

Safety Instructions

Prosonic T FMU30

Ex ia Class I, Division 1, Group A, B, C, D, T5
Class I, Zone 0, AEx/Ex ia IIC T5 Ga



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Safety instructions for electrical apparatus for explosion-hazardous areas classified according to the Canadian Electrical Code (CEC) and National Electrical Code (NEC)

Prosonic T FMU30

english

**Associated
Documentation**

This document is an integral part of the following Operating Instructions:
BA00387F/00

The Operating Instructions which are supplied and correspond to the device type apply.

Designation

Equipment protection level (EPL)**Ga****Designation of type of protection/
level of protection****Ex ia Class I, Division 1, Group A, B, C, D, T5
Class I, Zone 0, AEx/Ex ia IIC T5 Ga**

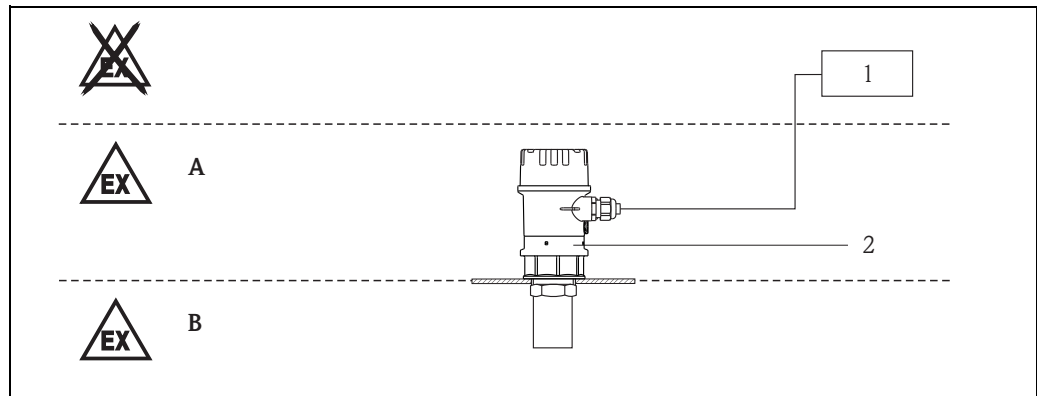
Safety instructions:
General

- Staff must meet the following conditions for mounting, electrical installation, commissioning and maintenance of the device:
 - Be suitably qualified for their role and the tasks they perform
 - Be trained in explosion protection
 - Be familiar with national electrical code of the country in use
- Install the device according to the manufacturer's instructions and national regulations.
- Do not operate the device outside the specified electrical, thermal and mechanical parameters.
- Only use the device in media to which the wetted materials have sufficient durability.
- Modifications to the device can affect the explosion protection and must be carried out by staff authorized to perform such work by Endress+Hauser.

Safety instructions:
Special conditions

- Permitted ambient temperature range: $-20\text{ °C} \leq T_a \leq +60\text{ °C}$.
- Sensors are suitable for use in gases of Group IIC if there is no electrostatic charging of the sensors (e.g. friction, cleaning, maintenance, strong currents etc.). These sensors are indicated by the warning sign "Avoid Electrostatic Charge".
- In the case of process connections made of polymeric material or with polymeric coatings, avoid electrostatic charging of the plastic surfaces.

Safety instructions:
Installation



FMU3x_01

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- A** Electronics
- Class I, Div. 1, Gr. A, B, C, D
 - Class I, Zone 0, Gr. IIC
- B** Process/sensor
- Class I, Div. 1, Gr. A, B, C, D
 - Class I, Zone 0, Gr. IIC
- 1 Associated Equipment, [Ex ia]
- 2 FMU30

- Comply with the installation and safety instructions in the Operating Instructions.
- Install the device according to the manufacturer's instructions and any other valid standards and regulations (e.g. CEC, Part I or NEC).
- Continuous duty temperature of the cable $\geq T_a + 5\text{ K}$.
- To maintain the ingress protection of the housing IP68, install the housing cover and cable glands correctly.
- Close unused entry glands with sealing plugs.
- Install the device to exclude any mechanical damage or friction during the application. Pay particular attention to flow conditions and tank fittings.

Intrinsic safety

- The FMU30 must be connected to Associated Equipment with explosion protection [Ex ia] that has been certified for the country in use. Refer to "Connection data" for relevant entity parameters.
- The intrinsically safe input power circuit of the device is isolated from ground potential and has a dielectric strength of at least $500\text{ V}_{\text{rms}}$ with respect to it.
- Warning: Substitution of components may impair Intrinsic Safety.

Potential equalization

- Integrate the device into the local potential equalization.

**Safety instructions:
Zone 0**

- In the event of potentially explosive vapor/air mixtures, only operate the device under atmospheric conditions.
 - Temperature: –20 to +60 °C
 - Pressure: 80 to 110 kPA (0.8 to 1.1 bar)
 - Air with normal oxygen content, usually 21 % (V/V)
- Only install the devices in media for which the wetted materials have sufficient durability.

Connection data**Intrinsically safe power supply and signal circuit:**

$U_i \leq 30 \text{ V}$
 $I_i \leq 300 \text{ mA}$
 $P_i \leq 1 \text{ W}$
 $C_i = 13 \text{ nF}$
 $L_i = 0 \text{ }\mu\text{H}$

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