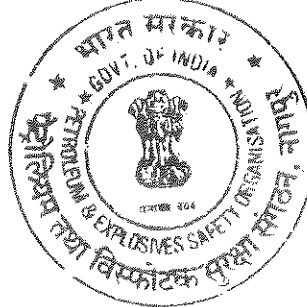




Government of India
Ministry of Commerce & Industry
Petroleum & Explosives Safety Organisation (PESO)
5th Floor, A-Block, CGO Complex, Seminary Hills,
Nagpur - 440006

सुगम पोस्ट
SPEED POST

E-mail : explosives@explosives.gov.in
Phone/Fax No : 0712 -2510248, Fax-2510577



Dated : 19/09/2018

21 SEP 2018

Approval No : A/P/HQ/MH/104/5978 (P428259)

To,

M/s. Rosemount Tank Radar AB,
Layoutvagen 1, Molnlycke, 43533,

SWEEDAN

Sub : Approval of Intrinsically safe Type Electrical Equipments under Petroleum Rules 2002- Regarding.

Sir(s),

Please refer to your letter No. **OIN207422** dated **20/08/2018** on the subject.

The following Ex electrical equipment(s) manufactured by you according to **EN 60079-0 : 2012/A11 : 2013, EN 60079-11 : 2012**, standards and covered under **FM Approvals Ltd** Test reports mentioned below is/are approved for use in **Zone 0** of Gas **IIC** hazardous areas coming under the the Petroleum Rules, 2002 administered by this Organization.

Sr. No	Description	Safety Protection	Equipment reference Number	Test Agency			Drawing no
				Name	Certificate No.	Certificate Date	
1	Model 2230 Graphical Field Display	Ex ia IIC T4 Ga	P428259/1	FM Approvals Ltd	FM10ATEX0046X Supl 4	01/05/2017	

This Approval is granted subject to observance of the following conditions:-

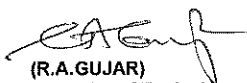
- 1)The design and construction of the equipment shall be strictly in accordance with description, condition and drawings as mentioned in the FM Approvals Ltd Test Reports referred to above.
- 2)The equipment shall be used only with approved type of accessories and associated apparatus.
- 3)Each equipment shall be marked either by raised lettering cast integrally or by plate attached permanently to the main structure to indicate conspicuously:-
 - (a) Name of the manufacturer
 - (b) Name and number by which the equipment is identified.
 - (c) Number & date of the test report of the FM Approvals Ltd applicable to the equipment.
 - (d) Equipment reference number of this letter by which use of apparatus is approved.
 - (e) Protection level.
- 4) A certificate to the effect that the equipment has been manufactured strictly in accordance with the drawing referred to in the FM Approvals Ltd Test report and is identical with the one tested and certified at FM Approvals Ltd shall be furnished with each equipment.
- 5) The customer shall be supplied with a copy of this letter, an extract of the conditions and maintenance schedule, if any, recommended by FM Approvals Ltd in their test reports and copy of instructions booklet detailing operation & maintenance of the equipment so as to maintain its Flame Proof characteristics.
- 6) The After sales service and maintenance of subject equipment shall be looked after by your representative M/s. Emerson Process Management (India) Private Limited, Plot No. A-145/4, T.T.C. Industrial Area, M.I.D.C. Pawane, Navi Mumbai - 400 710 (Maharashtra)

This approval also covers the permissible variations as approved under the FM Approvals Ltd test reports referred above. This approval is liable to be cancelled if any of the conditions of the approval is violated or not complied with . The approval may also be amended or withdrawn at any time, if considered necessary in the interest of safety.

The field performance report from actual users/your customers of the subject equipment may please be collected and furnished to this office for verification and record on annual basis.

The Approval is Valid upto **31/12/2022**

Yours faithfully,


(R.A.GUJAR)

Dy. Chief Controller of Explosives
For Chief Controller of Explosives
Nagpur

Copy to :

1. Jt. Chief Controller of Explosives, West Circle, MUMBAI
- 2.M/s. Emerson Process Management (India) Private Limited,Plot No. A-145/4, T.T.C. Industrial Area, M.I.D.C. Pawane, Navi Mumbai - 400 710 (Maharashtra)

for Chief Controller of Explosives
Nagpur

(For more information regarding status,fees and other details please visit our website <http://peso.gov.in>)

Note:- Please submit the revalidation application one month before the date of Expiry of approval otherwise approval will be treated as cancelled and a fresh application for approval will be considered for the approval.

1 EU-TYPE EXAMINATION CERTIFICATE



2 Equipment or Protective systems intended for use in Potentially
Explosive Atmospheres - Directive 2014/34/EU

3 EU-Type Examination Certificate No: FM10ATEX0046X

4 Equipment or protective system: MODEL 2230 GRAPHICAL FIELD DISPLAY
(Type Reference and Name)

5 Name of Applicant: Rosemount Tank Radar AB

6 Address of Applicant: Layoutvägen 1
Mölnlycke, 43533
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 17 of Directive 2014/34/EU of 26 February 2014, 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:

3037177 dated 23rd December 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:

EN 60079-0:2012+A11:2013, EN 60079-11:2012, EN 60529:2013

10 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.

11 This EU-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. 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:



II 1 G Ex ia IIC T4 Ga Ta = -50°C to +70°C; FISCO; IP66, IP67



cn=Mick Gower, o=FM Approvals,
ou,
email=mick.gower@fmaprovals.
com, c=GB
2017.06.01 14:01:16 +01'00'

Mick Gower
Certification Manager, FM Approvals Ltd.

Issue date: 01st June 2017

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

FM Approvals Ltd, 1 Windsor Dials, Windsor, Berkshire, UK, SL4 1RS
T: +44 (0) 1753 750 000 F: +44 (0) 1753 868 700 E-mail: atex@fmaprovals.com www.fmaprovals.com

SCHEDULE



to EU-Type Examination Certificate No. FM10ATEX0046X

13 Description of Equipment or Protective System:

The Rosemount 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.

The circuitry of the Model 2230 Graphical Field Display is contained on two printed circuit boards and an LCD display module all housed within an IP66 and IP67 housing.

The Model 2230 Graphical Field Display's housing is constructed of Aluminium Alloy 380. The enclosure is painted two tones with the top half painted in Rosemount blue and the bottom half is painted grey.

The enclosure is shaped $\frac{3}{4}$ of a circle with a length of 124mm, a diameter of 152mm and a height of approximately 78mm.

The Model 2230 Graphical Field Displays have an ambient operating temperature range of -50°C to +70°C.

The Model code is as follows:

2230aFbcdAef Graphical Field Display.

a = Default Language: Any single character.

b = Firmware: Any single character.

c = Hazardous Location Certification: I1, KA, KB or KC.

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.

Energy Limitation Parameters:

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

FISCO Parameters:

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

14 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 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 Model 2230 Graphical Field Display will not pass the 500Vrms dielectric strength test and this must be taken into account during installation.
4. To maintain ingress protection ratings IP66 and IP67, thread sealant is required for cable entries and blanking plugs.

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.

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FM Approvals Ltd. 1 Windsor Dials, Windsor, Berkshire, UK. SL4 1RS
T: +44 (0) 1753 750 000 F: +44 (0) 1753 868 700 E-mail: atex@fmapprovals.com www.fmapprovals.com

SCHEDULE



to EU-Type Examination Certificate No. FM10ATEX0046X

16 Test and Assessment Procedure and Conditions:

This EU-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.

18 Certificate History

Details of the supplements to this certificate are described below:

Date	Description
4 th January, 2011	Original Issue.
20 th June, 2011	<u>Supplement 1:</u> Report Reference: – 3037177rev110310 dated 11 th May, 2011. Description of the Change: Minor modifications to components, circuit layout and documentation not affecting safety.
21 st January 2014	<u>Supplement 2:</u> Report Reference: – 3049392 dated 20 th January 2014. Description of the Change: Modifications to the model code not affecting safety. Reassessment to latest editions of EN 60079-0, EN 60079-11, EN 60079-26 and EN 60529.
15 th April 2014	<u>Supplement 3:</u> 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.
01 st May 2017	<u>Supplement 4:</u> Report Reference: – 3057405 dated 5 th May 2017 Description of the Change: Modification to the housing.

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

FM Approvals Ltd, 1 Windsor Dials, Windsor, Berkshire, UK. SL4 1RS
T: +44 (0) 1753 750 000 F: +44 (0) 1753 868 700 E-mail: atex@fmaprovals.com www.fmaprovals.com

Blueprint Report

Rosemount Tank Radar AB (1000003453)

Class No 3610

Original Project I.D. 3037177

Certificate I.D. FM10ATEX0046X

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>	<u>Last Report</u>	<u>Electronic Drawing</u>
00809-0100-2230	CA	Reference Manual Rosemount 2230 Graphical Field Display	3057405	Yes (pdf)
9240040-935	1	Appr. DWG FM Rosemount 2230	3037177	Yes (pdf)
9240040-936	2	Appr. DWG Main Label Rosemount 2230	3049392	Yes (pdf)
9240040-946	2	APPR. DWG. FM CONFORMAL COATING / ENCAPSULATION	3037177	Yes (pdf)
9240040-946	03	APPR. DWG. FM CONFORMAL	140317	Yes (pdf)
9240040-949	3	SYSTEM CONTROL DWG FM Rosemount 2230	3057405	Yes (pdf)
9240040-967	1	APPR. DWG. FM Lumped capacitor model Rosemount 2230	3037177	Yes (pdf)
9240040-968	1	APPR. DWG. FM PCB TDU-TB Rosemount 2230	3/31/2011	Yes (pdf)
9240040-969	1	APPR. DWG. FM PCB TDU Rosemount 2230	3037177	Yes (pdf)
9240040-973	2	ROSEMOUNT 2230 MODEL CODE DESCRIPTION	3049392	Yes (pdf)
D7000002-976	01	APPR. DWG. ATEX/FM/IECEx MAIN LABEL 2230	3057405	Yes (pdf)
D7000003-076	01	APPR. DWG. FM. 2230	3057405	Yes (pdf)
D9240040-909	02	APPR DWG ½" NPT Plug Rosemount 2410 and 5900 Series	3057405	Yes (pdf)