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

Ex COMPONENT CERTIFICATE

Certificate No.: **IECEx FTZU 20.0012U**

Certificate history:

Status: **Current**

Issue No: 0

Date of Issue: 2020-05-29

Applicant: **ELIS Plzeň, a.s.**
Luční 425/15
Plzeň 301 00
Czech Republic

Ex Component: Induction sensor type IS X.1XXEx

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: **increased safety "e", intrinsic safety "i", dust protection "t"**

Marking: Ex eb ia IIC Gb

Ex tb IIIC Db

Approved for issue on behalf of the IECEx Certification Body: **Dlpl. Ing. Lukáš Martinák**

Position: **Head of the 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 www.iecex.com or use of this QR Code.

Certificate issued by:

Fyzikalne technicky zkusebni ustav
(Physical -Technical Testing Institute)
Pikartska 7, 71607 Ostrava - Radvanice
Czech Republic

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Manufacturer: **ELIS Plzeň, a.s.**
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Plzeň 301 00
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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 60079-0:2011 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

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:

CZ/FTZU/ExTR20.0011/00

Quality Assessment Report:

CZ/FTZU/QAR19.0004/01

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Ex Component(s) covered by this certificate is described below:

The Induction sensor type IS X.1XXEx consists of a measurement pipe section of nominal inner diameter from DN 15 to DN 300, measuring electrodes, electromagnetic excitation coils and steel tube with stainless steel flange used to provide mechanical connection to the electronic unit of the induction flow meter or a terminal box. The internal surface of the measurement pipe section is lined with materials of different thermal conductivity – see Annex to this certificate.

The measuring electrodes connected to conductors E1 white/red sleeving, E2 white, GND black/transparent sleeving, GND black/green sleeving are intrinsic safety circuits "ia". The parameters are Ui = 30 V, Ii = 100 mA, Ci and Li negligible.

The electromagnetic coils with L1 blue and L2 red conductors are covered by type of protection "eb". They are protected with a metal cover. The parameters are Un ≤ 30 V, In ≤ 200 mA.

SCHEDULE OF LIMITATIONS:

1. The intrinsically safe measuring electrodes (E1 white/red sleeving, E2 white, GND black/transparent sleeving, GND black/green sleeving) shall only be connected to intrinsically safe system whose output parameters shall be within the sensor input parameters Ui = 30 V, Ii = 100 mA, Ci and Li negligible.

2. The maximum permitted fluid temperature depends on the pipe lining material and the maximum permitted surface temperature is described in the Annex to this certificate.

3. The induction sensor shall be fully flooded at all times.

4. The sum of current for excitation of coils shall be max. 200 mA.

5. The maximum measured service temperature is done by the used nominal inner diameter and lining material as described in the Annex to this certificate.

Annex:

Annex_to_IECEx_FTZU_20_0012U_00.pdf

Medium temperature range and maximum measured service temperature tables:

For DN 15 and DN 25:

Type of lining	Maximum temperature of measured medium	Maximum measured service temperature for In = 200 mA
MG	-35°C ÷ +48°C	80°C
NG	+5°C ÷ +48°C	80°C
PTFE	-35°C ÷ +48°C	80°C
PTFE	-35°C ÷ +63°C	95°C
PTFE	-35°C ÷ +98°C	130°C
PTFE	-35°C ÷ +123°C	155°C

For DN 32 - 300:

Type of lining	Maximum temperature of measured medium	Maximum measured service temperature for In = 200 mA
MG	-35°C ÷ +64°C	80°C
NG	+5°C ÷ +64°C	80°C
E-CTFE a PTFE	-35°C ÷ +64°C	80°C
E-CTFE a PTFE	-35°C ÷ +79°C	95°C
E-CTFE a PTFE	-35°C ÷ +114°C	130°C
PTFE	-35°C ÷ +139°C	155°C

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