



# 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](http://www.iecex.com)

Certificate No.: **IECEx FTZU 20.0010X** Page 1 of 4 [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

Equipment: **Electromagnetic flowmeter type Flonex FXx11x**

Optional accessory:

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

Marking: Ex db eb ib [ib] IIB T6...T3 Gb  
Ex tb IIIC T80°C...T155°C Db

Approved for issue on behalf of the IECEx  
Certification Body:

**Dipl. 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](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**Fyzikálně technický zkušební ústav  
(Physical -Technical Testing Institute)  
Pikartská 7, 71607 Ostrava - Radvanice  
Czech Republic**





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Page 2 of 4

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Manufacturer: **ELIS Plzeň, a.s.**  
Lučňní 425/15  
Plzeň 301 00  
**Czech Republic**

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

**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/ExTR20.0010/00](#)

Quality Assessment Report:

[CZ/FTZU/QAR19.0004/01](#)



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Certificate No.: **IECEX FTZU 20.0010X**

Page 3 of 4

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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The equipment is a liquid flow meter in a fully flooded pipeline designed for potentially explosive atmospheres. The flow meter is designed in two variants – compact and remote.

### a) Compact design:

The electronics is situated inside of Ex component Instrument head with type of Ex protection Ex db and Ex tb, certificate No. IECEx FTZÚ 10.0019U and connected with the Ex component Induction sensor type ISx.1xxEx, certificate No. IECEx FTZÚ 20.0012U through Ex equipment Line – bushing in Ex protection Ex db, certificate No. IECEx EPS 11.0004X. Inside the Instrument head there are intrinsically safe circuits which are connected directly to the intrinsically safe parts of the Induction sensor.

### b) Remote design:

The electronics with "chimney" is connected and terminated in the Ex component Connection box with Ex protection Ex db and Ex tb, certificate No. IECEx FTZÚ 12.0018U. The Connection box is connected with the Induction sensor with the Ex equipment Connection box type ISx.1xxEx, Ex protection Ex eb ia and Ex tb, certificate No. IECEx FTZÚ 20.0004X by cable. The cable length up to 150 meters. Inside the Instrument head there are intrinsically safe circuits which are connected by connecting boxes and cable to the intrinsically safe parts of the Induction sensor.

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

### 1. Ambient temperature range:

- Compact design -  $-35^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$ ;
- Remote design - the evaluation unit -  $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +70^{\circ}\text{C}$
- the induction sensor type ISx.1xxEx:  $-35^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$

2. The maximum permitted fluid temperature depends on the pipe lining material; the temperature class and the maximum permitted surface temperature - see Annex in this certificate.

3. The inductive sensor shall be fully flooded at all times;

### 4. The cable glands shall be only used with Ex protection:

- Ex db IIB Gb and Ex tb IIIC Db – The evaluation unit,
- Ex eb IIB Gb and Ex tb IIIC Db – The connection boxes.

5. When product is used in the zones 1 or 2 so electronic circuits which are connected to the product have to be limited to overvoltage category I/II according to standard IEC 60664-1.

6. Maximal length of cable between a head part and sensor part of separate design of product have to be lower than 150 m.

7. The enclosures shall be installed to avoid a risk from propagating brush discharges for application in explosive dust atmosphere.



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Page 4 of 4

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## Equipment (continued):

The type and Ex marking of the variants:

- The inductive flow meter FLONEX FXx114 – compact design

Ex db eb ib [ib] IIB T6...T5 Gb

Ex tb IIIC T80 °C...T95 °C Db

- Inductive flow meter FLONEX FXx116 – remote design

a) The evaluation unit:

Ex db eb ib [ib] IIB T6...T5 Gb

Ex tb IIIC T80 °C...T95 °C Db

b) Sensor:

Ex eb ib IIB T6...T3 Gb

Ex tb IIIC T155°C Db

Parameters:

Power Supply AC: 95 - 250 V AC, 45 - 65 Hz, 3 VA max

Power Supply DC: 24 V  $\pm$ 20% (19.2 ÷ 28.8 V), 3 W max

## Annex:

[Annex\\_to\\_IECEx\\_FTZU\\_20\\_0010X\\_00.pdf](#)

Temperature tables:

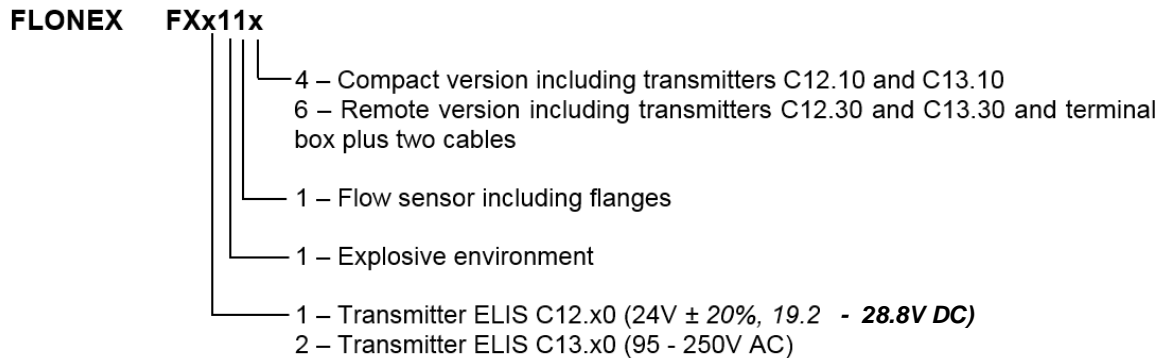
For DN 15 and DN 25:

Type of lining	Measured medium temperature range	Temperature class for Gb	Maximum surface temperature for Db
MG	-35°C ÷ +48°C	T6	80°C
NG	+5°C ÷ +48°C	T6	80°C
PTFE	-35°C ÷ +48°C	T6	80°C
PTFE	-35°C ÷ +63°C	T5	95°C
PTFE	-35°C ÷ +98°C	T4	130°C
PTFE	-35°C ÷ +123°C	T3	155°C

For DN 32 – DN 300:

Type of lining	Measured medium temperature range	Temperature class for Gb	Maximum surface temperature for Db
MG	-35°C ÷ +64°C	T6	80°C
NG	+5°C ÷ +64°C	T6	80°C
E-CTFE a PTFE	-35°C ÷ +64°C	T6	80°C
E-CTFE a PTFE	-35°C ÷ +79°C	T5	95°C
E-CTFE a PTFE	-35°C ÷ +114°C	T4	130°C
PTFE	-35°C ÷ +139°C	T3	155°C

**Flow meter type marking FLONEX FXx11x:**



**Electromagnetic sensor ISx.1xxEx**

