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Safety Instructions
Gammapilot FMG50

II 2 G Ex db IIC T6...T1 Gb

Endress+Hauser
People for Process Automation

Gammapilot FMG50

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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:

BA01966F

Supplementary documentation

Explosion protection brochure: CP00021Z

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

Certificates and declarations

UK Declaration of Conformity

Declaration Number:
UK_00044

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: ...

UKCA type-examination certificate

Certificate number:
CML 21UKEX1434X

List of applied standards: See UK Declaration of Conformity.

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

FMG50	–	**********	+	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: Gammapilot

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

FMG50

Basic specifications

Position 1, 2 (Approval)		
Selected option		**Description**
FMG50	UQ	UK Ex II 2 G Ex db IIC T6...T1 Gb

Position 3, 4 (Output)		
Selected option		**Description**
FMG50	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**
FMG50	A	W/o; via communication
	C	Segment display w/o buttons
	D	Segment display w/o buttons + Bluetooth
	E	Graphic display
	F	Graphic display + Bluetooth
	N	Prepared for display FHX50B + Thread NPT1/2
	O	Prepared for display FHX50B + Thread M20

Position 7 (Electrical Connection)		
Selected option		**Description**
FMG50	F	Thread M20
	H	Thread NPT1/2

Position 8 (Application)		
Selected option		**Description**
FMG50	A	Ambient temperature -40...60°C/ -40...140°F (PVT)
	B	Ambient temperature -20...80°C/ -4...176°F (PVT HT)
	C	Ambient temperature -40...80°C/ -40...176°F (NaI)

Optional specifications

No options specific to hazardous locations are available.

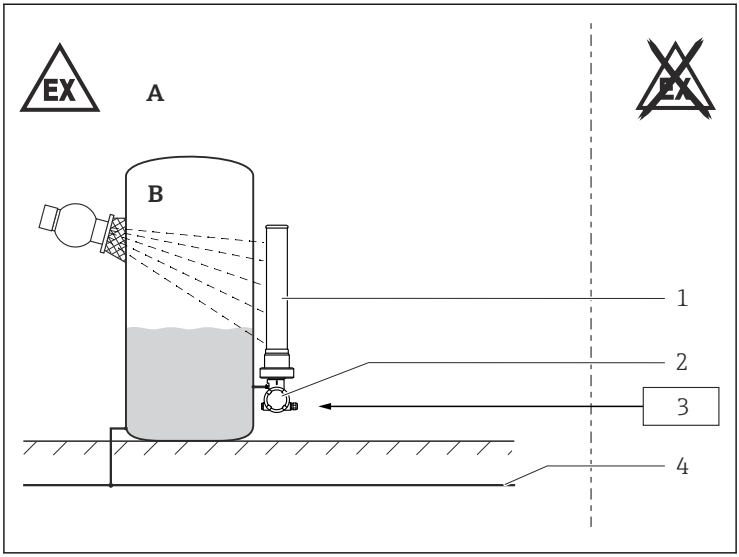
Safety instructions: General

- The device is intended to be used in explosive atmospheres as defined in the scope of EN 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.
- 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 generating strong electrostatic charges.

Safety instructions: Installation



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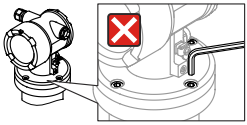
A Zone 1, Zone 2
B Zone 0, Zone 1, Zone 2
1 Detector pipe
2 Enclosure
3 Power supply
4 Local potential equalization

- After aligning (rotating) the enclosure, retighten the fixing screw.
- The safety screws at the pipe enclosure must not be loosened:



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- 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 clamp 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.
- Continuous service temperature of the connecting cable: ≥ T_a+20 K.
- 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.

Potential equalization

Integrate the device into the local potential equalization.

Safety instructions: Ex d joints

- If required or if in doubt: ask manufacturer for specifications.
- Flameproof joints are not intended to be repaired.

Temperature tables

Basic specification, Position 3, 4 = BA

with Basic specification, Position 8	Temperature class	Ambient temperature T_a (ambient)
= A	T6...T1	−40 °C ≤ T_a ≤ +60 °C
= B	T6	−20 °C ≤ T_a ≤ +70 °C
	T5...T1	−20 °C ≤ T_a ≤ +75 °C
= C	T6	−40 °C ≤ T_a ≤ +70 °C
	T5...T1	−40 °C ≤ T_a ≤ +75 °C

Basic specification, Position 3, 4 = DA

with Basic specification, Position 8	Temperature class	Ambient temperature T_a (ambient)
= A	T6...T1	−40 °C ≤ T_a ≤ +60 °C
= B	T6	−20 °C ≤ T_a ≤ +70 °C
	T5...T1	−20 °C ≤ T_a ≤ +75 °C

with Basic specification, Position 8	Temperature class	Ambient temperature T_a (ambient)
= C	T6	−40 °C ≤ T_a ≤ +70 °C
	T5...T1	−40 °C ≤ T_a ≤ +75 °C

Basic specification, Position 3, 4 = FA

with Basic specification, Position 8	Temperature class	Ambient temperature T_a (ambient)
= A	T6...T1	−40 °C ≤ T_a ≤ +60 °C
= B	T6	−20 °C ≤ T_a ≤ +75 °C
	T5...T1	−20 °C ≤ T_a ≤ +80 °C
= C	T6	−40 °C ≤ T_a ≤ +75 °C
	T5...T1	−40 °C ≤ T_a ≤ +80 °C

Connection data

Basic specification, Position 3, 4 = BA

Power supply
U ≤ 35 V_{DC} P ≤ 1 W

Basic specification, Position 3, 4 = DA

Power supply
U ≤ 32 V_{DC} P ≤ 0.7 W

Basic specification, Position 3, 4 = FA

Power supply
U ≤ 15 V_{DC} P ≤ 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!

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