

Safety Instructions

Gammapilot FMG50

4-20 mA HART

Control Drawing XP



Document: XA02088F-A
Safety instructions for electrical apparatus for explosion-
hazardous areas →  3

Gammapilot FMG50

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Associated documentation

This document is an integral part of the following Operating Instructions:
BA01966F/00

Manufacturer's certificates

CSA C/US certificate
Certificate number:
CSA20CA80047505

Manufacturer address

Endress+Hauser SE+Co. KG
Hauptstraße 1
79689 Maulburg, Germany
Address of the manufacturing plant: See nameplate.

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	CD	CSA C/US Cl. I, II, III, Div. 1, Gr. B-G; Cl. I, Zn. 1, AEx/Ex db IIC T6 Gb; Cl. I, Div. 2, Gp. A, B, C, D
	CG	CSA C/US Cl. II, III, Div. 1, Gr. E, F, G

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) ¹⁾
	C	Ambient temperature -40...80°C/ -40...176°F (NaI) ¹⁾

1) For XP/Ex d and Div. 2 applications: Limited to 70 °C

Position 9 (Sensor Length, Material)		
Selected option		Description
FMG50	A, B, C mm; NaI crystal
	G, H, I, J, K, L, M, N mm; PVT

Optional specifications

No options specific to hazardous locations are available.

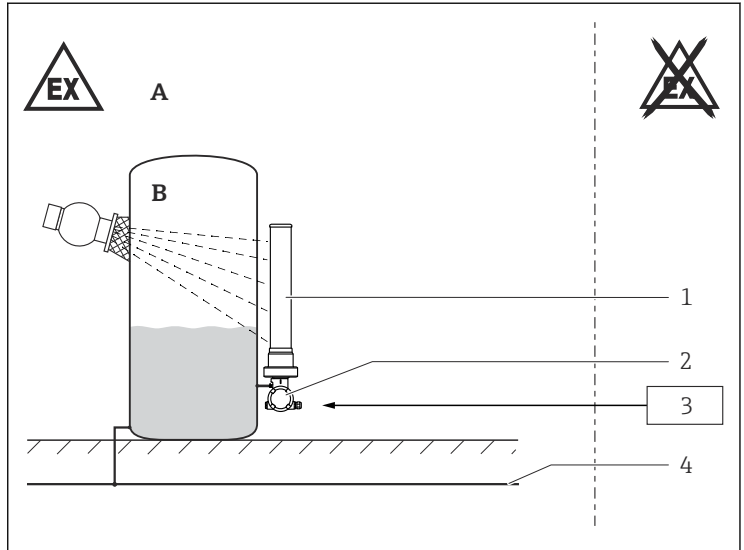
**Safety instructions:
General**

- 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. housing, sensor element, special varnishing, attached additional plates, ..)
 - Of isolated capacities (e.g. isolated metallic plates)

**Safety instructions:
Special conditions**

- To avoid electrostatic charging: Do not rub surfaces with a dry cloth.
- In the event of additional or alternative special varnishing on the housing 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.
- Flameproof joints are not intended to be repaired.

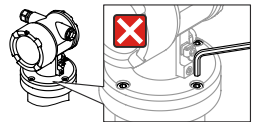
Safety instructions:
Installation



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- A Zone 1; Class I, II, III, Div. 1, Groups B-G or Class I, Div. 2, Group A-D
- B Zone 0 or 1 or 2; Class I, Div. 1 or Div. 2
- 1 Detector pipe
- 2 Housing
- 3 Power supply
- 4 Local potential equalization

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



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Potential equalization

Integrate the device into the local potential equalization.

**Explosionproof /
Flameproof**

Class I, Div. 1, Groups B, C, D; Class I, Zone 1, AEx/Ex db IIC T6 Gb

- Install per National Electrical Code (NFPA70) or Canadian Electrical Code, Part I (C22.1), as applicable.
- Use wiring methods appropriate for the location.
- For the maximum supply voltage: See "Connection data" section.
- XP conduit seal required within 450 mm (18 in) of the enclosure.
- Seal unused entries with approved 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.
- WARNINGS: Keep covers tight when explosive atmosphere is present.

**Class II, III, Div. 1,
Groups E, F, G**

- Install per National Electrical Code (NFPA70) or Canadian Electrical Code, Part I (C22.1), as applicable.
- Use wiring methods appropriate for the location.
- For the maximum supply voltage: See "Connection data" section.
- Use a dust-tight seal for wiring at the conduit/cable entry.
- Seal unused entries with approved 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.
- WARNINGS: Keep covers tight when explosive atmosphere is present.

**Class I, Div. 2,
Groups A-D**

- Install per National Electrical Code (NFPA70) or Canadian Electrical Code, Part I (C22.1), as applicable.
- Use wiring and sealing methods appropriate for the location.
- Enclosure is not required to be explosionproof/flameproof.
- For the maximum supply voltage: See "Connection data" section.
- WARNINGS: Substitution of components may impair suitability for hazardous locations. Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.

Temperature tables

Basic specification, Position 8 (Application) = A

Temperature class	Ambient temperature T_a (ambient)		
	XP / Ex d	Dust (Cl. II, III)	Division 2
T6	$-40\text{ °C} \leq T_a \leq +60\text{ °C}$	$-40\text{ °C} \leq T_a \leq +60\text{ °C}$	$-40\text{ °C} \leq T_a \leq +60\text{ °C}$

Basic specification, Position 8 (Application) = B

Temperature class	Ambient temperature T_a (ambient)		
	XP / Ex d	Dust (Cl. II, III)	Division 2
T6	$-20\text{ °C} \leq T_a \leq +70\text{ °C}$	$-20\text{ °C} \leq T_a \leq +80\text{ °C}$	$-20\text{ °C} \leq T_a \leq +70\text{ °C}$
T5	$-20\text{ °C} \leq T_a \leq +75\text{ °C}$	–	–

Basic specification, Position 8 (Application) = C

Temperature class	Ambient temperature T_a (ambient)		
	XP / Ex d	Dust (Cl. II, III)	Division 2
T6	$-40\text{ °C} \leq T_a \leq +70\text{ °C}$	$-40\text{ °C} \leq T_a \leq +80\text{ °C}$	$-40\text{ °C} \leq T_a \leq +70\text{ °C}$
T5	$-40\text{ °C} \leq T_a \leq +75\text{ °C}$	–	–

Connection data

Power supply circuit
$U \leq 35\text{ V}_{\text{DC}}$ ¹⁾ $P \leq 1\text{ W}$

- 1) Supplied by Class 2 or limited energy source in accordance with CSA/UL 61010-1-12



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