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Safety Instructions
Cerabar PMP50

Ex ta IIIC T_{200} 100 °C Da
Ex tb IIIC T125 °C Db

Segurança

OCP 0160 INMETRO

Endress+Hauser
People for Process Automation

Cerabar PMP50

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About this document

The document number of these Safety Instructions (XA) must match the information on the nameplate.

Associated documentation

All documentation is available on the Internet:
www.endress.com/Deviceviewer
(enter the serial number from the nameplate).

To commission the device, please observe the Operating Instructions pertaining to the device:

BA02332P

Supplementary documentation

Explosion protection brochure: CP00021Z

The explosion protection brochure is available on the Internet:
www.endress.com/Downloads

Certificates and declarations

Certificate of Conformity

Certificate number:

Production Maulburg, Germany
CPEx 25.2356 X

Production Itatiba, Brazil
CPEx 25.2378 X

Production Greenwood, Indiana, USA
CPEx 25.2379 X

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

- ABNT NBR IEC 60079-0:2020
- ABNT NBR IEC 60079-31:2022

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

PMP50	–	**********	+	A*B*C*D*E*F*G*..
(Device type)		*(Basic specifications)*		*(Optional 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

The following specifications reproduce an extract from the product structure and are used to assign:
- This documentation to the device (using the extended order code on the nameplate).
- The device options cited in the document.

Device type

PMP50

Basic specifications

Position 1, 2 (Approval)		
Selected option		**Description**
PMP50	MG	INMETRO Ex ta IIIC T_{200} 100 °C Da INMETRO Ex tb IIIC T125 °C Db

Position 6 (Housing, Material)		
Selected option		**Description**
PMP50	J	Dual compartment; Alu, coated
	K	Dual compartment; 316L

Position 7 (Electrical Connection)		
Selected option		**Description**
PMP50	B	Gland M20, brass nickel plated, IP66/68 NEMA Type 4X/6P
	C	Gland M20, 316L, IP66/68 NEMA Type 4X/6P

Position 10 (Diaphragm Seal Type)		
Selected option		**Description**
PMP50	G	Temperature isolator

Optional specifications

No options specific to hazardous locations are available.

Safety instructions: General

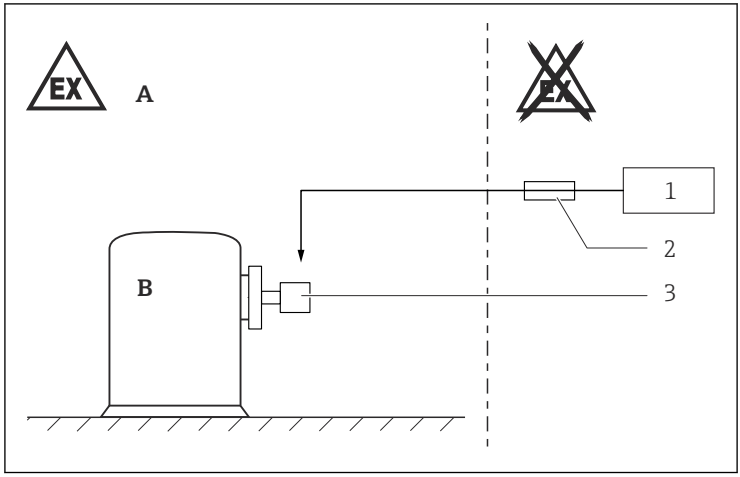
- The device is intended to be used in explosive atmospheres as defined in the scope of IEC 60079-0 or equivalent national standards. If no potentially explosive atmospheres are present or if additional protective measures have been taken: The device may be operated according to the manufacturer's specifications.
- 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. enclosure, sensor element, special varnishing, attached additional plates, ...)
  - Of isolated capacities (e.g. isolated metallic plates)
- Alterations 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: Specific conditions of use

- 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 enclosure or other metal parts or for adhesive plates:
  - Observe the danger of electrostatic charging and discharge.
  - Do not install in the vicinity of processes (≤ 0.5 m) generating strong electrostatic charges.
- Avoid sparks caused by impact and friction.
- Refer to the temperature tables for various ambient and process temperature ranges.
- The device must be operated with a 100 mA fuse.

Safety instructions: Installation

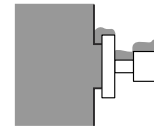
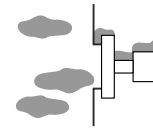


A Zone 20 or Zone 21, Electronic
B Zone 20 or Zone 21, Process
1 Power supply
2 Fuse
3 PMP50

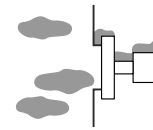
- After aligning (rotating) the enclosure, retighten the fixing screw.
- Do not open in a potentially explosive dust atmosphere.
- Seal the cable entry or piping tight (see protection type of enclosure in the "Temperature tables" chapter).
- Before operation:
  - Screw in the cover all the way.
  - Tighten the securing screw on the cover.

Permitted ambient conditions

Ex ta IIIC T_{200} 100 °C Da

Process Zone 20		Enclosure Zone 20
Continuous dust submersion		Dust accumulation or temporary explosive dust atmosphere
Continuous explosive dust atmosphere and deposits		Dust accumulation or temporary explosive dust atmosphere

Ex tb IIIC T125 °C Db

Process Zone 21		Enclosure Zone 21
Continuous dust deposits or temporary explosive dust atmosphere		Dust accumulation or temporary explosive dust atmosphere

Temperature tables

- The specified surface temperature takes into account all direct heat influences from process heat and self-heating at the enclosure.
- Surface temperatures at the process side maybe higher and must be considered by the user (e.g. at high temperature process connections).
- The T-marking is based on the process temperature of the compact designs.
- 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 enclosure.
- The process temperatures refer to the temperature at the separation membrane.

Basic specification, Position 6 = K
When using the stainless steel enclosure: Reduce the admissible ambient temperature by 5 K.

For detailed information see Technical Information.

Protection type of enclosure: IP66/67

Ex ta IIIC T_{200} 100 °C Da

Maximum surface temperature	Process temperature range	Ambient temperature range	Temperature rise on the electronics
T100 °C	−40 °C ≤ T_p ≤ +60 °C	−40 °C ≤ T_a ≤ +60 °C	40 K

Specific conditions of use:
The surface temperature for equipment protection level (EPL) Da is: T_{200} 100 °C (with 200 mm dust deposit)

Ex tb IIIC T_L 125 °C Db

Maximum surface temperature	Process temperature range	Ambient temperature range
T125 °C	−40 °C ≤ T_p ≤ +125 °C	−40 °C ≤ T_a ≤ +60 °C

Basic specification, Position 10 = G

Maximum surface temperature	Process temperature range	Ambient temperature range
T125 °C	−40 °C ≤ T_p ≤ +400 °C	−40 °C ≤ T_a ≤ +70 °C

Specific conditions of use:
The surface temperature for equipment protection level (EPL) Db is:
T_L 125 °C (with dust accumulation T_L)

T_L marking:
The assigned surface temperature without dust layer is the same.

Connection data

Power supply
U ≤ 35 V_{DC} P ≤ 1 W

Cable entry: Connection compartment

Ex tb

Cable gland: *Basic specification, Position 7 = B*

Thread	Clamping range	Material	Sealing insert	O-ring
M20x1,5	ø 8 to 10.5 mm	Ms, nickel-plated	Silicone	EPDM (ø 17x2)

Cable gland: *Basic specification, Position 7 = C*

Thread	Clamping range	Material	Sealing insert	O-ring
M20x1,5	ø 7 to 12 mm	1.4404	NBR	EPDM (ø 17x2)

- The tightening torque refers to cable glands installed by the manufacturer:
  - Recommended: 3.5 Nm
  - Maximum: 10 Nm
- This value may be different depending on the type of cable. However, the maximum value must not be exceeded.

- Only suitable for fixed installation. The operator must pay attention to a suitable strain relief of the cable.
- The cable glands are suitable for a low risk of mechanical danger (4 Joule) and must be mounted in a protected position if larger impact energy levels are expected.
- To maintain the ingress protection of the enclosure: Install the enclosure cover, cable glands and blind plugs correctly.

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