



# 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 16.0026X** Page 1 of 4 Certificate history:  
Status: **Current** Issue No: 5 Issue 4 (2020-09-16)  
Date of Issue: 2021-04-02 Issue 3 (2020-02-04)  
Applicant: **Endress+Hauser SE+Co. KG** Issue 2 (2018-09-11)  
Hauptstrasse 1 Issue 1 (2016-08-25)  
79689 Maulburg Issue 0 (2016-07-26)  
Germany  
Equipment: **NRF80 and NRF81 Tank Side Monitor**  
Optional accessory:  
Type of Protection: **Flameproof "db", Intrinsically Safe" ia"**  
Marking: Ex db [ia Ga] IIC T6 Gb Ta = -40C to +50°C, +55°C, or +60°C  
IP66/IP68

Approved for issue on behalf of the IECEx  
Certification Body:

**J. 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 16.0026X**

Page 2 of 4

Date of issue: 2021-04-02

Issue No: 5

Manufacturer: **Endress+Hauser SE+Co. KG**  
Hauptstrasse 1  
79689 Maulburg  
Germany

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 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

**IEC 60079-1:2014-06** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

**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/ExTR16.0028/00](#)  
[US/FMG/ExTR16.0028/03](#)

[US/FMG/ExTR16.0028/01](#)  
[US/FMG/ExTR16.0028/04](#)

[US/FMG/ExTR16.0028/02](#)  
[US/FMG/ExTR16.0028/05](#)

Quality Assessment Report:

[DE/TUN/QAR06.0003/08](#)



# IECEx Certificate of Conformity

Certificate No.: **IECEx FMG 16.0026X**

Page 3 of 4

Date of issue: 2021-04-02

Issue No: 5

## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

General product information:

General- The Tank Side Monitor NRF8x is a robust gateway used for collecting and integrating tank gauging data in storage and process applications. The NRF8x Tank Side Monitors fulfil the exacting demands of tank inventory management, inventory control, custody transfer, and loss control to be used in conjunction with the Tank Gauging Platform products. The NRF8x Monitors come in two different types of transmitters, the NRF80 and NRF81, which differ only in the allowed options available.

The Tank Side Monitor NRF8x is comprised of certified Tank Gauge Platform Enclosures (IECEx FMG 16.0004U) and certified Tank Gauge Platform Electronic Modules (IECEx FMG 15.0043U). The following enclosures and electronic modules may be used:

Enclosures TRC[03-07-11] and TRC[04-08-12]

Module TRC[00] FP Front Plane Board  
Module TRC[01] PS\_HV Power Supply, High Voltage  
Module TRC[02] PS\_LV\_AC Power Supply, Low Voltage, AC  
Module TRC[03] PS\_LV\_DC Power Supply, Low Voltage, DC  
Module TRC[10] MB Main Board,  
Module TRC[20] IOM\_A IO Module Analog  
Module TRC[21] IOM\_A IO Module Analog  
Module TRC[31] IOM\_D IO Module Digital  
Module TRC[32] IOM\_Mod\_FF IO Module Modbus/FF  
Module TRC[33] IOM\_V1\_WM550 IO Module V1/WM550

Construction- The Tank Side Monitor NRF8x Series comprises a single compartment flameproof enclosure with a thread-on window cover — housing the display module and electronics assembly. NRF80 and NRF81 both share the same enclosure, display and electronics assembly. The enclosure for NRF80 and NRF81 can be Aluminium or Stainless Steel, with 7 integral M20 sized field wiring entries. Integral threaded inserts allow for optional field wiring entry options including M25, ½ NPT or ¾ NPT.

Ratings- The Tank Side Monitor NRF8x operates at 85-264Vac (28.8 Volt-Amperes), 52-75Vac (21.6 Volt-Amperes and 19-64Vdc (13.4 Watts). The transmitters are rated for use in an ambient temperature range of -40°C to +50°C, +55°C, or +60°C. For further information regarding the Entity Parameters and Temperature Codes —refer to drawing XA01531G

See attached Annex for additional details

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

1. Flamepath joints are not for repair. Contact the manufacturer.
2. Use heat resisting cables rated  $\geq 85^{\circ}\text{C}$  for  $T_a > 50^{\circ}\text{C}$ .
3. Precautions shall be taken to minimize the risk from electrostatic discharge of non-metallic labels, varnishes/coatings on the stainless steel 316L and isolated metal tags applied to the enclosure.
4. To maintain the ingress protection ratings (IP66/68), Teflon tape or pipe dope is required for blanking plugs.
5. Ex d certified seals are required within 50 mm (2") on all used housing entries.



# IECEx Certificate of Conformity

Certificate No.: **IECEx FMG 16.0026X**

Page 4 of 4

Date of issue: 2021-04-02

Issue No: 5

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

1) Document updates due to addition of UKEx Certificate (FM21UKEX0002X)