

# Safety Instructions

## **Deltabar PMD55B**

Ga/Gb Ex ia IIC T6...T1

1Ex ia IIC T6...T1 Gb





# Deltabar PMD55B

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**About this document**

This document has been translated into several languages. Legally determined is solely the English source text.

**Associated documentation**

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

BA02013P/00, TI01510P/00

**Supplementary documentation**

Explosion-protection brochure: CP00021Z/11

The Explosion-protection brochure is available:

- In the download area of the Endress+Hauser website:  
[www.endress.com](http://www.endress.com) -> Downloads -> Media Type:  
 Documentation -> Documentation Type: Brochures and catalogs ->  
 Text Search: CP00021Z
- On the CD for devices with CD-based documentation

**Manufacturer's certificates****Certificate of Conformity TP TC 012/2011**

Inspection authority:

LLC NANIO CCVE (ООО «НАНИО ЦСВЭ»)

Certificate number:

EAЭС RU C-DE.AA87.B.00963/22

Affixing the certificate number certifies conformity with the following standards (depending on the device version):

- GOST 31610.0-2014 (IEC 60079-0:2011)
- GOST 31610.11-2014 (IEC 60079-11:2011)
- GOST 31610.26-2012/IEC 60079-26:2006

**Manufacturer address**

Endress+Hauser SE+Co. KG

Hauptstraße 1

79689 Maulburg, Germany

Address of the manufacturing plant: See nameplate.

**Extended order code**

The extended order code is indicated on the nameplate, which is affixed to the device in such a way that it is clearly visible. Additional information about the nameplate is provided in the associated Operating Instructions.



Position 6 (Housing, Material)		Description
Selected option		
PMD55B	B	Single compartment; Alu, coated

### *Optional specifications*

ID Nx, Ox (Accessory Mounted)		Description
Selected option		
PMD55B	NA	Overvoltage protection

ID Px, Rx (Accessory Enclosed)		Description
Selected option		
PMD55B	PB	Weather protection cover, plastic

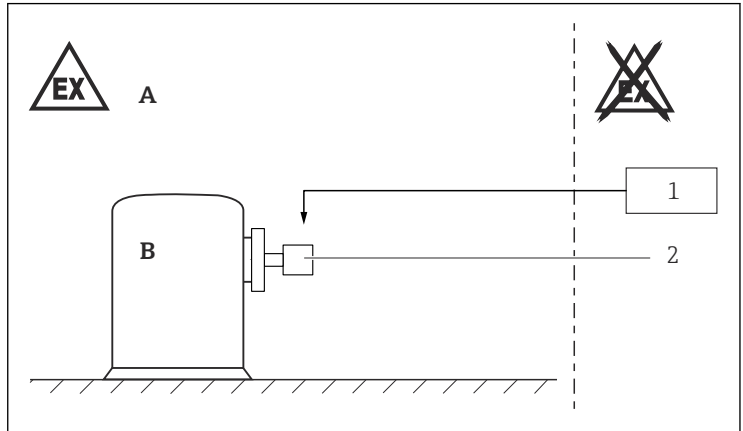
## **Safety instructions: General**

- Devices suitable for zone separation (marked Ga/Gb or Da/Db) are always suitable for installation in the less critical zone (Gb or Db). Due to space limitations the corresponding marking maybe not indicated on the nameplate.
- Comply with the installation and safety instructions in the Operating Instructions.
- 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
- 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**

- To avoid electrostatic charging: Do not rub surfaces with a dry cloth.
- In the event of additional or alternative special varnishing on the housing or other metal parts or for adhesive plates:
  - Observe the danger of electrostatic charging and discharge.
  - Do not install in the vicinity of processes ( $\leq 0.5$  m) generating strong electrostatic charges.
- Avoid sparks caused by impact and friction.

**Safety instructions:**  
**Installation**



A0041997

- A Zone 1, Electronic  
 B Zone 0 or Zone 1, Process  
 1 Associated intrinsically safe power supply units  
 2 PMD55B

- After aligning (rotating) the housing, retighten the fixing screw.
- When the device is connected to certified intrinsically safe circuits of Category Ex ib for Equipment Groups IIC and IIB, the type of protection changes to Ex ib IIC and Ex ib IIB. Do not operate the sensor in Zone 0 if connecting to an intrinsically safe circuit of Category Ex ib.
- Continuous service temperature of the connecting cable:  $\geq T_a + 20$  K.
- Observe the pertinent guidelines when interconnecting intrinsically safe circuits.
- Observe the maximum process conditions according to the manufacturer's Operating Instructions.
- 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 / Ex ib.
- The intrinsically safe input power circuit of the device is isolated from ground. The dielectric strength is at least  $500 V_{\text{rms}}$ .

*Optional specification, ID Nx, Ox = NA*

The intrinsically safe input power circuit of the device is isolated from ground. The dielectric strength is at least  $290 V_{\text{rms}}$ .


### 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 use the device in media to which the wetted materials have sufficient durability (e.g. process connection seal).

### Temperature tables

-  ▪ The specified ambient and process temperature ranges exclusively refer to the explosion protection and must not be exceeded. Operationally permitted ambient temperature ranges can be restricted depending on the version: See Operating Instructions.
  - Do not exceed the max. ambient temperature at the housing.
  - The process temperatures refer to the temperature at the separation membrane.

-  *Optional specification, ID Px, Rx = PB*  
When using the weather protection cover: Reduce the admissible ambient temperature by 10 K.

Temperature class	Process temperature range	Ambient temperature range
T6	$-40\text{ °C} \leq T_p \leq +80\text{ °C}$	$-40\text{ °C} \leq T_a \leq +50\text{ °C}$
T4...T1	$-40\text{ °C} \leq T_p \leq +100\text{ °C}$	$-40\text{ °C} \leq T_a \leq +55\text{ °C}$
	$-40\text{ °C} \leq T_p \leq +85\text{ °C}$	$-40\text{ °C} \leq T_a \leq +60\text{ °C}$
	$-40\text{ °C} \leq T_p \leq +60\text{ °C}$	$-40\text{ °C} \leq T_a \leq +60\text{ °C}$



**Connection data****Power supply**

$U_i \leq 30 \text{ V}_{\text{DC}}$   
 $I_i \leq 300 \text{ mA}$   
 $P_i \leq 1 \text{ W}$   
 $C_i \leq 10 \text{ nF}$   
 $L_i = 0$







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