

# Safety Instructions

## **Deltabar M**

### **PMD55**

#### **4-20 mA HART, PROFIBUS PA, FOUNDATION Fieldbus**

Ex ia IIC T6...T4 Ga/Gb

IECEX KEM 09.0016

Document: XA00462P-B

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



# Deltabar M PMD55

english

4-20 mA HART, PROFIBUS PA, FOUNDATION Fieldbus

## Associated Documentation

This document is an integral part of the following Operating Instructions:  
BA00382P/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 according to IECEx  
Equipment protection level (EPL)**

**Ga/Gb**

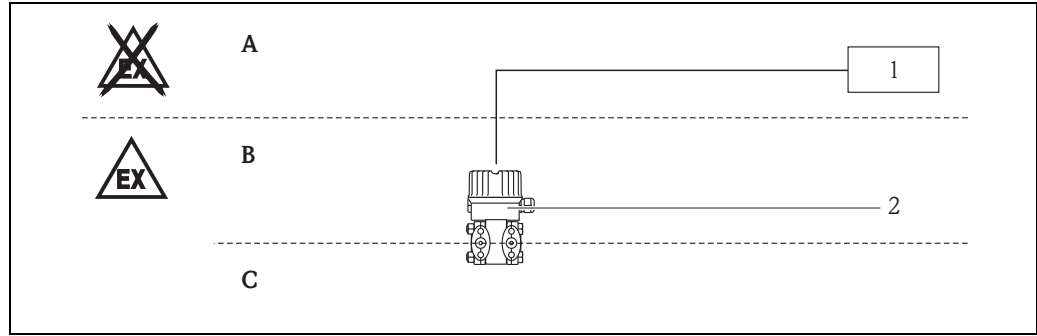
**Designation of type of protection/  
level of protection**

**Ex ia IIC T6...T4 Ga/Gb**

## Applied standards

IEC 60079-0 :2011  
IEC 60079-11 :2011  
IEC 60079-26 :2006

### Safety instructions: Installation



- A** Power supply  
**B** Zone 1, Electronic  
**C** Zone 0, Process
- 1 Certified associated apparatus  
 2 PMD55

- 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.
- 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.
- When the device is connected to an intrinsically safe circuit Ex ib, the level of protection changes to Ex ib. Do not operate intrinsically safe circuits Ex ib in zone 0.  
When the device is connected to an intrinsically safe circuit Ex ic, the level of protection changes to Ex ic. Do not operate intrinsically safe circuits Ex ic in zone 0 or zone 1.
- The intrinsically safe input power circuit of the device is isolated from ground potential and has a dielectric strength of at least 500 V<sub>rms</sub> with respect to it.
- Avoid impact or friction sparks for light metal flanges or flange faces (e.g. titanium, zirconium).
- In case of additional or alternative special varnishing of the enclosure or other metallic parts the danger of an electrostatic charging must be observed. Do not rub surfaces with dry cloth.

### Safety instructions: Zone 0

- Only operate devices in potentially explosive vapour/air mixtures under atmospheric conditions:  
 $-20\text{ °C} \leq T \leq +60\text{ °C}$   
 $0.8\text{ bar} \leq p \leq 1.1\text{ bar}$
- If no potentially explosive mixtures are present, or if additional protective measures have been taken, according to EN 1127-1, the transmitters may be operated under other 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.

### Temperature tables

Electronic insert	Type of protection/ level of protection	Temperature class	Process temperature	Ambient temperature (Housing)
4-20 mA HART	Ex ia IIC T6...T4 Ga/Gb	T6	$\leq 80\text{ °C}$	$-40\text{ °C} \leq T_a \leq +40\text{ °C}$
		T4	$\leq 100\text{ °C}$	$-40\text{ °C} \leq T_a \leq +70\text{ °C}$
PROFIBUS PA, FOUNDATION Fieldbus	Ex ia IIC T6...T4 Ga/Gb	T6	$\leq 80\text{ °C}$	$-40\text{ °C} \leq T_a \leq +40\text{ °C}$
		T4	$\leq 120\text{ °C}$	$-40\text{ °C} \leq T_a \leq +70\text{ °C}$

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

**Connection data**

Electronic insert	Electrical data
4-20 mA HART	U <sub>i</sub> ≤ 30 V DC, I <sub>i</sub> ≤ 300 mA, P <sub>i</sub> ≤ 1 W C <sub>i</sub> ≤ 10 nF, L <sub>i</sub> = 0
PROFIBUS PA, FOUNDATION Fieldbus	U <sub>i</sub> ≤ 17.5 V DC, I <sub>i</sub> ≤ 500 mA, P <sub>i</sub> ≤ 5.5 W C <sub>i</sub> ≤ 5 nF, L <sub>i</sub> ≤ 10 μH (FISCO field device) or U <sub>i</sub> ≤ 24 V DC, I <sub>i</sub> ≤ 250 mA, P <sub>i</sub> ≤ 1.2 W C <sub>i</sub> ≤ 5 nF, L <sub>i</sub> ≤ 10 μH







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