



# Certificate of Compliance

**Certificate:** 2241432

**Master Contract:** 247622 (247622)

**Project:** 70149022

**Date Issued:** 2017-08-01

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

*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, Zone 1, AEx/Ex d e [ia Ga] IIC Gb, T6**  
**Tamb. -40°C ≤ Ta ≤ to +60°C**  
**IP66:**

Fluenta Flare Gas Meter System consisting of a Field Computer Model FGM160 (AEx /Ex d e [ia Ga] IIC) input rated 24VDC/0.47A and two remote-mount intrinsically safe Ultrasonic Sensors Model TFS (AEx/Ex ia IIC TX Ga, IP66, T6 at -70°C ≤ Ta ≤ to +60°C, T5 at -70°C ≤ Ta ≤ to +85°C and T4 at -70°C ≤ Ta ≤ to +120°C); Intrinsically safe when installed per drawing 77.120.509.



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Entity Parameters:

Parameter	Transmitter	Ultrasonic Sensors
Uo or Voc	27.3V	11.7V
Io or Isc	90mA	1.46A
Po	0.62W	1.76W
Lo or La	3.5mH	0.01µH
Co or Ca	88nF	1.54µF
Lo/Ro	58µH/Ohm	8.3µH/Ohm

**APPLICABLE REQUIREMENTS**

CAN/CSA C22.2 No. 0-M91 R2006

General Requirements - Canadian Electrical Code, Part II

CAN/CSA C22.2 No. 61010-1, 2<sup>nd</sup> Edition (IEC 61010-1:2001, MOD)

Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements

CAN/CSA C22.2 No. 60079-0:11 (IEC 60079-0:2011, 5<sup>th</sup> Edition)

Electrical apparatus for explosive gas atmospheres - Part 0: General Requirements

CAN/CSA C22.2 No. 60079-1:07 (IEC 60079-1:2003, 5<sup>th</sup> Edition)

Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof Enclosures "d"

CAN/CSA-E60079-7:03 (IEC 60079-7:2001, 3<sup>rd</sup> Edition)

Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety "e"

CAN/CSA-E60079-11:2014 (IEC 60079-11:2011, 6<sup>th</sup> Edition)

Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic Safety "i"

CAN/CSA-C22.2 No. 60529:05

Degrees of protection provided by enclosures (IP Code)

UL 61010-1 July 2004, 2<sup>nd</sup> Edition

Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements

UL 60079-0 2013, 6<sup>th</sup> Edition

Electrical apparatus for explosive gas atmospheres - Part 0: General Requirements

UL 60079-1 August 2005, 5<sup>th</sup> Edition

Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof Enclosures "d"

UL 60079-7 October 2008, 4<sup>th</sup> Edition

Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety "e"

UL 60079-11 2013, 6<sup>th</sup> Edition

Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic Safety "i"

ANSI/IEC 60529:2004

Degrees of Protection Provided by Enclosures (IP Code)



## *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**

<b>Project</b>	<b>Date</b>	<b>Description</b>
70149022	2017-08-01	Update to report 2241432 for alternate window material and ultrasonic sensor entity parameters based on IECEx addendum.
70036147	2015-09-14	Update to Report 2241432 to revise the edition of IEC 60079-0 and IEC 60079-11 standards to latest edition. X-marked due to Ultrasonic sensor head is made of titanium, avoid impact or friction. Included 1Pair Draka cable instead of 4 pair.
2680702	2013-12-05	Update to include address change and replace cable gland with type 501/421.
2513737	2012-04-03	Update of report to include revised drawings and Ultrasonic sensor cable up to 50 meters.
2472859	2011-11-14	Update of report to cover Fieldbus I/O.
2424162	2011-07-26	Update of report to include Fluenta Ex-d and Ex-e enclosures, TFS Sensor with Lemo connectors and additional fillings for TFS sensor with cable.
2241432	2010-05-06	Fluenta Flare Gas Meter System Ex/AEx d e [ia] IIC & Sensors as Ex/AEx ia IIC based on IEC ExTRs.