



(1) EC-TYPE-EXAMINATION CERTIFICATE (Translation)

(2) Equipment and Protective Systems Intended for Use in
Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 99 ATEX 1044



- (4) Equipment: Energy distribution, switching and control assembly
- (5) Manufacturer: CEAG Sicherheitstechnik GmbH
- (6) Address: Neuer Weg Nord 49, D-69412 Eberbach
- (7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
- The examination and test results are recorded in the confidential report PTB Ex 99-19131.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- | | | |
|----------------------|----------------------|----------------------|
| EN 50014:1997 | EN 50018:1994 | EN 50019:1994 |
| EN 50028:1987 | EN 50020:1994 | |
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EC-type-examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.
- (12) The marking of the equipment shall include the following:



II 2 G EEx d e ia/ib m [ia/ib] IIC T4-T6

Zertifizierungsstelle Explosionsschutz

Braunschweig, December 16, 1999

By order:

Dr.-Ing. U. Klausmeyer
Regierungsdirektor



sheet 1/3

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

(13)

SCHEDULE

(14)

EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1044

(15) Description of equipment

The energy distribution assembly with single or multiple enclosure on the basis of EN 60 439-1 consists of assembled electrical apparatus for which separate certificates have been issued, as follows:

miniature circuit-breaker board GHG 619,
terminal boxes GHG 74....,
terminal boxes GHG 73.,
terminal boxes GHG 72.,
control gear GHG 44....

For each of these components this test number may be used separately.

The distribution of the energy may basically take place without or with bus system. Relevant technical details are given in the test documents.

Within this combination, apparatus for which separate certificates have been issued and which are compiled in the "List of component variants and their combinations" may be used.

Technical data

Rated voltage:	max. 730 V
Rated current:	max. 180 A
Rated cross section:	max. 240 mm ²
Rated short-circuit current:	max. 47 kA
Rated short-time current : (1 s)	max. 1378 A
Length of one overall unit:	max. 6,8 m
Operating temperature range:	-55 °C to 95 °C, locally up to 125 °C

For combinations with bus systems a temperature of -20 °C must in any case be reached. The rated values are maximum values; the actual values must be equal or smaller and are dependent on the assembly of the single enclosures to form combined enclosures; they are determined by the individual components with the maximum rated values.

SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1044

The series fuse or protective system must be so selected that the maximum rated current, the maximum rated short-circuit current and the maximum rated short-time current (1 s) are safely cut off.

All components stated in the "List of component variants and their combinations" may be used in the combination. The maximum assemblies and the special conditions of the individual components are to be observed.

(16) Test report PTB Ex 99-19131

(17) Special conditions for safe use

none;

Additional hints for safe use:

The degree of protection (at least IP54) will be achieved only by proper use of the tested seals, flanges and cable and conduit entries as well as the specified assembly of the electrical apparatus for which separate certificates have been issued.

The assembly of the individual enclosures to form combinations or transport units is to be carried out in such a way that IP 54 is achieved. Long enclosure combinations are provided with an auxiliary frame.

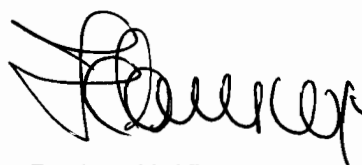
The assembly of the separately certified apparatus in enclosures or in enclosure covers is to be carried out in such a way that the mechanical strength and stability of the enclosures is not jeopardized, that creepage distances and clearances are complied with and that the conditions of assembly (electrical data, equipotential bonding, operating temperature range, etc.) from the examination certificates of the individual apparatus are met.

(18) Essential health and safety requirements

According to standards.

Zertifizierungsstelle Explosionsschutz

By order:



Dr.-Ing. U. Klausmeyer
Regierungsdirektor



Braunschweig, December 16, 1999

1st SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1044

(Translation)

Equipment: Power distribution, switching and control combination

Marking:  II 2 G EEx d e ia/ib m [ia/ib] IIC T4 - T6

Manufacturer: CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
69412 Eberbach, Germany

Description of supplements and modifications

The plastic terminal box type GHG 72..... R.... and GHG 74..... R.... of the power distribution, switching and control combination may now also be used in areas that have to be expected to be occasionally exposed to potentially explosive atmospheres with dust/air mixtures.

The marking, therefore, changes to

 II 2 G/D EEx d e ia/ib m [ia/ib] IIC T4 - T6 IP 66 T 80 °C

Test report: PTB Ex 01-11219

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, October 1, 2001



Dipl.-Phys. U. Völkel



2nd SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1044

(Translation)

Equipment: Power distribution, switchgear and control assembly

Marking:  II 2 G/D EEx d e ia/ib m [ia/ib] IIC T4 - T6 IP 66 T 80 °C

Manufacturer: CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
69412 Eberbach, Germany

Description of supplements and modifications

An aluminium enclosure may in future also be used for the measuring and control box, type GHG 723 R...., forming part of the power distribution, switchgear and control assembly. The box may be fitted with terminals for intrinsically safe and non-intrinsically safe circuits. It is designed for

 II 2 G EEx e ia IIC T6

application (no dust).

The technical data are not affected by the modifications.

Ambient temperature range -55 °C to +55 °C

Notes for manufacture and operation

For the maximum number of conductors for each enclosure size, which is subject to the cross section and the permissible continuous current, reference is made to the attached data sheets.

Test report: PTB Ex 01-11319

Zertifizierungsstelle Explosionsschutz

By order:


Dr.-Ing. U. Klausmeyer
Regierungsdirektor



Braunschweig, January 31, 2002

Sheet 1/1

3rd SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1044

(Translation)

Equipment: Power distribution, switchgear and control assembly

Marking:  II 2 G/D EEx d e ia/ib m [ia/ib] IIC T4...T6 IP 66 T 80 °C

Manufacturer: CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
69412 Eberbach, Germany

Description of supplements and modifications

The miniature circuit-breaker board, type GHG619 00..R..., and the control unit, type GHG 44*....R..., which form part of the power distribution, switchgear and control assembly, may now also be used in areas in which potentially explosive atmospheres formed by dust/air mixtures may occasionally occur.

The marking for both operators thus changes to:

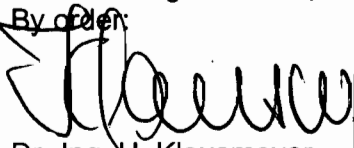
 II 2 G/D EEx d e ia/ib m [ia/ib] IIC T4...T6 IP 66 T 80 °C

Test report: PTB Ex 02-12099

Zertifizierungsstelle Explosionsschutz

Braunschweig, May 13, 2002

By order


Dr.-Ing. U. Klausmeyer
Regierungsdirektor



4th SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1044

(Translation)

Equipment: Power distribution, switch and control gear assembly

Marking:  II 2 G/D EEx d e ia/ib m [ia/ib] IIC T4 - T6 IP 66 T 80 °C

Manufacturer: CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
69412 Eberbach, Germany

Description of supplements and modifications

The power distribution, switch and control gear assembly, is supplemented by the control gear assembly, type GHA 619 R. This control gear assembly consists of an empty enclosure made from metal and designed to type of protection Increased Safety "e", which may be mounted in panels and the like. The empty enclosure is designed to accommodate switching and control gear, and measuring devices, as well as terminals for intrinsically safe and non-intrinsically safe circuits. It may be fitted with adapters as required.

The box area intended for intrinsically safe circuits will be identified, e.g. by a light-blue colour.

Connection is by means of explosion-proof cable entries. All integrated elements and extension elements have been tested and certified under a separate test certificate.

Technical data

Size of housing 295 mm long, 152 mm wide, 125 mm high

Rated voltage* up to 230 V

Rated current* max. 80 A

**) depending on type of terminal and explosion-proof components used*

Ambient temperatures -55 °C to +55 °C

Shock protection, protection against solid bodies,
and protection against ingress of water min. IP54 according to EN 60529

Rated values are maximum values, the actual electrical values are determined by mounted electrical apparatus. Within these limiting values complying with the appropriate standards the manufacturer specifies the final limiting values dependent on power supply specifications, operating mode, utilization category, etc.

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The admissible temperature range of mounted elements must not be exceeded.

The composition of the protection symbol will be based on the types of protection of components actually used.

Notes for manufacturing and operation

Operators of type of connection Intrinsic Safety "i" shall be installed such that the clearance and creepage distances that are required according to EN 60079-14 between intrinsically safe and non-intrinsically safe circuits are duly considered.

Should the clearance requirements set forth in EN 50020, section 6.3, not be complied with, terminals and wiring that meet the quality criteria Increased Safety "e" shall also be used for the intrinsically safe circuits.

When connecting more than one intrinsically safe circuit, the rules and regulations for interconnection shall duly be observed.

Test report: PTB Ex 03-13129

Zertifizierungsstelle Explosionsschutz

Braunschweig, June 27, 2003

By order


Dr.-Ing. U. Klausmeyer
Regierungsdirektor



5th SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1044

(Translation)

Equipment: Power distribution, switch and control gear assembly

Marking:  II 2 G/D EEx d e ia/ib m [ia/ib] IIC T4 - T6 IP 66 T 80 °C

Manufacturer: Cooper Crouse Hinds GmbH

Address: Neuer Weg Nord 49
69412 Eberbach, Germany

Description of supplements and modifications

The power distribution, switch and control gear assembly is supplemented in the following respects:

- 1) The control units, type GHG 44...., the miniature circuit-breaker board, type GHG 619, and the terminal boxes, types GHG 74...., GHG 73., and GHG 72., made from plastic, may optionally be provided with an external earthing connection.
- 2) The control units, type GHG 44...., the miniature circuit-breaker board, type GHG 619, and the terminal boxes, types GHG 74...., GHG 73., and GHG 72., made from plastic or metal, may optionally be provided with an M45 measuring instrument adapter.
In that case, the minimum ambient temperature is reduced to -40 °C.
- 3) The control units, type GHG 44...., and the miniature circuit-breaker board, type GHG 619, may optionally be fitted with – separately certified – measuring instruments of Encapsulation "m" type of protection.
- 4) The control units, type GHG 44...., and the miniature circuit-breaker board, type GHG 619, may optionally be provided with rotary switch adapters with enlarged switch knob.
- 5) The control units, type GHG 44...., and the miniature circuit-breaker board, type GHG 619, may optionally be fitted with the – separately certified – control switch, type Ex 23 GHG 23 ... R ..., including the – separately certified – adapter, type Ex 23 - GHG 41915 R0001.
- 6) The control units, type GHG 44...., and the miniature circuit-breaker board, type GHG 619, may optionally be fitted with the – separately certified – control switch, type Ex 23 GHG 23 ... R ..., including the – separately certified – adapter, type 8602/.

In that case, the minimum ambient temperature is reduced to - 20 °C.

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

5th SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1044

- 7) The control units, type GHG 44.... , and the miniature circuit-breaker board, type GHG 619, may optionally be fitted with the blanking plug, type GHG 410 6666 P0001, made from Vestamide.
- 8) The control units, type GHG 44.... , and the miniature circuit-breaker board, type GHG 619, may optionally be fitted with – separately certified – elements or equipment of Flameproof Enclosure "d" type of protection.
- 9) The terminal boxes, types GHG 74.... , GHG 73. and GHG 72. , made from plastic or metal, may optionally be fitted with – separately certified – elements or equipment of Flameproof Enclosure "d" type of protection.
- 10) Die control units, type GHG 44.... , the miniature circuit-breaker board, type GHG 619, and the terminal boxes, types GHG 74.... , GHG 73. and GHG 72. , made from plastic or metal, may optionally be provided with – separately certified – conduit hubs with NPT thread. The area of the complete system (G or D) is determined by the area for which the conduit hubs have obtained approval.
- 11) The companion sheets for the terminal boxes, type GHG 74.... and GHG 72. , will be supplemented.
- 12) Die control units, type GHG 44.... , and the miniature circuit-breaker board, type GHG 619, may optionally be provided with the key-operated switch, type GHG 4101435.
In that case, the degree of protection is reduced to IP 54.
- 13) Die control units, types GHG 44.... , the miniature circuit-breaker board, type GHG 619, and the terminal boxes, type GHG 74.... , may optionally be fitted together by means of an enclosure coupling.

Notes for manufacturing and operation

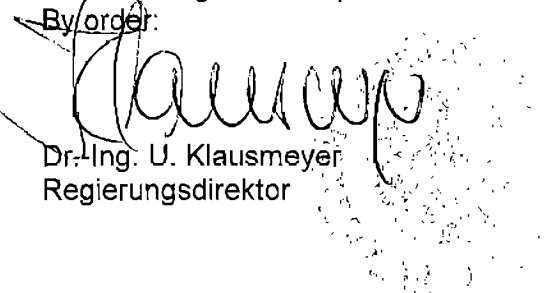
The notes for manufacturing and operation shall also apply to this supplement.

Test report: PTB Ex 04-14308

Zertifizierungsstelle Explosionsschutz

Braunschweig, December 17, 2004

By order:


Dr.-Ing. U. Klausmeyer
Regierungsdirektor

6th SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1044

(Translation)

Equipment: Power distribution, switch and control gear assembly,
types GHG 44, GHG 619, GHG 72, GHG 73, GHG 74

Marking:  II 2 G EEx de ia/ib m [ia/ib] IIC T4 - T6
 II 2 D IP66 T80°C

Manufacturer: Cooper Crouse-Hinds GmbH

Address: Neuer Weg Nord 49, 69412 Eberbach, Germany

Description of supplements and modifications

The power distribution, switch and control gear assembly is modified as follows:

1) The enclosures of types GHG 619, GHG 74.... . and GHG 44*....R.... , designed as individual enclosures and as coupled individual enclosures made from metal, may now also be employed in areas in which a potentially explosive atmosphere as a mixture of dust and air can occasionally form.

Subject to the sealing used, the maximum ambient temperature is -55 °C to +55 °C.

The marking for this equipment changes to:

 II 2 G EEx d e ia/ib m [ia/ib] IIC T4 - T6

 II 2 D IP 65 T 80 °C, T 95 °C

2) The enclosures of types GHG 619, GHG 72. , GHG 74.... . , and GHG 44*....R.... , made from plastic and provided with metal flanges, may now also be employed in areas in which a potentially explosive atmosphere as a mixture of dust and air can occasionally form.

Subject to the sealing used, the maximum ambient temperature is -55 °C to +55 °C.

The marking for this equipment changes to:

 II 2 G EEx d e ia/ib m [ia/ib] IIC T4 - T6

 II 2 D IP 65 T 80 °C, T95 °C

3) The enclosures made from plastics, types GHG 619, GHG 72., GHG 74...., and GHG 44*....R...., may optionally be made from material SMC 190 (light grey). These enclosures are only suited for explosive gas atmospheres and have to carry the following warning:

"Clean with moist cloth only."

4) The enclosures of type GHG 619, made from plastics or metal, may be equipped with the separately certified MCP flap, type GHG 610 14.. R....

Subject to the sealing used, the maximum ambient temperature is -20 °C to +60 °C.

5) The measuring and control boxes of type GHG 722 00.. R...., made from metal, are used as control units under the extended type name GHG 743 7220 R...., and they may be equipped with separately certified components, such as pushbuttons, signal lamps, measuring instruments.

6) The maximum conductor cross section is extended to 300 mm².

7) The actuator elements used in the enclosures of types GHG 619, GHG 7... and GHG 44 may now also be employed in areas in which a potentially explosive atmosphere as a mixture of dust and air can occasionally form.

Control and display element (actuator)	IP protection	Working temperature range
Signal lamp GHG 410 1413	IP66	-20 °C to +40 °C
Pushbutton GHG 410 1402	IP66	-20 °C to +40 °C
Double pushbutton GHG 410 1407	IP66	-20 °C to +40 °C
Measuring instrument AM72 GHG 410 1917	IP66	-20 °C to +40 °C
Mushroom-head emergency button GHG 410 1405	IP66	-20 °C to +40 °C
Control switch Ex 29/28 GHG 420 / 430 10..	IP66	-20 °C to +40 °C
Control switch Ex 23 GHG 420 / 430 10..	IP66	-20 °C to +40 °C
Dummy element GHG 410 6666	IP66	-55 °C to +90 °C
Measuring instrument AM 45 GHG 410 1915	IP66	-20 °C to +60 °C
Mushroom-head emergency button with lock GHG 410 1406	IP6X	-20 °C to +55 °C
Key-operated pushbutton GHG 410 14 04/35	IP6X	-20 °C to +55 °C
Rotary switch Ex 41 GHG 410 14 08/..	IP6X	-20 °C to +55 °C
Potentiometer GHG 410 1427	IP6X	-20 °C to +55 °C

Notes for manufacturing and operation

The "Notes for manufacturing and operation" will also apply to the supplement.

The enclosure made from material SMC 190 has to carry the following warning:

"Clean with moist cloth only."

Applied standards

EN 50014:1997 + A1 + A2

EN 50281-1-1:1998

Test report: PTB Ex 06-16295

Zertifizierungsstelle Explosionsschutz

Braunschweig, November 16, 2006

By order:


Dr.-Ing. U. Klausmeyer
Direktor und Professor



Physikalisch-Technische Bundesanstalt • Postfach 33 45 • 38023 Braunschweig

Cooper-Crouse Hinds GmbH
z. Hd. Frau Frankhauser

Neuer Weg Nord 49
69412 Eberbach

Ihr Zeichen:
Ihre Nachricht vom: 29.11.2007
Unser Zeichen:
Unsere Nachricht vom:

Bearbeitet von: Dr. Monika Schumann
Telefondurchwahl: +49 (0) 531-592-3515
Telefaxdurchwahl: +49 (0) 531-592-3505
E-Mail: Monika.Schumann@ptb.de

Datum: 14. Januar 2008

**Normengenerationsänderung nach EN 60079-0 ff, EN 6124-0 ff
Klemmenkästen Typ / Terminal boxes type GHG 72.... , GHG 73.... , GHG 74....
PTB 99 ATEX 1044**

Sehr geehrte Frau Frankhauser,

es bestehen keine sicherheitstechnischen Bedenken,
die Klemmenkästen Typ GHG 72.... , GHG 73.... , GHG 74.... mit folgenden
Kennzeichnungen zu versehen:

 II 2 G Ex d e ia/ib [ia/ib] m IIC T4, T5, T6

 II 2 D Ex tD A21 IP65 T 80 °C

Wir bitten Sie, diese Änderungen bei zukünftigen Ergänzungen mit aufzunehmen.

Translation

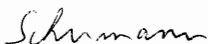
there are no safety-related objections from PTB to mark
the terminal boxes type GHG 72.... , GHG 73.... , GHG 74.... as follows

 II 2 G Ex d e ia/ib [ia/ib] m IIC T4, T5, T6

 II 2 D Ex tD A21 IP65 T 80 °C

We would like to ask you to include this change into the next supplement.

Mit freundlichen Grüßen
Im Auftrag



Dr. Schumann
Regierungsrätin

600 00 g

Physikalisch-Technische Bundesanstalt • Postfach 33 45 • 38023 Braunschweig

Cooper-Crouse Hinds GmbH
z. Hd. Frau Frankhauser

Neuer Weg Nord 49
69412 Eberbach

Ihr Zeichen:
Ihre Nachricht vom: 07.03.2008
Unser Zeichen:
Unsere Nachricht vom:

Bearbeitet von: Dr. Monika Schumann
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E-Mail: Monika.Schumann@ptb.de

Datum: 9. April 2008

**Normengenerationsänderung nach EN 60079-0 ff, EN 61241-0 ff
Klemmenkästen Typ / Terminal boxes type GHG 723... ,
PTB 99 ATEX 1044**

Sehr geehrte Frau Frankhauser,

es bestehen keine sicherheitstechnischen Bedenken,
die Klemmenkästen Typ GHG 723... aus Aluminium mit folgenden Kennzeichnungen zu versehen:

 II 2 G Ex d e ia/ib [ia/ib] m IIC T6

Wir bitten Sie, diese Änderungen bei zukünftigen Ergänzungen mit aufzunehmen.

Translation

there are no safety-related objections from PTB to mark
the terminal boxes type GHG 723... out of Aluminium as follows

 II 2 G Ex d e ia/ib [ia/ib] m IIC T6

We would like to ask you to include this change into the next supplement.

Mit freundlichen Grüßen

Im Auftrag



Dr. Schumann
Regierungsrätin

Achtung! Neue Bankverbindung:

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Internet: <http://www.ptb.de>

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PTB Berlin-Charlottenburg
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Physikalisch-Technische Bundesanstalt • Postfach 33 45 • 38023 Braunschweig

Cooper Crouse-Hinds GmbH
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Neuer Weg Nord 49
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Ihr Zeichen:
Ihre Nachricht vom: 30.04.2008
Unser Zeichen:
Unsere Nachricht vom:

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Telefaxdurchwahl: +49 (0) 531-592-3505
E-Mail: Monika.Schumann@ptb.de

Datum: 6. Juni 2008

**Ergänzung für den staub-explosionsgefährdeten Bereich, EN 61241-0 ff
Klemmenkästen Typ / Terminal boxes type GHG 723... ..,
PTB 99 ATEX 1044**

Sehr geehrte Frau Frankhauser,

es bestehen keine sicherheitstechnischen Bedenken,
die Klemmenkästen Typ GHG 723... .. aus Aluminium auch in Bereichen einzusetzen, in denen
damit zu rechnen ist, dass eine explosionsfähige Atmosphäre aus Staub/Luft-Gemischen gelegentlich
auftritt.

Die Kennzeichnungen ändern sich in:

 II 2 G Ex d e ia/ib [ia/ib] m IIC T6

 II 2 D Ex tD A21 IP66 T 80 °C

Wir bitten Sie, diese Änderungen bei zukünftigen Ergänzungen mit aufzunehmen.

Translation

there are no safety-related objections from PTB to use
the terminal boxes type GHG 723... .. out of Aluminium in areas in which explosive atmosphere
caused by air/dust mixtures are likely to occur.

Hence the marking changes into:

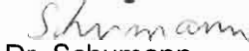
 II 2 G Ex d e ia/ib [ia/ib] m IIC T6

 II 2 D Ex tD A21 IP66 T 80 °C

We would like to ask you to include this change into the next supplement.

Mit freundlichen Grüßen

Im Auftrag


Dr. Schumann
Regierungsrätin