IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx EPS 17.0051U**	Page 1 of 3	Certificate history:
Status:	**Current**	Issue No: 0	
Date of Issue:	2020-04-01		
Applicant:	**BARTEC GmbH** Max-Eyth-Straße 16 D – 97980 Bad Mergentheim **Germany**		
Equipment:	**Line entry 07-925*-****/**** to 07-929*-****/****		
Optional accessory:			
Type of Protection:	**db, tb**		
Marking:	Ex db IIC Gb Ex tb IIIC Db		

Approved for issue on behalf of the IECEx Certification Body: **Holger Schaffer**

Position: **Certification manager**

Signature: (for printed version)

Date: 2020-04-07

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Bureau Veritas Consumer Products Services Germany GmbH
Businesspark A96
86842 Türkheim
Germany

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Date of issue: 2020-04-01 Issue No: 0

Manufacturer: **BARTEC GmbH**
Max-Eyth-Straße 16
D – 97980 Bad Mergentheim
Germany

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

DE/EPS/ExTR17.0079/00

Quality Assessment Report:

DE/TUN/QAR06.0017/11

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The line entry 07-925*-****/**** to 07-929*-****/**** is used for insertion of hose lines into flameproof enclosures.

see attached file "IECEx EPS 17.0051 U - Annex Euipment Ratings".

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 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 con-form 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.

Annex:

IECEx EPS 17.0051 U - Annex Euipment Ratings.pdf

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	pluggable, 12,5 ≤ length < 25mm			
		6	pluggable, 25 ≤ length < 40mm			
		7	pluggable, length ≥ 40mm			
		8	pluggable, special form			
		9	pluggable with mounting flange			
E	Cable design	0	Special cables			
		1	Rubber hose cable up to 1.140V			
		2	PVC- hose cable up to 1.000V			
		3	Rubber hose cable up to 1.000V, increased temp. range			
		4	Rubber hose up to 500V			
		5	Rubber hose cable up to 500V			
		6	Rubber hose cable up to 750V			
		7	Hose cable up to 300V for intrinsically safe circuits			
		8	Hose cable with screen resp. braiding up to 1.000V			
F	Wire cross-section	A	Special cross-section between B to W (e.g. AWG)			
		B	0,14-0,2mm²	C	0,25-0,3mm²	
		D	0,34-0,35mm²	E	0,5mm²	
		F	0,75mm²	G	1mm²	
		H	1,5mm²	J	2,5mm²	
		K	4mm²	L	6mm²	
		M	10mm²	N	16mm²	
		P	25mm²	Q	35mm²	
		R	50mm²	S	70mm²	
		T	95mm²	U	120mm²	
		V	150mm²	W	185mm²	
		Z	mixed			
G, H	Design and number of wires at hose line	Hose line with xx wires (which steps into the resin on sleeve side):			Hose line with yy wires (which steps into the resin on boss side):	
		xx:			yy:	
		01	1 wire		51	1 wire
		02	2 wire		52	2 wire
		up to			up to	
		49	49 wires		99	49 wire

		Hose line with zz continuous wires:			
		A1, A2 ... A9	1, 2 ...9 wires	A0	10 wires
		B1, B2 ... B9	11 – 19 wires	B0	20 wires
		C1, C2 ... C9	21 – 29 wires	C0	30 wires
		D1, D2 ... D9	31 – 39 wires	D0	40 wires
		E1, E2 ... E9	41 – 49 wires		
I	Size of sleeve	1	Ø 16mm	2	Ø 22mm
		3	Ø 32mm	4	Ø 34mm
		5	Ø 36mm	6	Ø 40mm
		7	Ø 46mm	8	Ø 54mm
		N	Ø 50mm	Q	Ø 60mm
		S	Ø 70mm	T	Ø 80mm
		V	Ø 90mm		
		9	Special forms, intermediate size between 1 - V		
K	Design (and Ex marking)	A	Stripped BARTEC green		
		B	Stripped Huntsman CW1302		
		D	pressure-sealed, -0,9 to 80 bar (for GAS)		
		E	pressure-sealed, -0,9 to 80 bar (for GAS & DUST)		
		U	pressure-sealed, -0,5 to 6 bar (for GAS)		
		V	pressure-sealed, -0,5 to 6 bar (for GAS & DUST)		
		X	Standard (for GAS)		
		Y	Standard (for GAS & DUST)		
J, L, M	Number or letter for characteristics without influence on the explosion protection				

Rated voltage (1):	Max. 1140 V
Rated current (1):	2 A up to 382 A
Rated cross section area (1):	0,14 mm^2 up to 185 mm^2
Max. operating temperature at the place of installation of the line entry in normal operation(1):	-60 °C ≤ Ts ≤ 110 °C
Nominal sleeve diameter:	Ø 15 mm up to ø 90 mm -30/-100
Min. length of joint	• 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)
Number of wires (1):	0...49
Static test pressure (type tested) (1):	30 bar – 48,6 bar
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.	Rated Current (remaining cable types)

		H07RN-F	
(for multiple wire designs, ambient temperatures 30 °C and admissible temperature of 70 °C at the cable for T6)	[mm²]	[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	Permissible operating temperature of the cable				
	Calculation factors, applicable to the above mentioned rated current values				
[°C]	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
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 al-so be given to the service temperature of the cast resin and the hose line cable.