



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

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 Phone/Fax No : 0712 -2510248, Fax-2510577

**Approval No : A/P/HQ/MH/104/6606 (P488693)**

Dated : 24/11/2020

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

**Sub :** Approval of Intrinsically Safe Type Graphical Field Display under Petroleum Rules 2002- Regarding.

Sir(s),

Please refer to your letter No. **OIN637038** dated **04/11/2020** on the subject.

The following Ex electrical equipment(s) manufactured by you according to **IEC 60079-0 : 2011, IEC 60079-11 : 2011,** standards and covered under **FM Approvals LLC** Test reports mentioned below is/are approved for use in **Zone 1** 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	<b>P488693/1</b>	FM Approvals LLC	IECEX FMG 10.0021X Issue No. 5	10/12/2019	9240040-935 Issue 1 Sheet 1-3

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 LLC 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 LLC 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 LLC Test report and is identical with the one tested and certified at FM Approvals LLC 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 LLC 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 Emerson Process Management (India) Private Limited, Plot No. A-145/4, T.T.C. Industrial Area, M.I.D.C. Pawane, Near Koparkhairne, Navi Mumbai - 400 710 (Maharashtra)

**Conditions of the Approval:-**

The approval for above equipment is subject to validity of IECEX Quality Assessment Report No. NO/PRE/QAR15.0014

This approval also covers the permissible variations as approved under the FM Approvals LLC 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 **31/12/2024**

Yours faithfully,

**(Ninad Dattaram Gawade)**  
**Dy. Controller of Explosives**  
**For Chief Controller of Explosives**  
**Nagpur**

Copy to :

1. Jt. Chief Controller of Explosives, West Circle, MUMBAI
2. Emerson Process Management (India) Private Limited,Plot No. A-145/4, T.T.C. Industrial Area, M.I.D.C. Pawane, Near Koparkhairne, 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>)

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# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX FMG 10.0021X** Page 1 of 5 Certificate history:  
Status: **Current** Issue No: 5 [Issue 4 \(2017-05-05\)](#)  
Date of Issue: 2019-12-10 [Issue 3 \(2014-03-25\)](#)  
[Issue 2 \(2014-01-20\)](#)  
[Issue 1 \(2011-05-11\)](#)  
[Issue 0 \(2010-12-22\)](#)  
Applicant: **Rosemount Tank Radar AB**  
Rosemount Tank Radar AB  
Layoutvägen 1  
Mölnlycke, 43533  
Sweden  
Equipment: **Model 2230 Graphical Field Display**  
Optional accessory:  
Type of Protection: **Intrinsic Safety 'ia'**  
Marking: Ex ia IIC T4 Ga (-50°C ≤ Ta ≤ +70°C); Entity/FISCO; IP66/IP67

Approved for issue on behalf of the IECEx  
Certification Body:

**James E. Marquedant**

Position:

**VP, Manager - Electrical Systems**

Signature:  
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting [www.iecex.com](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**FM Approvals LLC**  
1151 Boston-Providence Turnpike  
Norwood, MA 02062  
United States of America





# IECEX Certificate of Conformity

Certificate No.: **IECEX FMG 10.0021X**

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Date of issue: 2019-12-10

Issue No: 5

Manufacturer: **Rosemount Tank Radar AB**  
Rosemount Tank Radar AB  
Layoutvägen 1  
Mölnlycke, 43533  
**Sweden**

Additional  
manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

**IEC 60079-0:2011** Explosive atmospheres - Part 0: General requirements  
Edition:6.0

**IEC 60079-11:2011** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[US/FMG/ExTR10.0025/00](#)  
[US/FMG/ExTR10.0025/03](#)

[US/FMG/ExTR10.0025/01](#)  
[US/FMG/ExTR10.0025/04](#)

[US/FMG/ExTR10.0025/02](#)  
[US/FMG/ExTR10.0025/05](#)

Quality Assessment Reports:

[NO/DNV/QAR07.0007/06](#)

[NO/PRE/QAR15.0014/02](#)



# IECEx Certificate of Conformity

Certificate No.: **IECEx FMG 10.0021X**

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Date of issue: 2019-12-10

Issue No: 5

## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

### **Model 2230aFbcdAef Graphical Field Display.**

Energy Limitation Parameters:

$U_i = 30V$ ,  $I_i = 300mA$ ,  $P_i = 1.3W$ ,  $C_i = 2.1nF$ ,  $L_i = 1.1\mu H$ .

FISCO Parameters:

$U_i = 17.5V$ ,  $I_i = 380mA$ ,  $P_i = 5.32W$

a = Default Language: Any single character.

b = Firmware: Any single character.

c = Hazardous Location Certification: I7, KC, KE or KF.

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.

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

- 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 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 and IP67, thread sealant is required for cable entries and blanking plugs.*



# IECEx Certificate of Conformity

Certificate No.: **IECEx FMG 10.0021X**

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## Equipment (continued):

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(1). The four soft keys allow you to navigate through the different menus and provides all tank data, directly on the field. The circuitry of the Model 2230 Graphical Field Display circuitry is contained on two printed circuit boards and a LCD display module all housed within a Type 4X; IP66; IP67 housing. The Model 2230 Graphical Field Display's housing is constructed of Aluminum Alloy 380. The enclosure is painted two tones with the top half painted in P/N Polane HS Rosemount Blue, manufactured by Sherwin- William. The bottom half is painted in grey, AE0020-0705627 manufactured by Dupont. The enclosure is shaped  $\frac{3}{4}$  of a moon 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  $-50^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ .



# IECEx Certificate of Conformity

Certificate No.: **IECEx FMG 10.0021X**

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Date of issue: 2019-12-10

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**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

1. Minor drawing updates as described on the attached pages.
2. Addition of encapsulation material.