



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 PRE 18.0045X** Page 1 of 4 [Certificate history:](#)
Issue 0 (2018-08-20)

Status: **Current** Issue No: 1

Date of Issue: 2022-11-10

Applicant: **Fluenta AS**
Haraldsgata 90
5528 Haugesund
Norway

Equipment: **Ultrasonic sensor model TFS-HT**

Optional accessory:

Type of Protection: **Intrinsic safe**

Marking: Ex ia IIC Ga T* $-40^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$
T2: Process temperature $-110^{\circ}\text{C} \leq T_p \leq +200^{\circ}\text{C}$
T3: Process temperature $-110^{\circ}\text{C} \leq T_p \leq +180^{\circ}\text{C}$
T4: Process temperature $-110^{\circ}\text{C} \leq T_p \leq +120^{\circ}\text{C}$
T5: Process temperature $-110^{\circ}\text{C} \leq T_p \leq +85^{\circ}\text{C}$
T6: Process temperature $-110^{\circ}\text{C} \leq T_p \leq +60^{\circ}\text{C}$

Approved for issue on behalf of the IECEx
Certification Body:

Asle Kaastad

Position:

Certification manager

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:

DNV Product Assurance AS
Veritasveien 1
1363 Høvik
Norway





IECEX Certificate of Conformity

Certificate No.: **IECEX PRE 18.0045X**

Page 2 of 4

Date of issue: 2022-11-10

Issue No: 1

Manufacturer: **Fluenta AS**
Haraldsgata 90
5528 Haugesund
Norway

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 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

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:

[NO/PRE/ExTR18.0048/01](#)

Quality Assessment Report:

[NO/NEM/QAR09.0001/09](#)



IECEX Certificate of Conformity

Certificate No.: **IECEX PRE 18.0045X**

Page 3 of 4

Date of issue: 2022-11-10

Issue No: 1

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The ultrasonic sensor model TFS-HT is used for flare gas measurement (measuring the gas velocity). It is connected to manufacturer's field computer which is functioned as safety barrier (e.g. field computer FGM 160 covered by certificate Nemko 09.0009X). They are parts comprising a system for flare gas measurement. Detection principle requires a pair of sensors to be mounted on pipeline with a certain angle, facing to each other. Both sensors transmit and receive ultrasonic pulses and the difference in transit time is measured. Equipment is built-up by a larger metallic enclosure. Internal parts are a small PCB close to the cable entry's end and a piezoelectric device at the sensor head. Equipment is encapsulated and is enclosed by metallic enclosure.

Intrinsic safe input

Alternative 1: U_i : 11.7Vdc, I_i : 1.46A, P_i : 1.76W

Alternative 2: U_i : 13.8Vdc, I_i : 1.00A, P_i : 1.16W

(L_i and C_i are not given since the sensor TFS is only allowed to use specific cable type and length as indicated in Specific condition of use)

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The Ultrasonic sensor head is made of titanium, avoid impact or friction
- The minus polarity of piezoelectric device is connected to metallic enclosure.
- Use only two types of cable, Draka RFOU 250 V S2/S6 4 pair 0.75mm² or Draka FlexFlame RFOU(i) 150/250(300V) S1/S5 1Pair 0.75mm². Max allowed length is 20 meter. However, the cable length can be extended to up to 50 meter when a 5.6Ω current limiting resistor is added in series



IECEX Certificate of Conformity

Certificate No.: **IECEX PRE 18.0045X**

Page 4 of 4

Date of issue: 2022-11-10

Issue No: 1

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Upgrade to new edition standard of IEC 60079-0:2017

Minor correction of descriptive documents.