Product Certifications
00825-0200-4841, Rev AE
December 2021

Rosemount™ 3490 Series

4-20 mA + HART® Compatible Controller

HART COMMUNICATION PROTOCOL

ROSEMOUNT™

EMERSON.

1 Product certifications

Rev 1.2

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 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.

1.3 North America

1.3.1 I5 USA Intrinsically safe

Certificate 1830310

Standards CSA C22.2-No. 0-10, CSA C22.2 No. 142-M1987, CAN/CSA-C22.2 No. 157-92, UL 913-1997, UL 916, CAN/CSA C22.2 No.94-M1991

Markings Intrinsically safe for Class I, Division 1, Groups A, B, C, and D

Intrinsically safe for Class 1, Zone 0, Group IIC [Ex ia]

Ambient temperature: –40 °C to +55 °C

	Uo	Io	Po	La	Ca
Safety parameters	+27.3 V	96.9 mA	0.66 W	2.26 mH	70 nF

1.3.2 I6 CSA Intrinsically safe

Certificate 1830310

Standards CSA C22.2-No. 0-10, CSA C22.2 No. 142-M1987, CAN/CSA-C22.2 No. 157-92, UL 913-1997, UL 916, CAN/CSA C22.2 No.94-M1991

Markings Intrinsically safe for Class I, Division 1, Groups A, B, C, and D

Intrinsically safe for Class 1, Zone 0, Group IIC [Ex ia]

Ambient temperature: –40 °C to +55 °C

	Uo	Io	Po	La	Ca
Safety parameter	+27.3 V	96.9 mA	0.66 W	2.26 mH	70 nF

1.4 Europe

1.4.1 I1 ATEX Intrinsically Safe

Certificate Sira 06ATEX7128 (Wall Mount)
Sira 06ATEX7129X (Panel Mount)

Standards EN IEC 60079-0:2018/AC:2020, EN 60079-11:2012

Markings Ⓔx II(1) G D, [Ex ia] IIC, [Ex ia Da] IIIC
Ambient temperature: –40 °C to +55 °C
(See also ATEX and IECEx conditions for safe use (I1 and I7))

Specific Conditions of Use (X):

1. For Sira 06ATEX7129X: Terminal 30 must be connected to a high integrity earth/ground point in a non-hazardous area.

1.5 International

1.5.1 I7 IECEx Intrinsically Safe

Certificate IECEx SIR 06.0104X

Standards IEC 60079-0:2017/COR1:2020, IEC 60079-11:2011

Markings Intrinsically safe for [Ex ia] IIC, [Ex ia Da] IIIC
Ambient temperature: –40 °C to +55 °C
(See also ATEX and IECEx conditions for safe use (I1 and I7))

	Uo	Io	Po	Li	Ci
Safety parameters	+27.3 V	96.9 mA	0.66 W	0.22 mH	0.6 nF

Specific Conditions of Use (X):

1. Terminal 30 of the panel mount control unit (349***P7***) shall be earthed/grounded in the safe area using a high integrity earth/ground.

1.6 Republic of Korea

1.6.1 GP KTL KCC mark for ordinary locations use

Certificate KCC-REM-ERN-RMDUNCU3490XXX

1.7 ATEX and IECEx conditions for safe use (I1 and I7)

Model numbers covered: 349*****I1*** and 349*****I7*** ("*" indicates options in construction, function and materials).

The following instructions apply to equipment covered by certificates numbered **Sira 06ATEX7128**, **Sira 06ATEX7129X**, and **IECEx SIR 06.0104X**:

1. The Rosemount 3490 Series Control Unit ("control unit") may be connected to a transmitter located in a hazardous area. The control unit must not itself be located in a hazardous area.
2. General:
    a. Do not mount the control unit on a structure that is subject to vibration, or in a position where damage may be caused by impact, thermal stress or liquid ingress.
    b. The fuse must only be replaced with the type specified.
    c. It is the responsibility of the user to ensure the voltage and current limits for this equipment are not exceeded.
    d. If the equipment is likely to come into contact with aggressive substances, it is the responsibility of the user to take suitable precautions that prevent it from being adversely affected, thus ensuring that the type of protection is not compromised.
        - **Aggressive Substances:** e.g. acidic liquids or gases that may attack metals or solvents that may affect polymeric materials.
        - **Suitable Precautions:** e.g. regular checks as part of routine inspections or establishing from the material's data sheet that it is resistant to specific chemicals.
    e. The user should not repair this equipment.
3. Wiring instructions:
    a. Terminal 30 of the control unit must be connected to an intrinsically safe earth/ground point.
    b. The control unit must not be connected to a supply exceeding 250 V r.m.s. or dc, or to apparatus containing a source of voltage exceeding 250 V r.m.s. or dc.

c. The Intrinsically Safe outputs of the control unit may be connected to certified equipment used in a hazardous area requiring Equipment Protection Level Ga or Da (category 1) equipment, with flammable gas and vapor groups IIC, IIB and IIA, and flammable dust groups IIIC, IIIB, and IIIA. No additional I.S. barrier is required.

d. If the circuit connected to terminals 1 and 2 does not satisfy IEC60079-11 (EN60079-11) clause 6.3.13 (Isolation of circuits from earth or frame), then equipotential earthing/grounding to the control unit intrinsically safe earth/ground shall be provided.

An example of equipotential earthing/grounding is a cable with a cross-sectional area greater than 4 mm^2 and a resistance of less than 1 Ohm.

4. Technical data:

a. Coding:

ATEX II (1) GD
[Ex ia] IIC (–40 °C ≤ Ta ≤ 55 °C)
[Ex ia Da] IIIC (–40 °C ≤ Ta ≤ 55 °C)

IECEx [Ex ia] IIC (–40 °C ≤ Ta ≤ 55 °C)
[Ex ia Da] IIIC (–40 °C ≤ Ta ≤ 55 °C)

b. Safety parameters:

Terminals T1 (24 V) with respect to T2 (I_{in}) and T1 (24 V) with respect to T3 (Earth)	**Terminals T2 (I_{in}) with respect to T3 (Earth)(1)**
Ui = 0, Uo = 27.3 V, Io = 96.9 mA, Po = 0.66 W, Li = 0.22 mH, Ci = 0.6 nF	Ui = 30 V, Ii = 120 mA, Li = 0.1 mH, Ci = 0.6 nF, Uo = 6.51 V (capacitive charging only), Io = 0, Po = 0

(1) Terminal T2 (I_{in}) with respect to terminal T3 (Earth) must be treated as a 6.51 V source. The 6.51V is considered as being theoretical maximum to which a capacitive load across these terminals could become charged through leakage via internal series blocking diodes. This voltage does not contribute to the short circuit sparking risk of any external source connected to these terminals.

c. The **capacitance** and **inductance** of the load connected must not exceed the following values:

Group	Capacitance	Inductance (mH) or L/R Ratio (μH/Ohm)	
IIC	0.082 μF(1)	1.2 mH	42 μH/Ohm
IIB	0.65 μF	10.9 mH	172 μH/Ohm
IIA	2.15 μF	21.9 mH	346 μH/Ohm

(1) 0.082 μF of which total Ci of the hazardous area apparatus connected must not exceed 0.020 μF.

d. Fuse: 200mA (T) 5 × 20mm 250V

e. Materials of construction:

349*P6* Polycarbonate enclosure and cover
304SS cover fixing screws
UV resistant polycarbonate membrane keypad
Nylon cable glands and blanking plugs

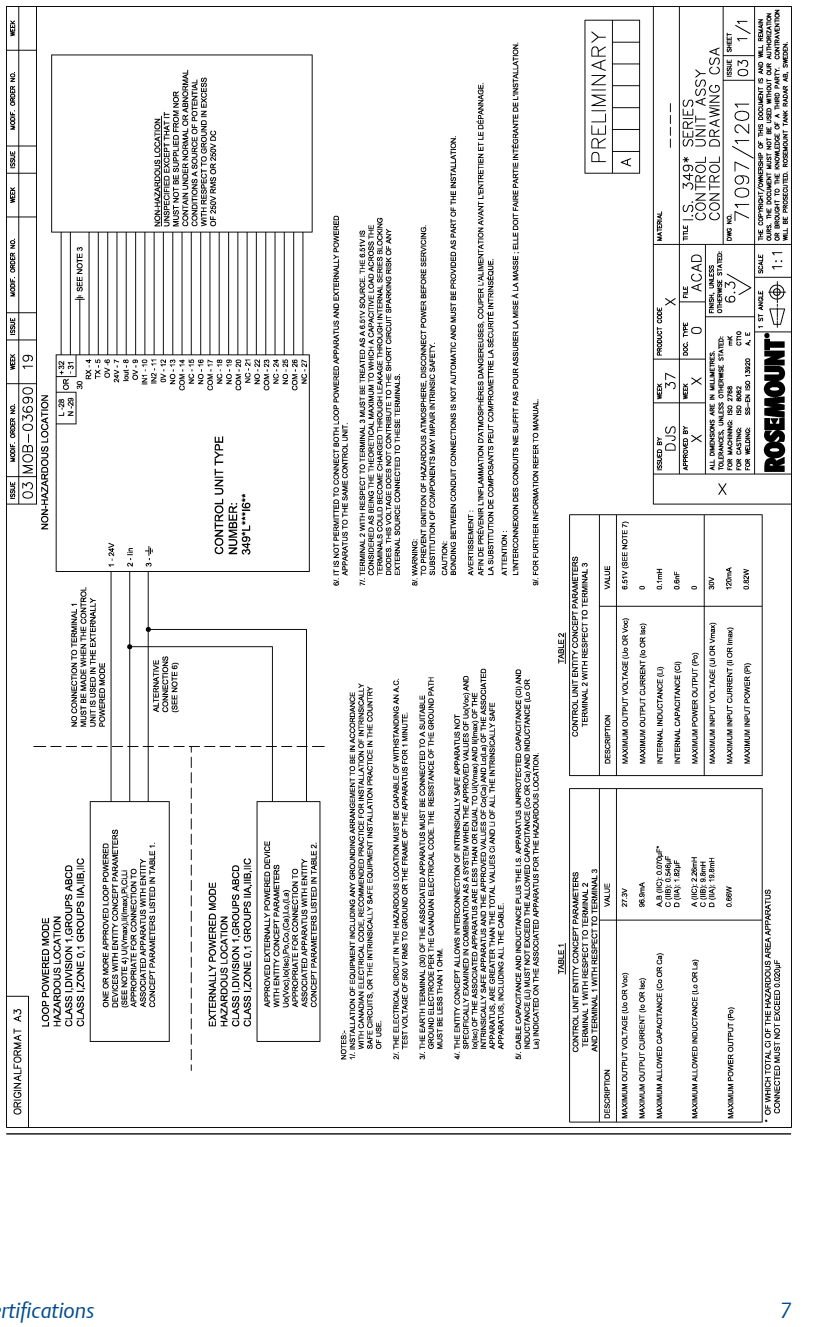
349*P4* Polycarbonate enclosure and cover
Polyester and alloy 400 fastening
UV resistant polycarbonate membrane keypad

349*P7* Polyphenylene (PPO) enclosure and cover
Carbon steel / zinc-plated fascia fixing screws
UV resistant Polycarbonate membrane keypad
Nylon and PBT terminal blocks with plated fittings

f. Year of manufacture: printed on product label.

1.8 System control drawing

Figure 1-1: System Control Drawing for Hazardous Area Installation (I5 and I6)



1.9 EU Declaration of Conformity

Figure 1-2: EU Declaration of Conformity

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EU Declaration of Conformity

No: RMD 1063 Rev. K

We,

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

declare under our sole responsibility that the product,

Rosemount™ 3490 Universal Control Unit

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)	Manager Product Approvals (function)
Dajana Prastalo (name)	11-Oct-21; (date of issue)

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EU Declaration of Conformity

No: RMD 1063 Rev. K

EMC Directive (2014/30/EU)

Rosemount 349*L*****

Harmonized Standards: EN 61326-1:2013

Class A (Industrial Radiated Emission limits)

LV Directive (2014/35/EU)

Rosemount 349*L1****

Harmonized Standards: EN 61010-1:2010

ATEX Directive (2014/34/EU)

Rosemount 349*L*P4I1, 349*L*P6I1****

Sira 06ATEX7128 – (Intrinsically Safe & Dust)

Equipment Group II, Category (1) GD ([Ex ia Ga] IIC, [Ex ia Da] IIIC)

EN 60079-11:2012, EN IEC 60079.0:2018/AC:2020

Rosemount 349*L*P7I1**

Sira 06ATEX7129X – (Intrinsically Safe & Dust)

Equipment Group II, Category (1) GD ([Ex ia Ga] IIC, [Ex ia Da] IIIC)

EN 60079-11:2012, EN IEC 60079.0:2018/AC:2020

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

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EU Declaration of Conformity

No: RMD 1063 Rev. K

ATEX Directive Notified Body

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

ATEX Notified body for Quality Assurance

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

1.10 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 3490
List of Rosemount 3490 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	O	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.

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