



Certificate of Compliance

Certificate: 1882928 (LR 82598)

Master Contract: 160686

Project: 2291959

Date Issued: 2010/04/19

Issued to: Endress + Hauser Flowtec AG

Kagenstrasse 7
Reinach, Basel Land 4153
Switzerland
Attention: Klaus Schmidt

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.



Edward Foo, C.E.T.

Issued by: Edward Foo, C.E.T.

PRODUCTS

CLASS 2258 03 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non - Incendive Systems - For Hazardous Locations

CLASS 2258 83 - PROCESS CONTROL EQUIPMENT-Intrinsically Safe and Non-Incendive - Systems-For Hazardous Locations-Certified to U.S. Standards

Ex d ia IIC:

Class I, Div. 1, Groups A, B, C & D; Class II, Div. 1, Groups E, F, G; Class III:

- CNGmass Model 8*F **-*** and LPGmass Model 8*E**-***, rated 10-30Vdc / 20-28Vac, 50/60Hz, 3.2W /4VA with Intrinsically Safe connection to integral Sensors Promass FP and Promass E respectively per Control Drawing FES0173. Temperature Codes T5-T1 at Ta = -50 °C to 60 °C (CNGmass) and T6-T1 at Ta = -40 °C to 60 °C (LPGmass). MWP = 350 bar / 5076 psi (CNGmass) and 100 bar / 1450 psi (LPGmass).
- Cubemass Model 8*M **-***, rated 10-30Vdc / 20-28Vac, 50/60Hz, 3.2W /4VA with Intrinsically Safe connection to integral Sensor C per Control Dwg FES0173. Temperature Codes T6-T1 at Ta = -40 °C to 60 °C. MWP = 400 bar / 5801 psi (DN1 and DN2) or 160 bar / 2320 psi (DN4 and DN6).

Notes: Dual Seal Device. Factory Sealed for Class I, Division 1 installation. Enclosure Type 4X.



Certificate: 1882928 (LR 82598)

Master Contract: 160686

Project: 2291959

Date Issued: 2010/04/19

APPLICABLE REQUIREMENTS

CAN/CSA C22.2 No. 0-M91 - General Requirements - Canadian Electrical Code, Part II

CSA C22.2 No. 0.4-04 - Bonding of Electrical Equipment

CSA Std C22.2 No. 0.5-1982 - Threaded Conduit Entries

CSA Std C22.2 No. 25-1966 - Enclosures for Use in Class II, Groups E, F and G Hazardous Locations

CSA Std C22.2 No. 30-M1986 - Explosion-Proof Enclosures for Use in Class I Hazardous Locations

CAN/CSA C22.2 No. 94-M91 - Special Purpose Enclosures

CSA Std C22.2 No. 142-M1987 - Process Control Equipment

CAN/CSA-C22.2 No. 157-92 - Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations

CAN/CSA-E60079-0:02 - Electrical Apparatus for Explosive Gas Atmospheres – Part 0: General Requirements.

CAN/CSA-E60079-1:02 - Electrical Apparatus for Explosive Gas Atmospheres – Part 1: Flameproof Enclosures “d”

CAN/CSA-E60079-11:02 - Electrical Apparatus for Explosive Gas Atmospheres – Part 11: Intrinsic Safety “i”

ANSI/ISA-12.27.01-2003 - Requirements for Process Sealing Between Electrical Systems And Flammable or Combustible Process Fluids.

FM 3600, November 1998 - Electric Equipment for use in Hazardous Locations General Requirement

FM 3610, January 2007 - Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous Locations

FM 3615, August 2006 - Explosionproof Electrical Equipment General Requirement

FM 3810, January 2005 - Electrical Equipment for Measurement, Control and Laboratory Use

ANSI/NEMA 250, 2003 - Enclosures for Electrical Equipment



Supplement to Certificate of Compliance

Certificate: 1882928

Master Contract: 160686

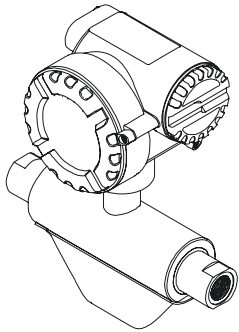
The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

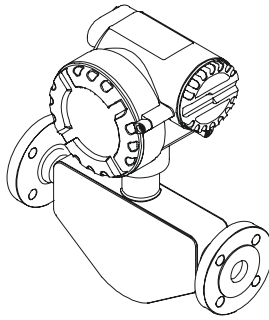
Project	Date	Description
2291959	2010/04/19	Update to include Cubemass Sensor C sensor and CSAc/us markings.
1986858	2008/01/10	Update to cover Dual Seal markings for LPGmass
1882928	2007/04/24	Coriolis Mass Flow Meters For CSA Classification Ex d ia IIC and others per Techincal Description 15.08.06 with FM Test Reports

Hazardous Locations

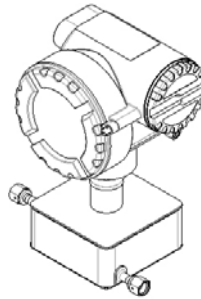
Class I Division 1 Groups ABCD or Class I Zone 1 IIC,
Class II Division 1 Groups EFG and Class III



CNGmass



LPGmass



Cubemass

Temperature table	max. medium temperature [°C / °F]					
	T6	T5	T4	T3	T2	T1
Ta = 45°C: LPGmass DN08/15	45 / 113	95 / 203	125 / 257	125 / 257	125 / 257	125 / 257
Ta = 50°C: CNGmass DN08/15/25	---	95 / 203	125 / 257	125 / 257	125 / 257	125 / 257
LPGmass DN08/15	---	95 / 203	125 / 257	125 / 257	125 / 257	125 / 257
LPGmass DN25/40/50	50 / 122	95 / 203	125 / 257	125 / 257	125 / 257	125 / 257
Cubemass DN1/2/4	50 / 122	95 / 203	130 / 266	150 / 302	200 / 392	200 / 392
Ta = 60°C: CNGmass DN08/15	---	90 / 194	125 / 257	125 / 257	125 / 257	125 / 257
CNGmass DN25	---	95 / 203	125 / 257	125 / 257	125 / 257	125 / 257
LPGmass DN08/15/25/40	---	95 / 203	125 / 257	125 / 257	125 / 257	125 / 257
LPGmass DN50	60 / 140	95 / 203	125 / 257	125 / 257	125 / 257	125 / 257
Cubemass DN1/2/4	---	95 / 203	130 / 266	150 / 302	200 / 392	200 / 392
Cubemass DN6	60 / 140	100 / 212	130 / 266	150 / 302	200 / 392	200 / 392

LPGmass : Tm min. = -40°C / -40 °F Ta min. = -40°C / -40 °F
 CNGmass: Tm min. = -50°C / -58 °F Ta min. = -40°C / -40 °F
 Cubemass: Tm min. = -50°C / -58 °F Ta min. = -40°C / -40 °F

Notes:

1. Install all per Canadian Electrical Code (CEC) resp. National Electrical Code (NEC) ANSI/NFPA 70.
2. Control room equipment shall not use or generate more than 250 V rms.
3. Caution: Use supply wires suitable for 5 °C above ambient temperature, but at least for 70 °C / 158°F.
4. Class II Group G: The surface temperature of the apparatus cannot exceed 165 °C / 329°F.
5. Transmitter enclosure explosion proof for use in Cl. I Div. 1 Groups A, B, C, D and dust-ignitionproof for Cl. II Div. 1 Groups E, F, G, Class III.
6. Transmitter enclosure is factory sealed for use in Cl. I Div. 1 Groups A, B, C, D, conduit seal not required.
7. CNGmass and Cubemass are rated as Dual Seal Device in accordance with ANSI/ISA-12.27.01-2003. LPGmass is a Dual Seal Device if the optional rupture disk is present.

**WARNING: SUBSTITUTION OF COMPONENTS MAY
IMPAIR INTRINSIC SAFETY.**

Änderungen:	A		F		Alle gesetzlichen Urheberrechte vorbehalten. Diese Zeichnung darf ohne unsere Genehmigung weder vervielfältigt werden noch dritten Personen und Konkurrenzfirmen zugänglich gemacht werden.	Mat.-Nr. 71115079 Ersteller: FES / ID 1244 FILE: FES0173_cCSAus_100211.doc
	B		G			
	C		H			
	D		J			
	E		K			
cCSA _{US} / CSA Control Drawing Div. 1 / Zone 1 Compact Version CNGmass / LPGmass / Cubemass						Masstab
						Gezeichnet
						11.02.2010
						SCHK
						Geprüft
						Ex-geprüft
						11.02.2010
						SCHK
						Gesehen
 Flowtec AG, Kägenstrasse 7, CH-4153 Reinach BL1, Postfach						FES0173