

# Safety Instructions

## Levelflex


### FMP50/51/52/53/54/55/56/57

4-20 mA HART


Control Drawing IS



Document: XA00530F-F

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# Levelflex FMP50/51/52/53/54/55/56/57

4-20 mA HART

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

- BA01000F/00 (FMP50)
- BA01001F/00 (FMP51, FMP52, FMP54)
- BA01002F/00 (FMP53)
- BA01003F/00 (FMP55)
- BA01004F/00 (FMP56, FMP57)

**Manufacturer's certificates** **CSA C/US certificate**

Certificate number:

CSA10.2225610

**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                    | CB | CSA C/US IS Cl. I, Div. 1, Groups A-D   |
|                          | C2 | CSA C/US IS Cl. I, II, III, Div. 1, Groups A-G; AEx ia/Ex ia; Cl. I, Div. 2, Groups A-D |
|                          | 8A | FM/CSA IS+XP Cl. I, II, III, Div. 1, Groups A-G   |

| Position 3 (Power Supply, Output) |   |   |
|-----------------------------------|---|---|
| Selected option                   |   | Description                               |
| FMP5x                             | A | 2-wire, 4-20 mA HART                      |
|                                   | B | 2-wire, 4-20 mA HART, switch output (PFS) |
|                                   | C | 2-wire, 4-20 mA HART, 4...20 mA           |

| 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 <sup>1)</sup> | Prepared for display FHX50 + M12 connection                |
|                                 | M <sup>1)</sup> | Prepared for display FHX50 + custom connection             |
|                                 | N <sup>2)</sup> | Prepared for display FHX50 + NPT1/2"                       |

- 1) In connection with Position 5 (Housing) = A: Observe the specifications in the "Overvoltage protection" and "Temperature tables" chapters!
- 2) Only in connection with Position 5 (Housing) = B or C

| Position 5 (Housing)       |                 |                                     |
|----------------------------|-----------------|-------------------------------------|
| Selected option            |                 | Description                         |
| FMP5x                      | A <sup>1)</sup> | GT19 dual compartment, plastics PBT |
|                            | C               | GT20 dual compartment, Alu coated   |
| FMP51<br>FMP52<br>FMP54-57 | B               | GT18 dual compartment, 316L         |

- 1) Only in connection with Position 1, 2 (Approval) = CB

| 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                    |
| FMP57                 | A4 | Viton, -30...150 °C                   |
|                       | B3 | EPDM, -40...120 °C                    |
|                       | C5 | Kalrez, -5...185 °C                   |

#### Optional specifications

| ID Jx (Test, Certificate)    |                  |  |
|------------------------------|------------------|--|
| Selected option              |                  | Description                            |
| FMP51 <sup>1)</sup><br>FMP54 | JN <sup>2)</sup> | Ambient temperature transmitter -50 °C |

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

2) Only in connection with Position 5 (Housing) = B, C

| 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             | MC | Sensor remote, 6 m/18 ft cable, detachable + mounting bracket |
| FMP56<br>FMP57       | MD | Sensor remote, 9 m/27 ft cable, detachable + mounting bracket |

| ID Nx (Accessory Mounted) |                  |                        |
|---------------------------|------------------|------------------------|
| Selected option           |                  | Description            |
| FMP5x                     | NA               | Overvoltage protection |
|                           | NF <sup>1)</sup> | Bluetooth              |
| FMP51<br>FMP52<br>FMP55   | NC               | Gas-tight feed through |

1) Only in connection with Position 4 (Display, Operation) = C, E

**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.

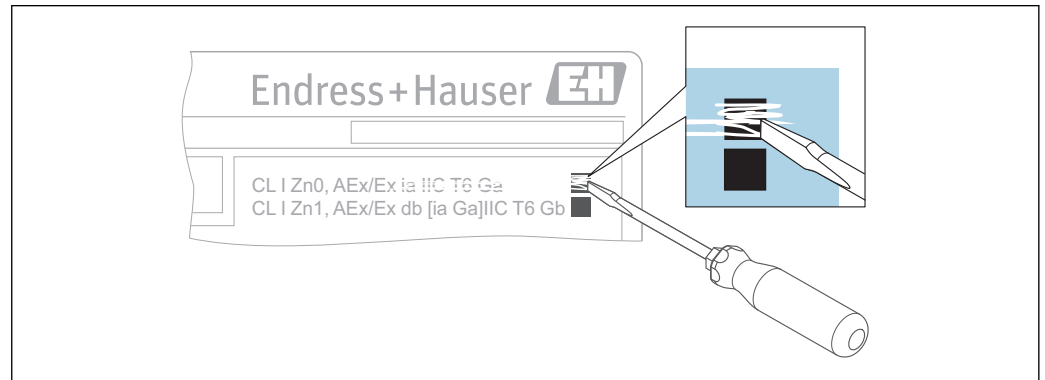
- Before initial commissioning, specify the type of protection.
- It is not permitted to change the type of protection after initial commissioning as this can jeopardize the explosion protection.

For aluminum housings:

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

For stainless steel housings:

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             | XA00530F                           |
|                    | FM              | XA00531F                           |
| Explosionproof     | CSA             | XA00529F                           |
|                    | FM              | XA00532F                           |

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. housing, 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.
- 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 housing:  
 $-40\text{ °C} \leq T_a \leq +80\text{ °C}$

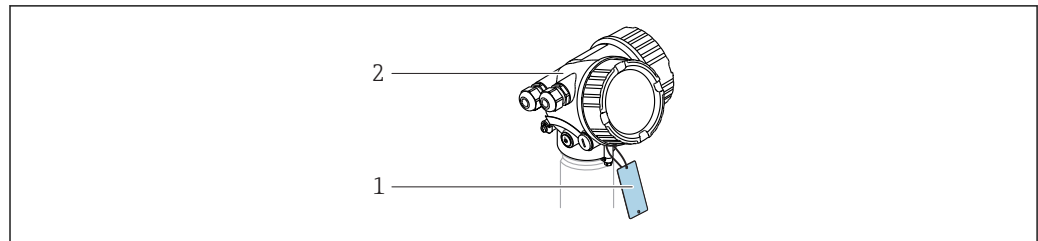
*Optional specification, ID Jx (Test, Certificate) = JN*

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

- 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 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 ( $\leq 0.5\text{ m}$ ) generating strong electrostatic charges.

*Basic specification, Position 5 (Housing) = A*

Avoid electrostatic charging of the housing (e.g. friction, cleaning, maintenance, strong medium flow).



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- 1 *Isolated capacitance:*  
 with one metal plate:  $\leq 3\text{ pF}$  (permitted for Class I, II, III, Division 1, Division 2 and Class I, Zone 0, Zone 1)  
 with two to three metal plates:  $\leq 10\text{ pF}$  (not permitted for Class I, Zone 0 and for Equipment Group IIC)
- 2 *Housing*

*Basic specification, Position 5 (Housing) = C*

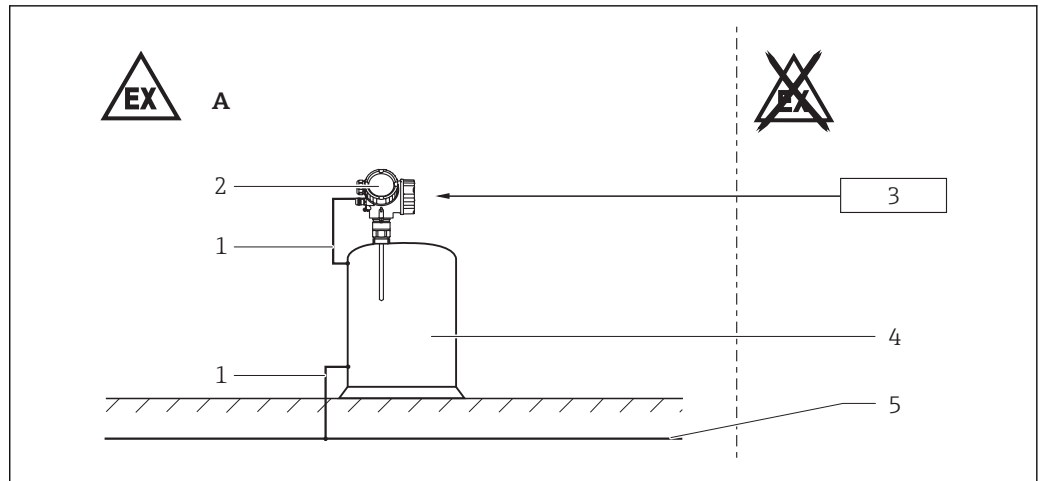
In Zone 0, avoid sparks caused by impact and friction.

*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**



- A Class I, Div. 1 or 2, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Zone 0, Zone 1
- 1 Potential equalization line
- 2 Electronic insert
- 3 Certified associated apparatus
- 4 Tank; Class I, Div. 1 or 2, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Zone 0, Zone 1
- 5 Potential equalization

- After aligning (rotating) the housing, 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.
- Continuous service temperature of the connecting cable:  $-40\text{ °C}$  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 (Test, Certificate) = JN

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

Basic specification, Position 4 (Display, Operation) = N

Observe national regulations and standards for conduit systems.

**Bluetooth® module**

Optional specification, ID Nx (Accessory Mounted) = NF

- With Bluetooth® module installed: Use of external hardware not allowed (e.g. external display, service interface).
- The intrinsically safe input power circuit of the Bluetooth® module is isolated from ground.

**Intrinsic safety**

Intrinsically safe, Class I, Div. 1, Groups A, B, C, D, Class II, Div. 1, Groups E, F, G, Class III  
Class I, Zone 0 or Zone 1, AEx ia IIC/Ex ia IIC

**Entity installation**

- Use an intrinsic safety barrier or other associated equipment that is approved for the country in use and satisfies the following conditions:  $U_o (V_{oc}) \leq U_i (V_{max})$ ,  $I_o (I_{sc}) \leq I_i (I_{max})$ ,  $C_o (C_a) \geq C_i + C_{cable}$ ,  $L_o (L_a) \geq L_i + L_{cable}$  and  $P_o \leq P_i$ .
- For transmitter parameters: See "Connection data" section.
- Control room equipment may not use or generate over  $250\text{ V}_{rms}$ .
- Install as per National Electrical Code (NFPA70) or Canadian Electrical Code, Part I (C22.1), as applicable.
- WARNINGS: Substitution of components may impair intrinsic safety.

- Always follow the installation instructions provided by the intrinsic safety barrier manufacturer when installing this equipment.
- 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 housing and remote display is intrinsically safe field wiring.
- The device can be equipped with the Bluetooth® module: refer to the Operating Instructions and specifications in the "Bluetooth® module" chapter.

For Class II and III

Keep covers tight unless power has been switched off.

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

The following instructions apply only for *Device type FMP5x, Basic specification, Position 1, 2 (Approval) = C2*

*Device type FMP5x, Basic specification, Position 1, 2 (Approval) = CB and 8A* are not marked for use in Class I, Division 2; however, these devices are suitable for this application when installed using the intrinsic safety instructions for Class I, Division 1.

### Nonincendive Field Wiring (NIFW) installation

- The Nonincendive Field Wiring circuit concept allows interconnection of nonincendive field wiring apparatus with associated nonincendive field wiring apparatus or associated apparatus not specifically examined in combination as a system using any of the wiring methods permitted for unclassified locations, when the following conditions are met:  $V_{\max} \geq V_{oc}$ ,  $C_a \geq C_i + C_{cable}$ ,  $L_a \geq L_i + L_{cable}$ .
- For transmitter parameters: See "Connection data" section.
- The transmitter provides a current controlled circuit; therefore, the parameter  $I_{\max}$  is not required and needs not to be aligned with  $I_{sc}$  of the associated nonincendive field wiring apparatus or associated apparatus.
- Control room equipment may not use or generate over 250 V<sub>rms</sub>.
- Install as per National Electrical Code (NFPA70) or Canadian Electrical Code, Part I (C22.1), as applicable.
- WARNINGS: Substitution of components may impair suitability for Class I, Div. 2.
- Always follow the installation drawing provided by the associated apparatus manufacturer. The configuration of the associated apparatus must be approved for the country in use.

*Device type FMP5x, Basic specification, Position 3 (Power Supply; Output) = A*

- Probe is suitable for installation in Class I, Division 2 only when using this wiring method. If probe is installed in a location classified as Class I, II, III, Division 1/Zone 0, supply must be connected to associated apparatus per the intrinsic safety instructions above.
- When prepared for use with an approved remote display FHX50, remote display is suitable for Class I, Division 2 locations only and connection between transmitter housing and remote display is nonincendive field wiring. If associated apparatus is used per the intrinsic safety instructions above, remote display is suitable for Class I, Division 1/Zone 0 locations and connection between transmitter housing and remote display is intrinsically safe wiring.

*Device type FMP5x, Basic specification, Position 3 (Power Supply; Output) = B, C*

- 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 housing and remote display is intrinsically safe field wiring.

### Standard Wiring installation (only for NPT conduit entries)

- Install as per National Electrical Code (NFPA70) or Canadian Electrical Code, Part I (C22.1), as applicable.
- Using wiring methods appropriate for the location.
- For the maximum supply voltage: See "Connection data" section.
- 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.
- Associated apparatus not required, except where noted below.

*Device type FMP5x, Basic specification, Position 3 (Power Supply; Output) = A*

- Probe is suitable for installation in Class I, Division 2 only when using this wiring method. If probe is installed in a location classified as Class I, II, III, Division 1/Zone 0, supply must be connected to associated apparatus per the intrinsic safety instructions above.
- When prepared for use with an approved remote display FHX50, remote display is suitable for Class I, Division 2 locations only and connection between transmitter housing and remote display is nonincendive field wiring. If associated apparatus is used per the intrinsic safety instructions above, remote display is suitable for Class I, Division 1/Zone 0 locations and connection between transmitter housing and remote display is intrinsically safe wiring.

*Device type FMP5x, Basic specification, Position 3 (Power Supply; Output) = B, C*


- 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 housing and remote display is intrinsically safe field wiring.

**Process seals**

The following device types are Dual Seal devices per ANSI/ISA 12.27.01 and do not require the use of an external secondary process seal.

| Device type                      | Basic specification, Position 1, 2 (Approval) | MWP <sup>1)</sup> | Method of annunciation <sup>2)</sup>  |
|----------------------------------|---|-------------------|---|
| FMP50<br>FMP53<br>FMP56<br>FMP57 | 8A  | 6 bar             | Process fluid leakage through vent located in electronics compartment.<br>When using the remote display FHX50: Leakage may also occur from the vent located in the remote display housing.                                |
| FMP51<br>FMP52<br>FMP55          | C2, 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                            | C2, 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).

*Basic specification, Position 4 (Display, Operation) = L M, N and a cable provided by customer, gland M16 or thread NPT1/2*

To prevent possible leakage of process fluids in an area classified as non-hazardous, the FHX50 must be installed in the hazardous location when used with a device with a Dual Seal rating.

**Temperature tables**

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**Connection data**

*Optional specification, ID Nx (Accessory Mounted) = NA (Overvoltage protection Type OVP10 and Type OVP20)*

When using the internal overvoltage protection: No changes to the connection values.

*Optional specification, ID Nx (Accessory Mounted) = NF*

When using the Bluetooth® module: No changes to the connection values.

Basic specification, Position 1, 2 (Approval) = CB

Basic specification, Position 3 (Power Supply, Output) = A  
IS, Class I, Div. 1

| Terminal 1 (+), 2 (-)   |
|---|
| Power supply:<br>$U_i = 30\text{ V}$<br>$I_i = 300\text{ mA}$<br>$P_i = 1\text{ W}$<br><br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 12\text{ nF}$ |

Basic specification, Position 3 (Power Supply, Output) = B  
IS, Class I, Div. 1

| Terminal 1 (+), 2 (-)  | Terminal 3 (+), 4 (-)   |
|--|---|
| Power supply:<br>$U_i = 30\text{ V}$<br>$I_i = 300\text{ mA}$<br>$P_i = 1\text{ W}$<br><br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 5\text{ nF}$ | Switch output (PFS):<br>$U_i = 30\text{ V}$<br>$I_i = 300\text{ mA}$<br>$P_i = 1\text{ W}$<br><br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 6\text{ nF}$ |

Basic specification, Position 3 (Power Supply, Output) = C  
IS, Class I, Div. 1

| Terminal 1 (+), 2 (-)   | Terminal 3 (+), 4 (-)  |
|---|--|
| Power supply:<br>$U_i = 30\text{ V}$<br>$I_i = 300\text{ mA}$<br>$P_i = 1\text{ W}$<br><br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 30\text{ nF}$ | Output 4 to 20 mA:<br>$U_i = 30\text{ V}$<br>$I_i = 300\text{ mA}$<br>$P_i = 1\text{ W}$<br><br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 30\text{ nF}$ |

Basic specification, Position 1, 2 (Approval) = C2

Basic specification, Position 3 (Power Supply, Output) = A  
IS, Class I, II, III, Div. 1; Class I, Zone 0, AEx ia/Ex ia

| Terminal 1 (+), 2 (-)   |
|---|
| Power supply:<br>$U_i = 30\text{ V}$<br>$I_i = 300\text{ mA}$<br>$P_i = 1\text{ W}$<br><br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 12\text{ nF}$ |

NIFW: Class I, Div. 2

| Terminal 1 (+), 2 (-)  |
|--|
| Power supply:<br>$U_i = 30\text{ V}$<br>$I_i$ = transmitter is a current controlled device<br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 12\text{ nF}$ |

Class I, Div. 2

| Terminal 1 (+), 2 (-)  |
|--|
| Power supply:<br>Input voltage = 30 V<br>Input current = 22.5 mA |

Basic specification, Position 3 (Power Supply, Output) = B  
 IS, Class I, II, III, Div. 1; Class I, Zone 0, AEx ia/Ex ia

| Terminal 1 (+), 2 (-)  | Terminal 3 (+), 4 (-)   |
|--|---|
| Power supply:<br>$U_i = 30\text{ V}$<br>$I_i = 300\text{ mA}$<br>$P_i = 1\text{ W}$<br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 5\text{ nF}$ | Switch output (PFS):<br>$U_i = 30\text{ V}$<br>$I_i = 300\text{ mA}$<br>$P_i = 1\text{ W}$<br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 6\text{ nF}$ |

NIFW: Class I, Div. 2

| Terminal 1 (+), 2 (-)   | Terminal 3 (+), 4 (-)  |
|---|--|
| Power supply:<br>$U_i = 30\text{ V}$<br>$I_i$ = transmitter is a current controlled device<br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 5\text{ nF}$ | Switch output (PFS):<br>$U_i = 30\text{ V}$<br>$I_i$ = transmitter is a current controlled device<br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 6\text{ nF}$ |

Class I, Div. 2

| Terminal 1 (+), 2 (-)  | Terminal 3 (+), 4 (-)  |
|--|--|
| Power supply:<br>Input voltage = 30 V<br>Input current = 22 mA | Switch output (PFS):<br>Input voltage = 30 V<br>$P_i = 1\text{ W}$ |

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<sub>DC</sub>.
- 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 $\Omega$ |

| $U_{\max}$ [V] | $R_V$ min   |
|----------------|-------------|
| 30             | 67 $\Omega$ |
| 29             | 39 $\Omega$ |
| 28             | 12 $\Omega$ |
| 27             | 0 $\Omega$  |

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

Basic specification, Position 3 (Power Supply, Output) = C  
IS, Class I, II, III, Div. 1; Class I, Zone 0, AEx ia/Ex ia

| Terminal 1 (+), 2 (-)  | Terminal 3 (+), 4 (-)   |
|--|---|
| Power supply:<br>$U_i = 30 \text{ V}^{1)}$<br>$I_i = 300 \text{ mA}$<br>$P_i = 1 \text{ W}$<br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 30 \text{ nF}$ | Output 4 to 20 mA:<br>$U_i = 30 \text{ V}^{1)}$<br>$I_i = 300 \text{ mA}$<br>$P_i = 1 \text{ W}$<br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 30 \text{ nF}$ |

1) For functional reasons, input may be limited to a reduced supply voltage of 28 V<sub>DC</sub>


NIFW: Class I, Div. 2

| Terminal 1 (+), 2 (-)  | Terminal 3 (+), 4 (-)   |
|--|---|
| Power supply:<br>$U_i = 30 \text{ V}^{1)}$<br>$I_i = \text{transmitter is a current controlled device}$<br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 30 \text{ nF}$ | Output 4 to 20 mA:<br>$U_i = 30 \text{ V}^{1)}$<br>$I_i = \text{transmitter is a current controlled device}$<br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 30 \text{ nF}$ |

1) For functional reasons, input may be limited to a reduced supply voltage of 28 V<sub>DC</sub>

Class I, Div. 2

| Terminal 1 (+), 2 (-)  | Terminal 3 (+), 4 (-)   |
|--|---|
| Power supply:<br>Input voltage = 28 V<br>Input current = 22 mA | Output 4 to 20 mA:<br>Input voltage = 28 V<br>Input current = 22 mA |

 Div. 2  
Probe is suitable for installation in Class I, Division 2 only. If probe is installed in a location classified as Class I, Division 1/Zone 0, Terminal 1 (+), 2 (-) must be connected to associated apparatus with intrinsically safe outputs.

Basic specification, Position 1, 2 (Approval) = 8A

Basic specification, Position 3 (Power Supply, Output) = A  
IS, Class I, II, III, Div. 1

| Terminal 1 (+), 2 (-)  |
|--|
| Power supply:<br>$U_i = 30\text{ V}$<br>$I_i = 300\text{ mA}$<br>$P_i = 1\text{ W}$<br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 5\text{ nF}$ |

Basic specification, Position 3 (Power Supply, Output) = B  
IS, Class I, II, III, Div. 1

| Terminal 1 (+), 2 (-)  | Terminal 3 (+), 4 (-)   |
|--|---|
| Power supply:<br>$U_i = 30\text{ V}$<br>$I_i = 300\text{ mA}$<br>$P_i = 1\text{ W}$<br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 5\text{ nF}$ | Switch output (PFS):<br>$U_i = 30\text{ V}$<br>$I_i = 300\text{ mA}$<br>$P_i = 1\text{ W}$<br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 6\text{ nF}$ |

Basic specification, Position 3 (Power Supply, Output) = C  
IS, Class I, II, III, Div. 1

| Terminal 1 (+), 2 (-)  | Terminal 3 (+), 4 (-)   |
|--|---|
| Power supply:<br>$U_i = 30\text{ V}^{1)}$<br>$I_i = 300\text{ mA}$<br>$P_i = 1\text{ W}$<br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 30\text{ nF}$ | Output 4 to 20 mA:<br>$U_i = 30\text{ V}^{1)}$<br>$I_i = 300\text{ mA}$<br>$P_i = 1\text{ W}$<br>effective inner inductance $L_i = 0$<br>effective inner capacitance $C_i = 30\text{ nF}$ |

1) For functional reasons, input may be limited to a reduced supply voltage of 28 V<sub>DC</sub>

**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   |      |      |      |      |      |      |      |      |      |       |       |       |  |
|---|------|------|------|------|------|------|------|------|------|-------|-------|-------|--|
| $U_i = 7.3\text{ V}$<br>effective inner inductance $L_i = \text{negligible}$<br>effective inner capacitance $C_i = \text{negligible}$ |      |      |      |      |      |      |      |      |      |       |       |       |  |
| $U_o = 7.3\text{ V}$<br>$I_o = 100\text{ mA}$<br>$P_o = 160\text{ mW}$  |      |      |      |      |      |      |      |      |      |       |       |       |  |
| $L_o\text{ (mH)} =$   | 5.00 | 2.00 | 1.00 | 0.50 | 0.20 | 0.10 | 0.05 | 0.02 | 0.01 | 0.005 | 0.002 | 0.001 |  |
| $C_o\text{ (}\mu\text{F)} =$  | 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 (Display, Operation) = L, M, N* can be connected to the approved Endress+Hauser remote display FHX50.
- Refer to Safety Instructions XA01095F for additional installation instructions.



# Levelflex FMP50/51/52/53/54/55/56/57

4-20 mA HART

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| Class II, III, Division 1; 1 channel .....   | 55 |
| Class II, III, Division 1; 2 channels .....  | 55 |

## Notes on the structure

## Extract from the extended order code

*Device type*

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

*Basic specifications*

| Position 1, 2 (Approval) |    |   |
|--------------------------|----|---|
| Selected option          |    | Description   |
| FMP5x                    | CB | CSA C/US IS Cl. I, Div. 1, Groups A-D   |
|                          | C2 | CSA C/US IS Cl. I, II, III, Div. 1, Groups A-G; AEx ia/Ex ia; Cl. I, Div. 2, Groups A-D |
|                          | 8A | FM/CSA IS+XP Cl. I, II, III, Div. 1, Groups A-G   |


| Position 3 (Power Supply, Output) |   |   |
|-----------------------------------|---|---|
| Selected option                   |   | Description                               |
| FMP5x                             | A | 2-wire, 4-20 mA HART                      |
|                                   | B | 2-wire, 4-20 mA HART, switch output (PFS) |
|                                   | C | 2-wire, 4-20 mA HART, 4...20 mA           |

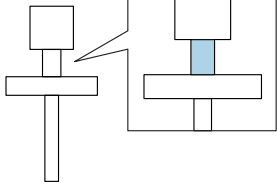
| Position 5 (Housing)       |                 |                                     |
|----------------------------|-----------------|-------------------------------------|
| Selected option            |                 | Description                         |
| FMP5x                      | A <sup>1)</sup> | GT19 dual compartment, plastics PBT |
|                            | C               | GT20 dual compartment, Alu coated   |
| FMP51<br>FMP52<br>FMP54-57 | B               | GT18 dual compartment, 316L         |

1) Only in connection with Position 1, 2 (Approval) = CB

| 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 <sup>1)</sup><br>FMP54 | JN <sup>2)</sup> | Ambient temperature transmitter -50 °C |


- 1) Only in connection with Position 9, 10 (Seal) = E1
- 2) Only in connection with Position 5 (Housing) = B, C


| 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             | MC | Sensor remote, 6 m/18 ft cable, detachable + mounting bracket |
| FMP56<br>FMP57       | MD | Sensor remote, 9 m/27 ft cable, detachable + mounting bracket |

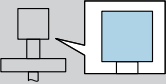
General notes

-  *Optional specification, ID Nx (Accessory Mounted) = NA (Overvoltage protection type OVP10 and type OVP20)*  
When using the internal overvoltage protection: Reduce the admissible ambient temperature at the housing by 2 K.  
*Basic specification, Position 5 (Housing) = A*  
When using the remote display FHX50: Reduce the admissible ambient temperature at the housing by 3 K.
-  Observe the permitted temperature range at the probe.

Description notes

-  Unless otherwise indicated, the positions always refer to the basic specification.
- 1st column: Position 5 (Housing) = A, B, ...
- 2nd column: Position 3 (Power Supply, Output) = A, B, ..
  - (1): 1 channel used
  - (2): 2 channels used
- 3rd column: Temperature classes T6 (85 °C) to T1 (450 °C)
- Column P1 to P6: Position (temperature value) on the axes of the derating
  - T<sub>a</sub>: Ambient temperature in °C
  - T<sub>p</sub>: Process temperature in °C

 Column P6 is only relevant for version B of the derating.  
 →  21

|  = C | (1)     | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|--|---------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|  |         | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|  | A, B, C | 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            | 67             | 135            | -40            | -40            | -40            | -              | - |
|  |         | T3             | -40            | 80             | 80             | 80             | 200            | 51             | 200            | -40            | -40            | -40            | -              | - |

A0038021-EN

Class II, III, Division 1

1st column: Position 5 (Housing) = A, B, ...

2nd column: Position 3 (Power Supply, Output) = A, B, ...

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

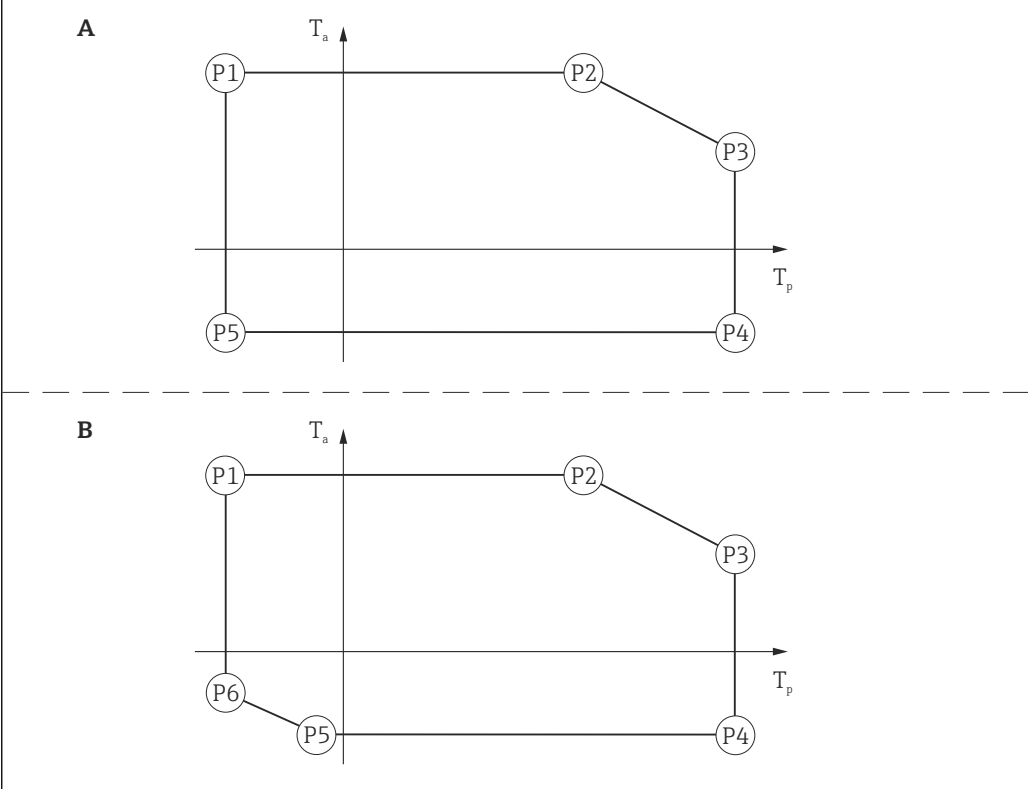
3rd column: Temperature values

|  = C | (1)  |                           |
|---|------|---------------------------|
|   | B, C | T = T <sub>a</sub> + 10 K |

A0039389-EN

 T<sub>a</sub>: Ambient temperature in °C

Example diagrams of possible deratings




A0022717

**Compact; 1 channel**

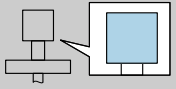
**Probe design: compact**

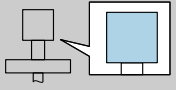
Page references to the temperature tables of the respective device types: See the following list.


- FMP50 → 22
- FMP51 → 23
- FMP52 → 24
- FMP53 → 25
- FMP54 → 26
- FMP55 → 30
- FMP56 → 31
- FMP57 → 32

 Explosion protection: IS / AEx ia/Ex ia or Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Zone 1 / Class I, Division 1 or Division 2

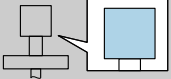
**FMP50**

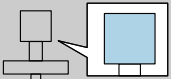
|  = A | (1) | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|--|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|  |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
| A  | T6  | -20            | 60             | 60             | 60             | 80             | 54             | 80             | -20            | -20            | -20            | -              | -              |
| B  | T6  | -20            | 57             | 57             | 57             | 80             | 53             | 80             | -20            | -20            | -20            | -              | -              |
| C  | T6  | -20            | 60             | 60             | 60             | 80             | 53             | 80             | -20            | -20            | -20            | -              | -              |

|  = C | (1) | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|--|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|  |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
| A, B, C  | T6  | -20            | 60             | 60             | 60             | 80             | 56             | 80             | -20            | -20            | -20            | -              | -              |

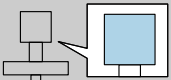
 Explosion protection: IS / AEx ia/Ex ia or Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Zone 1 / Class I, Division 1 or Division 2

**FMP51**

|  = A | (1)  | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|---|------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|   |      | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|   | A, C | T6             | -40            | 60             | 60             | 60             | 85             | 45             | 85             | -40            | -40            | -40            | -              | - |
|   |      | T5             | -40            | 75             | 75             | 75             | 100            | 60             | 100            | -40            | -40            | -40            | -              | - |
|   |      | T4             | -40            | 79             | 79             | 79             | 135            | 56             | 135            | -40            | -40            | -40            | -              | - |
|   | B    | T6             | -40            | 60             | 60             | 60             | 85             | 46             | 85             | -40            | -40            | -40            | -              | - |
|   |      | T5             | -40            | 72             | 72             | 72             | 100            | 61             | 100            | -40            | -40            | -40            | -              | - |
|   |      | T4             | -40            | 72             | 72             | 72             | 135            | 53             | 135            | -40            | -40            | -40            | -              | - |

|  = B | (1)     | P1             |                          | P2             |                | P3             |                | P4             |                | P5                       |                          | P6                       |                |   |
|---|---------|----------------|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|---|
|   |         | T <sub>p</sub> | T <sub>a</sub>           | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub>           | T <sub>a</sub>           | T <sub>p</sub>           | T <sub>a</sub> |   |
|   | A, B, C | T6             | -40<br>-50 <sup>1)</sup> | 60             | 60             | 60             | 85             | 51             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |
|   |         | T5             | -40<br>-50 <sup>1)</sup> | 75             | 75             | 75             | 100            | 66             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |
|   |         | T4             | -40<br>-50 <sup>1)</sup> | 80             | 80             | 80             | 135            | 67             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |
|   |         | T3             | -40<br>-50 <sup>1)</sup> | 80             | 80             | 80             | 200            | 48             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |

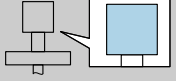
1) Only in connection with Optional specification, ID Jx (Test, Certificate) = JN

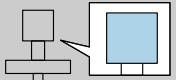
|  = C | (1)     | P1             |                          | P2             |                | P3             |                | P4             |                | P5                       |                          | P6                       |                |   |
|---|---------|----------------|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|---|
|   |         | T <sub>p</sub> | T <sub>a</sub>           | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub>           | T <sub>a</sub>           | T <sub>p</sub>           | T <sub>a</sub> |   |
|   | A, B, C | T6             | -40<br>-50 <sup>1)</sup> | 60             | 60             | 60             | 85             | 53             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |
|   |         | T5             | -40<br>-50 <sup>1)</sup> | 75             | 75             | 75             | 100            | 68             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |
|   |         | T4             | -40<br>-50 <sup>1)</sup> | 80             | 80             | 80             | 135            | 69             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |
|   |         | T3             | -40<br>-50 <sup>1)</sup> | 80             | 80             | 80             | 200            | 56             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |

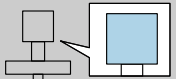
1) Only in connection with Optional specification, ID Jx (Test, Certificate) = JN

**i** Explosion protection: IS / AEx ia/Ex ia or Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Zone 1 / Class I, Division 1 or Division 2


## FMP52

|  = A | (1)  | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|--|------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|  |      | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|  | A, C | T6             | -50            | 60             | 60             | 60             | 85             | 49             | 85             | -40            | -40            | -40            | -50            | -35 |
|  |      | T5             | -50            | 75             | 75             | 75             | 100            | 64             | 100            | -40            | -40            | -40            | -50            | -35 |
|  |      | T4             | -50            | 79             | 79             | 79             | 135            | 64             | 135            | -40            | -40            | -40            | -50            | -35 |
|  |      | T3             | -50            | 79             | 79             | 79             | 200            | 37             | 200            | -40            | -40            | -40            | -50            | -35 |
|  | B    | T6             | -50            | 60             | 60             | 60             | 85             | 50             | 85             | -40            | -40            | -40            | -50            | -36 |
|  |      | T5             | -50            | 72             | 72             | 72             | 100            | 65             | 100            | -40            | -40            | -40            | -50            | -36 |
|  |      | T4             | -50            | 72             | 72             | 72             | 135            | 56             | 135            | -40            | -40            | -40            | -50            | -36 |
|  |      | T3             | -50            | 72             | 72             | 72             | 200            | 38             | 200            | -40            | -40            | -40            | -50            | -36 |

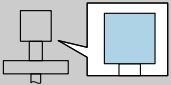
|  = B | (1)     | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|---|---------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|   |         | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|   | A, B, C | 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 |

|  = C | (1)     | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|--|---------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|  |         | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|  | A, B, C | 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 |

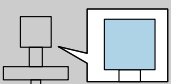


 Explosion protection: IS / AEx ia/Ex ia or Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Zone 1 / Class I, Division 1 or Division 2

**FMP53**

|  = A | (1)  | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|---|------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|   |      | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|   | A, C | T6               | -20            | 60             | 60             | 60             | 85             | 47             | 85             | -20            | -20            | -20            | -              | - |
|   |      | T5               | -20            | 75             | 75             | 75             | 100            | 62             | 100            | -20            | -20            | -20            | -              | - |
|   |      | T4               | -20            | 79             | 79             | 79             | 135            | 60             | 135            | -20            | -20            | -20            | -              | - |
|   |      | T3 <sup>1)</sup> | -20            | 79             | 79             | 79             | 150            | 53             | 150            | -20            | -20            | -20            | -              | - |
|   | B    | T6               | -20            | 60             | 60             | 60             | 85             | 48             | 85             | -20            | -20            | -20            | -              | - |
|   |      | T5               | -20            | 72             | 72             | 72             | 100            | 63             | 100            | -20            | -20            | -20            | -              | - |
|   |      | T4               | -20            | 72             | 72             | 72             | 135            | 54             | 135            | -20            | -20            | -20            | -              | - |
|   |      | T3 <sup>1)</sup> | -20            | 72             | 72             | 72             | 150            | 50             | 150            | -20            | -20            | -20            | -              | - |

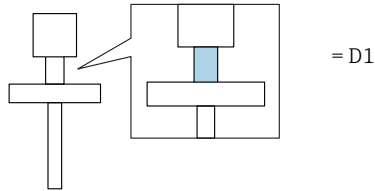
1) Functional: Maximum permissible process temperature

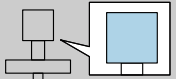
|  = C | (1)     | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|--|---------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|  |         | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|  | A, B, C | 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 <sup>1)</sup> | -20            | 80             | 80             | 80             | 150            | 66             | 150            | -20            | -20            | -20            | -              | - |

1) Functional: Maximum permissible process temperature

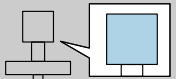
**i** Explosion protection: IS / AEx ia/Ex ia or Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Zone 1 / Class I, Division 1 or Division 2

**FMP54**



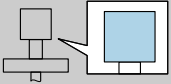
|  = A | (1)  | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |    |
|--|------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----|
|  |      | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |    |
|  | A, C | T6               | -196           | 58             | 58             | 58             | 85             | 54             | 85             | -40            | -40            | -40            | -196           | -5 |
|  |      | T5               | -196           | 73             | 73             | 73             | 100            | 69             | 100            | -40            | -40            | -40            | -196           | -5 |
|  |      | T4               | -196           | 79             | 79             | 79             | 135            | 71             | 135            | -40            | -40            | -40            | -196           | -5 |
|  |      | T3               | -196           | 79             | 79             | 79             | 200            | 59             | 200            | -40            | -40            | -40            | -196           | -5 |
|  |      | T2 <sup>1)</sup> | -196           | 79             | 79             | 79             | 280            | 41             | 280            | -40            | -40            | -40            | -196           | -5 |
|  | B    | T6               | -196           | 57             | 57             | 57             | 85             | 53             | 85             | -40            | -40            | -40            | -196           | -5 |
|  |      | T5               | -196           | 72             | 72             | 72             | 100            | 68             | 100            | -40            | -40            | -40            | -196           | -5 |
|  |      | T4               | -196           | 72             | 72             | 72             | 135            | 62             | 135            | -40            | -40            | -40            | -196           | -5 |
|  |      | T3               | -196           | 72             | 72             | 72             | 200            | 53             | 200            | -40            | -40            | -40            | -196           | -5 |
|  |      | T2 <sup>1)</sup> | -196           | 72             | 72             | 72             | 280            | 41             | 280            | -40            | -40            | -40            | -196           | -5 |

1) Functional: Maximum permissible process temperature

|  = B | (1)     | P1               |                | P2             |                | P3             |                | P4             |                | P5                       |                          | P6                       |                |                          |
|--|---------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|--------------------------|
|  |         | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub>           | T <sub>a</sub>           | T <sub>p</sub>           | T <sub>a</sub> |                          |
|  | A, B, C | T6               | -196           | 60             | 60             | 60             | 85             | 56             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |
|  |         | T5               | -196           | 75             | 75             | 75             | 100            | 71             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |
|  |         | T4               | -196           | 80             | 80             | 80             | 135            | 73             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |
|  |         | T3               | -196           | 80             | 80             | 80             | 200            | 64             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |
|  |         | T2 <sup>2)</sup> | -196           | 80             | 80             | 80             | 280            | 53             | 280            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |

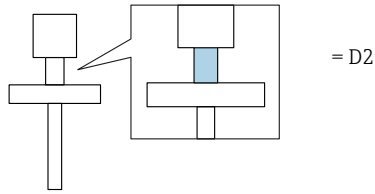
1) Only in connection with Optional specification, ID Jx (Test, Certificate) = JN

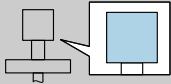
2) Functional: Maximum permissible process temperature

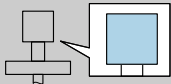
|  = C | (1)     |                  | P1             |                | P2             |                | P3             |                | P4             |                          | P5                       |                          | P6             |                          |
|---|---------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|--------------------------|
|   |         |                  | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub>           | T <sub>p</sub>           | T <sub>a</sub>           | T <sub>p</sub> | T <sub>a</sub>           |
|   | A, B, C | T6               | -196           | 60             | 60             | 60             | 85             | 57             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |
|   |         | T5               | -196           | 75             | 75             | 75             | 100            | 72             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |
|   |         | T4               | -196           | 80             | 80             | 80             | 135            | 75             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |
|   |         | T3               | -196           | 80             | 80             | 80             | 200            | 68             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |
|   |         | T2 <sup>2)</sup> | -196           | 80             | 80             | 80             | 280            | 60             | 280            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |

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

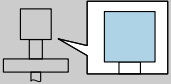
FMP54



|  = A | (1)  | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|--|------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|  |      | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|  | A, C | T6             | -196           | 58             | 58             | 58             | 85             | 55             | 85             | -40            | -40            | -40            | -196           | -21 |
|  |      | T5             | -196           | 73             | 73             | 73             | 100            | 70             | 100            | -40            | -40            | -40            | -196           | -21 |
|  |      | T4             | -196           | 79             | 79             | 79             | 135            | 74             | 135            | -40            | -40            | -40            | -196           | -21 |
|  |      | T3             | -196           | 79             | 79             | 79             | 200            | 68             | 200            | -40            | -40            | -40            | -196           | -21 |
|  |      | T2             | -196           | 79             | 79             | 79             | 300            | 58             | 300            | -40            | -40            | -40            | -196           | -21 |
|  |      | T1             | -196           | 79             | 79             | 79             | 450            | 41             | 450            | -40            | -40            | -40            | -196           | -21 |
|  | B    | T6             | -196           | 57             | 57             | 57             | 85             | 55             | 85             | -40            | -40            | -40            | -196           | -22 |
|  |      | T5             | -196           | 72             | 72             | 72             | 100            | 69             | 100            | -40            | -40            | -40            | -196           | -22 |
|  |      | T4             | -196           | 72             | 72             | 72             | 135            | 66             | 135            | -40            | -40            | -40            | -196           | -22 |
|  |      | T3             | -196           | 72             | 72             | 72             | 200            | 60             | 200            | -40            | -40            | -40            | -196           | -22 |
|  |      | T2             | -196           | 72             | 72             | 72             | 300            | 50             | 300            | -40            | -40            | -40            | -196           | -22 |
|  |      | T1             | -196           | 72             | 72             | 72             | 450            | 36             | 450            | -40            | -40            | -40            | -196           | -22 |

|  = B | (1)     | P1             |                | P2             |                | P3             |                | P4             |                | P5                       |                          | P6                       |                |                          |
|--|---------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|--------------------------|
|  |         | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub>           | T <sub>a</sub>           | T <sub>p</sub>           | T <sub>a</sub> |                          |
|  | A, B, C | T6             | -196           | 60             | 60             | 60             | 85             | 57             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -26<br>-37 <sup>1)</sup> |
|  |         | T5             | -196           | 75             | 75             | 75             | 100            | 72             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -26<br>-37 <sup>1)</sup> |
|  |         | T4             | -196           | 80             | 80             | 80             | 135            | 76             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -26<br>-37 <sup>1)</sup> |
|  |         | T3             | -196           | 80             | 80             | 80             | 200            | 71             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -26<br>-37 <sup>1)</sup> |
|  |         | T2             | -196           | 80             | 80             | 80             | 300            | 63             | 300            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -26<br>-37 <sup>1)</sup> |
|  |         | T1             | -196           | 80             | 80             | 80             | 450            | 52             | 450            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -26<br>-37 <sup>1)</sup> |

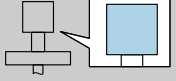
1) Only in connection with Optional specification, ID Jx (Test, Certificate) = JN

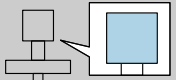
|  = C | (1)     | P1             |                | P2             |                | P3             |                | P4             |                | P5                       |                          | P6                       |                |                          |
|---|---------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|--------------------------|
|   |         | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub>           | T <sub>a</sub>           | T <sub>p</sub>           | T <sub>a</sub> |                          |
|   | A, B, C | T6             | -196           | 60             | 60             | 60             | 85             | 58             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|   |         | T5             | -196           | 75             | 75             | 75             | 100            | 73             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|   |         | T4             | -196           | 80             | 80             | 80             | 135            | 76             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|   |         | T3             | -196           | 80             | 80             | 80             | 200            | 72             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|   |         | T2             | -196           | 80             | 80             | 80             | 300            | 65             | 300            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|   |         | T1             | -196           | 80             | 80             | 80             | 450            | 54             | 450            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |

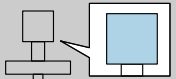
1) Only in connection with Optional specification, ID Jx (Test, Certificate) = JN


**i** Explosion protection: IS / AEx ia/Ex ia or Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Zone 1 / Class I, Division 1 or Division 2

## FMP55

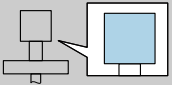
|  = A | (1)  | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|--|------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|  |      | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|  | A, C | T6             | -50            | 58             | 58             | 58             | 85             | 49             | 85             | -40            | -40            | -40            | -50            | -35 |
|  |      | T5             | -50            | 73             | 73             | 73             | 100            | 64             | 100            | -40            | -40            | -40            | -50            | -35 |
|  |      | T4             | -50            | 79             | 79             | 79             | 135            | 63             | 135            | -40            | -40            | -40            | -50            | -35 |
|  |      | T3             | -50            | 79             | 79             | 79             | 200            | 37             | 200            | -40            | -40            | -40            | -50            | -35 |
|  | B    | T6             | -50            | 57             | 57             | 57             | 85             | 49             | 85             | -40            | -40            | -40            | -50            | -36 |
|  |      | T5             | -50            | 72             | 72             | 72             | 100            | 64             | 100            | -40            | -40            | -40            | -50            | -36 |
|  |      | T4             | -50            | 72             | 72             | 72             | 135            | 53             | 135            | -40            | -40            | -40            | -50            | -36 |
|  |      | T3             | -50            | 72             | 72             | 72             | 200            | 34             | 200            | -40            | -40            | -40            | -50            | -36 |

|  = B | (1)     | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|---|---------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|   |         | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|   | A, B, C | 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 |

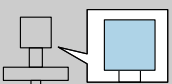
|  = C | (1)     | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|--|---------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|  |         | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|  | A, B, C | 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            | 56             | 200            | -40            | -40            | -40            | -50            | -37 |

 Explosion protection: IS / AEx ia/Ex ia or Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Zone 1 / Class I, Division 1 or Division 2

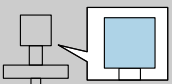
**FMP56**

|  = A | (1)  | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|---|------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|   |      | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|   | A, C | T6               | -40            | 60             | 60             | 60             | 85             | 47             | 85             | -40            | -40            | -40            | -              | - |
|   |      | T5               | -40            | 75             | 75             | 75             | 100            | 62             | 100            | -40            | -40            | -40            | -              | - |
|   |      | T4 <sup>1)</sup> | -40            | 79             | 79             | 79             | 120            | 66             | 120            | -40            | -40            | -40            | -              | - |
|   | B    | T6               | -40            | 60             | 60             | 60             | 85             | 48             | 85             | -40            | -40            | -40            | -              | - |
|   |      | T5               | -40            | 72             | 72             | 72             | 100            | 63             | 100            | -40            | -40            | -40            | -              | - |
|   |      | T4 <sup>1)</sup> | -40            | 72             | 72             | 72             | 120            | 57             | 120            | -40            | -40            | -40            | -              | - |


1) Functional: Maximum permissible process temperature

|  = B | (1)     | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|---|---------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|   |         | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|   | A, B, C | T6               | -40            | 60             | 60             | 60             | 85             | 51             | 85             | -40            | -40            | -40            | -              | - |
|   |         | T5               | -40            | 75             | 75             | 75             | 100            | 66             | 100            | -40            | -40            | -40            | -              | - |
|   |         | T4 <sup>1)</sup> | -40            | 80             | 80             | 80             | 120            | 71             | 120            | -40            | -40            | -40            | -              | - |

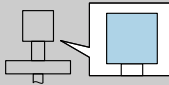
1) Functional: Maximum permissible process temperature

|  = C | (1)     | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|---|---------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|   |         | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|   | A, B, C | T6               | -40            | 60             | 60             | 60             | 85             | 54             | 85             | -40            | -40            | -40            | -              | - |
|   |         | T5               | -40            | 75             | 75             | 75             | 100            | 69             | 100            | -40            | -40            | -40            | -              | - |
|   |         | T4 <sup>1)</sup> | -40            | 80             | 80             | 80             | 120            | 72             | 120            | -40            | -40            | -40            | -              | - |

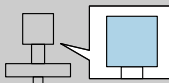
1) Functional: Maximum permissible process temperature

 Explosion protection: IS / AEx ia/Ex ia or Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Zone 1 / Class I, Division 1 or Division 2

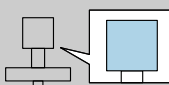
**FMP57**

|  = A | (1)  | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|--|------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|  |      | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|  | A, C | T6               | -40            | 60             | 60             | 60             | 85             | 49             | 85             | -40            | -40            | -40            | -              | - |
|  |      | T5               | -40            | 75             | 75             | 75             | 100            | 64             | 100            | -40            | -40            | -40            | -              | - |
|  |      | T4               | -40            | 79             | 79             | 79             | 135            | 63             | 135            | -40            | -40            | -40            | -              | - |
|  |      | T3 <sup>1)</sup> | -40            | 79             | 79             | 79             | 185            | 42             | 185            | -40            | -40            | -40            | -              | - |
|  | B    | T6               | -40            | 60             | 60             | 60             | 85             | 49             | 85             | -40            | -40            | -40            | -              | - |
|  |      | T5               | -40            | 72             | 72             | 72             | 100            | 64             | 100            | -40            | -40            | -40            | -              | - |
|  |      | T4               | -40            | 72             | 72             | 72             | 135            | 57             | 135            | -40            | -40            | -40            | -              | - |
|  |      | T3 <sup>1)</sup> | -40            | 72             | 72             | 72             | 185            | 42             | 185            | -40            | -40            | -40            | -              | - |

1) Functional: Maximum permissible process temperature

|  = B | (1)     | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|---|---------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|   |         | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|   | A, B, C | 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 <sup>1)</sup> | -40            | 80             | 80             | 80             | 185            | 59             | 185            | -40            | -40            | -40            | -              | - |

1) Functional: Maximum permissible process temperature

|  = C | (1)     | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|--|---------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|  |         | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|  | A, B, C | 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 <sup>1)</sup> | -40            | 80             | 80             | 80             | 185            | 63             | 185            | -40            | -40            | -40            | -              | - |

1) Functional: Maximum permissible process temperature




**Compact; 2 channels**

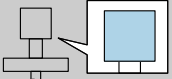
**Probe design: compact**

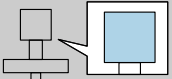
Page references to the temperature tables of the respective device types: See the following list.


- FMP50 → 33
- FMP51 → 34
- FMP52 → 37
- FMP53 → 39
- FMP54 → 41
- FMP55 → 47
- FMP56 → 49
- FMP57 → 51

 Explosion protection: IS / AEx ia/Ex ia  
 Probe: Class I, Zone 0 / Class I, Division 1  
 Electronics housing: Class I, Zone 1 / Class I, Division 1

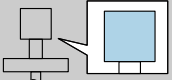
**FMP50**

|  = A | (2) |    | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |    | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6 | -20            | 43             | 43             | 43             | 80             | 37             | 80             | -20            | -20            | -20            | -              | -              |
|   | C   | T6 | -20            | 52             | 52             | 52             | 80             | 47             | 80             | -20            | -20            | -20            | -              | -              |

|  = C | (2) |    | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |    | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6 | -20            | 51             | 51             | 51             | 80             | 49             | 80             | -20            | -20            | -20            | -              | -              |
|   | C   | T6 | -20            | 54             | 54             | 54             | 80             | 52             | 80             | -20            | -20            | -20            | -              | -              |

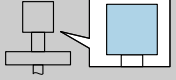
 Explosion protection: Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Division 2

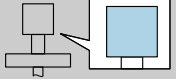
**FMP50**

|  = C | (2) |    | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |    | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6 | -20            | 51             | 51             | 51             | 80             | 49             | 80             | -20            | -20            | -20            | -              | -              |
|   | C   | T6 | -20            | 60             | 60             | 60             | 80             | 56             | 80             | -20            | -20            | -20            | -              | -              |

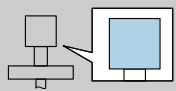
**i** Explosion protection: IS / AEx ia/Ex ia  
 Probe: Class I, Zone 0 / Class I, Division 1  
 Electronics housing: Class I, Zone 1 / Class I, Division 1

## FMP51


|  = A | (2) | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|--|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|  |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|  | B   | T6             | -40            | 43             | 43             | 43             | 85             | 31             | 85             | -40            | -40            | -40            | -              | - |
|  |     | T5             | -40            | 56             | 56             | 56             | 100            | 43             | 100            | -40            | -40            | -40            | -              | - |
|  |     | T4             | -40            | 56             | 56             | 56             | 135            | 32             | 135            | -40            | -40            | -40            | -              | - |
|  | C   | T6             | -40            | 52             | 52             | 52             | 85             | 42             | 85             | -40            | -40            | -40            | -              | - |
|  |     | T5             | -40            | 67             | 67             | 67             | 100            | 57             | 100            | -40            | -40            | -40            | -              | - |
|  |     | T4             | -40            | 72             | 72             | 72             | 135            | 53             | 135            | -40            | -40            | -40            | -              | - |

|  = B | (2) | P1             |                          | P2             |                | P3             |                | P4             |                | P5                       |                          | P6                       |                |   |
|--|-----|----------------|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|---|
|  |     | T <sub>p</sub> | T <sub>a</sub>           | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub>           | T <sub>a</sub>           | T <sub>p</sub>           | T <sub>a</sub> |   |
|  | B   | T6             | -40<br>-50 <sup>1)</sup> | 51             | 51             | 51             | 85             | 43             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |
|  |     | T5             | -40<br>-50 <sup>1)</sup> | 66             | 66             | 66             | 100            | 58             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |
|  |     | T4             | -40<br>-50 <sup>1)</sup> | 75             | 75             | 75             | 135            | 60             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |
|  |     | T3             | -40<br>-50 <sup>1)</sup> | 75             | 75             | 75             | 200            | 45             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |
|  | C   | T6             | -40<br>-50 <sup>1)</sup> | 54             | 54             | 54             | 85             | 46             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |
|  |     | T5             | -40<br>-50 <sup>1)</sup> | 69             | 69             | 69             | 100            | 61             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |
|  |     | T4             | -40<br>-50 <sup>1)</sup> | 78             | 78             | 78             | 135            | 64             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |
|  |     | T3             | -40<br>-50 <sup>1)</sup> | 78             | 78             | 78             | 200            | 48             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | - |

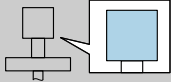
1) Only in connection with Optional specification, ID Jx (Test, Certificate) = JN

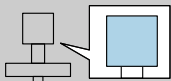
|  = C | (2) |    | P1                       |                | P2             |                | P3             |                | P4             |                          | P5                       |                          | P6             |                |
|---|-----|----|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|----------------|
|   |     |    | T <sub>p</sub>           | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub>           | T <sub>p</sub>           | T <sub>a</sub>           | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6 | -40<br>-50 <sup>1)</sup> | 51             | 51             | 51             | 85             | 44             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | -              |
|   |     | T5 | -40<br>-50 <sup>1)</sup> | 66             | 66             | 66             | 100            | 59             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | -              |
|   |     | T4 | -40<br>-50 <sup>1)</sup> | 75             | 75             | 75             | 135            | 63             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | -              |
|   |     | T3 | -40<br>-50 <sup>1)</sup> | 75             | 75             | 75             | 200            | 50             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | -              |
|   | C   | T6 | -40<br>-50 <sup>1)</sup> | 54             | 54             | 54             | 85             | 48             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | -              |
|   |     | T5 | -40<br>-50 <sup>1)</sup> | 69             | 69             | 69             | 100            | 63             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | -              |
|   |     | T4 | -40<br>-50 <sup>1)</sup> | 78             | 78             | 78             | 135            | 66             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | -              |
|   |     | T3 | -40<br>-50 <sup>1)</sup> | 78             | 78             | 78             | 200            | 53             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -              | -              |


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

 Explosion protection: Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Division 2

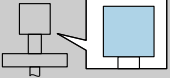
## FMP51

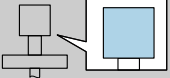
|  = B | (2) | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|--|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|  |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|  | B   | T6             | -40            | 51             | 51             | 51             | 85             | 43             | 85             | -40            | -40            | -40            | -              | - |
|  |     | T5             | -40            | 66             | 66             | 66             | 100            | 58             | 100            | -40            | -40            | -40            | -              | - |
|  |     | T4             | -40            | 75             | 75             | 75             | 135            | 60             | 135            | -40            | -40            | -40            | -              | - |
|  |     | T3             | -40            | 75             | 75             | 75             | 200            | 45             | 200            | -40            | -40            | -40            | -              | - |
|  | C   | T6             | -40            | 60             | 60             | 60             | 85             | 51             | 85             | -40            | -40            | -40            | -              | - |
|  |     | T5             | -40            | 75             | 75             | 75             | 100            | 66             | 100            | -40            | -40            | -40            | -              | - |
|  |     | T4             | -40            | 78             | 78             | 78             | 135            | 64             | 135            | -40            | -40            | -40            | -              | - |
|  |     | T3             | -40            | 78             | 78             | 78             | 200            | 48             | 200            | -40            | -40            | -40            | -              | - |

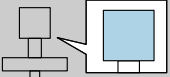
|  = C | (2) | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|---|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|   |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|   | B   | T6             | -40            | 51             | 51             | 51             | 85             | 44             | 85             | -40            | -40            | -40            | -              | - |
|   |     | T5             | -40            | 66             | 66             | 66             | 100            | 59             | 100            | -40            | -40            | -40            | -              | - |
|   |     | T4             | -40            | 75             | 75             | 75             | 135            | 63             | 135            | -40            | -40            | -40            | -              | - |
|   |     | T3             | -40            | 75             | 75             | 75             | 200            | 50             | 200            | -40            | -40            | -40            | -              | - |
|   | C   | T6             | -40            | 60             | 60             | 60             | 85             | 53             | 85             | -40            | -40            | -40            | -              | - |
|   |     | T5             | -40            | 75             | 75             | 75             | 100            | 68             | 100            | -40            | -40            | -40            | -              | - |
|   |     | T4             | -40            | 78             | 78             | 78             | 135            | 66             | 135            | -40            | -40            | -40            | -              | - |
|   |     | T3             | -40            | 78             | 78             | 78             | 200            | 53             | 200            | -40            | -40            | -40            | -              | - |


 Explosion protection: IS / AEx ia/Ex ia  
 Probe: Class I, Zone 0 / Class I, Division 1  
 Electronics housing: Class I, Zone 1 / Class I, Division 1

**FMP52**

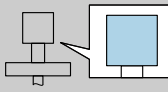
|  = A | (2) |    | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |    | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6 | -50            | 43             | 43             | 43             | 85             | 33             | 85             | -40            | -40            | -40            | -50            | -36            |
|   |     | T5 | -50            | 56             | 56             | 56             | 100            | 45             | 100            | -40            | -40            | -40            | -50            | -36            |
|   |     | T4 | -50            | 56             | 56             | 56             | 135            | 37             | 135            | -40            | -40            | -40            | -50            | -36            |
|   | C   | T6 | -50            | 52             | 52             | 52             | 85             | 44             | 85             | -40            | -40            | -40            | -50            | -35            |
|   |     | T5 | -50            | 67             | 67             | 67             | 100            | 59             | 100            | -40            | -40            | -40            | -50            | -35            |
|   |     | T4 | -50            | 72             | 72             | 72             | 135            | 57             | 135            | -40            | -40            | -40            | -50            | -35            |
|   |     | T3 | -50            | 72             | 72             | 72             | 200            | 37             | 200            | -40            | -40            | -40            | -50            | -35            |

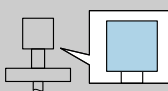
|  = B | (2) |    | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |    | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6 | -50            | 51             | 51             | 51             | 85             | 44             | 85             | -40            | -40            | -40            | -50            | -37            |
|   |     | T5 | -50            | 66             | 66             | 66             | 100            | 59             | 100            | -40            | -40            | -40            | -50            | -37            |
|   |     | T4 | -50            | 75             | 75             | 75             | 135            | 61             | 135            | -40            | -40            | -40            | -50            | -37            |
|   |     | T3 | -50            | 75             | 75             | 75             | 200            | 47             | 200            | -40            | -40            | -40            | -50            | -37            |
|   | C   | T6 | -50            | 54             | 54             | 54             | 85             | 47             | 85             | -40            | -40            | -40            | -50            | -37            |
|   |     | T5 | -50            | 69             | 69             | 69             | 100            | 62             | 100            | -40            | -40            | -40            | -50            | -37            |
|   |     | T4 | -50            | 78             | 78             | 78             | 135            | 65             | 135            | -40            | -40            | -40            | -50            | -37            |
| T3  | -50 | 78 | 78             | 78             | 200            | 50             | 200            | -40            | -40            | -40            | -50            | -37            |                |                |


|  = C | (2) |    | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |    | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6 | -50            | 51             | 51             | 51             | 85             | 45             | 85             | -40            | -40            | -40            | -50            | -38            |
|   |     | T5 | -50            | 66             | 66             | 66             | 100            | 60             | 100            | -40            | -40            | -40            | -50            | -38            |
|   |     | T4 | -50            | 75             | 75             | 75             | 135            | 64             | 135            | -40            | -40            | -40            | -50            | -38            |
|   |     | T3 | -50            | 75             | 75             | 75             | 200            | 52             | 200            | -40            | -40            | -40            | -50            | -38            |
|   | C   | T6 | -50            | 54             | 54             | 54             | 85             | 48             | 85             | -40            | -40            | -40            | -50            | -37            |
|   |     | T5 | -50            | 69             | 69             | 69             | 100            | 63             | 100            | -40            | -40            | -40            | -50            | -37            |
|   |     | T4 | -50            | 78             | 78             | 78             | 135            | 67             | 135            | -40            | -40            | -40            | -50            | -37            |
| T3  | -50 | 78 | 78             | 78             | 200            | 55             | 200            | -40            | -40            | -40            | -50            | -37            |                |                |

 Explosion protection: Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Division 2

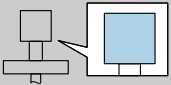
## FMP52

|  = B | (2) | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|--|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|  |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|  | B   | T6             | -50            | 51             | 51             | 51             | 85             | 44             | 85             | -40            | -40            | -40            | -50            | -37 |
|  |     | T5             | -50            | 66             | 66             | 66             | 100            | 59             | 100            | -40            | -40            | -40            | -50            | -37 |
|  |     | T4             | -50            | 75             | 75             | 75             | 135            | 61             | 135            | -40            | -40            | -40            | -50            | -37 |
|  |     | T3             | -50            | 75             | 75             | 75             | 200            | 47             | 200            | -40            | -40            | -40            | -50            | -37 |
|  | C   | 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            | 78             | 78             | 78             | 135            | 65             | 135            | -40            | -40            | -40            | -50            | -37 |
|  |     | T3             | -50            | 78             | 78             | 78             | 200            | 50             | 200            | -40            | -40            | -40            | -50            | -37 |

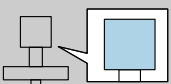
|  = C | (2) | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|---|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|   |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|   | B   | T6             | -50            | 51             | 51             | 51             | 85             | 45             | 85             | -40            | -40            | -40            | -50            | -38 |
|   |     | T5             | -50            | 66             | 66             | 66             | 100            | 60             | 100            | -40            | -40            | -40            | -50            | -38 |
|   |     | T4             | -50            | 75             | 75             | 75             | 135            | 64             | 135            | -40            | -40            | -40            | -50            | -38 |
|   |     | T3             | -50            | 75             | 75             | 75             | 200            | 52             | 200            | -40            | -40            | -40            | -50            | -38 |
|   | C   | 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            | 78             | 78             | 78             | 135            | 67             | 135            | -40            | -40            | -40            | -50            | -37 |
|   |     | T3             | -50            | 78             | 78             | 78             | 200            | 55             | 200            | -40            | -40            | -40            | -50            | -37 |

 Explosion protection: IS / AEx ia/Ex ia  
 Probe: Class I, Zone 0 / Class I, Division 1  
 Electronics housing: Class I, Zone 1 / Class I, Division 1

**FMP53**

|  = A | (2) |                  | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |                  | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6               | -20            | 43             | 43             | 43             | 85             | 32             | 85             | -20            | -20            | -20            | -              | -              |
|   |     | T5               | -20            | 56             | 56             | 56             | 100            | 44             | 100            | -20            | -20            | -20            | -              | -              |
|   |     | T4               | -20            | 56             | 56             | 56             | 135            | 34             | 135            | -20            | -20            | -20            | -              | -              |
|   |     | T3 <sup>1)</sup> | -20            | 56             | 56             | 56             | 150            | 30             | 150            | -20            | -20            | -20            | -              | -              |
|   | C   | T6               | -20            | 52             | 52             | 52             | 85             | 43             | 85             | -20            | -20            | -20            | -              | -              |
|   |     | T5               | -20            | 67             | 67             | 67             | 100            | 58             | 100            | -20            | -20            | -20            | -              | -              |
|   |     | T4               | -20            | 72             | 72             | 72             | 135            | 55             | 135            | -20            | -20            | -20            | -              | -              |
|   |     | T3 <sup>1)</sup> | -20            | 72             | 72             | 72             | 150            | 51             | 150            | -20            | -20            | -20            | -              | -              |

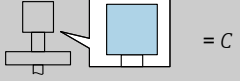
1) Functional: Maximum permissible process temperature

|  = C | (2) |                  | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|--|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|  |     |                  | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|  | B   | T6               | -20            | 51             | 51             | 51             | 85             | 44             | 85             | -20            | -20            | -20            | -              | -              |
|  |     | T5               | -20            | 66             | 66             | 66             | 100            | 59             | 100            | -20            | -20            | -20            | -              | -              |
|  |     | T4               | -20            | 75             | 75             | 75             | 135            | 63             | 135            | -20            | -20            | -20            | -              | -              |
|  |     | T3 <sup>1)</sup> | -20            | 75             | 75             | 75             | 150            | 59             | 150            | -20            | -20            | -20            | -              | -              |
|  | C   | T6               | -20            | 54             | 54             | 54             | 85             | 48             | 85             | -20            | -20            | -20            | -              | -              |
|  |     | T5               | -20            | 69             | 69             | 69             | 100            | 63             | 100            | -20            | -20            | -20            | -              | -              |
|  |     | T4               | -20            | 78             | 78             | 78             | 135            | 66             | 135            | -20            | -20            | -20            | -              | -              |
|  |     | T3 <sup>1)</sup> | -20            | 78             | 78             | 78             | 150            | 63             | 150            | -20            | -20            | -20            | -              | -              |

1) Functional: Maximum permissible process temperature


**i** Explosion protection: Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Division 2

### FMP53

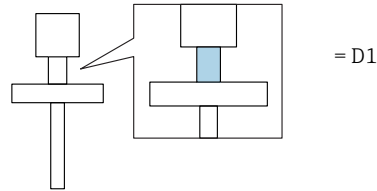
|  | (2) | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|--|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|  |     | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|  | B   | T6               | -20            | 51             | 51             | 51             | 85             | 44             | 85             | -20            | -20            | -20            | -              | - |
|  |     | T5               | -20            | 66             | 66             | 66             | 100            | 59             | 100            | -20            | -20            | -20            | -              | - |
|  |     | T4               | -20            | 75             | 75             | 75             | 135            | 63             | 135            | -20            | -20            | -20            | -              | - |
|  |     | T3 <sup>1)</sup> | -20            | 75             | 75             | 75             | 150            | 59             | 150            | -20            | -20            | -20            | -              | - |
|  | C   | T6               | -20            | 60             | 60             | 60             | 85             | 54             | 85             | -20            | -20            | -20            | -              | - |
|  |     | T5               | -20            | 75             | 75             | 75             | 100            | 69             | 100            | -20            | -20            | -20            | -              | - |
|  |     | T4               | -20            | 78             | 78             | 78             | 135            | 66             | 135            | -20            | -20            | -20            | -              | - |
|  |     | T3 <sup>1)</sup> | -20            | 78             | 78             | 78             | 150            | 63             | 150            | -20            | -20            | -20            | -              | - |

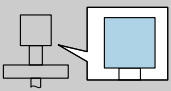
1) Functional: Maximum permissible process temperature



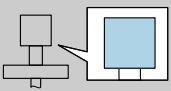
 Explosion protection: IS / AEx ia/Ex ia  
 Probe: Class I, Zone 0 / Class I, Division 1  
 Electronics housing: Class I, Zone 1 / Class I, Division 1

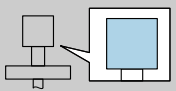
**FMP54**



|  = A | (2) | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |    |
|---|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----|
|   |     | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |    |
|   | B   | T6               | -196           | 43             | 43             | 43             | 85             | 37             | 85             | -40            | -40            | -40            | -196           | -5 |
|   |     | T5               | -196           | 56             | 56             | 56             | 100            | 50             | 100            | -40            | -40            | -40            | -196           | -5 |
|   |     | T4               | -196           | 56             | 56             | 56             | 135            | 44             | 135            | -40            | -40            | -40            | -196           | -5 |
|   |     | T3               | -196           | 56             | 56             | 56             | 200            | 35             | 200            | -40            | -40            | -40            | -196           | -5 |
|   | C   | T6               | -196           | 52             | 52             | 52             | 85             | 47             | 85             | -40            | -40            | -40            | -196           | -5 |
|   |     | T5               | -196           | 67             | 67             | 67             | 100            | 62             | 100            | -40            | -40            | -40            | -196           | -5 |
|   |     | T4               | -196           | 72             | 72             | 72             | 135            | 63             | 135            | -40            | -40            | -40            | -196           | -5 |
|   |     | T3               | -196           | 72             | 72             | 72             | 200            | 53             | 200            | -40            | -40            | -40            | -196           | -5 |
|   |     | T2 <sup>1)</sup> | -196           | 72             | 72             | 72             | 280            | 41             | 280            | -40            | -40            | -40            | -196           | -5 |

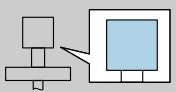
1) Functional: Maximum permissible process temperature

|  = B | (2) | P1               |                | P2             |                | P3             |                | P4             |                | P5                       |                          | P6                       |                |                          |
|---|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|--------------------------|
|   |     | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub>           | T <sub>a</sub>           | T <sub>p</sub>           | T <sub>a</sub> |                          |
|   | B   | T6               | -196           | 51             | 51             | 51             | 85             | 47             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |
|   |     | T5               | -196           | 66             | 66             | 66             | 100            | 62             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |
|   |     | T4               | -196           | 75             | 75             | 75             | 135            | 67             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |
|   |     | T3               | -196           | 75             | 75             | 75             | 200            | 58             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |
|   |     | T2 <sup>2)</sup> | -196           | 75             | 75             | 75             | 280            | 48             | 280            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |

|  = B | (2) | P1               |                | P2             |                | P3             |                | P4             |                | P5                       |                          | P6                       |                |                          |
|--|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|--------------------------|
|  |     | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub>           | T <sub>a</sub>           | T <sub>p</sub>           | T <sub>a</sub> |                          |
|  | C   | T6               | -196           | 54             | 54             | 54             | 85             | 50             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |
|  |     | T5               | -196           | 69             | 69             | 69             | 100            | 65             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |
|  |     | T4               | -196           | 78             | 78             | 78             | 135            | 70             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |
|  |     | T3               | -196           | 78             | 78             | 78             | 200            | 61             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |
|  |     | T2 <sup>2)</sup> | -196           | 78             | 78             | 78             | 280            | 51             | 280            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -16<br>-27 <sup>1)</sup> |

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

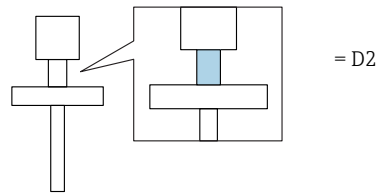
2) Functional: Maximum permissible process temperature

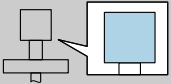
|  = C | (2) | P1               |                | P2             |                | P3             |                | P4             |                | P5                       |                          | P6                       |                |                          |
|--|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|--------------------------|
|  |     | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub>           | T <sub>a</sub>           | T <sub>p</sub>           | T <sub>a</sub> |                          |
|  | B   | T6               | -196           | 51             | 51             | 51             | 85             | 48             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |
|  |     | T5               | -196           | 66             | 66             | 66             | 100            | 63             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |
|  |     | T4               | -196           | 75             | 75             | 75             | 135            | 69             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |
|  |     | T3               | -196           | 75             | 75             | 75             | 200            | 63             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |
|  |     | T2 <sup>2)</sup> | -196           | 75             | 75             | 75             | 280            | 55             | 280            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |
|  | C   | T6               | -196           | 54             | 54             | 54             | 85             | 51             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |
|  |     | T5               | -196           | 69             | 69             | 69             | 100            | 66             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |
|  |     | T4               | -196           | 78             | 78             | 78             | 135            | 72             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |
|  |     | T3               | -196           | 78             | 78             | 78             | 200            | 65             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |
|  |     | T2 <sup>2)</sup> | -196           | 78             | 78             | 78             | 280            | 57             | 280            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -23<br>-34 <sup>1)</sup> |

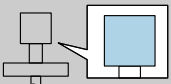
1) Only in connection with Optional specification, ID Jx (Test, Certificate) = JN

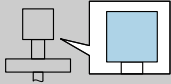
2) Functional: Maximum permissible process temperature

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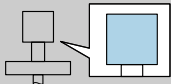


|  = A | (2) | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|---|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|   |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|   | B   | T6             | -196           | 43             | 43             | 43             | 85             | 39             | 85             | -40            | -40            | -40            | -196           | -22 |
|   |     | T5             | -196           | 56             | 56             | 56             | 100            | 52             | 100            | -40            | -40            | -40            | -196           | -22 |
|   |     | T4             | -196           | 56             | 56             | 56             | 135            | 49             | 135            | -40            | -40            | -40            | -196           | -22 |
|   |     | T3             | -196           | 56             | 56             | 56             | 200            | 43             | 200            | -40            | -40            | -40            | -196           | -22 |
|   |     | T2             | -196           | 56             | 56             | 56             | 300            | 33             | 300            | -40            | -40            | -40            | -196           | -22 |
|   | C   | T6             | -196           | 52             | 52             | 52             | 85             | 49             | 85             | -40            | -40            | -40            | -196           | -21 |
|   |     | T5             | -196           | 67             | 67             | 67             | 100            | 64             | 100            | -40            | -40            | -40            | -196           | -21 |
|   |     | T4             | -196           | 72             | 72             | 72             | 135            | 66             | 135            | -40            | -40            | -40            | -196           | -21 |
|   |     | T3             | -196           | 72             | 72             | 72             | 200            | 60             | 200            | -40            | -40            | -40            | -196           | -21 |
|   |     | T2             | -196           | 72             | 72             | 72             | 300            | 51             | 300            | -40            | -40            | -40            | -196           | -21 |
|   |     | T1             | -196           | 72             | 72             | 72             | 450            | 36             | 450            | -40            | -40            | -40            | -196           | -21 |

|  = B | (2) | P1             |                | P2             |                | P3             |                | P4             |                | P5                       |                          | P6                       |                |                          |
|---|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|--------------------------|
|   |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub>           | T <sub>a</sub>           | T <sub>p</sub>           | T <sub>a</sub> |                          |
|   | B   | T6             | -196           | 51             | 51             | 51             | 85             | 49             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|   |     | T5             | -196           | 66             | 66             | 66             | 100            | 64             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|   |     | T4             | -196           | 75             | 75             | 75             | 135            | 70             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|   |     | T3             | -196           | 75             | 75             | 75             | 200            | 66             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|   |     | T2             | -196           | 75             | 75             | 75             | 300            | 58             | 300            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|   |     | T1             | -196           | 75             | 75             | 75             | 450            | 47             | 450            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |

|  = B | (2) | P1             |                | P2             |                | P3             |                | P4             |                | P5                       |                          | P6                       |                |                          |
|--|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|--------------------------|
|  |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub>           | T <sub>a</sub>           | T <sub>p</sub>           | T <sub>a</sub> |                          |
|  | C   | T6             | -196           | 54             | 54             | 54             | 85             | 52             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -26<br>-37 <sup>1)</sup> |
|  |     | T5             | -196           | 69             | 69             | 69             | 100            | 67             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -26<br>-37 <sup>1)</sup> |
|  |     | T4             | -196           | 78             | 78             | 78             | 135            | 73             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -26<br>-37 <sup>1)</sup> |
|  |     | T3             | -196           | 78             | 78             | 78             | 200            | 68             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -26<br>-37 <sup>1)</sup> |
|  |     | T2             | -196           | 78             | 78             | 78             | 300            | 61             | 300            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -26<br>-37 <sup>1)</sup> |
|  |     | T1             | -196           | 78             | 78             | 78             | 450            | 49             | 450            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -26<br>-37 <sup>1)</sup> |

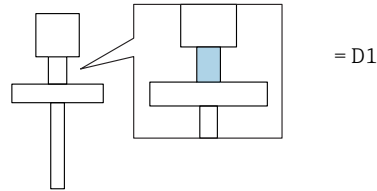
1) Only in connection with Optional specification, ID Jx (Test, Certificate) = JN

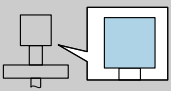
|  = C | (2) | P1             |                | P2             |                | P3             |                | P4             |                | P5                       |                          | P6                       |                |                          |
|--|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------------------|--------------------------|--------------------------|----------------|--------------------------|
|  |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub>           | T <sub>a</sub>           | T <sub>p</sub>           | T <sub>a</sub> |                          |
|  | B   | T6             | -196           | 51             | 51             | 51             | 85             | 49             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -28<br>-37 <sup>1)</sup> |
|  |     | T5             | -196           | 66             | 66             | 66             | 100            | 64             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -28<br>-37 <sup>1)</sup> |
|  |     | T4             | -196           | 75             | 75             | 75             | 135            | 71             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -28<br>-37 <sup>1)</sup> |
|  |     | T3             | -196           | 75             | 75             | 75             | 200            | 66             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -28<br>-37 <sup>1)</sup> |
|  |     | T2             | -196           | 75             | 75             | 75             | 300            | 59             | 300            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -28<br>-37 <sup>1)</sup> |
|  |     | T1             | -196           | 75             | 75             | 75             | 450            | 49             | 450            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -28<br>-37 <sup>1)</sup> |
|  | C   | T6             | -196           | 54             | 54             | 54             | 85             | 52             | 85             | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|  |     | T5             | -196           | 69             | 69             | 69             | 100            | 67             | 100            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|  |     | T4             | -196           | 78             | 78             | 78             | 135            | 74             | 135            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|  |     | T3             | -196           | 78             | 78             | 78             | 200            | 69             | 200            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|  |     | T2             | -196           | 78             | 78             | 78             | 300            | 62             | 300            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |
|  |     | T1             | -196           | 78             | 78             | 78             | 450            | 51             | 450            | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -40<br>-50 <sup>1)</sup> | -196           | -27<br>-37 <sup>1)</sup> |

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

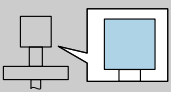
**i** Explosion protection: Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Division 2

**FMP54**



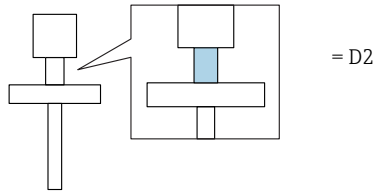
|  = B | (2) | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|---|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|   |     | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|   | B   | T6               | -196           | 51             | 51             | 51             | 85             | 47             | 85             | -40            | -40            | -40            | -196           | -16 |
|   |     | T5               | -196           | 66             | 66             | 66             | 100            | 62             | 100            | -40            | -40            | -40            | -196           | -16 |
|   |     | T4               | -196           | 75             | 75             | 75             | 135            | 67             | 135            | -40            | -40            | -40            | -196           | -16 |
|   |     | T3               | -196           | 75             | 75             | 75             | 200            | 58             | 200            | -40            | -40            | -40            | -196           | -16 |
|   |     | T2 <sup>1)</sup> | -196           | 75             | 75             | 75             | 280            | 48             | 280            | -40            | -40            | -40            | -196           | -16 |
|   | C   | T6               | -196           | 60             | 60             | 60             | 85             | 56             | 85             | -40            | -40            | -40            | -196           | -16 |
|   |     | T5               | -196           | 75             | 75             | 75             | 100            | 71             | 100            | -40            | -40            | -40            | -196           | -16 |
|   |     | T4               | -196           | 78             | 78             | 78             | 135            | 70             | 135            | -40            | -40            | -40            | -196           | -16 |
|   |     | T3               | -196           | 78             | 78             | 78             | 200            | 61             | 200            | -40            | -40            | -40            | -196           | -16 |
|   |     | T2 <sup>1)</sup> | -196           | 78             | 78             | 78             | 280            | 51             | 280            | -40            | -40            | -40            | -196           | -16 |

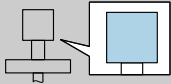
1) Functional: Maximum permissible process temperature

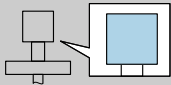
|  = C | (2) | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|---|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|   |     | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|   | B   | T6               | -196           | 51             | 51             | 51             | 85             | 48             | 85             | -40            | -40            | -40            | -196           | -23 |
|   |     | T5               | -196           | 66             | 66             | 66             | 100            | 63             | 100            | -40            | -40            | -40            | -196           | -23 |
|   |     | T4               | -196           | 75             | 75             | 75             | 135            | 69             | 135            | -40            | -40            | -40            | -196           | -23 |
|   |     | T3               | -196           | 75             | 75             | 75             | 200            | 63             | 200            | -40            | -40            | -40            | -196           | -23 |
|   |     | T2 <sup>1)</sup> | -196           | 75             | 75             | 75             | 280            | 55             | 280            | -40            | -40            | -40            | -196           | -23 |
|   | C   | T6               | -196           | 60             | 60             | 60             | 85             | 57             | 85             | -40            | -40            | -40            | -196           | -23 |
|   |     | T5               | -196           | 75             | 75             | 75             | 100            | 72             | 100            | -40            | -40            | -40            | -196           | -23 |
|   |     | T4               | -196           | 78             | 78             | 78             | 135            | 72             | 135            | -40            | -40            | -40            | -196           | -23 |
|   |     | T3               | -196           | 78             | 78             | 78             | 200            | 65             | 200            | -40            | -40            | -40            | -196           | -23 |
|   |     | T2 <sup>1)</sup> | -196           | 78             | 78             | 78             | 280            | 57             | 280            | -40            | -40            | -40            | -196           | -23 |


1) Functional: Maximum permissible process temperature

FMP54

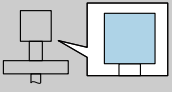


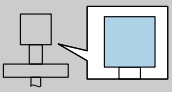
|  = B | (2) | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|--|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|  |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|  | B   | T6             | -196           | 51             | 51             | 51             | 85             | 49             | 85             | -40            | -40            | -40            | -196           | -27 |
|  |     | T5             | -196           | 66             | 66             | 66             | 100            | 64             | 100            | -40            | -40            | -40            | -196           | -27 |
|  |     | T4             | -196           | 75             | 75             | 75             | 135            | 70             | 135            | -40            | -40            | -40            | -196           | -27 |
|  |     | T3             | -196           | 75             | 75             | 75             | 200            | 66             | 200            | -40            | -40            | -40            | -196           | -27 |
|  |     | T2             | -196           | 75             | 75             | 75             | 300            | 58             | 300            | -40            | -40            | -40            | -196           | -27 |
|  |     | T1             | -196           | 75             | 75             | 75             | 450            | 47             | 450            | -40            | -40            | -40            | -196           | -27 |
|  | C   | T6             | -196           | 60             | 60             | 60             | 85             | 57             | 85             | -40            | -40            | -40            | -196           | -26 |
|  |     | T5             | -196           | 75             | 75             | 75             | 100            | 72             | 100            | -40            | -40            | -40            | -196           | -26 |
|  |     | T4             | -196           | 78             | 78             | 78             | 135            | 73             | 135            | -40            | -40            | -40            | -196           | -26 |
|  |     | T3             | -196           | 78             | 78             | 78             | 200            | 68             | 200            | -40            | -40            | -40            | -196           | -26 |
|  |     | T2             | -196           | 78             | 78             | 78             | 300            | 61             | 300            | -40            | -40            | -40            | -196           | -26 |
|  |     | T1             | -196           | 78             | 78             | 78             | 450            | 49             | 450            | -40            | -40            | -40            | -196           | -26 |

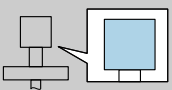
|  = C | (2) | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|--|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|  |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|  | B   | T6             | -196           | 51             | 51             | 51             | 85             | 49             | 85             | -40            | -40            | -40            | -196           | -28 |
|  |     | T5             | -196           | 66             | 66             | 66             | 100            | 64             | 100            | -40            | -40            | -40            | -196           | -28 |
|  |     | T4             | -196           | 75             | 75             | 75             | 135            | 71             | 135            | -40            | -40            | -40            | -196           | -28 |
|  |     | T3             | -196           | 75             | 75             | 75             | 200            | 66             | 200            | -40            | -40            | -40            | -196           | -28 |
|  |     | T2             | -196           | 75             | 75             | 75             | 300            | 59             | 300            | -40            | -40            | -40            | -196           | -28 |
|  |     | T1             | -196           | 75             | 75             | 75             | 450            | 49             | 450            | -40            | -40            | -40            | -196           | -28 |
|  | C   | T6             | -196           | 60             | 60             | 60             | 85             | 58             | 85             | -40            | -40            | -40            | -196           | -27 |
|  |     | T5             | -196           | 75             | 75             | 75             | 100            | 73             | 100            | -40            | -40            | -40            | -196           | -27 |
|  |     | T4             | -196           | 78             | 78             | 78             | 135            | 74             | 135            | -40            | -40            | -40            | -196           | -27 |
|  |     | T3             | -196           | 78             | 78             | 78             | 200            | 69             | 200            | -40            | -40            | -40            | -196           | -27 |
|  |     | T2             | -196           | 78             | 78             | 78             | 300            | 62             | 300            | -40            | -40            | -40            | -196           | -27 |
|  |     | T1             | -196           | 78             | 78             | 78             | 450            | 51             | 450            | -40            | -40            | -40            | -196           | -27 |


 Explosion protection: IS / AEx ia/Ex ia  
 Probe: Class I, Zone 0 / Class I, Division 1  
 Electronics housing: Class I, Zone 1 / Class I, Division 1

**FMP55**

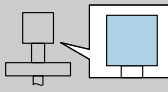
|  = A | (2) |    | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |    | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6 | -50            | 43             | 43             | 43             | 85             | 31             | 85             | -40            | -40            | -40            | -50            | -36            |
|   |     | T5 | -50            | 56             | 56             | 56             | 100            | 43             | 100            | -40            | -40            | -40            | -50            | -36            |
|   |     | T4 | -50            | 56             | 56             | 56             | 135            | 33             | 135            | -40            | -40            | -40            | -50            | -36            |
|   | C   | T6 | -50            | 52             | 52             | 52             | 85             | 43             | 85             | -40            | -40            | -40            | -50            | -35            |
|   |     | T5 | -50            | 67             | 67             | 67             | 100            | 58             | 100            | -40            | -40            | -40            | -50            | -35            |
|   |     | T4 | -50            | 72             | 72             | 72             | 135            | 54             | 135            | -40            | -40            | -40            | -50            | -35            |
|   |     | T3 | -50            | 72             | 72             | 72             | 200            | 35             | 200            | -40            | -40            | -40            | -50            | -35            |

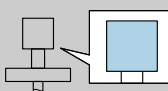
|  = B | (2) |    | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |    | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6 | -50            | 51             | 51             | 51             | 85             | 44             | 85             | -40            | -40            | -40            | -50            | -37            |
|   |     | T5 | -50            | 66             | 66             | 66             | 100            | 59             | 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            | 48             | 200            | -40            | -40            | -40            | -50            | -37            |
|   | C   | T6 | -50            | 54             | 54             | 54             | 85             | 47             | 85             | -40            | -40            | -40            | -50            | -37            |
|   |     | T5 | -50            | 69             | 69             | 69             | 100            | 62             | 100            | -40            | -40            | -40            | -50            | -37            |
|   |     | T4 | -50            | 78             | 78             | 78             | 135            | 65             | 135            | -40            | -40            | -40            | -50            | -37            |
| T3  | -50 | 78 | 78             | 78             | 200            | 50             | 200            | -40            | -40            | -40            | -50            | -37            |                |                |

|  = C | (2) |    | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |    | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6 | -50            | 51             | 51             | 51             | 85             | 45             | 85             | -40            | -40            | -40            | -50            | -38            |
|   |     | T5 | -50            | 66             | 66             | 66             | 100            | 60             | 100            | -40            | -40            | -40            | -50            | -38            |
|   |     | T4 | -50            | 75             | 75             | 75             | 135            | 63             | 135            | -40            | -40            | -40            | -50            | -38            |
|   |     | T3 | -50            | 75             | 75             | 75             | 200            | 50             | 200            | -40            | -40            | -40            | -50            | -38            |
|   | C   | T6 | -50            | 54             | 54             | 54             | 85             | 48             | 85             | -40            | -40            | -40            | -50            | -37            |
|   |     | T5 | -50            | 69             | 69             | 69             | 100            | 63             | 100            | -40            | -40            | -40            | -50            | -37            |
|   |     | T4 | -50            | 78             | 78             | 78             | 135            | 66             | 135            | -40            | -40            | -40            | -50            | -37            |
| T3  | -50 | 78 | 78             | 78             | 200            | 54             | 200            | -40            | -40            | -40            | -50            | -37            |                |                |


 Explosion protection: Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Division 2

## FMP55

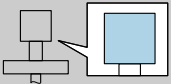
|  = B | (2) | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|--|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|  |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|  | B   | T6             | -50            | 51             | 51             | 51             | 85             | 44             | 85             | -40            | -40            | -40            | -50            | -37 |
|  |     | T5             | -50            | 66             | 66             | 66             | 100            | 59             | 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            | 48             | 200            | -40            | -40            | -40            | -50            | -37 |
|  | C   | 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            | 78             | 78             | 78             | 135            | 65             | 135            | -40            | -40            | -40            | -50            | -37 |
|  |     | T3             | -50            | 78             | 78             | 78             | 200            | 50             | 200            | -40            | -40            | -40            | -50            | -37 |

|  = C | (2) | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |     |
|---|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|
|   |     | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |     |
|   | B   | T6             | -50            | 51             | 51             | 51             | 85             | 45             | 85             | -40            | -40            | -40            | -50            | -38 |
|   |     | T5             | -50            | 66             | 66             | 66             | 100            | 60             | 100            | -40            | -40            | -40            | -50            | -38 |
|   |     | T4             | -50            | 75             | 75             | 75             | 135            | 63             | 135            | -40            | -40            | -40            | -50            | -38 |
|   |     | T3             | -50            | 75             | 75             | 75             | 200            | 50             | 200            | -40            | -40            | -40            | -50            | -38 |
|   | C   | 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            | 78             | 78             | 78             | 135            | 66             | 135            | -40            | -40            | -40            | -50            | -37 |
|   |     | T3             | -50            | 78             | 78             | 78             | 200            | 54             | 200            | -40            | -40            | -40            | -50            | -37 |

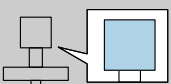


 Explosion protection: IS / AEx ia/Ex ia  
 Probe: Class I, Zone 0 / Class I, Division 1  
 Electronics housing: Class I, Zone 1 / Class I, Division 1

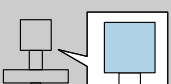
**FMP56**

|  = A | (2) |                  | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |                  | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6               | -40            | 43             | 43             | 43             | 85             | 30             | 85             | -40            | -40            | -40            | -              | -              |
|   |     | T5               | -40            | 56             | 56             | 56             | 100            | 42             | 100            | -40            | -40            | -40            | -              | -              |
|   |     | T4 <sup>1)</sup> | -40            | 56             | 56             | 56             | 120            | 36             | 120            | -40            | -40            | -40            | -              | -              |
|   | C   | T6               | -40            | 52             | 52             | 52             | 85             | 42             | 85             | -40            | -40            | -40            | -              | -              |
|   |     | T5               | -40            | 67             | 67             | 67             | 100            | 57             | 100            | -40            | -40            | -40            | -              | -              |
|   |     | T4 <sup>1)</sup> | -40            | 72             | 72             | 72             | 120            | 57             | 120            | -40            | -40            | -40            | -              | -              |


1) Functional: Maximum permissible process temperature

|  = B | (2) |                  | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |                  | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6               | -40            | 51             | 51             | 51             | 85             | 43             | 85             | -40            | -40            | -40            | -              | -              |
|   |     | T5               | -40            | 66             | 66             | 66             | 100            | 58             | 100            | -40            | -40            | -40            | -              | -              |
|   |     | T4 <sup>1)</sup> | -40            | 75             | 75             | 75             | 120            | 64             | 120            | -40            | -40            | -40            | -              | -              |
|   | C   | T6               | -40            | 54             | 54             | 54             | 85             | 47             | 85             | -40            | -40            | -40            | -              | -              |
|   |     | T5               | -40            | 69             | 69             | 69             | 100            | 62             | 100            | -40            | -40            | -40            | -              | -              |
|   |     | T4 <sup>1)</sup> | -40            | 78             | 78             | 78             | 120            | 68             | 120            | -40            | -40            | -40            | -              | -              |

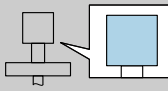
1) Functional: Maximum permissible process temperature

|  = C | (2) |                  | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |                  | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6               | -40            | 51             | 51             | 51             | 85             | 44             | 85             | -40            | -40            | -40            | -              | -              |
|   |     | T5               | -40            | 66             | 66             | 66             | 100            | 59             | 100            | -40            | -40            | -40            | -              | -              |
|   |     | T4 <sup>1)</sup> | -40            | 75             | 75             | 75             | 120            | 66             | 120            | -40            | -40            | -40            | -              | -              |
|   | C   | T6               | -40            | 54             | 54             | 54             | 85             | 48             | 85             | -40            | -40            | -40            | -              | -              |
|   |     | T5               | -40            | 69             | 69             | 69             | 100            | 63             | 100            | -40            | -40            | -40            | -              | -              |
|   |     | T4 <sup>1)</sup> | -40            | 78             | 78             | 78             | 120            | 69             | 120            | -40            | -40            | -40            | -              | -              |

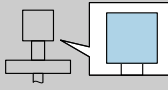
1) Functional: Maximum permissible process temperature

 Explosion protection: Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Division 2


**FMP56**

|  = B | (2) | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|--|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|  |     | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|  | B   | T6               | -40            | 51             | 51             | 51             | 85             | 43             | 85             | -40            | -40            | -40            | -              | - |
|  |     | T5               | -40            | 66             | 66             | 66             | 100            | 58             | 100            | -40            | -40            | -40            | -              | - |
|  |     | T4 <sup>1)</sup> | -40            | 75             | 75             | 75             | 120            | 64             | 120            | -40            | -40            | -40            | -              | - |
|  | C   | T6               | -40            | 60             | 60             | 60             | 85             | 51             | 85             | -40            | -40            | -40            | -              | - |
|  |     | T5               | -40            | 75             | 75             | 75             | 100            | 66             | 100            | -40            | -40            | -40            | -              | - |
|  |     | T4 <sup>1)</sup> | -40            | 78             | 78             | 78             | 120            | 68             | 120            | -40            | -40            | -40            | -              | - |

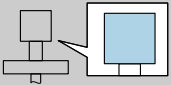
1) Functional: Maximum permissible process temperature

|  = C | (2) | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|--|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|  |     | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|  | B   | T6               | -40            | 51             | 51             | 51             | 85             | 44             | 85             | -40            | -40            | -40            | -              | - |
|  |     | T5               | -40            | 66             | 66             | 66             | 100            | 59             | 100            | -40            | -40            | -40            | -              | - |
|  |     | T4 <sup>1)</sup> | -40            | 75             | 75             | 75             | 120            | 66             | 120            | -40            | -40            | -40            | -              | - |
|  | C   | T6               | -40            | 60             | 60             | 60             | 85             | 54             | 85             | -40            | -40            | -40            | -              | - |
|  |     | T5               | -40            | 75             | 75             | 75             | 100            | 69             | 100            | -40            | -40            | -40            | -              | - |
|  |     | T4 <sup>1)</sup> | -40            | 78             | 78             | 78             | 120            | 69             | 120            | -40            | -40            | -40            | -              | - |

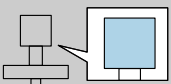
1) Functional: Maximum permissible process temperature

 Explosion protection: IS / AEx ia/Ex ia  
 Probe: Class I, Zone 0 / Class I, Division 1  
 Electronics housing: Class I, Zone 1 / Class I, Division 1

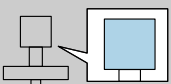
**FMP57**

|  = A | (2) |                  | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |                  | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6               | -40            | 43             | 43             | 43             | 85             | 33             | 85             | -40            | -40            | -40            | -              | -              |
|   |     | T5               | -40            | 56             | 56             | 56             | 100            | 46             | 100            | -40            | -40            | -40            | -              | -              |
|   |     | T4               | -40            | 56             | 56             | 56             | 135            | 37             | 135            | -40            | -40            | -40            | -              | -              |
|   | C   | T6               | -40            | 52             | 52             | 52             | 85             | 44             | 85             | -40            | -40            | -40            | -              | -              |
|   |     | T5               | -40            | 67             | 67             | 67             | 100            | 59             | 100            | -40            | -40            | -40            | -              | -              |
|   |     | T4               | -40            | 72             | 72             | 72             | 135            | 57             | 135            | -40            | -40            | -40            | -              | -              |
|   |     | T3 <sup>1)</sup> | -40            | 72             | 72             | 72             | 185            | 42             | 185            | -40            | -40            | -40            | -              | -              |

1) Functional: Maximum permissible process temperature

|  = B | (2) |                  | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|--|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|  |     |                  | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|  | B   | T6               | -40            | 51             | 51             | 51             | 85             | 45             | 85             | -40            | -40            | -40            | -              | -              |
|  |     | T5               | -40            | 66             | 66             | 66             | 100            | 60             | 100            | -40            | -40            | -40            | -              | -              |
|  |     | T4               | -40            | 75             | 75             | 75             | 135            | 63             | 135            | -40            | -40            | -40            | -              | -              |
|  |     | T3 <sup>1)</sup> | -40            | 75             | 75             | 75             | 185            | 53             | 185            | -40            | -40            | -40            | -              | -              |
|  | C   | T6               | -40            | 54             | 54             | 54             | 85             | 48             | 85             | -40            | -40            | -40            | -              | -              |
|  |     | T5               | -40            | 69             | 69             | 69             | 100            | 63             | 100            | -40            | -40            | -40            | -              | -              |
|  |     | T4               | -40            | 78             | 78             | 78             | 135            | 66             | 135            | -40            | -40            | -40            | -              | -              |
| T3 <sup>1)</sup>   |     | -40              | 78             | 78             | 78             | 185            | 57             | 185            | -40            | -40            | -40            | -              | -              |                |

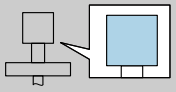
1) Functional: Maximum permissible process temperature

|  = C | (2) |                  | P1             |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |
|---|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |     |                  | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |
|   | B   | T6               | -40            | 51             | 51             | 51             | 85             | 46             | 85             | -40            | -40            | -40            | -              | -              |
|   |     | T5               | -40            | 66             | 66             | 66             | 100            | 61             | 100            | -40            | -40            | -40            | -              | -              |
|   |     | T4               | -40            | 75             | 75             | 75             | 135            | 65             | 135            | -40            | -40            | -40            | -              | -              |
|   |     | T3 <sup>1)</sup> | -40            | 75             | 75             | 75             | 185            | 57             | 185            | -40            | -40            | -40            | -              | -              |
|   | C   | T6               | -40            | 54             | 54             | 54             | 85             | 49             | 85             | -40            | -40            | -40            | -              | -              |
|   |     | T5               | -40            | 69             | 69             | 69             | 100            | 64             | 100            | -40            | -40            | -40            | -              | -              |
|   |     | T4               | -40            | 78             | 78             | 78             | 135            | 68             | 135            | -40            | -40            | -40            | -              | -              |
| T3 <sup>1)</sup>  |     | -40              | 78             | 78             | 78             | 185            | 61             | 185            | -40            | -40            | -40            | -              | -              |                |

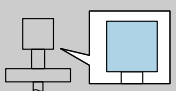
1) Functional: Maximum permissible process temperature

- i** Explosion protection: Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Division 2

**FMP57**

|  = B | (2) | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|--|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|  |     | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|  | B   | T6               | -40            | 51             | 51             | 51             | 85             | 45             | 85             | -40            | -40            | -40            | -              | - |
|  |     | T5               | -40            | 66             | 66             | 66             | 100            | 60             | 100            | -40            | -40            | -40            | -              | - |
|  |     | T4               | -40            | 75             | 75             | 75             | 135            | 63             | 135            | -40            | -40            | -40            | -              | - |
|  |     | T3 <sup>1)</sup> | -40            | 75             | 75             | 75             | 185            | 53             | 185            | -40            | -40            | -40            | -              | - |
|  | C   | T6               | -40            | 60             | 60             | 60             | 85             | 53             | 85             | -40            | -40            | -40            | -              | - |
|  |     | T5               | -40            | 75             | 75             | 75             | 100            | 68             | 100            | -40            | -40            | -40            | -              | - |
|  |     | T4               | -40            | 78             | 78             | 78             | 135            | 66             | 135            | -40            | -40            | -40            | -              | - |
|  |     | T3 <sup>1)</sup> | -40            | 78             | 78             | 78             | 185            | 57             | 185            | -40            | -40            | -40            | -              | - |

1) Functional: Maximum permissible process temperature


|  = C | (2) | P1               |                | P2             |                | P3             |                | P4             |                | P5             |                | P6             |                |   |
|---|-----|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
|   |     | T <sub>p</sub>   | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> | T <sub>p</sub> | T <sub>a</sub> |   |
|   | B   | T6               | -40            | 51             | 51             | 51             | 85             | 46             | 85             | -40            | -40            | -40            | -              | - |
|   |     | T5               | -40            | 66             | 66             | 66             | 100            | 61             | 100            | -40            | -40            | -40            | -              | - |
|   |     | T4               | -40            | 75             | 75             | 75             | 135            | 65             | 135            | -40            | -40            | -40            | -              | - |
|   |     | T3 <sup>1)</sup> | -40            | 75             | 75             | 75             | 185            | 57             | 185            | -40            | -40            | -40            | -              | - |
|   | C   | T6               | -40            | 60             | 60             | 60             | 85             | 55             | 85             | -40            | -40            | -40            | -              | - |
|   |     | T5               | -40            | 75             | 75             | 75             | 100            | 70             | 100            | -40            | -40            | -40            | -              | - |
|   |     | T4               | -40            | 78             | 78             | 78             | 135            | 68             | 135            | -40            | -40            | -40            | -              | - |
|   |     | T3 <sup>1)</sup> | -40            | 78             | 78             | 78             | 185            | 61             | 185            | -40            | -40            | -40            | -              | - |

1) Functional: Maximum permissible process temperature

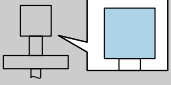
**Remote; 1 channel**

**Probe design: remote**

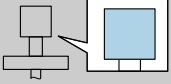
Optional specification, ID Mx (Probe Design) = MB, MC, MD

-  Explosion protection: IS / AEx ia/Ex ia
- Probe: Class I, Zone 0 / Class I, Division 1
- Electronics housing: Class I, Zone 1 / Class I, Division 1


**FMP5x**

|  = A | (1) | P1                           |                | P2                           |                | P3                           |                | P4                           |                | P5                           |                | P6                           |                |
|---|-----|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|
|   |     | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> |
| A   | T6  | -                            | 58             | -                            | 58             | -                            | 58             | -                            | -40            | -                            | -40            | -                            | -              |
| B   | T6  | -                            | 57             | -                            | 57             | -                            | 57             | -                            | -40            | -                            | -40            | -                            | -              |
| C   | T6  | -                            | 60             | -                            | 60             | -                            | 60             | -                            | -40            | -                            | -40            | -                            | -              |

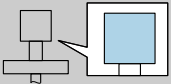
1) T<sub>p</sub> = dependent on the sensor

|  = B, C | (1) | P1                           |                | P2                           |                | P3                           |                | P4                           |                | P5                           |                | P6                           |                |
|--|-----|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|
|  |     | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> |
| A, B   | T6  | -                            | 60             | -                            | 60             | -                            | 60             | -                            | -40            | -                            | -40            | -                            | -              |
|  | T5  | -                            | 75             | -                            | 75             | -                            | 75             | -                            | -40            | -                            | -40            | -                            | -              |
| C  | T6  | -                            | 60             | -                            | 60             | -                            | 60             | -                            | -40            | -                            | -40            | -                            | -              |
|  | T5  | -                            | 80             | -                            | 80             | -                            | 80             | -                            | -40            | -                            | -40            | -                            | -              |

1) T<sub>p</sub> = dependent on the sensor

-  Explosion protection: Division 2 (NIFW and standard wiring)
- Probe: Class I, Zone 0 / Class I, Division 1 or Division 2
- Electronics housing: Class I, Division 2

**FMP5x**

|  = B, C | (1) | P1                           |                | P2                           |                | P3                           |                | P4                           |                | P5                           |                | P6                           |                |
|--|-----|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|
|  |     | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> |
| A, B   | T6  | -                            | 60             | -                            | 60             | -                            | 60             | -                            | -40            | -                            | -40            | -                            | -              |
|  | T5  | -                            | 75             | -                            | 75             | -                            | 75             | -                            | -40            | -                            | -40            | -                            | -              |
| C  | T6  | -                            | 60             | -                            | 60             | -                            | 60             | -                            | -40            | -                            | -40            | -                            | -              |
|  | T5  | -                            | 80             | -                            | 80             | -                            | 80             | -                            | -40            | -                            | -40            | -                            | -              |

1) T<sub>p</sub> = dependent on the sensor

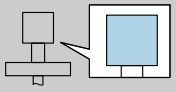
Remote; 2 channels

Probe design: remote

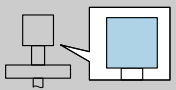
Optional specification, ID Mx (Probe Design) = MB, MC, MD

**i** Explosion protection: IS / AEx ia/Ex ia  
 Probe: Class I, Zone 0 / Class I, Division 1  
 Electronics housing: Class I, Zone 1 / Class I, Division 1

**FMP5x**

|  = A | (2) | P1                           |                | P2                           |                | P3                           |                | P4                           |                | P5                           |                | P6                           |                |   |
|--|-----|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|---|
|  |     | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> |   |
|  | B   | T6                           | -              | 43                           | -              | 43                           | -              | 43                           | -              | -40                          | -              | -40                          | -              | - |
|  | C   | T6                           | -              | 52                           | -              | 52                           | -              | 52                           | -              | -40                          | -              | -40                          | -              | - |

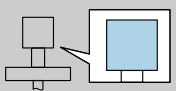
1) T<sub>p</sub> = dependent on the sensor

|  = B, C | (2) | P1                           |                | P2                           |                | P3                           |                | P4                           |                | P5                           |                | P6                           |                |   |
|---|-----|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|---|
|   |     | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> |   |
|   | B   | T6                           | -              | 51                           | -              | 51                           | -              | 51                           | -              | -40                          | -              | -40                          | -              | - |
|   |     | T5                           | -              | 66                           | -              | 66                           | -              | 66                           | -              | -40                          | -              | -40                          | -              | - |
|   | C   | T6                           | -              | 54                           | -              | 54                           | -              | 54                           | -              | -40                          | -              | -40                          | -              | - |
|   |     | T5                           | -              | 78                           | -              | 78                           | -              | 78                           | -              | -40                          | -              | -40                          | -              | - |

1) T<sub>p</sub> = dependent on the sensor

**i** Explosion protection: Division 2 (NIFW and standard wiring)  
 Probe: Class I, Zone 0 / Class I, Division 1 or Division 2  
 Electronics housing: Class I, Division 2

**FMP5x**

|  = B, C | (1) | P1                           |                | P2                           |                | P3                           |                | P4                           |                | P5                           |                | P6                           |                |   |
|---|-----|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|----------------|---|
|   |     | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> | T <sub>p</sub> <sup>1)</sup> | T <sub>a</sub> |   |
|   | B   | T6                           | -              | 51                           | -              | 51                           | -              | 51                           | -              | -40                          | -              | -40                          | -              | - |
|   |     | T5                           | -              | 66                           | -              | 66                           | -              | 66                           | -              | -40                          | -              | -40                          | -              | - |
|   | C   | T6                           | -              | 60                           | -              | 60                           | -              | 60                           | -              | -40                          | -              | -40                          | -              | - |
|   |     | T5                           | -              | 78                           | -              | 78                           | -              | 78                           | -              | -40                          | -              | -40                          | -              | - |

1) T<sub>p</sub> = dependent on the sensor

**Class II, III, Division 1;  
1 channel**

**FMP5x**

|   |         |                         |
|---|---------|-------------------------|
|  <p>= B, C</p> | (1)     |                         |
|   | A, B, C | $T = T_a + 5 \text{ K}$ |

**Class II, III, Division 1;  
2 channels**

**FMP5x**

|   |      |                          |
|---|------|--------------------------|
|  <p>= B, C</p> | (2)  |                          |
|   | B, C | $T = T_a + 10 \text{ K}$ |



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