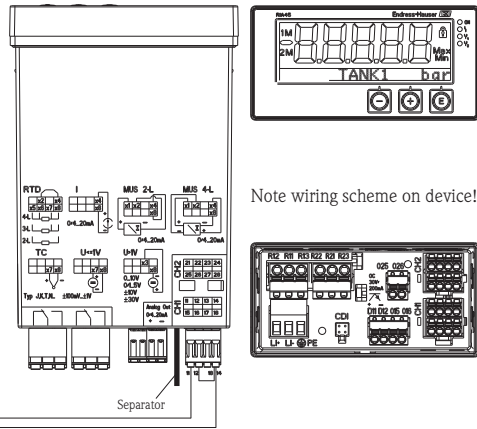


Hazardous (Classified) Locations  
 Class I, Groups ABCD  
 Class II, Groups EFG  
 Class III  
 Class I, Zone 0 Group IIC  
 Class I, Zone 2 Group IIC



Nonhazardous Locations



Note wiring scheme on device!

FM approved unit

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

### Installation Notes RIA45



- 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.
- For Non-hazardous area install the device of Protection Ratings of least IP20, NEMA 1, Type 1.

### 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  
 $U_o/V_o \leq V_{max}/U_i$     $I_o/I_{sc} \leq I_{max}/I_i$     $P_o \leq P_i$     $C_o/C_a \geq C_i + C_{cable}$     $L_o/L_a \geq L_i + L_{cable}$
- 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 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  $V_o \leq V_{max}$ ,  $C_a \geq C_i + C_{cable}$ ,  $L_a \geq L_i + L_{cable}$ .

	Approved Pfanzelt	Date (yyyy-mm-dd) 2009-06-03	Drawing No. 12 03 00 111	Dwg.rev.	Revision no.	Revision date (yyyy-mm-dd)	Name	Material 71102412 ZD 071R/09/en/09.09	<b>Endress+Hauser</b>
Volume (mm³)	Designed Pfanzelt	Date (yyyy-mm-dd) 2009-05-11	Unit RIA45	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 1 of 2	Endress + Hauser Wetzlar GmbH+Co. KG Nesselwang / Germany



**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**

**NI**

**Class I, Div. 2, Groups ABCD**

T4 -20°C ... +60°C

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

U<sub>max</sub> ≤ 250 VAC    I<sub>max</sub> ≤ 3A  
U<sub>max</sub> ≤ 30 DC        I<sub>max</sub> ≤ 3A

CDI interface for device configuration

Impulse or Current output  
Terminal O15, O16 or O25, O26

0/4...20 mA, 0...10 VDC

Output collector  
Terminal D11, D12

I<sub>max</sub> ≤ 200 mA  
U<sub>m</sub> ≤ 30 VDC

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 = 80 nF        La = 4.2 mH  
Ca = 675 nF      La = 17.1 mH

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  
Ca = 80 nF  
Ca = 675 nF

La = 4.7 mH  
La = 19.2 mH

Group A, B resp. IIC  
Group C, D resp. IIB, IIA

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  
Ca = 80 nF  
Ca = 675 nF

La = 1.6 H  
La = 6.4 H

Group A, B resp. IIC  
Group C, D resp. IIB, IIA

temperature input:  
Terminal 15, 16, 17, 18

Voc ≤ 27.3 V  
Isc ≤ 22.1 mA  
Po = 151 mW  
Ci = 8nF  
Li = 75µH  
Ca = 80 nF  
Ca = 675 nF

La = 81.8 mH  
La = 327.5 mH

Group A, B resp. IIC  
Group C, D resp. IIB, IIA

Current input:  
Terminal 14, 18, 24, 28

Voc ≤ 27.3 V  
Isc ≤ 5 mA  
Po = 34.2 mW  
Ci = 8nF  
Li = 75µH  
Ca = 80 nF  
Ca = 675 nF

La = 1.6 H  
La = 6.4 H

Group A, B resp. IIC  
Group C, D resp. IIB, IIA

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  
Ca = 80 nF  
Ca = 675 nF

La = 1.6 H  
La = 6.4 H

Group A, B resp. IIC  
Group C, D resp. IIB, IIA

	Approved Pfanzelt	Date (yyyy-mm-dd) 2009-06-03	Drawing No. 12 03 00 111	Dwg.rev.	Revision no.	Revision date (yyyy-mm-dd)	Name	Material 71102412 ZD 071R/09/en/09.09	<b>Endress+Hauser</b>
Volume (mm³)	Designed Pfanzelt	Date (yyyy-mm-dd) 2009-05-11	Unit RIA45	Scale 1:1	<b>CONTROL DRAWING</b> <b>FM approval AIS, ANI</b>			<b>Serie</b>	
Refer to protection notice ISO 16016	Edge of working parts ISO 13715	Geometrical tolerancing ISO 2768-mH-E	Part No. -	Format A4				Objekt version	