

CSA Hazardous Area Approvals Fisher™ 846 Current-to-Pressure 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.

Note

This information supplements the nameplate markings affixed to the product and the 846 instruction manual ([D102005X012](#)), available from your Emerson sales office, Local Business Partner, or [Fisher.com](#).

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

⚠ 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.

Intrinsically Safe, Explosion-proof, Type n, Dust-Ignition proof

No special conditions of safe use.

Refer to table 1 for approval information.

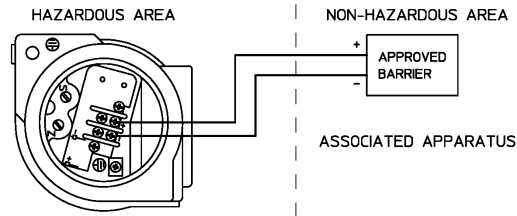
Table 1. cCSAus Hazardous Area Classifications

Certification Body	Certification Obtained	Entity Rating	Temperature Code
CSA	Ex ia Intrinsically Safe Class I Division 1 Groups A,B,C,D T4 per drawing GE59146 (see figure 1)	V _{max} = 40 VDC I _{max} = 200 mA C _i = 0.016 μF L _i = 20 μH	T4 (T _{amb} ≤ 60°C)
	XP Explosion-proof Class I Division 1 Groups C,D DIP Dust Ignition-proof Class II III Division I Groups E,F,G T4 NI Non-incendive Class I, Division 2, Groups A,B,C,D T4	---	T4 (T _{amb} ≤ 60°C)

Figure 1. CSA Installation Drawing GE59146

CSA ENTITY CONCEPT APPROVALS

THE FISHER TYPE 846 CURRENT TO PRESSURE (I/P) TRANSDUCER IS APPROVED AS INTRINSICALLY SAFE FOR USE IN CLASS I, II AND III, DIVISION I, GROUPS A,B,C,D,E,F AND G HAZARDOUS LOCATIONS, WHEN CONNECTED IN ACCORDANCE WITH THIS DOCUMENT. THE TYPE 846 IS ALSO CSA APPROVED AS NONINCENDIVE FOR CLASS I, DIVISION 2, GROUPS A,B,C AND D HAZARDOUS LOCATIONS.



THE ENTITY CONCEPT ALLOWS INTERCONNECTION OF INTRINSICALLY SAFE APPARATUS TO ASSOCIATED APPARATUS NOT SPECIFICALLY EXAMINED IN SUCH COMBINATION. THE CRITERIA FOR INTERCONNECTION IS THAT THE VOLTAGE (V_{max} OR U_i), THE CURRENT (I_{max} OR I_i), AND THE POWER (P_{max} OR P_i) OF THE INTRINSICALLY SAFE APPARATUS MUST BE EQUAL TO OR GREATER THAN THE VOLTAGE (V_{oc} OR U_o), AND THE CURRENT (I_{sc} OR I_o), AND THE POWER (P_o) DEFINED BY THE ASSOCIATED APPARATUS. IN ADDITION, THE SUM OF THE MAX UNPROTECTED CAPACITANCE (C_i) AND MAX UNPROTECTED INDUCTANCE (L_i), INCLUDING THE INTERCONNECTING CABLING CAPACITANCE, (C_{cable}) AND CABLING INDUCTANCE (L_{cable}), MUST BE LESS THAN THE ALLOWABLE CAPACITANCE (C_o) AND INDUCTANCE (L_o) DEFINED BY THE ASSOCIATED APPARATUS. IF THE ABOVE CRITERIA IS MET, THEN THE COMBINATION MAY BE CONNECTED.

$$V_{max} \text{ OR } U_i \geq V_{oc} \text{ OR } U_o \quad I_{max} \text{ OR } I_i \geq I_{sc} \text{ OR } I_o \quad C_i + C_{cable} \leq C_o \quad L_i + L_{cable} \leq L_o$$

CLASS I, II AND III, DIV I GROUPS A, B, C, D, E, F AND G

APPARATUS PARAMETER

V_{max} = 40 VDC

I_{max} = 200mA

L_i = 20 μ H

C_i = 0.016 μ F

BARRIER PARAMETER

V_{oc} MUST BE LESS THAN OR EQUAL TO 30 VDC

I_{sc} MUST BE LESS THAN OR EQUAL TO 100mA

L_o MUST BE GREATER THAN 20 MICROHENRIES

C_o MUST BE GREATER THAN 0.016 MICROFARADS

NOTES:

1. THE APPROVED ASSOCIATED APPARATUS MUST BE A LINEAR OUTPUT DEVICE.
2. MAXIMUM SAFE AREA VOLTAGE SHOULD NOT EXCEED 250V_{rms}.
3. RESISTANCE BETWEEN INTRINSICALLY SAFE GROUND AND EARTH GROUND MUST BE LESS THAN ONE OHM.
4. INSTALLATION MUST BE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE (CEC) PART 1 AND ANSI/ISA RP12.06.01
"INSTALLATION OF INTRINSICALLY SAFE SYSTEMS FOR HAZARDOUS (CLASSIFIED) LOCATIONS" AND THE NATIONAL ELECTRICAL CODE (ANSI/NFPA 70).
5. DUST-TIGHT CONDUIT SEAL MUST BE USED WHEN INSTALLED IN CLASS II AND CLASS III ENVIRONMENTS.
6. THE NON-INCENDIVE FIELD WIRING IS THE SAME AS THE INTRINSIC SAFETY FIELD WIRING.

WARNING: FOR INTRINSICALLY SAFE APPLICATIONS THE APPARATUS ENCLOSURE CONTAINS ALUMINUM AND IS CONSIDERED TO CONSTITUTE A POTENTIAL RISK OF IGNITION BY IMPACT AND FRICTION. AVOID IMPACT AND FRICTION DURING INSTALLATION AND USE TO PREVENT RISK OF IGNITION.

WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.

WARNING: TO PREVENT IGNITION OF FLAMMABLE OR COMBUSTIBLE ATMOSPHERES, DISCONNECT POWER BEFORE SERVICING.

GE59146

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