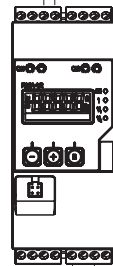


Hazardous (Classified) Locations
I,II,II/1+2/ABCDEFG
I, Zone 0 IIC

CSA approved intrinsically safe apparatus

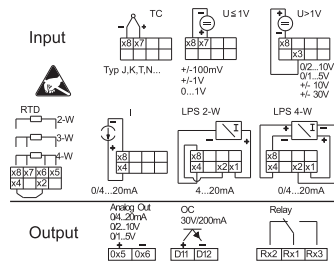
Nonhazardous Locations



N/-, L/+

Rating of enclosure at least NEMA 4X or Type 4X when installed in Division 2

Note wiring scheme on device!



Temperature range

Ta -20°C ... +60°C

ASSOCIATED INTRINSICALLY SAFE

**Class I, Zone 0 [Ex ia] IIC
Class I, Zone 2 Ex nA[ia] IIC**

ASSOCIATED NONINCENDIVE

Class I / Div. 2 / Groups ABCD

T4 -20°C ... +60°C

Installation Notes RMA42



- CSA Approved Apparatus must be installed in accordance with manufacturer's instructions.
- Depending on location install per National Electrical Code (CEC) using wiring methods.
- Use supply wires suitable for 5°C above surroundings.
- For Non-hazardous area install the device of Protection Ratings of least NEMA 1, Type 1
- For hazardous area Class I, II install the device of Protection Ratings of least NEMA 4X, Type 4X.
- For Class II keep tight when circuits alive.
- The unit is installed in Class I, Division 2 area with two I.S. output channels (1 & 2), with cables clearance of 2 mm minimum.
- Warning: Substitution of components may impair suitability for Class I, Division 2.

INTRINSICALLY SAFE

Class I / Zone 0 [Ex ia] IIC

- The device is an Associated intrinsically safe equipment and must be installed in Division 2 or non-hazardous Locations only.
- Installation should be in accordance with the Canadian Electrical Code (CEC).
- For entity installations use certified equipment that satisfy the following condition $U_o/V_o \leq V_{max}/U_i$ $I_o/I_{sc} \leq I_{max}/I_i$ $P_o \leq P_i$ $C_o/C_a \geq C_i + C_{cable}$ $L_o/L_a \geq L_i + L_{cable}$
- The Terminal of the intrinsically safe circuit must be placed at least a distance of 50mm from terminals of the non intrinsically safe circuits, or adequate separators (e.g. ground metal partitions) must be used.

NONINCENDIVE Field WIRING INSTALLATION

Class I / Div. 2 / Groups ABCD

- The device is an Associated Nonincendive safe equipment and must be installed in Division 2 or nonhazardous Locations only.
- The Nonincendive Field Wiring Circuit Concept allows interconnection of Nonincendive Field Wiring Apparatus with Associated Nonincendive Field Wiring Apparatus or Associated Intrinsically Safe Apparatus or Associated Apparatus not specifically examined in combination as a system using any of the wiring methods permitted for unclassified locations, when $V_o \leq V_{max}$, $C_a \geq C_i + C_{cable}$, $L_a \geq L_i + L_{cable}$.
- For entity installations use certified equipment that satisfy the following condition $U_o/V_o \leq V_{max}/U_i$ $I_o/I_{sc} \leq I_{max}/I_i$ $P_o \leq P_i$ $C_o/C_a \geq C_i + C_{cable}$ $L_o/L_a \geq L_i + L_{cable}$

| | | | | | | | | | |
|---|------------------------------------|--|-----------------------------|---------------|------------------------------|---------------------------------|----------------|--|---|
| | Approved Pfanzelt | Date (yyyy-mm-dd) 2010-04-16 | Drawing No. 12 01 00 112 | Dwg.rev. - | Revision no. - | Revision date (yyyy-mm-dd) - | Name - | Material 71540272 XA02306R/09/EN/01.20 | Endress+Hauser |
| Volume (mm³) | Designed Pfanzelt | Date (yyyy-mm-dd) 2010-04-15 | Unit RMA42 | Scale 1:1 | Title CONTROL DRAWING CSA | | Serie | | |
| Refer to protection notice ISO 16016 | Edge of working parts ISO 13715 | Geometrical tolerancing ISO 2768-mH-E | Part No. - | Format A4 | AIS, ANI, NI | | Objekt version | Sheet 1 of 2 | Endress + Hauser GmbH+Co. KG Nesselwang / Germany |



Power supply U ≤ 24...230 V AC/DC (-20%/+10%) 50/60 Hz

Terminal L / +, L / -, PE

Output circuit limit relays Umax ≤ 250 VAC Imax ≤ 3A

Terminal R12, R11, R13 or R22, R21, R23 Umax ≤ 30 DC Imax ≤ 3A

CDI interface for device configuration

Impulse or Current output 0/4...20 mA

Terminal O15, O16 or O25, O26 Um ≤ 250 V

Output collector Imax ≤ 200 mA

Terminal D11, D12 Um ≤ 30 VDC

ASSOCIATED INTRINSICALLY SAFE

Cl. I, Gps ABCD

Cl. II, Gps EFG, Cl. III

Cl. I, Zone 0, IIC

Voc ≤ Vmax Isc ≤ Imax Po ≤ Pi

Ca ≥ Ci + Ccable La ≥ Li + Lcable

ASSOCIATED NONINCENDIVE FIELD WIRING

I,II,III/2/ABCDEFG

Voc ≤ Vmax Ca ≥ Ci + Ccable La ≥ Li + Lcable

Entity parameters for channel 1&2 – Only one connected at a time:

2-wire transmitter power supply: Voc ≤ 27.3 V

Terminal 11, 14, 12, 18 or Isc ≤ 96.5 mA

Terminal 21, 24, 22, 28 Po = 659 mW

Group A, B resp. IIC Ca = 80 nF La = 4.125 mH

Group C, D resp. IIB, IIA Ca = 675 nF La = 17.025 mH

4-wire transmitter power supply:

Terminal 11, 12 or Isc ≤ 91.1 mA

Terminal 21, 22 Po = 622 mW

Group A, B resp. IIC Ca = 80 nF La = 4.625 mH

Group C, D resp. IIB, IIA Ca = 675 nF La = 19.125 mH

4-wire transmitter power supply: Voc ≤ 27.3 V

Terminal 14, 18 or Isc ≤ 5 mA

Terminal 24, 28 Po = 34.2 mW

Group A, B resp. IIC Ca = 80 nF La = 1.525 H

Group C, D resp. IIB, IIA Ca = 675 nF La = 6.325 H

temperature input (RTD, TC): Voc ≤ 27.3 V

Terminal 15, 16, 17, 18 and 12, 14 or Isc ≤ 22.1 mA

Terminal 25, 26, 27, 28 and 22, 24 Po = 151 mW

Group A, B resp. IIC Ca = 80 nF La = 81.725 mH

Group C, D resp. IIB, IIA Ca = 675 nF La = 327.425 mH

Current input: Voc ≤ 27.3 V

Terminal 14, 18 or Isc ≤ 5 mA

Terminal 24, 28 Po = 34.2 mW

Group A, B resp. IIC Ca = 80 nF La = 1.525 H

Group C, D resp. IIB, IIA Ca = 675 nF La = 6.325 H

Voltage input: Voc ≤ 27.3 V

Terminal 17, 18 and 13, 18 or Isc ≤ 5 mA

Terminal 27, 28 and 23, 28 Po = 34.2 mW

Group A, B resp. IIC Ca = 80 nF La = 1.525 H

Group C, D resp. IIB, IIA Ca = 675 nF La = 6.325 H

| | | | | | | | | | |
|---|------------------------------------|--|-----------------------------|---------------|--|---------------------------------|---|--|----------------|
| | Approved Pfanzelt | Date (yyyy-mm-dd) 2010-04-16 | Drawing No. 12 01 00 112 | Dwg.rev. - | Revision no. - | Revision date (yyyy-mm-dd) - | Name - | Material 71540272 XA02306R/09/EN/01.20 | Endress+Hauser |
| Volume (mm³) | Designed Pfanzelt | Date (yyyy-mm-dd) 2010-04-15 | Unit RMA42 | Scale 1:1 | Title CONTROL DRAWING CSA AIS, ANI, NI | | Serie Objekt version Sheet 2 of 2 | | |
| Refer to protection notice ISO 16016 | Edge of working parts ISO 13715 | Geometrical tolerancing ISO 2768-mH-E | Part No. - | Format A4 | | | Endress + Hauser Wetzler GmbH+Co. KG Nesselwang / Germany | | |