Product Certifications
00880-0100-4480, Rev AF
January 2026

Rosemount™ 1408H Level Transmitter

Non-Contacting Radar



ROSEMOUNT™

EMERSON.

1 Product certifications

Rev 3.14

Note
The most recent revision can be found at Emerson.com/Rosemount1408H.

1.1 European directive information

A copy of the EU Declaration of Conformity can be found at the end of the document. The most recent revision of the EU Declaration of Conformity can be found at Emerson.com/Rosemount.

1.2 Ordinary location certification

As standard, the transmitter has been examined and tested to determine that the design meets the basic electrical, mechanical, and fire protection requirements by a nationally recognized test laboratory (NRTL) as accredited by the Federal Occupational Safety and Health Administration (OSHA).

Certificate	80031621
Standards	CAN/CSA-C22.2 No. 61010-1-12, UL Std. No. 61010-1

The device may only be powered by a power supply unit with a limited energy electric circuit max. 30 Vdc (IO-Link) / 35 Vdc (HART®) output in accordance with CAN/CSA-C22.2 No. 61010-1-12 / UL Std. No. 61010-1 (3rd Edition) chapter 6.3.1/6.3.2 and 9.4 or class 2 according to CSA 223/UL 1310.

1.3 Environmental conditions

Table 1-1: Environmental Conditions (Ordinary Location and Low Voltage Directive (LVD))

Type	Description
Location	Indoor or outdoor use, wet(1)
Maximum altitude	6562 ft. (2000 m)
Ambient temperature	-40 to 176 °F (-40 to 80 °C)
Installation category	DC supplied
Electrical supply for IO-Link device	18-30 Vdc, 3.6 W
Electrical supply for HART® device	14-35 Vdc, 0.8 W (35Vdc @ 22.5mA(2))
Mains supply voltage fluctuations for IO-Link device	Safe at 18-30 Vdc ±10%
Mains supply voltage fluctuations for HART device	Safe at 14-35 Vdc ±10%
Pollution degree	2

(1) Outdoor use and wet location not part of Ordinary Location certification.
(2) Nominal power consumption is 0.54 W (24Vdc @ 22.5 mA).

1.4 Telecommunication compliance

Measurement principle

Frequency Modulated Continuous Wave (FMCW), 80 GHz

Maximum output power

3 dBm (2 mW)

Frequency range

77 to 81 GHz

76-77 GHz in applicable countries, contact Emerson for details.

TLPR (Tank Level Probing Radar)

TLPR (Tank Level Probing Radar) equipment are devices for measurement of level in a closed space only (i.e metallic or reinforced concrete or fiberglass tanks, or similar enclosure structures made of comparable attenuating material). Rosemount 1408H is TLPR device.

Hardware Version Identification Number (HVIN) is 1408T for the IO-link device and 1408TH for the HART device.

1.5 FCC

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC ID K8C1408T

1.6 IC

This device complies with Industry Canada's licence-exempt RSS standard. Operation is subject to the following conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.
3. The installation of the TLPR device shall be done by trained installers in strict compliance with the manufacturer's instructions.
4. The use of this device is on a "no-interference, no-protection" basis. That is, the user shall accept operations of high-powered radar in the same frequency band which may interfere with or damage this device. However, devices found to interfere with primary licensing operations will be required to be removed at the user's expense.
5. This device shall be installed and operated in a completely enclosed container to prevent RF emissions, which can otherwise interfere with aeronautical navigation.

6. The installer/user of this device shall ensure that it is at least 10 km from the Dominion Astrophysical Radio Observatory (DRAO) near Penticton, British Columbia. The coordinates of the DRAO are latitude 49°19′15″N and longitude 119°37′12″ W. For devices not meeting this 10 km separation (e.g., those in the Okanagan Valley, British Columbia,) the installer/user must coordinate with, and obtain the written concurrence of, the Director of the DRAO before the equipment can be installed or operated. The Director of the DRAO may be contacted at 250-497-2300 (tel.) or 250-497-2355 (fax). (Alternatively, the Manager, Regulatory Standards, Industry Canada, may be contacted.)

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux conditions suivantes:

1. l'appareil ne doit pas produire de brouillage.
2. l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
3. L’installation d’un dispositif TLPR doit être effectuée par des installateurs qualifiés, en pleine conformité avec les instructions du fabricant.
4. Ce dispositif ne peut être exploité qu'en régime de non-brouillage et de non-protection, c'est-à-dire que l'utilisateur doit accepter que des radars de haute puissance de la même bande de fréquences puissent brouiller ce dispositif ou même l'endommager. D'autre part, les capteurs de niveau qui perturbent une exploitation autorisée par licence de fonctionnement principal doivent être enlevés aux frais de leur utilisateur.
5. Un dispositif visé comme TLPR doit être installé et exploité dans un réservoir entièrement fermé afin de prévenir les rayonnements RF qui pourraient autrement perturber la navigation aéronautique.
6. La personne qui installe/utilise ce capteur de niveau doit s'assurer qu'il se trouve à au moins 10 km de l'Observatoire fédéral de radioastrophysique (OFR) de Penticton en Colombie-Britannique. Les coordonnées de l'OFR sont: latitude N 49° 19′ 15″, longitude O 119° 37′ 12″. La personne qui installe/utilise un dispositif ne pouvant respecter cette distance de 10 km (p. ex. dans la vallée de l'Okanagan [Colombie-Britannique]) doit se concerter avec le directeur de l'OFR afin d’obtenir de sa part une autorisation écrite

avant que l'équipement ne puisse être installé ou mis en marche. Le directeur de l'OFR peut être contacté au 250-497-2300 (tél.) ou au 250-497-2355 (fax). (Le Directeur des Normes réglementaires d'Industrie Canada peut également être contacté).

Certificate 2827A-1408T

1.7 Radio Equipment Directive (RED) 2014/53/EU

Rosemount 1408H complies with ETSI EN 302 372 (TLPR), ETSI EN 301 489-1, ETSI EN 301 489-33 and EN 62479.

TLPR (Tank Level Probing Radar)

The device must be installed in closed tanks. Install according to requirements in ETSI EN 302 372 (Annex E).

Performance under the influence of an interferer signal

For the receiver test that covers the influence of an interferer signal to the device, the performance criterion has at least the following level of performance according to ETSI TS 103 361 [6].

- Performance criterion: measurement value variation Δd over time during a distance measurement
- Level of performance: Δd ≤ ± 2 mm

1.8 Radio/EMC Australia and New Zealand

Rosemount 1408H complies with the requirements of the relevant ACMA Standards made under the Radiocommunications Act 1992 and the Telecommunications Act 1997 and the relevant Standards made under The New Zealand Radio Communication Act 1989.

1.9 Other radio approvals

1.9.1 Argentina



H-30154

1.9.2 Brazil

This equipment is not entitled to protection against harmful interference and may not cause interference with properly authorized systems.

This product is not suitable for use in residential environments, as it may cause electromagnetic interference that requires the user to take necessary actions to minimize such interference.

The product installation must be located at least 4 km away from the radio astronomy stations.

The installation height of the product must be less than 15 meters, when installed at a distance of up to 40 km from the radio astronomy stations. This model can be used in indoor environments.

1.9.3 Malaysia



1.9.4 Republic of Korea

Registration number R-R-Rtr-1408

1.9.5 Singapore



1.9.6 South Africa



1.9.7 Taiwan



Without permission granted by the NCC, any company, enterprise, or user is not allowed to change frequency, enhance transmitting power or alter original characteristic as well as performance to an approved low power radio-frequency device. The low power radio-frequency devices shall not influence aircraft security and interfere legal communications; If found, the user shall cease operating immediately until no interference is achieved. The said

legal communications means radio communications is operated in compliance with the Telecommunications Management Act. The low power radio-frequency devices must accept any interference from legal communications or ISM radiowave radiated devices.

1.9.8 Thailand

This telecommunication equipment conforms to NTC technical requirements.

เครื่องโทรคมนาคมและอุปกรณ์นี้มีความสอดคล้องตามมาตรฐานหรือข้อกำหนดทางเทคนิค ของ กสทช

1.9.9 Other national spectrum approvals

Radio devices usually require certification to ensure they adhere to regulations regarding the use of radio frequency (RF) spectrum. Many countries require this type of product certification.

Emerson is working with governmental agencies around the world to supply fully compliant products and remove the risk of violating country directives or laws governing radio device usage.

1.10 Canadian Registration Number (CRN)

Transmitter without adapter

Registrations

Alberta (ABSA): 0F21418.2
British Columbia (TSBC): 0F7358.1
Manitoba (ITS): 0F21418.24
New Brunswick: 0F21418.27
Newfoundland and Labrador: 0F21418.20
Northwest Territories: 0F21418.2T
Nova Scotia: 0F21418.28
Nunavut: 0F21418.2N
Ontario (TSSA): 0F23714.5
Prince Edward Island: 0F21418.29
Québec (RBQ): 0F05457.6
Saskatchewan (TSASK): 0F2113.3
Yukon: 0F21418.2Y

Hygienic adapters

Option code CA (part FB-1001), C2 (part FB-1002), WD (part FB-1041)

Registration All provinces: 0F15548

1.11 Hygienic certificates and approvals

1.11.1 3-A®

Certificate Authorization Number	3626
Standard	3-A Sanitary Standards for Number 74-07 (Sensors and Sensor Fittings and Connections)

1.11.2 EHEDG

Certificate Number	EHEDG-C2200003
Certification Type	EL CLASS I

1.11.3 Other hygienic approvals

The process wetted components comply with:

- FDA 21 CFR 110, subpart C
- EC 1935/2004
- TSE/BSE Free

1.11.4 Instructions for hygienic installations

To conform with applicable hygienic standards and food and beverage legislation and regulations, the Rosemount 1408H must be:

- Installed in a closed tank.
- Installed with hygienic adapter and O-ring.

It is the responsibility of the user to ensure that:

- The materials listed in Table 1-2 and Table 1-3 are suitable for the media and cleaning/sanitizing processes.
- The installation of the transmitter is drainable and cleanable.
- The joint/clamping between the transmitter and the nozzle is compatible with the tank pressure and media.
- For the application a suitable M12 connector is used and with appropriate ingress protection.
- The product contact surfaces are not scratched.

3-A® installations only

It is the responsibility of the user to ensure that:

- The hygienic adapter is 3-A certified and approved for use with the transmitter.
- The fittings and connections comply with the requirements of 3-A Sanitary Standard 63-.
- Correct gasket variants are used on the “product contact side”, and that they are made of 3-A compliant product contact material.
- The 3-A specific nozzle height limits are kept to ensure cleanability. See Reference Manual for nozzle requirements.

EHEDG installations only

It is the responsibility of the user to ensure that:

- The hygienic adapter is EHEDG certified and approved for use with the transmitter.
- The seals/gaskets used conform to the EHEDG Position Paper “Easy cleanable pipe couplings and process connections”. Note that a special gasket is required for Tri Clamp connections, as specified in the EHEDG Position Paper.
- The installation of the transmitter is drainable in accordance with EHEDG Doc. 8 "Hygienic Design Principles" and is evaluated for cleanability according to EHEDG Doc. 2.
- The EHEDG specific nozzle height limits are kept to ensure cleanability. See Reference Manual for nozzle requirements.

Materials of construction

The hygienic approvals and certificates of the transmitter rely upon the following materials used in its construction:

Table 1-2: Product Contact Surfaces

Item	Material	Compliant with
PTFE sealing	PTFE fluoropolymer	21 CFR 177.1550 EC 10/2011 TSE/BSE Free USP<87> USP<88> Class VI
Hygienic adapter	Stainless steel 300 series	TSE/BSE Free
Hygienic adapter O-ring(1)	EPDM or FKM	21 CFR 177.2600 TSE/BSE Free USP<87> USP<88> Class VI

(1) Only the EPDM O-ring is EHEDG approved.

Table 1-3: Nonproduct Contact Surfaces

Item	Material
Housing	Stainless steel 300 series
Bushing	Stainless steel 300 series
Plug	Stainless steel 300 series
Adapter seal	FKM
Electrical connector	Contact pins in gold plated brass Housing in plastics (PA) Seal in FKM

Clean-In-Place (CIP)

Withstands cleaning routines up to 194 °F (90 °C)

Steam-In-Place (SIP)

Withstands cleaning routines up to 284 °F (140 °C)

1.12 EU Declaration of Conformity

Figure 1-1: EU Declaration of Conformity

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Declaration of Conformity CE

We,

Rosemount Tank Radar AB
Layoutvägen 1
S-435 33 MÖLNLYCKE
Sweden

declare under our sole responsibility that the product,

Rosemount™ 1408H Level Transmitter

manufactured by,

Rosemount Tank Radar AB
Layoutvägen 1
S-435 33 MÖLNLYCKE
Sweden

to which this declaration relates, is in conformity with the provisions of the European Union Directives, including the latest amendments, as shown in the attached schedule.

Assumption of conformity is based on the application of the harmonized standards and, when applicable or required, a European Union notified body certification, as shown in the attached schedule.

(signature)	Sr. Manager Product Approvals (function)
Dajana Prastalo (name)	23-Jan-25; Mölnlycke (date of issue & place)

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Declaration of Conformity CE

EMC Directive (2014/30/EU)

Harmonized Standards: EN 61326-1:2013

Other Standards Used: EN IEC 61326-1:2021

Radio Equipment Directive (RED) (2014/53/EU)

Harmonized Standards:
ETSI EN 302 372:2016
ETSI EN 301 489-1 V2.2.3
EN 62479:2010

Other Standards Used:
ETSI EN 301 489-33 V2.2.1

Low Voltage Directive (2014/35/EU)

Harmonized Standards:
EN 61010-1:2010/A1:2019/AC:2019-04

RoHS Directive (2011/65/EU) Amended 2015/863

Harmonized standards:
EN IEC 63000:2018

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1.13 China RoHS

Table 1-4: List of Rosemount 1408H Parts with China RoHS Concentration above MCVs (含有 China RoHS 管控物质超过最大浓度限值的 Rosemount 1408H 部件型号列表)

Hazardous Substance 有害物质	Part name 部件名称	
	Electronics Assembly 电子组件	Housing Assembly 壳体组件
Lead (铅) (Pb)	X	O
Mercury (汞) (Hg)	O	O
Cadmium (镉) (Cd)	O	O
Hexavalent Chromium (六价铬) (Cr+6)	O	O
Polybrominated biphenyls (多溴联苯) (PBB)	O	O
Polybrominated diphenyl ethers (多溴二苯醚) (PBDE)	O	O
Dibutyl phthalate (邻苯二甲酸二正丁酯) (DBP)	O	O
Diisobutyl phthalate (邻苯二甲酸二异丁酯) (DIBP)	O	O
Butyl benzyl phthalate (邻苯二甲酸丁苄酯) (BBP)	O	O
Bis(2-ethylhexyl) phthalate (邻苯二甲酸二(2-乙基)己酯) (DEHP)	O	O

This table is prepared in accordance with the provision of SJ/T 11364 / 本表格依据 SJ/T 11364 的规定编制

O: Indicate that said hazardous substance contained in all of the homogeneous materials for this part does not exceed the limit requirement of GB/T 26572.

O: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下

X: Indicate that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.

X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求



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For more information: **Emerson.com/global**

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