

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin



(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 1039

(4) Equipment: Plug-and socket device type GHG 511 R....

(5) Manufacturer: CEAG Sicherheitstechnik GmbH

(6) Address: 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 99-19088.

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

EN 50014:1997

EN 50018:1994

EN 50019:1994

(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 ed IIC T6 resp. T5**

Zertifizierungsstelle Explosionsschutz

Braunschweig, September 01, 1999

By order:

Dr.-Ing. U. Klausmeyer
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.

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

(13)

SCHEDULE

(14)

EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1039

(15)

Description of equipment

The type GHG 511 ... R ... plug-and-socket device serves to connect portable electrical apparatus or to make connections in potentially explosive atmospheres.

The following variant is permissible: transformer plugs (isolating transformer, class of protection II).

Staggered grooves guarantee that only plugs or socket outlets of identical rated voltage will be used together. Mechanical marking ensures that the plugs of the type GHG 531... V ... plug-and-socket device (Certificate of Conformity PTB No. Ex-85.B.1115) can be used for the wall-mounting socket-outlet and in the coupling.

Electrical data

Plug-and-socket device, five-pole

| | | | |
|----------------------------|-------|------|---|
| Rated voltage | up to | 500 | V |
| Rated current..... | max. | 16 | A |
| Utilization category | | AC-3 | |

Plug-and-socket device, four-pole

| | | | |
|----------------------------|-------|------|---|
| Rated voltage | up to | 690 | V |
| Rated current..... | max. | 16 | A |
| Utilization category | | AC-3 | |

Plug-and-socket device, three-pole

| | | | |
|----------------------------|-------|------|---|
| Rated voltage | up to | 400 | V |
| Rated current..... | max. | 16 | A |
| Utilization category | | AC-3 | |

Transformer plug

| | | | |
|--------------------------------|-------|-----|----|
| Rated voltage, primary..... | up to | 250 | V |
| Rated voltage, secondary | up to | 42 | V |
| Power consumption | max. | 65 | VA |
| Miniature fuse | | 0.5 | A |
| Temperature class | | T 5 | |

sheet 2/3

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Braunschweig und Berlin

SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1039

In accordance with the relevant provisions, rated values other than those stated above are permissible, provided the making and breaking capacity is complied with. They have been specified by the manufacturer, dependent on the mode of operation, utilization category etc.

| | | |
|---------------------------------------|-----|-----------------|
| Nominal frequency..... up to | 400 | Hz |
| Rated cross-section | | |
| Plug..... max. | 2.5 | mm ² |
| Coupling..... max. | 4 | mm ² |
| Wall-mounting socket-outlet max. | 4 | mm ² |

(16) Report PTB Ex 99-19088, description (8 sheets), Annex to the description (11 sheets), 11 drawings

(17) Special conditions for safe use

not applicable

(18) Essential health and safety requirements

The tests carried out and their positive results show that the plug-and-socket device meets the requirements of Directive 94/9/EC and of the standards stated on the cover sheet.

Zertifizierungsstelle Explosionsschutz

Braunschweig, September 01, 1999

By order:


Dr.-Ing. U. Klausmeyer
Regierungsrat



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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.

1st SUPPLEMENT
 according to Directive 94/9/EC Annex III.6
to CONFORMITY STATEMENT PTB 99 ATEX 1039
(Translation)

Equipment: Plug-and-socket device, type GHG 513 R....

Marking: II 2 G EEx de IIC T6 resp. T5

Manufacturer: CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
 D-69412 Eberbach

Description of supplements and modifications

The plug-and-socket device of type GHG 513.... R.... is supplemented by an extra-low-voltage version.

Electrical data

| | | | | |
|--------------------------------|-------|------|------|-------|
| Rated insulating voltage | up to | 60 V | | |
| Rated voltage | up to | 50 V | 50 V | 50 V |
| Rated current | max. | 16 A | 16 A | 10 A |
| Utilisation category | | AC-3 | DC-1 | DC-11 |

Provided the making and breaking capacities are met, rated values other than those specified above are acceptable and will be defined by the manufacturer on the basis of the operating mode, utilisation category, etc.

| | | |
|---------------------------|-------|---|
| Rated frequency | up to | 400 Hz |
| Rated cross-section | max. | 2.5 mm ² finely stranded 4 mm ² stranded |
| Ambient temperature | | -55 °C to 55 °C |

Test report: PTB Ex 00-19253

Zertifizierungsstelle Explosionsschutz

Braunschweig, January 15, 2001

By order



Dr.-Ing. U. Klausmeyer
 Regierungsdirektor

2nd SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1039

(Translation)

Equipment: Plug-and-socket device, type GHG 511R.....

Marking:  II 2 G EEx de IIC T6 or T5

Manufacturer: CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
D-69412 Eberbach, Germany

Description of supplements and modifications

The wall-mounting socket outlet, type GHG 511.4.. R....., may also be provided with an auxiliary switch for operation with an intrinsically safe circuit.

Intrinsically safe auxiliary circuit

Connection at terminals 3(11), 4(12), and 1 for intrinsically safe circuits EEx [ia] IIC T6 or T5

Only for connection to certified intrinsically safe circuits.

When using the intrinsically safe auxiliary circuit, the protection symbol will change to:

EEx de [ia] IIC T6 or T5

The composition of the protection symbol will be based on the types of protection of components actually used.

Plug connector

The plug-and-socket device, type GHG 511.... R... , is supplemented by plug connector GHG 531 .7.. V.... (old design) of plug-and-socket device GHG 531 V.... (old Certificate of Conformity PTB No. Ex.85.B.1115), which has the same explosion-proof characteristics.

Test report: PTB Ex 02-11086

Zertifizierungsstelle Explosionsschutz

Braunschweig, May 13, 2002

By order:


Dr.-Ing. U. Klausmeyer
Regierungsdirektor



Sheet 1/1

3rd SUPPLEMENT
according to Directive 94/9/EC Annex III.6
to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1039
(Translation)

Equipment: Plug-and-socket device, type GHG 511 R....

Marking:  II 2 G EEx de [ia] IIC T6 or T5

Manufacturer: Cooper Crouse-Hinds GmbH previously CEAG Sicherheitstechnik GmbH

Address: Neuer Weg Nord 49
69412 Eberbach, Germany

Description of supplements and modifications

The plug-and-socket device, type GHG 51.R.... , may also be manufactured with the following modifications:

- The flange of the type GHG 511 8...R.... socket outlet may also be made from material CuZn 15. This type comes complete with a captive protective cap.
- If the current rating is reduced to 3 A, the plug-and-socket device may be used in ambient temperatures of up to 70 °C. A similar correlation between intermediate values is accepted. Users shall be informed of such values in an adequate form.
- For special voltage ratings, the mechanical characterization 1h, 8h and 12h will be used.
4-pole < 690 V
5-pole < 500 V
3-pole < 400 V
- The plug-and-socket device is supplemented by the plug of type GHG 54. 23..R.... .
- The plug-and-socket device may also be used in the hazardous area "dust". In that case, the marking is as follows:

 II 2 G/D EEx ed [ia] IIC T6 or T5 IP 66 T 60 °C

The composition of the protection symbol will be based on the types of protection of the components actually used.

Test report: PTB Ex 04-13042

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, April 01, 2004


Dipl.-Phys. U. Völkel




4th SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 1039

(Translation)

Equipment: Plug-and-socket system, type GHG 511 R....

Marking:  II 2 G/D EEx ed [ia] IIC T6 and T5 IP66 T60 °C

Manufacturer: Cooper Crouse-Hinds GmbH

Address: Neuer Weg Nord 49, 69412 Eberbach, Germany

Description of supplements and modifications

The explosion-protected 16/20A plug-and-socket system is in future also to be used at ambient temperatures between -25°C and +45°C (see table 1).

Component application Table 1:

| Unit | Voltage range | Operating temperature |
|---|-------------------|--------------------------------|
| Wall socket, type GHG 511 R Standard version | 110V AC – 690 VAC | -20°C - +40°C |
| Wall socket, type GHG 511 M Special version | 110V AC – 690 VAC | -25°C - +45°C |
| Wall socket, type GHG 511 Special version with aux. contact | 110V AC – 690 VAC | -20°C - +40°C -25°C - +45°C |
| Wall socket, type GHG 511 M Version with CuZn flange | 110V AC – 690 VAC | -25°C - +45°C |
| Wall socket, type GHG 511 R Version up to max. 3A | 110V AC – 690 VAC | -20°C - +70°C |
| Wall socket, type GHG 513 R | ≤ 50V AC / DC | -25°C - +45°C |
| Coupler, type GHG 511 R Standard version | 110V AC – 690VAC | -20°C - +40°C |
| Coupler, type GHG 511 M Special version | 110V AC – 690 VAC | -25°C - +45°C |
| Transformer plug, type GHG 531 6.. * | 250V / ≤42V 65 VA | -20°C - +40°C |
| Plug, type GHG 511 7... R Standard version | 110V AC – 690 VAC | -25°C - +45°C |
| Plug, type GHG 531 7... * Special version | 110V AC – 690 VAC | -20°C - +40°C |
| Plug, type GHG 543 | 110V AC – 690 VAC | -25°C - +40°C |
| Plug, type GHG 543 | ≤ 50V AC / DC | -25°C - +40°C |
| Plug, type GHG 542 | ≤ 50V AC / DC | -25°C - +40°C |

* no EN 61241-0 identification for category 2 D.

ZSEx10101e.dot

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Electrical data

| | |
|-----------------|--|
| Rated voltage | up to max. 690V AC / \leq 50 DC special version \leq 50V = DC |
| Rated frequency | AC = 50/60 Hz special version = 400Hz |
| Conductor size | plug - up to 2.5 mm ² socket/coupler - up to 4 mm ² |

Plug-and-socket system, type GHG 511... 5-pole (3-pole + N + PE)

| | |
|--------------------------|---------------|
| Rated voltage: | up to 500V AC |
| Rated current: | up to 16/20A |
| Switching capacity AC-3: | up to 16A |

Plug-and-socket system, type GHG 511... 4-pole (3-pole + PE)

| | |
|--------------------------|---------------|
| Rated voltage: | up to 690V AC |
| Rated current: | up to 16/20 A |
| Switching capacity AC-3: | up to 16 A |

Plug-and-socket system, type GHG 511... 3-pole (1-pole + N + PE)

| | |
|--------------------------|---------------|
| Rated voltage: | up to 250V AC |
| Rated current: | up to 16/20 A |
| Switching capacity AC-3: | up to 16 A |

Plug-and-socket system 3-pole, type GHG 513...

| | |
|---------------------------|--------------------|
| Rated voltage: | \leq 50V AC / DC |
| Rated current: | up to 16/20A |
| Switching capacity AC-3: | up to 16 A |
| Switching capacity DC-1: | up to 16 A |
| Switching capacity DC-11: | up to 10 A |

Plug-and-socket system 2-pole, type GHG 513...

| | |
|---------------------------|--------------------|
| Rated voltage: | \leq 50V AC / DC |
| Rated current: | up to 16/20A |
| Switching capacity AC-3: | up to 16A |
| Switching capacity DC-1: | up to 16 A |
| Switching capacity DC-11: | up to 10 A |

Transformer plug, type GHG 531 ... 4-pole/5-pole

| | |
|----------------|--|
| Rated voltage: | primary up to 250V AC |
| | secondary up to 12V; 24V; 36V; 42V; 230V |
| Rated power: | up to 65VA |

01.1 Type code

| | | | |
|-------------------|--|--------|---|
| Type: | | GHG 51 | R |
| Type = | GHG 51. 16A/20A | | |
| Current & voltage | | | |
| 1 = | 16 A 110 V - 690 V | | |
| 3 = | 16 A 12 V - ≤ 50 V* | | |
| | * for extra-low voltage wall socket ≤ 50 V | | |
| Model | | | |
| 2 = | Plug * | | |
| 3 = | Coupler | | |
| 4 = | Wall socket | | |
| 5 = | Flange socket * | | |
| 7 = | Plug | | |
| 8 = | Flange socket | | |
| | * for extra-low voltage ≤ 50 V | | |
| Pole number | | | |
| 2 = | 2-pole * | | |
| 3 = | 3-pole * | | |
| 3 = | 3-pole (1+N+PE) | | |
| 4 = | 4-pole (3+PE) | | |
| 5 = | 5-pole (3+N+PE) | | |
| | * for extra-low voltage ≤ 50 V | | |
| Voltage | | | |
| 00 = | 0h ≤ 24V AC | | |
| 03 = | 3h 230V AC | | |
| 03 = | 3h ≤ 42V AC 400Hz * | | |
| 04 = | 4h 110/130V AC | | |
| 05 = | 5h 690V AC | | |
| 06 = | 6h 230/415V AC | | |
| 07 = | 7h 500V AC | | |
| 08 = | 8h special version | | |
| 09 = | 9h 127/230V | | |
| 10 = | 10h < 50V DC * | | |
| 12 = | 12h 42V AC * | | |
| | * for extra-low voltage ≤ 50 V | | |
| Temperatures | | | |
| R = | -20°C - +40°C | | |
| M = | special range see T _{amb} | | |
| Version | | | |
| 0 = | plastic | | |
| 1 = | stainless steel | | |
| 2 = | CuNi | | |
| 3 = | internal metal plate | | |
| 5 – 8 = | with aux. switch | | |

Serial number for special versions without effect on explosion protection

01.2 Type code

Special versions

Type:

Type = GHG 5. 16A/20A

Model

531 = plug 4-pole & 5- pole 16A

542 = plug 2-pole & 3-pole 16A*

543 = plug 3-pole 16A

* for extra-low voltage ≤ 50 V

Version

2 = plug 2-pole & 3-pole

6 = transformer plug 4-pole & 5-pole

7 = plug 4-pole & 5-pole

7 = fused plug *

* only for 4-plug & 5-plug versions

Pole number

2 = 2- pole*

3 = 3- pole*

4 = 4- pole

5 = 5- pole

* only for extra-low voltage ≤ 50 V

Voltage & time setting

00 = 0h ≤ 24 V AC

03 = 3h 230V AC

03 = 3h ≤ 42 V AC 400Hz *

04 = 4h 110/130V AC

05 = 5h 690V AC

06 = 6h 230/415V AC

07 = 7h 500V AC

08 = 8h special version

09 = 9h 230V - 240V

10 = 10h < 50 V DC *

12 = 12h 42V AC *

36 = 6h fused plug 6.3 A

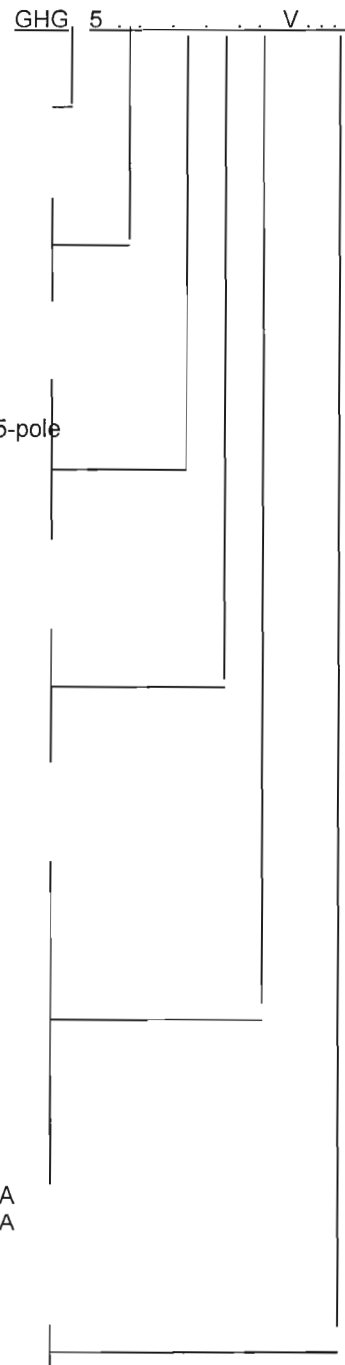
66 = 6h transformer plug 65 VA

69 = 9h transformer plug 65 VA

* for extra-low voltage ≤ 50 V

Serial number for special versions

without effect on explosion protection



Applied standards

EN 60079-0:2006
EN 60079-11: 2007

EN 60079-1:2007
EN 61241-0: 2006

EN 60079-7: 2007
EN 61241-1: 2004

With the application of the above standards, the marking changes to:

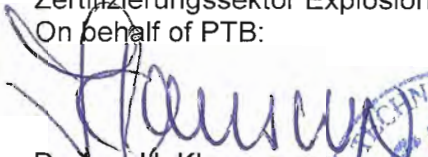
 II 2 G Ex de [ia] IIC T6 or T5

 II 2 D Ex tD A21 IP66 T80 °C

Assessment and Test Report: PTB Ex 09-19075

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, September 10, 2010


Dr.-Ing. U. Klausmeyer
Direktor und Professor



Cooper Crouse-Hinds GmbH
z. Hd. Herrn Setzer
Neuer Weg-Nord 49
69412 Eberbach

Ihr Zeichen: Setzer Edgar
Ihre Nachricht vom: 2012-08-20
Unser Zeichen: 3.5-3536 /2012-Th
Unsere Nachricht vom:

Bearbeitet von: Dr.-Ing. Martin Thedens
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<http://www.explosionsschutz.ptb.de>
Datum: 29. August 2012

Schriftliche Freigabe zu PTB 99 ATEX 1039, PTB 00 ATEX 1070 und PTB 01 ATEX 1069

Sehr geehrter Herr Setzer,

es bestehen keine sicherheitstechnischen Bedenken die Wandsteckdosen 16A - GHG 511...., 63A - GHG 514.... und 125A - GHG 515.... auch mit einer Signalleuchte, entsprechend den Zeichnungen 16A 3-pol. GHG 511-1-4597, 16A 5-pol. GHG 511-1-4598, 63A 5-pol. GHG 514-1-4599 und 125A 5-pol. GHG 515-1-4600 (siehe Prüfbericht PTB Ex 12-12239) zu produzieren.

Die Signalleuchte soll wahlweise zwei Funktionen erfüllen. Zum einen als Betriebskontrollleuchte für die Ein- und Aus-Funktionsanzeige, zum anderen als eine Bereitschaftsmeldungsanzeige, um zu erkennen, ob am Schalter der Steckdose Spannung anliegt.

Die Steckvorrichtungen können mit folgenden Parametern eingesetzt werden:

| Typ | IP Schutzart | T_{amb} | Temperaturklasse |
|---------------|--------------|---------------|------------------|
| GHG 511. 16A | IP 65 | -20°C - +40°C | T6/ T5 |
| GHG 514. 63A | IP 66 | -20°C - +40°C | T6/ T5 |
| GHG 515. 125A | IP 66 | -20°C - +40°C | T6/ T5 |

There are no safety-related objections to produce the sockets 16A - GHG 511...., 63A - GHG 514.... and 125A - GHG 515.... with a pilot lamp according the drawings 16A 3-pol. GHG 511-1-4597, 16A 5-pol. GHG 511-1-4598, 63A 5-pol. GHG 514-1-4599 and 125A 5-pol. GHG 515-1-4600 (see test report PTB Ex 12-12239).

The signal lamp optionally fulfills one of the two following functions: one is as an operating control lamp for the On / Off - function display, the other as a standby indicating signal if there is voltage on the socket switch.

The metallic plug and socket system can be used with following parameters:

| Type | IP grade | T_{amb} | Temperature Class |
|---------------|----------|---------------|-------------------|
| GHG 511. 16A | IP 65 | -20°C - +40°C | T6/ T5 |
| GHG 514. 63A | IP 66 | -20°C - +40°C | T6/ T5 |
| GHG 515. 125A | IP 66 | -20°C - +40°C | T6/ T5 |

Mit freundlichen Grüßen
Im Auftrag


Dr.-Ing. Martin Thedens
Oberregierungsrat

600 00 00