



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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Certificate No.: **IECEX PTB 14.0027X** Page 1 of 4 [Certificate history:](#)  
Issue 0 (2014-05-26)

Status: **Current** Issue No: 1

Date of Issue: 2017-01-16

Applicant: **Cooper Crouse-Hinds GmbH**  
Neuer Weg Nord 49  
69412 Eberbach  
Germany

Equipment: **Cable gland type GHG 960 \*\*\*\* \* \*\*\*\***

Optional accessory:

Type of Protection: **"eb", "tb"**

Marking: Ex eb IIC Gb  
Ex tb III C Db

Approved for issue on behalf of the IECEx  
Certification Body:

**Dr.-Ing. Detlev Markus**

Position:

**Head of Department "Explosion Protection in Energy Technology"**

Signature:  
(for printed version)

Date:

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Certificate issued by:

**Physikalisch-Technische Bundesanstalt (PTB)**  
**Bundesallee 100**  
**38116 Braunschweig**  
**Germany**



Physikalisch-Technische Bundesanstalt  
Braunschweig und Berlin



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Manufacturer: **Cooper Crouse-Hinds GmbH**  
Neuer Weg Nord 49  
69412 Eberbach  
**Germany**

Additional  
manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

**IEC 60079-0:2011** Explosive atmospheres - Part 0: General requirements  
Edition:6.0

**IEC 60079-31:2013** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

**IEC 60079-7:2015** Explosive atmospheres – Part 7: Equipment protection by increased safety "e"  
Edition:5.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/PTB/ExTR14.0029/01](#)

Quality Assessment Report:

[DE/BVS/QAR11.0009/05](#)



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

### **Description**

The cable gland, type GHG 960 \*\*\*\* \* \*\*\*\*, made of polyamide serves to introduce permanently laid cables into electrical equipment of the type of protection Increased Safety "eb" and Protection by enclosure "tb".  
The cable entry is composed of intermediate glands with two different widths of threaded joint, sealing rings of different designs and a cap nut. Accessories are: blanking plug, reducing gland, multiple cable gland, flat cable gland and expansion gland.  
They are installed in enclosures with through-holes or threaded holes, with or without lock nut.  
The cap nut is optionally made in black resp. blue for the distinction of Ex-e and Ex-i circuits.

Technical Data and Nomenclature see Annex.

### **SPECIFIC CONDITIONS OF USE: YES as shown below:**

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

The degree of protection (IP66) will only be met if seals and cable glands are properly fitted. The manufacturer's instructions must be followed.

The cable entries with a low degree of mechanical hazard: may be used only in places where they are protected against the influence of mechanical danger.

The blanking plug type GHG 960 6107 P\*\*\*\* resp. GHG 960 1944 R\*\*\*\* shall only be used with the cable glands type GHG 960 92\*\* P\*\*\*\* resp. GHG 960 19\*\* R\*\*\*\*.



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**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

- 1) New test according to IEC 60079-31:2013 and IEC 60079-7:2015.
- 2) The sizes M16 to M25 have got an additional sealing ring.
- 3) The size G26 of the flat cable gland has been changed to G24.
- 4) The minimum ambient temperature of size M25x1,5 is changed to -25 °C.

**Annex:**

[COCA14.0027X-01.pdf](#)



Applicant: Cooper Crouse-Hinds GmbH  
Neuer Weg Nord 49  
69412 Eberbach  
Germany

Electrical Apparatus: Cable gland type GHG 960 \*\*\*\* \* \*\*\*\*

### Description

The cable gland, type GHG 960 \*\*\*\* \* \*\*\*\*, made of polyamide serves to introduce permanently laid cables into electrical equipment of the type of protection Increased Safety "eb" and Protection by enclosure "tb".

The cable entry is composed of intermediate glands with two different widths of threaded joint, sealing rings of different designs and a cap nut.

Accessories are: blanking plug, reducing gland, multiple cable gland, flat cable gland and expansion gland.

They are installed in enclosures with through-holes or threaded holes, with or without lock nut.

The cap nut is optionally made in black resp. blue for the distinction of Ex-e and Ex-i circuits.

### Technical data

Type	Ø Clamping range in mm Sealing ring 1 Sealing ring 2 Sealing ring 3	Service temperature	One pcs.	Packing set
Cable Gland M12x1.5	Ø 5 – 7	-20°C - +70°C	GHG 960 9235 P****	GHG 960 1955 R****
Cable Gland M16x1.5	Ø 5.5 – 7 Ø 7 – 10	-25°C - +70°C	GHG 960 9235 P****	GHG 960 1955 R****
Cable Gland M20x1.5	Ø 5.5 – 7 Ø 7 – 9 Ø 9.5 – 13	-20°C - +70°C	GHG 960 9235 P****	GHG 960 1955 R****
Cable Gland M20x1.5	Ø 5.5 – 7 Ø 7 – 9 Ø 9.5 – 11	-40°C - +70°C	GHG 960 9248 P****	GHG 960 1955 R****
Cable Gland M25x1.5	Ø 8 – 10 Ø 10 – 13 Ø 13,5 – 17,5	-25°C - +70°C	GHG 960 9235 P****	GHG 960 1955 R****
Cable Gland M25x1.5	Ø 8 – 10 Ø 10 – 13 Ø 13,5 – 15	-55°C - +70°C	GHG 960 9235 P****	GHG 960 1955 R****
Cable Gland M32x1.5	Ø 14 – 17 Ø 17,5 – 21	-55°C - +70°C	GHG 960 9248 P****	GHG 960 1955 R****
Cable Gland M32x1.5	Ø 14 – 17 Ø 17,5 – 21	-20°C - +70°C	GHG 960 9235 P****	GHG 960 1955 R****
Cable Gland M40x1.5	Ø 19 – 22 Ø 22 – 28	-55°C - +70°C	GHG 960 9235 P****	GHG 960 1955 R****
Cable Gland M50 x1.5	Ø 24 – 28 Ø 28 – 35	-55°C - +70°C	GHG 960 9235 P****	GHG 960 1955 R****
Cable Gland M63x1.5	Ø 29 – 35 Ø 36 – 41 *	-55°C - +70°C	GHG 960 9235 P****	GHG 960 1955 R****
Extension gland M16/M20X1.5	Ø 5.5 – 7 Ø 7 – 9 Ø 9,5 – 13	-20°C - +70°C	GHG 960 9244 P****	GHG 960 1956 R****
Extension gland M20/M25X1.5	Ø 8 – 10 Ø 10 – 13 Ø 13,5 – 17,5	-20°C - +70°C	GHG 960 9244 P****	GHG 960 1956 R****
Extension gland M25/M32X1.5	Ø 14 – 17 Ø 17,5 – 21	-55°C - +70°C	GHG 960 9244 P****	GHG 960 1956 R****
Extension gland M32/M40X1.5	Ø 19 – 22 Ø 22 – 28	-55°C - +70°C	GHG 960 9244 P****	GHG 960 1956 R****
Extension gland M40/M50X1.5	Ø 24 – 28 Ø 28 – 35	-55°C - +70°C	GHG 960 9244 P****	GHG 960 1956 R****
Extension gland M50/M63X1.5	Ø 29 – 35 Ø 36 – 41 *	-55°C - +70°C	GHG 960 9244 P****	GHG 960 1956 R****
Reducing gland M16-M12		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M20-M12		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M20-M16		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M25-M12		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M25-M16		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****





Reducing gland M25-M20		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M32-M12		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M32-M16		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M32-M20		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M32-M25		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M40-M16		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M40-M20		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M40-M25		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M40-M32		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M50-M20		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M50-M25		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M50-M32		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M50-M40		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M63-M25		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M63-M32		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M63-M40		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Reducing gland M63-M50		-55°C - +70°C	GHG 960 9237 P****	GHG 960 1946 R****
Multiple gland M25X1.5 2- fold	Ø 4,5 – 7	-20°C - +70°C	GHG 960 9235 P****	GHG 960 1955 R****
Multiple gland M32X1.5 4- fold	Ø 4,5 – 7	-20°C - +70°C	GHG 960 9235 P****	GHG 960 1955 R****
Flat cable gland M25X1,5	G18 = 12,5 - 9 x 8 - 5 G24 = 14 - 11 x 8 - 6	-55°C - +70°C (+110°C)***	GHG 960 9242 P****	
Cable gland PG 16	**	-20°C - +70°C	GHG 960 9243 P****	
Cable gland PG 16	**	-55°C - +70°C	GHG 960 9243 P****	
Blanking plug for M12	Ø 5	-55°C - +70°C	GHG 960 6107 P****	GHG 960 1944 R****
Blanking plug for M16	Ø 6	-55°C - +70°C	GHG 960 6107 P****	GHG 960 1944 R****
Blanking plug for M20	Ø 7	-55°C - +70°C	GHG 960 6107 P****	GHG 960 1944 R****
Blanking plug for M25	Ø 10	-55°C - +70°C	GHG 960 6107 P****	GHG 960 1944 R****
Blanking plug for M32	Ø 13	-55°C - +70°C	GHG 960 6107 P****	GHG 960 1944 R****
Blanking plug for M40	Ø 19	-55°C - +70°C	GHG 960 6107 P****	GHG 960 1944 R****
Blanking plug for M50	Ø 25	-55°C - +70°C	GHG 960 6107 P****	GHG 960 1944 R****
Blanking plug for M63	Ø 32	-55°C - +70°C	GHG 960 6107 P****	GHG 960 1944 R****
Blanking plug for multiple gland	Ø 5	-55°C - +70°C	GHG 960 6107 P****	GHG 960 1944 R****

\* additional sealing ring for the clamping range Ø 41mm up to Ø 48mm

\*\* the same design as well as the M25 version

\*\*\* Sealing ring for the heat cable of the flat cable gland

Two different length of thread for the cable glands

short = P/R\*\*\*\*

long = P/R\*\*\*\*

Two different colours for the cable glands

black for Ex-e version = P/R\*\*\*\*

blue for Ex-i version = P/R\*\*\*\*

Installation in equipment with wall thicknesses of

minimum 1,5 mm

Ingress protection

IP 66

### Torque cable gland

Type	Service temperature range	Impact energy	Clamping range	Torque Pressure screw	Torque Gland body
KLE	°C	Joule	Ø mm	Nm	Nm
M16	-20 - +70	low, 4	5,5 - 7,0 7,0 - 10,0	1,0 / 1,0 1,0 / 1,4	3,3
M20	-20 - +70	high, 7	5,5 - 7,0 7,0 - 9,0 9,5 - 13,0	1,5 / 1,0 1,5 / 1,4 1,0 / 1,7	2,7
M20	-40 - +70	low, 4	5,5 - 7,0 7,0 - 9,0 9,5 - 13,0	1,5 / 1,0 1,5 / 1,4 1,0 / 1,7	2,7
M20 split gasket	-20 - +70	high, 7	2,0 7,0 - 9,0	3,5 1,5 / 1,4	2,7
M25	-20 - +70	high, 7	10,0 - 13,0 13,5 - 17,5	2,3 / 2,6 1,3 / 2,3	3,0
M25	-25 - +70	high, 7	8,0 - 10,0 10,0 - 13,0 13,5 - 17,5	1,5 / 2,0 2,3 / 2,6 1,3 / 2,3	3,0
M25	-55 - +70	high, 7	8,0 - 10,0 10,0 - 13,0 13,5 - 15	1,5 / 2,0 2,3 / 2,6 1,5 / 2,3	3,0
M25 flat cable	-55 - +70 (+110°C)	high, 7	5-8x11-12,5 6-8x11-14	5,0 3,5	5,0
PG16	-25 - +70	high, 7	10,0 - 13,0 13,5 - 15,0	2,3 / 2,6 1,5 / 2,3	5,0
PG16	-55 - +70	high, 7	10,0 - 13,0 13,5 - 17,5	2,3 / 2,6 1,3 / 2,3	5,0
M32	-20 - +70	high, 7	14,0 - 17,0 17,5 - 21,0	3,0 / 4,0 1,5 / 1,3	5,0
M32	-55 - +70	high, 7	14,0 - 17,0 17,5 - 21,0	3,0 / 4,0 1,5 / 1,3	5,0
M40	-55 - +70	high, 7	19,0 - 22,0 22,0 - 28,0	3,3 / 5,5 3,3 / 6,7	7,5
M50	-55 - +70	high, 7	24,0 - 28,0 28,0 - 35,0	6,0 / 7,0 5,0 / 7,0	7,5
M63	-55 - +70	high, 7	29,0 - 35,0 36,0 - 41,0	12,0 / 12,0 12,0 / 13,0	7,5

### Torque multiple cable gland

Type	Service temperature range	Impact energy	Clamping range	Torque Pressure screw	Torque Gland body
KLE	°C	Joule	Ø mm	Nm	Nm
M25 2-fach	-20 - +70	high, 7	2x 4,5 - 7,0	2,0 / 2,0	3,0
M32 4-fach	-20 - +70	high, 7		3,0 / 3,5	5,0



### Torque extension cable gland

Type	Service temperature range	Impact energy	Clamping range	Torque Pressure screw	Torque Gland body
KLE	°C	Joule	Ø mm	Nm	Nm
M16/M20	-20 - +70	high, 7	5,5 - 7,0 7,0 - 9,0 9,5 - 13,0	1,0 / 1,0 1,5 / 1,4 1,0 / 1,7	2,7
M16/M20	-40 - +70	low, 4	5,5 - 7,0 7,0 - 9,0 9,5 - 13,0	1,5 / 1,0 1,5 / 1,4 1,0 / 1,7	2,7
M20/M25	-20 - +70	high, 7	8,0 - 10,0 10,0 - 13,0 13,5 - 17,5	1,5 / 1,0 2,3 / 2,6 1,3 / 2,3	3,0
M20/M25	-55 - +70	high, 7	8,0 - 10,0 10,0 - 13,0 13,5 - 15,0	1,5 / 2,0 2,3 / 2,6 1,5 / 2,3	3,0
M25/M32	-55 - +70	high, 7	14,0 - 17,0 17,5 - 21,0	3,0 / 4,0 1,5 / 1,3	5,0
M32/M40	-55 - +70	high, 7	19,0 - 22,0 22,0 - 28,0	3,3 / 5,5 3,3 / 6,7	7,5
M40/M50	-55 - +70	high, 7	24,0 - 28,0 28,0 - 35,0	6,0 / 7,0 5,0 / 7,0	7,5
M50/M63	-55 - +70	high 7	29,0 - 35,0 36,0 - 41,0 (41,0 - 48,0)	12,0 / 12,0 12,0 / 13,0 (13,0 / 7,8)	7,5

### Nomenclature

GHG 960	****	*	****
1	2	3	4

- 1) Type
- 2) Design see table 1 above
- 3) P = Single part  
R = Packing set
- 4) Variants e.g. colour, thread length, blanking elements, size, etc.

### Conditions of Use

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

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

The blanking plug type GHG 960 6107 P\*\*\*\* resp. GHG 960 1944 R\*\*\*\* shall only be used with the cable glands type GHG 960 92\*\* P\*\*\*\* resp. GHG 960 19\*\* R\*\*\*\*.



