



(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 98 ATEX 1068 U

(4) Component: Cable bushing of types PD../1100... and PD../2200...

(5) Manufacturer: Emil A. Peters GmbH & Co. KG

(6) Address: Westfalenstraße 85, 58636 Iserlohn

(7) This component 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 component 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 98-18096.

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

EN 50 014:1997

EN 50 018:1994

EN 50 019:1994

(10) The sign "U" placed behind the certificate number indicates that this certificate should not be confounded with certificates issued for equipment or protective systems. This Component Certificate only serves as a basis for the issuing of certificates for equipment or protective systems.

(11) This EC-type-examination Certificate relates only to the design and construction of the specified component in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this component.

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

II 2 G EEx de II IM 2 EEx de I

Zertifizierungsstelle Explosionsschutz

Braunschweig, January 20, 1999

By order:

Dr.-Ing. U. Klausmeyer
Oberregierungsrat



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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.

(13)

SCHEDULE

(14) **EC-TYPE-EXAMINATION CERTIFICATE No. PTB 98 ATEX 1068 U**

(15) Description of component

The cable bushing of types PD../1100 and PD../2200 serve as electrical connection between flameproof compartments or between flameproof compartments and a terminal compartment of another recognized type of protection.

Connection is made at connection heads which are screwed on the threaded stem of the cable bushing and which are locked to prevent accidental loosening and rotation.

Electrical data

Rated insulation voltage	up to	1100 V	2200 V
Rated cross-section *)	max.	300 mm ²	
Number of studs **)		1	
Type and size of thread *)		M 20 x 1,5 to M 48 x 2	other types and sizes of threads with respective identification
Temperature range at place of installation of the cable bushing, with the electrical apparatus operated under rated conditions		-55 °C to 120 °C	

When the maximum current-carrying capacity of the bushing conductor studs and the connecting leads is determined, the self-heating and the heating of the enclosure at the place of installation at maximum permissible ambient temperature must be taken as a basis.

*) depending on the type and design of cable bushing and connection head

(16) Report PTB Ex 98-18096

(17) Special conditions for safe use

Threaded holes into which cable bushings are screwed with the internal thread must meet the minimum requirements of EN 50 018, section 5.3 (Table 3). These cable bushings are suitable for installation in electrical apparatus of the type of protection flameproof enclosure "d" of groups I, IIA, IIB or IIC.

The cable bushing is to be included in the type test according to EN 50 018, section 15.1.3 (overpressure test), in compliance with the grouping of the respective electrical apparatus (group I, IIA, IIB or IIC), if the reference pressure exceeds 20 bar.

The cable bushings must be fastened in the electrical apparatus so that they are locked to prevent rotation and accidental loosening.

The connecting leads of the cable bushing must be connected inside enclosures which are in compliance with a standardized type of protection according to EN 50014, section 1.2.

The cable bushing is a constructional unit. The reproducible assembly and the installation conditions have been documented. According to EN 50 018. section 16.2 (13.4.4) a routine test together with the flameproof enclosure in compliance with section 16.1 is, therefore, not necessary.

The assignment of the temperatures to the temperature class of the cable bushing is to be laid down during the type test of the respective electrical apparatus.

The component can be used in both, group I and group II, as the requirements of the standard are identical in this case.

This EC-type-examination certificate and future supplements thereto are at the same time supplements to Component Certificate PTB No. Ex-97.D.1020 U.

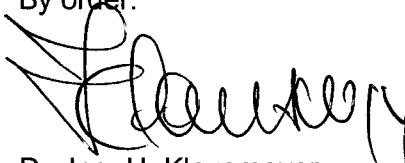
(18) Essential health and safety requirements

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

Zertifizierungsstelle Explosionsschutz

Braunschweig, January 20, 1999

By order:



Dr.-Ing. U. Klausmeyer
Oberregierungsrat



2nd SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 98 ATEX 1068 U

(Translation)

Equipment: Cable bushing, types PD**/275***, PD**/1100*** and PD**/2200***

Marking:  **II 2 G EEx de II IM 2 EEx de I**


Manufacturer: Emil A. Peters GmbH & Co. KG

Address: Westfalenstraße 85, 58638 Iserlohn, Germany

Description of supplements and modifications

The cable bushing, PD**/275***, PD**/1100*** and PD**/2200***, has been re-examined on the basis of standards EN 60079-0:2012, EN 60079-1:2007 and EN 60079-7:2007.

The marking therefore changes to:

 **II 2 G Ex de IIC Gb or IM 2 Ex de IMb**

Technical data

Rated insulation voltage	275 V, 1100 V, 2200 V
Conductor size, max.	300 mm ²
Number of studs	1
Type and size of thread (depending on the type and version of the cable bushing and the connection head)	M 20 x 1.5 to M 48 x 2 other types of threads and sizes with respective identification
Operating temperatures	-55 °C to +120 °C
The maximum current carrying capacity of the bushing conductor studs and the connecting cores has to be established on the basis of the self- heating rate <u>and</u> the heating rate of the enclosure at the place of installation at the maximum permissible ambient temperature.	

ZSEx10101e.dotm

Type code

PD	**/	*	***
1	2	3	4

- 1) Type name
- 2) Diameter of stud
- 3) Rated voltage
- 4) Thread, no influence on Ex-protection

Notes for manufacturing and operation

Threaded holes into which bushings are screwed have to meet the minimum requirements of EN 60079-1, table 3. The bushings are suitable for installation in electrical apparatus of the type of protection flameproof enclosure "d" of groups I, IIA, IIB or IIC.

If the reference pressure exceeds 20 bar, the cable bushings shall be included in the type test in accordance with EN 60079-1, section 15.1.3 (overpressure test) as required for the I, IIA, IIB or IIC classification of the corresponding electrical equipment.

The cable bushings with cylindrical joint shall be included in the type test in accordance with EN 60079-1, section 15 as required for I, IIA, IIB or IIC classification of the corresponding electrical equipment.

The cable bushings have to be fixed in the electrical equipment so that rotation and accidental loosening will be prevented.

The connecting cores of the cable bushing shall be connected in enclosures that comply with a standardised type of protection as set forth in EN 60079-0, section 1.

The cable bushing is a structural unit. The reproducible assembly and the installation conditions have been documented. According to EN 60079-1, section 16.2, routine testing together with the flameproof enclosure as specified in section 16.1 is, therefore, not required.

The component can be used in both group I and group II, because the requirements of the standard are in this case identical.

The installation of electrical components is subject to re-assessment by a notified body.

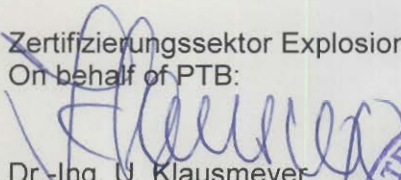
Applied standards

EN 60079-0:2012, EN 60079-1:2007, EN 60079-7:2007

Test report: PTB Ex 14-13057

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, May 19, 2014


Dr.-Ing. U. Klausmeyer
Direktor und Professor

