

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 17 ATEX 1 100 U** **Revision 0**
- (4) Component: Line bushing Types: 07-925*-****/**** up to 07-929*-****/**** Line Entries
- (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 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 17TH0308.
- (9) Compliance with the essential health and safety requirements has been assured by compliance with:

EN IEC 60079-0:2018

EN 60079-1:2014 + AC:2018

EN 60079-31:2014

- (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

II 2D Ex tb IIIC Db



Certification department of explosion protection

Hamburg, 2020-04-07

H. Schaffer

Page 1 of 5

Certificates without signature and seal are void. This certificate is allowed to be distributed only if not modified. Extracts or modifications must be authorized by Bureau Veritas Consumer Products Services Germany GmbH, EPS 17 ATEX 1 100 U, Revision 0.



**BUREAU
VERITAS**



Annex

(13)

(14) **EU - Type Examination Certificate EPS 17 ATEX 1 100 U**

Revision 0

(15) Description of component:

The Line Entry Type 07-925*-****/**** to 07-925*-****/**** is for the insertion of hose lines into flameproof enclosures "Ex d".

Electrical data:

Typ No.	07	-	9	2	*	*	-	*	*	*	*	/	*	*	*	*
Key No.	A		B	C	D	E		F	G	H	I		J	K	L	M

Key	Code number for	Variations	Description
A, B, C	Line entry	07-92	
D	Sleeve design and length of joint	5 6 7 8 9	pluggable, 12,5 ≤ length < 25mm pluggable, 25 ≤ length < 40mm pluggable, length ≥ 40mm pluggable, special form pluggable with mounting flange
E	Cable design	0 1 2 3 4 5 6 7 8	Special cables Rubber hose cable up to 1.140V PVC- hose cable up to 1.000V Rubber hose cable up to 1.000V, increased temp. range Rubber hose up to 500V Rubber hose cable up to 500V Rubber hose cable up to 750V Hose cable up to 300V for intrinsically safe circuits Hose cable with screen resp. braiding up to 1.000V
F	Wire cross-section	A B D F H K M P R T V Z	Special cross-section between B to W (e.g. AWG) 0,14-0,2mm ² 0,34-0,35mm ² 0,75mm ² 1,5mm ² 4mm ² 10mm ² 25mm ² 50mm ² 95mm ² 150mm ² mixed
G, H	Design and number of wires at hose line	Hose line with xx wires (which steps into the resin on sleeve side): xx: 01 1 wire 02 2 wire up to 49 49 wires Hose line with zz continuous wires: A1, A2 ... A9 1, 2 ... 9 wires B1, B2 ... B9 11 – 19 wires C1, C2 ... C9 21 – 29 wires	Hose line with yy wires (which steps into the resin on boss side): yy: 51 1 wire 52 2 wire up to 99 49 wire A0 10 wires B0 20 wires C0 30 wires

Page 2 of 5

Certificates without signature and seal are void. This certificate is allowed to be distributed only if not modified. Extracts or modifications must be authorized by Bureau Veritas Consumer Products Services Germany GmbH. EPS 17 ATEX 1 100 U, Revision 0.



**BUREAU
VERITAS**

		D1, D2 ... D9 E1, E2 ... E9	31 – 39 wires 41 – 49 wires	D0	40 wires
I	Size of sleeve	1 3 5 7 N S V 9	Ø 16mm Ø 32mm Ø 36mm Ø 46mm Ø 50mm Ø 70mm Ø 90mm Special forms, intermediate size between 1 - V	2 4 6 8 Q T	Ø 22mm Ø 34mm Ø 40mm Ø 54mm Ø 60mm Ø 80mm
K	Design (and Ex marking)	A B D E U V X Y	Stripped BARTEC green Stripped Huntsman CW1302 pressure-sealed, -0,9 to 80 bar (for GAS) pressure-sealed, -0,9 to 80 bar (for GAS & DUST) pressure-sealed, -0,5 to 6 bar (for GAS) pressure-sealed, -0,5 to 6 bar (for GAS & DUST) Standard (for GAS) Standard (for GAS & DUST)		
J, L, M	Number or letter for characteristics without influence on the explosion protection				
Max working voltage:		Type 07-92*0-****/**** Type 07-92*1-****/**** Type 07-92*2-****/**** Type 07-92*3-****/**** Type 07-92*4-****/**** Type 07-92*5-****/**** Type 07-92*6-****/**** Type 07-92*7-****/**** Type 07-92*8-****/****		depending on hose line 1.254 V 1.100 V 1.100 V 550 V 550 V 825 V 330 V 1.100 V	
Operating temperature range:		-60 °C ≤ Ts ≤ 110 °C (depending of the used cable, Details see document no. 01-9200-650002-HLP)			
Min. length sleeve		23 mm			
Min. length of joint		<ul style="list-style-type: none"> • L ≥ 6 mm or • L ≥ 9,5 mm or • L ≥ 12,5 mm or • L ≥ 25 mm or • L ≥ 40mm 		Depends on volume and explosion group of enclosure in the final application (according table 1 or table 2 of IEC 60079-1)	
Min. length of the resin		20 mm			
Nominal sleeve diameter:		Ø 15 mm up to Ø 90 mm			
Mass (without wire) app.		20 ... 1000 g			
IP protection acc. IEC 60529/EN 60529		IP 6X			
Test pressure type test:		30 bar – 48,6 bar (depending on the lowest operating temperature of the used cable, see also document no. 01-9250-6A0002_V2)			
Rated current (general)		Depending on the conductors cross section, while the temperature at the line entry for continuous rated operation must not exceed the specified values. For the following values a temperature rise ΔT (at rated current) is set to 40 K.			
Rated current at cross section	Nominal cross section of copper wire	Rated current of hose cable A07RN-F resp. H07RN-F		Rated Current (remaining cable types)	



**BUREAU
VERITAS**



(for multiple wire designs, ambient temperatures 30 °C and admissible temperature of 70 °C at the cable for T6)	[mm ²]	[A]	[A]
	0,14	-	2
	0,25	-	4
	0,34	-	6
	0,5	-	9
	0,75	-	12
	1	12,5	15
	1,5	15,5	18
	2,5	21	26
	4	29	34
	6	36	44
	10	51	61
	16	67	82
	25	89	108
	35	110	135
	50	138	168
	70	172	207
	95	204	250
	120	238	292
	150	273	335
185	309	382	

Calculation factors for different ambient temperatures

Ambient temperature [°C]	Permissible operating temperature of the cable				
	Calculation factors, applicable to the above mentioned rated current values				
	60 °C	70 °C	80 °C	90 °C	110 °C
10	1,29	1,22	1,18	1,00	1,00
15	1,22	1,17	1,14	1,00	1,00
20	1,15	1,12	1,10	1,00	1,00
25	1,08	1,06	1,05	1,00	1,00
30	1,00	1,00	1,00	1,00	1,00
35	0,91	0,94	0,95	1,00	1,00
40	0,82	0,87	0,89	1,00	1,00
45	0,71	0,79	0,84	1,00	1,00
50	0,58	0,71	0,77	1,00	1,00
55	0,41	0,91	0,71	0,94	1,00



**BUREAU
VERITAS**



60	-	0,50	0,63	0,87	1,00
65	-	0,35	0,55	0,79	1,00
70	-	-	0,45	0,71	1,00
75	-	-	0,32	0,61	1,00
80	-	-	-	0,50	1,00

The maximum current carrying capacity of connecting wire 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 temperature of the cast resin and the hose line cable.

(16) Reference number: 17TH0308

(17) Notes for manufacture, installation and operation:

- Cylindrical bore holes which will receive the cable entries with cylindrical joint shall comply with the requirements set forth in IEC 60079-1, tables 1 or 2 (cylindrical joints) as a minimum. The joint surfaces shall be designed such that the mean roughness value does not exceed Ra 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.
- For reference pressures within the range of 20 bar up to 32,4 bar, a special type of line entry shall be chosen. If the reference pressure exceeds 32,4 bar the cable entry shall be included into the type test required in IEC 60079-1, section 15.1.3 (over-pressure 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 IEC 60079-0, section 1.
- 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.
- The cylindrical joint at the sleeve shall be assessed with regard to dust explosion protection in the final application. The cylindrical joint shall be tested concerning compliance with the requirements by enclosure "t" dust explosion protection.

(18) Essential health and safety requirements:

Met by compliance with standards.

Certification department of explosion protection

Hamburg, 2020-04-07



H. Schaffer