



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

### Ex COMPONENT CERTIFICATE

Certificate No.: IECEx BVS 16.0014U Issue No: 1 Certificate history:  
Status: **Current** Page 1 of 4 Issue No. 1 (2018-07-25)  
Date of Issue: **2018-07-25** Issue No. 0 (2016-04-18)  
Applicant: **BARTEC GmbH**  
Max-Eyth-Straße 16  
97980 Bad Mergentheim  
Germany  
Ex Component: **EKL Connection Technology ECT 35 and ECT 45 type 27-5A3\*-\*\*\*\*/\*\*\*\***

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: **Equipment dust ignition protection by enclosure "t", Equipment protection by increased safety "e", Electrical resistance trace heating - General and testing requirements**

Marking:  
Ex eb IIC Gb  
Ex tb IIIC Db

Approved for issue on behalf of the IECEx  
Certification Body:

Ralf Leiendecker

Position:

Deputy Head of Certification Body

Signature:  
(for printed version)

Date:

25.07.2018

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

DEKRA EXAM GmbH  
Dinnendahlstrasse 9  
44809 Bochum  
Germany

 **DEKRA**  
On the safe side.



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

Additional Manufacturing location(s):

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 Component 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 Ex Component 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:

- |  |   |
|--|---|
| <b>IEC 60079-0 : 2017</b><br>Edition:7.0         | Explosive atmospheres - Part 0: Equipment - General requirements  |
| <b>IEC 60079-31 : 2013</b><br>Edition:2          | Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"                      |
| <b>IEC 60079-7 : 2015</b><br>Edition:5.0         | Explosive atmospheres – Part 7: Equipment protection by increased safety "e"                              |
| <b>IEC/IEEE 60079-30-1 : 2015</b><br>Edition:1.0 | Explosive atmospheres - Part 30-1: Electrical resistance trace heating - General and testing requirements |

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

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the Ex Component listed has successfully met the examination and test requirements as recorded in*

#### Test Report:

[DE/BVS/ExTR16.0023/01](#)

#### Quality Assessment Report:

[DE/TUN/QAR06.0017/10](#)



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## Schedule

Ex Component(s) covered by this certificate is described below:

### Subject and Type

See Annex

### Description

The EKL Connection Technology ECT 35 and ECT 45, type 27-5A3\*-\*\*\*\* / \*\*\*\* is a heating cable connection/connector which are used for single core plastic heating cables for potentially explosive areas.

The EKL Connection Technology ECT 35 and ECT 45, type 27-5A3\*-\*\*\*\* / \*\*\*\* is built in type of protection increased safety "e" or in type of protection by enclosure "t" and is affected for the installation in areas with EPL Gb or EPL Db.

The connector enclosure consists of two pressing screws and a cylindrical enclosure. At each side a cable gland is fixed as integral component of the enclosure.

### Parameters

See Annex

### SCHEDULE OF LIMITATIONS:

The EKL Connection Technology ECT 35 and ECT 45, type 27-5A3\*-\*\*\*\* / \*\*\*\* must be installed in such a way that the heating cable is protected against tensile forces.

The dielectric strength test in regard to the routine test (IEC 60079-7 cl. 7.1) must be part of the examination for the trace heater system.



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**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):**

Change of the max. rated current to 129 A for the version type 27-5A38-\*\*\*\* / \*\*\*\*.  
Updating to the standard IEC 60079-0:2017.

**Annex:**

[BVS\\_16\\_0014U\\_Bartec\\_Annex\\_Issue1.pdf](#)





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**Annex**  
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**Subject and Type**

EKL Connection Technology ECT 35 and ECT 45 type 27-5A3\*-\*\*\*\*/\*\*\*\*

<b>type</b>	27	-	5	A	3	*	-	*	*	*	*	*	/	*	*	*	*
<b>key</b>	A		B	C	D	E		F	G	H	I		J	K	L	M	

A	Basis program	27	Heating equipment															
B	Basis program with heating	5	Heating. Installation material															
C	Construction	A	EKL Connection Technology Ex															
D	Function	3	Heating cable connection / connector ATEX / IECEx															
E	Design <sup>(A)</sup> (Rated current / rated cross-section side 1 [mm <sup>2</sup> ] # rated cross-section side 2 [mm <sup>2</sup> ] / Rated cross-section protective braiding [mm <sup>2</sup> ] / enclosure diameter)	1 2 3 4 5 6 7 8 A B C D	32 A / 2.5 mm <sup>2</sup> # 2.5 mm <sup>2</sup> / 2.5 mm <sup>2</sup> / 35 mm 54 A / 6 mm <sup>2</sup> # 6 mm <sup>2</sup> / 2.5 mm <sup>2</sup> / 35 mm 73 A / 10 mm <sup>2</sup> # 2.5 mm <sup>2</sup> / 6 mm <sup>2</sup> / 45 mm 73 A / 10 mm <sup>2</sup> # 6 mm <sup>2</sup> / 6 mm <sup>2</sup> / 45 mm 73 A / 10 mm <sup>2</sup> # 10 mm <sup>2</sup> / 6 mm <sup>2</sup> / 45 mm 98 A / 16 mm <sup>2</sup> # 6 mm <sup>2</sup> / 6 mm <sup>2</sup> / 45 mm 98 A / 16 mm <sup>2</sup> # 10 mm <sup>2</sup> / 6 mm <sup>2</sup> / 45 mm 129 A / 16 mm <sup>2</sup> # 16 mm <sup>2</sup> / 6 mm <sup>2</sup> / 45 mm 129 A / 25 mm <sup>2</sup> # 6 mm <sup>2</sup> / 6 mm <sup>2</sup> / 45 mm 129 A / 25 mm <sup>2</sup> # 10 mm <sup>2</sup> / 6 mm <sup>2</sup> / 45 mm 129 A / 25 mm <sup>2</sup> # 16 mm <sup>2</sup> / 6 mm <sup>2</sup> / 45 mm 129 A / 25 mm <sup>2</sup> # 25 mm <sup>2</sup> / 6 mm <sup>2</sup> / 45 mm															
F	Sealing gasket 1 (sealing range mm / enclosure diameter)	A B C D E	<table border="0"> <tr> <td>Ø 3.2 – 4.8 35 mm</td> <td>F</td> <td>Ø 7.8 – 9.4 45 mm</td> </tr> <tr> <td>Ø 4.8 – 6.3 35 mm</td> <td>G</td> <td>Ø 9.4 – 11 45 mm</td> </tr> <tr> <td>Ø 6.3 – 7.9 35 mm</td> <td>H</td> <td>Ø 11 – 12.4 45 mm</td> </tr> <tr> <td>Ø 4.6 – 6.2 45 mm</td> <td>1</td> <td>Combination of sealing gasket 1</td> </tr> <tr> <td>Ø 6.2 – 7.8 45 mm</td> <td></td> <td></td> </tr> </table>	Ø 3.2 – 4.8 35 mm	F	Ø 7.8 – 9.4 45 mm	Ø 4.8 – 6.3 35 mm	G	Ø 9.4 – 11 45 mm	Ø 6.3 – 7.9 35 mm	H	Ø 11 – 12.4 45 mm	Ø 4.6 – 6.2 45 mm	1	Combination of sealing gasket 1	Ø 6.2 – 7.8 45 mm		
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Ø 4.6 – 6.2 45 mm	1	Combination of sealing gasket 1																
Ø 6.2 – 7.8 45 mm																		
G	Sealing gasket 2 (sealing range mm / enclosure diameter)	A B C D E	<table border="0"> <tr> <td>Ø 3.2 – 4.8 / 35 mm</td> <td>F</td> <td>Ø 7.8 – 9.4 / 45 mm</td> </tr> <tr> <td>Ø 4.8 – 6.3 / 35 mm</td> <td>G</td> <td>Ø 9.4 – 11 / 45 mm</td> </tr> <tr> <td>Ø 6.3 – 7.9 / 35 mm</td> <td>H</td> <td>Ø 11 – 12.4 / 45 mm</td> </tr> <tr> <td>Ø 4.6 – 6.2 / 45 mm</td> <td>2</td> <td>Combination of sealing gasket 2</td> </tr> <tr> <td>Ø 6.2 – 7.8 / 45 mm</td> <td></td> <td></td> </tr> </table>	Ø 3.2 – 4.8 / 35 mm	F	Ø 7.8 – 9.4 / 45 mm	Ø 4.8 – 6.3 / 35 mm	G	Ø 9.4 – 11 / 45 mm	Ø 6.3 – 7.9 / 35 mm	H	Ø 11 – 12.4 / 45 mm	Ø 4.6 – 6.2 / 45 mm	2	Combination of sealing gasket 2	Ø 6.2 – 7.8 / 45 mm		
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H	Combination of sealing gasket 1	0 No combination 2 A, B 3 A, B, C 4 D, E, F 5 E, F, G 6 E, F, G, H
I	Combination of sealing gasket 2	0 No combination 2 A, B 3 A, B, C 4 D, E, F 5 E, F, G 6 E, F, G, H
J-M	Code number and characteristics for variants without any effect on explosion protection	

(A)# - Sign for the statement of the different rated cross-section each connection side.

### Parameters

Rated voltage	750 V
IP-protection degree	IP 66 (IEC/EN 60079-0, IEC/EN 60529)
Limits of the service temperature	-60 °C ... +200 °C

Type / Name	Rated current	Nominal section heating cables (cross section area)	Nominal section protective braid (cross section area)
27-5A31-****/**** ECT 35-32-**	max. 32 A	2.5 mm <sup>2</sup> / (1.5 – 2.5 mm <sup>2</sup> )	2.5 mm <sup>2</sup> / (1.5 – 2.5 mm <sup>2</sup> )
27-5A32-****/**** ECT 35-54-**	max. 54 A	6 mm <sup>2</sup> / (4 – 6 mm <sup>2</sup> )	2.5 mm <sup>2</sup> / (1.5 – 2.5 mm <sup>2</sup> )
27-5A33-*****, 27-5A34-*****, 27-5A35-*****, ECT 45-73-**	max. 73 A	10 mm <sup>2</sup>	6 mm <sup>2</sup> / (4 – 6 mm <sup>2</sup> )
27-5A36-*****, 27-5A37-*****, ECT 45-98-**	max. 98 A	16 mm <sup>2</sup>	6 mm <sup>2</sup> / (4 – 6 mm <sup>2</sup> )
27-5A38-*****, ECT 45-129-**	max. 129 A	16 mm <sup>2</sup>	6 mm <sup>2</sup> / (4 – 6 mm <sup>2</sup> )
27-5A3A-*****, 27-5A3B-*****, 27-5A3C-*****, 27-5A3D-*****, ECT 45-129-**	max. 129 A	25 mm <sup>2</sup>	6 mm <sup>2</sup> / (4 – 6 mm <sup>2</sup> )