

**Product or Protective System intended for use in Potentially Explosive Atmospheres
UK SI 2016:1107 (as amended) - Schedule 3A Part 1**Type Examination Certificate No. **IBExU23UKEX0012X | issue 00**Product: **Temperature sensor
Type PR-SPA-EX-LTH**Manufacturer: **EPHY-MESS GmbH**
Address: **Berta-Cramer-Ring 1
Wiesbaden · 65205
Germany**

This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

IBExU UK Ltd., Approved Body number 8522, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UK SI 2016:1107 (as amended), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential test report **IB2030187-00**, dated 2022-04-20.

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN IEC 60079-0:2018
EN 60079-11:2012****EN IEC 60079-7:2015/A1:2018
EN 60079-31:2014**

Except in respect of those requirements listed at section 18 of the schedule to this certificate.

If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

This UK Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

The marking of the product shall include the following:

II 2G Ex eb IIC T6... T3 Gb**II 2D Ex tb IIIC T80 °C... T180 °C Db****II 2G Ex ia IIC T6... T3 Gb****II2D Ex ia IIIC T80 °C... T180 °C Db****-60 °C / -55 °C ≤ T_{amb} ≤ +100 °C**2023-11-17
Date of initial issue2023-11-17
Date of issueN/A
Expiry dateIBExU UK Ltd.
Bristol Road South · Regus Park House
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Philip Randall | Head of Certification Body

15 Description of Product

The temperature sensors type PR-SPA-EX-LTH are especially designed for the installation into blind hole drillings in electrical motors (generators), gear units or other electrical machinery. The temperature sensor is carried out on base of passive resistor which is mounted inside of a stainless steel protection pipe. For electrical connection it is provided several types of connecting heads. The intrinsically safe versions may be provided with a plug connection or a bimetal switch, optionally. The temperature is transmitted in an electrical value (voltage, resistance) at the measuring point.

The sensors are suitable for the use in hazardous areas which require 2G or 2D equipment.

Technical Data:

Operating temperature range: -60 °C / -55 °C to +100 °C (at connection head)
Maximum process temperature: +180 °C
Degree of protection: at least IP64

Electrical Data:

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

16 Test report No. (associated with this certificate issue)

IB2030187-00, dated 2022-04-20

17 Specific conditions of Use

- The temperature sensors have to 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 manual.
- The cable ends have to be connected to suitable terminals as fixed installation or outside of explosive atmosphere.
- The external connection cables have to be suitable for the requirements of operation temperature range.
- After connecting of external cable the requirements of respective type of protection have to be met.
- The temperature sensors have to be bonded to equipotential bonding system of the plant by 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.

18 Essential Health and Safety Requirements (Regulations Schedule 1)

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

19 Drawings and documents

DOCUMENT TITLE	DOCUMENT NUMBER	REVISION	RELEASE DATE
Test documents over-view	TDO_IB2030187-00	00	2022-04-20