



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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

Certificate No.:	IECEx IBE 20.0026X	Page 1 of 3	<u>Certificate history:</u>
Status:	Current	Issue No: 0	
Date of Issue:	2021-01-15		
Applicant:	Paul Rüster & Co. GmbH Dorfplatz 11 14532 Stahnsdorf Germany		
Equipment:	resistance thermometers and thermocouples Ex-System Rüster E-BUZ and E-KF-OV		
Optional accessory:			
Type of Protection:	Increased Safety "eb" or protection by enclosure "tb"		
Marking:	Ex eb IIC T6...T2 Gb Ex tb IIIC T85 °C...T230 °C Db		

Approved for issue on behalf of the IECEx
Certification Body:

Alexander Henker

Position:

Deputy Head of department Certification Body

Signature:
(for printed version)

Date:

2021-01-15

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 www.iecex.com or use of this QR Code.



Certificate issued by:

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg
Germany



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

Additional
manufacturing
locations:

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 equipment 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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with 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/ExTR20.0033/00](#)

Quality Assessment Report:

[DE/IBE/QAR14.0003/03](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Resistance thermometers and thermocouples are used to convert a temperature at a measuring point into an electrical value. The temperature is measured either by means of temperature measuring resistors or thermocouples. The resistance thermometers and thermocouples are manufactured in different versions. There are variants that are manufactured with a connection head and socket including terminals. These can be optionally equipped with various process connections. Alternatively, there are cable temperature sensors where the measuring element is located in a metal sleeve and can be connected via a permanently connected connection cable.

Technical data

Degree of protection:		minimum IP64
Ambient temperature range:		-55 °C up to +230 °C -40 °C up to maximum +90 °C, applies for connection head
Measuring temperature range:		-55 °C up to +230 °C
Electrical data		
Maximum voltage	U_{max}	30 V
Maximum current	I_{max}	10 mA
Maximum permitted power	P_{max}	100 mW

For the use in gas explosive atmospheres the following applies:

$$R_{th} = 0.5 \text{ K/mW}$$

For the use in dust explosive atmospheres the following applies:

$$R_{th} = 0.1 \text{ K/mW}$$

$$TX = \text{maximum media temperature} + R_{th} \cdot P_{in} + \text{Safety margin of 4 K}$$

TX...maximum surface temperature assigned

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The assignment of the temperature class and the max. surface temperature has to be taken from the operating instructions according to the design, the ambient temperature and the maximum power fed in.
- The permissible temperature depends on the maximum permissible input power, the assigned temperature class and the ambient temperature range. The permissible ambient temperature range at the connection device must be observed. Further information can be found in the instructions.
- In order to comply with the above-mentioned temperature class / maximum surface temperature, suitable measures (e.g. connecting a fuse) must be taken to ensure that the maximum power loss P_{max} is not exceeded also under fault conditions.
- Due to the process, higher or lower operating temperatures may occur at the measuring inserts; however, the temperature at the connection head must not exceed the range of -40 °C to +90 °C. Depending on the application, this must be ensured by the user by means of a suitable length of the measuring inserts and the protective fittings. Accordingly, the length of the neck tube must be selected so that the heating or cooling of the connection head by the process is negligible.
- The temperature sensors must be connected to the equipotential bonding system of the user through the installation.
- The external cables must be suitable for the assigned operating temperature range.