

Rosemount™ 2120 Level Switch

Vibrating Fork



1 Product certifications

Rev 8.23

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](https://www.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 Environmental conditions

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

Type	Description
Location	Indoor or outdoor use, wet
Maximum altitude	6562 ft. (2000 m)
Ambient temperature	-40 to 176 °F (-40 to 80 °C)
Electrical supply/load	20-264 Vac 50-60 Hz, 20-60 Vdc, 500 mA
Mains supply voltage fluctuations	Safe at ±10%
Overtoltage category	II @ 264 Vmax, III @ 150 Vmax
Pollution degree	Housing code A, D: 2 Housing code X, Y, S, T: 4

1.5 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.

1.6 U.S.A.

1.6.1 G5 Ordinary Location

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

1.6.2 IS 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

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

Specific Conditions of Use (X):

1. 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 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

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

1.7 Canada

1.7.1 G6 Ordinary location

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

1.7.2 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); 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

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

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

1.7.3 E6 Explosion-proof


Certificate	80051772
Standards	CSA Std C22.2 No. 0-M91(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); ANSI/ISA - 12.27.01-2003
Markings	Class I, Division 1, Groups A, B, C, and D, T6...T3 Type 4X. Single Seal.

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	$-40\text{ °C} \leq T_a \leq 50\text{ °C}$	-40 °C to 150 °C
T4	$-40\text{ °C} \leq T_a \leq 65\text{ °C}$	-40 °C to 125 °C
T5	$-40\text{ °C} \leq T_a \leq 70\text{ °C}$	-40 °C to 90 °C
T6	$-40\text{ °C} \leq T_a \leq 75\text{ °C}$	-40 °C to 75 °C

1.8 Europe

1.8.1 I1 ATEX Intrinsic Safety

Certificate	Sira 05ATEX2130X
Standards	EN IEC 60079-0:2018; EN 60079-11:2012; EN 60079-26:2015
Markings	 II 1 G D Ex ia IIC T5...T3 Ga 8/16 mA: Ex ia IIIC T ₂₀₀ 85°C...T ₂₀₀ 155°C Da (metallic enclosure) 8/16 mA: Ex ia IIIC T ₂₀₀ 90°C...T ₂₀₀ 155°C Da (plastic enclosure) NAMUR: Ex ia IIIC T ₂₀₀ 85°C...T ₂₀₀ 155°C Da 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	12 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.

2. 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 temperature class and the maximum surface temperature for dust (T**°C) are defined by the appropriate ambient temperature and process temperature and are given in the charts below:

Temperature class / Maximum surface temperature	Ambient temperature range (Ta)	Process temperature range (Tp)
Gas Groups Ga		
T3	-40 °C ≤ Ta ≤ 50 °C	-40 °C to 150 °C
T4	-40 °C ≤ Ta ≤ 60 °C	-40 °C to 115 °C
T5	-40 °C ≤ Ta ≤ 80 °C	-40 °C to 60 °C
Dust Groups Da		
T ₂₀₀ 155°C	-40 °C ≤ Ta ≤ 50 °C	-40 °C to 150 °C
T ₂₀₀ 120°C	-40 °C ≤ Ta ≤ 60 °C	-40 °C to 115 °C
NAMUR: T ₂₀₀ 85°C 8/16 mA: T ₂₀₀ 85°C ⁽¹⁾ 8/16 mA: T ₂₀₀ 90°C ⁽²⁾	NAMUR: -40 °C ≤ Ta ≤ 80 °C 8/16 mA: -40 °C ≤ Ta ≤ 64 °C	-40 °C to 60 °C

(1) *Metallic enclosure.*

(2) Plastic enclosure.

1.8.2 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...T3 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 appropriate ambient temperature and process temperature and are given in the chart below:

Temperature class / Maximum surface temperature	Ambient temperature range	Process temperature range
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 International

1.9.1 I7 IECEX Intrinsic Safety

Certificate	IECEX SIR 06.0070X
Standards	IEC 60079-0:2017; IEC 60079-11:2011
Markings	Ex ia IIC T5...T3 Ga 8/16 mA: Ex ia IIIC T ₂₀₀ 85°C...T ₂₀₀ 155°C Da (metallic enclosure) 8/16 mA: Ex ia IIIC T ₂₀₀ 90°C...T ₂₀₀ 155°C Da (plastic enclosure) NAMUR: Ex ia IIIC T ₂₀₀ 85°C...T ₂₀₀ 155°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	12 nF	12 nF
Inductance L _i	0.06 mH	0.035 mH

Specific Conditions of Use (X):

1. 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.
2. 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.

- The temperature class and the maximum surface temperature for dust (T**°C) are defined by the appropriate ambient temperature and process temperature and are given in the charts below:

Temperature class / Maximum surface temperature	Ambient temperature range (Ta)	Process temperature range (Tp)
Gas Groups Ga		
T3	-40 °C ≤ Ta ≤ 50 °C	-40 °C to 150 °C
T4	-40 °C ≤ Ta ≤ 60 °C	-40 °C to 115 °C
T5	-40 °C ≤ Ta ≤ 80 °C	-40 °C to 60 °C
Dust Groups Da		
T ₂₀₀ 155°C	-40 °C ≤ Ta ≤ 50 °C	-40 °C to 150 °C
T ₂₀₀ 120°C	-40 °C ≤ Ta ≤ 60 °C	-40 °C to 115 °C
NAMUR: T ₂₀₀ 85°C 8/16 mA: T ₂₀₀ 85°C ⁽¹⁾ 8/16 mA: T ₂₀₀ 90°C ⁽²⁾	NAMUR: -40 °C ≤ Ta ≤ 80 °C 8/16 mA: -40 °C ≤ Ta ≤ 64 °C	-40 °C to 60 °C

- Metallic enclosure.*
- Plastic enclosure.*

1.9.2 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...T3 Ga/Gb Ex tb IIIC T85 °C...T160 °C Db

Specific Conditions of Use (X):

- The temperature class and the maximum surface temperature for dust (T**°C) are defined by the appropriate ambient temperature and process temperature and are given in the chart below:

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

- 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.

1.10 Republic of Korea

1.10.1 IP Intrinsic Safety

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

Markings Ex ia IIC T5...T3 Ga
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.

1.10.2 EP Flameproof

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

Markings Ex db IIC T6...T3 Ga/Gb

Ex tb IIIC T85°C ...T160°C Db
Ta (see table in the certificate)

Specific Conditions of Use (X):

See certificate.

1.11 China

1.11.1 I3 Intrinsic Safety

Certificate GYJ20.1389X (CCC)

Markings Ex ia IIC T5...T3 Ga – All Models
Ex ia IIIC T₂₀₀85°C...T₂₀₀155°C Da – NAMUR Models fitted in either metallic or non-metallic housings
Ex ia IIIC T₂₀₀85°C...T₂₀₀155°C Da – 8/16mA Models fitted in metallic housings only
Ex ia IIIC T₂₀₀90°C...T₂₀₀155°C Da – 8/16mA Models fitted in non-metallic housings only

Specific Conditions of Use (X):

See certificate.

1.11.2 E3 Flameproof

Certificate GYJ20.1390X (CCC)

Markings Ex db IIC T6...T3 Ga/Gb
Ex tb IIIC T85°C...T160°C Db

Specific Conditions of Use (X):

See certificate.

1.12 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 KZ 7500525.01.01.01708



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

1.12.1 IM Technical Regulations Customs Union (EAC) Intrinsic Safety

Certificate	EAЭC KZ 7500525.01.01.00939
Markings	0Ex ia IIC T5...T2 Ga X Ex ia IIIC T ₂₀₀ 85°C...T ₂₀₀ 155°C Da X Ta (see table in the certificate)

Specific Conditions of Use (X):

See certificate.

1.12.2 EM Technical Regulations Customs Union (EAC) Flameproof

Certificate	EAЭC KZ 7500525.01.01.00939
Markings	0/1Ex db IIC T6...T3 Ga/Gb X Ex tb IIIC T85°C...T160°C Db X Ta (see table in the certificate)

Specific Conditions of Use (X):

See certificate.

1.13 Brazil

1.13.1 I2 INMETRO Intrinsic Safety

Certificate	UL-BR 18.0441X (Sweden), UL-BR 23.0981X (USA)
Standards	ABNT NBR IEC 60079-0:2020, ABNT NBR IEC 60079-11:2017, ABNT NBR IEC 60079-26:2016
Markings	Ex ia IIC T5...T3 Ga Ex ia IIIC T85°C...T155°C Da Ta (see table in the certificate)

Specific Conditions of Use (X):

See certificate.

1.13.2 E2 INMETRO Flameproof

Certificate	UL-BR 18.0284X (Sweden), UL-BR 23.0982X (USA)
Standards	ABNT NBR IEC 60079-0:2020, ABNT NBR IEC 60079-1:2020, ABNT NBR IEC 60079-26:2016, ABNT NBR IEC 60079-31:2014
Markings	Ex db IIC T6...T3 Ga/Gb Ex tb IIIC T85°C...T160°C Db Ta (see table in the certificate)

Specific Conditions of Use (X):

See certificate.

1.14 Japan

1.14.1 I4 Japan Intrinsic Safety

Certificate	CML 23JPN2030X
Standards	JNIOSH-TR-46-1:2020, JNIOSH-TR-46-6:2015
Markings	Ex ia IIC T5...T3 Ga Ta (see table in the certificate)

Specific Conditions of Use (X):

See certificate.

1.14.2 E4 Japan Flameproof

Certificate	CML 22JPN1264X
Standards	JNIOSH-TR-46-1:2020, JNIOSH-TR-46-2:2018
Markings	Ex db IIC T6...T3 Ga/Gb Ta (see table in the certificate)

Specific Conditions of Use (X):

See certificate.

1.15 United Arab Emirates

1.15.1 Flameproof

Certificate	23-11-22694/Q23-11-048838/NB0002, 23-11-22710/Q23-11-048839/NB0002,
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	24-01-22812/Q23-11-048840/NB0002, 23-11-22737/Q23-12-048887/NB0002
Markings	Same as IECEx (E7)

1.15.2 Intrinsic Safety

Certificate	23-11-22694/Q23-11-048838/NB0002, 23-11-22710/Q23-11-048839/NB0002, 24-01-22812/Q23-11-048840/NB0002, 23-11-22737/Q23-12-048887/NB0002
Markings	Same as IECEx (I7)

1.16 India

1.16.1 IW Intrinsic Safety

Certificate	PESO P480759/2
Markings	Ex ia IIC T5...T3 Ga

1.16.2 EW Flameproof

Certificate	PESO P480759/1
Markings	Ex db IIC T6...T3 Ga/Gb

1.17 Marine Type Approvals

1.17.1 American Bureau of Shipping (ABS) Type Approval

Certificate	22-2288029-PDA
Intended Service	Marine and Offshore Application – Level detection system used for high level or overflow alarm functions fitted on board of ACC and ACCU vessels.

1.17.2 Det Norske Veritas (DNV) Type Approval

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

1.17.3 Korean Register (KR) Type Approval

Certificate	SGP34681-AE004
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1.18 Functional safety

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

Certificate exida ROS 20-09-098 C001

1.19 NAMUR Compliance

Suitable for intended use

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

1.20 Overfill prevention

1.20.1 U1 Germany – WHG

Certificate Z-65.11-522

Application TÜV tested and approved by DIBt for overfill prevention according to the German WHG regulations.

1.20.2 Switzerland -SVTI

Certificate KVV 302.043

1.20.3 Belgium - Vlare

Certificate VIL/35/P017110041/NL/002

Standards Vlare II Chapter 5.17
Vlare II Annex 5.17.7

1.21 Pressure approvals

1.21.1 Canadian Registration Number (CRN)

Certificate 0F04227.2C

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.

1.22 Hygienic certificates and approvals

1.22.1 QA 3-A®

Certificate Authorization Number 3626

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

1.22.2 QE EHEDG

Certificate Number EHEDG-C2200010

Certification Type EL CLASS I

1.22.3 QH FDA 21

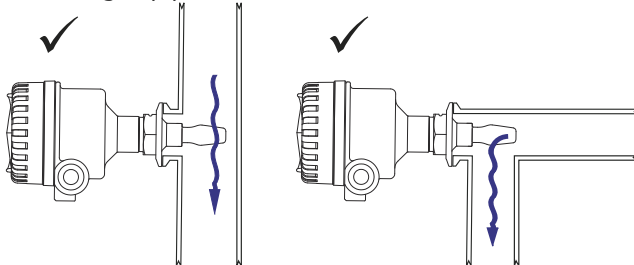
1.22.4 QB ASME-BPE

1.22.5 EC 1935/2004

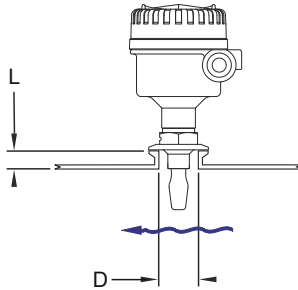
1.22.6 Instructions for hygienic installations

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.



1.22.7 Materials of construction

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

Table 1-2: Product contact surfaces

Item	Material
Fork	Stainless steel 316/316L

Table 1-3: 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)

1.22.8 Clean-In-Place (CIP)

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

1.22.9 Steam-In-Place (SIP) cleaning

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

1.23 Control drawings

Figure 1-1: 71097/1154 – FM Intrinsically Safe Control Drawing

ORIGINALFORMAT A3

INTRINSICALLY SAFE APPARATUS

HAZARDOUS LOCATION
CLASS 1, DIVISION 1 & 2, GROUPS A, B, C, D
CLASS 1, ZONES 0, 1 & 2, GROUPS I, II, IIC, III

2130N**C** 2120T**K**

Temperature Classes	Minimum Ambient Air Temperature (Ta)	Maximum Process Temperature (Tb)	Maximum Process Temperature (Tc)
T5, T4, T3, T2, T1	80°C	60°C	80°C
T4, T3, T2, T1	80°C	115°C	115°C
T3, T2, T1	71°C	150°C	150°C
T2, T1	50°C	150°C	200°C

Minimum Ambient Air Temperature (Ta) = -50°C
Minimum Process Temperature (Tb) = -10°C

2130N**E*****S*

Temperature Classes	Minimum Ambient Air Temperature (Ta)	Maximum Process Temperature (Tb)	Maximum Process Temperature (Tc)
T5, T4, T3, T2, T1	80°C	80°C	80°C
T4, T3, T2, T1	69°C	115°C	115°C
T3, T2, T1	50°C	150°C	150°C

Minimum Ambient Air Temperature (Ta) = -50°C
Minimum Process Temperature (Tb) = -40°C

ASSOCIATED APPARATUS

NON-HAZARDOUS LOCATION

APPROVED SINGLE CHANNEL ISOLATOR OR ONE CHANNEL OF MULTI-CHANNEL APPROVED APPARATUS. SEE TABLE 1 FOR ENTITY CONCEPT PARAMETERS.

APPROVED SINGLE CHANNEL ISOLATOR OR ONE CHANNEL OF MULTI-CHANNEL APPROVED APPARATUS. SEE TABLE 1 FOR ENTITY CONCEPT PARAMETERS.

NON-HAZARDOUS LOCATION IT MUST NOT BE SUPPLIED FROM A SOURCE UNDER NORMAL OR ABNORMAL CONDITIONS, A SOURCE OF INTERNAL CAPACITANCE TO GROUND IN EXCESS OF 250V RMS OR 250V DC.

AN I.S. SAFETY EARTH IS NOT REQUIRED WHEN A GALVANIC ISOLATOR IS USED. WHEN A SAFETY EARTH IS PROVIDED, IT MAY BE GATED AT ONE POINT ONLY OR NOT AT ALL.

ISSUE	MOF. ORDER NO.	WEEK	ISILE	WEEK	MOF. ORDER NO.	WEEK	ISILE	MOF. ORDER NO.	WEEK
10	MOB-02714	41							

TABLE 1

DESCRIPTION	VALUE
MAXIMUM INPUT VOLTAGE (Ui)	15V
MAXIMUM INPUT CURRENT (Ii)	0.1W
MAXIMUM INPUT POWER (Pi)	0.1W
INTERNAL CAPACITANCE (Ci)	21PF
INTERNAL INDUCTANCE (Li)	0.05mH

DESCRIPTION	VALUE
MAXIMUM INPUT VOLTAGE (Umax)	15V
MAXIMUM INPUT CURRENT (Imax)	21PF
INTERNAL CAPACITANCE (Cmax)	21PF
INTERNAL INDUCTANCE (Lmax)	0.05mH

NOTES-

1. INSTALLATION OF EQUIPMENT TO BE IN ACCORDANCE WITH NEC ARTICLES 504 AND 505 AND ISAR P1028 RECOMMENDED PRACTICE FOR INSTALLATION OF INTRINSICALLY SAFE CIRCUITS.
2. THE ELECTRICAL CIRCUIT IN THE HAZARDOUS LOCATION MUST BE CAPABLE OF WITHSTANDING A SHORT CIRCUIT TO GROUND OF 300V RMS TO GROUND ON THE FRAME OF THE APPARATUS FOR 1 MINUTE.
3. THE ENTITY CONCEPT ALLOWS INTERCOMBINATION OF INTRINSICALLY SAFE APPARATUS NOT SPECIFICALLY EXAMINED IN COMBINATION AS A SYSTEM WHEN THE APPROVED VALUES OF (Ui, Ii) AND (Umax, Imax) OF THE ASSOCIATED APPARATUS ARE NOT EXCEEDED. THE APPROVED VALUES OF Ci AND Li OF THE ASSOCIATED SAFE APPARATUS AND THE APPROVED VALUES OF Cmax AND Lmax OF THE ASSOCIATED APPARATUS ARE GREATER THAN THE TOTAL VALUES Ci AND Li OF ALL THE INTRINSICALLY SAFE APPARATUS INCLUDING ALL THE COILS.
4. FOR FURTHER INFORMATION REFER TO MANUAL:
 - 2130 00650-0100-4130
 - 2130 00650-0100-4130
5. CABLE CAPACITANCE AND INDUCTANCE PLUS THE I.S. APPARATUS UNPROTECTED CAPACITANCE (Ci) AND INDUCTANCE (Li) MUST NOT EXCEED THE ALLOWED CAPACITANCE (Cmax) AND INDUCTANCE (Lmax) INDICATED ON THE ASSOCIATED APPARATUS.
6. SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.
7. NON-INCLUSIVE-
 - INSTALLATION OF EQUIPMENT TO BE IN ACCORDANCE WITH NEC ARTICLES 501 & 505.
 - INSTALLATION IS NOT PERMITTED USING ANY OF THE WIRING METHODS PERMITTED FOR UNCLASSIFIED LOCATION.

PRELIMINARY

A

DESIGNED BY	mb	WEEK	25	PRODUCT CODE	X	MATERIAL	
APPROVED BY	X	WEEK	0	DOC. TYPE	ACAD	FILE	
FOR MACHINING: SD 2748		FOR ASSEMBLY: SD 2748		FOR WELDING: SS-SI 80 1300 A, L		SCALE	1:1
						ISSUE NO.	71097/1154
						ISSUE DATE	10 / 11

ROSE MOUNT

FM INTRINSICALLY SAFE CONTROL DRAWING 21202130

THIS IS A PRELIMINARY DRAWING. IT IS SUBJECT TO CHANGE WITHOUT NOTICE.

Figure 1-2: 71097/1314 – FM Intrinsically Safe Control Drawing

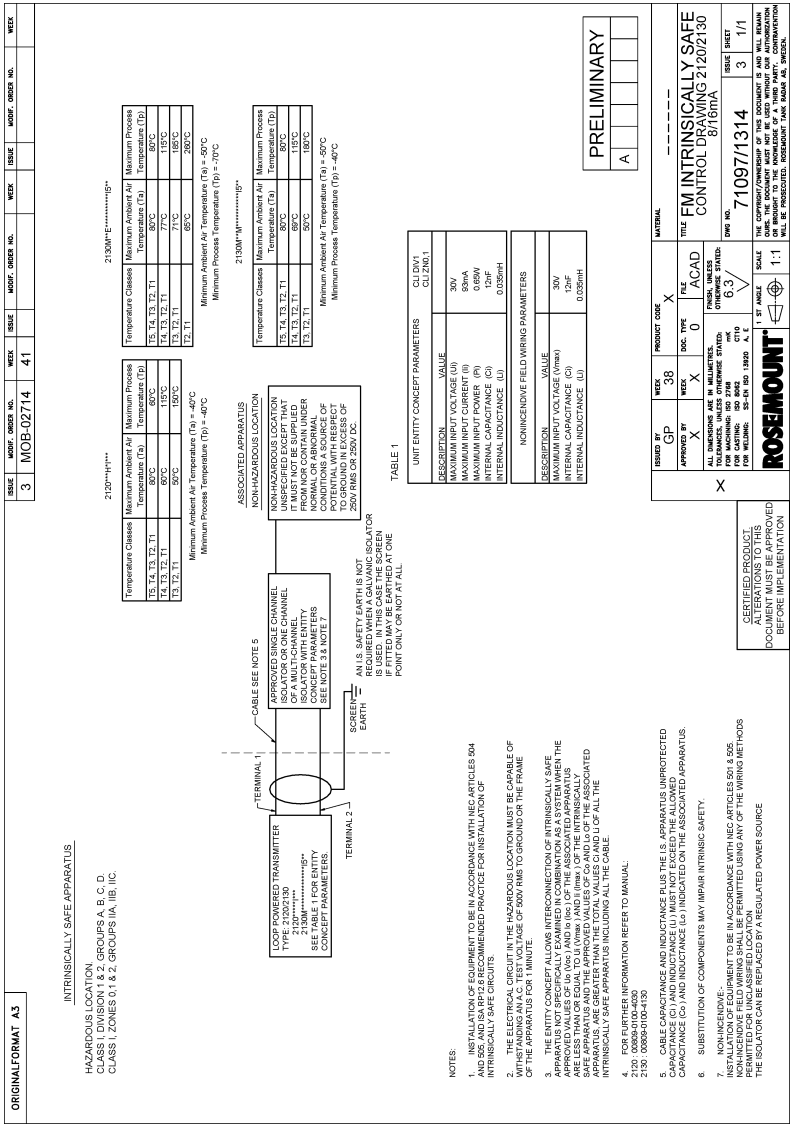


Figure 1-3: 71097/1179 – CSA Intrinsically Safe Control Drawing

ORIGINAL FORMAT A3

WEEK: **7** | MOUNT CODE NO.: **MOBY-03927** | WEEK: **26** | ISSUE: **1** | WIPK: **MOBY-03927-01** | WEEK: **1**

2130™ "C"....."g"
 2130™ "C"....."g"
 2130™ "C"....."g"
 2130™ "C"....."g"

2130™ "C"....."g"
 2130™ "C"....."g"
 2130™ "C"....."g"
 2130™ "C"....."g"

2130™ "C"....."g"
 2130™ "C"....."g"
 2130™ "C"....."g"
 2130™ "C"....."g"

2130™ "C"....."g"
 2130™ "C"....."g"
 2130™ "C"....."g"
 2130™ "C"....."g"

INTRINSICALLY SAFE APPARATUS

HAZARDOUS LOCATION
 CLASS 1, ZONES 0, 1, 2 GROUPS A, B, C, D
 CLASS 1, ZONES 0, 1, 2 GROUPS IA, IIB, IIC, IIC
NON-INDUCIVE APPARATUS
 CLASS 1, ZONES 0, 1, 2 GROUPS A, B, C, D
HAZARDOUS LOCATION
 CLASS 1, ZONES 2, GROUPS IA, IIB, IIC

Temperature Classes		Maximum Ambient Air Temperature (Ta)	Maximum Process Temperature (Tb)	Maximum Ambient Air Temperature (Ta)	Maximum Process Temperature (Tb)
T5, T4, T3, T2, T1	15°C	80°C	50°C	115°C	150°C
T4, T3, T2, T1	15°C	80°C	50°C	115°C	150°C
T3, T2, T1	15°C	80°C	50°C	115°C	150°C
T2, T1	15°C	80°C	50°C	115°C	150°C

Minimum Ambient Air Temperature (Ta) = -40°C
 Minimum Process Temperature (Tb) = -40°C

UNIT ENTITY CONCEPT PARAMETERS C.L1 D1 Z1 0.1

DESCRIPTION	VALUE
MAXIMUM INPUT VOLTAGE (U)	320VAC
MAXIMUM INPUT CURRENT (I)	0.1W
INTERNAL CAPACITANCE (C)	21nF
INTERNAL INDUCTANCE (L)	0.06mH

UNIT ENTITY CONCEPT PARAMETERS C.L1 D1 Z1 2

DESCRIPTION	VALUE
MAXIMUM INPUT VOLTAGE (Umax)	15V
INTERNAL CAPACITANCE (C)	21nF
INTERNAL INDUCTANCE (L)	0.06mH

NOTES:

1. INSTALLATION OF EQUIPMENT INCLUDING ANY GROUNDING ARRANGEMENT TO BE MADE SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE FOR INSTALLATION OF INTRINSICALLY SAFE CIRCUITS, OR THE INTRINSICALLY SAFE EQUIPMENT INSTALLATION PRACTICE IN THE COUNTRY OF USE.
2. UNCLASSIFIED LOCATION, UNSPECIFIED EXCEPT THAT IT MUST NOT BE SURFACED FROM NOR CONTAIN UNDER NORMAL OR ABNORMAL CONDITIONS A FLAMMABLE OR EXPLOSIVE MIXTURE WITH RESPECT TO GROUPS IIA, IIB, IIC OR 250V DC.
3. EITHER:
 - A) ANY APPROVED SINGLE CHANNEL ISOLATOR OR ONE CHANNEL OF A MULTI-CHANNEL ISOLATOR WHOSE ENTITY CONCEPT PARAMETERS MEET THE REQUIREMENTS OF THIS DRAWING.
 - B) ANY ASSOCIATED CERTIFIED EQUIPMENT WITH AN INTRINSICALLY SAFE OUTPUT WHOSE ENTITY CONCEPT PARAMETERS MEET THE REQUIREMENTS IN TABLE 1.
4. THE ELECTRICAL CIRCUIT IN THE HAZARDOUS LOCATION MUST BE CAPABLE OF WITHSTANDING AN AC TEST VOLTAGE OF 500V RMS TO GROUND OR THE FRAME OF THE APPARATUS FOR 1 MINUTE.
5. THE ENTITY CONCEPT ALLOWS INTERCONNECTION OF INTRINSICALLY SAFE APPARATUS, NOT SPECIFICALLY EXAMINED IN COMBINATION AS A SYSTEM, WHEN THE APPROVED VALUES OF U (UmV) AND U (UmV) OF THE INTRINSICALLY SAFE APPARATUS AND THE APPROVED VALUES OF C (Cmax) AND L (Lmax) OF THE ASSOCIATED CERTIFIED APPARATUS ARE GREATER THAN THE APPROVED VALUES OF C AND L OF ALL THE INTRINSICALLY SAFE APPARATUS INCLUDING ALL THE CABLE.

TERMINAL 1 **TERMINAL 2**

LOOP POWERED TRANSMITTER
 TYPE: 2130T130
 SEE 2130™ "C"....."g"
 CONCEPT PARAMETERS

SCREEN
 EARTH
 NOTE 7

NON-HAZARDOUS LOCATION EQUIPMENT
 SEE NOTE 2

UNCLASSIFIED LOCATION
 ASSOCIATED CERTIFIED APPARATUS

CABLE SEE NOTE 6

SEE NOTE 3
 SEE NOTE 5

6. CABLE CAPACITANCE AND INDUCTANCE PLUS THE I.S. APPARATUS UNPROTECTED CABLE CAPACITANCE AND INDUCTANCE SHALL BE TAKEN INTO ACCOUNT FOR THE CLASSIFICATION OF THE HAZARDOUS LOCATION.

7. AN I.S. SAFETY EARTH IS NOT REQUIRED WHEN A GALVANIC ISOLATOR IS USED. IN THIS CASE THE SCREEN IF FITTED MAY BE EARTHED AT ONE POINT ONLY OR NOT AT ALL.

8. WARNINGS:
 SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.
 LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SECURITE INTRINSIQUE.

9. FOR FURTHER INFORMATION REFER TO MANUAL:
 2130: 00099-0100-0200 / 2130: 00099-0100-1100

10. CLASS ZONE 2 & CLASS ZONE 2 HAZARDOUS LOCATIONS
 IF THIS APPARATUS MAY BE INSTALLED IN NON-INDUCIVE CIRCUITS WITH NOTES ABOVE APPLY WITH REFERENCE TO INTRINSICALLY SAFE (I.S.) REPLACED WITH NON-INDUCIVE.

REVISED BY	DATE	PRODUCT CODE	INITIALS
DJS	26	X	
APPROVED BY	DATE	DOC. TYPE	FILE
X		X	0
TITLE: CSA INTRINSICALLY SAFE CONTROL DRAWING 2130/2130 DRAWING NO.: 71097/1179 SCALE: 1:1 SHEET: 7 / 1/1			

CERTIFIED PRODUCT
 THIS DRAWING IS TO BE USED FOR THE DESIGN AND CONSTRUCTION OF THE EQUIPMENT BEFORE IMPLEMENTATION

ROSEMOUNT

FOR MACHINERY: 502-2798
 FOR INSTRUMENTS: 502-2799
 FOR WEARABLES: 502-813300

6.3


NTS

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


ORIGINAL-FORMAT A3	3 MBY-03927	26	WEEK	WEEK	WEEK	WEEK	WEEK	WEEK																																				
<p>INTRINSICALLY SAFE APPARATUS</p> <p>HAZARDOUS LOCATION: CLASS 1, DIV 1, GROUPS A, B, C, D CLASS 1, DIV 2, GROUPS IA, IB, IC NON-INTRINSICALLY SAFE APPARATUS: HAZARDOUS LOCATION: CLASS 1, DIV 2, GROUPS A, B, C, D CLASS 1, ZONES 2, GROUPS IA, IB, IC</p>																																												
<p>2100P****IP**** Minimum Ambient Air Temperature (T_a) = -40°C Minimum Process Temperature (T_p) = -40°C</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Temperature Classes</th> <th>Maximum Ambient Air Temperature (T_a)</th> <th>Maximum Process Temperature (T_p)</th> </tr> <tr> <td>15, 14, 13, 12, 11</td> <td>40°C</td> <td>150°C</td> </tr> <tr> <td>14, 13, 12, 11</td> <td>60°C</td> <td>150°C</td> </tr> <tr> <td>13, 12, 11</td> <td>90°C</td> <td>150°C</td> </tr> </table>			Temperature Classes	Maximum Ambient Air Temperature (T _a)	Maximum Process Temperature (T _p)	15, 14, 13, 12, 11	40°C	150°C	14, 13, 12, 11	60°C	150°C	13, 12, 11	90°C	150°C	<p>2100P****IP****g* Minimum Ambient Air Temperature (T_a) = -50°C Minimum Process Temperature (T_p) = -50°C</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Temperature Classes</th> <th>Maximum Ambient Air Temperature (T_a)</th> <th>Maximum Process Temperature (T_p)</th> </tr> <tr> <td>15, 14, 13, 12, 11</td> <td>50°C</td> <td>150°C</td> </tr> <tr> <td>14, 13, 12, 11</td> <td>70°C</td> <td>150°C</td> </tr> <tr> <td>13, 12, 11</td> <td>100°C</td> <td>150°C</td> </tr> </table>			Temperature Classes	Maximum Ambient Air Temperature (T _a)	Maximum Process Temperature (T _p)	15, 14, 13, 12, 11	50°C	150°C	14, 13, 12, 11	70°C	150°C	13, 12, 11	100°C	150°C	<p>2100P****IP****g* Minimum Ambient Air Temperature (T_a) = -50°C Minimum Process Temperature (T_p) = -50°C</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Temperature Classes</th> <th>Maximum Ambient Air Temperature (T_a)</th> <th>Maximum Process Temperature (T_p)</th> </tr> <tr> <td>15, 14, 13, 12, 11</td> <td>50°C</td> <td>150°C</td> </tr> <tr> <td>14, 13, 12, 11</td> <td>70°C</td> <td>150°C</td> </tr> <tr> <td>13, 12, 11</td> <td>100°C</td> <td>150°C</td> </tr> </table>			Temperature Classes	Maximum Ambient Air Temperature (T _a)	Maximum Process Temperature (T _p)	15, 14, 13, 12, 11	50°C	150°C	14, 13, 12, 11	70°C	150°C	13, 12, 11	100°C	150°C
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<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>UNIT ENTITY CONCEPT PARAMETERS CL1 DL1 ZL1 0.1</th> <th>VALUE</th> </tr> <tr> <td>MAXIMUM INPUT VOLTAGE (UI)</td> <td>30V</td> </tr> <tr> <td>MAXIMUM INPUT CURRENT (II)</td> <td>0.05mA</td> </tr> <tr> <td>MAXIMUM INPUT POWER (PI)</td> <td>0.0015W</td> </tr> <tr> <td>INTERNAL CAPACITANCE (CI)</td> <td>12pF</td> </tr> <tr> <td>INTERNAL INDUCTANCE (LI)</td> <td>0.05mH</td> </tr> <tr> <th>UNIT ENTITY CONCEPT PARAMETERS CL1 DL1 ZL1 2</th> <th>VALUE</th> </tr> <tr> <td>MAXIMUM INPUT VOLTAGE (UI)</td> <td>30V</td> </tr> <tr> <td>MAXIMUM INPUT CURRENT (II)</td> <td>0.05mA</td> </tr> <tr> <td>INTERNAL CAPACITANCE (CI)</td> <td>12pF</td> </tr> <tr> <td>INTERNAL INDUCTANCE (LI)</td> <td>0.05mH</td> </tr> </table>									UNIT ENTITY CONCEPT PARAMETERS CL1 DL1 ZL1 0.1	VALUE	MAXIMUM INPUT VOLTAGE (UI)	30V	MAXIMUM INPUT CURRENT (II)	0.05mA	MAXIMUM INPUT POWER (PI)	0.0015W	INTERNAL CAPACITANCE (CI)	12pF	INTERNAL INDUCTANCE (LI)	0.05mH	UNIT ENTITY CONCEPT PARAMETERS CL1 DL1 ZL1 2	VALUE	MAXIMUM INPUT VOLTAGE (UI)	30V	MAXIMUM INPUT CURRENT (II)	0.05mA	INTERNAL CAPACITANCE (CI)	12pF	INTERNAL INDUCTANCE (LI)	0.05mH														
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<p>TERMINAL 1</p> <p>LOOP POWERED TRANSMITTER TYPE 2100P****IP**** SEE TABLE FOR ENTITY CONCEPT PARAMETERS</p> <p>TERMINAL 2</p> <p>CABLE SEE NOTE 6</p> <p>NON-HAZARDOUS LOCATION EQUIPMENT SEE NOTE 2</p> <p>ASSOCIATED CERTIFIED APPARATUS (SEE NOTE 10)</p> <p>UNCLASSIFIED LOCATION</p> <p>SCREEN TO EARTH NOTE 7</p>																																												
<p>1. INSTALLATION OF EQUIPMENT INCLUDING ANY GROUNDING ARRANGEMENT TO BE MADE SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE INSTALLATION OF INTRINSICALLY SAFE CIRCUITS, OR THE INTRINSICALLY SAFE EQUIPMENT INSTALLATION PRACTICE IN THE COUNTRY OF USE.</p> <p>2. UNCLASSIFIED LOCATION: UNSPECIFIED EXCEPT THAT IT MUST NOT BE USED IN A HAZARDOUS LOCATION. THIS EQUIPMENT IS NOT TO BE USED AS A SOURCE OF POTENTIAL WITH RESPECT TO GROUND IN EXCESS OF 250V RMS OR 250V DC.</p> <p>3. EITHER:</p> <p> A) ANY APPROVED SINGLE CHANNEL ISOLATOR OR ONE CHANNEL OF A MULTI-CHANNEL ISOLATOR WHOSE ENTITY CONCEPT PARAMETERS MEET THE REQUIREMENTS IN TABLE 1.</p> <p> B) ANY ASSOCIATED CERTIFIED EQUIPMENT WITH AN INTRINSICALLY SAFE OUTPUT WHOSE ENTITY CONCEPT PARAMETERS MEET THE REQUIREMENTS IN TABLE 1.</p> <p>4. THE ELECTRICAL CIRCUIT IN THE HAZARDOUS LOCATION MUST BE CAPABLE OF WITHSTANDING AN AC TEST VOLTAGE OF 500V RMS TO GROUND ON THE FRAME OF THE APPARATUS FOR 1 MINUTE.</p> <p>5. THE ENTITY CONCEPT ALLOWS INTERCONNECTION OF INTRINSICALLY SAFE APPARATUS, NOT LIMITED TO THE NUMBER OF CHANNELS, WHICH MAY BE USED IN THE HAZARDOUS LOCATION. THE TOTAL VOLTAGES AND LOGS AND LOGS OF THE ASSOCIATED CERTIFIED APPARATUS ARE LESS THAN OR EQUAL TO THE TOTAL VOLTAGES AND LOGS AND LOGS OF THE ASSOCIATED CERTIFIED APPARATUS IN THE HAZARDOUS LOCATION. THE TOTAL VOLTAGES AND LOGS AND LOGS OF ALL THE INTRINSICALLY SAFE APPARATUS INCLUDING ALL THE CABLE.</p> <p>6. CABLE CAPACITANCE AND INDUCTANCE PLUS THE U.S. APPARATUS UNPROTECTED (C₀ OR C₀) AND INDUCTANCE (L₀ OR L₀) INDICATED ON THE ASSOCIATED CERTIFIED APPARATUS FOR THE HAZARDOUS LOCATION.</p> <p>7. AN U.S. SAFETY EARTH IS NOT REQUIRED WHEN A GALVANIC ISOLATOR IS USED. IN THIS CASE THE ISOLATOR IF FITTED MAY BE Earthed AT ONE POINT ONLY OR NOT AT ALL.</p> <p>8. WARNING: CONNECTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.</p> <p>9. A SUBSTITUTION OF COMPONENTS PEUT COMPROMETRE LA SECURITE INTRINSEQUE.</p> <p>9. FOR FURTHER INFORMATION REFER TO MANUAL:</p> <p>10. CLASS 1, DIVISION 2, CLASS 2, CLASS 3 HAZARDOUS LOCATIONS</p> <p>a) THIS APPARATUS MAY BE INSTALLED IN NON-INTRINSIC LOCATIONS WITH NON-INTRINSIC FIELD WIRING IN REFERENCE TO INTRINSICALLY SAFE (I.S.)</p> <p>b) THIS APPARATUS MAY BE REPLACED WITH NON-INTRINSICALLY SAFE EQUIPMENT.</p> <p>c) THE ISOLATOR CAN BE REPLACED BY A REGULATED POWER SOURCE</p>																																												
<p>CERTIFIED PRODUCT: 71097/1315</p> <p>DOCUMENT MUST BE APPROVED BEFORE IMPLEMENTATION</p>																																												
<p>ISSUED BY: GP APPROVED BY: X DRAWN BY: X CHECKED BY: X FOR WEBSITE: 08-01-1990</p>				<p>AREA: 37 DOC. TYPE: X CTR: 6.3 A E</p>		<p>PRODUCT CODE: X ACAD: 0 CTR: 6.3 A E</p>		<p>NTS</p>																																				
<p>THE CSA INTRINSICALLY SAFE CONTROL DRAWING 2120/2130 8/16m4</p> <p>71097/1315</p>								<p>3 / 11</p>																																				

1.24 EU Declaration of Conformity

Figure 1-5: EU Declaration of Conformity



Declaration of Conformity



Rev. #3

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.

 <hr style="border: 0.5px solid black;"/> <p>(signature)</p>	<p>Sr. Manager Product Approvals</p> <hr style="border: 0.5px solid black;"/> <p>(function)</p>
<p>Dajana Prastalo</p> <hr style="border: 0.5px solid black;"/> <p>(name)</p>	<p>28-Nov-23; Mölnlycke</p> <hr style="border: 0.5px solid black;"/> <p>(date of issue & place)</p>

Page 1 of 4



Declaration of Conformity

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

Other Standards used:
 IEC 61326-1:2020

ATEX Directive (2014/34/EU)

Sira 05ATEX2130X – Intrinsically safe (Gas & Dust)

Rosemount 2120***K*I***** (Namur cassette)
 Equipment Group II, Category 1GD
 Ex ia IIC T5...T2 Ga
 Ex ia IIIC T85°C...T265°C Da

Rosemount 2120***H*I***** (8/16mA cassette)
 Equipment Group II, Category 1GD
 Ex ia IIC T5...T2 Ga
 Ex ia IIIC T200 85°C...T200 265°C Da (Metallic housings)
 Ex ia IIIC T200 90°C...T200 265°C Da (Non-metallic housings)



Declaration of Conformity

Rosemount 2120***K*18***** ;
 Rosemount 2120***K*18*****R2364 (Namur cassette) ;
 Rosemount 2120***H*18***** ;
 Rosemount 2120***H*18*****R2634 (8/16mA cassette)
 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 IEC 60079-0:2018 ;
 EN 60079-11:2012,
 EN 60079-26:2015

Sira 05ATEX1129X – Flameproof

Rosemount 2120****E1X*****;
 Rosemount 2120****E1S***** (All cassettes, M20 conduits)
 Equipment Group II, Category 1/2G
 Ex db IIC T6...T2 Ga/Gb
 Equipment Group II, Category 2D
 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)

Harmonized Standards: IEC 63000:2018



Declaration of Conformity **CE**

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



1.25 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
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