Installation Notes RIA46
- 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 Class II keep tight when circuits alive.
- Warning: Substitution of components may impair suitability for Class I, Division 2.

INTRINSICALLY SAFE
- 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).
- The conductors of each intrinsically safe circuit shall be within a grounded metal shield.
- For entity installations use certified equipment that satisfy the following condition
  \[ \frac{U_o}{Voc} \leq \frac{V_{\text{max}}}{U_i} \quad \frac{I_o}{I_{\text{sc}}} \leq \frac{I_{\text{max}}}{I_i} \quad \frac{P_o}{I_{\text{s}}} \leq \frac{P_{\text{i}}}{C_{\text{a}}} \quad \frac{L_o}{L_{\text{a}}} \geq \frac{L_{\text{i}} + L_{\text{cable}}}{C_{\text{i}} + C_{\text{cable}}} \]
- The Terminal of the intrinsically safe circuit must be placed at a distances of least 50mm from terminals of the non intrinsically safe circuits, or adequate separators (e.g. ground metal partitions) must be used.

NONINCENDIVE Field Wiring INSTALLATION
- 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 \[ \frac{U_o}{Voc} \leq \frac{V_{\text{max}}}{C_{\text{a}}} \quad \frac{I_o}{I_{\text{sc}}} \geq \frac{I_{\text{max}}}{C_{\text{i}}} \quad \frac{L_o}{L_{\text{a}}} \geq \frac{L_{\text{i}} + L_{\text{cable}}}{L_{\text{i}} + L_{\text{cable}}} \]
- For entity installations use certified equipment that satisfy the following condition
  \[ \frac{U_o}{Voc} \leq \frac{V_{\text{max}}}{U_i} \quad \frac{I_o}{I_{\text{sc}}} \leq \frac{I_{\text{max}}}{I_i} \quad \frac{P_o}{I_{\text{s}}} \leq \frac{P_{\text{i}}}{C_{\text{a}}} \quad \frac{L_o}{L_{\text{a}}} \geq \frac{L_{\text{i}} + L_{\text{cable}}}{L_{\text{i}} + L_{\text{cable}}} \]

Temperature range
\[ T_a = -40^\circ\text{C} \ldots +60^\circ\text{C} \]

ASSOCIATED INTRINSICALLY SAFE
Class I, Zone 0 [Ex ia] IIC
Class I, Zone 2 Ex nA[iia] IIC

ASSOCIATED NONINCENDIVE
Class I / Div. 2 / Groups ABCD

T4
-40°C \ldots +60°C

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** ≤ 3 A

Terminal R12, R11, R13 or R22, R21, R23

- **Umax** ≤ 30 DC
- **Imax** ≤ 3 A

CDI interface for device configuration

Impulse or Current output

- **0/4...20 mA**
- **Um** ≤ 250 V

Output collector

- **Ims** ≤ 200 mA
- **Um** ≤ 30 VDC

#### 4-wire transmitter power supply:

- **Terminal 11, 12 or Terminal 21, 22**

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

#### Impulse or Current output

- **Voc** ≤ 27.3 V

- **Isc** ≤ 91.1 mA

- **Po** = 622 mW

#### 4-wire-transmitter power supply

- **Terminal 14, 18 or Terminal 24, 28**

Group A, B resp. IIC

- **Ca** = 80 nF
- **La** = 1.525 mH

Group C, D resp. IIB, IIA

- **Ca** = 675 nF
- **La** = 6.325 mH

### ASSOCIATED INTRINSICALLY SAFE

- Cl. I, Gps ABCD
- Cl. II, Gps EFG, Cl. III
- Cl. I, Zone 0, IIC

**Voc** ≤ **Vmax**

**Isc** ≤ **Imax**

**Ca** ≥ **Cl** + **Ccable**

**La** ≥ **Li** + **Lcable**

### ASSOCIATED NONINCENDIVE FIELD WIRING

**Voc** ≤ **Vmax**

**Ca** ≥ **Cl** + **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, 12, 14, 18**

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 14, 18 or Terminal 24, 28**

Group A, B resp. IIC

- **Ca** = 80 nF
- **La** = 1.525 mH

Group C, D resp. IIB, IIA

- **Ca** = 675 nF
- **La** = 6.325 mH

### 4-wire-transmitter power supply

- **Terminal 14, 18 or Terminal 24, 28**

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

### Temperature input (RTD, TC):

- **Voc** ≤ 27.3 V

- **Isc** ≤ 22.1 mA

- **Po** = 151 mW

### Impulse or Current output

- **Voc** ≤ 27.3 V

- **Isc** ≤ 5 mA

- **Po** = 34.2 mW

### Voltage input:

- **Voc** ≤ 27.3 V

- **Isc** ≤ 5 mA

- **Po** = 34.2 mW

### Current input:

- **Voc** ≤ 27.3 V

- **Isc** ≤ 5 mA

- **Po** = 34.2 mW