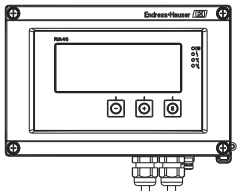
Hazardous (Classified) Locations
Class I, Groups ABCD
Class II, Groups EFG
Class III
Class I, Zone 0 Group IIC
Class I, Zone 2 Group IIC

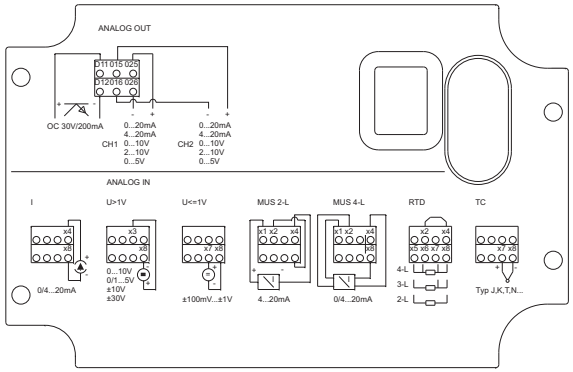
Nonhazardous Locations



FM approved intrinsically safe apparatus

LI-, LI+

Note wiring scheme on device!



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Installation Notes RIA46

- FM Approved Apparatus must be installed in accordance with manufacturer's instructions and the control drawing.
- Depending on location install per National Electrical Code (NEC) using wiring methods described in article 500 through article 510.
- Use supply wires suitable for 5°C above surroundings.

INTRINSICALLY SAFE CONNECTION TO Class I, II, III / Div. 1+2 / Groups ABCDEFG

- The device is an Associated intrinsically safe equipment and must be installed in Division 2 or nonhazardous locations only.
- Installation should be in accordance with ANSI/ISA RP 12.06.01 "Installation of Intrinsically safe systems for Hazardous (classified) locations" and the National Electrical Code (ANSI/NFPA 70).
- For entity installations use certified equipment that satisfy the following condition
  $U_o/V_{oc} \leq V_{max}/U_i$ $I_o/I_{sc} \leq I_{max}/I_i$ $P_o \leq P_i$ $C_o/C_a \geq C_i + C_{cable}$ $L_o/L_a \geq L_i + L_{cable}$
- 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 CONNNECTION TO Class I, II, III / Div. 2 / Groups ABCDEFG

- 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 $V_{oc} \leq V_{max}$, $C_a \geq C_i + C_{cable}$, $L_a \geq L_i + L_{cable}$.

	Approved	Date (yyyy-mm-dd)	Drawing No.	Dwg.rev.	Revision no.	Revision date (yyyy-mm-dd)	Name	Material	
	Pfanzelt	2009-06-03	12 04 00 111					71102414 ZD 072R/09/en/09.09	Endress+Hauser
Volume (mm³)	Designed	Date (yyyy-mm-dd)	Unit	Scale	Title			Serie	
	Pfanzelt	2009-05-11	RIA46	1:1	CONTROL DRAWING FM approval AIS, ANI				
Refer to protection notice ISO 16016	Edge of working parts ISO 13715	Geometrical tolerancing ISO 2768-mH-E	Part No. -	Format A4				Objekt version / Sheet 1 of 2	Endress + Hauser Wetzer GmbH+Co. KG Nesselwang / Germany

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Temperature range

Ta -20°C ... +60°C

AIS	Class I, II, III, Div. 1+2, Groups ABCD Cl. I, Zone 0 [AEx ia] IIC
ANI	Class I, II, III, Div. 2, Groups ABCDEF

Power supply Terminal LI+, LI-, PE	U ≤ 24…230 V AC/DC (-20%/+10%) 50/60 Hz	
Output circuit limit relays Terminal R12, R11, R13 or R22, R21, R23	Umax ≤ 250 VAC Umax ≤ 30 DC	Imax ≤ 3A Imax ≤ 3A

CDI interface for device configuration

Impulse or Current output Terminal O15, O16 or O25, O26	0/4…20 mA Um ≤ 250 V	
Output collector Terminal D11, D12	Imax ≤ 200 mA Um ≤ 30 V	

2-wire transmitter power supply: Terminal 11, 14, 12, 18 21, 24, 22, 28	Voc ≤ 27.3 V Isc ≤ 96.5 mA Po = 659 mW Ci = 8nF Li = 75µH	
Group A, B resp. IIC Group C, D resp. IIB, IIA	Ca = 88 nF Ca = 683 nF	La = 4.2 mH La = 17.1mH

4-wire transmitter power supply: Terminal 11, 12, 21, 22	Voc ≤ 27.3 V Isc ≤ 91.1 mA Po = 622 mW Ci = 8nF Li = 75µH	
Group A, B resp. IIC Group C, D resp. IIB, IIA	Ca = 88 nF Ca = 683 nF	La = 4.7 mH La = 19.2 mH
4-wire transmitter power supply: Terminal 14, 18, 24, 28	Voc ≤ 27.3 V Isc ≤ 5 mA Po = 34.2 mW Ci = 8nF Li = 75µH	
Group A, B resp. IIC Group C, D resp. IIB, IIA	Ca = 88 nF Ca = 683 nF	La = 1.6 H La = 6.4 H
temperature input: Terminal 15, 16, 17, 18	Voc ≤ 27.3 V Isc ≤ 22.1 mA Po = 151 mW Ci = 8nF Li = 75µH	
Group A, B resp. IIC Group C, D resp. IIB, IIA	Ca = 88 nF Ca = 683 nF	La = 81.8 mH La = 327.5 mH
Current input: Terminal 14, 18, 24, 28	Voc ≤ 27.3 V Isc ≤ 5 mA Po = 34.2 mW Ci = 8nF Li = 75µH	
Group A, B resp. IIC Group C, D resp. IIB, IIA	Ca = 88 nF Ca = 683 nF	La = 1.6 H La = 6.4 H
Voltage input: Terminal 17, 18, 13, 18 27, 28, 23, 28	Voc ≤ 27.3 V Isc ≤ 5 mA Po = 34.2 mW Ci = 8nF Li = 75µH	
Group A, B resp. IIC Group C, D resp. IIB, IIA	Ca = 88 nF Ca = 683 nF	La = 1.6 H La = 6.4 H

	Approved: Pfanzelt	Date (yyyy-mm-dd): 2009-06-03	Drawing No.: 12 04 00 111	Dwg.rev.	Revision no.	Revision date (yyyy-mm-dd)	Name	Material: 71102414 ZD 072R/09/en/09.09	Endress+Hauser
Volume (mm³)	Designed: Pfanzelt	Date (yyyy-mm-dd): 2009-05-11	Unit: RIA46	Scale: 1:1	Title: CONTROL DRAWING FM approval AIS, ANI			Serie	
Refer to protection notice ISO 16016	Edge of working parts ISO 13715	Geometrical tolerancing ISO 2768-mH-E	Part No.: -	Format: A4				Objekt version / Sheet: 2 of 2	Endress + Hauser Wetzer GmbH+Co. KG Nesselwang / Germany