



# 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 17.0045X** Page 1 of 4 Certificate history:  
Status: **Current** Issue No: 2 [Issue 1 \(2018-01-26\)](#)  
[Issue 0 \(2017-08-31\)](#)  
Date of Issue: 2018-03-21  
Applicant: **Cooper Crouse-Hinds GmbH**  
Neuer Weg-Nord 49  
69412 Eberbach  
Germany  
Equipment: **Plug and socket system type GHG 51\*\*\* \*\* R \* \*\*\***  
Optional accessory:  
Type of Protection: **Equipment protection by flameproof enclosures "d", Equipment protection by intrinsic safety "i", Equipment dust ignition protection by enclosure "t", Equipment protection by increased safety "e"**  
Marking: Ex db eb [ia] IIC/IIB/IIB+H<sub>2</sub> T6 Gb  
Ex tb IIIC T80°C Db

Approved for issue on behalf of the IECEx  
Certification Body:

Jörg Koch

Position:

Head of Certification Body

Signature:  
(for printed version)

Date:

\_\_\_\_\_  
\_\_\_\_\_

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**DEKRA EXAM GmbH**  
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**

Additional manufacturing locations: **S.C. Cooper Industries Romania S.R.L.**  
Zona Industrială Vest  
Str. III, Nr. 12  
310510 Arad  
**Romania**

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 60079-1:2014-06** 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 60079-31:2013** 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/BVS/ExTR17.0066/02](#)

Quality Assessment Report:

[DE/BVS/QAR11.0009/08](#)



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

### **Subject and Type**

See Annex

### **Description**

See Annex

Listing of all components used

See Annex

Listing of all components used referring to older standards

See Annex

### **Parameters**

See Annex

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

The plugs of the plug and socket system type GHG 51\*7\* \*\* R (Gas Group IIB/IIB+H<sub>2</sub>/IIC) must be protected against mechanical damage > 4 J for an ambient temperature limit below -40 °C.



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

- Addition an increased ambient temperature range for the plug  $T_{amb}$ : +55 °C

**Annex:**

[BVS\\_17\\_0045x\\_Cooper\\_Annex\\_Issue2.pdf](#)



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**Annex**

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**Subject and Type**

Plug and socket system type GHG	51	*	*	*	**	R	*	***
		1)	2)	3)	4)	5)	6)	

- 1) Rated current and voltage    1 = 16 A 110 V - 690 V
- 2) Design
  - 3 = Couple
  - 4 = Wall socket
  - 7 = Plug
- 3) Number of poles
  - 3 = 3-poles (1+N+PE)
  - 4 = 4-poles (3+PE)
  - 5 = 5-poles (3+N+PE)
- 4) Voltage
  - 00 = ≤ 24 V AC
  - 03 = 230 V AC
  - 04 = 110/130 V AC
  - 05 = 690 V AC
  - 06 = 230/415 V AC
  - 07 = 500 V AC
  - 08 = special version
  - 09 = 127/230 V
  - 12 = 42 V AC
- 5) Temperature range    R = Design variant temperature range
- 6) Version
  - 0 = Plastic
  - 3 = Inset metal plate
  - 5-8 = Auxiliary contacts

**Description**

The plug and socket system type GHG 51\*\*\* \*\* R \* \*\*\* consists of a flange socket which is built as a wall socket or a couple, which is used for connection of a plug.

The plug is built in type of protection Increased Safety "e" and Protection by Enclosure "t".

The wall socket and the couple are built in type of protection Increased Safety "e" and Protection by Enclosure "t".

The mounting flange socket type GHG 511 8... .. is separately certified and built in type of protection Flameproof Enclosure "d", Increased Safety "e" and Protection by Enclosure "t".

The wall socket can be equipped with a separately certified mini terminal type 07-9702-0\*2\*/\*\*\*\*, signal lamp type GHG41. .... R..., switch block type GHG 41. .... R ....., miniature limit switch type 07-1501-\*\*\*\*/\*\*\*\*, terminal type MS(D)B 2,5 \*\*\* / UK \*\*\* or control unit type GHG 411 8\*\*\*.



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Listing of all components used

Subject and type	Certificate
Flange socket GHG 511 8... ..	IECEX BVS 15 15.0088U
Mini terminal 07-9702-0*2*/****	IECEX PTB 07.0007U
Signal lamp GHG41. .... R...	IECEX IBE 13.0031U
Switch block GHG 41. .... R ....	IECEX IBE 14.0005U
Miniature limit switch 07-1501-****/****	IECEX EPS 14.0038 U

Listing of all components used referring to older standards

Subject and type	Certificate	Standards
Feed-through terminal block type MS(D)B 2,5 ***	IECEX PTB 08.0048 U	IEC 60079-0:2011 Ed. 6 IEC 60079-7:2006 Ed. 4 <sup>1</sup>
Terminal Type UK ***	IECEX KEM 06.0034 U	IEC 60079-0:2011 Ed. 6 IEC 60079-7:2006 Ed. 4 <sup>1</sup>
Control unit GHG 411 8***	IECEX BKI 04.0003	IEC 60079-0:2000 Ed. 3.1 <sup>1</sup> IEC 60079-1:2001 Ed. 4 <sup>1</sup> IEC 60079-7:2001 Ed. 3 <sup>1</sup> IEC 60079-11:1999 Ed. 4 <sup>1</sup>

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

## Parameters

Plug and socket system - Wall socket type GHG 51\*4\* \*\* R \*\*\*\* (Gas Group IIB/IIB+H<sub>2</sub>/IIC) -  
Flange socket standard material

Rated voltage: 110 - 690 V AC  
Rated current: 16 A  
Ambient temperature range: -55 °C ... +45 °C

Plug and socket system - Wall socket type GHG 51\*4\* \*\* R \*\*\*\* (Gas Group IIB+H<sub>2</sub>/IIC) -  
Flange socket standard material

Rated voltage: 110 - 690 V AC  
Rated current: 10 A  
Ambient temperature range: -55 °C ... +55 °C

Plug and socket system - Wall socket type GHG 51\*4\* \*\* R \*\*\*\* -  
Flange socket alternative material

Rated voltage: 110 - 690 V AC  
Rated current: max. 16 A (3-pol.) / without PE (2-pol.)  
Ambient temperature range: -45 °C ... +55 °C (Gas Group IIB)  
-30 °C ... +55 °C (Gas Group IIB+H<sub>2</sub>)  
-20 °C ... +55 °C (Gas Group IIC)



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Plug and socket system - Wall socket type GHG 51\*4\*\* R\*\*\*\* -

Flange socket alternative material

Rated voltage: 110 - 690 V AC  
Rated current: max. 16 A (4-pol. / 5-pol.)  
Ambient temperature range: -55 °C ... +55 °C (Gas Group IIB/IIB+H<sub>2</sub>)  
-20 °C ... +55 °C (Gas Group IIC)

Plug and socket system - Wall socket type GHG 511 4311 R\*\*\*\* (Gas Group IIC/IIB)<sup>1)</sup> -

Flange socket standard material

Rated voltage: 42 V AC  
Rated current: 16 A (3-pol.) / without PE (2-pol.)  
Ambient temperature range: -55 °C ... +55 °C

Plug and socket system - Wall socket type GHG 511 4301 R\*\*\*\* (Gas Group IIC/IIB)<sup>1)</sup> -

Flange socket standard material

Rated voltage: 24 V AC  
Rated current: 16 A (3-pol.) / without PE (2-pol.)  
Ambient temperature range: -55 °C ... +55 °C

Plug and socket system - Wall socket type GHG 511 4301 R\*\*\*\* (Gas Group IIC/IIB)<sup>1)</sup> -

Flange socket standard material

Rated voltage: 12 V AC  
Rated current: 16 A (3-pol.) / without PE (2-pol.)  
Ambient temperature range: -55 °C ... +55 °C

Plug and socket system - Wall socket type GHG 511 4311 R\*\*\*\* (Gas Group IIC/IIB)<sup>1)</sup> -

Flange socket alternative material

Rated voltage: 42 V AC  
Rated current: 16 A (3-pol.) / without PE (2-pol.)  
Ambient temperature range: -45 °C ... +55 °C (Gas Group IIB)  
-30 °C ... +55 °C (Gas Group IIB+H<sub>2</sub>)  
-20 °C ... +55 °C (Gas Group IIC)

Plug and socket system - Wall socket type GHG 511 4301 R\*\*\*\* (Gas Group IIC/IIB)<sup>1)</sup> -

Flange socket alternative material

Rated voltage: 24 V AC  
Rated current: 16 A (3-pol.) / without PE (2-pol.)  
Ambient temperature range: -45 °C ... +55 °C (Gas Group IIB)  
-30 °C ... +55 °C (Gas Group IIB+H<sub>2</sub>)  
-20 °C ... +55 °C (Gas Group IIC)



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Plug and socket system - Wall socket type GHG 511 4301 R \*\*\*\* (Gas Group IIC/IIB)<sup>1</sup> -

Flange socket alternative material

Rated voltage: 12 V AC  
Rated current: 16 A (3-pol.) / without PE (2-pol.)  
Ambient temperature range: -45 °C ... +55 °C (Gas Group IIB)  
-30 °C ... +55 °C (Gas Group IIB+H<sub>2</sub>)  
-20 °C ... +55 °C (Gas Group IIC)

Plug and socket system - couple type GHG 51\*3\*\* R \*\*\*\* (Gas Group IIC/IIB) -  
standard material

Rated voltage: 110 - 690 V AC  
Rated current: 10 A  
Ambient temperature range: -20 °C ... +55 °C

Plug and socket system - couple type GHG 51\*3\*\* R \*\*\*\* (Gas Group IIC/IIB) -  
standard material

Rated voltage: 110 - 690 V AC  
Rated current: 16 A  
Ambient temperature range: -20 °C ... +45 °C

Plug and socket system - couple type GHG 51\*3\*\* R \*\*\*\* (Gas Group IIC/IIB/IIB+H<sub>2</sub>) -  
alternative material

Rated voltage: 110 - 690 V AC  
Rated current: 16 A  
Ambient temperature range: -20 °C ... +45 °C

Plug and socket system - couple type GHG 511 3311 R \*\*\*\* (Gas Group IIC/IIB)<sup>1</sup> -  
standard material

Rated voltage: 42 V AC  
Rated current: 16 A  
Ambient temperature range: -20 °C ... +55 °C

Plug and socket system - couple type GHG 511 3301 R \*\*\*\* (Gas Group IIC/IIB)<sup>1</sup> -  
standard material

Rated voltage: 24 V AC  
Rated current: 16 A  
Ambient temperature range: -20 °C ... +55 °C

Plug and socket system - couple type GHG 511 3301 R \*\*\*\* (Gas Group IIC/IIB)<sup>1</sup> -  
standard material

Rated voltage: 12 V AC  
Rated current: 16 A  
Ambient temperature range: -20 °C ... +55 °C





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Plug and socket system - couple type GHG 511 3311 R \*\*\*\* (Gas Group IIC/IIB/IIB+H<sub>2</sub>)<sup>1</sup> - alternative material

Rated voltage: 42 V AC  
Rated current: 16 A  
Ambient temperature range: -20 °C ... +55 °C

Plug and socket system - couple type GHG 511 3301 R \*\*\*\* (Gas Group IIC/IIB/IIB+H<sub>2</sub>)<sup>1</sup> - alternative material

Rated voltage: 24 V AC  
Rated current: 16 A  
Ambient temperature range: -20 °C ... +55 °C

Plug and socket system - couple type GHG 511 3301 R \*\*\*\* (Gas Group IIC/IIB/IIB+H<sub>2</sub>)<sup>1</sup> - alternative material

Rated voltage: 12 V AC  
Rated current: 16 A  
Ambient temperature range: -20 °C ... +55 °C

Plug and socket system - plug type GHG 51\*7\* \*\* R \*\*\*\* (Gas Group IIC/IIB/IIB+H<sub>2</sub>)

Rated voltage: 110 - 690 V AC  
Rated current: 16 A  
Rated cross section: 2.5 mm<sup>2</sup>  
Ambient temperature range: -40 °C ... +45 °C  
-55 °C ... +45 °C (see Specific Conditions of Use)

Plug and socket system - plug type GHG 51\*7\* \*\* R \*\*\*\* (Gas Group IIC/IIB/IIB+H<sub>2</sub>)

Rated voltage: 110 - 690 V AC  
Rated current: 16 A  
Rated cross section: 4 mm<sup>2</sup>  
Ambient temperature range: -40 °C ... +55 °C  
-55 °C ... +55 °C (see 7.1)

Plug and socket system - plug type GHG 51\*7\* \*\* R \*\*\*\* (Gas Group IIC/IIB/IIB+H<sub>2</sub>)

Rated voltage: 110 - 690 V AC  
Rated current: 10 A  
Rated cross section: 2.5 mm<sup>2</sup>  
Ambient temperature range: -40 °C ... +55 °C  
-55 °C ... +55 °C (see Specific Conditions of Use)



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Plug and socket system - plug type GHG 511 7311 R \*\*\*\* (Gas Group IIC/IIB/IIB+H<sub>2</sub>)<sup>1)</sup>

Rated voltage: 42 V AC  
Rated current: 16 A (3-pol.) / without PE (2-pol.)  
Ambient temperature range: -40 °C ... +55 °C  
-55 °C ... +55 °C (see Specific Conditions of Use)

Plug and socket system - plug type GHG 511 7301 R \*\*\*\* (Gas Group IIC/IIB)<sup>1)</sup>

Rated voltage: 24 V AC  
Rated current: 16 A  
Ambient temperature range: -40 °C ... +55 °C  
-55 °C ... +55 °C (see Specific Conditions of Use)

Plug and socket system - plug type GHG 511 7301 R \*\*\*\* (Gas Group IIC/IIB)<sup>1)</sup>

Rated voltage: 12 V AC  
Rated current: 16 A  
Ambient temperature range: -40 °C ... +55 °C  
-55 °C ... +55 °C (see Specific Conditions of Use)

<sup>1)</sup> special version

Intrinsically safe circuits (according IBEU 12 ATEX 1047 U / IECEx IBE 13.0031U)

Rated voltage: 10 - 30 V DC  
Rated current: max. 38.7 mA  
U<sub>i</sub>: 30 V DC  
I<sub>i</sub>: 120 mA  
P<sub>i</sub>: 750 mW

C<sub>i</sub>, L<sub>i</sub>: negligible

Potential-free switch contact for the connection of an intrinsically safe circuit

Rated voltage: max. 30 V AC / DC  
Rated current: max. 400 mA

C<sub>i</sub>, L<sub>i</sub>: negligible