



(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 1163

(4) Equipment: Control switch, types GHG 292.... R.... and GHG 293.... R...

(5) Manufacturer: CEAG Sicherheitstechnik GmbH

(6) Address: Neuer Weg Nord 49, 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 00-19103.

(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 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 e d ia IIC T5 or T6

Zertifizierungsstelle Explosionschutz

Braunschweig, November 22, 2000

By order:

Dr.-Ing. U. Klausmeyer
Regierungsdirektor



SCHEDULE

(13)

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1163**

(15) Description of the equipment

of type of protection Increased Safety "e", with integrated control switch (type of protection Flameproof Enclosure "d") and, depending on the size of the housing, with integrated measuring unit and terminals of type of protection Increased Safety "e" or Intrinsic Safety "i".

Connection proceeds from outside using cable entries protected for use in explosive atmospheres.

All integrated elements and extension elements have been tested and certified under a separate test certificate.

Technical data

Using flush-mounting switch GHG 2... (PTB 98 ATEX 1117 U)

Utilization category AC-1

Rated voltage U_e	up to	690 V
Rated current I_e	max.	20A

Utilization category AC-3

Rated voltage U_e	up to	400 V	500 V	690 V
Rated current I_e	max	20 A	16 A	10 A

Rated cross section: max. 4 mm² single-core or 2.5 mm² finely stranded

Using flush-mounting switch GHG 291 (PTB 98 ATEX 1118 U)

Utilization category AC-3

Rated voltage U_e	up to	400 V	500 V
Rated current I_e	max.	10 A	10 A

Utilization category AC-13

Rated voltage U_e	up to	230 V	400 V	500 V
Rated current I_e	max.	10 A	6 A	6 A

Utilization category DC-13

Rated voltage U_e	up to	24 V	60 V	110 V	230 V
Rated current I_e	max.	6 A	0.8 A	0.5 A	0.3 A

Rated cross section: max. 6 mm² single-core or 4 mm² finely stranded

Ambient temperature range: -55 °C to +47 °C or +55 °C

Temperature class		T6	T5	T6	T6
Ambient temperature	max.	47 °C	55 °C	55 °C	40 °C
Thermal rated current	max.	16 A	16 A	10 A	20 A
Rated cross section	max.	2.5 mm ²	2.5 mm ²	1.5 mm ²	2.5 mm ²

Provided the making and breaking capacity complies with the relevant conditions, rated values other than those specified above are accepted and will be defined by the manufacturer on the basis of the operating mode, utilization category, etc.

It will be the manufacturer's responsibility to specify the characteristic values of the intrinsically safe circuits.

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

(16) Test report PTB Ex 00-19103

(17) Special conditions for safe use

None

Notes for manufacture and operation

When combined with circuits of type of protection Intrinsic Safety "i", installation has to proceed in such a way that the clearance and creepage distances between intrinsically safe and non-intrinsically safe circuits as set forth in EN 50020 are met.

If the clearance requirements for the connectors as specified in EN 50020 cannot be safeguarded with the installation, wiring that meets the quality criteria Increased Safety "e" shall be used, or the wiring shall be of the fail-safe type.

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

(18) Essential health and safety requirements

The tests and the favourable results these have produced reveal that the control switch of types GHG 292 R.... and GHG 293 R.... meets the requirements of directive 94/9/EC as well as those of the standards quoted on the cover sheet.

Zertifizierungsstelle Explosionsschutz

By order:


Dr.-Ing. U. Klausmeyer
Regierungsdirektor



Braunschweig, November 22, 2000

1st SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1163

(Translation)

Equipment: control switch GHG 292.... R.... and GHG 293.... R....

Marking:  II 2 G EEx e d ia IIC T5 resp. T6

Manufacturer: CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
69412 Eberbach, Germany

Description of supplements and modifications

The control switch type GHG 292.... R.... and GHG 293.... R.... may now also be used in areas where potentially explosive atmospheres with dust/air mixtures may occasionally occur.


Therefore the marking is changed into:

 II 2 G/D EEx ed ia IIC T5 resp. T6 IP66 T 49 °C

Test report: PTB Ex 01-11120

Zertifizierungsstelle Explosionsschutz

By order:



Dr.-Ing. U. Klausmeyer
Regierungsdirektor

Braunschweig, May 7, 2001

2. SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1163

(Translation)

Equipment: Control switch, type GHG 292.... R.... , GHG 293.... R...., GHG 294.... R....
and GHG 295.... R....

Marking:  II 2 G EEx ed ia IIC T5 resp. T6

Manufacturer: CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
69412 Eberbach, Deutschland

Description of supplements and modifications

The control switch, type GHG 292.... R.... and GHG 293.... R.... will be extended by the types GHG 294.... R.... and GHG 295.... R...., for which an aluminium housing is used.
These types are applicable for the field of application (no dust):

 II 2 G EEx ed ia IIC T5 resp. T6

The technical data remain without changes.

Notes for manufacture and operation

The notes for manufacture and operation are furthermore valid.

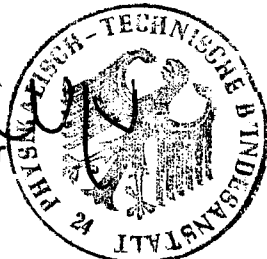
Test report: PTB Ex 01-11276

Zertifizierungsstelle Explosionsschutz

Braunschweig, December 14, 2001

By order:


Dr.-Ing. C. Klausmeyer
Regierungsdirektor



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