

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg



[1] **EU-TYPE EXAMINATION CERTIFICATE - Translation**

[2] Components intended for use on / in an equipment or protective systems intended for use in potentially explosive atmospheres, Directive 2014/34/EU

[3] EU-type examination certificate number **IBExU14ATEX1281 U** | Issue 1

[4] Product: **Temperature sensor**
Type: PR-SPA-EX-NWT and PR-SPA-EX-WKF

[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-17-3-0114.

[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 "U" is placed after the certificate number, it indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

[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:

II 2G Ex eb IIC Gb

II 2D Ex tb IIC Db

II 2G Ex ia IIC Gb

II 2D Ex ia IIC Db

IBExU Institut für Sicherheitstechnik GmbH
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By order

Dipl.-Ing. [FH] Henker



- Seal -
(notified body number 0637)

Tel: + 49 (0) 37 31 / 38 05 0
Fax: + 49 (0) 37 31 / 38 05 10

Certificates without signature and seal are not valid. Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

Freiberg, 2019-02-01

[13]

Schedule

[14]

Certificate number IBExU14ATEX1281 U | Issue 1

[15]

Description of product

The temperature sensors serve for transmitting a temperature in an electrical value (voltage, resistance) at the measuring point. As component, they are intended for the installation into electrical motors (generators).

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

The temperature sensors are manufactured in different versions which are listed below:

PR-SPA-EX-WKF-ESH	winding head thermometer, single heat shrinking insulated , with permanently connected cable
PR-SPA-EX-WKF-KH	winding head thermometer with permanently connected cable, where the temperature sensor is fixed in a ceramic sleeve by addition of filler resin.
PR-SPA-EX-WKF-MH	winding head thermometer with permanently connected cable and insulated temperature sensor which is installed into a stainless steel protection pipe, protected against vibrations.
PR-SPA-EX-NWT-ST	Slot resistance thermometer with mica insulation
PR-SPA-EX-NWT-SH	flexible slot resistance thermometer insulated with shrinking hose
PR-SPA-EX-NWT-AK	measuring resistance in carrier body
PR-SPA-EX-NWT-ZS	Slot resistance thermometer sealed in a HGW carrier body based on epoxy

Technical Data:

Operating temperature range:
Degree of protection:

-60 °C / -55 °C to +175 °C / +180 °C
at least IP64

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	$P_n = 2 \text{ W}$	$P_i = 2 \text{ W}$

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-17-3-0114 of 2019-01-25.

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-NWT and PR-SPA-EX-WKF further fulfil the requirements of explosion protection for components of 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 mounting of the temperature sensor has to be assessed in the context of the certification of equipment. The temperature sensor has 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 cable ends shall be connected to suitable terminals as fixed installation or in the non-hazardous area.
- It has to be observed in the context of the certification of equipment that the maximum electrical values as well as the maximum permitted temperatures are met.

[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, 2019-02-01