

CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** FM21US0009X
3. **Equipment:** Model 2240S Multi-Input Temperature Transmitters
(Type Reference and Name)
4. **Name of Listing Company:** Rosemount Tank Radar AB
5. **Address of Listing Company:** Layoutvägen 1
Mölnlycke, 43533
Sweden
6. The examination and test results are recorded in confidential report number:

3035518 dated 25th August 2010
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600:2018, FM Class 3610:2021, FM Class 3810:2021,
ANSI/UL 60079-0:2020, ANSI/ISA 60079-11:2014, ANSI/ISA 61010-1:2012
ANSI/NEMA 250:2008, ANSI/IEC 60529:2004
8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
10. **Equipment Ratings:**

Intrinsically safe for use in Class I,II,III, Division 1, Groups A, B, C, D, E, F, and G; Temperature Class T4
Tamb = -50°C to +70°C; when installed in accordance with control drawing D9240040-910; Hazardous (Classified) Locations.

Certificate issued by:



J.E. Marquandant
VP, Manager - Electrical Systems

10 January 2022

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
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SCHEDULE



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Intrinsically safe for use in Class I, Zone 0, Group IIC, Temperature Class T4 Tamb = -50°C to +70°C; when installed in accordance with control drawing D9240040-910, Explosive Atmospheres;

Intrinsically safe for Class I, Zone 1, Group IIC Temperature Class T4 Tamb = -50°C to +70°C with Intrinsically safe connections to Class I, Zone 0, Group IIC when installed in accordance with control drawing D9240040-910, Explosive Atmospheres

Enclosure protections: Type 4X, IP66, IP67.

11. The marking of the equipment shall include:

IS CL I, II, III, Div 1, GPS ABCDEFG
CL I, ZN 0 AEx ia IIC Ga
CL I, ZN 1, AEx ib [ia Ga] IIC Gb
Temp Class T4, Tamb Ta = -50°C to +70°C
Install Per Control Drawing D9240040-910
Type 4X; IP66; IP67
FISCO Field Device

12. **Description of Equipment:**

General - The Rosemount Tank Radar AB Model 2240 is a Temperature Multiplexer Transmitter.

Construction - The circuitry for the 2240 is contained on a single printed circuit board that is mounted in an aluminium two piece enclosure.

Ratings - The ambient operating temperature range of the Model 2240 Transmitters is -50°C to +70°C. In type of protection intrinsic safety, connection can only be made to certified intrinsically associated equipment with the following values:

Energy Limitation Parameters:

Ui = 30 V, li = 300mA, Pi = 1.3W, Ci = 2.2nF, Li = 2μH

FISCO Parameters:

Ui = 17.5V, li = 380 mA, Pi = 5.32W, Ci = 2.2 nF, Li = 2μH

RTD Terminals, X11 (16 Channels)

Uo = 5.9V, Io = 398mA, Po = 585mW,

Groups A/B, IIC Co = 43μF, Lo = 0.2mH

Groups C/D, IIB, Co = 1000μF, Lo = 0.7mH

Groups D, IIA, Co = 1000μF, Lo = 1.8mH

Sensorbus Terminals, X5:

Uo = 6.6V, Io = 223mA, Po = 363mW,

Groups A/B, IIC Co = 22μF, Lo = 0.7mH

Groups C/D, IIB, Co = 500μF, Lo = 3.3mH

Groups D, IIA, Co = 1000μF, Lo = 6mH

Environmental Ratings: Type 4X, IP66, IP67.

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2240Sabcdehijkl. Multi-Input Temperature Transmitter.

- a = Performance Class: Any single character
- 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: I5, KA, KD, KE
- g = Custody Transfer Type Approval: Any single character
- h = Housing: A
- i = Cable/Conduit Connections: 1, 2, G, E, M
- j = Mechanical Installation: M, W, P, 0, X.
- k = Options: WR3, WR5, ST, Q1, Q4 and/or Q7.

13. **Specific Conditions of Use:**

1. The enclosure contains aluminum 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 I / 1 / AEx ib [ja Ga] IIC T4 Gb Ta = -50°C to 70°C; D9240040-910 FISCO; Type 4X/IP66/IP67 is only applicable when supplied from an FM certified AEx [ib] FISCO Power Supply with triplicate output voltage limitation meeting the requirements for two faults ("ia" voltage limitation).
3. The Model 2240 Multi-Input Temperature Transmitter will not pass the 500Vrms dielectric strength test and this must be taken into account during installation.

14. **Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. **Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

16. **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
25 th August 2010	Original Issue.
23 rd February 2021	<u>Supplement 3:</u> Report Reference: – RR226574 dated 23 rd February 2021. Description of the Change: Convert certificate to new format. Clerical updates to manual. Add model options. Clerical changes to transformer drawing.
9 th July 2021	<u>Supplement 4:</u> Report Reference: – RR227549 dated 9 th July 2021.

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	Description of the Change: Updated ANSI/ISA 60079-0:2013 to ANSI/UL 60079-0:2019 and ANSI/ISA 60079-11:2013 to 2014. Added missing input and output parameters. Document updates due to addition of UKEX certificate (FM21UKEX0047X).
10 th January 2022	Supplement 5: Report Reference: – RR230986 dated 10 th January 2022. Description of the Change: <ol style="list-style-type: none">1) FM3610 and FM3810 updated to latest edition (2021)2) ANSI/UL 60079-0:2019 updated to ANSI/UL 60079-0:20203) ANSI/ISA 61010-1:2004 updated to ANSI/ISA 61010-1:2012

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