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

Certificate No.:	IECEx PTB 16.0010X issue No.:0	Certificate history:
Status:	**Current**	
Date of Issue:	**2016-04-27**	Page 1 of 3
Applicant:	**BARTEC GmbH** Max-Eyth-Straße 16 97980 Bad Mergentheim **Germany**	
Electrical Apparatus: *Optional accessory:*	**Sheathed resistance thermometer Pt 100 Ex** type 27-71**-*3**/****	
Type of Protection:	**encapsulation 'm'**	
Marking:	Ex mb IIC T6 Gb Ex mb IIIC T80°C Db or Ex mb IIC T6 Ex mb IIIC T80°C	
Approved for issue on behalf of the IECEx Certification Body:	Dr. Ing. F. Lienesch	
Position:	Head of department "Explosion Protection in Sensor Technology and Instrumentation"	
Signature: *(for printed version)*		
Date:	12.05.16	

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:

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100
38116 Braunschweig
Germany

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

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Date of Issue: **2016-04-27** Issue No.: **0**

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:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-18 : 2014 Edition: 4.0	Explosive atmospheres – Part 18: Equipment protection by encapsulation "m"

*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/PTB/ExTR16.0016/00

Quality Assessment Report:

DE/TUN/QAR06.0017/07

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Schedule

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

The sheathed resistance thermometer Pt 100 Ex is used for the measurement of temperatures inside of hazardous areas of zone 1 and zone 21 where it is installed as stationary equipment. The installation length is chosen according to the length of the mineral-insulated sheathed cable so that a part of the junction sleeve and the connecting cable of the sheathed resistance thermometer are located outside of a thermal insulation.

The sheathed resistance thermometer is operated in the signal circuit of an electrical control device.

For more details refer to attachment below

CONDITIONS OF CERTIFICATION: YES as shown below:

Special conditions for safe use are listed in attachment below

Annex: CoC-160010-00-attachment.pdf

Applicant: BARTEC GmbH

Electrical Apparatus: Sheathed resistance thermometer Pt 100 Ex

Description of equipment

The sheathed resistance thermometer Pt 100 Ex is used for the measurement of temperatures inside of hazardous areas of zone 1 and zone 21 where it is installed as stationary equipment. The installation length is chosen according to the length of the mineral-insulated sheathed cable so that a part of the junction sleeve and the connecting cable of the sheathed resistance thermometer are located outside of a thermal insulation.

The sheathed resistance thermometer is operated in the signal circuit of an electrical control device.

Design of the measuring sensor

Minimum length		300	mm
Diameter		3	mm
Minimum bending radius		30	mm
Rigid range of sensor tip		50	mm

Operating specifications

Rated voltage		60	V	AC/DC
Maximum permissible current	I_{max}	7	mA	
Maximum permissible power		18	mW	
Ambient temperature range at the entry fitting depending on the type of connecting cable		-50°C up to +70°C		
Temperature range of the measuring point at the sensor tip		-70 °C up to +600 °C -200 °C up to +600 °C		

Type code

27-71 * * - * **3** * * / ****

Temperature sensor	1	2-wire connection
	2	3-wire connection
Measuring range	8	-200°C up to +600°C
	5	-70°C up to +600°C
Material	1	brass
	3	stainless steel
Length of sheathed cable	mm	
Rated voltage	V	
Manufacturer-specific marking		

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Special conditions for safe use

1. The permissible ambient temperature range depends on the type of connecting cable used and shall be specified on the type label.
2. With the installation it shall be ensured that the maximum permissible ambient temperature of +70°C at the entry fitting cannot be exceeded.
3. The sheathed resistance thermometer shall be included in the local equipotential bonding system.
4. An insulation test with 500 V DC between conductor and outer sheath of the sheathed resistance thermometer shall be performed after installation.
5. Type 27-71*5-*3**/*
   The sheathed resistance thermometer shall be operated with a limiting device that effectively limits the maximum permissible current I_{max} . The safety level of this limiting device shall at least comply with the requirements to category-2 equipment according to Directive 94/9/EC or it shall correspond to comparable safety levels from other applicable international standards.
6. Type 27-71*8-*3**/****
   A fuse according to IEC 60127-2-1 with a nominal current of 50 mA shall be connected in series to the sheathed resistance thermometer. The breaking capacity of the fuse shall be the same as or higher than the maximum short-circuit current assumed to occur at the place of installation. The fuse may be accomodated in the associated control unit.

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