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 03 ATEX 1016 X

(4) Equipment: Plug-in connector, type GHG 57. ....R....

(5) Manufacturer: CEAG Sicherheitstechnik GmbH

(6) Address: 69412 Eberbach, Germany

(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 03-12300.

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

EN 50014: 1997 + A1 + A2 **EN 50018: 2000** **EN 50019: 2000**

EN 50281-1-1:1998

(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, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

II 2 G/D EEx de IIC T6 IP 66 T 52 °C

Zertifizierungsstelle Explosionsschutz
By order:

Dipl.-Phys. U. Völker

Braunschweig, November 06, 2003

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT 30

(13) # SCHEDULE

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 1016 X

(15) Description of equipment

The plug-in connector, type GHG 57. ....R.... , consists of the plug, the appliance connector, coupling, flange-mounting socket outlet, and angle unit. It is used for cable connections in potentially explosive atmospheres and comes as a metal version for Flameproof Enclosure and Increased Safety types of connection, or as a plastics version for Increased Safety type of connection.

The pin assignment has been staggered by 30 degrees (with reference to the thicker ground terminal, to make sure that only plugs and socket outlets of the same identification code can be used together.

Connection is by means of the integrated terminals connected to cage or piercing clamps or crimp termination or by means of prefabricated connecting cables (open-ended line, single conductors).

For adequate connection of the cable and proper installation, due regard shall be given to the instructions for operation.

Electrical data

Crimp termination cage clamp connecting cable

Rated voltage	up to	250 V
Rated current *)	max.	10 A
Utilization category		AC-1

*) depending on conductor size

Piercing clamp

Rated voltage	up to	60 V
Rated current *)	max.	6 A
Utilization category		AC-1

*) depending on conductor size

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, utilization category, etc.

Number of plug-in contacts	4 +1

Rated cross section

Crimp termination	0.75 mm² to 2.5 mm²
Cage clamp	0.5 mm² to 1.5 mm²
Piercing clamp	0.34 mm² to 0.75 mm²
Connecting cable	1.0 mm² to 2.5 mm²

Ambient temperature max. for temperature class T6	
Plastic version	-25 °C to 40 °C
Plastic version, shockproof	-55 °C to 40 °C
Metal version	-55 °C to 40 °C
Metal version, I_{th} max. 2 A	-55 °C to 75 °C
Plastic version, I_{th} max. 2 A; shockproof	-55 °C to 75 °C

(16) Test report PTB Ex 03-12300

(17) Special conditions for safe use

The elements of the plug-in connector are prepared with connecting cable (open-ended line) or they are provided with crimp termination, cage clamp or piercing clamp for connection at site.

For adequate connection of the cable and proper installation, due regard shall be given to the instructions for operation.

The connecting cable (open ended line) of the plug-in connector shall be installed to provide for permanent wiring and adequate protection against mechanical damage. The quality of the connecting cable shall be such that it complies with the local thermal and mechanical requirements.

Should the connecting cable (open-ended line) be connected in an area with potentially explosive atmosphere, a terminal compartment shall be used which meets the requirements of an approved type of protection in accordance with EN 50014, section 1.2.

If made from metal, the flange-mounting socket outlet, appliance connector, and angle unit may be installed in the walls of enclosures designed to Flameproof Enclosure "d" or Increased Safety "e" type of protection. The flameproof terminal compartment may have a volume of 2,000 cm^3 as a maximum. For the selection criteria and the installation conditions, reference is made to the notes furnished with the operating instructions.

If made from plastics, the flange-mounting socket outlet, appliance connector, and angle unit shall be installed in the walls of enclosures designed to Increased Safety "e" type of protection.

When using terminal compartments designed to Increased Safety "e" type of protection as specified in EN 50019, the clearance and creepage distances specified in section 4.3, section 4.4 and table 1 shall be duly considered.

Equipotential bonding and earthing shall be safeguarded by the way the metal flange-mounting socket outlet, appliance connector and/or angle unit are connected with the complete system.

At temperatures less than –20 °C, the plastic version of the plug-in connector shall be installed in a mechanically protected way.

The plastic angle unit may not be used if temperatures are lower than –20 °C.

In the non-plugged condition, the appliance connector must not be alive.

The flange-type socket outlet, the appliance connector, and the angle unit, as well as the terminal compartment the wall of which they are installed into are considered to be sub-units as defined by directive 94/9/EC (see ATEX guideline, May 2000, section 3.7.2).

- The sub-units shall be completed by a competent person.
- The assembly – as a separate functional unit – thus produced is considered to be a product, and the competent persion is considered to be the manufacturer.

The operator/user shall be informed of the Special Conditions in a suitable form.

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

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