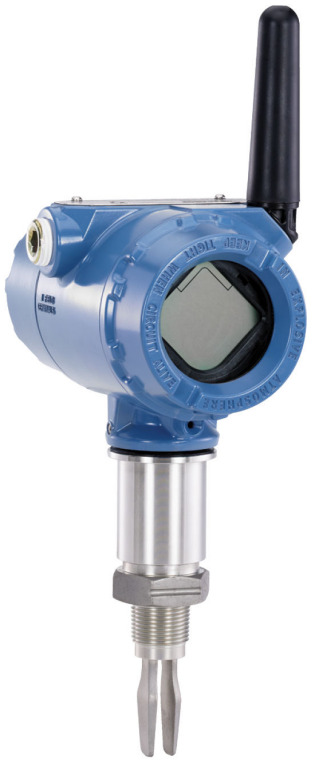
Product Certifications
00880-0100-4160, Rev AD
August 2024

Rosemount™ 2160 Wireless Level Detector

Vibrating Fork



ROSEMOUNT™

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1 Product certifications

Rev 4.20

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 device 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).

1.3 Environmental conditions

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

Type	Description
Location	Indoor and outdoor use
Maximum altitude	6562 ft. (2000 m)
Ambient temperature	-58 to 185 °F (-50 to 85 °C)
Pollution degree	2

1.4 Telecommunication compliance

All wireless devices require certification to ensure that they adhere to regulations regarding the use of the RF spectrum. Nearly every country requires 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 wireless device usage.

1.5 FCC and IC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: This device may not cause harmful interference and this device must accept any interference, including any interference that may cause undesired operation of the device. This device must be installed to ensure a minimum antenna separation distance of 8 in. (20 cm) from all persons.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) this device must accept any interference, including any interference that may cause undesired operation of the device.

1.6 South Africa

Ta-2020/7139

1.7 Installing equipment in North America

The US National Electrical Code® (NEC) and the Canadian Electrical Code (CEC) permit the use of Division marked equipment in Zones and Zone marked equipment in Divisions. The markings must be suitable for the area classification, gas, and temperature class. This information is clearly defined in the respective codes.

1.8 U.S.A.

1.8.1 I5 Intrinsic Safety, Non-Incendive, Dust Ignition-proof

Certificate	FM17US0357X
Standards	FM Class 3600:2011; FM Class 3610:2010; FM Class 3611:2004; FM 3810:2005; ANSI/ISA 60079-0:2005; ANSI/ISA 60079-11:2009; ANSI/NEMA® 250:1991; ANSI/IEC 60529:2004
Markings	IS: Class I/II/III, Division 1, Groups A, B, C, D, E, F, and G IS: Class I, Zone 0, AEx ia IIC T4 (Ta = -58 °F to +158 °F / -50 °C to +70 °C) NI: Class I, Division 2, Groups A, B, C, and D T4 (Ta = -58 °F to +158 °F / -50 °C to +70 °C) DIP: Class II/III, Division 1, Groups E, F, and G T4 (Ta = -50 °C to +85 °C) Type 4X/IP66

Specific Condition of Use (X):

1. WARNING - Potential Electrostatic Charging Hazard - The enclosure is constructed from plastic. To prevent the risk of electrostatic sparking the plastic surface should only be cleaned with a damp cloth.

1.9 Canada

1.9.1 I6 Intrinsic Safety

Certificate	80051772
Standards	CSA Std C22.2 No. 0-M91(R 2006); CSA C22.2 No. 157-M1992 (R 2006); CSA Std C22.2 No. 30-M1986 (R 2003); CAN/CSA-C22.2 No. 94-M91 (R 2006); CSA Std C22.2 No. 142-M1987 (R 2004); CAN/CSA E60079-11:02; ANSI/ISA - 12.27.01-2003
Markings	Class I, Division 1, Groups A, B, C, D T2, T3C Type 4X

The applicable temperature class, ambient temperature range and process temperature range of the equipment is as follows:

Table 1-2: Temperature Code for 2160XS* version**

Temperature class	Maximum Ambient Temperature range (Ta)	Process temperature range (Tp)
T3C, T2, T1	-50 °C ≤ Ta ≤ 70 °C	-40 °C to 100 °C
T3C, T2, T1	-50 °C ≤ Ta ≤ 60 °C	-40 °C to 115 °C
T3, T2, T1	-50 °C ≤ Ta ≤ 50 °C	-40 °C to 150 °C

Table 1-3: Temperature Code for 2160XE* version**

Temperature class	Maximum Ambient Temperature range (Ta)	Process temperature range (Tp)
T3C, T2, T1	-50 °C ≤ Ta ≤ 70 °C	-70 °C to 115 °C
T3, T2, T1	-50 °C ≤ Ta ≤ 65 °C	-70 °C to 185 °C
T2, T1	-50 °C ≤ Ta ≤ 60 °C	-70 °C to 260 °C

1.10 Europe

1.10.1 I1 ATEX Intrinsic Safety

Certificate	Baseefa 09ATEX0253X
Standards	EN IEC 60079-0:2018; EN 60079-11:2012
Markings	Ⓔx II 1 G Ex ia IIC T5...T2 Ga

The applicable temperature class, ambient temperature range and process temperature range of the equipment is as follows:

Table 1-4: Temperature Code for 2160XS* version**

Temperature class	Ambient Temperature range (Ta)	Process temperature range (Tp)
T5	-40 °C ≤ Ta ≤ 40 °C	-40 °C to 80 °C
T4	-40 °C ≤ Ta ≤ 70 °C	-40 °C to 115 °C
T3	-40 °C ≤ Ta ≤ 70 °C	-40 °C to 150 °C

Table 1-5: Temperature Code for 2160XE* version**

Temperature class	Ambient Temperature range (Ta)	Process temperature range (Tp)
T5	-50 °C ≤ Ta ≤ 40 °C	-70 °C to 80 °C
T4	-50 °C ≤ Ta ≤ 70 °C	-70 °C to 115 °C
T3	-50 °C ≤ Ta ≤ 70 °C	-70 °C to 185 °C
T2	-50 °C ≤ Ta ≤ 70 °C	-70 °C to 260 °C

Specific Conditions of Use (X):

1. The surface resistivity of the antenna is greater than 1 GΩ. To avoid electrostatic charge build-up, it must not be rubbed or cleaned with solvents or a dry cloth.
2. The Rosemount 2160 enclosure is made of aluminum alloy and given a protective epoxy coating; however, care should be taken to protect it from impact or abrasion if located in Zone 0.

1.11 International

1.11.1 I7 IECEx Intrinsic Safety

Certificate	IECEx BAS 09.0123X
Standards	IEC 60079-0:2017; IEC 60079-11:2011
Markings	Ex ia IIC T5...T2 Ga

The applicable temperature class, ambient temperature range and process temperature range of the equipment is as follows:

Table 1-6: Temperature Code for 2160XS* version**

Temperature class	Ambient Temperature range (Ta)	Process temperature range (Tp)
T5	-40 °C ≤ Ta ≤ 40 °C	-40 °C to 80 °C
T4	-40 °C ≤ Ta ≤ 70 °C	-40 °C to 115 °C
T3	-40 °C ≤ Ta ≤ 70 °C	-40 °C to 150 °C

Table 1-7: Temperature Code for 2160XE* version**

Temperature class	Ambient Temperature range (Ta)	Process temperature range (Tp)
T5	-50 °C ≤ Ta ≤ 40 °C	-70 °C to 80 °C
T4	-50 °C ≤ Ta ≤ 70 °C	-70 °C to 115 °C
T3	-50 °C ≤ Ta ≤ 70 °C	-70 °C to 185 °C
T2	-50 °C ≤ Ta ≤ 70 °C	-70 °C to 260 °C

Specific Conditions of Use (X):

1. The surface resistivity of the antenna is greater than 1 GΩ. To avoid electrostatic charge build-up, it must not be rubbed or cleaned with solvents or a dry cloth.
2. The Rosemount 2160 enclosure is made of aluminum alloy and given a protective epoxy coating; however, care should be taken to protect it from impact or abrasion if located in Zone 0.

1.12 Republic of Korea

1.12.1 IP KTL Intrinsic Safety

Certificate 20-KA4BO-0922X

Markings Ex ia IIC T5-T2
Ta (see table in the certificate)

1.12.2 GP KTL KCC mark for ordinary locations use

Certificate KCC-REM-ERN-RMDSWIT2160XXX

1.13 China

1.13.1 I3 NEPSI Intrinsic Safety

Certificate GYJ20.1149X (CCC)

Markings Ex ia IIC T5···T2 Ga

Specific Instructions:

See certificate.

Specific Condition of Use (X):

See certificate.

1.14 Technical Regulations Customs Union (TR-CU)

TR CU 012/2011 “On safety of equipment intended for use in explosive atmospheres”

TR CU 004/2011 “On safety of low-voltage equipment”

TR TC 032/2013 "On the safety equipment of high pressure"

Certificate	EAЭC KZ 7500525.01.01.01708

1.14.1 IM Technical Regulations Customs Union (EAC) Intrinsic Safety

Certificate	EAЭC KZ 7500525.01.01.00939
Markings	0Ex ia IIC T5...T3 Ga X 0Ex ia IIC T5...T2 Ga X

Specific Conditions of Use (X):

See certificate.

1.15 Brazil

1.15.1 I2 INMETRO Intrinsic Safety

Certificate	UL-BR 18.0283X (Sweden), UL-BR 23.0983X (USA)
Standards	ABNT NBR IEC 60079-0:2020; ABNT NBR IEC 60079-11:2013
Markings	Ex ia IIC T5...T2 Ga

Specific Conditions of Use (X):

See certificate.

1.16 Japan

1.16.1 I4 CML Intrinsic safety

Certificate	CML 21JPN2838X
Markings	Ex ia IIC T5...T2 Ga

Specific Condition of Use (X):

See certificate.

1.17 India

1.17.1 IW Intrinsic Safety

Certificate	PESO P541133/1
Markings	Ex ia IIC T5...T2 Ga

1.18 United Arab Emirates

1.18.1 Intrinsic Safety

Certificate	23-11-22694/Q23-11-048838/NB0002, 23-11-22710/Q23-11-048839/NB0002
Markings	Same as IECEx (I7)

Specific Conditions of Use (X):

Same as IECEx (I7)

1.19 NAMUR compliance

1.19.1 Suitable for intended use

Compliant with NAMUR NE 95:2013, “Basic Principles of Homologation”

1.20 Overfill prevention

1.20.1 Germany - WHG

Certificate	Z-65.11-518
Application	TÜV-tested and approved by DIBt for overfill prevention according to the German WHG regulations.

1.20.2 Belgium - Vlarem

Certificate VIL/35/P017110041/NL/002

Standards Vlarem II Chapter 5.17
Vlarem II Annex 5.17.7

1.20.3 Switzerland - SVTI

Certificate KVU 302.011

1.21 Pressure approvals

1.21.1 Canadian Registration Number (CRN)

Certificate 0F04227.2C

The requirements of CRN are met when a Rosemount 2160 CSA-approved vibrating fork level detector model is configured with 316/316L stainless steel (1.4401/1.4404) process-wetted parts and either NPT threaded or 2-in. to 8-in. ASME B16.5 flanged process connections.

1.22 EU Declaration of Conformity

Figure 1-1: EU Declaration of Conformity

Rev. #4

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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™ 2160 Series
WirelessHART™ Vibrating Fork Liquid Level Switch

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)	6-May-24; Mölnlycke (date of issue & place)

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Declaration of Conformity

EMC Directive (2014/30/EU)

Harmonized Standards: EN 61326-1:2013
Other Standards Used: IEC 61326-1:2020

ATEX Directive (2014/34/EU)

Rosemount 2160X********I1WA3WK1***

Baseefa 09ATEX0253X – Intrinsically safe
Equipment Group II, Category 1 G
Ex ia IIC T5…T2 Ga
Harmonized Standards: EN IEC 60079–0:2018; EN 60079-11:2012

RED Directive (2014/53/EU)

Harmonized Standards: EN 300 328: V2.2.2
Other Standards Used: EN 301 489-1: V2.2.0; EN 301 489-17: V3.2.0
EN 61010-1:2010 + A1:2019 + AC:2019-04: EN IEC 62311:2020

RoHS Directive (2011/65/EU)

Harmonized Standards: EN IEC 63000:2018

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Declaration of Conformity CE

ATEX Directive Notified Body

SGS Fimko Oy [Notified Body Number: 0580]
Takomotie 8
FI-00380, Helsinki
Finland

ATEX Notified body for Quality Assurance

DNV Product Assurance AS [Notified Body Number: 2460]
Veritasveien 3
1363 Høvik
Norway

1.23 China RoHS

含有China RoHS管控物质超过最大浓度限值的部件型号列表 Rosemount 2160
List of Rosemount 2160 Parts with China RoHS Concentration above MCVs

部件名称 Part Name	有害物质 / Hazardous Substances					
	铅 Lead (Pb)	汞 Mercury (Hg)	镉 Cadmium (Cd)	六价铬 Hexavalent Chromium (Cr +6)	多溴联苯 Polybrominated biphenyls (PBB)	多溴联苯醚 Polybrominated diphenyl ethers (PBDE)
电子组件 Electronics Assembly	X	O	O	O	O	O
壳体组件 Housing Assembly	O	O	O	O	O	O
传感器组件 Sensor Assembly	X	O	O	O	O	O

本表格系依据SJ/T11364的规定而制作.
This table is proposed in accordance with the provision of SJ/T11364.

O: 意为该部件的所有均质材料中该有害物质的含量均低于GB/T 26572所规定的限量要求.
O: Indicate that said hazardous substance in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.

X: 意为在该部件所使用的所有均质材料里，至少有一类均质材料中该有害物质的含量高于GB/T 26572所规定的限量要求.
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.

Product Certifications
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August 2024

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

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