



(1) **EU-TYPE EXAMINATION CERTIFICATE**
(Translation)

(2) Component Intended for Use in Potentially Explosive Atmospheres
Directive 2014/34/EU

(3) EU-Type Examination Certificate Number:

PTB 20 ATEX 1001 U

Issue: 0

(4) Component: Cable bushing type ADN 4*_/**_**_**_**_**_**

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

(6) Address: Westfalenstraße 85, 58636 Iserlohn, Deutschland

(7) This component and any acceptable variation thereto is 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 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this component 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 test report PTB Ex 20-19074.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN IEC 60079-0:2018, EN 60079-1:2014

(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 partial certification may be used as a basis for certification of an equipment or protective systems.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified component in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.

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



II 2 G Ex db IIC Gb or I M 2 Ex db I Mb

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, March 20, 2020

D. Marku
Dr.-Ing. D. Marku
Direktor und Professor



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EU-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) **EU-Type Examination Certificate Number PTB 20 ATEX 1001 U, Issue: 0**

(15) Description of Product

The cable bushing, type ADN 4*-**/**-***-**-***-*** consist of a metallic sleeve with encapsulated cables and serves as electrical connection between two compartments in the type of protection Flameproof Enclosure "db" or between one compartment in the type of protection Flameproof Enclosure "db" and a terminal compartment of another recognized type of protection. The connection is made by the integrated connecting leads. The cable bushing can be screwed into the housing wall from both sides.

Technical data

Material Sleeve	Brass 58 Brass 58 nickel-plated Stainless steel
Rated voltage	Up to 6000 V
Rated cross-section, depending on the cable	0,128 mm ² to 500 mm ²
Number of leads	Depends on the cable, 1 to 47
Type and size of threads and torque	M24 x 1,5, 35 Nm M36 x 1,5, 50 Nm M48 x 1,5, 50 Nm
Service temperature range	Depends on the cable and the compound, see list in the annex, max. -35 °C to +105 °C

List of approved cables					
No.	Name of cable	Approved temperature range	Over-pressure	Diameter	Min. length
0	USB 3.0AWM E101344 STYLE 2725 Space Shuttle-D Universal	-20 °C to +40 °C	30 bar	5xAWG24 + 4xAWG28	220
1	Chainflex Busleitung	-20 °C to +50 °C	30 bar	0.125-1.5 mm ²	220
2	H07RN-F	-20 °C to +40 °C	30 bar	1-500mm ²	220
3	01-.../CWJH-...20 Fiber Optic Simplex,	-20 °C to +50 °C	30 bar	Fiber E9 0.6-0.9mm	220
4	Railcat7 4x (2x24AWG) XMS Radox Traktionsk.		30 bar	24-32AWG	220
5	JZ-500 HMH-C (3x1.5mm ²)	-20 °C to +40 °C	30 bar	0.5-10mm ²	220

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6	HELUKAT S 100	-25 °C to +60 °C	41.1 bar	1.5mm ²	220
7	HELUKAT S 200	-25 °C to +60 °C	41.1 bar	AWG24/G19	220
8	HELUKAT S 500	-25 °C to +60 °C	41.1 bar	AWG24/7	220
9	RG Koaxialkabel GR 58 C/U	-25 °C to +60 °C	41.1 bar	0.2-0.6mm ²	220
10	HELUKAT IND 100	-25 °C to +60 °C	41.1 bar	AWG26/7	220
11	HELUKAT IND 200	-25 °C to +60 °C	41.1 bar	AWG26/7	220
12	HELUKAT IND 600	-25 °C to +60 °C	41.1 bar	AWG23	220
13	HELUKAT IND 1000	-25 °C to +60 °C	41.1 bar	AWG26/7	220
14	HELUKAT IND 1200	-25 °C to +60 °C	41.1 bar	AWG23/1	220
15	HELUKAT 500S	-25 °C to +60 °C	41.1 bar	AWG24/7	220
16	TOPGEBER 512 PUR	-35 °C to +60 °C	43.5 bar	0.14-1.0mm ²	220
17	TOPSERV PUR	-35 °C to +60 °C	43.5 bar	1.5-95mm ²	220
18	ÖLFLEX® EB (3x1mm ²)	-35 °C to +60 °C	43.5 bar	0.75-1.5mm ²	220
19	H05V-K	-35 °C to +60 °C	43.5 bar	0.5-1.0mm ²	220
20	Profibus PA	-35 °C to +60 °C	43.5 bar	0.64mm ²	220
21	Profibus SK	-35 °C to +60 °C	43.5 bar	0.64mm ²	220
22	BUS USB3.0	-35 °C to +60 °C	43.5 bar	AWG24-28	220
23	Profibus Torsion Unitronic Bus Pb TORSION	-35 °C to +60 °C	43.5 bar	0.8mm ²	220
24	12.../FSN(ZN)YR- 130 Radox Drag chain cable	-35 °C to +60 °C	43.5 bar	E9 G50 125µm	220
25	F-C. PURÖ-jz	-35 °C to +60 °C	43.5 bar	0.5-6mm ²	220
26	ToughCat cat.7S/FTP	-35 °C to +60 °C	43.5 bar	0.27mm ²	220
27	OZ-500 (3x1,5mm ²)	-35 °C to +60 °C	43.5 bar	0.5-185mm ²	220
28	JZ-500 PUR (3x1,5mm ²)	-35 °C to +60 °C	43.5 bar	0.5-16mm ²	220
29	JZ-600-Y-CY (3G1,5)	-35 °C to +60 °C	43.5 bar	0.5-185mm ²	220
30	PAAR TRONIC CY (3x2x0,14)	-35 °C to +60 °C	43.5 bar	0.14-1,5mm ²	220
31	SUPER PAAR TRONIC (1x2x0,25)	-35 °C to +60 °C	43.5 bar	0.25-1.0mm ²	220
32	NSSHÖU	-35 °C to +60 °C	43.5 bar	1.5-300mm ²	220
33	NSGAFÖU	-35 °C to +60 °C	43.5 bar	1.5-300mm ²	220
34	Tachofeedback Leitung	-35 °C to +60 °C	43.5 bar	0.5-10mm ²	220
35	H05G-K/H07G-K	-35 °C to +60 °C	43.5 bar	1.5-120mm ²	220
36	Radox 125	-35 °C to +105 °C	43.5 bar	0.35-300mm ²	220
37	Radox UL 3266	-35 °C to +105 °C	43.5 bar	0.128-5.26mm ²	220
38	Radox UL 3271	-35 °C to +105 °C	43.5 bar	0.2-150 mm ²	220
39	4 GKW-AX 1800V 1x10M BK Radox Traktion	-35 °C to +105 °C	43.5 bar	0.5-400mm ²	220
40	9 GKW-AX 3600V 1x10M BK Radox Traktion	-35 °C to +105 °C	43.5 bar	1.5-300mm ²	220
41	BETAtherm 145UL	-35 °C to +105 °C	43.5 bar	0.5-95mm ²	220
42	Radox155s FLR Anticapillary	-35 °C to +105 °C	43.5 bar	0.35-6mm ²	220
43	Radox 155	-35 °C to +105 °C	43.5 bar	0.25-240mm ²	220

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44	Radox155s FLR Anticapillary Automotiv (Single insulation)	-35 °C to +105 °C	43.5 bar	0.35-35 mm ²	220
45	Radox155s FLR Anticapillary Automotive (Double insulation)	-35 °C to +105 °C	43.5 bar	0.35-35 mm ²	220

Nomenclature

ADN	4*	**/	**_	***_	**_	***_	***
1	2	3	4	5	6	7	8

1	Type	ADN
2	Material	4M = Brass 58 4V = Brass 58 nickel-plated 4E = Stainless steel
3	Cable number	From list of cables 99 = special mounting
4	Thread	M24 to M48
5	Diameter of cable	1 mm to 22 mm
6	Number of wires / cables	0 to 47
7	Cable length	In the flameproof box min. 200 mm
8	Cable length	In the connection box min 200 mm

Notes

Threaded holes into which cable bushing is screwed with the internal thread must meet the minimum requirements of EN 60079-1, table 4.

The cable bushing is suitable for installation in electrical apparatus of the type of protection flameproof enclosure "db" of groups I, IIA, IIB or IIC.

The cable bushing shall be fixed in the electrical apparatus in such a way that rotation and accidental loosening will be prevented.

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 60079-0, section 1

The cable bushing is a constructional unit. The reproducible assembly and the installation conditions have been documented. According to EN 60079-1, section 16.2 a routine test together with the flameproof enclosure in compliance with section 16.1 is, therefore, not necessary.

Should the reference pressure exceed 20 bar, the cable bushing shall be included into the type test according to EN 60079-1 as required by the classification of the electrical apparatus in question (grouping I, IIA, IIB, IIC)

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

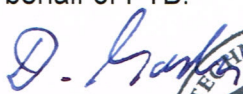
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The temperature increase depends on the size and number of cables. The temperature measurement has to be done on the equipment. The maximum temperature of the cable and of the compound must not be exceeded.

- (16) Test report PTB Ex 20-19074
- (17) Notes for manufacture, installation and operation
The use of this component requires a further assessment by an ExCB.
- (18) Essential health and safety requirements
Met by compliance with the aforementioned standards.

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, March 20, 2020


Dr.-Ing. D. Markus
Direktor und Professor





Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

Konformitätsbewertungsstelle, Sektor Explosionsschutz

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Stefan.Essmann@ptb.de

Date:

November 27, 2020

Subject: Use of cable bushings type ADN instead of type AD

Dear Mr. Flamme,

with regard to safety technology there are no objections to replace, for example in case of repair, cable bushings of the type

AD (Certificate: PTB 98 ATEX 1072 U

IECEx PTB 09.0002U)

with the appropriate cable bushing of the type

ADN (Certificate: PTB 20 ATEX 1001 U

IECEx PTB 20.0001U).

Kind regards

By order

Dr.-Ing. Stefan Essmann

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