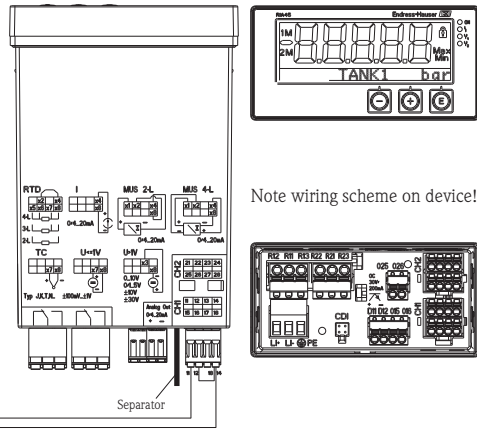


Hazardous (Classified) Locations
I, II, II/1+2/ ABCDEFG
I, Zone 0 IIC



Nonhazardous Locations



Note wiring scheme on device!

CSA approved intrinsically safe apparatus

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

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 RIA45



- 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.
- 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).
- 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
 $U_o/V_o \leq V_{max}/U_i$ $I_o/I_{sc} \leq I_{max}/I_i$ $P_o \leq P_i$ $C_o/C_a \geq C_i + C_{cable}$ $L_o/L_a \geq L_i + L_{cable}$
- The Terminal of the intrinsically safe circuit must be placed at 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

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) 2009-05-12	Drawing No. 12 03 00 112	Dwg.rev.	Revision no.	Revision date (yyyy-mm-dd)	Name	Material 71104937 ZD 074R/09/en/09.09	Endress+Hauser
Volume (mm³)	Designed Pfanzelt	Date (yyyy-mm-dd) 2009-05-11	Unit RIA45	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			Objekt version 1 of 2	
								Endress + Hauser Wetzler GmbH+Co. KG Nesselwang / Germany	



Power supply
Terminal L / +, L / -, PE
 $U \leq 24 \dots 230 \text{ V AC/DC } (-20\%/+10\%) 50/60 \text{ Hz}$

Output circuit limit relays
Terminal R12, R11, R13 or R22, R21, R23
 $U_{\text{max}} \leq 250 \text{ VAC}$
 $U_{\text{max}} \leq 30 \text{ DC}$
 $I_{\text{max}} \leq 3\text{A}$
 $I_{\text{max}} \leq 3\text{A}$

CDI interface for device configuration

Impulse or Current output
Terminal O15, O16 or O25, O26
 $0/4 \dots 20 \text{ mA}$
 $U_{\text{m}} \leq 250 \text{ V}$

Output collector
Terminal D11, D12
 $I_{\text{max}} \leq 200 \text{ mA}$
 $U_{\text{m}} \leq 30 \text{ VDC}$

4-wire transmitter power supply:
Terminal 11, 12 or Terminal 21, 22
 $V_{\text{oc}} \leq 27.3 \text{ V}$
 $I_{\text{sc}} \leq 91.1 \text{ mA}$
 $P_{\text{o}} = 622 \text{ mW}$

Group A, B resp. IIC
Group C, D resp. IIB, IIA
 $C_{\text{a}} = 80 \text{ nF}$
 $C_{\text{a}} = 675 \text{ nF}$
 $L_{\text{a}} = 4.625 \text{ mH}$
 $L_{\text{a}} = 19.125 \text{ mH}$

4-wire transmitter power supply:
Terminal 14, 18 or Terminal 24, 28
 $V_{\text{oc}} \leq 27.3 \text{ V}$
 $I_{\text{sc}} \leq 5 \text{ mA}$
 $P_{\text{o}} = 34.2 \text{ mW}$

Group A, B resp. IIC
Group C, D resp. IIB, IIA
 $C_{\text{a}} = 80 \text{ nF}$
 $C_{\text{a}} = 675 \text{ nF}$
 $L_{\text{a}} = 1.525 \text{ H}$
 $L_{\text{a}} = 6.325 \text{ H}$

temperature input (RTD, TC):
Terminal 15, 16, 17, 18 and 12, 14 or Terminal 25, 26, 27, 28 and 22, 24
 $V_{\text{oc}} \leq 27.3 \text{ V}$
 $I_{\text{sc}} \leq 22.1 \text{ mA}$
 $P_{\text{o}} = 151 \text{ mW}$

Group A, B resp. IIC
Group C, D resp. IIB, IIA
 $C_{\text{a}} = 80 \text{ nF}$
 $C_{\text{a}} = 675 \text{ nF}$
 $L_{\text{a}} = 81.725 \text{ mH}$
 $L_{\text{a}} = 327.425 \text{ mH}$

ASSOCIATED INTRINSICALLY SAFE

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

$V_{\text{oc}} \leq V_{\text{max}}$
 $C_{\text{a}} \geq C_{\text{i}} + C_{\text{cable}}$
 $I_{\text{sc}} \leq I_{\text{max}}$
 $L_{\text{a}} \geq L_{\text{i}} + L_{\text{cable}}$
 $P_{\text{o}} \leq P_{\text{i}}$

ASSOCIATED NONINCENDIVE FIELD WIRING

I,II,III/2/ABCDEFG

$V_{\text{oc}} \leq V_{\text{max}}$
 $C_{\text{a}} \geq C_{\text{i}} + C_{\text{cable}}$
 $L_{\text{a}} \geq L_{\text{i}} + L_{\text{cable}}$

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

2-wire transmitter power supply:
Terminal 11, 14, 12, 18 or Terminal 21, 24, 22, 28
 $V_{\text{oc}} \leq 27.3 \text{ V}$
 $I_{\text{sc}} \leq 96.5 \text{ mA}$
 $P_{\text{o}} = 659 \text{ mW}$

Group A, B resp. IIC
Group C, D resp. IIB, IIA
 $C_{\text{a}} = 80 \text{ nF}$
 $C_{\text{a}} = 675 \text{ nF}$
 $L_{\text{a}} = 4.125 \text{ mH}$
 $L_{\text{a}} = 17.025 \text{ mH}$

Current input:
Terminal 14, 18 or Terminal 24, 28
 $V_{\text{oc}} \leq 27.3 \text{ V}$
 $I_{\text{sc}} \leq 5 \text{ mA}$
 $P_{\text{o}} = 34.2 \text{ mW}$

Group A, B resp. IIC
Group C, D resp. IIB, IIA
 $C_{\text{a}} = 80 \text{ nF}$
 $C_{\text{a}} = 675 \text{ nF}$
 $L_{\text{a}} = 1.525 \text{ H}$
 $L_{\text{a}} = 6.325 \text{ H}$

Voltage input:
Terminal 17, 18 and 13, 18 or Terminal 27, 28 and 23, 28
 $V_{\text{oc}} \leq 27.3 \text{ V}$
 $I_{\text{sc}} \leq 5 \text{ mA}$
 $P_{\text{o}} = 34.2 \text{ mW}$

Group A, B resp. IIC
Group C, D resp. IIB, IIA
 $C_{\text{a}} = 80 \text{ nF}$
 $C_{\text{a}} = 675 \text{ nF}$
 $L_{\text{a}} = 1.525 \text{ H}$
 $L_{\text{a}} = 6.325 \text{ H}$

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