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 PTB 12.0002X**	Page 1 of 6	Certificate history:
Status:	**Current**	Issue No: 1	Issue 0 (2012-01-24)
Date of Issue:	2022-10-21		
Applicant:	**Hengstler GmbH** Uhlandstrasse 49 78554 Aldingen **Germany**		
Equipment:	**Incremental and absolute encoders of types AX 70..., AX 71..., RX 70..., RX 71...**		
Optional accessory:			
Type of Protection:	**Flameproof enclosure "d", protection by enclosure "t"**		
Marking:	Ex db IIC T4 resp. T6 Gb Ex tb IIIC T 135 °C resp. T 85 °C Db		

Approved for issue on behalf of the IECEx Certification Body: **Dr. Ing. Detlev Markus**

Position: **Head of Department "Explosion Protection in Energy Technology"**

Signature: (for printed version)

Date: (for printed version) 22.12.22

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:

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100
38116 Braunschweig
Germany

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

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Certificate No.: **IECEx PTB 12.0002X**

Date of issue: 2022-10-21

Issue No: 1

Manufacturer: **Hengstler GmbH**
Uhlandstrasse 49
78554 Aldingen
Germany

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 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1:2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31:2022-01 Edition:3.0	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"

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/PTB/ExTR12.0002/01

Quality Assessment Report:

DE/TUR/QAR22.0003/00

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The rotary transducer consists of a tubular enclosure, optionally made from an aluminium alloy or stainless steel. One of the ends is provided with a threaded hole that is to accommodate a cable gland. The other end of the flameproof enclosure is closed with a flange (made from stainless steel or aluminium) that is screwed into this end. The cable gland can be fitted either radially or axially. During operation, the flange fixes the rotary transducer so that the shaft end is adequately protected against mechanical damage. The shaft is a two-bearing shaft that rotates in deep-groove ball bearings.

The enclosure houses the rotary encoder that sits on the shaft, as well as the required electronic elements; with multi-turn rotary transducers, it also houses a gear unit.

Technical data

Memory seal available?	max. permissible speed	Range of permissible ambient temperatures	Temperature class	minimum thermal stability of the cable and the cable bushing
No	1.000 U/min	-40 °C...60 °C	T6	-40 °C...105 °C
No	6.000 U/min	-40 °C...50 °C	T6	-40 °C...85 °C
No	10.000 U/min	-40 °C...60 °C	T4	-40 °C..100 °C
Yes	1.000 U/min	-40 °C...55 °C	T6	-40 °C...95 °C
Yes	3.000 U/min	-40 °C...40 °C	T6	-40 °C...95 °C
Yes	6.000 U/min	-40 °C...60 °C	T4	-40 °C...105 °C
Yes	10.000 U/min	-40 °C...40 °C	T4	-40 °C...105 °C
Yes	10.000 U/min	-40 °C...60 °C	T3	-40 °C..125 °C

Supply voltage	Power input	Dissipation in case of a fault
10 ...30 V	max. 1170 mA	max. 9,8 W

SPECIFIC CONDITIONS OF USE: YES as shown below:
The actual gap widths and lengths remain below/exceed those specified in IEC 60079-1:2017, table 3. Repairs on flameproof joints may only be performed in accordance with the manufacturer's design specifications. Repair on the basis of the values in table 3 of IEC 60079-1 is not permitted. A note to this effect shall be included in the instructions for operation.

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Equipment (continued):

Memory seal available?	max. permissible speed	Range of permissible ambient temperatures	Temperature class	minimum thermal stability of the cable and the cable bushing
No	1.000 U/min	-40 °C...60 °C	T6	-40 °C...85 °C
No	10.000 U/min	-40 °C...40 °C	T6	-40 °C...80 °C
No	10.000 U/min	-40 °C...60 °C	T4	-40 °C..100 °C
Yes	1.000 U/min	-40 °C...60 °C	T6	-40 °C...85 °C
Yes	6.000 U/min	-40 °C...60 °C	T4	-40 °C...100 °C
Yes	10.000 U/min	-40 °C...55 °C	T4	-40 °C.. 105 °C
Yes	10.000 U/min	-40 °C...60 °C	T3	-40 °C..110 °C

Supply voltage	Power input	Dissipation in case of a fault
5 V	max. 1000 mA	max. 5 W
10 ...30 V	max. 500 mA	max. 5 W

The technical values that are listed here are maximum values; they may vary subject to the version that is actually used.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Standard update, no technical changes!

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Additional information:
Measures shall be taken to ensure that the temperatures permitted for the components used will not be exceeded.

Components attached or installed (e.g. terminal compartments, bushings, cable glands, connectors) shall be of a technical standard that complies with the specifications on the cover sheet. They shall be suited for the operating conditions and have a separate examination certificate.