

CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** FM17US0035X
3. **Equipment:** Model 2230 Graphical Field Display
(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:

3037177 dated 23rd December 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 3600:2011, FM Class 3610:2010, FM Class 3810:2005,
ANSI/ISA 60079-0:2013, ANSI/ISA 60079-11:2014, ANSI/ISA 61010-1:2004,
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 (Entity) for use in Class I, II and III, Division 1, Groups A, B, C, D, E, F and G; Temperature Class T4 Tamb = -50°C to +70°C in accordance with Control Drawing No. 9240040-949;

Certificate issued by:

J. E. Marquedant
Manager, Electrical Systems

5 May 2017

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



US Certificate Of Conformity No: FM17US0035X

Fieldbus Intrinsically Safe Concept (FISCO) for use in Class I, II and III, Division 1, Groups A, B, C, D, E, F and G; Temperature Class T4 Tamb = -50°C to +70°C in accordance with Control Drawing No. 9240040-949;

Intrinsically safe (Entity) for use in Class I, Zone 0, AEx ia IIC T4 Ga Tamb = -50°C to +70°C; in accordance with Control Drawing No. 9240040-949;

Fieldbus Intrinsically Safe Concept (FISCO) for use in Class I, Zone 0, AEx ia IIC T4 Ga Tamb = -50°C to +70°C; in accordance with Control Drawing No. 9240040-949;

Hazardous (Classified) Locations/Explosive Atmospheres;

indoor and outdoor, Type 4X; IP66; IP67.

11. The marking of the equipment shall include:

FISCO FIELD DEVICE AND ENTITY

IS Class II, II, III, Div 1, Grp ABCDEFG

Temp Code T4 AMB. TEMP. LIMITS -50°C to +70°C

Class I, ZONE 0 AEx ia IIC Ga

INSTALL PER CONTROL DRAWING 9240040-949

ENCL, TYPE 4X, IP66, IP67

12. **Description of Equipment:**

General - The Model 2230 Graphical Field Display shows inventory tank gauging data such as level, temperature, and pressure via the intrinsically safe 2-wire Raptor Tankbus. The four soft keys allow navigation through the different menus and provide all tank data, directly on the field.

Construction - The circuitry of the Model 2230 Graphical Field Display is contained in a painted housing constructed of aluminium alloy 380. The housing is shaped $\frac{3}{4}$ of a circle with a length of 124mm, a diameter of 152 mm and a height of approximately 78mm.

Ratings - The Model 2230 Graphical Field Display is rated for use in an ambient temperature range of -50°C to +70°C. The products operates nominally at 9-32Vdc and 30mA.

The Intrinsically Safe Entity and FISCO parameters are as follows.

Entity Parameters:

Ui = 30V, Ii = 300mA, Pi = 1.3W, Ci = 2.1nF, Li = 1.1µH.

FISCO Parameters:

Ui = 17.5V, Ii = 380mA, Pi = 5.32W.

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SCHEDULE



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The permitted model code marking is detailed as follows.

2230-aFbcdAef Graphical Field Display.

- a = Default Language: Any single character
- b = Firmware: Any single character.
- c = Hazardous Location Certification: I5, KA, KD or KE.
- d = Custody Transfer Type Approval: Any single character.
- e = Cable/conduit Connections: 1, 2, G, E or M.
- f = Mechanical Installation: W, D, X or P.

13. Specific Conditions of Use:

1. The non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore particularly when it is used for applications that specifically require Division 1 and Group II, Zone 0 located equipment, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. Additionally, the equipment shall only be cleaned with a damp cloth.
2. 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.
3. The associated apparatus through which the equipment is supplied shall provide galvanic isolation between the input and output of the associated apparatus.
4. *To maintain ingress protection ratings IP66, IP67, the Type 4X rating and Class II, III ratings, thread sealant is required for cable entries and blanking plugs.*

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
23 rd December 2010	Original Issue.
5 th May 2017	<u>Supplement 2:</u> Report Reference: – 3057405 dated 5 th May 2017 Description of the Change: Modification to the housing

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