

**Component intended for use on / in a 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. **IBEXU23UKEX0011U | issue 00**

Component: **Temperature sensor
Type PR-SPA-EX-NWT and PR-SPA-EX-WKF**

Manufacturer: **EPHY-MESS GmbH**
Address: **Berta-Cramer-Ring 1
Wiesbaden · 65205
Germany**

This component 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 component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of components 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 **IB2030187/1-00**, dated 2022-05-20.

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.

The sign "U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for a product or protective system. This partial certification may be used as the basis for certification of a product of protective system.

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

The marking of the component shall include the following:

- II 2G Ex eb IIC Gb**
- II 2D Ex tb IIIC Db**
- II 2G Ex ia IIC Gb**
- II 2D Ex ia IIIC Db**



2023-11-17
Date of initial issue

2023-11-17
Date of issue

N/A
Expiry date

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Philip Randall | Head of Certification Body

15 **Description of Component**

The temperature sensors serve for transmitting a temperature in an electrical value (voltage, resistance) at the measuring point. As components, 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-WKF-KG winding head thermometer with permanently connected cable and insulated temperature sensor which is installed into a housing made of plastic including casting compound.
- 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: -60 °C / -55 °C to +175 °C / +180 °C
Degree of protection: at least IP64

Electrical data:

| parameters | | | Ex e, Ex t | Ex i |
|-----------------|------------------|---------|--------------------------|--------------------------|
| maximum voltage | U _{max} | class A | U _n = 17 V DC | U _i = 17 V DC |
| | U _i | class B | U _n = 25 V DC | U _i = 25 V DC |
| maximum current | I _{max} | class A | I _n = 55 mA | I _i = 55 mA |
| | I _i | class B | I _n = 80 mA | I _i = 80 mA |
| maximum power | P _{max} | class A | P _n = 1 W | P _i = 1 W |
| | P _i | class B | P _n = 2 W | P _i = 2 W |

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

IB2030187/1-00, dated 2022-05-20

17 **Schedule of Limitations**

- 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.
- The permitted service temperature range depends on the materials used and is mentioned in the instructions for the several types.
- The added type PR-SPA-WKF-KG has to be installed protected from UV-light.

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_IB2030187/1-00 | 00 | 2022-05-20 |