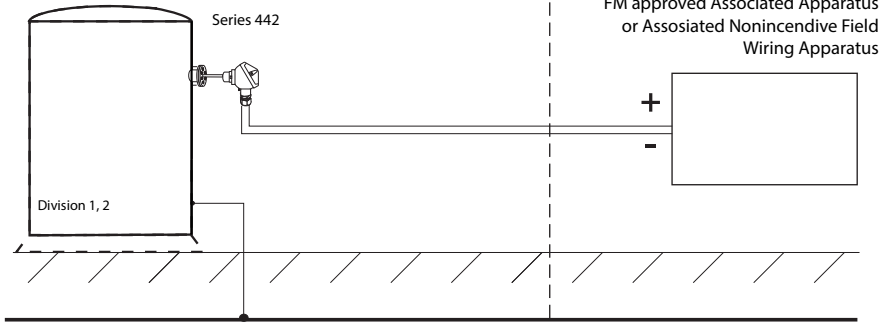


Hazardous (Classified) Location
Class I / Division 1, 2 / Groups ABCD



Nonhazardous Locations



Temperature range

- T4 -40 °C ... +85 °C
- T5 -40 °C ... +70 °C
- T6 -40 °C ... +55 °C

INTRINSICALLY SAFE **IS** **Class I / Div. 1 / Groups ABCD**
NONINCENDIVE, FIELD WIRING **NI** **Class I / Div. 2 / Groups ABCD**

Sensor circuits (Terminals 3...6)

U _o or V _{oc} or V _t = 6.0 V	I _o or I _{sc} = 2.5 mA	P _o = 3.75 mW
Group A, B resp. IIC	C _o or C _a = 40 µF	L _o or L _a = 100 mH
Group C, D resp. IIB, IIA	C _o or C _a = 1000 µF	L _o or L _a = 100 mH

Installation Notes Series 442



- FM Approved Apparatus must be installed in accordance with manufacturer instructions.
- Use supply wires suitable for 5 °C above surroundings.
- Only simple apparatus should be terminated to the sensor connection.
Simple apparatus are components as defined by the NEC (1.2 V, 0.1 A, 0.25 mW or 20 µJ).
- Warning: Substitution of components may impair intrinsic safety or suitability for Class I, 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:
 $U_o \leq U_i$ $I_o \leq I_i$ $P_o \leq P_i$ $C_a \geq C_i + C_{cable}$ $L_a \geq L_i + L_{cable}$
Transmitter entity parameters are as follows:
 U_i or $V_{max} \leq 30$ V dc $C_i = 0$
 I_i or $I_{max} \leq 100$ mA $L_i = 0$
 $P_i \leq 750$ mW
 $V_{oc} + V_{oc}$ of Handheld device < V_{max} , $I_{sc} + I_{sc}$ of Handheld device < I_{max} ,
 $P_o + P_o$ of Handheld device < P_i , $C_a > C_i + C_{cable} + C_i$ of Handheld device,
 $L_a > L_i + L_{cable} + L_i$ of Handheld device, when Programming Handheld device is used.

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. $V_{max} \leq 30$ V dc.
- Warning: Do not disconnect equipment unless power has been switched off or the area is known to be nonhazardous.
- 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 or $V_{max} \leq 30$ V dc $C_i = 0$ $L_i = 0$
 I_i or I_{max} = 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
 $U_{nom} \leq 30$ dc $I_{nom} \leq (4 \text{ to } 20)$ mA

TITLE: Series 442 FM Control Drawing IS, NI		PART NUMBER:		DATE: 09/30/2020		 pyromation [®] beyond measure FORT WAYNE, INDIANA (260) 484-2580
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