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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	Rosemount Tank Radar AB Layoutvagen 1, Molnlycke, 43533, Sweden
Product name	TANK HUB
Type/model code	Model 2410 Refer to attachment 1 for model breakdown
Type of protection	Flameproof, Increased Safety, Intrinsic safety
Group, Temperature Class and EPL	IIB T4 Gb
The equipment shall be marked with the following	Refer to attachment 1
Ratings	Ta = -20°C to +60°C; Refer to attachment 1
Special condition for safe use	Refer to attachment 2
Certificate number	CML 17JPN2086X
Term of validity	From 12-07-2017 to 11-07-2020 
	From 12-07-2020 to 11-07-2023 

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: 12-07-2020

Signature of chief examiner:

Attachment 1: Type model codes, ratings and marking are as follows:**Model 2410-abcdefghijklmno. Tank Hub**

Ex db eb [ib] IIB T4 Gb Ta = -20°C to +60°C; FISCO; IP66/IP67

FISCO Parameters:

Uo = 15V, Io = 354mA, Po = 5.32W

- a = Number of Tanks: Any single character without influence to the type of protection.
- b = Tank Bus (Fieldbus – Power and Communication): F
- c = Primary Communication Bus (Non-IS): R, 4, E, L, V, H, G, U, T, A, B, 6 or 7
- d = Secondary Communication Bus: (Non-IS): R, E, 5, K, L, V, H, G, A, U, T, B, 6, 7, 0 or F
- e = Relay Output (SIS/SIL): 3, 2, S, F, or 0.
- f = Relay Outputs (Non-SIS/SIL): 1, 2, F, A or 0.
- g = Integral Display: 1 or 0
- h = Power Supply: P
- i = Firmware: Any single character without influence to the type of protection.
- j = Hazardous Location Certification: E4
- k = Custody Transfer Type Approval: Any single character without influence to the type of protection.
- l = Housing: A or S
- m = Cable/Conduit Connections: 1, 2, G, E or M.
- n = Mechanical Mounting: P, W or 0
- o = Options: Any multiple characters without influence to the type of protection or N/A.

Model 2410-abcdefghijklmno. Tank Hub

Ex db eb [ib] IIB T4 Gb Ta = -20°C to +60°C; FISCO; IP66/IP67

Ex db eb [ja IIC Ga] IIB T4 Gb Ta = -20°C to +60°C; Entity; IP66/IP67

FISCO Parameters:

Uo = 15V, Io = 354mA, Po = 5.32W

Entity Parameters:

Uo = 23.1V, Io = 95.3mA, Po = 550mW

IIC: Co = 0.14μF, Lo = 3.9mH IIB: Co = 1.0μF, Lo = 15mH IIA: Co = 3.67μF, Lo = 33mH

- a = Number of Tanks: Any single character without influence to the type of protection.
- b = Tank Bus (Fieldbus – Power and Communication): F
- c = Primary Communication Bus (Non-IS): R, 4, E, L, V, H, G, U, T, A, B, 6 or 7
- d = Secondary Communication Bus: (HART/4-20mA Active IS Input/Output): W, C or 8
- e = Relay Output (SIS/SIL): 3, 2, S, F, or 0.
- f = Relay Outputs (Non-SIS/SIL): 1, 2, F, A or 0.
- g = Integral Display: 1 or 0

- h = Power Supply: P
- i = Firmware: Any single character without influence to the type of protection.
- j = Hazardous Location Certification: E4
- k = Custody Transfer Type Approval: Any single character without influence to the type of protection.
- l = Housing: A or S
- m = Cable/Conduit Connections: 1, 2, G, E or M.
- n = Mechanical Mounting: P, W or 0
- o = Options: Any multiple characters without influence to the type of protection or N/A.

Model 2410-abcdefghijklmno. Tank Hub

Ex db eb [ib] IIB T4 Gb Ta = -20°C to +60°C; FISCO; IP66/IP67

Ex db eb ib IIB T4 Gb Ta = -20°C to +60°C; Entity; IP66/IP67

FISCO Parameters:

Uo = 15V, Io = 354mA, Po = 5.32W

Entity Parameters:

Ui = 30V, Ii = 300mA, Pi = 1W, Ci = 0; Li = 0

- a = Number of Tanks: Any single character without influence to the type of protection.
- b = Tank Bus (Fieldbus – Power and Communication): F.
- c = Primary Communication Bus (Non-IS): R, 4, E, L, V, H, G, U, T, A, B, 6 or 7.
- d = Secondary Communication Bus: (HART/4-20mA Passive IS Input/Output): D or 9.
- e = Relay Output (SIS/SIL): 3, 2, S, F, or 0.
- f = Relay Outputs (Non-SIS/SIL): 1, 2, F, A or 0.
- g = Integral Display: 1 or 0
- h = Power Supply: P
- i = Firmware: Any single character without influence to the type of protection.
- j = Hazardous Location Certification: E4
- k = Custody Transfer Type Approval: Any single character without influence to the type of protection.
- l = Housing: A or S
- m = Cable/Conduit Connections: 1, 2, G, E or M.
- n = Mechanical Mounting: P, W or 0
- o = Options: Any multiple characters without influence to the type of protection or N/A.

Model 2410-abcdefghijklmno. Tank Hub

Ex db eb [ib] IIB T4 Gb Ta = -20°C to +60°C; FISCO; IP66/IP67

Entity Parameters (Fieldbus):

Uo = 15V, Io = 200mA, Po = 3W, Co = 1.99µF, Lo = 143µH

- a = Number of Tanks: Any single character without influence to the type of protection.
- b = Tank Bus (Fieldbus – Power and Communication): E

- c = Primary Communication Bus (Non-IS): R, 4, E, L, V, H, G, U, T, A, B, 6 or 7
- d = Secondary Communication Bus: (Non-IS): R, E, 5, K, L, V, H, G, A, U, T, B, 6, 7, 0 or F
- e = Relay Output (SIS/SIL): 3, 2, S, F, or 0.
- f = Relay Outputs (Non-SIS/SIL): 1, 2, F, A or 0.
- g = Integral Display: 1 or 0.
- h = Power Supply: P
- i = Firmware: Any single character without influence to the type of protection.
- j = Hazardous Location Certification: E4
- k = Custody Transfer Type Approval: Any single character without influence to the type of protection.
- L = Housing: A or S
- m = Cable/Conduit Connections: 1, 2, G, E or M.
- n = Mechanical Mounting: P, W, X or 0
- o = Options: Any multiple characters without influence to the type of protection or N/A.

Model 2410-abcdefghijklmno. Tank Hub

Ex db eb [ib] IIB T4 Gb Ta = -20°C to +60°C; FISCO; IP66/IP67

Ex db eb [ia IIC Ga] IIB T4 Gb Ta = -20°C to +60°C; Entity; IP66/IP67

Entity Parameters (Fieldbus):

U_o = 15V, I_o = 200mA, P_o = 3W, C_o = 1.99μF, L_o = 143μH

Entity Parameters (Active HART):

U_o = 23.1V, I_o = 95.3mA, P_o = 550mW

Group IIC: C_o = 0.14μF, L_o = 3.9mH, IIB: C_o = 1.0μF, L_o = 15mH, IIA: C_o = 3.67μF, L_o = 33mH

- a = Number of Tanks: Any single character without influence to the type of protection.
- b = Tank Bus (Fieldbus – Power and Communication): E
- c = Primary Communication Bus (Non-IS): R, 4, E, L, V, H, G, U, T, A, B, 6 or 7
- d = Secondary Communication Bus: (HART/4-20mA Active IS Input/Output): W, C or 8
- e = Relay Output (SIS/SIL): 3, 2, S, F, or 0.
- f = Relay Outputs (Non-SIS/SIL): 1, 2, F, A or 0.
- g = Integral Display: 1 or 0.
- h = Power Supply: P
- i = Firmware: Any single character without influence to the type of protection.
- j = Hazardous Location Certification: E4
- k = Custody Transfer Type Approval: Any single character without influence to the type of protection.
- l = Housing: A or S
- m = Cable/Conduit Connections: 1, 2, G, E or M.
- n = Mechanical Mounting: P, W or 0
- o = Options: Any multiple characters without influence to the type of protection or N/A.

Model 2410-abcdefghijklmno. Tank Hub

Ex db eb [ib] IIB T4 Gb Ta = -20°C to +60°C; FISCO; IP66/IP67

Ex db eb ib IIB T4 Gb Ta = -20°C to +60°C; Entity; IP66/IP67

Entity Parameters (Fieldbus):

Uo = 15V, Io = 200mA, Po = 3W, Co = 1.99µF, Lo = 143µH

Entity Parameters (Passive HART):

Ui = 30V, Ii = 300mA, Pi = 1W, Ci = 0; Li = 0

a = Number of Tanks: Any single character without influence to the type of protection.

b = Tank Bus (Fieldbus – Power and Communication): E

c = Primary Communication Bus (Non-IS): R, 4, E, L, V, H, G, U, T, A, B, 6 or 7

d = Secondary Communication Bus: (HART/4-20mA Passive IS Input/Output): D or 7

e = Relay Output (SIS/SIL): 3, 2, S, F, or 0.

f = Relay Outputs (Non-SIS/SIL): 1, 2, F, A or 0.

g = Integral Display: 1 or 0.

h = Power Supply: P

i = Firmware: Any single character without influence to the type of protection.

j = Hazardous Location Certification: E4

k = Custody Transfer Type Approval: Any single character without influence to the type of protection.

l = Housing: A or S

m = Cable/Conduit Connections: 1, 2, G, E or M.

n = Mechanical Mounting: P, W or 0

o = Options: Any multiple characters without influence to the type of protection or N/A.

Attachment 2: Special Condition(s) of Use:

- i. The Flamepaths of the equipment are not intended to be repaired. Consult the manufacturer if repair of the flamepath joints is necessary.
- ii. Use wiring rated for the maximum ambient temperature +15°C, as per the user instructions.