



# 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)

Certificate No.: IECEx BVS 13.0048X issue No.: 0 Certificate history:

Status: **Current**

Date of Issue: **2013-08-01** Page 1 of 4

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

Electrical Apparatus: **Heating system type 27-1100-\*\*\*\*/\*\*\*\***  
Optional accessory:

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

Marking: Ex e IIC T6, T5, T4, 180°C (T3) Gb  
Ex tb IIIC T80°C, T95°C, T135°C, T180°C Db

Approved for issue on behalf of the IECEx  
Certification Body:

Dr. F. Eickhoff

Position:

Deputy Head of Certification Body

Signature:  
(for printed version)

Date:

2013-08-01

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.

Certificate issued by:

DEKRA EXAM GmbH  
Dinnendahlstrasse 9  
44809 Bochum  
Germany

 **DEKRA**  
DEKRA EXAM GmbH



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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 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 electrical apparatus 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 : 2007-10</b> Edition: 5	Explosive atmospheres - Part 0: Equipment - General requirements
<b>IEC 60079-30-1 : 2007-01</b> Edition: 1	Explosive atmospheres - Part 30-1: Electrical resistance trace heating - General and testing requirements
<b>IEC 60079-31 : 2008</b> Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
<b>IEC 60079-7 : 2006-07</b> Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*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 equipment listed has successfully met the examination and test requirements as recorded in*

Test Report:  
[DE/BVS/ExTR13.0091/00](#)

Quality Assessment Report:  
[DE/TUN/QAR06.0017/05](#)



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## Schedule

### EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

#### Subject and Type

Heating system PLEXO TCS type 27-1100-<sup>\*1</sup><sup>\*2</sup><sup>\*3</sup><sup>\*4</sup><sup>\*5</sup>

- 1) Rated voltage  
0: 110 V up to 120 V  
1: 208 V up to 254 V
- 2) Heating Cable series  
0: PSBL Heating Cable series, type 07-5807-\*\*\*\*  
1: PSB Heating Cable series, type 07-5801-\*\*\*\*  
2: MSB Heating Cable series, type 07-5804-2\*\*\*\*  
3: HSB Heating Cable series, type 07-5803-\*\*\*\*

- 3) Connection system  
5: PLEXO Tape Connector, with following variations

Function	Type	Sealing range
PLEXO Supply Cable connection	27-59P1-1010/****	$8 \leq D \leq 10$ mm
	27-59P1-2010/****	$10 \leq D \leq 12$ mm
	27-59P1-3010/****	$12 \leq D \leq 14$ mm
	27-59P1-4010/****	$14 \leq D \leq 16$ mm
PLEXO Heating Cable connection	27-59P2-0110/****	Heating Cables (see <sup>2)</sup> )
PLEXO End termination	27-59P3-0010/****	Heating Cables (see <sup>2)</sup> )

To be continued on page 4

### CONDITIONS OF CERTIFICATION: YES as shown below:

- The classification of the temperature class of the PLEXO TCS Heating System is done from the operator depending on the used heating cable. The ambient temperature range of PLEXO TCS Heating System depends also of the used heating cable. This information is recorded on the operator side in accordance with the specifications in the operating instructions / acceptance report. The documentation must be kept secure.
- When used in TT and TN systems a residual current device according to IEC 60079-30-1, clause 4.3 point d) shall be installed. When used in IT systems an insulation monitoring device according to IEC 60079-30-1, clause 4.3 point e) shall be used.



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## EQUIPMENT(continued):

### Description

The heating system PLEXO TCS Type 27-1100-\*\*\*\*/\*\*\*\* serves as a stationary heating device and consists of separately certified heating cable series (PSBL, PSB, MSB or HSB) in conjunction with the PLEXO Tape Connector Type 27-59P\*-\*\*\*\*/\*\*\*\*.

The PLEXO Tape Connector Type 27-59P\*-\*\*\*\*/\*\*\*\* can be used in following different versions:

Connection supply cable and heating cable(Type 27-59P1-\*\*\*\*/\*\*\*\*) Connection of heating cables (Type 27-59P2-\*\*\*\*/\*\*\*\*) End termination of heating cables (Type 27-59P3-\*\*\*\*/\*\*\*\*)

The complete heating system is based on the type of protection "e" Increased safety and "tb" Protected by enclosures. Furthermore, the heating system meets the requirements of EN / IEC 60079-30-1 Electrical resistance trace heating.

### Parameters

See Annex

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**Annex**  
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Parameters					
Type	Heating system PLEXO TCS Type 27-1100-0**/* (with PSBL Heating cable)	Heating system PLEXO TCS Type 27-1100-1**/* (with PSB Heating cable)	Heating system PLEXO TCS Type 27-1100-2**/* (with MSB Heating cable)	Heating system PLEXO TCS Type 27-1100-3**/* (with HSB Heating cable)	PLEXO Tape Connector Type 27-59P*- **/*
Rated voltage	Max. 254 V	Max. 254 V	Max. 254 V	Max. 254 V	320 V (for insulation)
Ambient temperature range	$-30\text{ °C} \leq T_a \leq +65\text{ °C}$ (T5)	$-40\text{ °C} \leq T_a \leq +65\text{ °C}$ (T5/T6)	$-40\text{ °C} \leq T_a \leq +110\text{ °C}$ (T3) $-40\text{ °C} \leq T_a \leq +70\text{ °C}$ (T4)	$-60\text{ °C} \leq T_a \leq +120\text{ °C}$ (T3) $-60\text{ °C} \leq T_a \leq +90\text{ °C}$ (T4)	---
Temperature range supply cable	Minimum +75 °C (T5)	Minimum +80 °C (T5) Minimum +75 °C (T6)	Minimum +125 °C (T3) Minimum +95 °C (T4)	Minimum +140 °C (T3) Minimum +105 °C (T4)	---
Max. fuse (type C)	16 A	32 A	32 A	32 A	---
Withstand temperature range	---	---	---	---	$-60\text{ °C} \leq T \leq +180\text{ °C}$
IP protection	IP65	IP65	IP65	IP65	IP65
Rated connecting capacity range	0.5 – 4 mm <sup>2</sup>	0.5 – 4 mm <sup>2</sup>	0.5 – 4 mm <sup>2</sup>	0.5 – 4 mm <sup>2</sup>	0.5 – 4 mm <sup>2</sup>
Sealing range supply cable	$8 \leq D \leq 16\text{ mm}$	$8 \leq D \leq 16\text{ mm}$	$8 \leq D \leq 16\text{ mm}$	$8 \leq D \leq 16\text{ mm}$	$8 \leq D \leq 16\text{ mm}$