



(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 3101 X

(4) Equipment: Cable and conduit entry, type GHG 960 923. P....
size M12 x 1,5 and M16 x 1,5

(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 99-30113.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50 014:1997 EN 50 019:1994

(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 II

Zertifizierungsstelle Explosionschutz

Braunschweig, November 16, 1999

By order:

Dr.-Ing. U. Engel
Regierungsdirektor



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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.

SCHEDULE

(13)

(14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 3101 X**

(15) Description of equipment

The cable entry, type GHG 960 923. P... made of polyamide serves to introduce permanently laid cables into electrical equipment of the type of protection Increased Safety "e". The cable entry is composed of intermediate glands, a sealing ring of different materials and a cap nut. Accessoire is a blanking element. They are installed in enclosures with through-holes or threaded holes, with or without lock nut.

Technical data

Nominal size	to be used for cable and conduit diameters
M 20 x 1,5 (with long internal thread)	from 5,5 mm to 13,0 mm
M 12 x 1,5	from 4,0 mm to 7,0 mm
M 16 x 1,5	from 5,5 mm to 10,0 mm
Range of temperatures of use, normal:	-20 °C to +70 °C
Expanded range of temperatures of use, depending on material of sealings:	neoprene: -30 °C to +70 °C nitrile rubber NBR: -40 °C to +70 °C silicone: -55 °C to +70 °C evoprene: -50 °C to +70 °C
Suitable for equipment of group II with a degree of mechanical hazard:	low
Installation in equipment with wall thicknesses of:	at least 1,5 mm
Protection against contact, foreign matter and water:	at least IP 54 acc. to EN 60 529:1991

(16) Report PTB Ex 99-30113

(17) Special conditions for safe use

Only permanently laid cables and conduits may be entered. The user must guarantee suitable clamping.

The maximum thermal load of the cables and conduits entered is to be taken into account.

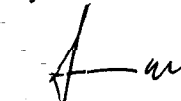
The cable entries may be used only in places where they are protected against the influence of mechanical danger.

(18) Essential health and safety requirements

The degree of protection - at least IP 54 according to EN 60529:1991 - will be guaranteed only by adequate selection of cable and conduit entries, of the sealings tested and by proper installation of the cable and conduit entries into the electrical apparatus.

Zertifizierungsstelle Explosionschutz

By order:



Dr.-Ing. U. Engel
Regierungsdirektor



Braunschweig, November 16, 1999

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1st SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 3101 X

(Translation)

Equipment: Cable entry, type GHG 960 923. P.
sizes M12 x 1.5 and M16 x 1.5

Marking:  II 2 G EEx e II

Manufacturer: CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
69412 Eberbach, Germany

Description of supplements and modifications

The cable entry, type GHG 960 923. P...., sizes M12 x 1.5 and M16 x 1.5, may optionally also be made from the plastic material Frianyl.

Technical data

Nominal size	Conductor cross section	Suited for mechanical risk level	Maximum operating temperature range
M 12 x 1.5	4.0 mm to 7.0 mm	low	-20 °C to + 70 °C
M 16 x 1.5	5.5 mm to 10.0 mm	low	-20 °C to + 70 °C

Installed in units of the following wall thickness: 1.5 mm as a minimum

Shock protection, protection against solid bodies, and protection against ingress of water: IP 54 according to EN 60529 as a minimum

Special conditions

The special conditions specified shall also apply to this supplement.

Test report: PTB Ex 02-12278

Zertifizierungsstelle Explosionsschutz

By order

Dr.-Ing. U. Klausmeyer
Regierungsdirektor



Braunschweig, September 06, 2002

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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.

2nd SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 3101 X

(Translation)

Equipment: Cable entry, type GHG 960 923. P....
sizes M12 x 1.5 and M16 x 1.5

Marking:  II 2 G EEx e II

Manufacturer: CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
69412 Eberbach, Germany

Description of supplements and modifications

Standard applied: EN 50281-1-1:1998

The cable entry, type GHG 960 923. P...., sizes M12 x 1.5 and M16 x 1.5, may also be employed in areas in which explosive atmospheres with dust/air mixtures have to be expected to occur. The marking, therefore, changes to read:

 II 2 G/D EEx e II IP 66

Special conditions for safe use

The special conditions shall also apply to this supplement.

Test report: PTB Ex 03-13279

Zertifizierungsstelle Explosionsschutz
By order:



Dr.-Ing. U. Klaujens
Regierungsdirektor

Braunschweig, September 25, 2003

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3rd SUPPLEMENT
according to Directive 94/9/EC Annex III.6
to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 3101 X
(Translation)

Equipment: Cable entry fitting, type GHG 960 923. P...., sizes M12 x 1.5 and M16 x 1.5

Marking:  II 2 G EEx e II
 II 2 D IP66

Manufacturer: Cooper Crouse-Hinds GmbH



Address: Neuer Weg Nord 49, 69412 Eberbach, Germany

Description of supplements and modifications

Cable entry fitting, type GHG 960 923. P...., sizes M12 x 1.5 and M16 x 1.5, is renamed to :
Type GHG 960 :

The cable entry fitting has been re-inspected on the basis of standards EN 60079-0, EN 60079-7, EN 61241-0, and EN 61241-1.

The marking thus changes to:

 II 2 G Ex e II
 II 2 D Ex tD A21 IP 66

Technical data

Nominal size	Conductor size	Degree of mechanical risk	Maximum working temperature range	Tightening torque
M 12 x 1.5	4.0 mm to 7.0 mm	Low	-20 °C to + 70 °C	2.5 Nm
M 16 x 1.5	5.5 mm to 10.0 mm	Low	-20 °C to + 70 °C	3.75 Nm

Installed in devices with wall thickness: Min. 1.5 mm

Shock protection and protection against ingress of solid foreign bodies and water IP 66 in compliance with EN 60529

Special conditions

The cable entry fittings may only be installed in locations in which they are protected against the effects of mechanical hazards.

Only permanently wired cables may be entered. The user must provide the required strain relief.

The degree of protection will only be safeguarded when suitable cable entry fittings and tested seals are used, and when the fittings are installed in the electrical equipment in a workmanlike manner.

When selecting the tested sealing elements, the maximum thermal loading capacity of cables entered must be considered.

Applied standards

EN 60079-0:2006

EN 60079-7:2007

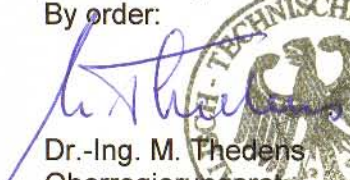
EN 61241-0:2006

EN 61241-1:2004

Test report: PTB Ex 07-17337

Zertifizierungsstelle Explosionsschutz

By order:


Dr.-Ing. M. Thedens
Oberregierungsrat



Braunschweig, December 11, 2007