

Rosemount™ 2120 Level Switch

Vibrating Fork



1 Product certifications

Rev 8.5

1.1 European directive information

A copy of the EU Declaration of Conformity can be found in the section [EU Declaration of Conformity](#). The most recent revision of the EU Declaration of Conformity can be found at [Emerson.com/Rosemount](#).

1.2 Safety Instrumented Systems (SIS)

SIL 3 Capable: IEC 61508 certified for use in safety instrumented systems up to SIL 3 (Minimum requirement of single use (1oo1) for SIL 2 and redundant use (1oo2) for SIL 3).

1.3 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).

1.4 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.

1.5 U.S.A.

1.5.1 G5 Ordinary Location

Certificate	FM20NUS0006
Standards	FM Class 3810:2011; ANSI/NEMA 250:1991
Markings	Type 4X

1.5.2 I5 Intrinsic Safety and Non-incendive

Certificate	FM17US0355X
Standards	FM Class 3600:2018; FM Class 3610:2010; FM Class 3611:2004; FM 3810:2005; ANSI/ISA 60079-0:2005; ANSI/ISA 60079-11:2009
Markings	IS Class I, Division 1, Groups A, B, C, and D, T5...T3

IS: Class I, Zone 0, AEx ia IIC, T5...T3

NI: Class I, Division 2, Groups A, B, C and D, T5...T3

NI: Class I, Zone 2, IIC, T5...T3

When installed per Control Drawing 71097/1314 or 71097/1154

Safety parameter	Namur	8/16 mA
Voltage U_i	15 V	30 V
Current I_i	32 mA	93 mA
Power P_i	0.1 W	0.65 W
Capacitance C_i	211 nF	12 nF
Inductance L_i	0.06 mH	0.035 mH

Specific Conditions of Use (X):

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

Temperature class / Maximum surface temperature	Ambient temperature range (T_a)	Process temperature range (T_p)
T3	$-40\text{ °C} \leq T_a \leq 50\text{ °C}$	-40 °C to 150 °C
T4	$-40\text{ °C} \leq T_a \leq 60\text{ °C}$	-40 °C to 115 °C
T5	$-40\text{ °C} \leq T_a \leq 80\text{ °C}$	-40 °C to 60 °C

2. The enclosure is constructed from plastic. To prevent the risk of electrostatic sparking the plastic surface should only be cleaned with a damp cloth.

1.5.3 E5 Explosion-proof

Certificate FM20US0047

Standards FM Class 3600:2018; FM 3615:2018; FM3810:2005; ANSI/NEMA 250:1991

Markings XP CL I, Div 1, GRPS A, B, C, and D, T6...T3
Type 4X

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

Temperature class / Maximum surface temperature	Ambient temperature range (Ta)	Process temperature range (Tp)
T3	-40 °C ≤ Ta ≤ 50 °C	-40 °C to 150 °C
T4	-40 °C ≤ Ta ≤ 65 °C	-40 °C to 125 °C
T5	-40 °C ≤ Ta ≤ 70 °C	-40 °C to 95 °C
T6	-40 °C ≤ Ta ≤ 75 °C	-40 °C to 75 °C

1.6 Canada

1.6.1 G6 Ordinary location

Certificate	80096118
Standards	CAN/CSA-C22.2 No. 61010-1-04; CAN/CSA-C22.2 No. 94-M91
Markings	4X.

1.6.2 I6 Intrinsic Safety and Non-Incendive

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, and D, T5...T3 IS: Class I, Zone 0, Ex ia IIC, T5...T3 NI: Class I, Division 2, T5...T3 When installed per Control Drawing 71097/1179 (Namur) or 71097/1315 (8/16mA)

Safety parameter	Namur	8/16 mA
Voltage U _i	15 V	30 V
Current I _i	32 mA	93 mA
Power P _i	0.1 W	0.65 W
Capacitance C _i	211 nF	12 nF
Inductance L _i	0.06 mH	0.035 mH

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

Temperature class / Maximum surface temperature	Ambient temperature range (Ta)	Process temperature range (Tp)
T3	$-40^{\circ}\text{C} \leq T_a \leq 50^{\circ}\text{C}$	-40°C to 150°C
T4	$-40^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$	-40°C to 115°C
T5	$-40^{\circ}\text{C} \leq T_a \leq 80^{\circ}\text{C}$	-40°C to 60°C

2. The enclosure is constructed from plastic. To prevent the risk of electrostatic sparking the plastic surface should only be cleaned with a damp cloth.

1.6.3 E6 Explosion-proof

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, and D, T6...T3
Type 4X. Single Seal.

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

Temperature class / Maximum surface temperature	Ambient temperature range (Ta)	Process temperature range (Tp)
T3	$-40^{\circ}\text{C} \leq T_a \leq 50^{\circ}\text{C}$	-40°C to 150°C
T4	$-40^{\circ}\text{C} \leq T_a \leq 65^{\circ}\text{C}$	-40°C to 125°C
T5	$-40^{\circ}\text{C} \leq T_a \leq 70^{\circ}\text{C}$	-40°C to 95°C
T6	$-40^{\circ}\text{C} \leq T_a \leq 75^{\circ}\text{C}$	-40°C to 75°C

1.7 Europe

1.7.1 I1 ATEX Intrinsic Safety

Certificate	Sira 05ATEX2130X
Standards	EN 60079-0:2012 /A11:2013; EN 60079-1:2014; EN 60079-26:2015
Markings	 II 1 G D Ex ia IIC T5...T2 Ga Ex ia IIIC T85°C...T155°C Da II 1/2G Ex ib IIC T5...T2 Ga/Gb II 2D Ex ib IIIC T85°C...T155°C Db IP66

Safety parameter	Namur	8/16 mA
Voltage U_i	15 V	30 V
Current I_i	32 mA	93 mA
Power P_i	0.1 W	0.65 W
Capacitance C_i	211 nF	12 nF
Inductance L_i	0.06 mH	0.035 mH

Specific Conditions of Use (X):


- When the Vibrating Fork Liquid Level Sensor is used with process mediums that have a temperature in excess 80°C, then the internal temperature of the electronics enclosure shall not exceed this value.
- The following precautions are applicable dependent upon the material used to construct the enclosure:
 - Metallic enclosures - The metallic alloy used for the enclosure material may be at the accessible surface of this equipment; in the event of rare incidents, ignition sources due to impact and friction sparks could occur. This shall be considered when the Vibrating Fork Liquid Level Sensor is being installed in locations that specifically require group II, category 1G equipment.
 - Plastics enclosures - Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of the Vibrating Fork Liquid Level Sensor may generate an ignition-capable level of electrostatic charge. Therefore, when they are used for applications that specifically require group II, category 1 equipment, the Vibrating Fork Liquid Level Sensor 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 Vibrating Fork Liquid Level Sensor shall only be cleaned with a damp cloth.

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

Temperature class / Maximum surface temperature	Ambient temperature range (Ta)	Process temperature range (Tp)
Gas Groups Ga & Gb		
T3	$-40^{\circ}\text{C} \leq T_a \leq 50^{\circ}\text{C}$	-40°C to 150°C
T4	$-40^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$	-40°C to 115°C
T5	$-40^{\circ}\text{C} \leq T_a \leq 80^{\circ}\text{C}$	-40°C to 60°C
Dust Groups Da & Db		
T155°C	$-40^{\circ}\text{C} \leq T_a \leq 50^{\circ}\text{C}$	-40°C to 150°C
T120°C	$-40^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$	-40°C to 115°C
T85°C	$-40^{\circ}\text{C} \leq T_a \leq 70^{\circ}\text{C}$	-40°C to 60°C

1.7.2 E1 ATEX Flameproof

Certificate	Sira 05ATEX1129X
Standards	EN IEC 60079-0:2018/AC:2020-02; EN 60079-1:2014/AC:2018-09; EN 60079-26:2015; EN 60079-31:2014
Markings	 II 1/2 G D Ex db IIC T6...T2 Ga/Gb Ex tb IIIC T85 °C...T160 °C Db

Specific Conditions of Use (X):

1. The temperature class and the maximum surface temperature for dust (T**°C) are defined by the:

Temperature class / Maximum surface temperature	Ambient temperature range	Process temperature range
T3 (T160°C)	$-40^{\circ}\text{C} \leq T_a \leq 50^{\circ}\text{C}$	-40°C to 150°C
T4 (T135°C)	$-40^{\circ}\text{C} \leq T_a \leq 65^{\circ}\text{C}$	-40°C to 125°C
T5 (T100°C)	$-40^{\circ}\text{C} \leq T_a \leq 70^{\circ}\text{C}$	-40°C to 90°C
T6 (T85°C)	$-40^{\circ}\text{C} \leq T_a \leq 75^{\circ}\text{C}$	-40°C to 75°C

- When coated with a non-standard paint the enclosure is non-conducting and may generate an ignition-capable level of electrostatic charges under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.

1.8 International

1.8.1 I7 IECEx Intrinsic Safety

Certificate	IECEx SIR 06.0070X
Standards	IEC 60079-0:2011; IEC 60079-11:2011; IEC 60079-26:2014-10
Markings	Ex ia IIC T5...T2 Ga Ex ia IIIC T85 °C...T155 °C Da

Safety parameter	Namur	8/16 mA
Voltage U_i	15 V	30 V
Current I_i	32 mA	93 mA
Power P_i	0.1 W	0.65 W
Capacitance C_i	211 nF	12 nF
Inductance L_i	0.06 mH	0.035 mH

Specific Conditions of Use (X):

- Under certain extreme circumstances, the non-metallic parts of the equipment may be capable of generating an ignition-capable level of electrostatic charge. The equipment shall only be cleaned with a damp cloth.
- The applicable temperature class, ambient temperature range and process temperature range of the equipment is as follows:

Temperature class / Maximum surface temperature	Ambient temperature range (Ta)	Process temperature range (Tp)
Gas Groups Ga		
T3	$-40\text{ °C} \leq T_a \leq 50\text{ °C}$	-40 °C to 150 °C
T4	$-40\text{ °C} \leq T_a \leq 60\text{ °C}$	-40 °C to 115 °C
T5	$-40\text{ °C} \leq T_a \leq 80\text{ °C}$	-40 °C to 60 °C

Temperature class / Maximum surface temperature	Ambient temperature range (Ta)	Process temperature range (Tp)
Dust Groups Da		
T155°C	-40 °C ≤ Ta ≤ 50 °C	-40 °C to 150 °C
T120°C	-40 °C ≤ Ta ≤ 60 °C	-40 °C to 115 °C
T85°C	-40 °C ≤ Ta ≤ 70 °C	-40 °C to 60 °C

1.8.2 E7 IECEx Flameproof

Certificate	IECEx SIR 06.0051X
Standards	IEC 60079-0:2017; IEC 60079-1:2014-06; IEC 60079-26:2014-10; IEC 60079-31:2013
Markings	Ex db IIC T6...T2 Ga/Gb Ex tb IIIC T85 °C...T160 °C Db

Specific Conditions of Use (X):

1. The temperature class and the maximum surface temperature for dust (T**°C) are defined by the:

Temperature class / Maximum surface temperature	Ambient temperature range (Ta)	Process temperature range (Tp)
T3 (T160°C)	-40 °C ≤ Ta ≤ 50 °C	-40 °C to 150 °C
T4 (T135°C)	-40 °C ≤ Ta ≤ 65 °C	-40 °C to 125 °C
T5 (T100°C)	-40 °C ≤ Ta ≤ 70 °C	-40 °C to 90 °C
T6 (T85°C)	-40 °C ≤ Ta ≤ 75 °C	-40 °C to 75 °C

2. When coated with a non-standard paint the enclosure is non-conducting and may generate an ignition-capable level of electrostatic charges under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.

1.9 Republic of Korea

1.9.1 IP Intrinsic Safety

Certificate 13-KB4BO-0143X, 20-KA4BO-0962X

Markings Ex ia IIC T5...T3
Ta (see table in the certificate)

Safety parameter	8/16 mA
Voltage U_i	30 V
Current I_i	93 mA
Power P_i	0.65 W
Capacitance C_i	12 nF
Inductance L_i	0.035 mH

Specific Conditions of Use (X):

See certificate.

1.9.2 EP Flameproof

Certificate 13-KB4BO-0144X, 17-KA4BO-0243X, 20-KA4BO-0967X, 20-KA4BO-0968X

Markings Ex d IIC T6...T3 Ga/Gb
Ex tb IIIC T85°C ...T160°C
Ta (see table in the certificate)

Specific Conditions of Use (X):

See certificate.

1.10 China

1.10.1 I3 Intrinsic Safety

Certificate GYJ20.1389X (CCC 认证)

Markings Ex ia IIC T5~T3 Ga
Ex iaD 20 T85°C ~T155°C
Ta (see table in the certificate)

Specific Conditions of Use (X):

See certificate.

1.10.2 E3 Flameproof

Certificate	GYJ20.1390X (CCC 认证)
Markings	Ex d IIC T6...T3 Ga/Gb Ex tD A21 IP6X T85°C~160°C

Specific Conditions of Use (X):

See certificate.

1.11 Technical Regulations Customs Union (TR-CU)



TR CU 020/2011 "Electromagnetic Compatibility of Technical Products"

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

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

Certificate	EAЭC N RU Д-SE.PA01.B.01263_21 (Self Declaration) EAЭC RU C-SE.A653.B.00581_21
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TR CU 012/2011 "On safety of equipment intended for use in explosive atmospheres"

1.11.1 IM Technical Regulations Customs Union (EAC) Intrinsic Safety

Certificate	EAЭC RU-C-SE.AA87.B.0072221
Markings	0Ex ia IIC T5...T3 Ga X Ex ia IIIC T85°C...T155°C Da X Ta (see table in the certificate)

Specific Conditions of Use (X):

See certificate.

1.11.2 EM Technical Regulations Customs Union (EAC) Flameproof

Certificate	EAЭC RU-C-SE.AA87.B.0072221
Markings	Ga/Gb Ex db IIC T6...T3 X Ex tb IIIC T85°C...T160°C Db X Ta (see table in the certificate)

Specific Conditions of Use (X):

See certificate.

1.12 Brazil

1.12.1 I2 INMETRO Intrinsic Safety

Certificate	UL-BR 18.0441X
Standards	ABNT NBR IEC 60079-0:2013, ABNT NBR IEC 60079-11:2013, ABNT NBR IEC 60079-26:2016
Markings	Ex ia IIC T5...T2 Ga Ex ia IIIC T85°C...155°C Da Ta (see table in the certificate)

Specific Conditions of Use (X):

See certificate.

1.12.2 E2 INMETRO Flameproof

Certificate	UL-BR 18.0284X
Standards	ABNT NBR IEC 60079-0:2013, ABNT NBR IEC 60079-1:2016, ABNT NBR IEC 60079-26:2016, ABNT NBR IEC 60079-31:2014
Markings	Ex db IIC T6...T2 Ga/Gb Ex tb IIIC T85°C...T160°C Db Ta (see table in the certificate)

Specific Conditions of Use (X):

See certificate.

1.13 United Arab Emirates

1.13.1 Flameproof

Certificate	20-11-28736/Q20-11-001012
Markings	Same as IECEx (E7)

1.13.2 Intrinsic Safety

Certificate	20-11-28736/Q20-11-001012
Markings	Same as IECEx (I7)

1.14 India

1.14.1 Intrinsic Safety

Certificate	PESO P480759
Markings	Ex ia IIC T5...T2 Ga

1.14.2 Flameproof

Certificate	PESO P480759
Markings	Ex db IIC T6...T2 Ga/Gb

1.15 Additional certifications

1.15.1 QT Safety-certified to IEC 61508:2010 with certificate of FMEDA data

Certificate	exida ROS 20-09-098 C001
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1.15.2 Suitable for intended use

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

1.15.3 U1 German Overfill prevention (DiBT)

Certificate	Z-65.11-522
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1.15.4 Switzerland Overfill prevention (SVTI)

Certificate	KVU 302.010
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1.15.5 Belgium Overfill Certification (Vlarem)

Certificate	VIL-35-P017110041-NL-002
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1.15.6 American Bureau of Shipping (ABS) Type Approval

Certificate	18-GD1805959-PDA
Intended Service	Marine and Offshore Application – Level detection system used for high level or overfill alarm functions fitted on board of ACC and ACCU vessels.

1.15.7 Det Norske Veritas Germanischer Lloyd (DNV GL) Type Approval

Certificate	TAA00001RX
Intended Use	DNV GL rules for classification – Ships, offshore units, and high speed and light craft.

1.15.8 Russian Maritime Register of Shipping (RS) Type Approval

Certificate	21.10001.262
Intended Use	Products are intended for using on sea-going ships, floating constructions and fixed offshore platforms.

1.15.9 Korean Register (KR) Type Approval

Certificate	SGP34681-AE004
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1.15.10 Canadian Registration Number (CRN)

Certificate	0F04227.2C
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The requirements of CRN are met when a Rosemount 2120 CSA-approved vibrating fork level switch model is configured with 316/316L stainless steel (1.4401/1.4404) process-wetted parts and either NPT threaded or 2-in. to 4-in. ASME B16.5 flanged process connections.

1.16 Hygienic certificates and approvals

1.16.1 QA 3-A®

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

1.16.2 QE EHEDG

Certificate Number	EHEDG-C2200010
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Certification Type	EL CLASS I
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1.16.3 QH FDA 21

1.16.4 QB ASME-BPE

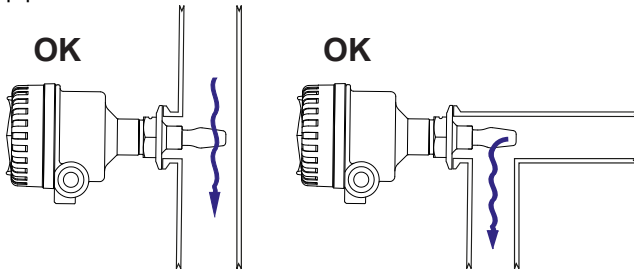
1.16.5 EC 1935/2004

1.16.6 Instructions for hygienic installations

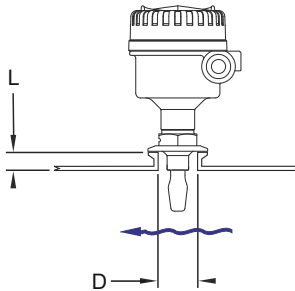
It is the responsibility of the user to ensure:

1. The materials listed in [Materials of construction](#) are suitable for the media and cleaning/sanitisation processes.
2. The installation of the level switch is drainable and cleanable.

3. That the joint requirements between the fork and the vessel/pipe are compatible with the process media, applicable standards, and code of practice.
4. The product contact surfaces are not scratched.
5. The level switch is suitable for installation on pipeline (with fork gap in line with the flow) and on closed vessels (with the fork gap vertical). EHEDG only recommend horizontal stub mounting in pipelines:



6. 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.
7. If the level switch is installed in a stub then to ensure cleanability, the length (L) must meet the criteria $L < (D - 23)$, where D is the stub diameter.



1.16.7 Materials of construction

The hygienic approvals and certificates of the level switch relies upon the following materials used in its construction:

Table 1-1: Product contact surfaces

Item	Material
Fork	Stainless steel 316/316L

Table 1-2: Non-product contact surfaces

Item	Material
Enclosure (metal)	Aluminum alloy ASTM B85 360.0 or ANSI AA360.0
Enclosure (plastic)	Glass-filled (30%) nylon 66
Seals	Silicone, Nitrile rubber and polyethylene
Cable entry devices	Nylon (PA6)

1.16.8 Clean-In-Place (CIP)

Withstands cleaning routines up to 160 °F (71 °C)

1.16.9 Steam-In-Place (SIP) cleaning

Withstands cleaning routines up to 275 °F (135 °C)

Figure 1-3: 71097/1179 – CSA Intrinsically Safe Control Drawing

ORIGINAL FORMAT A3

INTRINSICALLY SAFE APPARATUS

HAZARDOUS LOCATION

CLASS 1, ZONE 0, 1, 2 GROUPS Ia, Ib, II, C, D

NON-INCENDIOUS APPARATUS

CLASS 1, ZONE 2, GROUPS Ia, Ib, II, C, D

$$2100^{\circ}\text{C}^{\circ}\text{m}^{-1} \times 2100^{\circ}\text{m}^{-1} = 2100^{\circ}\text{m}^{-2}$$

Temperature Classes		Maximum Process Temperature (T _p)	
Temperature Class	Temperature (T _p)	Temperature Class	Temperature (T _p)
T ₁ , T ₂ , T ₃ , T ₄	60°C	T ₁ , T ₂ , T ₃ , T ₄	60°C
T ₅ , T ₆ , T ₇ , T ₈	75°C	T ₅ , T ₆ , T ₇ , T ₈	75°C
T ₉ , T ₁₀ , T ₁₁ , T ₁₂	90°C	T ₉ , T ₁₀ , T ₁₁ , T ₁₂	90°C
T ₁₃ , T ₁₄ , T ₁₅ , T ₁₆	115°C	T ₁₃ , T ₁₄ , T ₁₅ , T ₁₆	115°C
T ₁₇ , T ₁₈ , T ₁₉ , T ₂₀	150°C	T ₁₇ , T ₁₈ , T ₁₉ , T ₂₀	150°C

Minimum Ambient Air Temperature (T_a) = 40°C
Minimum Process Temperature (T_p) = 40°C

UNIT ENTITY CONCEPT PARAMETERS CUL DIV. CUL ZND.1	
DESCRIPTION	VALUE
MAXIMUM INPUT VOLTAGE (U _i)	15V
MAXIMUM INPUT CURRENT (I _i)	32mA
MAXIMUM INPUT POWER (P _i)	0.1W
INTERNAL CAPACITANCE (C _i)	21pF
INTERNAL INDUCTANCE (L _i)	21nH
UNIT ENTITY CONCEPT PARAMETERS CUL DIV. CUL ZND.2	
DESCRIPTION	VALUE
MAXIMUM INPUT VOLTAGE (U _i)	15V
INTERNAL CAPACITANCE (C _i)	21pF
INTERNAL INDUCTANCE (L _i)	21nH

NOTES:

1. IN ACCORDANCE WITH CANADIAN ELECTRICAL CODE REQUIREMENTS, APPARATUS FOR INSTALLATION OF INTRINSICALLY SAFE CIRCUITS OR FOR THE INTRINSICALLY SAFE EQUIPMENT INSTALLATION PRACTICE IN THE COUNTRY OF USE.

2. UNLESS OTHERWISE SPECIFIED, THE ASSOCIATED CERTIFIED APPARATUS SHALL BE CONSIDERED TO BE A SOURCE OF POTENTIAL WITH RESPECT TO GROUND IN EXCESS OF 250V RMS OR 350V AC.

3. EITHER

A) AN APPROVED SINGLE CHANNEL ISOLATOR OR ONE CHANNEL OF A MULTI-CHANNEL ISOLATOR, OR

B) ANY ASSOCIATED CERTIFIED EQUIPMENT WITH AN INTRINSICALLY SAFE OUTPUT VOLTAGE THAT DOES NOT EXCEED THE DESIGNATED VOLTAGE.

4. THE ELECTRICAL CIRCUIT IN THE HAZARDOUS LOCATION MUST BE CAPABLE OF WITHSTANDING A 100V AC VOLTAGE OF 500 RMS TO GROUND ON THE FRAME OF THE APPARATUS FOR 1 MINUTE.

5. THE ASSOCIATED CERTIFIED APPARATUS SHALL BE CONSIDERED TO BE A SOURCE OF POTENTIAL WITH RESPECT TO GROUND IN EXCESS OF 250V RMS OR 350V AC. THE ASSOCIATED CERTIFIED APPARATUS SHALL BE CONSIDERED TO BE A SOURCE OF POTENTIAL WITH RESPECT TO GROUND IN EXCESS OF 250V RMS OR 350V AC. THE ASSOCIATED CERTIFIED APPARATUS SHALL BE CONSIDERED TO BE A SOURCE OF POTENTIAL WITH RESPECT TO GROUND IN EXCESS OF 250V RMS OR 350V AC. THE ASSOCIATED CERTIFIED APPARATUS SHALL BE CONSIDERED TO BE A SOURCE OF POTENTIAL WITH RESPECT TO GROUND IN EXCESS OF 250V RMS OR 350V AC.

ALL THE GATE.

CERTIFIED PRODUCT

ALTERATIONS TO THIS DOCUMENT SHALL BE MADE FOR IMPLEMENTATION

$$2100^{\circ}\text{C}^{\circ}\text{m}^{-1} \times 2100^{\circ}\text{m}^{-1} = 2100^{\circ}\text{m}^{-2}$$

Temperature Classes		Maximum Process Temperature (T _p)	
Temperature Class	Temperature (T _p)	Temperature Class	Temperature (T _p)
T ₁ , T ₂ , T ₃ , T ₄	60°C	T ₁ , T ₂ , T ₃ , T ₄	60°C
T ₅ , T ₆ , T ₇ , T ₈	75°C	T ₅ , T ₆ , T ₇ , T ₈	75°C
T ₉ , T ₁₀ , T ₁₁ , T ₁₂	90°C	T ₉ , T ₁₀ , T ₁₁ , T ₁₂	90°C
T ₁₃ , T ₁₄ , T ₁₅ , T ₁₆	115°C	T ₁₃ , T ₁₄ , T ₁₅ , T ₁₆	115°C
T ₁₇ , T ₁₈ , T ₁₉ , T ₂₀	150°C	T ₁₇ , T ₁₈ , T ₁₉ , T ₂₀	150°C

Minimum Ambient Air Temperature (T_a) = 40°C
Minimum Process Temperature (T_p) = 40°C

Diagram showing a loop powered transmitter connected to a cable, which is then connected to a non-hazardous location. The diagram includes terminals 1 and 2, a cable, and a non-hazardous location. Notes 1, 2, 3, 4, and 5 are indicated.

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$$2100^{\circ}\text{C}^{\circ}\text{m}^{-1} \times 2100^{\circ}\text{m}^{-1} = 2100^{\circ}\text{m}^{-2}$$

Temperature Classes		Maximum Process Temperature (T _p)	
Temperature Class	Temperature (T _p)	Temperature Class	Temperature (T _p)
T ₁ , T ₂ , T ₃ , T ₄	60°C	T ₁ , T ₂ , T ₃ , T ₄	60°C
T ₅ , T ₆ , T ₇ , T ₈	75°C	T ₅ , T ₆ , T ₇ , T ₈	75°C
T ₉ , T ₁₀ , T ₁₁ , T ₁₂	90°C	T ₉ , T ₁₀ , T ₁₁ , T ₁₂	90°C
T ₁₃ , T ₁₄ , T ₁₅ , T ₁₆	115°C	T ₁₃ , T ₁₄ , T ₁₅ , T ₁₆	115°C
T ₁₇ , T ₁₈ , T ₁₉ , T ₂₀	150°C	T ₁₇ , T ₁₈ , T ₁₉ , T ₂₀	150°C


Minimum


Figure 1-4: 71097/1315 – CSA Intrinsically Safe Control Drawing

[illegible]

1.18 EU Declaration of Conformity

Figure 1-5: EU Declaration of Conformity





EU Declaration of Conformity

No: RMD 1078 Rev. N

We,

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

declare under our sole responsibility that the product,


Rosemount™ 2120 Series 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)

Dajana Prastalo
(name)

Manager Product Approvals

(function)

1/04/2022;
(date of issue)

Page 1 of 4

en



EU Declaration of Conformity
No: RMD 1078 Rev. N

EMC Directive (2014/30/EU)

Rosemount 2120*K***** (Namur cassette)**
Harmonized Standards: EN 61326-1:2013; EN 61326-2-3:2013;
EN 60947-5-6:2001

Rosemount 2120*V***** (Relay Mains cassette)**
Rosemount 2120*G***** (PNP/PLC cassette)**
Rosemount 2120*H***** (8/16mA cassette)**
Harmonized Standards: EN 61326-1:2013; EN 61326-2-3:2013
Other Standards used: EN61326-3-1 :2008

Rosemount 2120*E***** (Relay 12Vdc cassette)**
Rosemount 2120*T***** (Direct Load cassette)**
Harmonized Standards: EN 61326-1:2013; EN 61326-2-3:2013

LV Directive (2014/35/EU)

Rosemount 2120*V***** (Relay Mains cassette)**
Rosemount 2120*T***** (Direct Load cassette)**
Harmonized Standards: EN 61010-1:2010



EU Declaration of Conformity

No: RMD 1078 Rev. N

ATEX Directive (2014/34/EU)

Rosemount 2120*K*I1***** (Namur cassette)**

Rosemount 2120*H*I1***** (8/16mA cassette)**

Sira 05ATEX2130X – Intrinsically safe (Gas & Dust)

Equipment Group II, Category 1 GD Ex ia IIC T5...T2 Ga

Ex ia IIIC T85°C...T265°C Da

Harmonized Standards: EN 60079-0:2012/A11:2013; EN 60079-11:2012;

EN 60079-26:2015

Rosemount 2120*K*I8*****; Rosemount 2120***K*I8*****R2364 (Namur cassette)**

Rosemount 2120*H*I8*****; Rosemount 2120***H*I8*****R2634 (8/16mA cassette)**

Sira 05ATEX2130X – Intrinsically safe (Gas & Dust)

Equipment Group II, Category 1/2G Ex ib IIC T5...T2 Ga/Gb

Equipment Group II, Category 2D Ex ib IIIC T85°C...T265°C Db

Harmonized Standards: EN 60079-0:2012/A11:2013; EN 60079-11:2012;

EN 60079-26:2015

Rosemount 2120***E1X*****; Rosemount 2120*****E1S***** (All cassettes, M20 conduits)**

Sira 05ATEX1129X – Flameproof

Equipment Group II, Category 1/2 GD Ex db IIC T6...T2 Ga/Gb

Ex tb IIIC T85°C...T265°C Db

Harmonized Standards: EN IEC 60079-0:2018/AC:2020; EN 60079-1:2014/AC:2018;

EN 60079-26:2015; EN 60079-31:2014

RoHS Directive (2011/65/EU)

The Model 2120 is in conformity with Directive 2011/65/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

(Minor variations in design to suit the application and/or mounting requirements are identified by alpha/numeric characters where indicated * above)



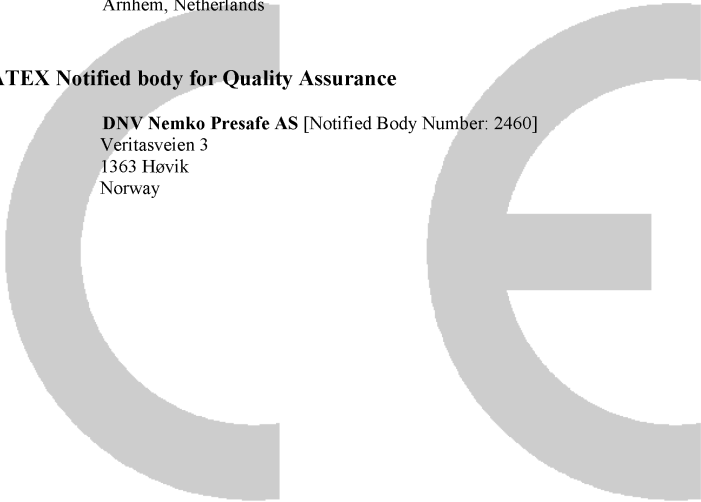
EU Declaration of Conformity
No: RMD 1078 Rev. N

ATEX Directive Notified Body

CSA Group Netherlands B.V. [Notified Body Number: 2813]
Utrechtseweg 310, 6812 AR,
Arnhem, Netherlands

ATEX Notified body for Quality Assurance

DNV Nemko Presafe AS [Notified Body Number: 2460]
Veritasveien 3
1363 Høvik
Norway



1.19 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 2120
List of Rosemount 2120 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	O	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
00825-0300-4030, Rev. AC
March 2022

For more information: [Emerson.com](https://www.emerson.com)

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