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Type Examination Certificate

for Electrical Equipment used in Potentially Explosive Atmosphere

Issued by Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port CH65 4LZ, UK	
Applicant	Emerson Japan, Ltd. 1-2-5 Higashi-Shinagawa, Shinagawa-ku, Tokyo, Japan
Manufacturer name	Emerson – Rosemount, Micro Motion Inc. 12001 Technology Drive, Eden Prairie, MN 55344 USA
Product name	Vortex flowmeter
Type/model code	Model 8800D For details see attachment 1
Type of protection	Flameproof, Intrinsic Safety
Group, Temperature Class and EPL	IIC T6...T1 Ga/Gb
The equipment shall be marked with the following	Ex db [ia] IIC T6...T1 Ga/Gb (See attachment 2)
Ratings	See attachment 2
Special condition for safe use	See attachment 3
Certificate number	CML 17JPN1145X
Term of validity	From 05-07-2017 to 04-07-2020 
	From 05-07-2020 to 04-07-2023 
	From 05-07-2023 to 04-07-2026 

This is to certify that the equipment specified above complies with the requirements stipulated in Ordinance on Examination of Machines and Other Equipment of the Ministry of Health, Labour and Welfare, Japan.

Issue date: 05-07-2023

Signature of chief examiner:



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Attachment 1: Model code details

Model 8800D a b c ddd ee ff ggg hh

Where,

8800D = Vortex flowmeter model number

a = Sensor Temperature Range:

- N - Standard -40 °C to +232 °C
- E - Extended -200 °C to +450 °C
- S – Severe service -200 °C to +450 °C

b = Conduit Entry: 1 - 1/2-14NPT- aluminium housing
4 - G1/2 - One conduit entry – aluminium housing
5 - G1/2 - Two conduit entries – aluminium housing
6 - 1/2-14NPT – SST housing

c = Output: D - 4-20 mA digital HART
P - 4-20 mA digital HART with pulse
F - FOUNDATION FIELDBUS
C - One 4-20 mA digital HART with scaled output and one FOUNDATION FIELDBUS
M - MODBUS RS-485

ddd = Multivariable: MTA – Multivariable output with integral temperature sensor
MPA – Multivariable output with pressure compensation
MCA - Multivariable output with pressure and temperature compensation with integral temperature sensor
Blank – No Multivariable output

ee = Electrical Connector:
GN – ATEX flameproof A size, mini connector (minifast)
Blank – No connector

ff = Display: M5 – LCD display
Blank – No display

ggg = Remote Electronics:
R10 - 10 ft. (3 m) cable
R20 - 20 ft. (6.1 m) cable
R30 - 30 ft. (9.1 m) cable
R33 - 33 ft. (10 m) cable
R50 - 50 ft. (15.2 m) cable
Rxx – Customer specific cable length in feet **
A10 - 10 ft. (3 m) cable
A20 - 20 ft. (6.1 m) cable
A33 - 33 ft. (10 m) cable
A50 - 50 ft. (15.2 m) cable
A75 - 75 ft. (22.9 m) cable
Blank – Integral mount electronics



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hh = Ground Screw: V5 – External ground screw

Note:** Consult manufacturer for additional lengths up to 500 ft (152 m)

Type Designation – QUAD Configuration:

Model 8800D Q a b c d e f gg hhh ii

Where,

8800D = Vortex flowmeter model number

Q = Quad transmitter configuration

a = Sensor Temperature Range:

N - Standard -40 °C to +232 °C

E - Extended -200 °C to +450 °C

S – Severe service -200 °C to +450 °C

b = Conduit Entry: 1 - 1/2-14NPT- aluminium housing

4 - G1/2 - One conduit entry – aluminium housing

5 - G1/2 - Two conduit entries – aluminium housing

6 - 1/2-14NPT – SST housing

c = Transmitter 1 Output:

D - 4-20 mA digital HART

P - 4-20 mA digital HART with pulse

F - FOUNDATION FIELDBUS

M - MODBUS RS-485

d = Transmitter 2 Output:

D - 4-20 mA digital HART

P - 4-20 mA digital HART with pulse

F - FOUNDATION FIELDBUS

M - MODBUS RS-485

e = Transmitter 3 Output:

D - 4-20 mA digital HART

P - 4-20 mA digital HART with pulse

F - FOUNDATION FIELDBUS

M - MODBUS RS-485

f = Transmitter 4 Output:

D - 4-20 mA digital HART

P - 4-20 mA digital HART with pulse

F - FOUNDATION FIELDBUS

M - MODBUS RS-485

gg = Display:

M5 – LCD display

Blank – No display



hhh = Remote Electronics:

- R10 - 10 ft. (3 m) cable
- R20 - 20 ft. (6.1 m) cable
- R30 - 30 ft. (9.1 m) cable
- R33 - 33 ft. (10 m) cable
- R50 - 50 ft. (15.2 m) cable
- Rxx – Customer specific cable length, up to 75 ft. (23 m)
- A10 - 10 ft. (3 m) cable
- A20 - 20 ft. (6.1 m) cable
- A33 - 33 ft. (10 m) cable
- A50 - 50 ft. (15.2 m) cable
- A75 - 75 ft. (22.9 m) cable
- Blank – Integral mount electronics

ii = Ground Screw: V5 – External ground screw

Note:** Consult manufacturer for additional lengths up to 500 ft (152 m)

Attachment 2: Ratings

The product rating is amended as follows.

Ex db [ia] IIC T6...T1 Ga/Gb (integral transmitter)

Ex db [ia Ga] IIC T6 Gb (remote transmitter)

Ex ia IIC T6...T1 Ga (remote sensor)

Ambient temperature range: -20°C to +70°C

Process temperature range: -200°C to +450°C

Temperature Class remote transmitter: T6

Temperature Class sensor: see table below,

Ambient Temperature (°C)	Process Temperature (°C)	Temperature Class
-20 to +70	-200 to +75	T6
-20 to +70	-200 to +95	T5
-20 to +70	-200 to +130	T4
-20 to +70	-200 to +195	T3
-20 to +70	-200 to +290	T2
-20 to +70	-200 to +450	T1

*The user is responsible for ensuring the surface temperature does not exceed 450°C in their specific installation.

Power supply: 32 Vdc max (Fieldbus, digital output), Um = 250V

42 Vdc max (4-20mA HART analog and pulse outputs MODBUS RS-485), Um = 250V



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Attachment 3: Special Conditions for Safe Use

- i. For information regarding the dimensions of the flameproof joints the manufacturer shall be contacted.
- ii. The flowmeter is provided with special fasteners of property class A2-70 or A4-70.