

### **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 histor
	Status:	Current		
	Date of Issue:	2016-04-27	Page 1 of 3	
	Applicant:	BARTEC GmbH Max-Eyth-Straße 16 97980 Bad Mergenthein Germany	n	
	Electrical Apparatus: Optional accessory:	Sheathed resistance to type 27-71**-*3**/****	hermometer Pt 100 Ex	
	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 be Certification Body:	half of the IECEx	Dr. Ing. F. Lienesch	
	Position:		Head of department "Explosion Protection in Instrumentation"	Sensor Technology and
	Signature: (for printed version)			
	Date:		170516	
	The Status and authen	ansferable and remains the	duced in full. he property of the issuing body. by be verified by visiting the Official IECEx Wel	bsite.
(	Certificate issued by:			
	В	chnische Bundesanstalt Bundesallee 100 16 Braunschweig	t (PTB)	'IB

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin



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Manufacturer:

BARTEC GmbH Max-Eyth-Straße 16 97980 Bad Mergentheim

Germany

Additional Manufacturing location

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

Explosive atmospheres - Part 0: General requirements

Edition: 6.0

IEC 60079-18: 2014

Explosive atmospheres - Part 18: Equipment protection by encapsulation "m"

Edition: 4.0

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



## Attachment to Certificate IECEx PTB 16.0010 X, Issue 0



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.

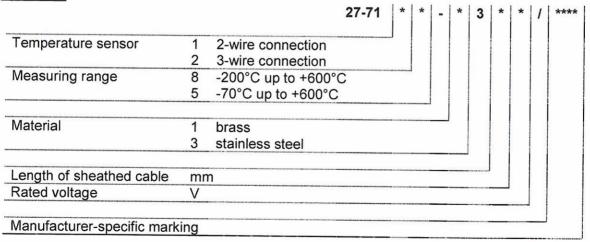
#### Design of the measuring sensor

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 <sub>max</sub>	7	mΑ			
Maximum permissible power		18	mW			
Ambient temperature range at the entry f	-50°C	up to	+70°C			
depending on the type of connecting cable						
Temperature range of the measuring poi	-70 °C	up to	+600 °C			
sensor tip	-200 °	Cupt	o +600 °C	;		

#### Type code





## Attachment to Certificate IECEx PTB 16.0010 X, Issue 0



#### 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  $I_{\text{max}}$ . 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 accommodated in the associated control unit.