

Safety Instructions

Liquiphant FTL51B, FTL63

Control Drawing IS

Class I, II, III, Div. 1, Groups A-G

Class I, Div. 1, Groups A-D

Class I, Zone 0, AEx/Ex ia IIC Ga



Liquiphant FTL51B, FTL63

Table of contents

About this document 4

Associated documentation 4

Certificates and declarations 4

Manufacturer address 4

Extended order code 4

Safety instructions: General 9

Safety instructions: Specific conditions of use 9

Safety instructions: Installation 10

Intrinsic safety 12

Process seals 13

Temperature tables 13

Connection data 23

About this document	The document number of these Safety Instructions (XA) must match the information on the nameplate.
Associated documentation	All documentation is available on the Internet: www.endress.com/Deviceviewer (enter the serial number from the nameplate). To commission the device, please observe the Operating Instructions pertaining to the device: BA01894F
Certificates and declarations	CSA C/US certificate Certificate number: CSA19CA80022351
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 FTL51B, FTL63 – ***** + A*B*C*D*E*F*G*.. (Device type) (Basic specifications) (Optional specifications) * = Placeholder At this position, an option (number or letter) selected from the specification is displayed instead of the placeholders. <i>Basic specifications</i> 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: Liquiphant



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.

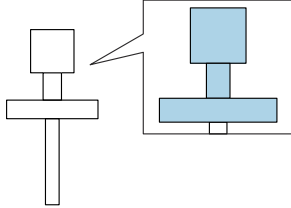
Device type

FTL51B, FTL63

Basic specifications

Position 1, 2 (Approval)		
Selected option		Description
FTL51B FTL63	CB	CSA C/US IS Cl. I, II, III, Div. 1, Gr. A-G; Cl. I, Zone 0, AEx/Ex ia IIC T6 Ga
	CH	CSA C/US IS Cl. I, Div. 1, Gr. A-D; Cl. I, Zone 0, AEx/Ex ia IIC T6 Ga

Position 3, 4 (Output)		
Selected option		Description
FTL51B FTL63	A7	FEL67, 2-wire PFM + test button
	A8	FEL68, 2-wire NAMUR + test button
	GA	FEL60D, density/concentration

Position 6 (Housing, Material)		
Selected option		Description
FTL51B FTL63	A ¹⁾	Single compartment; plastic
	B	Single compartment; Alu, coated
	C	Single compartment; 316L, cast
	D ¹⁾	Single compartment; 316L, hygiene
	M	Dual compartment L-shape; Alu, coated
 Shown in the temperature tables exemplary as follows: 		

1) Only in connection with Position 1, 2 = CH

Position 7 (Electrical Connection)		
Selected option		Description
FTL51B FTL63	A ¹⁾	Gland M20, plastic, IP66/68 NEMA Type 4X/6P
	B ²⁾	Gland M20, brass nickel plated, IP66/68 NEMA Type 4X/6P
	C ³⁾	Gland M20, 316L, IP66/68 NEMA Type 4X/6P
	D ¹⁾	Gland M20, 316L, hygiene, IP66/68/69 NEMA Type 4X/6P
	F	Thread M20, IP66/68 NEMA Type 4X/6P
	H ⁴⁾	Thread NPT1/2, IP66/68 NEMA Type 4X/6P
	I ⁵⁾	Thread NPT3/4, IP66/68 NEMA Type 4X/6P
	J ¹⁾	Gland M20, plastic blue, IP66/68 NEMA Type 4X/6P
	M ⁶⁾	Plug M12, IP66/67 NEMA Type 4X

- 1) Only in connection with Position 1, 2 = CH
- 2) Only in connection with Position 6 = B, M
- 3) Only in connection with Position 6 = B, C, D
- 4) Only in connection with Position 6 = A, D
- 5) Only in connection with Position 6 = B, C, M
- 6) Only in connection with Position 1, 2 = CH, Position 6 = B, C, D

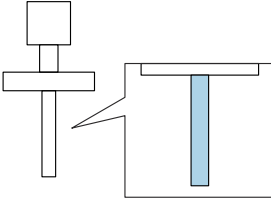
Position 8 (Application)		
Selected option		Description
FTL51B FTL63	A ¹⁾	Process max 150 °C (302 °F), max 64 bar
	B ¹⁾	Process max 150 °C (302 °F), max 100 bar
	C ²⁾	Process max 80 °C (176 °F), max 25 bar

- 1) Only in connection with Position 3, 4 = A7, A8
 2) Only in connection with Position 3, 4 = GA

Position 9 (Surface Refinement)		
Selected option		Description
FTL51B	A	Standard Ra <3,2µm/126µin
FTL63	A	Standard Ra <1,5µm/59µin
	D	Hygienic Ra <0,3µm/12µin mech. polished
	E	Hygienic Ra <0,38µm/15µin electro-polished

Position 10 (Type of Probe)		
Selected option		Description
FTL51B FTL63	1	Compact version
	2	Extension tube
	3	Short tube version

 Shown in the temperature tables exemplary as follows:



Optional specifications

ID Jx, Kx (Test, Certificate, Declaration)		
Selected option		Description
FTL51B FTL63	JL ¹⁾	Ambient temperature -50 °C (-58 °F)

- 1) Only in connection with Position 3, 4 = A7, A8, Position 6 = B, C, M,
 Position 7 = B, C, F, I

ID Mx (Sensor Design)		
Selected option		Description
FTL51B FTL63	MA ¹⁾	Sensor remote, cable TPR, 2 m (80 in) + mounting bracket, wall/pipe, 316L
	MB ¹⁾	Sensor remote, cable TPR, 5 m (200 in) + mounting bracket, wall/pipe, 316L
	MC ¹⁾	Sensor remote, cable TPR, 10 m (400 in) + mounting bracket, wall/pipe, 316L
	MD ¹⁾	Sensor remote, cable TPR, 20 m (800 in) + mounting bracket, wall/pipe, 316L
	ME ¹⁾	Sensor remote, cable TPR, 30 m (1 200 in) + mounting bracket, wall/pipe, 316L
	MR	Temperature separator
	MS	Pressure tight feed through (Second line of defence)

1) Only in connection with Position 1, 2 = CH

ID Nx, Ox (Accessory Mounted)		
Selected option		Description
FTL51B FTL63	NF ¹⁾	Bluetooth VU121, Labeling: VA13-02
	NG ²⁾	Prepared for Heartbeat Verification + Monitoring + Bluetooth VU121, Labeling: VA13-01
	NJ	Cover with sight glass, glass
	NK ³⁾	Cover with sight glass, plastic

- 1) Only in connection with Position 3, 4 = A7, Position 6 = A, B, M
 2) Only in connection with Position 3, 4 = A8, Position 6 = A, B, M
 3) Only in connection with Position 1, 2 = CH

ID Px, Rx (Accessory Enclosed)		
Selected option		Description
FTL51B FTL63	PA ¹⁾	Weather protection cover, 316L
	PB ²⁾	Weather protection cover, plastic
	R6 ³⁾	Test magnet

- 1) Only in connection with Position 6 = M
 2) Only in connection with Position 6 = B, C
 3) Only in connection with Position 3, 4 = A8

Safety instructions: General

- The device is intended to be used in hazardous locations as defined in the Canadian Electrical Code, Part I or the National Electrical Code (NFPA70). If no potentially explosive atmospheres are present or if additional protective measures have been taken: The device may be operated according to the manufacturer's specifications.
- Staff must meet the following conditions for mounting, electrical installation, commissioning and maintenance of the device:
 - Be suitably qualified for their role and the tasks they perform
 - Be trained in explosion protection
 - Be familiar with national regulations
- Install the device according to the manufacturer's instructions and national regulations.
- Do not operate the device outside the specified electrical, thermal and mechanical parameters.
- Only use the device in media to which the wetted materials have sufficient durability.
- Avoid electrostatic charging:
 - Of plastic surfaces (e.g. enclosure, sensor element, special varnishing, attached additional plates, ...)
 - Of isolated capacities (e.g. isolated metallic plates)
- 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.
- Alterations to the device can affect the explosion protection and must be carried out by staff authorized to perform such work by Endress+Hauser.

Safety instructions: Specific conditions of use

- Limitations of the maximum ambient temperature at the electronics enclosure may be required dependent on device configuration, process temperatures and temperature classification.
- Details of limitations: →  13, "Temperature tables".
- To avoid electrostatic charging: Do not rub surfaces with a dry cloth.
- In the event of additional or alternative special varnishing on the enclosure or other metal parts or for adhesive plates:
 - Observe the danger of electrostatic charging and discharge.
 - Do not install in the vicinity of processes (≤ 0.5 m) generating strong electrostatic charges.

Basic specification, Position 6 = A

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

Basic specification, Position 6 = B

Avoid sparks caused by impact and friction.

Optional specification, ID Px, Rx = PA

Connect the weather protection cover to the local potential equalization.

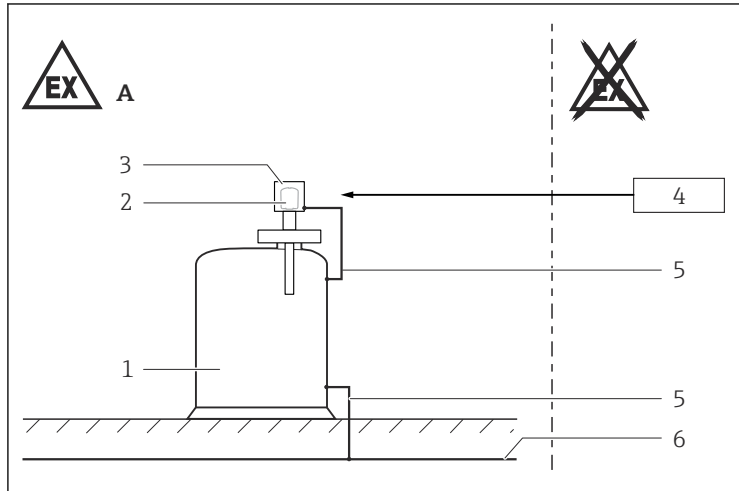
Optional specification, ID Px, Rx = PB

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

Optional specification, ID Px, Rx = R6

Suitable for use in explosion hazardous areas.

Safety instructions: Installation

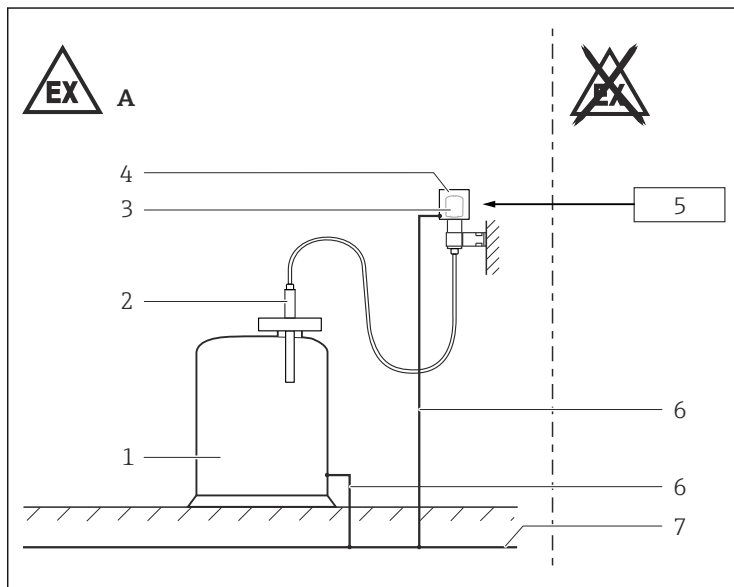


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- A** Zone 0 or Zone 1; Class I, II, III, Div. 1, Groups A-G
1 Tank; Zone 0 or Zone 1; Class I, II, III, Div. 1, Groups A-G
2 Electronic insert
3 Enclosure
4 Associated intrinsically safe power supply units
5 Potential equalization line
6 Local potential equalization

Optional specification, ID Mx = MA - ME



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- A Zone 0 or Zone 1; Class I, Div. 1, Groups A-D
 1 Tank; Zone 0 or Zone 1; Class I, Div. 1, Groups A-D
 2 Sensor enclosure
 3 Electronic insert
 4 Electronics enclosure
 5 Associated intrinsically safe power supply units
 6 Potential equalization line
 7 Local potential equalization

- Continuous service temperature of the connecting cable: $\geq T_a + 20 \text{ K}$.
- Perform the following to achieve the degree of protection IP66/68:
 - Screw the cover tight.
 - Mount the cable entry correctly.
- Seal unused entry glands with approved sealing plugs that correspond to the type of protection.
- Observe the maximum process conditions according to the manufacturer's Operating Instructions.
- At high medium temperatures, note flange pressure load capacity as a factor of temperature.

- Install the device to exclude any mechanical damage or friction during the application. Pay particular attention to flow conditions and tank fittings.
- Support extension tube of the device if a dynamic load is expected.
- The device can be equipped with the Bluetooth® module: refer to the Operating Instructions and specifications in the "Bluetooth® module" chapter.

Potential equalization

Integrate the device into the local potential equalization.

Bluetooth® module

- High cover with inspection window is required.
- Observe the general notes of the Special Documentation SD02389F.
- After installing the Bluetooth® module: Pay attention to the correct installation of the device.

Basic specification, Position 3, 4 = A7

If the device is equipped with the Bluetooth® module, no battery is required or allowed.

Basic specification, Position 3, 4 = A8

- If the device is equipped with the Bluetooth® module, a battery is required.
- Removal or replacement of the battery is only permitted in non-hazardous areas.

Only use one of the following battery types:

Manufacturer	Battery type
Tadiran	SL-360/S
XENO ENERGY	ER14505 / XL-060F

Intrinsic safety

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

Entity installation

- Use an intrinsic safety barrier or other associated equipment that is approved for the country in use and satisfies the following conditions:
 $U_o \leq U_i, I_o \leq I_i, C_o \geq C_i + C_{cable}, L_o \geq L_i + L_{cable}$ and $P_o \leq P_i$.
- For transmitter parameters: See "Connection data" section.
- When the device is connected to certified intrinsically safe circuits of Category Ex ib for Equipment Groups IIC and IIB, the type of protection changes to Ex ib IIC and Ex ib IIB.
- Control room equipment may not use or generate over 250 V_{rms}.

- Install per National Electrical Code (NFPA70) or Canadian Electrical Code, Part I (C22.1), as applicable.
- Always follow the installation instructions provided by the intrinsic safety barrier manufacturer when installing this equipment.
- **WARNINGS:** Substitution of components may impair intrinsic safety.
- The intrinsically safe input power circuit of the device is isolated from ground. The dielectric strength is at least 500 V_{rms}.

Process seals

Device type FTL51B and Device type FTL63 with Basic specification, Position 9 = A

The device is rated as a Single Seal device and does not require the use of an external secondary process seal.

Temperature tables

General notes

Class I, Div. 1 / Zone 0, Zone 1



Optional specification, ID Px, Rx = PB

When using the weather protection cover: Reduce the values T_a of P1, P2, P3 by 16 K.

Class II, III, Div. 1



Optional specification, ID Px, Rx = PB

When using the weather protection cover: Reduce the values T_a by 16 K.

Description notes



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

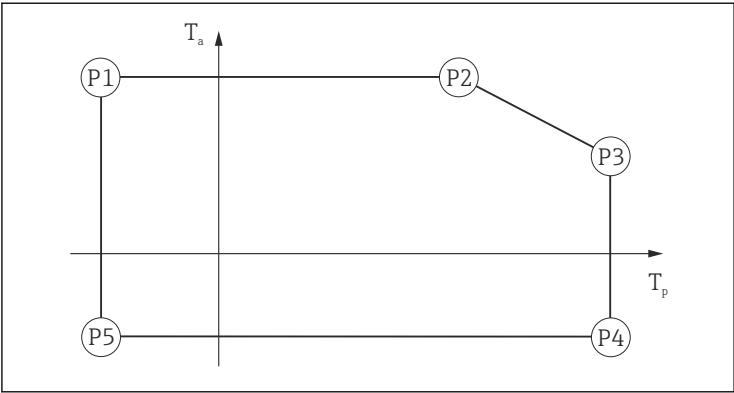
Class I, Div. 1 / Zone 0, Zone 1

1st column: Position 8 = A, B, ...

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

Column P1 to P5: Position (temperature value) on the axes of the derating

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



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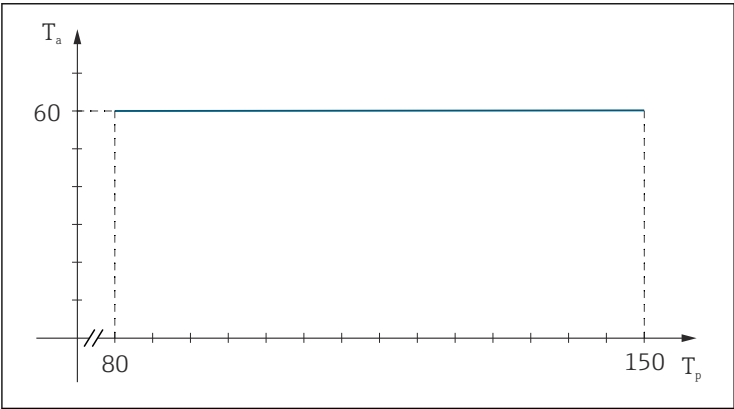
Class II, III, Div. 1

1st column: Position 8 = A, B, ...

2nd column: Process temperature range in °C

3rd column: Ambient temperature range in °C

4th column: Maximum surface temperature in °C

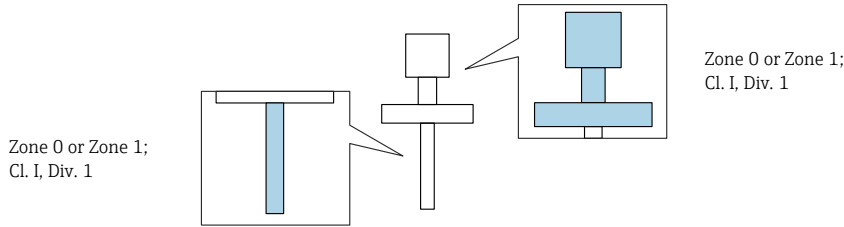


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T_a Ambient temperature in °C

T_p Process temperature in °C

Class I, Div. 1 / Zone 0, Zone 1



Position 3, 4 = A7

Without Optional specification, ID Mx = MR, MS

A, B		P1		P2		P3		P4		P5	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
	T6	-50	70 65 ¹⁾	73 70 ¹⁾	70 65 ¹⁾	80 70 ¹⁾	67 65 ¹⁾	80 70 ¹⁾	0 ²⁾ -20 ³⁾ -40 -50 ⁴⁾	-50	0 ²⁾ -20 ³⁾ -40 -50 ⁴⁾
	T5	-50	70 62 ¹⁾	94	70 62 ¹⁾	95 94 ¹⁾	70 62 ¹⁾	95 94 ¹⁾		-50	
	T4	-50	70 62 ¹⁾	94	70 62 ¹⁾	130 125 ¹⁾	55 50 ¹⁾	130 125 ¹⁾		-50	
	T3	-50	70 62 ¹⁾	94	70 62 ¹⁾	150 140 ¹⁾	47 40 ¹⁾	150 140 ¹⁾		-50	

- 1) Only in connection with Position 6 = D
- 2) Only in connection with Position 6 = A
- 3) Only in connection with Position 7 = D
- 4) Only in connection with Optional specification, ID Jx, Kx = JL

With Optional specification, ID Mx = MR, MS

A, B		P1		P2		P3		P4		P5	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
	T6	-50	70 65 ¹⁾	80 79 ¹⁾	70 65 ¹⁾	80 79 ¹⁾	70 65 ¹⁾	80 79 ¹⁾	0 ²⁾ -20 ³⁾ -40 -50 ⁴⁾	-50	0 ²⁾ -20 ³⁾ -40 -50 ⁴⁾
	T5	-50	70	95 94 ¹⁾	70	95 94 ¹⁾	70	95 94 ¹⁾		-50	
	T4	-50	70	130 94 ¹⁾	70	130	70 65 ¹⁾	130		-50	
	T3	-50	70	150 94 ¹⁾	70	150	70 62 ¹⁾	150		-50	

- 1) Only in connection with Position 6 = D
- 2) Only in connection with Position 6 = A
- 3) Only in connection with Position 7 = D
- 4) Only in connection with Optional specification, ID Jx, Kx = JL

Position 3, 4 = A8

Without Optional specification, ID Mx = MR, MS

A, B		P1		P2		P3		P4		P5	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
	T6 ¹⁾	-50	70	80	70	80	70	80	0 ²⁾	-50	0 ²⁾
	T5 ¹⁾	-50	70	95	70	95	70	95	-20 ³⁾	-50	-20 ³⁾
	T4	-50	70	115	70	130	62	130	-40	-50	-40
	T3	-50	70	115	70	150	54	150	-50 ⁴⁾	-50	-50 ⁴⁾
				70 ¹⁾		125 ⁵⁾	59 ¹⁾⁺⁵⁾	125 ⁵⁾			
						120 ¹⁾	50 ¹⁾	120 ¹⁾			
				70 ¹⁾		142 ⁵⁾	59 ¹⁾⁺⁵⁾	142 ⁵⁾			
						120 ¹⁾	50 ¹⁾	120 ¹⁾			

- 1) Only in connection with Optional specification, ID Nx, Ox = NG: Temperature classes only valid for T4...T1
- 2) Only in connection with Position 6 = A
- 3) Only in connection with Position 7 = D
- 4) Only in connection with Optional specification, ID Jx, Kx = JL
- 5) Only in connection with Position 6 = D

With Optional specification, ID Mx = MR, MS

A, B		P1		P2		P3		P4		P5	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
	T6 ¹⁾	-50	70	80	70	80	70	80	0 ²⁾	-50	0 ²⁾
	T5 ¹⁾	-50	70	95	70	95	70	95	-20 ³⁾	-50	-20 ³⁾
	T4	-50	70	130	70	130	70	130	-40	-50	-40
	T3	-50	70	150	70	150	70	150	-50 ⁴⁾	-50	-50 ⁴⁾
			65 ¹⁾		65 ¹⁾		65 ¹⁾				
			63 ¹⁾		63 ¹⁾		63 ¹⁾				

- 1) Only in connection with Optional specification, ID Nx, Ox = NG: Temperature classes only valid for T4...T1
- 2) Only in connection with Position 6 = A
- 3) Only in connection with Position 7 = D
- 4) Only in connection with Optional specification, ID Jx, Kx = JL

Position 3, 4 = GA

Without Optional specification, ID Mx = MR, MS

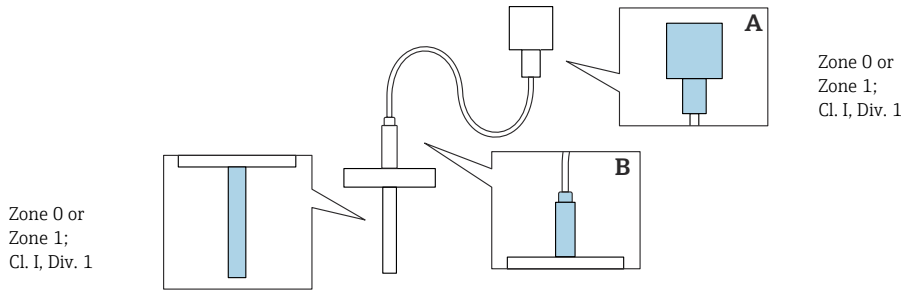
C		P1		P2		P3		P4		P5	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
	T6	-50	69 62 ¹⁾	80	69 62 ¹⁾	80	69 62 ¹⁾	80	0 ²⁾ -20 ³⁾ -40	-50	0 ²⁾ -20 ³⁾ -40
	T5	-50	70	80	70	80	70	80		-50	

- 1) Only in connection with Position 6 = D
- 2) Only in connection with Position 6 = A
- 3) Only in connection with Position 7 = D

With Optional specification, ID Mx = MR, MS

C		P1		P2		P3		P4		P5	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
	T6	-50	70 66 ¹⁾	80	70 66 ¹⁾	80	70 66 ¹⁾	80	0 ²⁾ -20 ³⁾ -40	-50	0 ²⁾ -20 ³⁾ -40
	T5	-50	70	80	70	80	70	80		-50	

- 1) Only in connection with Position 6 = D
- 2) Only in connection with Position 6 = A
- 3) Only in connection with Position 7 = D



Position 3, 4 = A7

Optional specification, ID Mx = MA - ME without Optional specification, ID Mx = MR, MS

A, B		P1			P2			P3			P4		P5	
		T _p	T _a ¹⁾	T _a ²⁾	T _p	T _a ¹⁾	T _a ²⁾	T _p	T _a ¹⁾	T _a ²⁾	T _p	T _a	T _p	T _a
	T6	-50	70 68 ³⁾	70	80	70 68 ³⁾	70	80	70 68 ³⁾	70	80	0 ⁴⁾ -20 ⁵⁾ -40 -50 ⁶⁾	-50	0 ⁴⁾ -20 ⁵⁾ -40 -50 ⁶⁾
	T5	-50	70	90	95	70	90	95	70	90	95		-50	
	T4	-50	70	90	130	70	90	130	70	90	130		-50	
	T3	-50	70	75	150	70	75	150	70	75	150		-50	

- 1) Electronics enclosure (A)
- 2) Sensor enclosure (B)
- 3) Only in connection with Position 6 = D
- 4) Only in connection with Position 6 = A
- 5) Only in connection with Position 7 = D
- 6) Only in connection with Optional specification, ID Jx, Kx = JL

Optional specification, ID Mx = MA - ME with Optional specification, ID Mx = MR, MS

A, B		P1			P2			P3			P4		P5	
		T _p	T _a ¹⁾	T _a ²⁾	T _p	T _a ¹⁾	T _a ²⁾	T _p	T _a ¹⁾	T _a ²⁾	T _p	T _a	T _p	T _a
	T6	-50	70 68 ³⁾	70	80	70 68 ³⁾	70	80	70 68 ³⁾	70	80	0 ⁴⁾ -20 ⁵⁾	-50	0 ⁴⁾ -20 ⁵⁾
	T5	-50	70	90	95	70	90	95	70	90	95	-40 -50 ⁶⁾	-50	-40 -50 ⁶⁾
	T4	-50	70	90	130	70	90	130	70	90	130		-50	
	T3	-50	70	90	150	70	90	150	70	90	150		-50	

- 1) Electronics enclosure (A)
- 2) Sensor enclosure (B)
- 3) Only in connection with Position 6 = D
- 4) Only in connection with Position 6 = A
- 5) Only in connection with Position 7 = D
- 6) Only in connection with Optional specification, ID Jx, Kx = JL

Position 3, 4 = A8

Optional specification, ID Mx = MA - ME without Optional specification, ID Mx = MR, MS

A, B		P1			P2			P3			P4		P5	
		T _p	T _a ¹⁾	T _a ²⁾	T _p	T _a ¹⁾	T _a ²⁾	T _p	T _a ¹⁾	T _a ²⁾	T _p	T _a	T _p	T _a
	T6 ³⁾	-50	70	70	80	70	70	80	70	70	80	0 ⁴⁾	-50	0 ⁴⁾
	T5 ³⁾	-50	70	90	95	70	90	95	70	90	95	-20 ⁵⁾	-50	-20 ⁵⁾
	T4	-50	70 69 ³⁾	90	130	70 69 ³⁾	90	130	70 69 ³⁾	90	130	-40	-50	-40
	T3	-50	70 69 ³⁾	75	150	70 69 ³⁾	75	150	70 69 ³⁾	75	150	-50 ⁶⁾	-50	-50 ⁶⁾

- 1) Electronics enclosure (A)
- 2) Sensor enclosure (B)
- 3) Only in connection with Optional specification, ID Nx, Ox = NG: Temperature classes only valid for T4...T1
- 4) Only in connection with Position 6 = A
- 5) Only in connection with Position 7 = D
- 6) Only in connection with Optional specification, ID Jx, Kx = JL

Optional specification, ID Mx = MA - ME with Optional specification, ID Mx = MR, MS

A, B		P1			P2			P3			P4		P5	
		T _p	T _a ¹⁾	T _a ²⁾	T _p	T _a ¹⁾	T _a ²⁾	T _p	T _a ¹⁾	T _a ²⁾	T _p	T _a	T _p	T _a
	T6 ³⁾	-50	70	70	80	70	70	80	70	70	80	0 ⁴⁾	-50	0 ⁴⁾
	T5 ³⁾	-50	70	90	95	70	90	95	70	90	95	-20 ⁵⁾	-50	-20 ⁵⁾
	T4	-50	70 69 ³⁾	90	130	70 69 ³⁾	90	130	70 69 ³⁾	90	130	-40	-50	-40
	T3	-50	70 69 ³⁾	90	150	70 69 ³⁾	90	150	70 69 ³⁾	90	150	-50 ⁶⁾	-50	-50 ⁶⁾

- 1) Electronics enclosure (A)
- 2) Sensor enclosure (B)
- 3) Only in connection with Optional specification, ID Nx, Ox = NG: Temperature classes only valid for T4...T1
- 4) Only in connection with Position 6 = A
- 5) Only in connection with Position 7 = D
- 6) Only in connection with Optional specification, ID Jx, Kx = JL

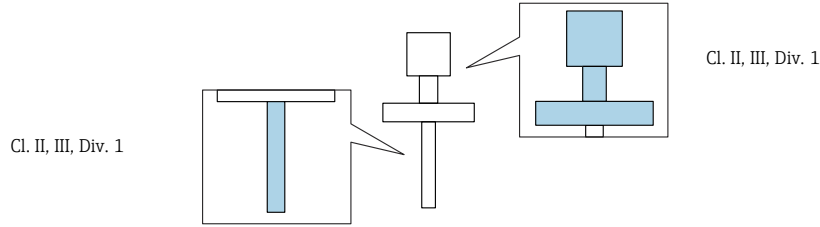
Position 3, 4 = GA

With Optional specification, ID Mx = MA - ME

C		P1		P2		P3		P4		P5	
		T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a	T _p	T _a
	T6	-50	70	80	70	80	70	80	0 ¹⁾ -20 ²⁾	-50	0 ¹⁾ -20 ²⁾
	T5	-50	70	80	70	80	70	80	-40	-50	-40

- 1) Only in connection with Position 6 = A
- 2) Only in connection with Position 7 = D

Class II, III, Div. 1



A, B			
	$-50 \leq T_p \leq +150$	$-40 \leq T_a \leq +60$ $-50 \leq T_a \leq +60$ ¹⁾	T155

- 1) Only in connection with Optional specification, ID Jx, Kx = JL

C			
	$-50 \leq T_p \leq +80$	$-40 \leq T_a \leq +60$	T85

Connection data

Optional specification, ID Nx, Ox = NF, NG

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

Associated intrinsically safe power supply unit with max. electrical specifications below the characteristic values of the electronic inserts

Basic specification, Position 3, 4	Power supply circuit
A7	U _i = 14.6 V I _i = 100 mA P _i = 633 mW L _i = 0 C _i = 3 nF
A8	U _i = 16 V I _i = 52 mA P _i = 170 mW L _i = 0 C _i = 30 nF
GA	U _i = 27.6 V I _i = 93 mA P _i = 640 mW L _i = 3 µH C _i = 3 nF



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