XA01882P-B/00/EN/02.22-00
71576658
2022-09-05

Safety Instructions
Cerabar PMC71B

ATEX, IECEx: Ex db ia IIC T6 Gb

Endress+Hauser
People for Process Automation

Cerabar PMC71B

Table of contents

About this document

This document has been translated into several languages. Legally determined is solely the English source text.

The document translated into EU languages is available:
- In the download area of the Endress+Hauser website: www.endress.com -> Downloads -> Manuals and Datasheets -> Type: Ex Safety Instruction (XA) -> Text Search: ...
- In the Device Viewer: www.endress.com -> Product tools -> Access device specific information -> Check device features

If not yet available, the document can be ordered.

Associated documentation

This document is an integral part of the following Operating Instructions:

BA02010P/00, TI01507P/00

Supplementary documentation

Explosion-protection brochure: CP00021Z/11

The Explosion-protection brochure is available:
- 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

EU Declaration of Conformity

Declaration Number:
EU_01085

The EU Declaration of Conformity is available:
In the download area of the Endress+Hauser website:
www.endress.com -> Downloads -> Declaration -> Type: EU Declaration -> Product Code: ...

EU type-examination certificate

Certificate number:
DEKRA 22ATEX0051 X

List of applied standards: See EU Declaration of Conformity.

IEC Declaration of Conformity

Certificate number:
IECEx DEK 22.0037 X

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

- IEC 60079-0 : 2017
- IEC 60079-1 : 2014
- IEC 60079-11 : 2011

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

PMC71B	–	**********	+	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

PMC71B

Basic specifications

Position 1, 2 (Approval)		
Selected option		**Description**
PMC71B	BF	ATEX II 2 G Ex db ia IIC T6...T1 Gb IECEx Ex db ia IIC T6...T1 Gb

Position 3, 4 (Output)		
Selected option		**Description**
PMC71B	BA	2-wire, 4-20 mA HART
	DA	2-wire, PROFIBUS PA
	FA	2-wire, PROFINET, 10Mbit/s (APL)

Position 5 (Display, Operation)		
Selected option		**Description**
PMC71B	N	Prepared for display FHX50B + Thread NPT1/2
	O	Prepared for display FHX50B + Thread M20

Position 6 (Housing, Material)		
Selected option		**Description**
PMC71B	B	Single compartment; Alu, coated
	J	Dual compartment; Alu, coated
	K	Dual compartment; 316L

Position 7 (Electrical Connection)		
Selected option		**Description**
PMC71B	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

Optional specifications

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

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.

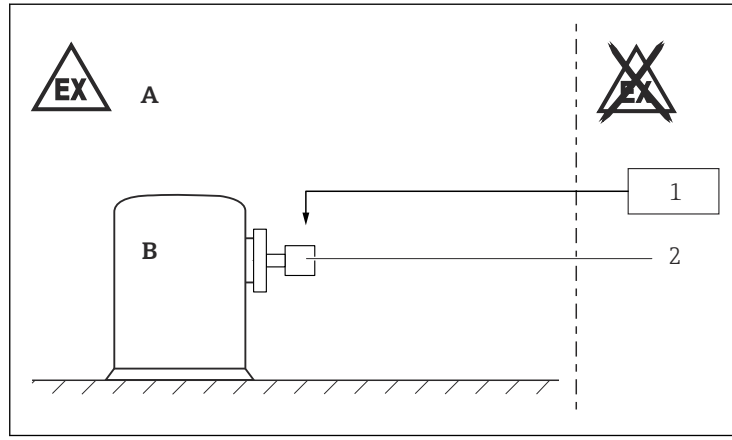
- Only use the device in media to which the wetted materials have sufficient durability.
- Avoid electrostatic charging:
  - Of plastic surfaces (e.g. enclosure, sensor element, special varnishing, attached additional plates, ..)
  - Of isolated capacities (e.g. isolated metallic plates)
- Modifications 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 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.

Internal Ex i circuit:
- Not accessible from the outside
- Not relevant during installation

Safety instructions: Installation



A Zone 1, Electronic
B Zone 1, Process
1 Power supply
2 PMC71B

- After aligning (rotating) the enclosure, 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 enclosure.
- 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 5 = N
Observe the requirements according to IEC/EN 60079-14 for conduit systems and the wiring- and installation instructions of the suitable

Safety Instructions (XA). In addition, observe national regulations and standards for conduit systems.

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

- 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.

Temperature class	Process temperature range	Ambient temperature range
T6	$-40\ °C \leq T_p \leq +80\ °C$	$-40\ °C \leq T_a \leq +55\ °C$
T4	$-40\ °C \leq T_p \leq +100\ °C$	$-40\ °C \leq T_a \leq +50\ °C$
T4...T1	$-40\ °C \leq T_p \leq +125\ °C$	$-40\ °C \leq T_a \leq +40\ °C$

Optional specification, ID Ex = EC

Temperature class	Process temperature range	Ambient temperature range
T6	$-40\ °C \leq T_p \leq +80\ °C$	$-40\ °C \leq T_a \leq +55\ °C$
T4	$-40\ °C \leq T_p \leq +125\ °C$	$-40\ °C \leq T_a \leq +50\ °C$
T3...T1	$-40\ °C \leq T_p \leq +150\ °C$	$-40\ °C \leq T_a \leq +40\ °C$

Connection data

Basic specification, Position 3 = BA

Power supply
$U \leq 35\ V_{DC}$ $U_m = 250\ V_{AC}$ $P \leq 1\ W$

Basic specification, Position 3 = DA

Power supply
$U \leq 32\ V_{DC}$ $U_m = 250\ V_{AC}$ $P \leq 0.7\ W$

Basic specification, Position 3 = FA

Power supply
$U \leq 15\ V_{DC}$ $U_m = 250\ V_{AC}$ $P \leq 0.7\ W$

In connection with: *Basic specification, Position 5 = N, O*
Installation according to the specifications of FHX50B.

Only the type of protection suitable for the device shall be connected!

www.addresses.endress.com

Endress+Hauser

People for Process Automation