

# Safety Instructions

## Cerabar PMP51B

Ex db IIC T6...T1 Gb





# Cerabar PMP51B

## Table of contents

About this document .....	4
Associated documentation .....	4
Supplementary documentation .....	4
Manufacturer's certificates .....	4
Manufacturer address .....	4
Extended order code .....	4
Safety instructions: General .....	6
Safety instructions: Special conditions .....	7
Safety instructions: Installation .....	7
Safety instructions: Ex d joints .....	8
Temperature tables .....	8
Connection data .....	9

**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:

BA02011P/00, TI01508P/00

**Supplementary documentation**

Special Documentation for cable gland M20 Ex d: SD02550F/00

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 -> Brochures and Catalogs -> Text Search: CP00021Z
- On the CD for devices with CD-based documentation

**Manufacturer's certificates****Certificate of Conformity**

Certificate number:  
CML 21JPN1233X

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

- JNIO SH-TR-46-1:2015
- JNIO SH-TR-46-2:2018

**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.

**Structure of the extended order code**

PMP51B      -      \*\*\*\*\*      +      A\*B\*C\*D\*E\*F\*G\*..  
 (Device                      (Basic                      (Optional  
   type)                      specifications)                      specifications)

\* = Placeholder  
 At this position, an option (number or letter) selected from the specification is displayed instead of the placeholders.

*Basic specifications*

The features that are absolutely essential for the device (mandatory features) are specified in the basic specifications. The number of positions depends on the number of features available. The selected option of a feature can consist of several positions.

*Optional specifications*

The optional specifications describe additional features for the device (optional features). The number of positions depends on the number of features available. The features have a 2-digit structure to aid identification (e.g. JA). The first digit (ID) stands for the feature group and consists of a number or a letter (e.g. J = Test, Certificate). The second digit constitutes the value that stands for the feature within the group (e.g. A = 3.1 material (wetted parts), inspection certificate).

More detailed information about the device is provided in the following tables. These tables describe the individual positions and IDs in the extended order code which are relevant to hazardous locations.

**Extended order code: Cerabar**

*Device type*

PMP51B

*Basic specifications*

Position 1, 2 (Approval)	
Selected option	Description
PMP51B    JF	JPN Ex db IIC T6...T1 Gb

Position 6 (Housing, Material)	
Selected option	Description
PMP51B    B	Single compartment; Alu, coated

Position 7 (Electrical Connection)		
Selected option		Description
PMP51B	F	Thread M20, IP66/68 NEMA Type 4X/6P
	G	Thread G1/2, IP66/68 NEMA Type 4X/6P
	H	Thread NPT1/2, IP66/68 NEMA Type 4X/6P

Position 10 (Diaphragm Seal Type)		
Selected option		Description
PMP51B	G	Temperature isolator
	M	..... m capillary, 316L
	N	..... m capillary, PVC>316L
	O	..... m capillary, PTFE>316L
	R	..... ft capillary, 316L
	S	..... ft capillary, PVC>316L
	T	..... ft capillary, PTFE>316L

#### Optional specifications

No options specific to hazardous locations are available.

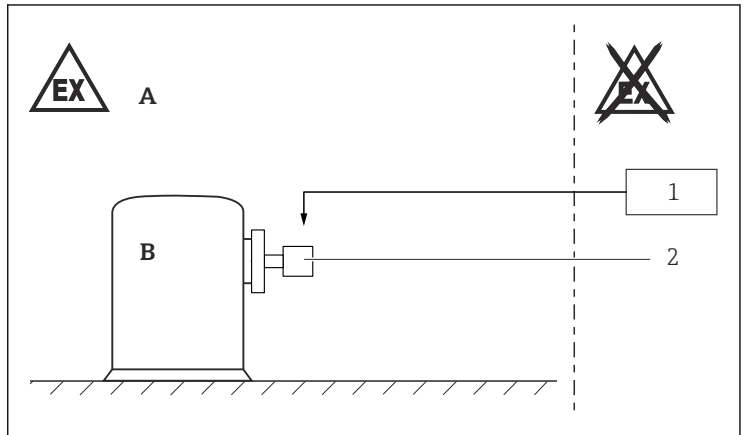
#### Safety instructions: General

- 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**

- In the case of process connections made of polymeric material or with polymeric coatings, avoid electrostatic charging of the plastic surfaces.
- For light metal flanges or flange faces (e.g. titanium, zirconium), avoid sparks caused by impact and friction.
- 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**



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- A Zone 1, Electronic  
 B Zone 1, Process  
 1 Power supply  
 2 PMP51B

- After aligning (rotating) the housing, retighten the fixing screw.
- In potentially explosive atmospheres: Do not open the connection compartment cover and the electronics compartment cover when energized.
- Before operation:
  - Screw in the cover all the way.
  - Tighten the securing screw on the cover.
- Connect the device:
  - Using suitable cable and wire entries of protection type "Flameproof Enclosure (Ex db)".
  - Using piping systems of protection type "Flameproof Enclosure (Ex db)".

- When connecting through a conduit entry approved for this purpose, mount the associated sealing unit directly at the housing.
- Seal unused entry glands with approved sealing plugs that correspond to the type of protection. The plastic transport sealing plug does not meet this requirement and must therefore be replaced during installation.
- Only use certified cable entries or sealing plugs. The metal sealing plugs supplied meet this requirement.
- Only use genuine spare parts from Endress+Hauser which are specified for the device.

*Basic specification, Position 7 = G*

Flameproof equipment with G threaded entry holes is not intended for new installations but only for replacement of equipment in existing installations. Application of this equipment shall comply with the local installation requirements.

**Safety instructions: Ex d joints**

- Flameproof joints are not intended to be repaired.
- If required or if in doubt: ask manufacturer for specifications.

**Temperature tables**

- i**
  - 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.

For detailed information see Technical Information.

Temperature class	Process temperature range	Ambient temperature range
T6	$-40\text{ °C} \leq T_p \leq +80\text{ °C}$	$-40\text{ °C} \leq T_a \leq +60\text{ °C}$
T4...T1	$-40\text{ °C} \leq T_p \leq +100\text{ °C}$	$-40\text{ °C} \leq T_a \leq +60\text{ °C}$
	$-40\text{ °C} \leq T_p \leq +125\text{ °C}$	$-40\text{ °C} \leq T_a \leq +50\text{ °C}$



*Basic specification, Position 10 = G*

Temperature class	Process temperature range	Ambient temperature range
T6	$-40\text{ °C} \leq T_p \leq +80\text{ °C}$	$-40\text{ °C} \leq T_a \leq +65\text{ °C}$
T4	$-40\text{ °C} \leq T_p \leq +125\text{ °C}$	$-40\text{ °C} \leq T_a \leq +70\text{ °C}$
T3	$-40\text{ °C} \leq T_p \leq +190\text{ °C}$	$-40\text{ °C} \leq T_a \leq +60\text{ °C}$
T2	$-40\text{ °C} \leq T_p \leq +290\text{ °C}$	$-40\text{ °C} \leq T_a \leq +55\text{ °C}$
T1	$-40\text{ °C} \leq T_p \leq +400\text{ °C}$	$-40\text{ °C} \leq T_a \leq +50\text{ °C}$

*Basic specification, Position 10 = M, N, O, R, S, T*

Temperature class	Process temperature range	Ambient temperature range
T6	$-40\text{ °C} \leq T_p \leq +80\text{ °C}$	$-40\text{ °C} \leq T_a \leq +70\text{ °C}$
T4	$-40\text{ °C} \leq T_p \leq +125\text{ °C}$	
T3	$-40\text{ °C} \leq T_p \leq +190\text{ °C}$	
T2	$-40\text{ °C} \leq T_p \leq +290\text{ °C}$	
T1	$-40\text{ °C} \leq T_p \leq +400\text{ °C}$	

**Connection data**

Power supply
$U \leq 35\text{ V}_{DC}$ $P \leq 1\text{ W}$







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