



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx IBE 14.0009X Issue No: 0 Certificate history:
Issue No. 0 (2014-09-23)

Status: **Current** Page 1 of 3

Date of Issue: **2014-09-23**

Applicant: **Paul Ruster & Co. GmbH**
Dorfplatz 11, 14532 Stahnsdorf
Germany

Equipment: **EX slot resistance thermometer and slot thermocouples RÜSTER V...f
system**

Optional accessory:

Type of Protection: **Intrinsic safety 'i'**

Marking: Ex ia IIC T6 - T3 or Ex ib IIC T6 - T3

*Approved for issue on behalf of the IECEx
Certification Body:*

Prof. Dr. Tammo Redeker

Position:

Head of Certification Body

*Signature:
(for printed version)*

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](#).

Certificate issued by:

IBExU Institut für Sicherheitstechnik GmbH
Certification Body
Fuchsmühlenweg 7
09599 Freiberg
Germany





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Manufacturer: **Paul Ruster & Co. GmbH**
Dorfplatz 11, 14532 Stahnsdorf
Germany

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0
IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[DE/IBE/ExTR14.0009/00](#)

Quality Assessment Report:

[DE/IBE/QAR14.0003/00](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Ex slot resistance thermometer of the Ruster System V...f are used as push-in sensors for thermal control of winding slots of electric motors, generators or transformers. The temperature sensor consists of an insulated coiled resistance wire or of a solitary sensor (thin film or SMD) resp. thermocouples.

Measuring temperature range:

-55 °C to + 80 °C (T6)

-55 °C to +100 °C (T5)

-55 °C to +135 °C (T4)

-55 °C to +180 °C (T3)

Max. electrical values:

$U_i < 30 \text{ V}$; $P_i < 600 \text{ mW}$

See the annex for detailed data

SPECIFIC CONDITIONS OF USE: YES as shown below:

Slot resistance thermometer and slot thermocouples are completely moulded and normally vacuum insulated. So there is no difference between ambient and medium temperature.

Annex:

[Annex2IBE14.0009X00.pdf](#)



Description of device

The slot resistance-thermometer and slot-thermocouples system V...f are used as push-in sensors for thermal control of winding slots of electric motors, generators or transformers. The temperature sensor consists of an insulated coiled resistance wire or of a solitary sensor (thin film ore SMD). The sensors are densely encapsulated. The whole thermometer is closely wrapped with a wire cloth hose able to carry the currents.

Technical data

Environment data		
Application temperature range	T_M	-55 °C ... +180 °C
Electrical data		
Maximum input voltage	U_i	30 V
Maximum input power	P_i	600 mW
Maximum internal capacitance	C_i	negligible
Maximum internal inductance	L_i	negligible
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