Translation

1 # EU-Type Examination Certificate

2 **Equipment intended for use in potentially explosive atmospheres Directive 2014/34/EU**

3 EU-Type Examination Certificate Number: **BVS 17 ATEX E 053 X**

4 Product: **Plug and socket system type GHG 51*** ** R * ***

5 Manufacturer: **Cooper Crouse-Hinds GmbH**

6 Address: **Neuer Weg-Nord 49, 69412 Eberbach, Germany**

7 This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA EXAM GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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 No. BVS PP 17.2132 EU.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

| | |
|---|---|
| **EN 60079-0:2012 + A11:2013** | **General requirements** |
| **EN 60079-1:2014** | **Flameproof enclosure "d"** |
| **EN 60079-7:2015** | **Increased Safety "e"** |
| **EN 60079-11:2012** | **Intrinsic Safety "i"** |
| **EN 60079-31:2014** | **Protection by Enclosure "t"** |

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

**II 2G Ex db eb [ia] IIC/IIB T6 Gb**
**II 2D Ex tb IIIC T80°C Db**

DEKRA EXAM GmbH
Bochum, 2017-08-25

Signed: Jörg Koch
Certifier

Signed: Dr Franz Eickhoff
Approver


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13 **Appendix**

14 **EU-Type Examination Certificate**
**BVS 17 ATEX E 053 X**

15 **Product description**

15.1 **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
01 = 42 V AC (special version low voltage)
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
11 = 12 V / 24 V AC (special version low voltage)
12 = 42 V AC

5) Temperature range
R = Design variant temperature range

6) Version
0 = Plastic
3 = inset metal plate
5-8 = auxiliary contacts

15.2 **Description**

The plug and socket system type GHG 51*** ** R * *** consist 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<br>GHG 511 8... . .... | BVS 15 ATEX E 101 U |
| Signal lamp<br>GHG41. .... R... | IBExU 12 ATEX 1047 U |
| Switch block<br>GHG 41. .... R .... | IBExU 14 ATEX 1030 U |
| Miniature limit switch<br>07-1501-****/**** | EPS 14 ATEX 1 688 U |
| Mini terminal<br>07-9702-0*2*/**** | PTB 99 ATEX 3117 U |
| Feed-through terminal block<br>MS(D)B 2,5 *** | PTB 08 ATEX 1075 U |
| Terminal Type<br>UK *** | KEMA 98 ATEX 1651 U |
| Control unit<br>GHG 411 8*** | PTB 00 ATEX 3117 |

15.3 **Parameters**

Plug and socket system - Wall socket type GHG 51*4* ** R **** (Gas Group IIC/IIB)

| | | |
|---|---|---|
| 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 IIC/IIB)

| | | |
|---|---|---|
| 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 511 4311 R **** (Gas Group IIC/IIB)

| | | |
|---|---|---|
| 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)[1)]

| | | |
|---|---|---|
| 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)[1)]

| | | |
|---|---|---|
| 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 - couple type GHG 51*3* ** R **** (Gas Group IIC/IIB)

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


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

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

Plug and socket system - couple type GHG 511 3311 R **** (Gas Group IIC/IIB)[1]

| | | |
|---|---|---|
| Rated voltage: | 42 | V AC |
| Rated current: | 16 | A (3-pol.) / without PE (2-pol.) |
| Ambient temperature range: | -20 °C ... +55 °C | |

Plug and socket system - couple type GHG 511 3301 R **** (Gas Group IIC/IIB)[1]

| | | |
|---|---|---|
| Rated voltage: | 24 | V AC |
| Rated current: | 16 | A (3-pol.) / without PE (2-pol.) |
| Ambient temperature range: | -20 °C ... +55 °C | |

Plug and socket system - couple type GHG 511 3301 R **** (Gas Group IIC/IIB)[1]

| | | |
|---|---|---|
| Rated voltage: | 12 | V AC |
| Rated current: | 16 | A (3-pol.) / without PE (2-pol.) |
| Ambient temperature range: | -20 °C ... +55 °C | |

Plug and socket system - plug type GHG 51*7* ** R **** (Gas Group IIC/IIB)

| | | |
|---|---|---|
| Rated voltage: | 110 - 690 | V AC |
| Rated current: | 16 | A |
| Ambient temperature range: | -40 °C ... +45 °C<br>-55 °C ... +45 °C (see 17) | |

Plug and socket system - plug type GHG 51*7* ** R **** (Gas Group IIC/IIB)

| | | |
|---|---|---|
| Rated voltage: | 110 - 690 | V AC |
| Rated current: | 10 | A |
| Ambient temperature range: | -40 °C ... +55 °C<br>-55 °C ... +55 °C (see 17) | |

Plug and socket system - plug type GHG 511 7311 R **** (Gas Group IIC/IIB)[1)]

| | | |
|---|---|---|
| Rated voltage: | 42 | V AC |
| Rated current: | 16 | A (3-pol.) / without PE (2-pol.) |
| Ambient temperature range: | -40 °C ... +55 °C<br>-55 °C ... +55 °C (see 17) | |

Plug and socket system - plug type GHG 511 7301 R **** (Gas Group IIC/IIB)[1)]

| | | |
|---|---|---|
| Rated voltage: | 24 | V AC |
| Rated current: | 16 | A (3-pol.) / without PE (2-pol.) |
| Ambient temperature range: | -40 °C ... +55 °C<br>-55 °C ... +55 °C (see 17) | |


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Plug and socket system - plug type GHG 511 7301 R **** (Gas Group IIC/IIB)[1)]

| | | |
|---|---|---|
| Rated voltage: | 12 | V AC |
| Rated current: | 16 | A (3-pol.) / without PE (2-pol.) |
| Ambient temperature range: | -40 °C ... +55 °C<br>-55 °C ... +55 °C (see 17) | |

[1)] special version

Intrinsic safe circuits (according IBExU 12 ATEX 1047 U)

| | | |
|---|---|---|
| Rated voltage: | 10 - 30 | V DC |
| Rated current: | max. 25 | mA |
| $U_i$ | 30 | V DC |
| $I_i$ | 100 | mA |
| $P_i$ | 750 | mW |

Ci, $L_i$: negligible

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

| | | |
|---|---|---|
| Bemessungsspannung: | max. 30 | V AC / DC |
| Rated current: | max. 400 | mA |

Ci, $L_i$: negligible

16 **Report Number**

BVS PP 17.2132 EU, as of 2017-08-25

17 **Special Conditions for Use**

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

18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

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We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
Bochum, dated 2017-08-25
BVS-Pz/Nu A 20121416

Certifier

Approver


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Translation

1 # EU-Type Examination Certificate Supplement 1

2 **Equipment intended for use in potentially explosive atmospheres Directive 2014/34/EU**

3 EU-Type Examination Certificate Number: **BVS 17 ATEX E 053 X**

4 Product: **Plug and socket system type GHG 51*** ** R * ***

5 Manufacturer: **Cooper Crouse-Hinds GmbH**

6 Address: **Neuer Weg-Nord 49, 69412 Eberbach, Germany**

7 This supplementary certificate extends EC-Type Examination Certificate No. BVS 17 ATEX E 053 X to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any acceptable variations specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA EXAM GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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 No. BVS PP 17.2132 EU.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

| | |
|---|---|
| **EN 60079-0:2012 + A11:2013** | **General requirements** |
| **EN 60079-1:2014** | **Flameproof enclosure "d"** |
| **EN 60079-7:2015** | **Increased Safety "e"** |
| **EN 60079-11:2012** | **Intrinsic Safety "i"** |
| **EN 60079-31:2014** | **Protection by Enclosure "t"** |

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

**II 2G Ex db eb [ia] IIC/IIB+$H_2$/IIB T6 Gb**
**II 2D Ex tb IIIC T80°C Db**

DEKRA EXAM GmbH
Bochum, 2018-01-24

Signed: Dr Franz Eickhoff
Certifier

Signed: Dr Michael Wittler
Approver


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13 **Appendix**

14 **EU-Type Examination Certificate**

**BVS 17 ATEX E 053 X**
**Supplement 1**

15 **Product description**

15.1 **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

15.2 **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<br>GHG 511 8... . .... | BVS 15 ATEX E 101 U |
| Signal lamp<br>GHG41. .... R... | IBExU 12 ATEX 1047 U |
| Switch block<br>GHG 41. .... R .... | IBExU 14 ATEX 1030 U |
| Miniature limit switch<br>07-1501-****/**** | EPS 14 ATEX 1 688 U |
| Mini terminal<br>07-9702-0*2*/**** | PTB 99 ATEX 3117 U |
| Feed-through terminal block<br>MS(D)B 2,5 *** | PTB 08 ATEX 1075 U |
| Terminal Type<br>UK *** | KEMA 98 ATEX 1651 U |
| Control unit<br>GHG 411 8*** | PTB 00 ATEX 3117 |

**Reason of the supplement:**

- Modification of the ambient temperature range for wall socket type GHG 51*4* ** R ****
- Addition of the Gas Group IIB+$H_2$

15.3 **Parameters**

Plug and socket system - Wall socket type GHG 51*4* ** R **** (Gas Group IIB/IIB+$H_2$/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+$H_2$/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)<br>-30 °C ... +55 °C (Gas Group IIB+$H_2$)<br>-20 °C ... +55 °C (Gas Group IIC) | |

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+$H_2$)<br>-20 °C ... +55 °C (Gas Group IIC) | |


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Plug and socket system - Wall socket type GHG 511 4311 R **** (Gas Group IIC/IIB)[1] - 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)[1] - 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)[1] - 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)[1] - 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)<br>-30 °C ... +55 °C (Gas Group IIB+$H_2$)<br>-20 °C ... +55 °C (Gas Group IIC) | |

Plug and socket system - Wall socket type GHG 511 4301 R **** (Gas Group IIC/IIB)[1] - 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)<br>-30 °C ... +55 °C (Gas Group IIB+$H_2$)<br>-20 °C ... +55 °C (Gas Group IIC) | |

Plug and socket system - Wall socket type GHG 511 4301 R **** (Gas Group IIC/IIB)[1] - 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)<br>-30 °C ... +55 °C (Gas Group IIB+$H_2$)<br>-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 |


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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+$H_2$) - 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)[1] - 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)[1] - 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)[1] - standard material

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

Plug and socket system - couple type GHG 511 3311 R **** (Gas Group IIC/IIB/IIB+$H_2$) - alternative material

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

Plug and socket system - couple type GHG 511 3301 R **** (Gas Group IIC/IIB/IIB+$H_2$)[1] - 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+$H_2$) - alternative 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 - plug type GHG 51*7* ** R **** (Gas Group IIC/IIB/IIB+$H_2$)

| | | |
|---|---|---|
| Rated voltage: | 110 - 690 | V AC |
| Rated current: | 16 | A |
| Ambient temperature range: | -40 °C ... +45 °C<br>-55 °C ... +45 °C (see 17) | |

Plug and socket system - plug type GHG 51*7* ** R **** (Gas Group IIC/IIB/IIB+$H_2$)

| | | |
|---|---|---|
| Rated voltage: | 110 - 690 | V AC |
| Rated current: | 10 | A |
| Ambient temperature range: | -40 °C ... +55 °C<br>-55 °C ... +55 °C (see 17) | |

Plug and socket system - plug type GHG 511 7311 R **** (Gas Group IIC/IIB/IIB+$H_2$)[1]

| | | |
|---|---|---|
| Rated voltage: | 42 | V AC |
| Rated current: | 16 | A (3-pol.) / without PE (2-pol.) |
| Ambient temperature range: | -40 °C ... +55 °C<br>-55 °C ... +55 °C (see 17) | |

Plug and socket system - plug type GHG 511 7301 R **** (Gas Group IIC/IIB)[1)]

| | | |
|---|---|---|
| Rated voltage: | 24 | V AC |
| Rated current: | 16 | A |
| Ambient temperature range: | -40 °C ... +55 °C<br>-55 °C ... +55 °C (see 17) | |

Plug and socket system - plug type GHG 511 7301 R **** (Gas Group IIC/IIB)[1)]

| | | |
|---|---|---|
| Rated voltage: | 12 | V AC |
| Rated current: | 16 | A |
| Ambient temperature range: | -40 °C ... +55 °C<br>-55 °C ... +55 °C (see 17p) | |

[1)] special version

Intrinsic safe circuits (according IBExU 12 ATEX 1047 U / IECEx IBE 13.0031U)

| | | |
|---|---|---|
| Rated voltage: | 10 - 30 | V DC |
| Rated current: | max. 25 | mA |
| $U_i$ | 30 | V DC |
| $I_i$ | 100 | mA |
| $P_i$ | 750 | mW |

$C_i$, $L_i$: negligible

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

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

$C_i$, $L_i$: negligible


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16 **Report Number**

BVS PP 17.2132 EU, as of 2018-01-24

17 **Special Conditions for Use**

The plugs of the plug and socket system type GHG 51*7* ** R (Gas Group IIB/IIC/IIB+$H_2$) must be protected against mechanical damage > 4 J for an ambient temperature limit below -40 °C.

18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

---

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
Bochum, dated 2018-01-24
BVS-Pz/Nu A 20171078

Certifier

Approver


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Translation

# 1 EU-Type Examination Certificate Supplement 2

2 **Equipment intended for use in potentially explosive atmospheres Directive 2014/34/EU**

3 EU-Type Examination Certificate Number: **BVS 17 ATEX E 053 X**

4 Product: **Plug and socket system type GHG 51*** ** R * ***

5 Manufacturer: **Cooper Crouse-Hinds GmbH**

6 Address: **Neuer Weg-Nord 49, 69412 Eberbach, Germany**

7 This supplementary certificate extends EC-Type Examination Certificate No. BVS 17 ATEX E 053 X to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any acceptable variations specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA EXAM GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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 No. BVS PP 17.2132 EU.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

| | |
|---|---|
| **EN 60079-0:2012 + A11:2013** | **General requirements** |
| **EN 60079-1:2014** | **Flameproof enclosure "d"** |
| **EN 60079-7:2015** | **Increased Safety "e"** |
| **EN 60079-11:2012** | **Intrinsic Safety "i"** |
| **EN 60079-31:2014** | **Protection by Enclosure "t"** |

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

**II 2G Ex db eb [ia] IIC/IIB+$H_2$/IIB T6 Gb**
**II 2D Ex tb IIIC T80°C Db**

DEKRA EXAM GmbH
Bochum, 2018-03-19

Signed: Jörg Koch
Certifier

Signed: Dr Franz Eickhoff
Approver


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13 **Appendix**

14 **EU-Type Examination Certificate**

**BVS 17 ATEX E 053 X**
**Supplement 2**

15 **Product description**

15.1 **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 |

15.2 **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<br>GHG 511 8... . .... | BVS 15 ATEX E 101 U |
| Signal lamp<br>GHG41. .... R... | IBExU 12 ATEX 1047 U |
| Switch block<br>GHG 41. .... R .... | IBExU 14 ATEX 1030 U |
| Miniature limit switch<br>07-1501-****/**** | EPS 14 ATEX 1 688 U |
| Mini terminal<br>07-9702-0*2*/**** | PTB 99 ATEX 3117 U |
| Feed-through terminal block<br>MS(D)B 2,5 *** | PTB 08 ATEX 1075 U |
| Terminal Type<br>UK *** | KEMA 98 ATEX 1651 U |
| Control unit<br>GHG 411 8*** | PTB 00 ATEX 3117 |

**Reason of the supplement:**

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

15.3 **Parameters**

Plug and socket system - Wall socket type GHG 51*4* ** R **** (Gas Group IIB/IIB+$H_2$/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+$H_2$/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)<br>-30 °C ... +55 °C (Gas Group IIB+$H_2$)<br>-20 °C ... +55 °C (Gas Group IIC) | |

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+$H_2$)<br>-20 °C ... +55 °C (Gas Group IIC) | |


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Plug and socket system - Wall socket type GHG 511 4311 R **** (Gas Group IIC/IIB)[1)] - 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)[1)] - 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)[1)] - 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)[1)] - 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)<br>-30 °C ... +55 °C (Gas Group IIB+$H_2$)<br>-20 °C ... +55 °C (Gas Group IIC) | |

Plug and socket system - Wall socket type GHG 511 4301 R **** (Gas Group IIC/IIB)[1)] - 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)<br>-30 °C ... +55 °C (Gas Group IIB+$H_2$)<br>-20 °C ... +55 °C (Gas Group IIC) | |

Plug and socket system - Wall socket type GHG 511 4301 R **** (Gas Group IIC/IIB)[1)] - 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)<br>-30 °C ... +55 °C (Gas Group IIB+$H_2$)<br>-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 |


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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+$H_2$) - 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)[1] - 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)[1] - 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)[1] - standard material

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

Plug and socket system - couple type GHG 511 3311 R **** (Gas Group IIC/IIB/IIB+$H_2$) - alternative material

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

Plug and socket system - couple type GHG 511 3301 R **** (Gas Group IIC/IIB/IIB+$H_2$)[1] - 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+$H_2$) - alternative 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 - plug type GHG 51*7* ** R **** (Gas Group IIC/IIB/IIB+$H_2$)

| | | |
|---|---|---|
| Rated voltage: | 110 - 690 | V AC |
| Rated current: | 16 | A |
| Rated cross section: | 2.5 | $mm^2$ |
| Ambient temperature range: | -40 °C ... +45 °C<br>-55 °C ... +45 °C (see 17) | |

Plug and socket system - plug type GHG 51*7* ** R **** (Gas Group IIC/IIB/IIB+$H_2$)

| | | |
|---|---|---|
| Rated voltage: | 110 - 690 | V AC |
| Rated current: | 16 | A |
| Rated cross section: | 4 | $mm^2$ |
| Ambient temperature range: | -40 °C ... +55 °C<br>-55 °C ... +55 °C (see 17) | |

Plug and socket system - plug type GHG 51*7* ** R **** (Gas Group IIC/IIB/IIB+$H_2$)

| | | |
|---|---|---|
| Rated voltage: | 110 - 690 | V AC |
| Rated current: | 10 | A |
| Rated cross section: | 2.5 | $mm^2$ |
| Ambient temperature range: | -40 °C ... +55 °C<br>-55 °C ... +55 °C (see 17) | |

Plug and socket system - plug type GHG 511 7311 R **** (Gas Group IIC/IIB/IIB+$H_2$)[1]

| | | |
|---|---|---|
| Rated voltage: | 42 | V AC |
| Rated current: | 16 | A (3-pol.) / without PE (2-pol.) |
| Ambient temperature range: | -40 °C ... +55 °C<br>-55 °C ... +55 °C (see 17) | |

Plug and socket system - plug type GHG 511 7301 R **** (Gas Group IIC/IIB)[1)]

| | | |
|---|---|---|
| Rated voltage: | 24 | V AC |
| Rated current: | 16 | A |
| Ambient temperature range: | -40 °C ... +55 °C<br>-55 °C ... +55 °C (see 17) | |

Plug and socket system - plug type GHG 511 7301 R **** (Gas Group IIC/IIB)[1)]

| | | |
|---|---|---|
| Rated voltage: | 12 | V AC |
| Rated current: | 16 | A |
| Ambient temperature range: | -40 °C ... +55 °C<br>-55 °C ... +55 °C (see 17p) | |

[1)] special version


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

| | | |
|---|---|---|
| Rated voltage: | 10 - 30 | V DC |
| Rated current: | max. 38.7 | mA |
| $U_i$ | 30 | V DC |
| $I_i$ | 120 | mA |
| $P_i$ | 750 | mW |

$C_i$, $L_i$: 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 |

$C_i$, $L_i$: negligible

16 **Report Number**

BVS PP 17.2132 EU, as of 2018-03-19

17 **Special Conditions for Use**

The plugs of the plug and socket system type GHG 51*7* ** R (Gas Group IIB/IIC/IIB+$H_2$) must be protected against mechanical damage > 4 J for an ambient temperature limit below -40 °C.

18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

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We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
Bochum, dated 2018-03-19
BVS-Pz/Mu A 20180143

Certifier

Approver


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