

Safety Instructions

Deltapilot S

FMB70

4-20 mA HART, PROFIBUS PA, FOUNDATION Fieldbus

Ex ia IIC T6...T4 Ga/Gb

IECEX KEM06.0011



XA00697P-C

Safety instructions for electrical apparatus for explosion-hazardous areas according to IEC standards

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FMB70

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Associated Documentation

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

HART: BA00332P/00, BA00274P/00

PROFIBUS PA: BA00356P/00, BA00296P/00

FOUNDATION Fieldbus: BA00372P/00, BA00303P/00

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

Supplementary Documentation

Explosion-protection brochure:

CP021Z/00

Designation

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

**Designation according to IECEX
Equipment protection level (EPL)**

Ga/Gb

Designation of explosion protection

Ex ia IIC T6...T4 Ga/Gb

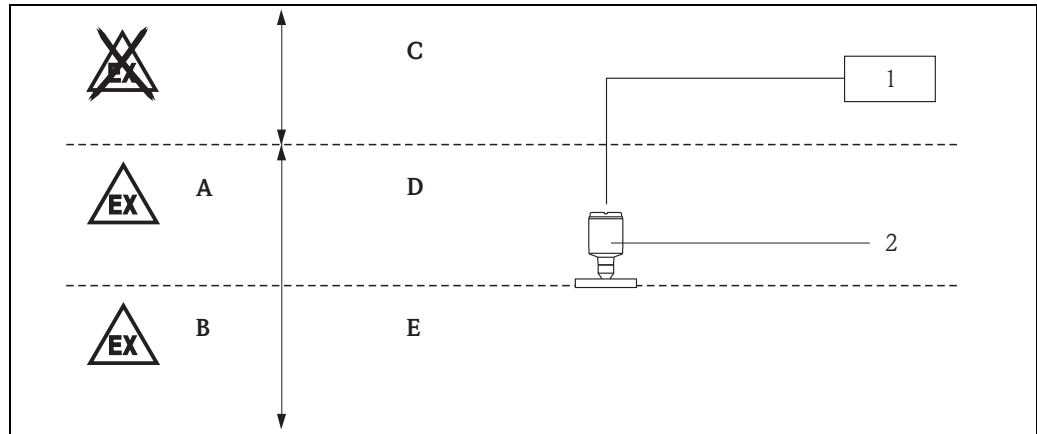
Applied standards

IEC 60079-0 :2011

IEC 60079-11 :2011

IEC 60079-26 :2006

**Safety instructions:
Installation**



1

- A Zone 1
B Zone 0
C Power supply
D Electronic
E Process

- 1 Certified associated apparatus
2 FMB70;
Option: Separate housing

- 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. IEC 60079-14).
- Only install the devices in media for which the wetted materials have sufficient durability.
- Avoid electrostatic charging of the plastic surfaces, for plastic process connections or plastic coatings.
- The type of protection changes as follows when the devices are connected to certified intrinsically safe circuits of Category ib: Ex ib IIC T6 or Ex ib IIB T4.
When connecting an intrinsically safe ib circuit, do not operate the sensor at Zone 0.
- The intrinsically safe input power circuit of the device is isolated from ground potential and has a dielectric strength of at least $500 V_{\text{rms}}$ with respect to it. For devices with integrated overvoltage protection (optional), the dielectric strength is min. $290 V_{\text{rms}}$ to earth.
- After aligning (rotating) the housing, retighten the fixing screw

**Safety instructions:
Zone 0**

- Only operate devices in potentially explosive vapour/air mixtures under atmospheric conditions:
 $-20^{\circ}\text{C} \leq T \leq +60^{\circ}\text{C}$
 $0.8 \text{ bar} \leq p \leq 1.1 \text{ bar}$
- If no potentially explosive mixtures are present, or if additional protective measures have been taken, e.g. according to IEC 60079-14 or EN 1127-1, the transmitters may be operated under other than atmospheric conditions in accordance with the manufacturer's specifications.
- Associated apparatus with galvanic isolation between the intrinsically safe and non-intrinsically safe circuits are preferred.
- Overvoltage protection is not required depending on the design of this device.

Temperature tables

Type of protection/ level of protection	Temperature class	Process temperature	Ambient temperature (Housing)
Ex ia IIC T6...T4 Ga/Gb	T6	$\leq 80\text{ °C}$	$-40\text{ °C} \leq T_a \leq +40\text{ °C}$
	T4	$\leq 100\text{ °C}$	$-40\text{ °C} \leq T_a \leq +70\text{ °C}$

The process temperatures refer to the temperature at the separation membrane of FMB70 (do not exceed the max. ambient temperature at the housing).

Connection data

Electronic insert: 4-20 mA HART
$U_i \leq 30\text{ V DC}$ $I_i \leq 300\text{ mA}$ $P_i \leq 1\text{ W}$ $C_i \leq 11.8\text{ nF}$ $L_i \leq 225\text{ }\mu\text{H}$ (Order code, Position 2 "Output; Operation": A, B, C) or $L_i = 0$ (Order code, Position 2 "Output; Operation": D, E, F)

Electronic insert: PROFIBUS PA, FOUNDATION Fieldbus
$U_i \leq 17.5\text{ V DC}$ $I_i \leq 500\text{ mA}$ $P_i \leq 5.5\text{ W}$ or $U_i \leq 24\text{ V DC}$ $I_i \leq 250\text{ mA}$ $P_i \leq 1.2\text{ W}$ $C_i \leq 5\text{ nF}$ $L_i \leq 10\text{ }\mu\text{H}$ (suitable for connection to a fieldbus system according to the FISCO model)

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