

# FM Hazardous Area Approvals

## Fisher™ i2P-100 Electro-Pneumatic Transducer

### Hazardous Area Classifications and Special Instructions for “Safe Use” and Installation in Hazardous Locations

Certain nameplates may carry more than one approval, and each approval may have unique installation/wiring requirements and/or conditions of “safe use”. These special instructions for “safe use” are in addition to, and may override, the standard installation procedures. Special instructions are listed by approval.

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**Note**

This information supplements the nameplate markings affixed to the product and the i2P-100 instruction manual ([D103198X012](#)), available from your [Emerson Automation Solutions sales office](#) or at [www.Fisher.com](#).



Always refer to the nameplate itself to identify the appropriate certification.

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#### **⚠ WARNING**

**Failure to follow these conditions of “safe use” could result in personal injury or property damage from fire or explosion, and area re-classification.**

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#### Special Conditions of Use

##### Intrinsically Safe, Explosion-proof, Type n, Non-incendive, Dust-Ignition proof

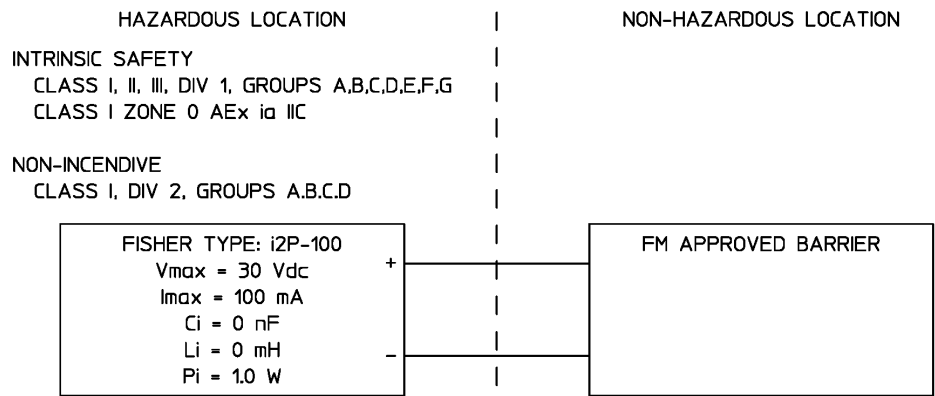
1. When product is used with natural gas as the pneumatic medium, the maximum working pressure of the natural gas supply is limited to 50 psi.
2. When product is used with natural gas as the pneumatic medium the product shall be provided with the proper remote venting, as described in the i2P-100 instruction manual (D103198X012).
3. The apparatus enclosure contains aluminum and is considered to constitute a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact or friction.

Refer to table 1 for additional information.

Table 1. Additional Approval Information

Certification Body	Certification Obtained	Entity Rating	Temperature Code
FM	IS Intrinsically Safe Class I, II, III Division 1 GP A, B, C, D, E, F, G per drawing GE07470 (see figure 1) Class I Zone 0 AEx ia IIC T3/T4/T5 per drawing GE07470 (see figure 1)	Vmax = 30 VDC Imax = 100 mA Pi = 1.0 W Ci = 0 uF Li = 0 uH	T3 (Tamb ≤ 85°C) T4 (Tamb ≤ 81°C) T5 (Tamb ≤ 46°C)
	XP Explosion Proof Class I, Division 1, GP A, B, C, D T5/T6 Class I Zone 1 AEx d IIC T5/T6 NI Non-incendive Class I, Division 2, GP A, B, C, D T5/T6 Type n Class I, Zone 2 AExn C IIC T5/T6 DIP Dust-ignition proof Class II, III Division 1, GP E, F, G T5/T6 S Suitable for Use Class II, III Division 2, GP F, G T5/T6	---	T5 (Tamb ≤ 85°C) T6 (Tamb ≤ 75°C)

Figure 1. FM Loop Schematic (Drawing GE07470)



NOTES:

1. THE INSTALLATION MUST BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC), NFPA 70, ARTICLE 504 AND ANSI/ISA RP12.6 OR ARTICLE 505.
2. CLASS 1, DIV 2 APPLICATIONS MUST BE INSTALLED AS SPECIFIED IN NEC ARTICLE 501-4(B). EQUIPMENT AND FIELD WIRING IS NON-INCENDIVE WHEN CONNECTED TO APPROVED BARRIERS WITH ENTITY PARAMETERS.
3. LOOPS MUST BE CONNECTED ACCORDING TO THE BARRIER MANUFACTURER'S INSTRUCTIONS.
4. MAXIMUM SAFE AREA VOLTAGE SHOULD NOT EXCEED 250 Vrms.
5. RESISTANCE BETWEEN BARRIER GROUND AND EARTH GROUND MUST BE LESS THAN ONE OHM.
6. NORMAL OPERATING CONDITIONS 30 Vdc 20 mADC.
7. FOR ENTITY INSTALLATION (I.S. AND N.I.):  
 $V_{max} > V_{oc}$ , or  $V_t$      $C_i + C_{cable} < C_a$   
 $I_{max} > I_{sc}$ , or  $I_t$          $L_i + L_{cable} < L_a$   
 $P_i > P_o$ , or  $P_t$

WARNING:

THE APPARATUS ENCLOSURE CONTAINS ALUMINUM AND IS CONSIDERED TO CONSTITUTE A POTENTIAL RISK OF IGNITION BY IMPACT OR FRICTION. AVOID IMPACT AND FRICTION DURING INSTALLATION AND USE TO PREVENT RISK OF IGNITION.

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