[1] EU-TYPE EXAMINATION CERTIFICATE - Translation

[2] Equipment or protective systems
intended for use in potentially explosive atmospheres, Directive 2014/34/EU

[3] EU-type examination certificate number **IBExU14ATEX1291 X** | Issue 1

[4] Product: **Temperature sensor**
Type: PR-SPA-EX-LTH

[5] Manufacturer: EPHY-MESS GmbH

[6] Address: Berta-Cramer-Ring 1
65205 Wiesbaden
GERMANY

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

[8] IBExU Institut für Sicherheitstechnik GmbH, notified body number 0637 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 Annex II to the Directive.

The examination and test results are recorded in the confidential test report IB-17-3-0128.

[9] Compliance with the essential health and safety requirements has been assured by compliance with:
EN 60079-0:2012+A11:2013, EN 60079-7:2015, EN 60079-11:2012 and EN 60079-31:2014
except in respect of those requirements listed at item [18] of the schedule.

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

[11] This EU-type examination certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

Ex II 2G Ex eb IIC T6...T3 Gb
Ex II 2D Ex tb IIIC T80 °C...T180 °C Db
Ex II 2G Ex ia IIC T6...T3 Gb
Ex II 2D Ex ia IIIC T80 °C...T180 °C Db
-60 °C / -55 °C ≤ T_{amb} ≤ +100 °C

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By order

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Freiberg, 2019-01-18

[13] **Schedule**

[14] **Certificate number IBExU14ATEX1291 X** | Issue 1

[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 IP 64

Electrical Data:

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

Variations compared to EC-Type Examination Certificate:

Variation 1
The intrinsically safe versions may be provided with a plug connection or a bimetal switch, optionally.

Variation 2
The temperature sensors comply with the requirements of EN 60079-7:2015

Variation 3
The electrical values have been changed.

[16] **Test report**
The test results are recorded in the confidential test report IB-17-3-0128 of 2019-01-14.

The test documents are part of the test report and they are listed there.

Summary of the test results
The temperature sensors type PR-SPA-EX-LTH further fulfil the requirements of explosion protection for equipment group II and category 2G in type of protection Increased Safety and category 2D with Protection by Enclosure. In type of protection Intrinsic Safety the requirements of category 2G and 2D are fulfilled.

[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 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**
In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report:
None

[19] **Drawings and Documents**
The documents are listed in the test report.

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Freiberg, 2019-01-18