

[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 **IBExU02ATEX1123 U** | Issue 1

[4] Product: **Slot-Resistance-Thermometers and Slot-Thermocouples**  
Type: System V...f  
**Cable-Resistance-Thermometers and Cable-Thermocouples**  
Type: System K...f

[5] Manufacturer: Paul Rüster & Co. GmbH

[6] Address: Dorfplatz 11  
PLZ Ort  
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-17-3-0048.

[9] Compliance with the essential health and safety requirements has been assured by compliance with: EN 60079-0:2012+A11:2013 and EN 60079-7:2015 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:

**(Ex) II 2G Ex eb IIC Gb**

IBExU Institut für Sicherheitstechnik GmbH  
Fuchsmühlenweg 7  
09599 Freiberg, GERMANY

By order

Dipl.-Ing. [FH] Henker



(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, 2018-03-02

[13] **Schedule**

[14] **Certificate number IBExU02ATEX1123 U | Issue 1**

[15] **Description of product**

The Slot-Resistance-Thermometers and Slot-Thermocouples type System V...f are used as push-in sensors for thermal control of winding slots of electric motors, generators or transformers. The temperature sensors consist of an insulated coiled resistance wire or of a solitary sensor(s) (example: thin film or SMD) or thermocouple(s).

The Cable-Resistance-Thermometers and Cable-Thermocouples type System K...f are used as push-in or screw-in sensors for thermal control of various industrial applications. The temperature sensors consist of insulated solitary sensor(s) (example: thin film or SMD) or thermocouple(s).

**Technical data**

|  |          |  |
|--|----------|--|
| Service temperature range              | $T_M$    | -55 °C ... +180 °C                             |
| <b>Electrical data</b>                 |          |  |
| Operating voltage                      | $U_N$    | $\leq 30 \text{ V}$                            |
| Measuring current                      | $I_M$    | $\leq 10 \text{ mA}$                           |
| Resistance thermometer                 | Type     | Pt100, Pt1000, Ni100, Ni1000, Tk5000, PTC, NTC |
| Thermocouples                          | Type     | K, L, J, N S, R, B, T                          |
| Electrical strength                    | $U_{ss}$ | 2U+1000V (U= rated voltage of machine)         |
| Circuit mode of resistance thermometer |          | 2-, 3- or 4-core                               |

*Variation compared to EC-type examination certificate and its amendments:*

*The minimum ambient temperature is -55 °C*

[16] **Test report**

The test results are recorded in the confidential test report IB-17-3-0048 of 2018-03-02.

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

*Summary of the test results*

The Slot-Resistance-Thermometers and Slot-Thermocouples type System V...f as well as the Cable-Resistance-Thermometers and Cable-Thermocouples type System K...f mentioned in [4] still fulfil the requirements of explosion protection for components of Group II, Category 2G in type of protection increased safety "e".

[17] **Specific conditions of use**

- The temperature sensor must be fitted with care so as to not damage the cable or insulation.
- The connecting cable must be relieved.
- The temperature sensor must be declared in the certificate of the machine to which it is fitted.
- The service temperature range must not exceed -55 °C up to +180 °C.

[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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