

1 EC-TYPE EXAMINATION CERTIFICATE



2 Equipment or Protective systems intended for use in Potentially
Explosive Atmospheres - Directive 94/9/EC

3 EC-Type Examination Certificate No: FM09ATEX0047X

4 Equipment or protective system: Model 2240 Multi-Input Temperature Transmitter
(Type Reference and Name)

5 Name of Applicant: Rosemount Tank Radar AB

6 Address of Applicant: Gamlestadvägen 18B,
SE-40251 Göteborg
Sweden

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Ltd, notified body number 1725 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number:

3035518EC dated 12th September, 2010

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN60079-0:2012, EN60079-11:2012, EN60079-26:2007, and EN60529:2013

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:



FISCO Field Device
II 1 G Ex ia IIC T4 Ta = -50°C to 70°C Entity/FISCO; IP66, IP67
II 2(1) G Ex ib [ia] IIC T4 Ta = -50°C to 70°C FISCO; IP66, IP67

Mick Gower
Certification Manager, FM Approvals Ltd.

Issue date: 15th April 2014

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

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SCHEDULE



Member of the FM Global Group

to EC-Type Examination Certificate No. FM09ATEX0047X

13 Description of Equipment or Protective System:

The ROSEMOUNT Model 2240 is a Temperature Multiplexer Transmitter. The unit's electronics is supplied from an intrinsically safe Foundation Fieldbus segment, either conforming to the FISCO or the Entity parameter concept. The ambient operating temperature range of the ROSEMOUNT 2240 is -50°C to 70°C. The circuitry for the ROSEMOUNT 2240 is contained on a single printed circuit board that is mounted in an aluminum two piece enclosure.

The Model code is as follows:

2240SabcdefgAij. Multi-Input Temperature Transmitter.

Energy Limitation Parameters

FISCO Input Parameters: $U_i = 17.5\text{ V}$, $I_i = 380\text{ mA}$, $P_i = 5.32\text{ W}$, $C_i = 2.2\text{ nF}$, $L_i = 2\text{ }\mu\text{H}$

Entity Input Parameters: $U_i = 30\text{ V}$, $I_i = 300\text{ mA}$, $P_i = 1.3\text{ W}$, $C_i = 2.2\text{ nF}$, $L_i = 2\text{ }\mu\text{H}$

where

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: I1, KA, KB, KC

g = Custody Transfer Type Approval: Any single character

i = Cable/Conduit Connections: 1, 2, G, E, M

j = Mechanical Installation: M, W, P, 0, X.

14 Special Conditions for Safe 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 II 2(1) G Ex ib [ia] IIC T4 Ta = -50°C to 70°C 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 2240 Multi-input Temperature Transmitter will not pass the 500Vrms dielectric strength test and this must be taken into account during installation.

15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16 Test and Assessment Procedure and Conditions:

This EC-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

17 Schedule Drawings

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

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18 Certificate History

Details of the supplements to this certificate are described below:

Date	Description
21 st September 2010	Original Issue.
26 th September 2011	Supplement 1: Report Reference: 3035518rev110309 dated 15 June 2011. Description of the Change: Minor changes to documentation and electrical construction.
21 st March 2012	Supplement 2: Report Reference: 3035518rev111020 dated 20 February 2012. Description of the Change: Updated ratings to gas Group IIC and additional special conditions for safe use.
13 th January 2014	Supplement 3: Report Reference: 3049393 dated 8 th January 2014. Description of the Change: Reassessment to latest editions of Standards. Addition of ratings previously omitted from the certificate.
15 th April 2014	Supplement 4: Report Reference: – 3035492rev140317 dated 25 th March 2014. Description of the Change: Added an option for additional printed circuit board conformal coating type HumiSeal 1B73 and HumiSeal 1B31.

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Blueprint Report

Rosemount Tank Radar AB (1000003453)

Class No 3610

Rosemount Tank Radar AB (1000003453)

Class No 3610

Original Project I.D. 3035518

Certificate I.D. FM09ATEX0047X

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>	<u>Last Report</u>	<u>Electronic Drawing</u>
300550EN	CA	Reference Manual	3049393	Yes (pdf)
9240040-910	03	SYSTEM CONTROL DWG FM, FM-C Rosemount 2240S	3049393	Yes (pdf)
9240040-911	3	APPR. DWG FM PCB TTM Rosemount 2240	3.9.11	Yes (pdf)
9240040-912	1	APPR. DWG. FM TRANSFORMER IS	3035518	Yes (pdf)
9240040-918	02	APPR. DWG. FM	3.9.11	Yes (pdf)
9240040-938	03	Appr. Dwg. Main Label Rosemount 2240S	3039393	Yes (pdf)
9240040-946	03	APPR. DWG. FM CONFORMAL	140317	Yes (pdf)
9240040-972	02	Model Code Description	3049393	Yes (pdf)
9240040-976	03	SYSTEM CONTROL DWG ATEX, IECEx Rosemount 2240S	3049393	Yes (pdf)