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 1197 U

(4) Component: Cable entry, types 07-925*-****/**** to 07-929*-****/****

(5) Manufacturer: BARTEC GmbH

(6) Address: Max-Eyth-Straße 16
97980 Bad Mergentheim, Germany

(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 05-13355.

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

EN 50014:1997 + A1 + A2 EN 50018:2000 + A1 EN 50281-1-1:1998 + A1

(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, examination and tests of the specified component in accordance to the Directive 94/9/EC. 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:

Ex II 2 G EEx d II II 2 D IP 65

Zertifizierungsstelle Explosionsschutz Braunschweig, May 18, 2005
By order:

Dr. M. Thedens

(13) # SCHEDULE

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 1197 U

(15) Description of component

The cable entry, types 07-925*-****/**** to 07-929*-****/**** , is used for entering cables into flameproof compartments.

Depending on their design, the cables shall be installed to provide for fixed wiring. When designed as a flared screwed gland, installation may be non-fixed.

Electrical data

Rated line voltage U_0/U [1] ..... up to	300 V/300 V 450 V/750 V	300 V/500 V 600 V/1000 V [2]
Rated cross section [1] ..... max.		185 mm²
Number of wires [1]		1 to 47
Bushing size (diameter)[1]		15 mm $^{-30}_{-100}$ to 90 mm $^{-30}_{-100}$
Length of flameproof joint of sleeve [1]		≥ 12.5 mm, ≥ 25 mm, ≥ 40 mm

Rated current for (for multi-wire designs, ambient temperatures 40 °C and admissible temperature of 80 °C at the cable for T6)				
	0.08 mm²	1.0 A	10 mm²	50 A
	0.2 mm²	3.0 A	16 mm²	67 A
	0.3 mm²	4.5 A	25 mm²	90 A
	0.35 mm²	5.5 A	35 mm²	110 A
	0.5 mm²	7.5 A	50 mm²	140 A
	0.75 mm²	10 A	70 mm²	170 A
	1.0 mm²	12 A	95 mm²	205 A
	1.5 mm²	15 A	120 mm²	240 A
	2.5 mm²	21 A	150 mm²	275 A
	4.0 mm²	28 A	185 mm²	310 A
	6 mm²	36 A		

[1] depending on type and design of the cable entry and the cable used
[2] NSSHÖU up to 1140 V

Temperatures at the place of installation of the cable entry for normal operation of the electrical apparatus ..... -55 °C to +110 °C

Max. operating temperature at the location of the cable entry for normal operation of the electrical apparatus	cast resin	110 °C
	H05RN-F,H07RN-F	60 °C
	Ölflex-100	70 °C
	Ölflex-110	80 °C
	NSSHÖU	90 °C
	H05GG-F	110 °C
	RADOX 125	120 °C
	RADOX 155	150 °C

The maximum current carrying capacity of connecting wires shall be established on the basis of the self-heating rate and the heating rate of the enclosure at the place of installation, starting from the maximum permissible ambient temperature; due consideration shall also be given to the service temperatures of the cast resin and the line quality.

(16) Test report PTB Ex 05-13355

(17) Special conditions for safe use

None

Notes for manufacturing and operation

Cylindrical bore holes which will receive the cable entries with cylindrical joint shall comply with the requirements set forth in EN 50018, tables 1 or 2 (cylindrical joints) as a minimum. The joint surfaces shall be designed such that the mean roughness value does not exceed R_a 6.3 µm.

These cable entries are suited for installation in electrical apparatus designed to Flameproof Enclosure "d" type of protection of groups IIA, IIB or IIC.

If the reference pressure exceeds 20 bar, the cable entry shall be included into the type test required in EN 50018, section 15.1.3 (overpressure test) in compliance with the classification of the corresponding electrical apparatus (groups IIA, IIB or IIC).

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

The connecting wires of the cable entry shall be connected in enclosures that conform to a standardized type of protection as specified in EN 50014, section 1.2.

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

Routine test

The cable entry is a structural unit. The reproducible assembly and the installation conditions have been documented. According to EN 50018, section 16.2 (13.4.4), routine testing together with the flameproof enclosure as required in section 16.1 can, therefore, be dispensed with.

(18) Essential health and safety requirements

Met by compliance with the aforementioned Standards.

Zertifizierungsstelle Explosionsschutz
By order:

Dr. M. Thedens

Braunschweig, May 18, 2005

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1st S U P P L E M E N T

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 1197 U

(Translation)

Equipment: Cable gland, type 07-925.-..../.... to 07-929.-..../...

Marking:  **II 2G Ex d IIC Gb** **resp.** **II 2G Exdb IIC**

 **I 2D Ex tb IIIC Db IP 6X** **resp.** **II 2D Ex tb IIIC IP 6X**

Manufacturer: BARTEC GmbH

Address: Max-Eyth-Straße 16, 97980 Bad Mergentheim, Germany

Description of supplements and modifications

The cable gland of the types 07-925.-..../.... to 07-929.-..../.... may also be manufactured with the following modifications:

The lower range of ambient temperatures has been extended to -60 °C.
(depending on the used flexible cables, the limits may be narrower)

Additional sleeve sizes and materials can be used.
Additional materials are stainless steel, grey cast iron, aluminium alloys (with Mg < 6 % by wt).

There are additional installation options (angled installation, cables with stripped insulation)

Additional types of flexible cables can be used.

ZSEx10101e.dotm

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1st SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 03 ATEX 1197 U

The type code has been extended:

07 -92 • • - • • • • / • • • •

ID number for cable gland

ID number for sleeve shape and type of thread
0 = threaded, metric
1 = threaded, other than metric, e.g. NPT
2 = threaded, other than metric, e.g. WWR
3 = threaded, metric, special type
4 = threaded, other than metric, e.g. Pg

ID number for type of cable
0 = subject to order
1 = Rubber-insulated flexible cable up to 1140 V
2 = PVC flexible cable up to 1000 V
3 = Rubber-insulated flex. cable up to 1000 V for elevated temp.
4 = Rubber-insulated flexible cable up to 500 V
5 = PVC flexible cable up to 500 V
6 = Rubber-insulated flexible cable up to 750 V
7 = Flexible cables for intrinsically safe circuits
8 = Flexible cables with shield

ID number for core cross section
A = special cross sections

B = 0.14 ... 0.2 mm²	J = 2.5 mm²	R = 50 mm²
C = 0.25 ... 0.3 mm²	K = 4 mm²	S = 70 mm²
D = 0.34 ... 0.35 mm²	L = 6 mm²	T = 95 mm²
E = 0.5 mm²	M = 10 mm²	U = 120 mm²
F = 0.75 mm²	N = 16 mm²	V = 150 mm²
G = 1.0 mm²	P = 25 mm²	W = 185 mm²
H = 1.5 mm²	Q = 35 mm²	Z = mixed

ID number for version and number of cores, flexible cable

Sleeve end	Collar end
01 = 1 core	51 = 1 core
02 = 2 cores	52 = 2 cores
etc. up to	etc. up to
47 = 47 cores	97 = 47 cores

ID number for sleeve size

1 = Ø 15mm	7 = Ø 46 mm
2 = Ø 22 mm	B = Ø 50 mm
3 = Ø 32 mm	C = Ø 60 mm
4 = Ø 34 mm	D = Ø 70 mm
5 = Ø 36 mm	E = Ø 80 mm
6 = Ø 40 mm	F = Ø 90 mm

9 = sizes between 1 ... F

Classification / versions

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Applied standards

EN 60079-0:2009, EN 60079-1:2007 and EN 60079-31:2009

Test report: PTB Ex 13-12082

Zertifizierungssektor Explosionsschutz
On behalf of PTB:

Braunschweig, September 2, 2013

(*signature*)

Dr.-Ing. U. Klausmeyer
Direktor und Professor

3 pages, correct and complete as regards content.

On behalf of PTB:

Dipl.-Phys. U. Völkel Braunschweig, October 21, 2013