

# Safety Instructions

## Prosonic T

## FMU30

Ex ia IIC T5 Ga/Gb  
GYJ13.1410X



Document: XA01264F-A  
Safety instructions for electrical apparatus for explosion-hazardous areas



# Prosonic T FMU30

**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.

**Supplementary  
Documentation**

Explosion-protection brochure:  
CP00021Z/11

**Designation**

Explanation of the labelling and type of protection can be found in the explosion protection brochure.

---

**Designation of explosion protection**

**Ex ia IIC T5 Ga/Gb**

**Applied standards**

**GB 3836.1-2010**  
**GB 3836.4-2010**  
**GB 3836.20-2010**

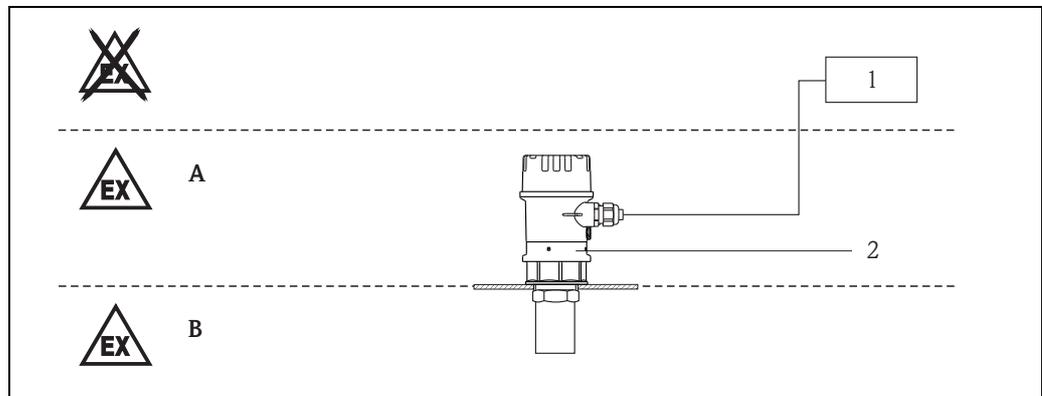
### Safety instructions: General

- 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 regulations
- For installation, use and maintenance of the device, users must also observe the requirements stated in the Operating Instructions and the standards:
  - GB50257-1996: "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".
  - GB3836.13-1997: "Electrical apparatus for explosive gas atmospheres, Part 13: Repair and overhaul for apparatus used in explosive gas atmospheres".
  - GB3836.15-2000: "Electrical apparatus for explosive gas atmospheres, Part 15: Electrical installations in hazardous area (other than mines)".
  - GB3836.16-2006: "Electrical apparatus for explosive gas atmospheres, Part 16: Inspection and maintenance of electrical installation (other than mines)".
- 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.
- Avoid electrostatic charging:
  - Of plastic surfaces (e.g. housing, sensor element, special varnishing, attached additional plates, ..)
  - Of isolated capacities (e.g. isolated metallic plates)
- 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



A Zone 1; Electronic  
B Zone 0; Process

1 Power supply  
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.
- Connect the device using suitable cable and wire entries of protection type "Intrinsic safety (Ex i)".
- 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.
- Observe the pertinent guidelines when interconnecting intrinsically safe circuits.
- 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 device is only suitable for connection to certified, intrinsically safe equipment with explosion protection Ex ia.
- The intrinsically safe input power circuit of the device is isolated from ground potential and has a dielectric strength of at least  $500 V_{rms}$  with respect to it.

**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)
 If no potentially explosive mixtures are present, or if additional protective measures have been taken, the device may also be operated under non-atmospheric conditions in accordance with the manufacturer's specifications.
- Only install the devices in media for which the wetted materials have sufficient durability.

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

$U_i \leq 30$  V  
 $I_i \leq 300$  mA  
 $P_i \leq 1$  W  
 $C_i = 13$  nF  
 $L_i = 0$  μH

**Intrinsically safe display circuit:**

$U_o = 3.8$ V	$U_i = 3.8$ V
$I_o = 30.53$ mA	$I_i = 47$ mA
$P_o = 29$ mW	$P_i = 66$ mW
$C_o = 100$ μF	$C_i = 0$ nF
$L_o = 1$ mH	$L_i = 0$ μH







71243536

[www.addresses.endress.com](http://www.addresses.endress.com)

---