

Hazardous (Classified) Location
Class 1 / Division 1, 2 / Groups ABCD
Class 1 / Zone 0 / IIC



Nonhazardous Locations



Installation Notes RIA16

- FM Approved Apparatus must be installed in accordance with manufacturer instructions.
- Install per National Electrical Code (NFPA 70)
- Use supply wires suitable for 5°C above surroundings.
- Warning: Substitution of components may impair intrinsic safety or suitability for Class 1, Division 2.

INTRINSICALLY SAFE IS Class I / Div. 1 / Groups ABCD

- Installation should be in accordance with ANSI/ISA RP 12.6.01 "Installation of Intrinsically safe systems for Hazardous (classified) locations" and the National Electrical Code (ANSI/NFPA 70).
- FM Approved Associated Apparatus must meet the following parameters:

$$U_o \leq U_i \quad I_o \leq I_i \quad P_o \leq P_i \quad C_a \geq C_i + C_{cable} \quad L_a \geq L_i + L_{cable}$$

Field display entity parameters are as follows:

$$U_i \text{ or } V_{max} \leq 30 \text{ V DC} \quad C_i = 0$$

$$I_i \text{ or } I_{max} \leq 100 \text{ mA} \quad L_i = 0$$

$$P_i \leq 750 \text{ mW}$$

NONINCENDIVE NI Class I / Div. 2 / Groups ABCD

- Depending on location install per National Electrical Code (NEC) using wiring methods described in article 500 through article 510.
- Intrinsic safety barrier not required. $V_{max} \leq 30 \text{ V DC}$.
- Warning: Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
- Nonincendive field wiring installation

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

Transmitter Nonincendive Field Wiring parameters are as follows:

$$U_i \text{ or } V_{max} \leq 30 \text{ V DC} \quad C_i = 12.5 \text{ nF} \quad L_i = 0$$

$$I_i \text{ or } I_{max} = \text{see following note below}$$

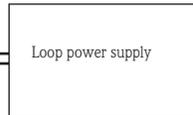
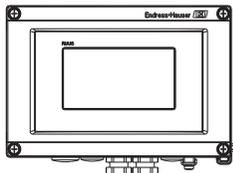
For these current controlled circuits, the parameter I_{max} is not required and need not to be aligned with parameter I_{sc} and I_t of the Associated Nonincendive Field Wiring Apparatus or Associated Apparatus.

Functional ratings

These ratings do not supersede Hazardous Location values

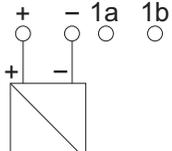
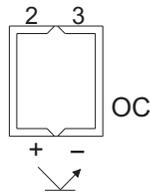
$$U_{nom} \leq 35 \text{ DC} \quad I_{nom} \leq 4 \text{ to } 20 \text{ mA}$$

e.g. Process Transmitter or
RTD or TC Sensor



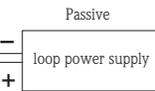
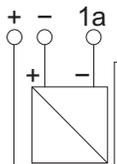
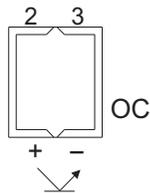
See also installation notes
for using power supply

Terminal 2 and 3
Open Collector



Connecting a active current source
e.g. a sensor with ist own power supply and active current output

Terminal 2 and 3
Open Collector



Connecting a passive current source
e.g. 2-wire transmitter with additional loop power supply

Temperature range

T4 -40°C ... +85°C
T5 -40°C ... +60°C
T6 -40°C ... +50°C

INTRINSICALLY SAFE NONINCENDIVE, FIELD WIRING

IS Class I / Div. 1 / Groups ABCD
NI Class I / Div. 2 / Groups ABCD

Signal Input	V_{max}	I_{max}	P_i	C_i	L_i
Terminals	(V)	(mA)	(W)	(nF)	(mH)
Active (+ and -)	30	100	750	12.5	0
Passive (+, 1b)	30	100	750	12.5	0
Open Collector 2 and 3	30	100	375	0	0

Approved	Pfanzelt	Date (yyyy-mm-dd)	2008-12-08	Drawing No.	12 05 00 111	Dwg.rev.	Revision no.	Revision date (yyyy-mm-dd)	Name	Material	71101485 ZD 070R/09/en/07.09	Endress+Hauser
Designed	Pfanzelt	Date (yyyy-mm-dd)	2008-12-04	Unit	RIA16	Scale	1:1		Title		Series	
Refer to protection notice ISO 16016	Edge of working parts ISO 13715	Geometrical tolerancing ISO 2768-mH-E	Part No.	-		Format	A4		CONTROL DRAWING FM IS/NI		Objekt version Sheet 1 of 1	Endress + Hauser Wetzlar GmbH+Co. KG Nesselwang / Germany