

Safety Instructions

Levelflex FMP50-FMP57

PROFIBUS PA, FOUNDATION Fieldbus

Control Drawing XP/DIP



Levelflex FMP50-FMP57

PROFIBUS PA, FOUNDATION Fieldbus

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About this document



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

Associated documentation

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

- BA01005F/00 (FMP50)
- BA01006F/00 (FMP51, FMP52, FMP54)
- BA01007F/00 (FMP53)
- BA01008F/00 (FMP55)
- BA01009F/00 (FMP56, FMP57)

Manufacturer's certificates

FM C/US certificate

Certificate number:

- FM18.US0211X
- FM18.CA0100X

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

FMP5x	–	*****	+	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: Levelflex



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

FMP50, FMP51, FMP52, FMP53, FMP54, FMP55, FMP56, FMP57

Basic specifications

Position 1, 2 (Approval)		
Selected option		Description
FMP5x	FC	FM C/US XP-IS Cl. I, Div. 1, Groups A,B,C,D; AIS Cl. I, Div. 1, Groups A,B,C,D
	FD	FM C/US XP-IS Cl. I, Div. 1, Groups A,B,C,D; DIP-IS Cl. II, III, Div. 1, Groups E,F,G; NI Class I, Div. 2, Groups A,B,C,D; AIS Cl. I, II, III, Div. 1, Groups A-G; Class I, Zone 0/1, AEx/Ex ia/db [ia Ga] IIC Ga/Gb
	8A	FM/CSA IS+XP-IS Cl. I, II, III, Div. 1, Groups A-G, AIS Cl. I, II, III, Div. 1, Groups A-G
FMP54 FMP56 FMP57	FE	FM C/US DIP-IS Cl. II, III, Div. 1, Groups E,F,G; AIS Cl. I, II, III, Div. 1, Groups A-G


Position 3 (Power Supply, Output)		
Selected option		Description
FMP5x	E	2-wire, FOUNDATION Fieldbus, switch output (PFS)
	G	2-wire, PROFIBUS PA, switch output (PFS)

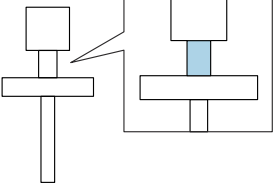
Position 4 (Display, Operation)		
Selected option		Description
FMP5x	A	Without, via communication
	C	SD02, 4-line, push buttons + data backup function
	E	SD03, 4-line, illum., touch control + data backup function
	L	Prepared for display FHX50 + M12 connection
	M	Prepared for display FHX50 + custom connection
	N	Prepared for display FHX50 + NPT1/2"

Position 5 (Housing)		
Selected option		Description
FMP51 FMP52 FMP54-57	B	GT18 dual compartment, 316L
FMP5x	C	GT20 dual compartment, Alu coated

Position 9, 10 (Seal)		
Selected option		Description
FMP50	A1	Viton, -20...80 °C
FMP51	A4	Viton, -30...150 °C
	B3	EPDM, -40...120 °C
	C3	Kalrez, -20...200 °C
	E1	FVMQ, -50...150 °C
FMP53	AD	FKM, FDA, USP Cl. VI, -10...150 °C
	B5	EPDM, FDA, USP Cl. VI, -20...130 °C
	C4	Kalrez, FDA, USP Cl. VI, -20...150 °C
FMP54	D1	Graphite, -196...280 °C (XT)
	D2	Graphite, -196...450 °C (HT)
FMP56	AB	Viton, -30...120 °C
	B3	EPDM, -40...120 °C

Position 9, 10 (Seal)		
Selected option	Description	
FMP57	A4	Viton, -30...150 °C
	B3	EPDM, -40...120 °C
	C5	Kalrez, -5...185 °C

 Shown in the temperature tables exemplary as follows:



Optional specifications

ID Jx (Test, Certificate)		
Selected option	Description	
FMP51 ¹⁾ FMP54	JN	Ambient temperature transmitter -50 °C

1) Only in connection with Position 9, 10 = E1

ID Mx (Probe Design)		
Selected option	Description	
FMP5x	MB	Sensor remote, 3 m/9 ft cable, detachable + mounting bracket
FMP53	MA	Sensor compact, detachable
FMP50-54 FMP56	MC	Sensor remote, 6 m/18 ft cable, detachable + mounting bracket
FMP57	MD	Sensor remote, 9 m/27 ft cable, detachable + mounting bracket

ID Nx, Ox (Accessory Mounted)		
Selected option	Description	
FMP51 FMP52 FMP55	NC	Gas-tight feed through

Combined type of protection (Approval code, 8A)

Devices with approval code "8A" are suitable for installation with explosion protection type of Intrinsic Safety or Explosionproof.

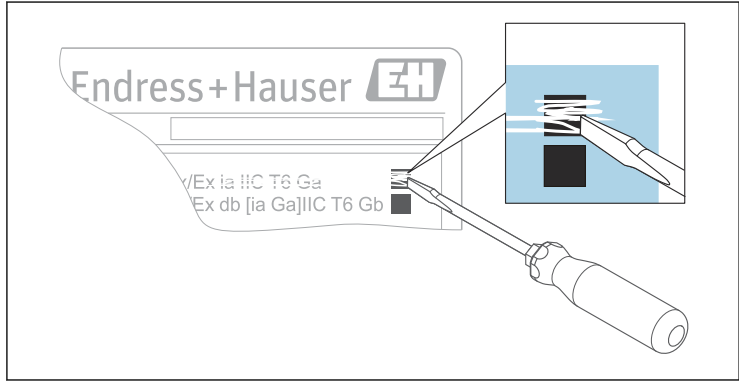
- Before initial commissioning, specify the type of protection.
- It is not permitted to change the type of protection after initial commissioning as this can jeopardize the explosion protection.

For aluminum enclosures:

Void out the explosion protection that is not used on the nameplate.

For stainless steel enclosures:

Using a striking tool, mark the explosion protection used, or void out the explosion protection that is not used.



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i It is critical to observe and follow the correct instructions for installation depending on the type of protection used. Refer to the following table for reference to the correct installation instructions.

Type of protection	Agency approval	Control Drawing no. / Document no.
Intrinsic Safety	CSA	XA00571F
	FM	XA00573F
Explosionproof	CSA	XA00570F
	FM	XA00572F

Class I, Division 2 installation:

References in this manual to Class I, Division 2 installation are not applicable for devices with the combined type of protection. For installation in Class I, Division 2, these devices must be installed per the applicable Division 1 intrinsic safety or explosionproof requirements.

Safety instructions:
General

- 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.
- Refer to the temperature tables for the relationship between the permitted ambient temperature for the sensor and/or transmitter, depending on the range of application and the temperature class.
- When replacing the probe electronics or opening the connection between the remote cable and the probe, a jumper plug must be used or a short-circuit must be established between the probe contact and the potential equalization conductor to avoid electrostatically charging the probe.

Safety instructions:
Special conditions

Permitted ambient temperature range at the electronics enclosure:
 $-40\text{ °C} \leq T_a \leq +80\text{ °C}$

Optional specification, ID Jx = JN

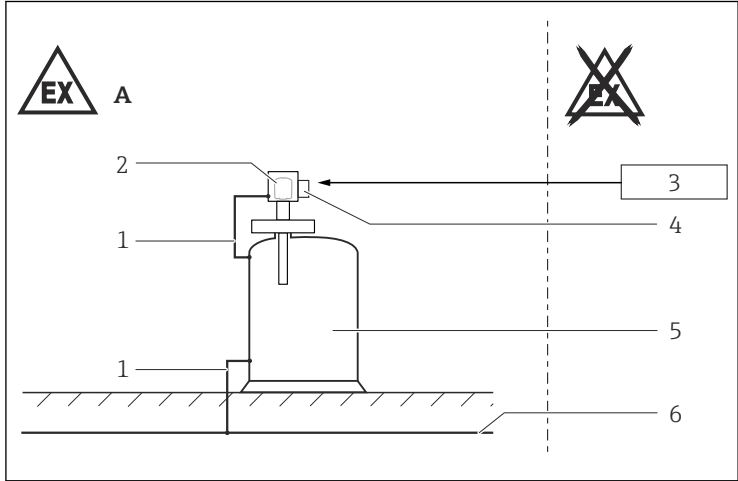
Permitted ambient temperature range at the electronics enclosure:
 $-50\text{ °C} \leq T_a \leq +80\text{ °C}$

- Observe the information in the temperature tables.
- Use supply wires suitable for 20 K above the ambient temperature.
- In the case of process connections made of polymeric material or with polymeric coatings, avoid electrostatic charging of the plastic surfaces.
- 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 ($\leq 0.5\text{ m}$) generating strong electrostatic charges.

Device type FMP52, FMP55, FMP56, FMP57

A probe coated with non-conductive material can be used if avoiding electrostatic charging (e.g. through friction, cleaning, maintenance, strong medium flow).

**Safety
instructions:
Installation**



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- 2
- A Class I, Div. 1 or 2, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Zone 1
- 1 Potential equalization line
- 2 Electronics compartment Ex ia; Electronic insert
- 3 Power supply
- 4 Connection compartment XP / Ex db
- 5 Tank; Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Zone 0, Zone 1
- 6 Potential equalization

- After aligning (rotating) the enclosure, retighten the fixing screw (see Operating Instructions).
- Install the device to exclude any mechanical damage or friction during the application. Pay particular attention to flow conditions and tank fittings.
- Before operation:
 - Screw in the cover all the way.
 - Tighten the securing clamp on the cover.
- Continuous service temperature of the connecting cable: -40 °C to $\geq +85\text{ °C}$; in accordance with the range of service temperature taking into account additional influences of the process conditions ($T_{a,\min}$), ($T_{a,\max} + 20\text{ K}$).

Optional specification, ID Jx = JN

Continuous service temperature of the connecting cable:

-50 °C to $\geq +85$ °C; in accordance with the range of service temperature taking into account additional influences of the process conditions ($T_{a,min}$), ($T_{a,max} + 20$ K).

**Explosionproof /
Flameproof**

Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Class III
Class I, Zone 0/1, AEx/Ex ia/db [ia Ga] IIC Ga/Gb

- Install per National Electrical Code (NFPA70) or Canadian Electrical Code, Part I (C22.1), as applicable.
- For the maximum supply voltage: See "Connection data" section.
- Control room equipment may not use or generate over $250 V_{rms}$.
- 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.
- Probe is intrinsically safe, AEx ia/Ex ia, and suitable for installation in Class I, II, III, Division 1 or Class I, Zone 0/1.
- When prepared for use with an approved remote display FHX50, remote display is intrinsically safe suitable for Class I, Division 1/Zone 0 locations and connection between transmitter enclosure and remote display is intrinsically safe field wiring.
- WARNINGS: Substitution of components may impair intrinsic safety.

Factory sealed

Explosionproof conduit seal not required for terminal compartment when installed in Division 1 locations.

Terminal compartment

Do not open when explosive atmosphere is present.

For Class II and III

- Keep covers tight unless power has been switched off.
- Use a dust-tight seal at the conduit entry in a Class II and III location.

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

The following instructions apply only for *Device type FMP5x, Basic specification, Position 1, 2 = FD*

Device type FMP5x, Basic specification, Position 1, 2 = FC, 8A are not marked for use in Class I, Division 2; however, these devices are suitable for this application when installed using the explosionproof instructions for Class I, Division 1.

Standard Wiring installation (only for NPT conduit entries)

- Install per National Electrical Code (NFPA70) or Canadian Electrical Code, Part I (C22.1), as applicable.
- Use wiring methods appropriate for the location.
- Associated apparatus not required.

- For the maximum supply voltage: See "Connection data" section.
- Probe is intrinsically safe, AEx ia/Ex ia, and suitable for installation in Class I, II, III, Division 1 or Class I, Zone 0/1.
- When prepared for use with an approved remote display FHX50, remote display is intrinsically safe suitable for Class I, Division 1/Zone 0 locations and connection between transmitter enclosure and remote display is intrinsically safe field wiring.
- WARNINGS: Explosion hazard - Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
- WARNINGS: Substitution of components may impair suitability for Class I, Div. 2.

Factory sealed


Explosionproof conduit seal not required for terminal compartment.

Process seals

The following device types are Dual Seal devices per UL 122701 (2017) and do not require the use of an external Add-on Secondary Seal.

Device type	Basic specification, Position 1, 2	MWP ¹⁾	Method of annunciation ²⁾
FMP50 FMP53 FMP56 FMP57	FC, FD, 8A	6 bar	Process fluid leakage through vent located in electronics compartment.
FMP51 FMP52 FMP55	FD, 8A	40 bar	Electronic firmware is incorporated to detect and signal any significant increases or decreases of measurement signal reflection caused by combustible or flammable process fluid between the primary and secondary seal.
FMP54	FD, 8A	370 bar	



- 1) Maximum Working Pressure for the Dual Seal rating.
This value may be a value less than the MWP for the device.
- 2) No maintenance of annunciator necessary.

 Verify the chemical compatibility of the process seal specified on the nameplate in first position with the process fluid (see field "Mat." on the nameplate).


Temperature tables

General notes

 Observe the permitted temperature range at the probe.

 *Basic specification, Position 3 = E, G*
Deratings are based on a power consumption of 1 W (PFS);
→  33.

Description notes

 Unless otherwise indicated, the positions always refer to the basic specification.

1st column: Position 3 = A, B, ..

- (1): 1 channel used
- (2): 2 channels used

2nd column: Temperature classes T6 (85 °C) to T1 (450 °C)

Column P1 to P6: Position (temperature value) on the axes of the derating

- T_a : Ambient temperature in °C
- T_p : Process temperature in °C

 Column P6 is only relevant for version B of the derating.

Example table

Position 5 = B


(1)		P1		P2		P3		P4		P5		P6	
		T_p	T_a	T_p	T_a	T_p	T_a	T_p	T_a	T_p	T_a	T_p	T_a
E, G	T6	-40	60	60	60	85	45	85	-40	-40	-40	-	-
	T5	-40	73	73	73	100	60	100	-40	-40	-40	-	-
	T4	-40	73	73	73	135	54	135	-40	-40	-40	-	-

Class II, III, Division 1

1st column: Position 3 = A, B, ..

- (1): 1 channel used
- (2): 2 channels used

2nd column: Temperature values

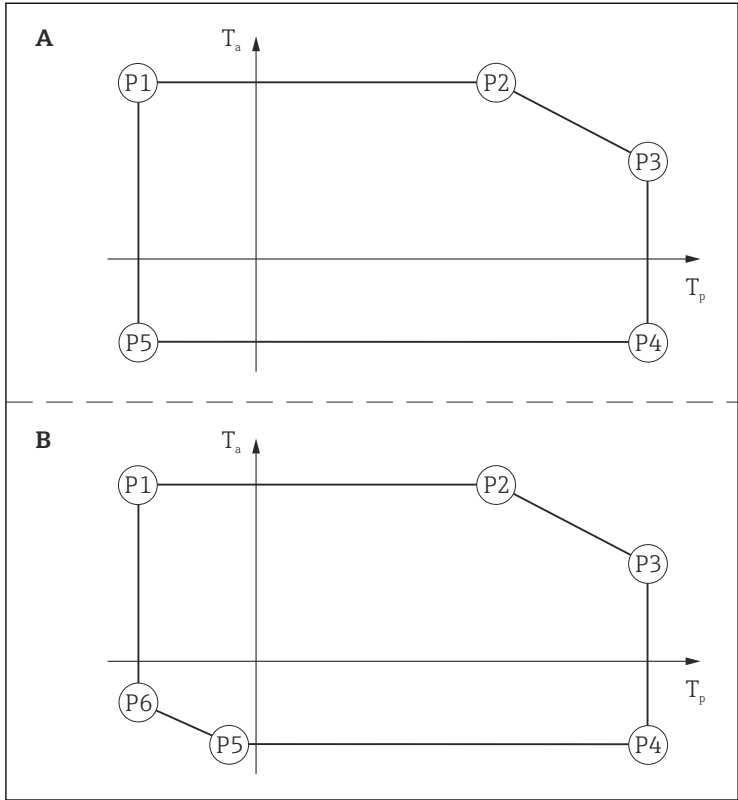
 T_a : Ambient temperature in °C

Example table

Position 5 = B, C


(1)	
E, G	$T = T_a + 5 \text{ K}$

Example diagrams of possible deratings











A0022717

Compact; 1 channel

-  Explosion protection: XP / AEx/Ex ia/db [ia Ga] or Division 2
- Probe: Class I, Zone 0 / Class I, Division 1
- Electronics enclosure: Class I, Zone 1 / Class I, Division 1 or Division 2

Page references to the temperature tables of the respective device types: See the following list.

- FMP50 →  15
- FMP51 →  16
- FMP52 →  17
- FMP53 →  17
- FMP54 →  18
- FMP55 →  21
- FMP56 →  21
- FMP57 →  22

FMP50

Position 5 = C

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-20	60	60	60	80	56	80	-20	-20	-20	-	-

FMP51

Position 5 = B

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-40 -50 ¹⁾	60	60	60	85	51	85	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-
	T5	-40 -50 ¹⁾	75	75	75	100	66	100	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-
	T4	-40 -50 ¹⁾	80	80	80	135	67	135	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-
	T3	-40 -50 ¹⁾	80	80	80	200	48	200	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-

1) Only in connection with Optional specification, ID Jx = JN

Position 5 = C

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-40 -50 ¹⁾	60	60	60	85	53	85	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-
	T5	-40 -50 ¹⁾	75	75	75	100	68	100	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-
	T4	-40 -50 ¹⁾	80	80	80	135	69	135	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-
	T3	-40 -50 ¹⁾	80	80	80	200	56	200	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-

1) Only in connection with Optional specification, ID Jx = JN

FMP52

Position 5 = B

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-50	60	60	60	85	52	85	-40	-40	-40	-50	-37
	T5	-50	75	75	75	100	67	100	-40	-40	-40	-50	-37
	T4	-50	80	80	80	135	68	135	-40	-40	-40	-50	-37
	T3	-50	80	80	80	200	52	200	-40	-40	-40	-50	-37

Position 5 = C

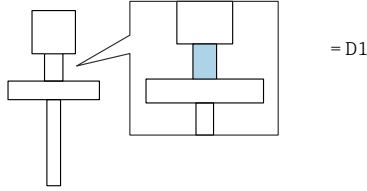
(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-50	60	60	60	85	54	85	-40	-40	-40	-50	-37
	T5	-50	75	75	75	100	69	100	-40	-40	-40	-50	-37
	T4	-50	80	80	80	135	70	135	-40	-40	-40	-50	-37
	T3	-50	80	80	80	200	58	200	-40	-40	-40	-50	-37

FMP53

Position 5 = C

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-20	60	60	60	85	54	85	-20	-20	-20	-	-
	T5	-20	75	75	75	100	69	100	-20	-20	-20	-	-
	T4	-20	80	80	80	135	69	135	-20	-20	-20	-	-
	T3	-20	80	80	80	150	66	150	-20	-20	-20	-	-

FMP54



Position 5 = B

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-196	60	60	60	85	56	85	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-16 -27 ¹⁾
	T5	-196	75	75	75	100	71	100	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-16 -27 ¹⁾
	T4	-196	80	80	80	135	73	135	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-16 -27 ¹⁾
	T3	-196	80	80	80	200	64	200	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-16 -27 ¹⁾
	T2	-196	80	80	80	280	54	280	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-16 -27 ¹⁾

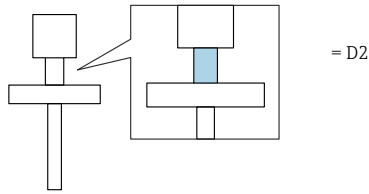
1) Only in connection with Optional specification, ID Jx = JN

Position 5 = C

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-196	60	60	60	85	57	85	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-23 -34 ¹⁾
	T5	-196	75	75	75	100	72	100	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-23 -34 ¹⁾
	T4	-196	80	80	80	135	75	135	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-23 -34 ¹⁾
	T3	-196	80	80	80	200	68	200	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-23 -34 ¹⁾
	T2	-196	80	80	80	280	60	280	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-23 -34 ¹⁾

1) Only in connection with Optional specification, ID Jx = JN

FMP54



Position 5 = B

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-196	60	60	60	85	57	85	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-26 -37 ¹⁾
	T5	-196	75	75	75	100	72	100	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-26 -37 ¹⁾
	T4	-196	80	80	80	135	76	135	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-26 -37 ¹⁾
	T3	-196	80	80	80	200	71	200	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-26 -37 ¹⁾
	T2	-196	80	80	80	300	64	300	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-26 -37 ¹⁾
	T1 ²⁾	-196	80	80	80	450	52	450	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-26 -37 ¹⁾

- 1) Only in connection with Optional specification, ID Jx = JN
- 2) Functional: Maximum permissible process temperature

Position 5 = C

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-196	60	60	60	85	58	85	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-27 -37 ¹⁾
	T5	-196	75	75	75	100	73	100	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-27 -37 ¹⁾
	T4	-196	80	80	80	135	76	135	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-27 -37 ¹⁾
	T3	-196	80	80	80	200	72	200	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-27 -37 ¹⁾
	T2	-196	80	80	80	300	65	300	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-27 -37 ¹⁾
	T1 ²⁾	-196	80	80	80	450	54	450	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-27 -37 ¹⁾

1) Only in connection with Optional specification, ID Jx = JN

2) Functional: Maximum permissible process temperature

FMP55

Position 5 = B

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-50	60	60	60	85	52	85	-40	-40	-40	-50	-37
	T5	-50	75	75	75	100	67	100	-40	-40	-40	-50	-37
	T4	-50	80	80	80	135	68	135	-40	-40	-40	-50	-37
	T3	-50	80	80	80	200	52	200	-40	-40	-40	-50	-37

Position 5 = C

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-50	60	60	60	85	54	85	-40	-40	-40	-50	-37
	T5	-50	75	75	75	100	69	100	-40	-40	-40	-50	-37
	T4	-50	80	80	80	135	69	135	-40	-40	-40	-50	-37
	T3	-50	80	80	80	200	57	200	-40	-40	-40	-50	-37

FMP56

Position 5 = B

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-40	60	60	60	85	51	85	-40	-40	-40	-	-
	T5	-40	75	75	75	100	66	100	-40	-40	-40	-	-
	T4	-40	80	80	80	120	71	120	-40	-40	-40	-	-

Position 5 = C

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-40	60	60	60	85	54	85	-40	-40	-40	-	-
	T5	-40	75	75	75	100	69	100	-40	-40	-40	-	-
	T4	-40	80	80	80	120	72	120	-40	-40	-40	-	-


*FMP57**Position 5 = B*

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-40	60	60	60	85	53	85	-40	-40	-40	-	-
	T5	-40	75	75	75	100	68	100	-40	-40	-40	-	-
	T4	-40	80	80	80	135	69	135	-40	-40	-40	-	-
	T3	-40	80	80	80	185	60	185	-40	-40	-40	-	-









Position 5 = C

(1)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-40	60	60	60	85	55	85	-40	-40	-40	-	-
	T5	-40	75	75	75	100	70	100	-40	-40	-40	-	-
	T4	-40	80	80	80	135	71	135	-40	-40	-40	-	-
	T3	-40	80	80	80	185	64	185	-40	-40	-40	-	-

Compact; 2 channels

-  Explosion protection: XP / AEx/Ex ia/db [ia Ga] or Division 2
- Probe: Class I, Zone 0 / Class I, Division 1
- Electronics enclosure: Class I, Zone 1 / Class I, Division 1 or Division 2

Page references to the temperature tables of the respective device types: See the following list.

- FMP50 →  23
- FMP51 →  24
- FMP52 →  25
- FMP53 →  25
- FMP54 →  26
- FMP55 →  29
- FMP56 →  29
- FMP57 →  30

FMP50

Position 5 = C

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-20	60	60	60	80	56	80	-20	-20	-20	-	-

FMP51

Position 5 = B

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-40 -50 ¹⁾	60	60	60	85	51	85	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-
	T5	-40 -50 ¹⁾	75	75	75	100	66	100	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-
	T4	-40 -50 ¹⁾	75	75	75	135	61	135	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-
	T3	-40 -50 ¹⁾	75	75	75	200	45	200	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-

1) Only in connection with Optional specification, ID Jx = JN

Position 5 = C

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-40 -50 ¹⁾	60	60	60	85	53	85	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-
	T5	-40 -50 ¹⁾	75	75	75	100	68	100	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-
	T4	-40 -50 ¹⁾	75	75	75	135	63	135	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-
	T3	-40 -50 ¹⁾	75	75	75	200	50	200	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-	-

1) Only in connection with Optional specification, ID Jx = JN

FMP52

Position 5 = B

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-50	60	60	60	85	52	85	-40	-40	-40	-50	-37
	T5	-50	75	75	75	100	67	100	-40	-40	-40	-50	-37
	T4	-50	75	75	75	135	62	135	-40	-40	-40	-50	-37
	T3	-50	75	75	75	200	47	200	-40	-40	-40	-50	-37

Position 5 = C

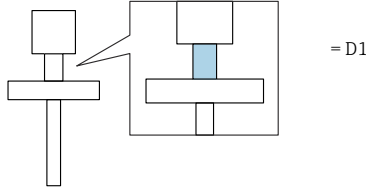
(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-50	60	60	60	85	54	85	-40	-40	-40	-50	-37
	T5	-50	75	75	75	100	69	100	-40	-40	-40	-50	-37
	T4	-50	75	75	75	135	64	135	-40	-40	-40	-50	-37
	T3	-50	75	75	75	200	52	200	-40	-40	-40	-50	-37

FMP53

Position 5 = C

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-20	60	60	60	85	54	85	-20	-20	-20	-	-
	T5	-20	75	75	75	100	69	100	-20	-20	-20	-	-
	T4	-20	75	75	75	135	63	135	-20	-20	-20	-	-
	T3	-20	75	75	75	150	60	150	-20	-20	-20	-	-

FMP54



Position 5 = B

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-196	60	60	60	85	56	85	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-16 -27 ¹⁾
	T5	-196	75	75	75	100	71	100	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-16 -27 ¹⁾
	T4	-196	75	75	75	135	67	135	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-16 -27 ¹⁾
	T3	-196	75	75	75	200	59	200	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-16 -27 ¹⁾
	T2	-196	75	75	75	280	48	280	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-16 -27 ¹⁾

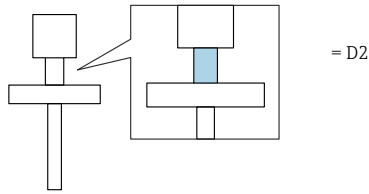
1) Only in connection with Optional specification, ID Jx = JN

Position 5 = C

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-196	60	60	60	85	57	85	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-23 -34 ¹⁾
	T5	-196	75	75	75	100	72	100	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-23 -34 ¹⁾
	T4	-196	75	75	75	135	69	135	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-23 -34 ¹⁾
	T3	-196	75	75	75	200	63	200	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-23 -34 ¹⁾
	T2	-196	75	75	75	280	55	280	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-23 -34 ¹⁾

1) Only in connection with Optional specification, ID Jx = JN

FMP54



Position 5 = B

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-196	60	60	60	85	57	85	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-26 -37 ¹⁾
	T5	-196	75	75	75	100	72	100	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-26 -37 ¹⁾
	T4	-196	75	75	75	135	71	135	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-26 -37 ¹⁾
	T3	-196	75	75	75	200	66	200	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-26 -37 ¹⁾
	T2	-196	75	75	75	300	58	300	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-26 -37 ¹⁾
	T1 ²⁾	-196	75	75	75	450	47	450	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-26 -37 ¹⁾

- 1) Only in connection with Optional specification, ID Jx = JN
- 2) Functional: Maximum permissible process temperature

Position 5 = C

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-196	60	60	60	85	58	85	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-27 -37 ¹⁾
	T5	-196	75	75	75	100	73	100	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-27 -37 ¹⁾
	T4	-196	75	75	75	135	71	135	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-27 -37 ¹⁾
	T3	-196	75	75	75	200	66	200	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-27 -37 ¹⁾
	T2	-196	75	75	75	300	59	300	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-27 -37 ¹⁾
	T1 ²⁾	-196	75	75	75	450	49	450	-40 -50 ¹⁾	-40 -50 ¹⁾	-40 -50 ¹⁾	-196	-27 -37 ¹⁾

1) Only in connection with Optional specification, ID Jx = JN

2) Functional: Maximum permissible process temperature

FMP55

Position 5 = B

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-50	60	60	60	85	52	85	-40	-40	-40	-50	-37
	T5	-50	75	75	75	100	67	100	-40	-40	-40	-50	-37
	T4	-50	75	75	75	135	62	135	-40	-40	-40	-50	-37
	T3	-50	75	75	75	200	47	200	-40	-40	-40	-50	-37

Position 5 = C

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-50	60	60	60	85	54	85	-40	-40	-40	-50	-37
	T5	-50	75	75	75	100	69	100	-40	-40	-40	-50	-37
	T4	-50	75	75	75	135	63	135	-40	-40	-40	-50	-37
	T3	-50	75	75	75	200	51	200	-40	-40	-40	-50	-37

FMP56

Position 5 = B

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-40	60	60	60	85	51	85	-40	-40	-40	-	-
	T5	-40	75	75	75	100	66	100	-40	-40	-40	-	-
	T4	-40	75	75	75	120	65	120	-40	-40	-40	-	-

Position 5 = C

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-40	60	60	60	85	54	85	-40	-40	-40	-	-
	T5	-40	75	75	75	100	69	100	-40	-40	-40	-	-
	T4	-40	75	75	75	120	66	120	-40	-40	-40	-	-

FMP57

Position 5 = B

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-40	60	60	60	85	53	85	-40	-40	-40	-	-
	T5	-40	75	75	75	100	68	100	-40	-40	-40	-	-
	T4	-40	75	75	75	135	63	135	-40	-40	-40	-	-
	T3	-40	75	75	75	185	54	185	-40	-40	-40	-	-

Position 5 = C

(2)		P1		P2		P3		P4		P5		P6	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
E, G	T6	-40	60	60	60	85	55	85	-40	-40	-40	-	-
	T5	-40	75	75	75	100	70	100	-40	-40	-40	-	-
	T4	-40	75	75	75	135	65	135	-40	-40	-40	-	-
	T3	-40	75	75	75	185	58	185	-40	-40	-40	-	-

Remote; 1 channel

Optional specification, ID Mx = MB, MC, MD



Explosion protection: XP / AEx/Ex ia/db [ia Ga]
 Probe: Class I, Zone 0 / Class I, Division 1
 Electronics enclosure: Class I, Zone 1 / Class I, Division 1

FMP5x

Position 5 = B, C

(1)		P1		P2		P3		P4		P5		P6	
		T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a
E, G	T6	-	60	-	60	-	60	-	-40	-	-40	-	-
	T5	-	75	-	75	-	75	-	-40	-	-40	-	-

1) T_p = dependent on the sensor



Explosion protection: Division 2
 Probe: Class I, Zone 0 / Class I, Division 1
 Electronics enclosure: Class I, Division 2

FMP5x

Position 5 = B, C

(1)		P1		P2		P3		P4		P5		P6	
		T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a
E, G	T6	-	60	-	60	-	60	-	-40	-	-40	-	-
	T5	-	80	-	80	-	80	-	-40	-	-40	-	-

1) T_p = dependent on the sensor

Remote; 2 channels*Optional specification, ID Mx = MB, MC, MD*

Explosion protection: XP / AEx/Ex ia/db [ia Ga]

Probe: Class I, Zone 0 / Class I, Division 1

Electronics enclosure: Class I, Zone 1 / Class I, Division 1

*FMP5x**Position 5 = B, C*

(2)		P1		P2		P3		P4		P5		P6	
		T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a
E, G	T6	-	60	-	60	-	60	-	-40	-	-40	-	-
	T5	-	75	-	75	-	75	-	-40	-	-40	-	-

1) T_p = dependent on the sensor

Explosion protection: Division 2

Probe: Class I, Zone 0 / Class I, Division 1

Electronics enclosure: Class I, Division 2

*FMP5x**Position 5 = B, C*

(2)		P1		P2		P3		P4		P5		P6	
		T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a	T _p ¹⁾	T _a
E, G	T6	-	59	-	59	-	59	-	-40	-	-40	-	-
	T5	-	74	-	74	-	74	-	-40	-	-40	-	-

1) T_p = dependent on the sensor

Class II, III, Division 1; 1 channel*FMP5x**Position 5 = B, C*

(1)	
E, G	$T = T_a + 5 \text{ K}$

Class II, III, Division 1; 2 channels*FMP5x**Position 5 = B, C*

(2)	
E, G	$T = T_a + 20 \text{ K}$

Connection data Connection compartment (AEx/Ex db)*Basic specification, Position 3 = E, G*

Terminal 1 (+), 2 (-)	Terminal 3 (+), 4 (-)
Power supply $U_N = 32 \text{ V}_{\text{DC}}$ $U_m = 250 \text{ V}$	Switch output (PFS) $U_N = 35 \text{ V}_{\text{DC}}$ $U_m = 250 \text{ V}$

The power consumption of I/O modules with passive PFS output can be limited for certain applications.

- Recommended: Power consumption = 1 W. This is obtained for a supply voltage at the terminals of 27 V_{DC}.
- For higher supply voltages (U_{max}): Insert a serial resistance (R_V) in order to limit the power consumption, see table below.

Table for the PFS serial resistance (R_V):

Power consumption	1.0 W
Total power consumption	1.88 W
Internal resistance R _I	760 Ω

U_{\max} [V]	R_V min
35	205 Ω
34	177 Ω
33	150 Ω
32	122 Ω
31	95 Ω
30	67 Ω
29	39 Ω
28	12 Ω
27	0 Ω



For values associated with a higher or lower internal power consumption please contact Endress+Hauser.

Electronics compartment, intrinsically safe (AEx/Ex ia)

Service interface (CDI)

Taking the following values into consideration, the device can be connected to the certified Endress+Hauser FXA291 service tool or a similar interface:

Service interface													
$U_i = 7.3$ V effective inner inductance $L_i =$ negligible effective inner capacitance $C_i =$ negligible													
$U_o = 7.3$ V $I_o = 100$ mA $P_o = 160$ mW													
L_o (mH) =	5.00	2.00	1.00	0.50	0.20	0.10	0.05	0.02	0.01	0.005	0.002	0.001	
C_o (μ F) =	0.73	1.20	1.60	2.00	2.60	3.20	4.00	5.50	7.30	10.00	12.70	12.70	

Remote display interface

- Devices with *Basic specification*, *Position 4 = L, M, N* can be connected to the approved Endress+Hauser remote display FHX50.
- Refer to Safety Instructions XA01096F for additional installation instructions.

Levelflex FMP50-FMP57

PROFIBUS PA, FOUNDATION Fieldbus

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Attachment: Nameplate view 36

**Attachment:
Nameplate view**

Riveted or screwed label

Adhesive label

IS Compartement	3	Levellflex	Endress+Hauser
	Order code: 8	IP68/66 Type 4X / 6P Encl. FM18.USxxxxX, FM18.CAxxxxX	
	Ser. no.: xxxxxxxx	XP-IS CL I, DIV 1, GP A,B,C,D T* AIS CL I, DIV 1, GP A,B,C,D [Exia]	
	Ext. ord. cd.: FMP5x-FCbcdeffgghhh		
	6	See Control Drawing for T-code See warning sign fixed to the enclosure. Voir plaque d'avertissement fixée au boîtier. Factory Sealed / XP conduit seals not required.	
	- 23		
	+ 25	See Control Drawing for T-code See warning sign fixed to the enclosure. Voir plaque d'avertissement fixée au boîtier. Factory Sealed / XP conduit seals not required.	
	Switch output		
	LN = 12 MWP: 14	See Control Drawing for T-code See warning sign fixed to the enclosure. Voir plaque d'avertissement fixée au boîtier. Factory Sealed / XP conduit seals not required.	
	21 Lref =		
	78 Ta > 60 °C: $\geq Ta + 20 K$	Date: JJJJ-MM 52	
XP	Mat.: 15	XA00572F X = if modification see sep. label Patents → Date: JJJJ-MM	

WARNINGS: Potential electrostatic charging hazard - see instructions. Substitution of components may impair suitability for hazardous locations.

○ AVERTISSEMENTS: Risque potentiel de décharges électrostatiques - voir consignes. La substitution de composants peut compromettre l'adaptabilité aux emplacements dangereux.

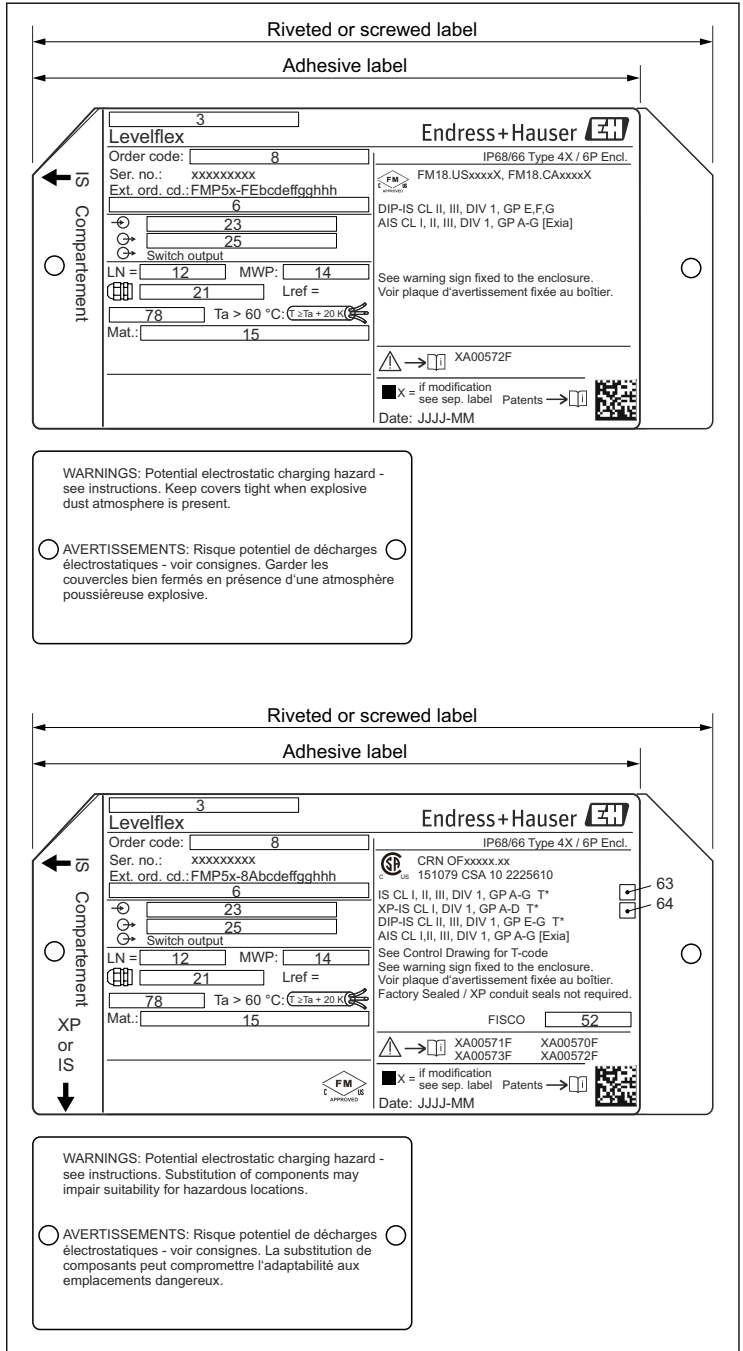
Riveted or screwed label

Adhesive label

IS Compartement	3	Levellflex	Endress+Hauser
	Order code: 8	IP68/66 Type 4X / 6P Encl. FM18.USxxxxX, FM18.CAxxxxX	
	Ser. no.: xxxxxxxx	XP-IS CL I, DIV 1, GP A,B,C,D T* DIP-IS CL I, II, III, DIV 1, GP E,F,G NI CL I, DIV 2, GP A,B,C,D T* AIS CL I, II, III, DIV 1, GP A-G [Exia] CL I, Zn 0/1, AEx/Ex ia/db [ja Ga] IIC T* Ga/Gb	
	Ext. ord. cd.: FMP5x-FDbcdeffgghhh		
	6	See Control Drawing for T-code See warning sign fixed to the enclosure. Voir plaque d'avertissement fixée au boîtier. Factory Sealed / XP conduit seals not required.	
	- 23		
	+ 25	See Control Drawing for T-code See warning sign fixed to the enclosure. Voir plaque d'avertissement fixée au boîtier. Factory Sealed / XP conduit seals not required.	
	Switch output		
	LN = 12 MWP: 14	See Control Drawing for T-code See warning sign fixed to the enclosure. Voir plaque d'avertissement fixée au boîtier. Factory Sealed / XP conduit seals not required.	
	21 Lref =		
	78 Ta > 60 °C: $\geq Ta + 20 K$	Date: JJJJ-MM 52	
XP	Mat.: 15	XA00572F X = if modification see sep. label Patents → Date: JJJJ-MM	

WARNINGS: Potential electrostatic charging hazard - see instructions. Substitution of components may impair suitability for hazardous locations. For Div. 2, do not disconnect equipment unless power has been switched off or area is known to be non-hazardous.

○ AVERTISSEMENTS: Risque potentiel de décharges électrostatiques - voir consignes. La substitution de composants peut compromettre l'adaptabilité aux emplacements dangereux. Pour Div. 2, débrancher appareil uniquement après avoir coupé l'alimentation électrique ou avoir vérifié qu'il ne soit pas installé en zone dangereuse.



Field no.	Order code FMP5x-aabcdeffgghhh +options	Contents	Comment
3	-	Made in Germany, 79689 Maulburg	Depending on production plant
		Assembled in USA	
		Assembled in India	
6	-	+*****#	+options added to Order Code (multiple options may be added; options relevant to approval are included below)
8	-	Ident.-No.	Individual no. for identically configured devices
12	-	Actual probe length: mm or in	Depends on probe type (option b)
14	-	Permissible pressure (process): bar or psi	Depends on probe type FMP5x and process connection (options ff and hhh)
15	-	Process wetted materials	Depends on options ff, gg and hhh
21	e = A,B,I,M	M20x1,5 / M16x1,5	Cable Entry
	e = C	G ½ / M16x1,5	
	e = D	NPT ½ / M16x1,5	
23	b = E,G	-	Electrical Ratings (fieldbus connection)
27	b = E	FOUNDATION Fieldbus	Fieldbus protocol
	b = G	PROFIBUS PA (MBP)	
52	FMP50 FMP53 FMP56 FMP57	Dual Seal (MWP: 6 bar)	Process sealing + XP feedthrough
	FMP51 FMP52 FMP55	Dual Seal	Process sealing + glass feedthrough
	FMP54	Dual Seal (MWP: 370 bar)	
63, 64	-	(checkbox)	First installation checkbox
78	-	T _a : -40 to +80 °C	Ambient temperature range
	+options = JN	T _a : -50 to +80 °C	



71563115

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