

ATEX 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 at [www.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.

Specific Conditions of Use

Intrinsically Safe

The equipment must not be submitted to mechanical impacts or frictions.

The intrinsically safe apparatus shall only be connected to associated intrinsically safe apparatus certified for the intended use. This association shall comply with the requirements of the standard EN 60079-25.

For barriers (linear and active) the association U_o and I_o must be such that $P_o \leq 1W$, within the set limits
 $U_o : 40V$, $I_o : 57mA$, $P_o : 1W$, $C_o : 24,5nF$, $L_o : 9,98mH$ or
 $U_o : 22V$, $I_o : 200mA$, $P_o : 1W$, $C_o : 78,5nF$, $L_o : 0.39mH$.

Flameproof

Certificate: Baseefa05ATEX0130X

1. The equipment incorporates flameproof joints which have a maximum gap less than that stated in EN 60079-1. The user shall refer to the manufacturer's installation, operation, and maintenance document for guidance.
2. The cable entry device used shall be certified Ex d IIB or Ex d IIC.
3. The user shall ensure that the maximum system pressure does not exceed 35 psi.
4. Refer to figures 2-2 and 2-3 in the instruction manual for proper bolting engagement length for ATEX flameproof units.
5. A cable entry hole is provided for the accommodation of a flameproof cable entry device, with or without the interposition of a flameproof thread adaptor.

The cable entry device and thread adapter shall be suitable for the equipment, the cable and the conditions of use and shall be certified as Equipment (not a Component) under an EC Type Examination Certificate to Directive 2014/34/EU.

Type n

Ambient temperature range:

T5/T88°C: $-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$

T6/T77°C: $-40^{\circ}\text{C} \leq T_a \leq +74^{\circ}\text{C}$

The equipment must only be connected to an external source with U_{max} : 40V or 22V, I_{max} : 200mA, P_{max} : 0.8W as a maximum supply parameters.

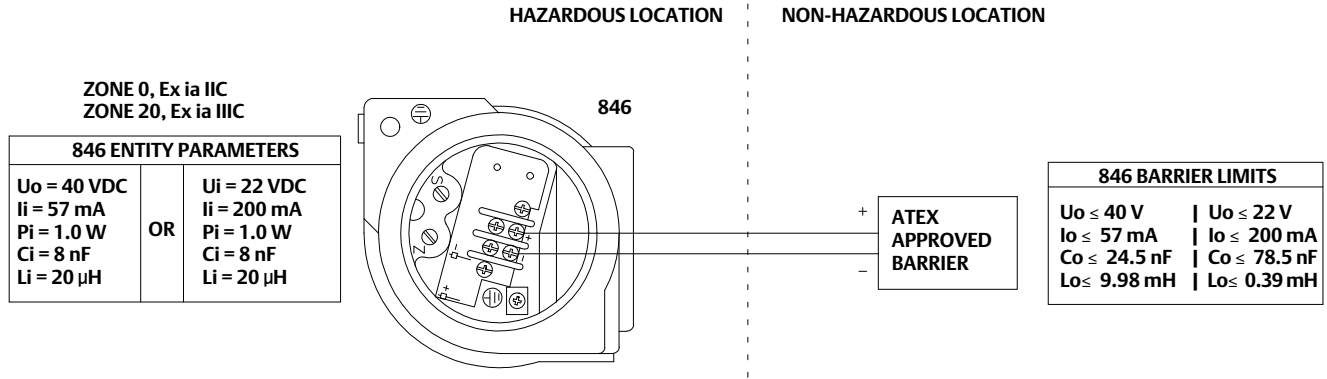
The apparatus must be connected according to instruction manual.

Refer to table 1 for additional approval information.

Table 1. ATEX Hazardous Area Classifications

Certificate	Certification Obtained	Entity Rating	Temperature Code
ATEX	Intrinsically Safe ⊕ II 1 GD Gas Ex ia IIC T4, T5 Ga Dust Ex ia IIIC T90°C Da IP66 (Tamb ≤ 80°C) Ex ia IIIC T50°C Da IP66 (Tamb ≤ 40°C)	U _i = 40 V OR U _i = 22 V I _i = 57 mA I _i = 200 mA P _i = 1.0 W P _i = 1.0 W C _i = 8 nF C _i = 8 nF L _i = 20 μH L _i = 20 μH	T4 (Tamb ≤ 80°C) T5 (Tamb ≤ 40°C)
	Flameproof ⊕ II 2 G Gas Ex db IIB T5/T6 Gb	---	T5 (Tamb ≤ 80°C) T6 (Tamb ≤ 65°C)
	Type n ⊕ II 3 GD Gas Ex nA IIC T5/T6 Gc Dust Ex tc IIIC T88°C T ₅₀₀ Dc IP66 Ex tc IIIC T77°C T ₅₀₀ Dc IP66	---	T5 (Tamb ≤ 85°C) T6 (Tamb ≤ 74°C)

Figure 1. Loop Schematic (GE91565)



1 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.

2 INSTALLATION MUST BE IN ACCORDANCE WITH THE NATIONAL WIRING PRACTICES OF THE COUNTRY IN USE.

3 LOOPS MUST BE CONNECTED ACCORDING TO THE BARRIER MANUFACTURER'S INSTRUCTIONS.

4 THE INTRINSICALLY SAFE APPARATUS SHALL ONLY BE CONNECTED TO ASSOCIATED INTRINSICALLY SAFE APPARATUS IN COMPLIANCE WITH STANDARD EN 60079-25.

5 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.

6 FOR BARRIERS (LINEAR AND ACTIVE) THE ASSOCIATION OF U_o AND I_o MUST BE SUCH THAT $P_o \leq 1\text{W}$ WITHIN THE SET LIMITS OF THE 846 ENTITY PARAMETERS. REFER TO DIAGRAM ABOVE.

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