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 ULD 15.0022X**

Certificate history:
Issue 0 (2016-02-17)

Status: **Current**

Issue No: 1

Date of Issue: 2019-03-21

Applicant: **W + S Meßsysteme GmbH**
Humboldtstraße 11
78549 Spaichingen
Germany

Equipment: **Shaft Encoders, AX700 & IX700**

Optional accessory:

Type of Protection: **Flameproof "db", Enclosure "tb"**

Marking: Ex db I Mb

Ex db IIC T4 Gb

Ex db IIC T6 Gb

Ex tb III C T70°C Db

AX700 (3000rpm)

-20°C to +65°C at T6

-20°C to +115°C at T4

-20°C to +55°C at T70

IX700 (3000rpm)

-20°C to +55°C at T6

-20°C to +105°C at T4

-20°C to +45°C at T70

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

Position: **Staff Engineer**

Signature:
(for printed version)

Date:
(for printed version)

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:

UL International DEMKO A/S
Borupvang 5A
DK-2750 Ballerup
Denmark

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Manufacturer: **W + S Meßsysteme GmbH**
Humboldtstraße 11
78549 Spaichingen
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 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

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

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:

DK/ULD/ExTR15.0023/01

Quality Assessment Report:

DK/ULD/QAR15.0002/02

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

The AX 700 and IX 700 shaft encoders are a rotating electrical device, monitoring speed control, rotor angular or length movement as part of a feedback control system used in industrial applications. The shaft is provided with an encoder disc, which has an optoelectronic pick up and conditioning circuit fixed to the body above the rotating disc.

The encoder consists of an overall cylindrical threaded lid provided with and axial cable entry point in the back accepting cable glands in the range from M12, M16 & M20. The shaft (options: solid or hollow) rotate in the body which is screwed into the overall cylindrical housing lid forming the encoder. All parts are made of machined stainless steel.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The encoder must be protected against exposure to direct sunlight and other ultraviolet light sources.
- The encoder is manufactured with a permanently mounted cable gland and permanently connected cable that is non-replaceable and shall be terminated in a safe area or in a suitable certified termination box.
- The encoder shall be kept clean from any dust deposit.
- For Group I, the encoder shall be protected against impacts greater than 7 joule.
- Only the manufacturer shall open the flame proof enclosure for inspections, repairs adjustment or investigation.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1: Update editions of Standards (IEC 60079-0, 6th Ed. to 7th Ed., IEC 60079-1, 6th Ed. to 7th Ed. and IEC 60079-31, 1st Ed. to 2nd Ed.)

Annex:

Annex to IECEx ULD 15.0022X Issue 1.pdf

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Certificate No.: IECEx ULD 15.0022X

Issue No.: 1

TYPE DESIGNATION

Nomenclature for the XX 700 abcdefghi shaft encoder, where:

a) XX Group Function
- AX Absolute Explosion Proof (0-3000 rpm)
- IX Incremental Explosion Proof (0-3000 rpm)

b) Basic Series Number
- 700 -

c) Shaft Size in mm. (customer specific)
- XX XX mm

d) Mechanical Options
- 0 None

e) Connector Type (customer specific)
- XX XX metre Cable

f) Connector Location
- A Axial

g) Output Signals
- E Binary <-> (For AX 700 only)
- F Gray <-> (For AX 700 only)
- 3 A+B+0 (For IX 700 only)
- 6 A+B+0+Compliments (For IX 700 only)

h) Output Circuit Type
- 1 TTL (5 VDC) (For AX 700 only)
- 3 Push Pull 4.75 to 30 VDC (For IX 700 only)
- 5 Push Pull 8 to 30 VDC (For AX 700 only)

i) Pulses Per Revolution
- XXXXX - Client specific configuration

Note: Special functions and designs may be designated by a 4 digit code at the end of the part number. They are stated as information only and not covered within this certification

PARAMETERS RELATING TO THE SAFETY

AX 700: 5-30VDC, maximum 100mA.

IX 700: 4.75-30VDC, maximum 40mA.

MARKING

Marking has to be readable and indelible; it has to include the following indications: