





## 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 Riverside Shinagawa Konan Bldg, 1-2-5 Higashi-Shinagawa, Shinagawa-ku, Tokyo, 140-00002 Japan
Manufacturer name	Rosemount Tank Radar AB Layoutvägen 1 Mölnlycke, 43533 Sweden
Product name	Multi-Input Temperature Transmitter
Type/model code	Model 2240S Refer to attachment 1 for model breakdown
Type of protection	Intrinsic Safety
Group, Temperature Class and EPL	IIC T4 Ga (Ga) Gb; FISCO
The equipment shall be marked with the following	Ex ia IIC T4 Ga; Entity/FISCO Ex ib IIC [ia Ga] T4 Gb; FISCO
Ratings	Tamb = -50°C to +70°C Refer to attachment 2
Special condition for safe use	Refer to attachment 3
Certificate number	<b>CML 17JPN2123X</b>
Term of validity	From 06-07-2017 to 05-07-2020 
	From 06-07-2020 to 05-07-2023 

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: 02-03-2023

Signature of chief examiner:

**Attachment 1: Model breakdown**

The model 2240S model number is built as follows:

Model 2240Sabcdehijkl

Where:

- a = Performance Class: Any single character without influence to the type of protection.
- b = Number of Temperature Sensor Inputs: 16, 08, 04, 00, X
- c = Leads per Temperature Element: 4, 3, 0, X
- d = Auxiliary Inputs: A, 0, X
- e = Tank Bus: Power and Communication: F, X, U
- f = Hazardous Location Certification: I4
- g = Custody Transfer Type Approval: Any single character without influence to the type of protection.
- h = Housing: A
- i = Cable/Conduit Connections: 1, 2, G, E, M.
- j = Mechanical Installation: M, W, P, 0, X
- k = Options: Any multiple characters without influence to the type of protection or N/A.

**Attachment 2: Ratings****FISCO Field Device (Fieldbus Terminals)**

$U_i = 17.5V$ ,  $I_i = 380mA$ ,  $P_i = 5.32W$ ,  $C_i = 2.2nF$ ,  $L_i = 2\mu H$

Entity input parameters

$U_i = 30V$ ,  $I_i = 300mA$ ,  $P_i = 1.3W$ ,  $C_i = 2.2nF$ ,  $L_i = 2\mu H$

**RTD Terminals**

$U_o = 5.9V$ ,  $I_o = 398mA$ ,  $P_o = 585mW$

Group IIC:  $C_o \leq 43\mu F$ ,  $L_o \leq 0.2mH$

Group IIB:  $C_o = \text{unlimited}$ ,  $L_o \leq 0.7mH$

When no connections are made to the Sensorbus Terminal:

$U_o = 5.9V$ ,  $I_o = 100mA$ ,  $P_o = 150mW$ ,  $C_o = 43\mu F$ ,  $L_o = 3mH$

**Sensorbus Terminal**

$U_o = 6.6V$ ,  $I_o = 223mA$ ,  $P_o = 0.363W$

Group IIC:  $C_o \leq 22\mu F$ ,  $L_o \leq 0.7mH$

Group IIB:  $C_o \leq 500\mu F$ ,  $L_o \leq 3.3mH$



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### Attachment 3: Special conditions for safe use:

1. The enclosure contains aluminium and is considered to present a potential risk of ignition by impact or friction. Care must be taken during installation and use to prevent impact or friction.
2. Rating Ex ib IIC [ia Ga] Gb; FISCO 9240040-976; IP66/IP67 is only applicable when supplied from a certified Ex [ib] FISCO Power Supply with triplicate output voltage limitation meeting the requirements for two faults ("ia" voltage limitation)
3. The Model 2240S Multi-input Temperature Transmitter will not pass the 500Vrms dielectric strength test and this must be taken into account during installation.