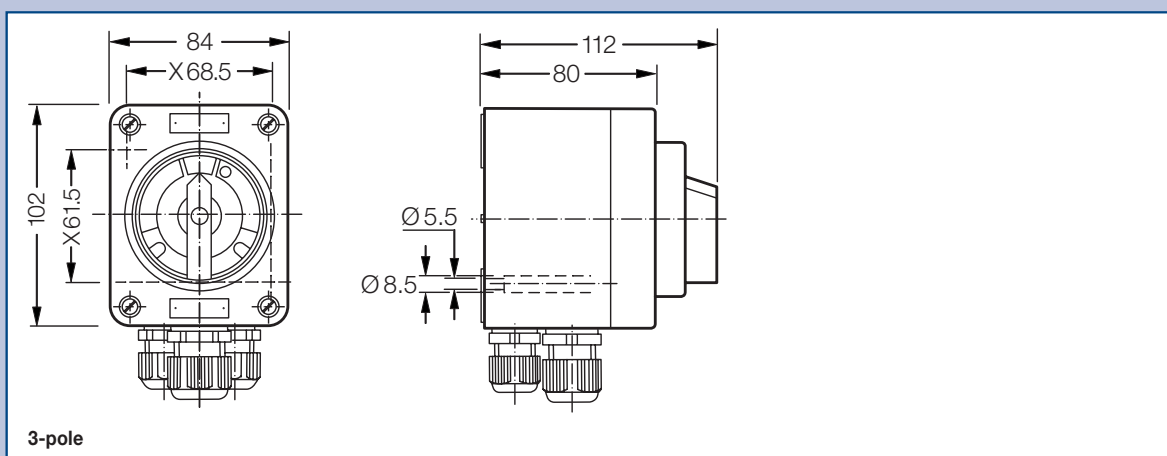
Type	OU	Order No.
Label holder with label (unlabelled) for mounting plate size 1, 2, 2A and 3	10	GHG 610 1953 R0057
Installation kit for pipes 1" (of 27 - 30 mm) for plates for pipe mounting	10	GHG 610 1953 R0020

### Canopies for mounting 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

Dimensions in mm



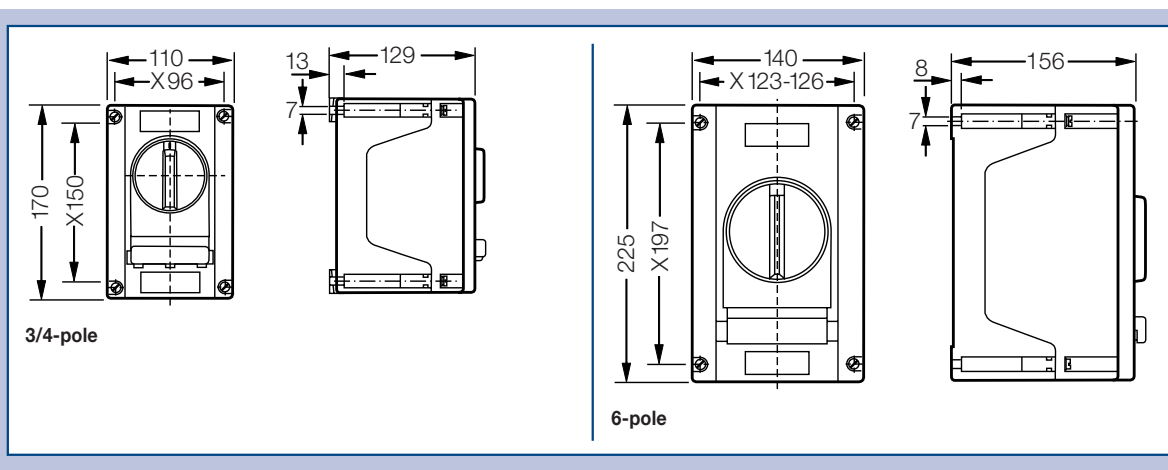


## Technical data

### Ex-Safety switch 20 A

Marking to 94/9/EC	II 2 D T 55 °C	
EC-Type Examination Certificate	PTB 99 ATEX 1161	
Type of protection	Ex de IIC	
Permissible ambient temperature	-55 °C to +55 °C with MS-flange -20 °C to +55 °C	
Rated voltage	max. 690 V	
Rated current	max. 20 A	
Frequency	50/60 Hz	
Switch rating AC3	230 V AC	20 A
	400 V AC	20 A
	500 V AC	16 A
	690 V AC	10 A
Back up fuse	up to 400 V AC	max. 35 A gL
	up to 500 V AC	max. 35 A gL
	up to 690 V AC	max. 25 A gL
Main contact	2 x 4 mm <sup>2</sup>	
Auxiliary contact	2 x 0.5 - 2.5 mm <sup>2</sup>	
Insulation class	I	
Degree of protection accd. EN 60529	IP 66	
Cable glands	M20 (d = 5.5 - 13 mm) see ordering details or M25 (d = 8 - 17 mm) see ordering details or M32 (d = 12 - 21 mm) see ordering details	
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	
Padlock device	can be locked in OFF position with 3 commercially available padlocks	

## Dimension drawing



Dimensions in mm



## Ordering details

Version	Cable glands	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
3-pole (1 x NO; 1 x NC)	2 x M32 / 1 x M25	GHG 262 2301 R0003
Safety switch 20 A 4-pole, version with 2 auxiliary contacts (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 contacts (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

Customised versions on request, auxiliary contact in Ex ia available.

## Accessories

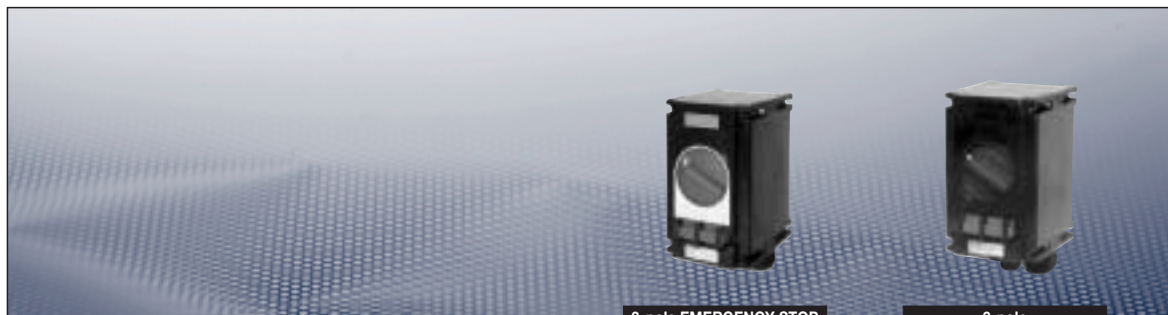
Mounting plate for Ex-Safety switch 20 A 3-pole			
Type	Application	Fixing technique	Order No.
Size 2	Wall mounting	snap-on	GHG 610 1953 R0104
Size 2	Pipe mounting	snap-on	GHG 610 1953 R0105
Size 2	Trellis mounting	snap-on	GHG 610 1953 R0106

Mounting plate for Ex-Safety 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 plate		
Type	OU	Order No.
Label holder with label (unlabelled) for mounting plate size 1, 2, 2A und 3	10	GHG 610 1953 R0057
Installation kit for pipes 1" (of 27 - 30 mm) for plates for pipe mounting	10	GHG 610 1953 R0020
Snap-on for CEAG apparatus with 5.5 mm and 11 mm mounting feet 1 set = 4 each	10	GHG 610 1953 R0041

Canopies for mounting plates			
Type	Application	OU	Order No.
Size 2	for mounting plate size 2	1	GHG 610 1955 R0102
Size 3	for pipe mounting plate size 3 vertical	1	GHG 610 1955 R0104
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 labels above.



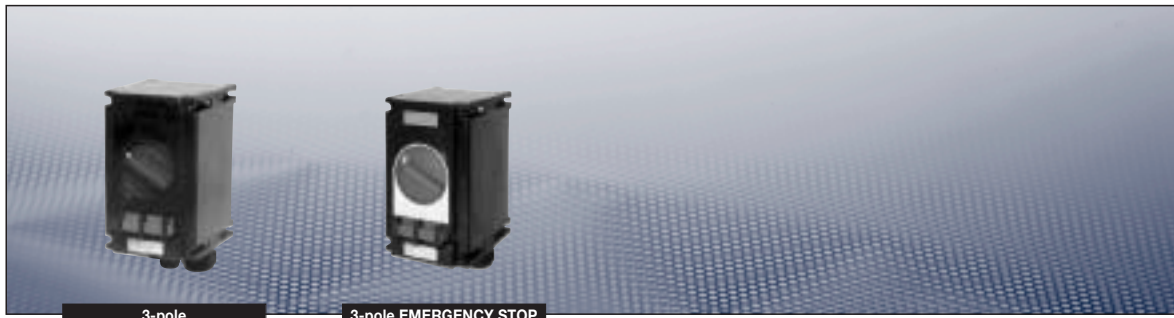
## Technical data

Ex-Safety switch 40 A		
Marking to 94/9/EC		II 2 D T 53 °C
EC-Type Examination Certificate		PTB 99 ATEX 1161
Permissible ambient temperature		-55 °C to +55 °C
Rated voltage		max. 690 V
Rated current		max. 40 A
Frequency		50/60 Hz
Switch rating AC3	230 V AC	40 A
	400 V AC	40 A
	500 V AC	40 A
	690 V AC	32 A
Back up fuse	up to 400 V AC	max. 80 A gL
	up to 500 V AC	max. 80 A gL
	up to 690 V AC	max. 63 A gL
Main contact		2 x 16 mm <sup>2</sup>
Auxiliary contact		2 x 4 mm <sup>2</sup>
Insulation class		I
Degree of protection accd. EN 60529		IP 66
Cable glands		M25 (d = 8 - 17 mm) see ordering details or M40 (d = 17 - 28 mm) see ordering details
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
Locking device		can be locked in OFF position with 3 commercially available padlocks

## Ordering details

Version	Cable glands	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 contacts (1 x NO; 1 x NC)		
4-pole	2 x M25	GHG 263 2301 R0007

Customised versions on request, auxiliary contact in Ex ia available.



## Accessories

### Mounting plate for Ex-safety switch 40 A 3-pole and 4-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 plate

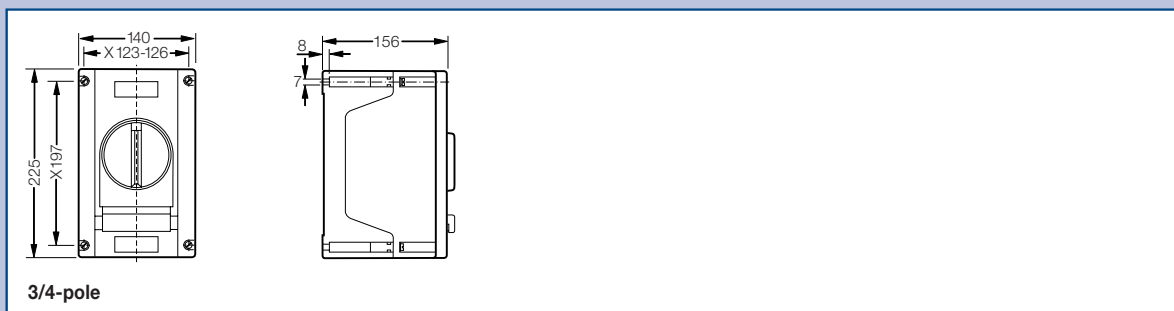
Type	OU	Order No.
Label for label holder and mounting plates size 1, 2 and 3	10	GHG 610 1953 R0057
Snap-on for CEAG apparatus with 5.5 mm and 11 mm mounting feet 1 set = 4 each	10	GHG 610 1953 R0041
Installation kit for pipes 1" (of 27 - 30 mm) for label holder for pipe mounting	10	GHG 610 1953 R0020

### Canopies for mounting plates

Type	Application	OU	Order No.
Size 3	for pipe mounting plate size 1 vertical	1	GHG 610 1955 R0104
Size 3A	for wall/trellis mounting plate size 3	1	GHG 610 1955 R0105

Please note that we can only deliver in the ordering units (OU) stated in the tables above.

## Dimension drawing



Dimensions in mm





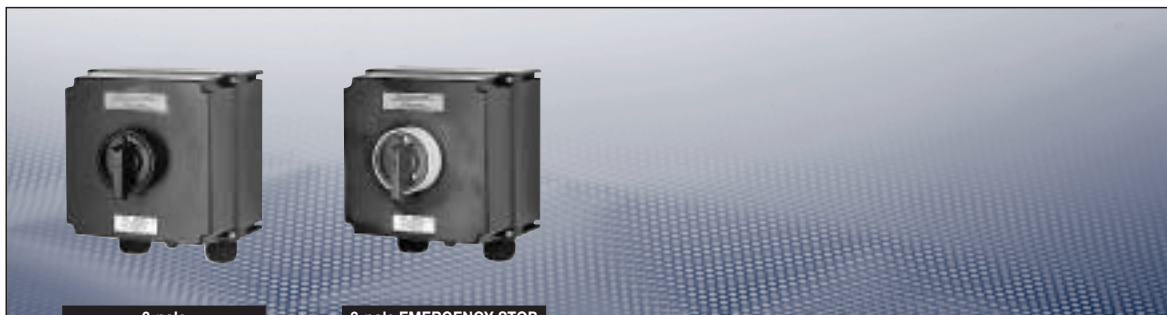
## Technical data

Ex-Safety switch 80 A		
Marking to 94/9/EC		II 2 D T 53 °C
EC-Type Examination Certificate		PTB 00 ATEX 1091
Permissible ambient temperature		-55 °C to +55 °C
Rated voltage		max. 690 V
Rated current		max. 80 A
Frequency		50/60 Hz
Switch rating AC3	230 V AC	80 A
	400 V AC	80 A
	500 V AC	80 A
	690 V AC	63 A
Back up fuse	up to 400 V AC	max. 160 A gL
	up to 500 V AC	max. 160 A gL
	up to 690 V AC	max. 125 A gL
Main contact		2 x 25 mm²
Auxiliary contact		2 x 4 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP 66
Cable glands		M25 (d = 8 - 17 mm) see ordering details
		M50 (d = 21 - 35 mm) see ordering details
Weight		approx. 6.5 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
Locking device		can be locked in OFF position with 3 commercially available padlocks

## Ordering details

Version	Cable glands	Order No.
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 264 0020 R0001
3-pole EMERGENCY STOP	2 x M50 / 1 x M25	GHG 264 0020 R0002

Customised versions on request, auxiliary contact in Ex ia available.



## Accessories

### Mounting plate for Ex-safety switch 80 A 3-pole

Type	Application	Fixing technique	Order No.
Size 3	2 x Pipe mounting	screw-on <sup>1)</sup>	GHG 610 1953 R0110

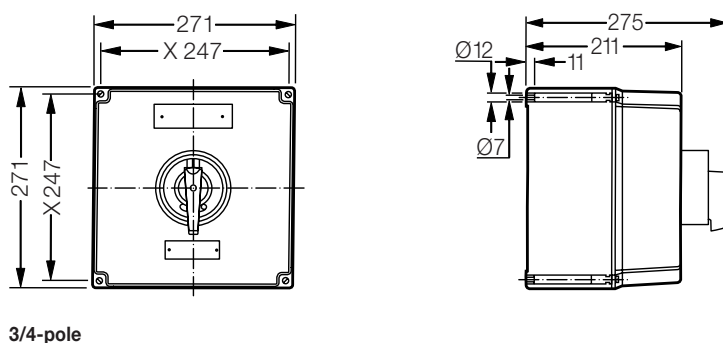
<sup>1)</sup> observe mounting distance

### Accessories for mounting plate

Type	OU	Order No.
Label for label holder and mounting plates size 1, 2, 2A and 3	10	GHG 610 1953 R0057
Installation kit for pipes 1" (of 27 - 30 mm) for 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



3/4-pole

Dimensions in mm



## Technical data

Ex-Safety switch 125 A		
Marking to 94/9/EC		II 2 D T 53 °C
EC-Type Examination Certificate		PTB 99 ATEX 1164
Permissible ambient temperature		-55 °C to +40 °C
Rated voltage		max. 690 V
Rated current		max. 125 A
Frequency		50/60 Hz
Switch rating AC3	230 V AC	125 A
	400 V AC	125 A
	500 V AC	125 A
	690 V AC	110 A
Back up fuse	up to 400 V AC	max. 200 A gL
	up to 500 V AC	max. 200 A gL
	up to 690 V AC	max. 160 A gL
Main contact	3-pole	1 x 50/70 mm²
Auxiliary contact		2 x 4 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP 66
Cable glands		M25 (d = 8 - 17 mm) see ordering details or M63 (d = 27 - 48 mm) see ordering details
Weight		approx. 16 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
Locking device		can be locked in OFF position with 3 commercially available padlocks

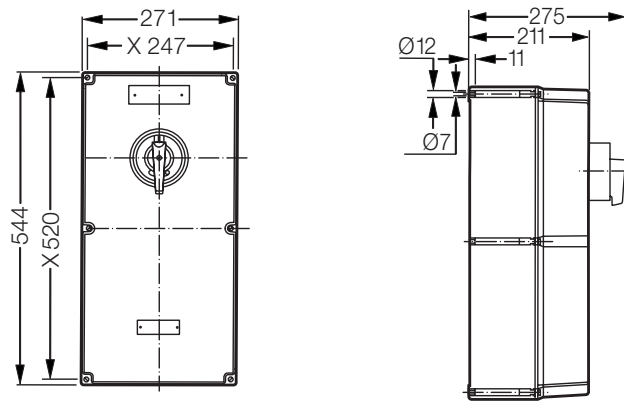
## Ordering details

Version	Cable glands	Order No.
Safety switch 125 A 3-pole		
version with 2 auxiliary contacts (1 x NO; 1 x NC)		
3-pole	2 x M63 / 1 x M25	GHG 265 0010 R0001
3-pole EMERGENCY STOP	2 x M63 / 1 x M25	GHG 265 0010 R0002

Customised version on request, auxiliary contact in Ex ia available.



## Dimension drawing



Dimensions in mm





## Technical data

Ex-Safety switch 180 A		
Marking to 94/9/EC		II 2 D T 53 °C
EC-Type Examination Certificate		PTB 99 ATEX 1164
Permissible ambient temperature		-55 °C to +40 °C
Rated voltage		max. 690 V
Rated current		max. 180 A
Frequency		50/60 Hz
Switch rating AC3	230 V AC	180 A
	400 V AC	180 A
	500 V AC	150 A
	690 V AC	125 A
Back up fuse	up to 400 V AC	max. 250 A gL
	up to 500 V AC	max. 250 A gL
	up to 690 V AC	max. 200 A gL
Main contact		1 x 120 mm²
Auxiliary contact		2 x 4 mm²
Insulation class		I
Degree of protection accd. EN 60529		IP 66
Cable glands		M25 (d = 8 - 17 mm) see ordering details
		M63 (d = 27 - 48 mm) see ordering details
Weight		approx. 16.5 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
Locking device		can be locked in OFF position with 3 commercially available padlocks

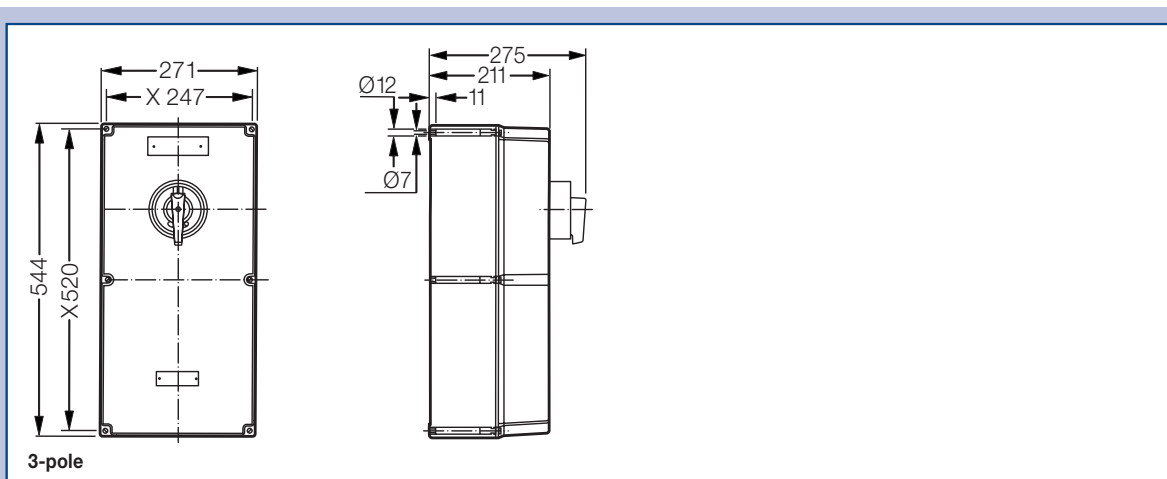
## Ordering details

Version	Cable glands	Order No.
Safety switch 180 A 3-pole		
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

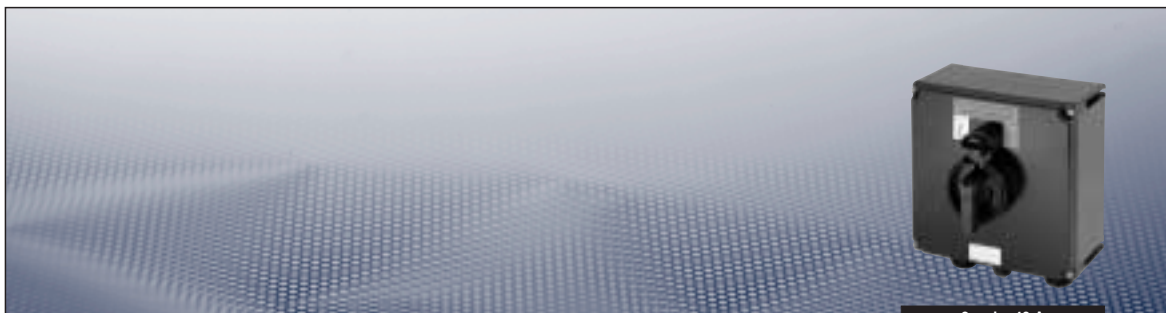
Customised versions on request, auxiliary contact in Ex ia available.



## Dimension drawing



Dimensions in mm



Zone 21

## Technical data

### Ex-Safety switch 40 A for variable-speed three-phase drives

Marking to 94/9/EC	II 2 D T255 °C	
EC-Type Examination Certificate	PTB 99 ATEX 1161	
Permissible ambient temperature	-55 °C to +55 °C	
Rated voltage	max. 690 V	
Rated current	max. 40 A	
Frequency	50/60 Hz	
Switch rating AC3	230 V AC	40 A
	400 V AC	40 A
	500 V AC	40 A
	690 V AC	32 A
Back up fuse	up to 400 V AC	max. 80 A gL
	up to 500 V AC	max. 80 A gL
	up to 690 V AC	max. 63 A gL
Main contact	2 x 16 mm <sup>2</sup> / 2 x 25 mm <sup>2</sup>	
Auxiliary contact	2 x 4 mm <sup>2</sup>	
Insulation class	I	
Degree of protection accd. EN 60529	IP 66	
Cable glands	M25 (d = 8 - 17 mm) see ordering details	
	M40 (d = 17 - 28 mm) see ordering details	
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	
Locking device	can be locked in OFF position with 3 commercially available padlocks	

## Ordering details

Version	Cable glands	Order No.
Safety switch 40 A 3-pole,		
version for 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

Customised versions on request, auxiliary contact in Ex ia available.

B1

B2

B3

B4

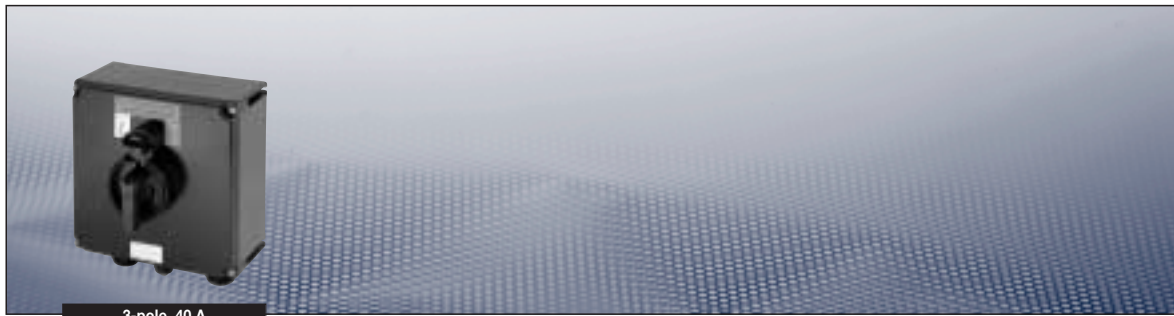
B5

B6

B7

B8

B9



3-pole, 40 A

## Accessories

### Mounting plate for Ex-safety switch 40 A 3-pole

Type	Application	Fixing method	Order No.
Size 3	2 x Pipe mounting	screw-on <sup>1)</sup>	GHG 610 1953 R0110

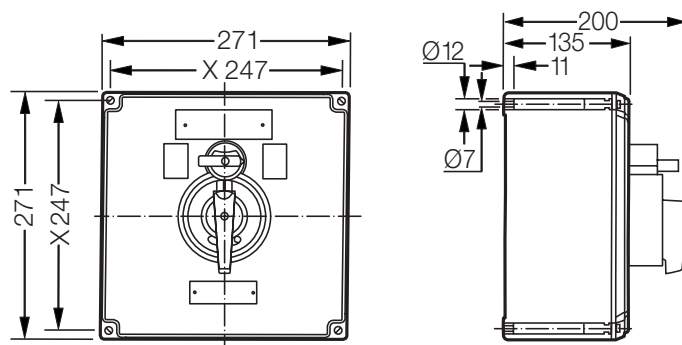
<sup>1)</sup> observe mounting distance

### Accessories for mounting plate

Type	OU	Order No.
Label holder with label (unlabelled) for label holder size 1, 2, 2A and 3	10	GHG 610 1953 R0057
Installation kit for pipes 1" (of 27 - 30 mm) for 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



Ex-Safety switch 40 A

Dimensions in mm



B1

B2

B3

B4

B5

B6

B7

B8

B9

## EX - MAIN CURRENT SWITCHES

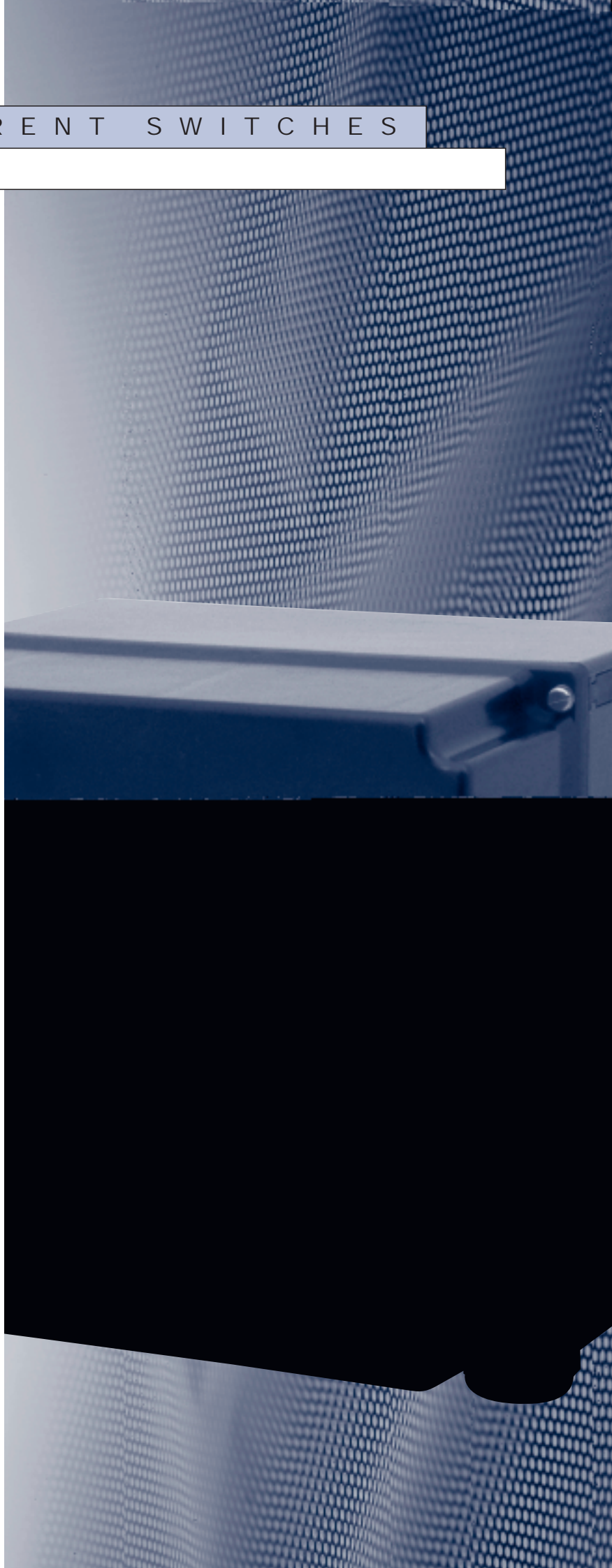
Up to 40 A for Zone 21

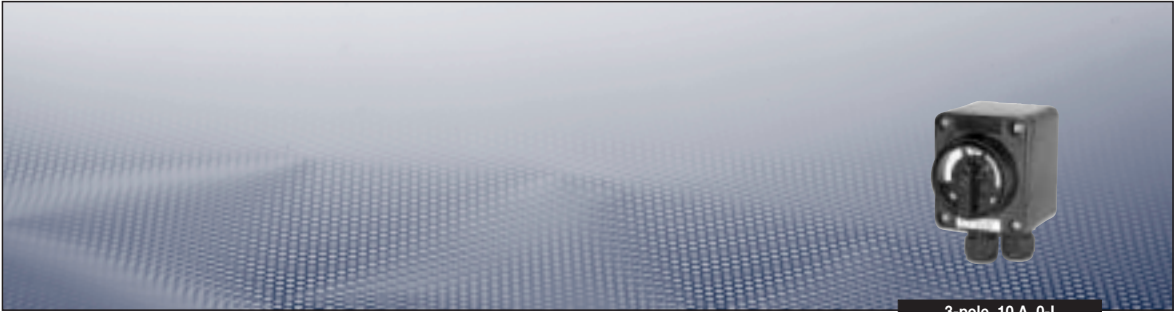
CEAG main current switches in a number of versions can be protected against inadvertent switching on by our integrated locking facility for up to three padlocks in the OFF position. To prevent manipulations, the enclosure covers cannot be opened in the locked position without destroying the enclosure itself. They are designed and tested acc. to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 21 and Zone 22 of dust Ex-areas.

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 IP 66 for currents up to 40 A. These can be optionally supplied with snap-on moulded plastic or brass flanges. They can be equipped with screw-on flanges.

- Full AC-3 switching capacity
- Cost-saving installation
- Snap on mounting
- IP 66 protection





3-pole, 10 A 0-I

Technical data

Ex-Main current switches 10 A

Marking to 94/9/EC	II 2 D T53 °C/T55 °C	
EC-Type Examination Certificate	PTB 00 ATEX 1074	
Permissible ambient temperature	-55 °C to +55 °C	
Rated voltage	max. 500 V	
Rated current	max. 10 A	
Frequency	50/60 Hz	
Switch rating AC3	230 V AC	10 A
	400 V AC	10 A
	500 V AC	10 A
Back up fuse	up to 400 V AC	max. 10 A gL
	up to 500 V AC	max. 10 A gL
Main contact	2 x 1.5 - 2.5 mm <sup>2</sup>	
Auxiliary contact	2 x 0.5 - 2.5 mm <sup>2</sup>	
Insulation class	I	
Degree of protection accd. EN 60529	IP 66	
Cable glands	M25 (d = 8 - 17 mm) see ordering details	
Weight	approx. 0.60 kg	
Enclosure material	impact resistant polyamide	
Enclosure colour	black	

Ordering details

Version	Cable glands		Order No.
Ex-Main current switches 10 A			
3-pole 0-I	2 x M25	ON-OFF switch	GHG 261 0006 R0001

Customised versions on request.



3-pole, 10 A 0-I

## 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 plate

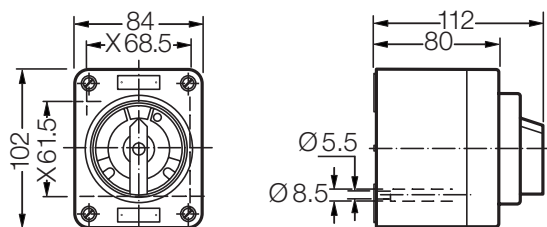
Type	OU	Order No.
Label holder with label (unlabelled) for label holder size 1, 2, 2A and 3	10	GHG 610 1953 R0057
Installation kit for pipes 1" (of 27 - 30 mm) for pipe mounting plates	10	GHG 610 1953 R0020

### Canopies for mounting 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.

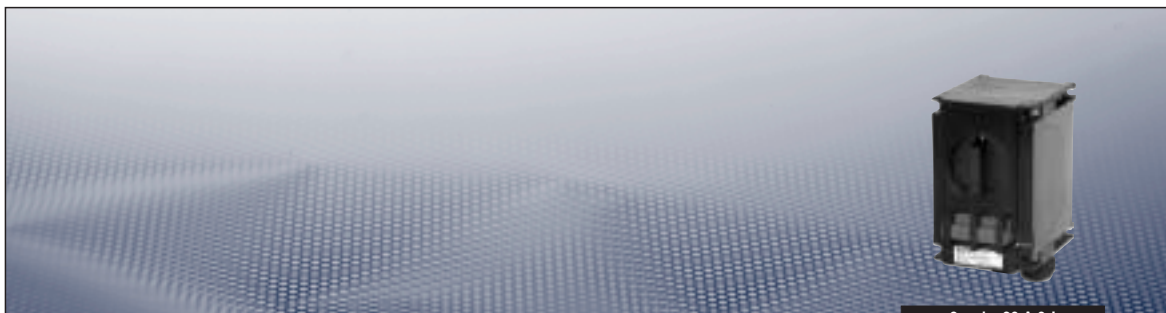
## Dimension drawing



3-pole, 10 A 0-I

Dimensions in mm





3-pole, 20 A 0-I

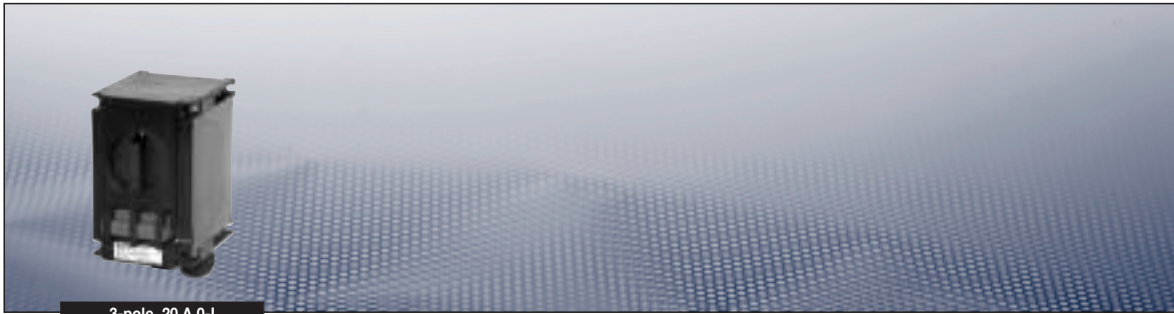
## Technical data

Ex-Main current switch 20 A		
Marking to 94/9/EC	II 2 D T53 °C/T55 °C	
Ex-Type Examination Certificate	PTB 99 ATEX 1161	
Permissible ambient temperature	-55 °C to +55 °C	
Rated voltage	max. 690 V	
Rated current	max. 20 A	
Frequency	50/60 Hz	
Switch rating AC3	230 V AC	20 A
	400 V AC	20 A
	500 V AC	16 A
	690 V AC	10 A
Back up fuse	up to 400 V AC	max. 35 A gL
	up to 500 V AC	max. 35 A gL
	up to 690 V AC	max. 25 A gL
Main contact	2 x 4 mm <sup>2</sup>	
Insulation class	I	
Degree of protection accord. EN 60529	IP 66	
Cable glands	M32 (d = 12 - 21 mm) see ordering details	
Weight	approx. 1.4 kg	
Enclosure material	Glass-fibre reinforced polyester	
Enclosure colour	black	

## Ordering details

Version	Cable glands		Order No.
Main current switch 20 A 3-pole			
3-pole	0 - I	2 x M32	ON-OFF switch
			GHG 262 1301 R0001
Main current switch 20 A 4-pole			
4-pole	0 - I	2 x M32	ON-OFF switch
			GHG 262 1301 R0004

Customised versions on request, auxiliary contact in Ex ia available.



## Accessories

### Mounting plate for Ex-main current switch 20 A 3-pole and 4-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 plate

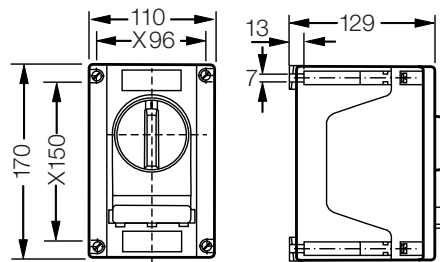
Type	OU	Order No.
Label holder with label (unlabelled) for label holder size 1, 2, 2A and 3	10	GHG 610 1953 R0057
Snap-on for CEAG apparatus with 5.5 mm and 11 mm mounting feet		
1 set = 4 pcs	10	GHG 610 1953 R0041
Installation kit for pipes 1" (of 27 - 30 mm) for pipe mounting plates	10	GHG 610 1953 R0020

### Canopies for mounting plates

Type	Application	OU	Order No.
Size 2	for mounting plate size 2	1	GHG 610 1955 R0102

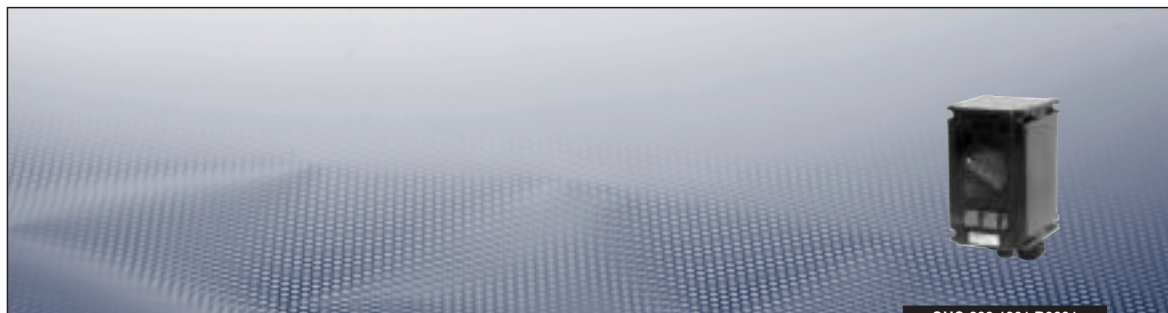
Please note that we can only deliver in the ordering units (OU) stated in the tables above.

## Dimension drawings



3/4-pole

Dimensions in mm



GHG 263 1301 R0001

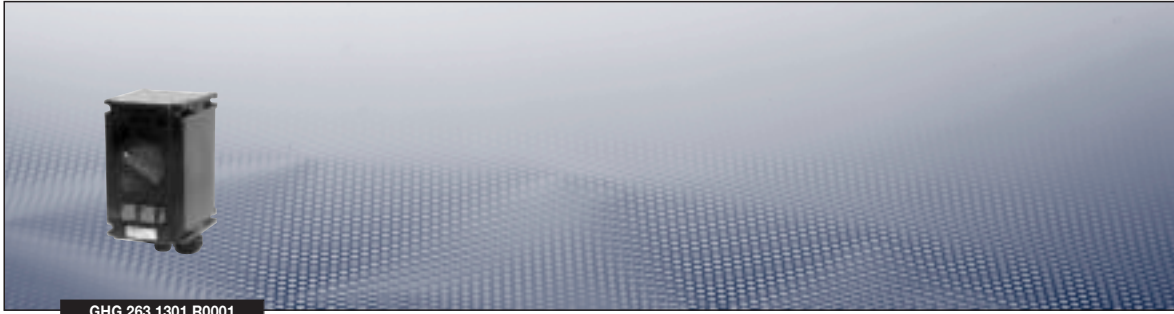
## Technical data

Ex-Main current switches 40 A		
Marking to 94/9/EC	II 2 D T53 °C	
EC-Type Examination Certificate	PTB 99 ATEX 1161	
Permissible ambient temperature	-55 °C to +55 °C	
Rated voltage	max. 690 V (20 A)	
Rated current	max. 40 A	
Frequency	50/60 Hz	
Switch rating AC3	230 V AC	40 A
	400 V AC	40 A
	500 V AC	40 A
	690 V AC	32 A
Back up fuse	up to 400 V AC	max. 80 A gL
	up to 500 V AC	max. 80 A gL
	up to 690 V AC	max. 63 A gL
Main contact	2 x 16 mm <sup>2</sup>	
Insulation class	I - apparatus fulfil this requirement	
	II - with metal flange	
Degree of protection accd. EN 60529	IP 66	
Cable glands	M25 (d = 8 - 17 mm) see ordering details	
	M40 (d = 17 - 28 mm) see ordering details	
Weight	approx. 2.30 kg	
Enclosure material	Glass-fibre reinforced polyester	
Enclosure colour	black	

## Ordering details

Version	Cable glands			Order No.
Ex-Main current switch 40 A 3-pole				
3-pole	0 -	2 x M40, 1 x M25	ON-OFF switch	GHG 263 1301 R0001

Customised versions on request, auxiliary contact 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

### Accessories for mounting plate

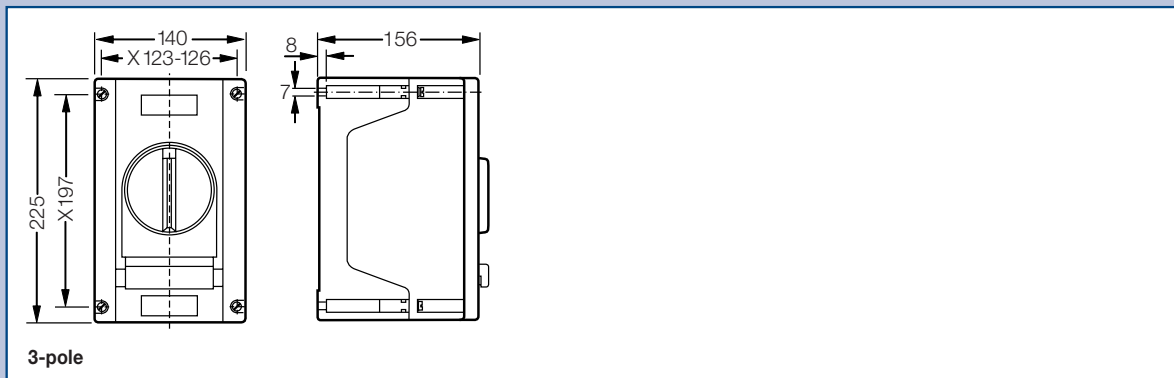
Type	OU	Order No.
Label holder with label (unlabelled) for label holder size 1, 2, 2A and 3	10	GHG 610 1953 R0057
Snap-on for CEAG apparatus with 5.5 mm and 11 mm mounting feet		
1 set = 4 pcs	10	GHG 610 1953 R0041
Installation kit for pipes 1" (of 27 - 30 mm) for pipe mounting plates	10	GHG 610 1953 R0020

### 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

Please note that we can only deliver in the ordering units (OU) stated in the tables above.

## Dimension drawing



Dimensions in mm



B1

B2

B3

B4

B5

B6

B7

B8

B9

## EX - MANUAL MOTOR STARTERS

Up to 25 A for Zone 21

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. They are designed and tested according to the new EU standard IEC 61241-0 and -1 (EN 61241-0 and -1) for Ex equipment for use in Zone 21 and Zone 22 of dust Ex-areas.

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.

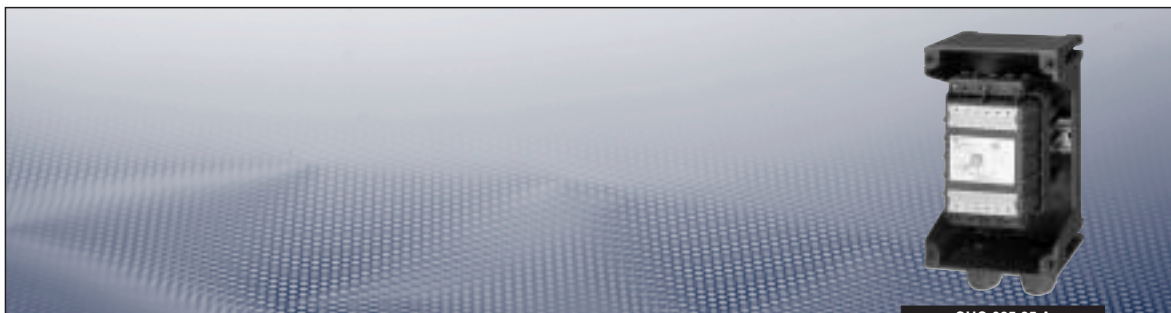
A special safety feature offered by the manual motor starter: It can only be switched on on-site – where the drive is.

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.



- Full AC-3 motor switching capacity
- Decisive cost savings with CEAG's mounting system
- Easily accessible connection terminals
- Degree of protection IP 66
- Isolating properties according to DIN EN 60947-4-1
- Clear indication of switch position
- Phase-failure protection
- Integrated locking facility



GHG 635 25 A

Zone 21

## Technical data

Ex-Manual motor starters 25 A		
Marking to 94/9/EC	II 2 D T55 °C	
EC-Type Examination Certificate	PTB 99 ATEX 1162	
Permissible ambient temperature	-20 °C to +40 °C	
Rated voltage	up to max. 690 V, 50/60 Hz	
Rated current	max. 25 A	
Rated current auxiliary contact	max. 2 A	
Frequency	50/60 Hz	
Switch rating AC3	690 V AC	25 A
Back up fuse	see ordering details	
Undervoltage trip	tripping at 15 % - 75 % Un can be switched U > 80 % Uc	
Main contact	10 mm <sup>2</sup>	
Auxiliary contact	2 x 0.75 - 4.0 mm <sup>2</sup>	
Thermal tripping characteristic	T II	
Insulation class	I	
Degree of protection accord. EN 60529	IP 66	
Cable glands		
	0.1 - 6.3 A	2 x M25 (d = 8 - 17 mm)
	6.3 - 25 A	2 x M32 (d = 12 - 21 mm)
Weight	2.5 kg	
Enclosure material	Glass-fibre reinforced polyester	
Enclosure colour	black	
Padlock device	can be locked in OFF position with 3 commercially available padlocks	

B1

B2

B3

B4

B5

B6

B7

B8

B9





B1

B2

B3

B4

B5

B6

B7

B8

B9

Order No.	Page	Order No.	Page	Order No.	Page
1 1145 000 792	B1.13	1 2342 000 052	A4.4	3 2283 000 002	A2.12
1 1145 000 795	B1.13	1 2342 000 053	A4.4	3 2283 000 003	B2.12
1 1147 000 001	B1.13	1 2342 000 054	A4.4	3 2283 000 003	A2.12
1 1147 000 002	B1.13	1 2342 000 055	A4.4	3 2283 000 004	B2.12
1 1359 000 001	B1.7	1 2342 000 101	A4.4	3 2283 000 004	A2.12
1 1359 000 070	B1.7	1 2342 000 102	A4.4	3 2283 000 005	B2.12
1 1360 000 001	B1.7	1 2342 000 103	A4.4	3 2283 000 005	A2.12
1 1360 002 001	B1.7	1 2342 000 104	A4.4	3 2283 000 006	B2.12
1 1540 000 443	B1.13	1 2342 000 105	A4.4	3 2283 000 006	A2.12
1 2041 450 000	B1.13	1 3465 136 001	B2.4	3 2283 000 007	B2.12
1 2061 000 040	B1.13	1 3465 136 011	B2.4	3 2283 000 007	A2.12
1 2191 000 001	B3.9	1 3465 136 021	B2.4	4 0071 344 115	A3.20
1 2191 000 002	B3.9	1 3465 158 001	B2.4	4 0071 344 115	B3.18
1 2191 000 003	B3.9	1 3465 158 011	B2.4	CAP 816 404	B7.10
1 2191 000 004	B3.9	1 3465 158 021	B2.4	CAP 190 124	B7.16
1 2191 011 _01	B3.15	1 3465 218 001	B2.4	CAP 190 164	B7.16
1 2191 011 _02	B3.15	1 3465 218 011	B2.4	CAP 190 204	B7.16
1 2191 011 _03	B3.15	1 3465 218 021	B2.4	CAP 190 254	B7.16
1 2191 011 _04	B3.15	1 3465 218 912	B2.4	CAP 190 324	B7.16
1 2191 020 001	B3.9	1 3465 218 922	B2.4	CAP 190 404	B7.16
1 2191 020 002	B3.9	1 3465 236 001	B2.4	CAP 190 504	B7.16
1 2191 020 003	B3.9	1 3465 236 011	B2.4	CAP 190 634	B7.16
1 2191 020 004	B3.9	1 3465 236 021	B2.4	CAP 221 004	B7.13
1 2191 021 _01	B3.15	1 3465 236 912	B2.4	CAP 221 204	B7.13
1 2191 021 _02	B3.15	1 3465 236 922	B2.4	CAP 221 294	B7.12
1 2191 021 _03	B3.15	1 3465 258 001	B2.4	CAP 221 294	B7.14
1 2191 021 _04	B3.15	1 3465 258 011	B2.4	CAP 221 604	B7.13
1 2191 030 001	B3.9	1 3465 258 021	B2.4	CAP 221 694	B7.12
1 2191 030 002	B3.9	1 3465 258 912	B2.4	CAP 221 694	B7.14
1 2191 030 003	B3.9	1 3465 258 922	B2.4	CAP 222 004	B7.13
1 2191 030 004	B3.9	1 3470 218 001	B2.8	CAP 222 094	B7.12
1 2191 031 _01	B3.15	1 3470 218 031	B2.8	CAP 222 094	B7.14
1 2191 031 _02	B3.15	1 3470 236 001	B2.8	CAP 222 504	B7.13
1 2191 031 _03	B3.15	1 3470 236 031	B2.8	CAP 222 594	B7.12
1 2191 031 _04	B3.15	2 1147 300 000	B1.13	CAP 222 594	B7.14
1 2283 218 001	B2.12	2 1147 701 000	B1.13	CAP 223 204	B7.13
1 2283 218 002	B2.12	2 1359 200 000	B1.7	CAP 223 294	B7.12
1 2283 236 001	B2.12	2 2480 000 122	B2.9	CAP 223 294	B7.14
1 2283 236 002	B2.12	2 2480 000 122	A2.9	CAP 224 004	B7.13
1 2283 258 001	B2.12	2 2480 002 000	B2.9	CAP 224 094	B7.12
1 2283 258 002	B2.12	2 2480 002 000	A2.9	CAP 224 094	B7.14
1 2283 336 011	B2.12	2 2480 054 000	B2.9	CAP 225 004	B7.13
1 2283 336 012	B2.12	2 2480 054 000	A2.9	CAP 225 094	B7.12
1 2283 358 011	B2.12	2 2480 092 000	B2.9	CAP 225 094	B7.14
1 2283 358 012	B2.12	2 2480 092 000	A2.9	CAP 226 304	B7.13
1 2283 418 011	B2.12	2 2480 462 000	B2.9	CAP 226 394	B7.12
1 2283 418 012	B2.12	2 2480 462 000	A2.9	CAP 226 394	B7.14
1 2283 436 011	B2.12	2 2480 464 000	B2.9	CAP 567 024	B7.12
1 2283 436 012	B2.12	2 2480 464 000	A2.9	CAP 567 024	B7.14
1 2283 458 011	B2.12	2 2480 472 000	B2.9	CAP 567 034	B7.12
1 2283 458 012	B2.12	2 2480 472 000	A2.9	CAP 567 034	B7.14
1 2341 000 001	A4.4	2 2480 474 000	B2.9	CAP 567 054	B7.12
1 2341 000 002	A4.4	2 2480 474 000	A2.9	CAP 567 054	B7.14
1 2341 000 003	A4.4	2 2480 482 000	B2.9	CAP 567 074	B7.12
1 2341 000 004	A4.4	2 2480 482 000	A2.9	CAP 567 074	B7.14
1 2341 000 005	A4.4	2 2480 484 000	B2.9	CAP 567 094	B7.12
1 2341 000 051	A4.4	2 2480 484 000	A2.9	CAP 567 094	B7.14
1 2341 000 052	A4.4	2 2483 027 000	B2.9	CAP 567 124	B7.12
1 2341 000 053	A4.4	2 2483 027 000	A2.9	CAP 567 124	B7.14
1 2341 000 054	A4.4	221 249	B7.7	CAP 567 154	B7.12
1 2341 000 055	A4.4	221 649	B7.7	CAP 567 154	B7.14
1 2341 000 101	A4.4	222 049	B7.7	CAP 567 184	B7.12
1 2341 000 102	A4.4	222 549	B7.7	CAP 567 184	B7.14
1 2341 000 103	A4.4	223 249	B7.7	CAP 740 024	B7.15
1 2341 000 104	A4.4	224 049	B7.7	CAP 740 034	B7.15
1 2341 000 105	A4.4	225 049	B7.7	CAP 740 294	B7.15
1 2342 000 001	A4.4	226 349	B7.7	CAP 740 304	B7.15
1 2342 000 002	A4.4	3 1360 030 005	B1.7	CAP 740 564	B7.15
1 2342 000 003	A4.4	3 1360 030 006	B1.7	CAP 740 574	B7.15
1 2342 000 004	A4.4	3 2283 000 001	B2.12	CAP 740 834	B7.15
1 2342 000 005	A4.4	3 2283 000 001	A2.12	CAP 740 844	B7.15
1 2342 000 051	A4.4	3 2283 000 002	B2.12	CAP 740 864	B7.15

Order No.	Page	Order No.	Page	Order No.	Page
CAP 741 104	B7.15	CAP 847 594	B7.11	D22 262 2301 R0001	A9.5
CAP 741 114	B7.15	D22 1 2191 000 001	A3.9	D22 262 2301 R0002	A9.5
CAP 741 124	B7.15	D22 1 2191 000 002	A3.9	D22 262 2301 R0003	A9.5
CAP 741 374	B7.15	D22 1 2191 000 003	A3.9	D22 262 2301 R0007	A9.5
CAP 741 384	B7.15	D22 1 2191 000 004	A3.9	D22 262 2301 R0010	A9.5
CAP 741 644	B7.15	D22 1 2191 011 _01	A3.15	D22 262 2601 R0001	A9.5
CAP 744 704	B7.16	D22 1 2191 011 _02	A3.15	D22 262 2601 R0002	A9.5
CAP 744 964	B7.16	D22 1 2191 011 _03	A3.15	D22 262 2601 R0005	A9.5
CAP 744 974	B7.16	D22 1 2191 011 _04	A3.15	D22 263 0053 R0001	A9.15
CAP 745 234	B7.16	D22 1 2191 020 001	A3.9	D22 263 1301 R0001	A9.23
CAP 745 244	B7.16	D22 1 2191 020 002	A3.9	D22 263 2301 R0001	A9.7
CAP 745 504	B7.16	D22 1 2191 020 003	A3.9	D22 263 2301 R0002	A9.7
CAP 745 514	B7.16	D22 1 2191 020 004	A3.9	D22 263 2301 R0007	A9.7
CAP 745 774	B7.16	D22 1 2191 021 _01	A3.15	D22 264 0020 R0001	A9.9
CAP 745 834	B7.15	D22 1 2191 021 _02	A3.15	D22 264 0020 R0002	A9.9
CAP 745 844	B7.15	D22 1 2191 021 _03	A3.15	D22 265 0010 R0001	A9.11
CAP 745 854	B7.15	D22 1 2191 021 _04	A3.15	D22 265 0010 R0002	A9.11
CAP 745 864	B7.15	D22 1 2191 030 001	A3.9	D22 266 0006 R0001	A9.13
CAP 745 874	B7.15	D22 1 2191 030 002	A3.9	D22 266 0006 R0002	A9.13
CAP 745 914	B7.15	D22 1 2191 030 003	A3.9	D22 273 2000 R0003	A8.3
CAP 745 924	B7.15	D22 1 2191 030 004	A3.9	D22 273 2000 R0010	A8.3
CAP 745 934	B7.15	D22 1 2191 031 _01	A3.15	D22 273 2000 R0012	A8.3
CAP 746 044	B7.16	D22 1 2191 031 _02	A3.15	D22 273 2000 R0017	A8.3
CAP 746 054	B7.16	D22 1 2191 031 _03	A3.15	D22 273 2000 R0018	A8.3
CAP 746 314	B7.16	D22 1 2191 031 _04	A3.15	D22 273 2000 R9006	A8.3
CAP 816 504	B7.10	D22 1 2283 218 001	A2.12	D22 273 4000 R0004	A8.3
CAP 816 594	B7.10	D22 1 2283 218 002	A2.12	D22 273 6000 R0003	A8.3
CAP 816 604	B7.10	D22 1 2283 236 001	A2.12	D22 273 6000 R0011	A8.3
CAP 816 674	B7.10	D22 1 2283 236 002	A2.12	D22 273 6000 R0014	A8.3
CAP 816 694	B7.10	D22 1 2283 258 001	A2.12	D22 292 1000 R0001	A8.14
CAP 816 704	B7.10	D22 1 2283 258 002	A2.12	D22 292 1000 R0002	A8.14
CAP 816 774	B7.10	D22 1 2283 336 011	A2.12	D22 292 1000 R0003	A8.14
CAP 816 794	B7.10	D22 1 2283 336 012	A2.12	D22 292 1000 R0004	A8.14
CAP 816 804	B7.10	D22 1 2283 358 011	A2.12	D22 292 2000 R0002	A8.14
CAP 816 894	B7.10	D22 1 2283 358 012	A2.12	D22 292 2000 R0003	A8.14
CAP 816 904	B7.10	D22 1 2283 418 011	A2.12	D22 292 2000 R0004	A8.14
CAP 816 994	B7.10	D22 1 2283 418 012	A2.12	D22 4 0040 004 623	A3.17
CAP 817 004	B7.10	D22 1 2283 436 011	A2.12	D22 4 0071 349 520	A3.17
CAP 817 094	B7.10	D22 1 2283 436 012	A2.12	D22 4 0071 349 523	A3.17
CAP 817 204	B7.10	D22 1 2283 458 011	A2.12	D22 411 8100 R0001	A8.6
CAP 817 294	B7.10	D22 1 2283 458 012	A2.12	D22 411 8100 R0002	A8.6
CAP 817 304	B7.10	D22 1 3465 136 001	A2.4	D22 411 8100 R0003	A8.6
CAP 817 394	B7.10	D22 1 3465 136 011	A2.4	D22 411 8100 R0004	A8.6
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CAP 817 594	B7.10	D22 1 3465 158 021	A2.4	D22 411 8200 R0001	A8.7
CAP 817 604	B7.10	D22 1 3465 218 001	A2.4	D22 411 8200 R0003	A8.7
CAP 817 694	B7.10	D22 1 3465 218 011	A2.4	D22 411 8300 R0001	A8.8
CAP 846 404	B7.11	D22 1 3465 218 021	A2.4	D22 411 8300 R0003	A8.8
CAP 846 504	B7.11	D22 1 3465 218 912	A2.4	D22 411 8300 R0004	A8.8
CAP 846 594	B7.11	D22 1 3465 218 922	A2.4	D22 516 3306 R0001	A5.20
CAP 846 604	B7.11	D22 1 3465 236 001	A2.4	D22 516 3406 R0001	A5.20
CAP 846 674	B7.11	D22 1 3465 236 011	A2.4	D22 516 3506 R0001	A5.20
CAP 846 694	B7.11	D22 1 3465 236 021	A2.4	D22 516 4306 R0001	A5.20
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CAP 846 774	B7.11	D22 1 3465 236 922	A2.4	D22 516 4306 R3001	A5.20
CAP 846 794	B7.11	D22 1 3465 258 001	A2.4	D22 516 4306 R3901	A5.33
CAP 846 804	B7.11	D22 1 3465 258 011	A2.4	D22 516 4406 R0001	A5.20
CAP 846 894	B7.11	D22 1 3465 258 021	A2.4	D22 516 4406 R0501	A5.20
CAP 846 904	B7.11	D22 1 3465 258 912	A2.4	D22 516 4406 R3001	A5.20
CAP 846 994	B7.11	D22 1 3465 258 922	A2.4	D22 516 4506 R0001	A5.20
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CAP 847 094	B7.11	D22 1 3470 218 031	A2.8	D22 516 4506 R0901	A5.33
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