

Safety Instructions

Cerabar PMC71B, PMP63B, PMP71B

ATEX, IECEx: Ex ia IIC T6...T1 Ga



Cerabar PMC71B, PMP63B, PMP71B

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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:

PMC71B

HART

BA02010P, TI01507P

PROFIBUS PA

BA02526P, TI01507P

PROFINET

BA02227P, TI01507P

PMP63B

HART

BA02555P, TI01838P

PROFIBUS PA

BA02557P, TI01838P

PROFINET

BA02556P, TI01838P

PMP71B

HART

BA02012P, TI01509P

PROFIBUS PA

BA02527P, TI01509P

PROFINET

BA02229P, TI01509P

Supplementary documentation

Explosion protection brochure: CP00021Z

The explosion protection brochure is available on the Internet:

www.endress.com/Downloads

Certificates and declarations**EU Declaration of Conformity**

Declaration Number:

EU_01087

The EU Declaration of Conformity is available on the Internet:

www.endress.com/Downloads

EU type-examination certificate

Certificate number:

SEV 20ATEX0387 X

List of applied standards: See EU Declaration of Conformity.

IEC Declaration of Conformity

Certificate number:

IECEX SEV 20.0009 X

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

- IEC 60079-0 : 2017
- IEC 60079-11 : 2023
- IEC TS 60079-47 : 2021

Manufacturer address

Endress+Hauser SE+Co. KG

Hauptstraße 1

79689 Maulburg, Germany

Address of the manufacturing plant: See nameplate.

Other standards

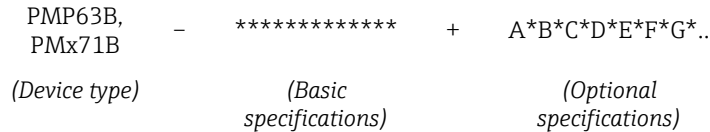
Among other things, the following standards shall be observed in their current version for proper installation:

- 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



* = 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

PMC71B, PMP63B, PMP71B

*Basic specifications***Position 1, 2 (Approval)**

Selected option		Description
PMP63B	BA	ATEX II 1 G Ex ia IIC T6...T1 Ga
PMx71B		IECEX Ex ia IIC T6...T1 Ga

Position 3, 4 (Output)

Selected option		Description
PMP63B	BA	2-wire, 4-20 mA HART
PMx71B	DA	2-wire, PROFIBUS PA
	Fx	2-wire, Ethernet-APL, 10 Mbit/s

Position 6 (Housing, Material)

Selected option		Description
PMP63B	D	Single compartment; 316L, hygiene
PMP63B	B	Single compartment; Alu, coated
PMx71B	J	Dual compartment; Alu, coated
	K, L	Dual compartment; 316L

Position 9 (Application)

Selected option		Description
PMP63B	E	Advanced condensation resistance (Contite Measuring Cell)

Position 10 (Diaphragm Seal Type)

Selected option		Description
PMP63B	A	W/o
PMP71B	D	Compact
	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

ID Ex (Application Package)		
Selected option		Description
PMC71B	EC	High temperature version, 150 °C (302 °F) process

ID Jx, Kx (Test, Certificate, Declaration)		
Selected option		Description
PMP71B	JL	Ambient temp. transmitter -50 °C (-58 °F), sensor see specification

ID Nx, Ox (Accessory Mounted)		
Selected option		Description
PMP63B PMx71B	NA	Overvoltage protection

ID Px, Rx (Accessory Enclosed)		
Selected option		Description
PMP63B PMx71B	PA	Weather protection cover, 316L ¹⁾
	PB	Weather protection cover, plastic ²⁾

- 1) Only in connection with Position 6 = J, K, L
2) Only in connection with Position 6 = B

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.

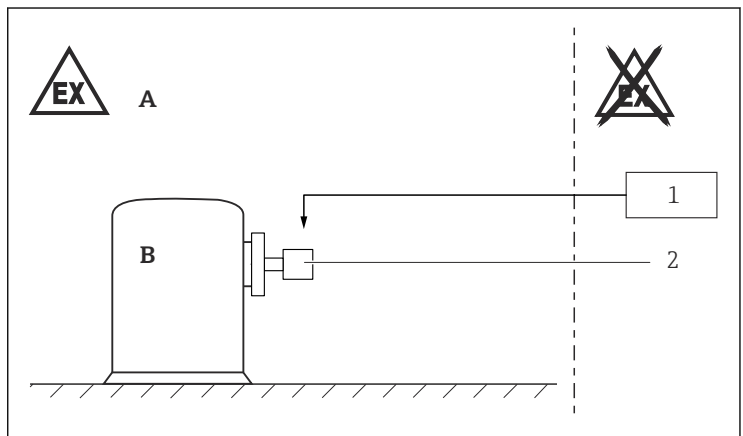
**Safety
instructions:
Specific
conditions of use**

- 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.

Optional specification, ID Px, Rx = PA

Connect the weather protection cover to the local potential equalization.

**Safety
instructions:
Installation**



A0041997

- A Zone 0, Electronic
- B Zone 0, Process
- 1 Associated intrinsically safe power supply units
- 2 PMC71B, PMP63B, PMP71B

- After aligning (rotating) the enclosure, retighten the fixing screw.
- Continuous service temperature of the connecting cable: $\geq T_a + 20\text{ K}$.
- 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.
- The intrinsically safe input power circuit of the device is isolated from ground. The dielectric strength is at least $500\text{ V}_{\text{rms}}$.

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 $290\text{ V}_{\text{rms}}$.

Potential equalization

Integrate the device into the local potential equalization.

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



Optional specification, ID Jx, Kx = JL

Lower limit of the ambient temperature for explosion protection changes to -50 °C .

Optional specification, ID Px, Rx = PB

When using the weather protection cover: Reduce the admissible ambient temperature by 10 K .

Device Type PMC71B

Temperature class	Process temperature T _p (process)	Ambient temperature T _a (ambient)
T6	+40 °C	-40 to +60 °C
	+80 °C	-40 to +55 °C
T4...T1	+60 °C	-40 to +60 °C
	+80 °C	-40 to +60 °C
	+100 °C	-40 to +55 °C
	+125 °C	-40 to +45 °C

Optional specification, ID Ex = EC

Temperature class	Process temperature T _p (process)	Ambient temperature T _a (ambient)
T6	+60 °C	-40 to +60 °C
	+80 °C	-40 to +55 °C
T4	+100 °C	-40 to +55 °C
	+125 °C	-40 to +55 °C
T3...T1	+150 °C	-40 to +45 °C

Device Type PMP63B

Basic specification, Position 9 = E in connection with Position 10 = A

Temperature class	Process temperature T _p (process)	Ambient temperature T _a (ambient)	
		Basic specification, Position 6 = B, J D	
T6	+60 °C	-40 to +60 °C	-40 to +60 °C
	+70 °C	-40 to +55 °C	-40 to +40 °C
	+80 °C	-40 to +50 °C	not suitable
T4...T1	+70 °C	-40 to +65 °C	-40 to +55 °C
	+80 °C	-40 to +60 °C	not suitable
	+100 °C	-40 to +50 °C	not suitable
	+125 °C	-40 to +40 °C	not suitable

Basic specification, Position 10 = A, D

Temperature class	Process temperature T _p (process)	Ambient temperature T _a (ambient)	
		Basic specification, Position 6 = B, J D	
T6	+60 °C	-40 to +60 °C	-40 to +60 °C
	+70 °C	-40 to +55 °C	-40 to +55 °C
	+80 °C	-40 to +55 °C	-40 to +50 °C
T4...T1	+70 °C	-40 to +65 °C	-40 to +65 °C
	+80 °C	-40 to +60 °C	-40 to +55 °C
	+100 °C	-40 to +55 °C	-40 to +45 °C
	+125 °C	-40 to +45 °C	not suitable

Basic specification, Position 10 = G

Temperature class	Process temperature T _p (process)	Ambient temperature T _a (ambient)	
		Basic specification, Position 6 = B, J D	
T6	+80 °C	-40 to +60 °C	-40 to +60 °C
T4	+130 °C	-40 to +60 °C	-40 to +55 °C
T3	+190 °C	-40 to +60 °C	-40 to +50 °C
T2	+290 °C	-40 to +55 °C	-40 to +40 °C
T1	+300 °C	-40 to +55 °C	-40 to +40 °C
	+400 °C	-40 to +50 °C	not suitable

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

Temperature class	Process temperature T _p (process)	Ambient temperature T _a (ambient)	
		Basic specification, Position 6 = B, J D	
T6	+80 °C	-40 to +60 °C	-40 to +60 °C
T4	+130 °C	-40 to +65 °C	-40 to +65 °C
T3	+190 °C	-40 to +65 °C	-40 to +65 °C
T2	+290 °C	-40 to +65 °C	-40 to +65 °C
T1	+400 °C	-40 to +65 °C	-40 to +65 °C

Device Type PMP71B

Basic specification, Position 10 = A, D

Temperature class	Process temperature T _p (process)	Ambient temperature T _a (ambient)
T6	+60 °C	-40 to +60 °C
	+70 °C	-40 to +55 °C
	+80 °C	-40 to +55 °C
T4...T1	+70 °C	-40 to +65 °C
	+80 °C	-40 to +60 °C
	+100 °C	-40 to +55 °C
	+125 °C	-40 to +45 °C

Basic specification, Position 10 = G

Temperature class	Process temperature T _p (process)	Ambient temperature T _a (ambient)
T6	+80 °C	-40 to +60 °C
T4	+130 °C	-40 to +60 °C
T3	+190 °C	-40 to +60 °C
T2	+290 °C	-40 to +55 °C
T1	+300 °C	-40 to +55 °C
	+400 °C	-40 to +50 °C

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

Temperature class	Process temperature T _p (process)	Ambient temperature T _a (ambient)
T6	+80 °C	-40 to +60 °C
T4	+130 °C	-40 to +65 °C
T3	+190 °C	-40 to +65 °C
T2	+290 °C	-40 to +65 °C
T1	+400 °C	-40 to +65 °C

Version with separate enclosure

Temperature class	Process temperature T _p (process)	Ambient temperature T _a (ambient)
T6	+80 °C	-20 to +60 °C
T4...T1	+100 °C	-20 to +60 °C

Connection data

Basic specification, Position 3, 4 = BA

Power supply
U _I ≤ 30 V _{DC} I _I ≤ 300 mA P _I ≤ 1 W C _I ≤ 10 nF L _I = 0

Basic specification, Position 3, 4 = DA

Power supply	
FISCO U _I ≤ 17,5 V _{DC} I _I ≤ 380 mA P _I ≤ 5.32 W C _i ≤ 5 nF L _i = 0	Entity U _I ≤ 24 V _{DC} I _I ≤ 300 mA P _I ≤ 1.2 W C _i ≤ 5 nF L _i = 0

Basic specification, Position 3, 4 = Fx

Power supply	
2-WISE U _I ≤ 17.5 V _{DC} I _I ≤ 380 mA P _I ≤ 5.32 W C _I ≤ 5 nF L _I = 0	Entity U _I ≤ 17.5 V _{DC} I _I ≤ 300 mA P _I ≤ 1.2 W C _I ≤ 5 nF L _I = 0



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