



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX BVS 22.0029X** Page 1 of 3 [Certificate history:](#)  
Status: **Current** Issue No: 0  
Date of Issue: 2022-07-06  
Applicant: **COOPER CROUSE-HINDS GmbH**  
Neuer Weg Nord 49, 69412 Eberbach  
Germany  
Equipment: **Control Unit type GHG 41..... GHG 43.....**  
Optional accessory:  
Type of Protection: **Flameproof enclosures "d"; Intrinsic safety "i"; Dust ignition "t"; Increased safety "e", Encapsulation "m"**  
Marking: Ex eb \* IIC/IIB/IIB+H<sub>2</sub> T6/T5 Gb  
Ex tb IIIC T80 °C Db  
\*) depending on the separately certified components in type of protection type "db", "ib" and/or "mb".

Approved for issue on behalf of the IECEx  
Certification Body:

**Dr Franz Eickhoff**

Position:

**Lead Auditor and officially recognised expert**

Signature:  
(for printed version)

Date:  
(for printed version)

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Certificate issued by:

**DEKRA Testing and Certification GmbH**  
Certification Body  
Dinnendahlstrasse 9  
44809 Bochum  
Germany

 **DEKRA**  
On the safe side.



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Manufacturer: **COOPER CROUSE-HINDS GmbH**  
Neuer Weg Nord 49, 69412 Eberbach  
Germany

Manufacturing locations: **COOPER CROUSE-HINDS GmbH**  
Neuer Weg Nord 49, 69412 Eberbach  
Germany

**EATON ELECTRIC (SINGAPORE)  
PTE. LTD.**  
100G Pasir Panjang Road  
#07-08 & 02-09  
Interlocal centre  
Singapore 118523  
Singapore

**Cooper Electric (Changzhou) Co.  
Ltd.**  
No. 189 Liuyanghe Road, Xinbei  
District, Changzhou, Jiangsu, 213031  
China

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 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

[IEC 60079-1:2014-06](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

[IEC 60079-18:2017](#) Explosive atmospheres - Part 18: Protection by encapsulation "m"  
Edition:4.1

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  
Edition:5.1

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/BVS/ExTR22.0029/00](#)

Quality Assessment Reports:

[DE/BVS/QAR11.0009/12](#)

[GB/BAS/QAR07.0041/11](#)

[GB/BAS/QAR11.0007/08](#)



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## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

### Subject and Type

See Annex

### Description

The control units of the GHG41 \* \* \* \* \* and GHG43 \* \* \* \* \* are used for on-site control of electrical systems or fixed installation on electrical systems in potentially explosive areas.

The control units are built in type of protection increased safety "eb" und protection by enclosure "tb".

The control units consist of plastic or metal enclosure and can be equipped with different separately certified components according „List of components“ GHG9025018F0001 (terminals) und GHG9025018F0002.

### Listing of all components used referring to older standards

See Annex

### Parameters

See Annex

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

The plastic enclosures GHG411/GHG412 and GHG43 can alternatively be made of different materials. Material "A" is conductive with a surface resistance of  $< 10^9 \Omega$ .

Materials "B" and "C" are non-conductive with a surface resistance  $> 10^9 \Omega$ .

The code letters are given with a preceding "Mat.:" on the type label.

With regard to the possible risk of electrostatic discharge, the relevant information in the operating instructions must be observed.

### Annex:

[BVS\\_22\\_0029X\\_Cooper\\_Annex0.pdf](#)



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**Annex**  
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## Subject and Type

Control Unit type GHG 41<sup>1).2).3).4)..5).6)....7)</sup>

1) Manufacturer control station programme

2) enclosure type  
moulded plastic 1

3) Type  
Ex i- Measuring instruments 4  
Customer special types 5  
No Ex 6  
NOS 7  
Standard type 8  
Crouse Hinds Australia 9

4) Enclosure size  
Size (85mm x 85mm x 78mm) 1  
Size (85mm x 125mm x 78mm) 2  
Size (85mm x 165mm x 78mm) 3

5)6)7) Alphanumeric character string, without influence on the explosion protection

Type \*\*\*\*1)\*\*\*\*\*2) GHG411

1) Item number of customer order  
2) Customer order number

\*) Customized type code based on the standard type code

Control Unit type GHG 41<sup>1).2).3).4)..5).6)....7)</sup>

1) Manufacturer control station programme

2) Enclosure type  
Moulded plastic flange mounting 2

3) Type  
Ex i- Measuring instruments 4  
Customer special types 5  
No Ex 6  
NOS 7  
Standard type 8  
Crouse Hinds Australia 9

4) Enclosure size  
Size (85mm x 125mm x 78mm) 2  
Size (85mm x 165mm x 78mm) 3

5)6)7) Alphanumeric character string, without influence on the explosion protection



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Control Unit type GHG 41<sup>1).2).3).4)..5).6)....7)</sup>

1) Manufacturer control station programme

2) Enclosure type  
Light alloy 3

3) Type  
Ex i- Measuring instruments 4  
Customer special types 5  
No Ex 6  
NOS 7  
Standard type 8  
Crouse Hinds Australia 9

4) enclosure size  
size (122mm x 120mm x 81mm) 4  
size (220mm x 120mm x 81mm) 5

<sup>5)6)7)</sup> Alphanumeric character string, without influence on the explosion protection

Control Unit type GHG 41<sup>1).2).3).4)..5).6)....7)</sup>

1) Manufacturer control station programme

2) Enclosure type  
Stainless steel 4

3) Type  
Ex i- Measuring instruments 4  
Customer special types 5  
No Ex 6  
NOS 7  
Standard type 8  
Crouse Hinds Australia 9

4) Enclosure size  
Size (166mm x 140mm x 76mm) 1  
Size (286mm x 140mm x 76mm) 2

<sup>5)6)7)</sup> Alphanumeric character string, without influence on the explosion protection



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Control Unit type GHG 41<sup>1),2),3),4),5),6),...7)</sup>

1) Manufacturer control station programme

2) Enclosure type  
Combination of plastic enclosure 6  
GHG411\*

3) Type  
Ex i- Measuring instruments 4  
Customer special types 5  
No Ex 6  
NOS 7  
Standard type 8  
Crouse Hinds Australia 9

<sup>4)5)6)7)</sup> Alphanumeric character string, without influence on the explosion protection

Control Unit type GHG 43<sup>1),2),...3),4),...5)</sup>

1) Manufacturer control station program

2) Enclosure size  
Size (100mm x 158mm x 90mm) 2  
Size (100mm x 247mm x 90mm) 4

<sup>3)4)5)</sup> Alphanumeric character string, without influence on the explosion protection

Type <sup>\*\*\*\*1)\*\*\*\*\*2)</sup> GHG43

1) Item number of customer order  
2) Customer order number

\*) Customized type code based on the standard type code

## Description

The control units of the GHG41 \* \* \* \* \* and GHG43 \* \* \* \* \* are used for on-site control of electrical systems or fixed installation on electrical systems in potentially explosive areas. The control units are built in type of protection increased safety "eb" and protection by enclosure "tb". The control units consist of plastic or metal enclosure and can be equipped with different separately certified components according „List of components“ GHG9025018F0001 (terminals) und GHG9025018F0002.

Listing of all components used referring to older standards

Subject and type	Certificate	Standards
Fuse 8560	IECEX PTB 06.0056U	IEC 60079-0:2004 Ed. 4 <sup>1</sup> IEC 60079-7:2001 Ed. 3 <sup>1</sup> IEC 60079-18:1992 Ed. 1 <sup>1</sup>
Switch base GHG238	IECEX BVS 13.0108U	IEC 60079-0:2011 Ed. 6 <sup>1</sup> IEC 60079-7:2015 Ed. 5 <sup>1</sup>
P.B. base EX41 GHG417	IECEX IBE 13.0031U	IEC 60079-0:2011 Ed. 6 <sup>1</sup> IEC 60079-7:2015 Ed. 5 <sup>1</sup>
SIL base Ex41	IECEX IBE 13.0031U	IEC 60079-0:2011 Ed. 6 <sup>1</sup> IEC 60079-7:2015 Ed. 5 <sup>1</sup>
Terminal type MSLKG	IECEX KEM 07.0035U	IEC 60079-0:2004 Ed. 4 <sup>1</sup> IEC 60079-7:2006 Ed. 4 <sup>1</sup>



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<sup>1</sup> No applicable technical differences

### Parameters

Nominal voltage max.: 690 V AC  
 Nominal current max.: 16 A  
 Ambient temperature range  
 -40°C ... +55°C (GHG411/GHG412/GHG416)\*  
 -55°C ... +55°C (GHG413/GHG414)\*  
 -40 °C ... + 55 °C (GHG43)\*

\*) The maximum permitted ambient temperature depends on the Ex components used or the housing accessories used.

### Parameters for marking GHG411/GHG412/GHG416

Rated Current [A]	Cross section [mm <sup>2</sup> ]	Permitted ignition group		Dust Protection
		T <sub>amb</sub> ≤ +40°C	+40°C ≤ T <sub>amb</sub> ≤ +55°C	
6	1.5	T6		T80°C
10		T6	T5	
16		n/a		
6	2.5	T6		T80°C
10		n/a		
16		n/a		
6	4	T6		T80°C
10		T6		
16		T6	T5	

### Parameters for marking GHG413

Rated Current [A]	Cross section [mm <sup>2</sup> ]	Permitted ignition group		Dust Protection
		T <sub>amb</sub> ≤ +40°C	+40°C ≤ T <sub>amb</sub> ≤ +55°C	
6	1.5	T6		T80°C
10		T6	T5	
16		n/A		
6	2.5	T6		T80°C
10		T6		
16		T6	T5	
6	4	T6		T80°C
10		T6		
16		T6	T5	



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Parameters for marking GHG414

Rated Current [A]	Cross section [mm <sup>2</sup> ]	Permitted ignition group		Dust Protection
		$T_{amb} \leq +40^{\circ}\text{C}$	$+40^{\circ}\text{C} \leq T_{amb} \leq +55^{\circ}\text{C}$	
6	1.5	T6		T80°C
10		T6	T5	
16		n/a		
6	2.5	T6		T80°C
10		n/a		
16		n/a		
6	4	T6		T80°C
10		n/a		
16		T6	T5	

Parameters for marking GHG43

Rated Current [A]	Cross section [mm <sup>2</sup> ]	Permitted ignition group		Dust Protection
		$T_{amb} \leq +40^{\circ}\text{C}$	$+40^{\circ}\text{C} \leq T_{amb} \leq +55^{\circ}\text{C}$	
6	1.5	T6		T80°C
10		T6	T5 (T6 bis $T_{amb}=+54^{\circ}\text{C}$ )	
16		n/a		
6	2.5	T6		T80°C
10		n/a (only with suitable cable glands + wires)		
16		T6	n/a (only with suitable cable glands + wires)	
6	4	T6		T80°C
10		T6		