EU - Type Examination Certificate

(1)

(2) Equipment and protective systems intended for use in potentially explosive atmospheres – **Directive 2014/34/EU**

(3) EU - Type Examination Certificate Number

EPS 13 ATEX 1 619 U **Revision 1**

(4) Component: Line bushing type 07-91**-****/**** and 57-91**-****/****

(5) Manufacturer: BARTEC GmbH

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

(7) This component and any acceptable variation thereto are specified in the annex to this certificate and the documentation therein referred to.

(8) Bureau Veritas Consumer Products Services Germany GmbH, notified body No. 2004 in accordance with Article 21 given in the Directive 2014/34/EU of the European Parliament and of the Council of 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 equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II of the Directive. The examination and test results are recorded in the confidential documentation under the reference number 13TH0445.

(9) Compliance with the essential health and safety requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013 **EN 60079-1:2014**

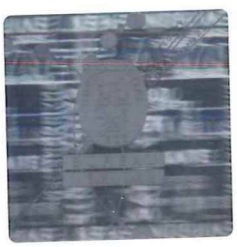
(10) The sign "U" placed behind the certificate number indicates that this certificate shall not be confounded with certificates issued for equipment or protective systems. This certificate is valid for a component without an autonomous function in sense of article 2 (3) and does not authorize for the CE-marking to be applied according to article 13 (3) of the Directive. This component certificate only serves as a basis for the issuing of certificates for equipment or protective systems.

(11) This EU - Type Examination Certificate relates only to the design and examination of the specified component in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture of this component and its placing on the market. Those requirements are not covered by this certificate.

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

II 2G Ex db IIC Gb

I M2 Ex db I Mb



Certification department of explosion protection

H. Schaffer

Nuremberg, 2017-10-24

BUREAU VERITAS
Consumer Products Services Germany GmbH
Thurn-und-Taxis-Straße 18, 90411 Nürnberg, Germany
Phone: + 49 40 74041-0
cps-nuernberg@de.bureauveritas.com
www.bureauveritas.de/cps

(13) # Annex

(14) **EU - Type Examination Certificate EPS 13 ATEX 1 619 U** **Revision 1**

(15) Description of component:

The line bushing type 07-91**-****/**** is used for the electrical connection of electrical equipment in explosion-proof enclosures. Also it can be used with fiber optic cables for data transmission. This may be the connection between a flame-proof housing and housing in another approved type of protection according to IEC / EN 60079-0, Section 1 or between interconnected flameproof enclosures (also enclosures protecting fiber optic cables). Because of this design, the wires/cables are always protected against direct contact.
Depending on the type, they are designed for intrinsically safe circuits, measuring, regulating and control circuits or power circuits.

The allowed optical power for fiber optic cable bushing (57-91**-****/****) is depending on frequency and will be certified with the source of optical irradiation.

Line bushings can also be used as blind plugs for the termination of housings in the type of protection flameproof enclosure "d".

The type 07-91*9 - **** / S*** is used for the connection between a flameproof enclosure and intrinsically safe circuits in mechanically unprotected area.

Technical data:

Rated isolation voltage:	max. 6000 V
Rated current:	max. 644 A (On the basis of VDE 0298-04 Tab. 13, Col. 6)
Conductor cross section:	max. 185 mm²
Current type:	AC and DC
Rated service temperature (1):	-60 °C ≤ T ≤ +110 °C (130°C)
Nominal thread diameter:	M10x1 – M72x1,5 (alternatively to metric also different thread types e.g. NPT)
Size of sleeve (cylindric):	Ø 10mm - Ø 70mm
Joint length:	≥ 9,5 mm, ≥ 12,5 mm, ≥ 25 mm, ≥ 40 mm
Number of conductors:	max. 99 (depending on 20% casting area limitation)
Static test pressure (type tested) (1):	30 bar - 48,6 bar

(1) = Type dependent ratings:
(These ratings are given in the marking of the bushing)

- Service temperature depends on used cable type.
- Static test pressure is related to the lower service temperature of the cable type.

Limitations for use (1) regarding the service temperature and static test pressure depending on the used cable type can be found in attached the technical information to each shipment.

(16) Reference number: 13TH0445

BUREAU VERITAS
Consumer Products Services Germany GmbH
Thurn-und-Taxis-Straße 18, 90411 Nürnberg, Germany
Phone: + 49 40 74041-0
cps-nuernberg@de.bureauveritas.com
www.bureauveritas.de/cps

(17) Notes for manufacture, installation and operation:

• The line bushings have to be used according to the ratings given in the marking and the documents attached to the shipment. Special conditions especially regarding installation e.g. for strain-relief have to be considered.

• The classification of the temperatures to the temperature class of the line bushing must be stipulated in the type test of the electrical equipment concerned.

• For determination of the max. current rating of the wires the maximum heating and max. surrounding temperature of the electrical apparatus have to be considered. The max. service temperature of the line bushing has to be considered.

• Line bushings screwed in threaded holes must meet the minimum requirements of EN 60079-1, clause 5.3 (Table 4).

• These line bushings are suitable for installation in electrical equipment of protection type flameproof enclosures "d" groups I, IIA, IIB or IIC.

• Cylindrical holes for the line bushings with cylindrical joint must meet the minimum requirements of EN 60079-1, table 2 and 3 (cylindrical joint). The information to the outside-diameter of cylindrical sheaths in the instruction manual has to be considered. This cylindrical joint must be included in type testing to IEC 60079-1 section 15.3 in accordance with the group subdivision of the electrical equipment concerned (I, IIA, IIB or IIC).

• The line bushings must be fixed to the electrical equipment in such a way that they are secured against rotation and self-loosening.

• The wires of the line bushing must be connected in enclosures meeting a type of protection to EN 60079-0, section 2. The cores must be suitably connected in accordance with their rated cross sections and the type of protection selected.

• The max. arm length of a connection fixture of type 07-91*9-****/*S*** is limited to 100 mm.

• When the end termination of fiber optic cables is inside hazardous location, the optical power must be in compliance with type of protection "op is" according to EN 60079-28.

(18) Essential health and safety requirements:

Met by compliance with standards.

Certification department of explosion protection

Nuremberg, 2017-10-24

H. Schaffer

BUREAU VERITAS
Consumer Products Services Germany GmbH
Thurn-und-Taxis-Straße 18, 90411 Nürnberg, Germany
Phone: + 49 40 74041-0
cps-nuernberg@de.bureauveritas.com
www.bureauveritas.de/cps