

Safety Instructions

Cerabar M

PMC51, PMP51, PMP55

4-20 mA HART, PROFIBUS PA,
FOUNDATION Fieldbus

II 1/2 G Ex ia IIC Ga/Gb

II 2 G Ex ia IIC Gb



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Associated documentation	<p>This document is an integral part of the following Operating Instructions:</p> <p>HART BA00382P/00</p> <p>PROFIBUS PA BA00383P/00</p> <p>FOUNDATION Fieldbus BA00384P/00</p>
Supplementary documentation	<p>Explosion-protection brochure: CP00021Z/11</p> <p>The Explosion-protection brochure is available:</p> <ul style="list-style-type: none">■ In the download area of the Endress+Hauser website: www.endress.com -> Downloads -> Brochures and Catalogs -> Text Search: CP00021Z■ On the CD for devices with CD-based documentation
Manufacturer's certificates	<p>UK Declaration of Conformity</p> <p>Declaration Number: UK_00215</p> <p>The UK Declaration of Conformity is available: In the download area of the Endress+Hauser website: www.endress.com -> Downloads -> Declaration -> Type: UKCA Declaration -> Product Code: ...</p> <p>UKCA type-examination certificate</p> <p>Certificate number: CML 21UKEX2440X</p> <p>List of applied standards: See UK Declaration of Conformity.</p>
Manufacturer address	<p>Endress+Hauser SE+Co. KG Hauptstraße 1 79689 Maulburg, Germany</p> <p>Address of the manufacturing plant: See nameplate.</p>

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

PMC51, PMP5x	-	*****	+	A*B*C*D*E*F*G*..
<i>(Device type)</i>		<i>(Basic specifications)</i>		<i>(Optional specifications)</i>

* = 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 M



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

PMC51, PMP51, PMP55

Basic specifications

Position 1, 2 (Approval)		
Selected option		Description
PMC51 PMP5x	UA	UK Ex II 1/2 G Ex ia IIC T6...T4 Ga/Gb
	UE	UK Ex II 2 G Ex ia IIC T6...T4 Gb

Position 3 (Output)		
Selected option		Description
PMC51 PMP5x	2	4-20 mA HART
	3	PROFIBUS PA
	4	FOUNDATION Fieldbus

Optional specifications

No options specific to hazardous locations are available.

Safety instructions: General

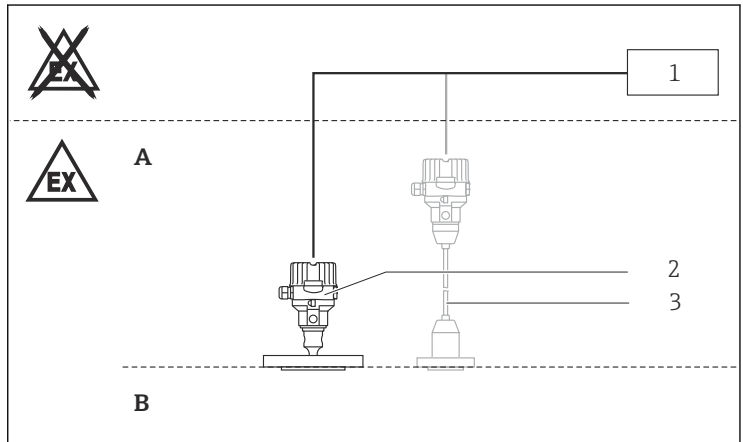
- The device is intended to be used in explosive atmospheres as defined in the scope of IEC 60079-0 or equivalent national standards. If no potentially explosive atmospheres are present or if additional protective measures have been taken: The device may be operated according to the manufacturer's specifications.
- 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
- Comply with the installation and safety instructions in the Operating Instructions.

- Install the device according to the manufacturer's instructions and national regulations.
- 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)

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.
- In the event of additional or alternative special varnishing on the enclosure or other metal parts:
 - Observe the danger of electrostatic charging and discharge.
 - Do not rub surfaces with a dry cloth.

Safety instructions:
Installation



A0024001

- A *Electronic; Zone 1*
 B *Process; Ga/Gb: Zone 0, Gb: Zone 1*
 1 *Certified associated apparatus*
 2 *PMC51, PMP51, PMP55*
 3 *Option: Separate enclosure*

After aligning (rotating) the enclosure, retighten the fixing screw.

Intrinsic safety

- When the device is connected to an intrinsically safe circuit Ex ib, the type 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 type 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. The dielectric strength is at least $500 V_{\text{rms}}$.

Service connection

Basic specification, Position 3 = 2

- For service operations: connect the Commubox FXA195 (from Endress+Hauser) to the display socket.
- Observe the safety instructions of the Commubox.

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 enclosure.



Device type PMC51, PMP51

The process temperatures refer to the temperature at the separation membrane.

Device type PMP55

Higher temperatures are permitted depending on the type of diaphragm seal.

Temperature class	Process temperature T_p (process)	Ambient temperature range
T6	$\leq 80\text{ °C}$	$-40\text{ °C} \leq T_a \leq +40\text{ °C}$
T4	$\leq 125\text{ °C}$	$-40\text{ °C} \leq T_a \leq +70\text{ °C}$

Connection data

Basic specification, Position 3 = 2

Power supply
$U_1 \leq 30 V_{\text{DC}}$ $I_1 \leq 300\text{ mA}$ $P_1 \leq 1\text{ W}$ $C_1 \leq 10\text{ nF}$ $L_1 = 0$

Basic specification, Position 3 = 3, 4

Power supply	
FISCO	Entity
$U_i \leq 17.5 V_{DC}$	$U_i \leq 24 V_{DC}$
$I_i \leq 500 \text{ mA}$	$I_i \leq 250 \text{ mA}$
$P_i \leq 5.5 \text{ W}$	$P_i \leq 1.2 \text{ W}$
$C_i \leq 5 \text{ nF}$	$C_i \leq 5 \text{ nF}$
$L_i \leq 10 \mu\text{H}$	$L_i \leq 10 \mu\text{H}$



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