



# 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 IBE 14.0048X

Issue No: 2

Certificate history:

Issue No. 2 (2019-01-22)

Status: **Current**

Issue No. 1 (2015-02-06)

Date of Issue: **2019-01-22**

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Issue No. 0 (2014-12-15)

Applicant: **EPHY-MESS GmbH**  
Berta-Cramer-Ring 1  
65205 Wiesbaden  
**Germany**

Equipment: **Temperature sensor PR-SPA-EX-LTH**

*Optional accessory:*

Type of Protection: **Increased safety "e", Intrinsic safety "i", Protection by enclosure "t"**

Marking:

Ex eb IIC T6...T3 Gb

Ex tb IIIC T80 °C...T130 °C Db

Ex ia IIC T6...T3 Gb

Ex ia III C T80 °C...T130 °C Db  
-60 °C / -55 °C ≤ T<sub>a</sub> ≤ 100 °C

*Approved for issue on behalf of the IECEx  
Certification Body:*

Dipl.-Ing. Alexander Henker

*Position:*

Head of Certification Body

*Signature:  
(for printed version)*

*Date:*

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:

**IBExU Institut für Sicherheitstechnik GmbH**  
Certification Body  
Fuchsmühlenweg 7  
09599 Freiberg  
Germany





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Manufacturer: **EPHY-MESS GmbH**  
Berta-Cramer-Ring 1  
65205 Wiesbaden  
**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 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 : 2011</b> Edition:6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-11 : 2011</b> Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-31 : 2013</b> Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
<b>IEC 60079-7 : 2015</b> Edition:5.0	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/IBE/ExTR14.0042/00](#)

[DE/IBE/ExTR14.0042/01](#)

Quality Assessment Report:

[DE/IBE/QAR15.0001/02](#)



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## Schedule

### EQUIPMENT:

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

The temperature sensors of the type PR-SPA-EX-LTH were developed especially for the installation in (blind) hole drillings at electric motors (generators), gears or other electric machines. The temperature sensor is designed on the basis of a passive resistor which is installed in a stainless steel protective tube. The temperature is converted into an electrical quantity (voltage, resistance) at a measuring point. Various connection head variants are available for the electrical connection. The intrinsically safe versions can also be equipped with a connector plug or bimetal switch.

The sensors are designed for use in hazardous areas requiring EPL Gb or Db equipment.

### Technical data:

ambient temperature: -60 °C / -55 °C up to +100 °C

max. process temperature range: -60 °C up to +180 °C

### Electrical data:

parameters		Ex e, Ex t	Ex i
maximum voltage	Chip, class A	$U_n = 17 \text{ V DC}$	$U_i = 17 \text{ V DC}$
	Chip, class B	$U_n = 25 \text{ V DC}$	$U_i = 25 \text{ V DC}$
maximum current	Chip, class A	$I_n = 55 \text{ mA}$	$I_i = 55 \text{ mA}$
	Chip, class B	$I_n = 80 \text{ mA}$	$I_i = 80 \text{ mA}$
maximum power	Chip, class A	$P_n = 1 \text{ W}$	$P_i = 1 \text{ W}$
	Chip, class B	$P_n = 2 \text{ W}$	$P_i = 2 \text{ W}$

Several types are provided, which differ in form of connecting head and connection facilities. For detailed information see functional description.

### SPECIFIC CONDITIONS OF USE: YES as shown below:

- The sensors shall be installed protected against mechanical load. Sharp bending as well as mechanical stress concentrated to small spots of the sensor shall be avoided.
- The permitted media temperature depends on the maximum permitted input power, the temperature class assigned and the ambient temperature range. The minimum ambient temperature is limited by the components used. Further information are mentioned in the



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manual.

- The cable ends shall be connected to suitable terminals as fixed installation or outside of explosive atmosphere.
- The external cables have to be suitable for the operating temperature range assigned.
- The requirements of respective type of protection must be guaranteed after the cable installation.
- The supply unit shall provide a connector which corresponds to the method of connection of the thermometer (2-, 3- or 4-wire connection). It is to be considered that the electrical values are not exceeded.



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

- The intrinsically safe versions may be provided with a plug connector or bimetal switch, optionally.
- The temperature sensors comply with the requirements of IEC 60079-7, Ed. 5.
- The electrical values have been changed.