



# Certificate of Compliance

**Certificate:** 70197495

**Master Contract:** 247622 (247622)

**Project:** 70197495

**Date Issued:** 2018-10-11

**Issued to:** **Fluenta AS**  
**Haraldsgate 90**  
**PO Box 420**  
**N-5501**  
**Haugesund,**  
**NORWAY**  
**Attention: Neil Bird**

*The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.*



**Issued by:** *Konstantin Rybalko*  
Konstantin Rybalko

## **PRODUCTS**

**CLASS - C225804** - PROCESS CONTROL EQUIPMENT-Intrinsically Safe, Entity - For Hazardous Locations  
**CLASS - C225884** - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity-- For Hazardous Locations  
- Certified to US Standards

**Class I, Div. 1, Groups A, B, C & D;**  
**Class I, Zone 0, A/Ex ia IIC T2...T6 Ga:**

Ultrasonic sensor Model TFS-HT (Transducer Full Size – High temperature version), intrinsically safe when connected via energy limiting shunt safety barrier compliant with entity parameters below. Temperature code varies depends on the process temperature. IP66. Tamb.: -40 to +60°C

T<sub>process</sub> (varies per T-class)  
T6: -110 to +60°C  
T5: -110 to +85°C  
T4: -110 to +120°C  
T3: -110 to +180°C  
T2: -110 to +200°C



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Entity Parameters:

Parameter \ Options	Option 1	Option 2
Ui / Vmax (V dc)	11.7	13.8
Ii / Imax (A)	1.46	1
Pi / Pmax (W)	1.76	1.16
Ci & Li	Not assigned; refer to Conditions of Certification	

Conditions of Certification:

1. The Ultrasonic sensor head is made of titanium, avoid impact or friction
2. Use only two types of cable, Draka RFOU 250 V S2/S6 4 pair 0.75mm<sup>2</sup> or Draka FlexFlame RFOU(i) 150/250(300V) S1/S5 1Pair 0.75mm<sup>2</sup>. Max allowed length is 20 meter. However, the cable length can be extended to up to 50 m when a 5.6  $\Omega$  current limiting resistor is added in series.

**APPLICABLE REQUIREMENTS**

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|--|--|
| CSA-C22.2 No. 61010-1-12                     | - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements  |
| UL Std. No. 61010-1 3 <sup>rd</sup> Ed.      | - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements |
| C22.2 No. 60079-0 6 <sup>th</sup> Ed.: 2015  | - Explosive atmospheres – Part 0: Equipment – General requirements   |
| UL 60079-0 6 <sup>th</sup> Ed.: 2013         | - UL Standard for Safety Explosive atmospheres – Part 0: Equipment – General requirements – Sixth Edition                  |
| C22.2 No. 60079-11 6 <sup>th</sup> Ed.: 2014 | - Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”  |
| UL 60079-11: 6 <sup>th</sup> Ed.: 2013       | - Explosive Atmospheres – Part 11: Equipment protection by intrinsic safety “i”  |



## *Supplement to Certificate of Compliance*

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*The products listed, including the latest revision described below,  
are eligible to be marked in accordance with the referenced Certificate.*

### **Product Certification History**

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<b>Project</b>	<b>Date</b>	<b>Description</b>
70197495	2018-10-11	North American Certification of Ultrasonic sensor Model TFS-HT based on existing IECEx assessment for marking: Class I, Div. 1, Groups A-D, T*; Class I, Zone 0 AEx/Ex ia IIC T* Ga Tamb: -40 to +60C; T2 : -110°C ≤ Tp ≤ +200°C (Process temperature) T3 : -110°C ≤ Tp ≤ +180°C (Process temperature) T4 : -110°C ≤ Tp ≤ +120°C (Process temperature) T5 : -110°C ≤ Tp ≤ +85°C (Process temperature) T6 : -110°C ≤ Tp ≤ +60°C (Process temperature)