



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 CSAE 24.0015X** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2025-10-23
Applicant: **BARTEC Benke GmbH**
Schulstrasse 30
94239 Gotteszell
Germany
Equipment: **BPL-AL System 27-1P1* (Refer to Annexe for Designations)**
Optional accessory:
Type of Protection: **Increased Safety "eb", Electrical Resistance Trace Heating "60079-30-1" and Dust Protection by Enclosure "tb"**
Marking: Ex 60079-30-1 eb IIC T6...T1* Gb
Ex 60079-30-1 tb IIC T85°C ...T450°C# Db
Ta = -40°C...+55°C
For rated voltage and power, T-Class T* and maximum surface temperature T# see heating system design documentation.

Approved for issue on behalf of the IECEx
Certification Body:

Michelle Halliwell

Position:

Senior Director of Operations

Signature:
(for printed version)

Date:
(for printed version)

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:

CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside CH5 3US
United Kingdom





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Manufacturing
locations: **BARTEC Benke GmbH**
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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 60079-31:2022](#) Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

[IEC/IEEE 60079-30-1:2015](#) Explosive atmospheres - Part 30-1: Electrical resistance trace heating - General and testing requirements
Edition:1.0

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:

[GB/CSAE/ExTR25.0027/00](#)

Quality Assessment Report:

[DE/TUN/QAR12.0008/12](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The BPL System 27-1P1* is a Trace Heating system utilising increased safety, resistance trace heating and dust ignition protection concepts. The equipment comprises of an Ex enclosure, fitting with Ex terminals (for earthing and power), trace heater and Ex end termination. The enclosure can accommodate 1 or 3 trace heaters, with the trace heaters fitted via Ex cable glands.

The trace heater is Parallel Constant Wattage, with the system rating specified as 120Vac / 277Vac, 10...200W/m.

The system is IP64 rated.

Refer to Design Guide, 21-1P10-6D0001/-7D0001 for full configuration details.

Refer to certificate Annexe for additional information and Conditions of Manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. When the trace heating cable is installed on a workpiece that has a temperature above 190°C, the termination devices shall be positioned outside the insulation, and the user/installer shall ensure that they are not exposed to UV radiation.
2. The end user shall ensure that a Suitably Certified, Ex Equipment Cable Gland is used as part of the supply cable installation.
3. The equipment shall be installed such that the Trace Heating cables leave the enclosure vertically downwards.
4. Supply cables and power cable entry glands shall be selected per manufacturer's installation instructions for appropriate conductor size and temperature range.
5. The end user shall ensure that the workpiece temperature does not exceed 350°C (energized) and 500°C (unenergized).
6. The Temperature Limiter required for Controlled Design must be Ex Certified against the requirements of IEC 60079-30-1: 2015 Clause 4.5.3. The limiter shall be suitably rated based on the temperature requirements of the BPL-System, which can be found in the Design Guide (Instruction Manual 21-1P10-6D0001/-7D0001).

Annex:

[IECEX CSAE 24.0015X Annexe Issue 0.pdf](#)

Annexe to: IECEx CSAE 24.0015X Issue 0

Applicant: BARTEC Benke GmbH

Apparatus: BPL-AL System, 27-1P1*



The Designations are as follows:

27 - 1 P 1 S - * * * 7 / 0 1 0 *
 A B C D E F G H I J K L M

Note: the "/" is not part of the type code.

Designation	Explanation	Value	Explanation
A	Product Group	27	Trace heating
B	Product Identifier	1	Parallel trace heating system
C		P	
D	Trace Heater	1	Type BPL
E	Temperature Limitation	S C	Product classification / stabilised design Controlled design, with separately certified limiter and sensor
F	Custom		The Designations relate to coding associated with customer designations etc. and does not affect the construction or certification.
G	Limiter	0 1 2	None, stabilised design only Separately certified electronic limiter Separately certified mechanical limiter
H	Sensor for Limiter	0 1 2	None, stabilised design only Separately certified sensor Capillary tube on mechanical limiter
I	Rated Voltage	1 7	100Vac/dc...120Vac/dc 208Vac/dc...277Vac/dc
J,K,L	Rated power output at +10°C	010 015 030 050 070 100 150 200	10 W/m (3 W/ft) 15 W/m (5 W/ft) 30 W/m (10 W/ft) 50 W/m (15 W/ft) 70 W/m (20 W/ft) 100 W/m (30 W/ft) 150 W/m (45 W/ft) 200 W/m (60 W/ft)
M	Custom		The Designations relate to coding associated with customer designations etc. and does not affect the construction or certification.

EQUIPMENT (continued)

The following Ex items are critical to the Type of Protection provided by the equipment:

Ex Device	Certificate	Manufacturer	Marking	Standards
Terminal Blocks	IECEx KEM 06.0033U issue 8 Or IECEx KEM 06.0050U issue 7	PHOENIX CONTACT GmbH & Co. KG	Ex eb IIC Gb -60°C to +110°C.	IEC 60079-0: 2017 Edition 7 IEC 60079-7: 2017 Edition 5.1
Terminal blocks	IECEx ULD 15.0008U issue 4	Weidmuller Interface GmbH & Co. KG	Ex eb IIC Gb -60°C to +110°C.	IEC 60079-0: 2017 Edition 7 IEC 60079-7: 2017 Edition 5.1

Annexe to: IECEx CSAE 24.0015X Issue 0

Applicant: BARTEC Benke GmbH

Apparatus: BPL-AL System, 27-1P1*



Ex Device	Certificate	Manufacturer	Marking	Standards
Polyester Housing	IECEX IBE 20.0041U issue 0	Bartec – F.N. S.R.L	Ex eb IIC Gb Ex tb IIIC Db -55°C to +100°C.	IEC 60079-0: 2017 Edition 7 IEC 60079-31: 2022 Edition 3 IEC 60079-7: 2017 Edition 5.1
Power Supply and End Termination	IECEX CML 22.0057U issue 0	Bartec GmbH	Ex 60079-30-1 IIC Gb Ex 60079-30-1 IIIC Db IP67 Refer to description for service temperature ranges	IEC 60079-0: 2017 Edition 7 IEC/IEEE 60079-30-1: 2015 Edition 1
Resistance Heating Cable	IECEX CML 22.0058 issue 1	Bartec GmbH	Ex 60079-30-1 IIC T6...T1 Gb Ex 60079-30-1 IIIC T85°C...T450°C Db IP67 Withstand temp range: -40°C to +500°C Max 277V, up to 200 W/m	IEC 60079-0: 2017 Edition 7 IEC/IEEE 60079-30-1: 2015 Edition 1
Cable Gland (listed under Installation Enclosure)	IECEX DEK 21.0074X issue 0	Bartec GmbH	Ex eb IIC Gb Ex tb IIIC Db -55°C to +180°C (grommet) -200°C to +260°C (O-Ring)	IEC 60079-0: 2017 Edition 7 *IEC 60079-31: 2013 Edition 2 IEC 60079-7: 2017 Edition 5.1
Cable Gland (for Trace Heating Cable)	IECEX DEK 18.0031X issue 0	Bartec GmbH	Ex eb IIC Gb Ex tb IIIC Db -55°C to +180°C (grommet) -55°C to +140°C (O-Ring)	IEC 60079-0: 2017 Edition 7 *IEC 60079-31: 2013 Edition 2 IEC 60079-7: 2017 Edition 5.1

*A Gap Analysis has been conducted to IEC 60079-31: 2022 Edition 3.

Annexe to: IECEx CSAE 24.0015X Issue 0

Applicant: BARTEC Benke GmbH

Apparatus: BPL-AL System, 27-1P1*



Conditions of Manufacture

The Manufacturer shall comply with the following:

1. The equipment covered by this certificate incorporates previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform CSA of any modifications of the devices that may impinge upon the explosive safety design of their products.

Certificate	Ex Device
IECEX KEM 06.0050U issue 7	Terminal Blocks
IECEX KEM 06.0033U issue 8	Terminal Blocks
IECEX ULD 15.0008U issue 4	Terminal Blocks
IECEX IBE 20.0041U issue 0	Polyester Housing
IECEX CML 22.0057U issue 0	Power Supply and End Termination
IECEX CML 22.0058 issue 1	Resistance Heating Cable
IECEX DEK 21.0074X issue 0	Cable Gland (listed under Installation Enclosure)
IECEX DEK 18.0031X issue 0	Cable Gland

2. The combination of Terminals and End plates must be as follows:

Terminals	End Plates
Weidmuller	Weidmuller
Phoenix Contact	Phoenix Contact

3. The Equipment is to undergo Routine testing for the following items:

A. Trace Heater:

- i. An electric strength test of $2U + 1000V$ rms shall be applied between the conductors and the outer, metallic braid/jacket as appropriate for 60 seconds as required by clause 5.1.2 of IEC/IEEE 60079-30-1.
- ii. An electric strength test of the polymeric sheath (over jacket) used for corrosion resistance shall be carried out in accordance with the requirements of IEC/IEEE 60079-30-1 clause 5.2.1.
- iii. The manufacturer shall verify the output rating for each cable manufactured in accordance with IEC/IEEE 60079-30-1 clause 5.2.2.

B. Terminals:

- i. A Dielectric Strength Test of $2U + 1000V$ rms between the conductors as per Clause 6.1 of IEC 60079-7, for 60 seconds (when internal wiring is applied by the manufacturer).