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Safety Instructions
Cerabar PMP50

ATEX, IECEx: Ex ec IIC T4 Gc
Ex tc IIIC T125 °C Dc

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).

If not yet available, a translation into EU languages can be ordered.

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

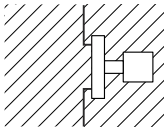
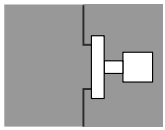
BA02332P

Supplementary documentation

Explosion protection brochure: CP00021Z

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

General notes: Combined approval

	
Ex ec IIC Zone 2	Ex tc IIIC Zone 22

The device is designed for operation in explosive gas or explosive dust atmosphere as shown in the sketch above. In the event of potentially explosive gas-air and dust-air mixtures occurring simultaneously: Suitability requires further assessment.

Certificates and declarations

EU Declaration of Conformity

Declaration Number:
EU_01185

The EU Declaration of Conformity is available on the Internet:
www.endress.com/Downloads

EU type-examination certificate

Certificate number:
EU_01185 X

List of applied standards: See EU Declaration of Conformity.

IEC Declaration of Conformity

Certificate number:
IECEx FMG 24.0008X

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

- IEC 60079-0 : 2017
- IEC 60079-7 : 2017
- IEC 60079-31 : 2022

Manufacturer address

Endress+Hauser SE+Co. KG
Hauptstraße 1
79689 Maulburg, Germany

Address of the manufacturing plant: See nameplate.

Other standards

Among other things, the following standards shall be observed in their current version for proper installation:

- IEC/EN 60079-14: "Explosive atmospheres - Part 14: Electrical installations design, selection and erection"
- EN 1127-1: "Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology"

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	BL	ATEX II 3 G Ex ec IIC T4...T1 Gc ATEX II 3 D Ex tc IIIC T125 °C Dc IECEx Ex ec IIC T4...T1 Gc IECEx Ex tc IIIC T125 °C Dc

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.

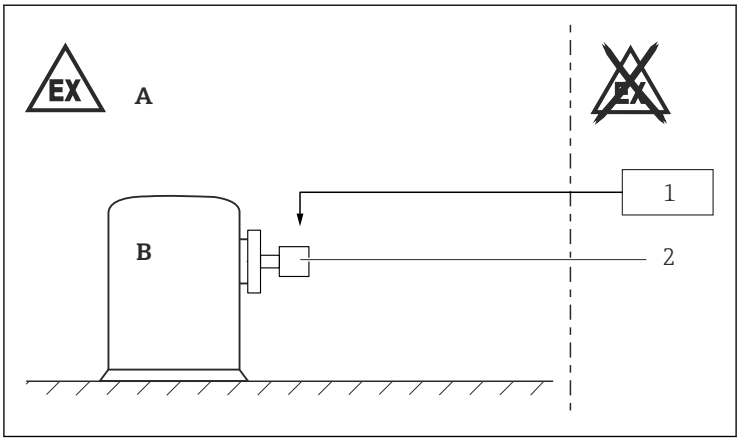
Safety instructions: General

- 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

- 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.

Safety instructions: Installation



A Zone 2 or Zone 22, Electronic
B Zone 2 or Zone 22, Process
1 Power supply
2 PMP50

- After aligning (rotating) the enclosure, retighten the fixing screw.
- Perform the following to achieve the degree of protection IP66/67:
  - Screw the cover tight.
  - Mount the cable entry correctly.
- In potentially explosive atmospheres:
  - Do not disconnect the electrical connection of the power supply circuit when energized.
  - Do not open the connection compartment cover and the electronics compartment cover when energized.
- Continuous service temperature of the connecting cable: ≥ T_a+20 K.
- 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.
- 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.
- Supplied cable glands and metallic sealing plugs comply with the requirements of type of protection marked on the nameplate.
- Before operation:
  - Screw in the cover all the way.
  - Tighten the securing screw on the cover.

Potential equalization

Integrate the device into the local potential equalization.

Temperature tables

Ex ec IIC T4...T1 Gc

- 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.

Temperature class	Process temperature T_p (process)	Ambient temperature T_a (ambient)
T4...T1	+80 °C	–40 to +65 °C
	+100 °C	–40 to +60 °C
	+125 °C	–40 to +50 °C

Basic specification, Position 10 = G

Temperature class	Process temperature T_p (process)	Ambient temperature T_a (ambient)
T4	+130 °C	–40 to +70 °C
T3	+190 °C	–40 to +60 °C
T2	+290 °C	–40 to +60 °C
T1	+300 °C	–40 to +60 °C
	+400 °C	–40 to +55 °C

Ex tc IIIC T125 °C Dc

- 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.

For detailed information see Technical Information.

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

Protection type of enclosure: IP66/67

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

Connection data

Power supply
U ≤ 35 V_{DC} P ≤ 1 W

Cable entry parameters

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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