

Instruction Manual

Pulscon

**LTC50, LTC51, LTC57
PROFIBUS PA**

Control Drawing XP/DIP



**SI005720-B
116-0417**

Safety instructions for electrical apparatus for explosion-hazardous areas

SI005720-B/98/EN/02.14
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Pulscon **LTC50, LTC51, LTC57**

PROFIBUS PA

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Associated documentation

This document is an integral part of the following Operating Instructions:
BA01005O, BA01006O, BA01009O
The Operating Instructions pertaining to the device apply.

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

Device type		Basic specifications		Optional specifications
LTC5X	-	X-XXXXX-XXXXX-XX XXXXX	+	XXXXXXXXXXXX

X = 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.

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.

Basic specifications

Selected option	Position	Description	
Approval	LTC50-X-XXXXX-XXXXX- XX XXXXX FX	FM XP Cl.I Div.1 Gr.A-D	
	LTC57-X-XXXXX-XXXXX- XX XXXXX FE	FM DIP Cl.II,III Div.1 Gr.E-G	
	LTC5X-X-XXXXX-XXXXX- XX XXXXX FN	FM XP Cl.I,II,III Div.1 Gr.A-G, AEx d, NI Cl.I Div.2	
Electrical output	LTC5X-X-XXXXX-XX XX X-XX XXXXX PA	2-wire, PROFIBUS PA, switching output (PFS)	
Display, operation	LTC5X-X-XXXXX-XXXX X -XX XXXXX B	without display, via communication	
		SD02, 4-line, push-buttons and data backup function	
		SD03, 4-line, illuminated, touch control and data backup function	
Housing	LTC5X-X-XXXXX- XX XXX-XX XXXXX A2	GT20 dual compartment, alu coated	
	LTC51-X-XXXXX- XX XXX-XX XXXXX A3	GT18 dual compartment, 316L	
	LTC57-X-XXXXX- XX XXX-XX XXXXX		
Seal	LTC50-X-XXXX X -XXXXX-XX XXXXX 2	Viton, -20 °C ... 80 °C	
	LTC51-X-XXXX X -XXXXX-XX XXXXX	3	EPDM, -40 °C ... 120 °C
		4	Kalrez, -20 °C ... 200 °C
		5	Viton, -30 °C ... 150 °C
	LTC57-X-XXXX X -XXXXX-XX XXXXX 3	EPDM, -40 °C ... 120 °C	
5	Viton, -30 °C ... 150 °C		

Optional specifications

Selected option	Position	Description
Probe design	XXXXXXXX XXXX B	Sensor remote, 3 m cable, detachable, with mounting bracket

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)
- 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.
- Modifications to the device can affect the explosion protection and must be carried out by staff authorized to perform such work by Pepperl+Fuchs.

Safety instructions:
Special conditions

Permitted ambient temperature range at the electronics housing: $-40\text{ °C} \leq T_{\text{amb}} \leq +80\text{ °C}$.

- Observe the information in the temperature tables.
- Use supply wires suitable for 20 K above the ambient temperature.

Electrostatic/impact sparks

- Warning: Avoid electrostatic charging of the plastic surfaces, for plastic process connections or plastic coatings.
- Warning: Install the device to exclude impact and friction sparks on the aluminum housing.

Device type LTC57

- The probes (rod and rope) with plastic coated surfaces can be electrostatically charged.

**Safety instructions:
Installation**

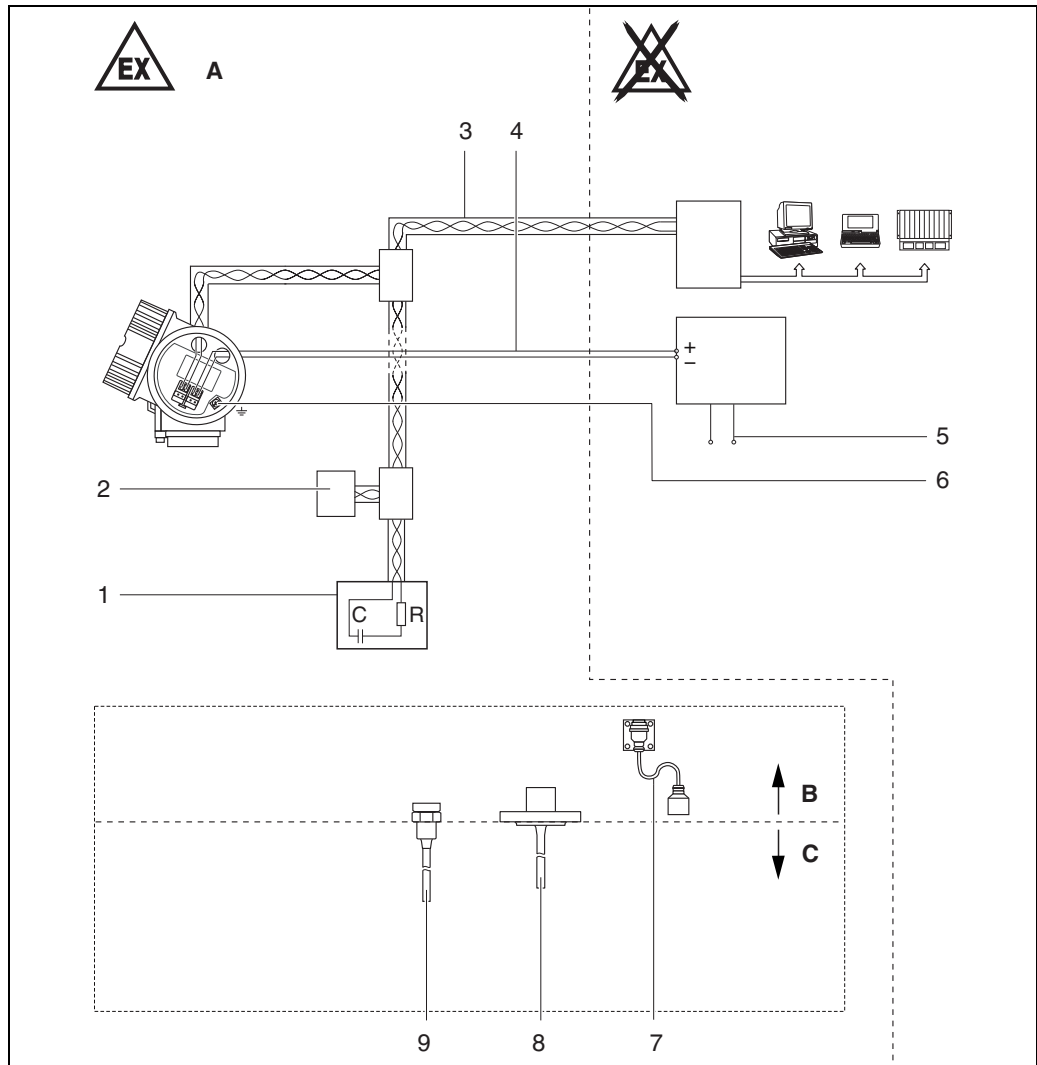


Figure 1

- A Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Class III
Housing: Class I, Zone 1
Probe: Class I, Zone 0
- B Zone 1
- C Zone 0

- 1 Any FM-approved explosionproof fieldbus termination suitable for the location
- 2 Any FM-approved explosionproof fieldbus device suitable for the location
- 3 Fieldbus
- 4 Output PFS passive
- 5 Supply
- 6 Ground stud
- 7 Remote cable
- 8 Flanges acc. international standards DN40 ... DN200, resp. 1-1/2 in to 8 in
- 9 G/NPT3/4 in, G/NPT1-1/2 in

Option:
Interconnection with CSA certified service interface.

Note!

Transmitter provides intrinsically safe circuits for probes.

**Explosionproof/
Flameproof**

- Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Class III
Class I, Zone 1, AEx d [ia] IIC/Ex d [ia] IIC
- Install as per National Electrical Code (NFPA70) or Canadian Electrical Code, Part I (C22.1), as applicable.
 - For maximum supply voltage see "Connection data" section.
 - Control room equipment may not use or generate over 250 V_{rms}.
 - Seal unused entries with approved plugs that correspond to the type of protection. The plastic transport sealing plug does not meet this requirement and must therefore be replaced during installation.
 - Probe is intrinsically safe, AEx ia/Ex ia, and suitable for installation in Class I, II, III, Div. 1 or Class I, Zone 0/1.
 - Warning: Substitution of components may impair intrinsic safety.
- Factory sealed
- Explosionproof conduit seal not required for terminal compartment.
- Terminal compartment:
- Warning: Do not open when explosive atmosphere is present.
- For Class II and III:
- Keep covers tight unless power has been switched off.
 - Use a dust-tight seal at the conduit entry in a Class II and III location.

Class I, Div. 2, Groups A-D

Only for device type LTC5X, basic specification, option "Approval" = FN
Device type LTC50, basic specification, option "Approval" = FX is not marked for use in Class I, Division 2; however, these devices are suitable for this application when installed using the explosionproof instructions for Class I, Division 1.

Standard Wiring installation (only for NPT conduit entries)

- Install per National Electrical Code (NFPA 70) 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.
 - Probe is intrinsically safe, AEx ia/Ex ia, and suitable for installation in Class I, II, III, Div. 1 or Class I, Zone 0/1.
 - Warning: Explosion hazard – Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
 - Warning: Substitution of components may impair suitability for Class I, Div. 2.
- Factory sealed
- Explosionproof conduit seal not required for terminal compartment.

Process seals

The following models 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, option "Approval"	MWP *	Method of annunciation
LTC50	FX	6 bars	Process fluid leakage through vent located in electronics compartment.
LTC57	FN		
LTC51	FN	40 bars	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.

* MWP = Maximum Working Pressure for the dual seal rating to be effective and may be a value less than the MWP for the device.

Connection data

Basic specification, option "Approval" = FE, FN, FX
Connection compartment AEx d/Ex d

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

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

Table for the PFS serial resistance (R_V)

Power consumption	1.0 W
Total power consumption	1.88 W
Internal resistance R_i	760 Ω

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

Note!

For values associated with a higher or lower internal power consumption please contact Pepperl+Fuchs.

Basic specification, option "Electrical output" = PA (TRC [27])

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

Electronics compartment, intrinsically safe (AEx ia/Ex ia)

Service interface (CDI)

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

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



Temperature tables

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General notes

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

Note!

Observe the permitted temperature range at the probe.

Selection table

Approval		Housing	
FE	FM DIP Cl.II,III Div.1 Gr.E-G	A2	GT20 dual compartment, Alu coated
FN	FM XP Cl.I,II,III Div.1 Gr.A-G, AEx d, NI Cl.I Div.2	A3	GT18 double compartment, 316L
FX	FM XP Cl.I Div.1 Gr.A-D		

Electrical output	Transmission code of the terminal module	Channels
PA	2-wire, PROFIBUS PA, switching output (PFS)	TRC [27]
		1 or 2 channels used

Diagram

Example diagrams to the temperature tables

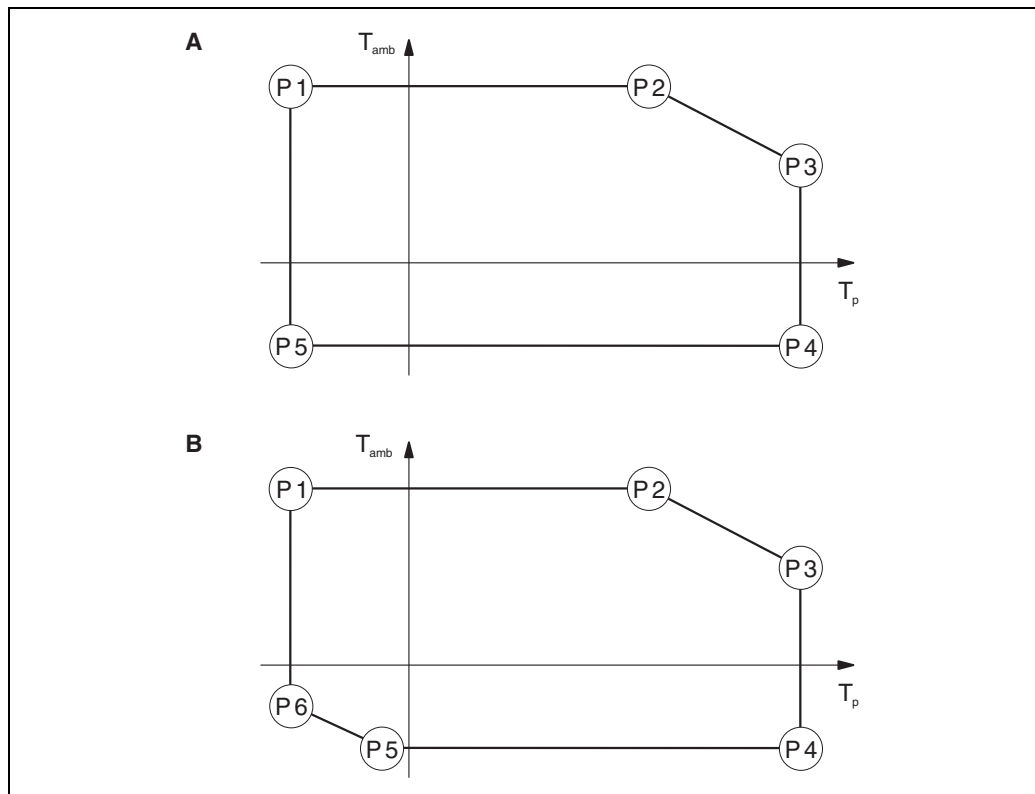


Figure 1

- A Version 1
- B Version 2

T_{amb} Ambient temperature
 T_p Process temperature

Explosionproof/AEx d [ia]/Ex d [ia]

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

LTC50

Electrical output = PA (TRC [27])

Housing = A2													
Electrical output	Temperature class	P 1		P 2		P 3		P 4		P 5		P 6	
		T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
1 channel used	T6 (85 °C)	-20 °C	60 °C	60 °C	60 °C	80 °C	56 °C	80 °C	-20 °C	-20 °C	-20 °C	-	-
2 channels used	T6 (85 °C)	-20 °C	60 °C	60 °C	60 °C	80 °C	56 °C	80 °C	-20 °C	-20 °C	-20 °C	-	-

LTC51

Electrical output = PA (TRC [27])

Housing = A2													
Electrical output	Temperature class	P 1		P 2		P 3		P 4		P 5		P 6	
		T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
1 channel used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	53 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	68 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	80 °C	80 °C	80 °C	135 °C	69 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	80 °C	80 °C	80 °C	200 °C	56 °C	200 °C	-40 °C	-40 °C	-40 °C	-	-
2 channels used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	53 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	68 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	75 °C	75 °C	75 °C	135 °C	63 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	75 °C	75 °C	75 °C	200 °C	50 °C	200 °C	-40 °C	-40 °C	-40 °C	-	-

Housing = A3													
Electrical output	Temperature class	P 1		P 2		P 3		P 4		P 5		P 6	
		T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
1 channel used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	51 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	66 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	80 °C	80 °C	80 °C	135 °C	67 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	80 °C	80 °C	80 °C	200 °C	48 °C	200 °C	-40 °C	-40 °C	-40 °C	-	-
2 channels used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	51 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	66 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	75 °C	75 °C	75 °C	135 °C	61 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	75 °C	75 °C	75 °C	200 °C	45 °C	200 °C	-40 °C	-40 °C	-40 °C	-	-

Explosionproof/AEx d [ia]/Ex d [ia]

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

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

LTC57

Electrical output = PA (TRC [27])

Housing = A2													
Electrical output	Temperature class	P 1		P 2		P 3		P 4		P 5		P 6	
		T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
1 channel used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	55 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	70 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	80 °C	80 °C	80 °C	135 °C	71 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	80 °C	80 °C	80 °C	185 °C	64 °C	185 °C	-40 °C	-40 °C	-40 °C	-	-
2 channels used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	55 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	70 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	75 °C	75 °C	75 °C	135 °C	65 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	75 °C	75 °C	75 °C	185 °C	58 °C	185 °C	-40 °C	-40 °C	-40 °C	-	-

Housing = A3													
Electrical output	Temperature class	P 1		P 2		P 3		P 4		P 5		P 6	
		T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
1 channel used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	53 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	68 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	80 °C	80 °C	80 °C	135 °C	69 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	80 °C	80 °C	80 °C	185 °C	60 °C	185 °C	-40 °C	-40 °C	-40 °C	-	-
2 channels used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	53 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	68 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	75 °C	75 °C	75 °C	135 °C	63 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	75 °C	75 °C	75 °C	185 °C	54 °C	185 °C	-40 °C	-40 °C	-40 °C	-	-

LTC5X

optional specification, option "Probe design" = B

Electrical output = PA (TRC [27])

Housing = A2, A3													
Electrical output	Temperature class	P 1		P 2		P 3		P 4		P 5		P 6	
		T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
1 channel used	T6 (85 °C)	-	60 °C	-	60 °C	-	60 °C	-	-40 °C	-	-40 °C	-	-
	T5 (100 °C)	-	75 °C	-	75 °C	-	75 °C	-	-40 °C	-	-40 °C	-	-
2 channels used	T6 (85 °C)	-	60 °C	-	60 °C	-	60 °C	-	-40 °C	-	-40 °C	-	-
	T5 (100 °C)	-	75 °C	-	75 °C	-	75 °C	-	-40 °C	-	-40 °C	-	-

T_p = dependent on the sensor

Standard Division 2 Wiring

Probe: Class I, Zone 0 or Zone 1/Class I, Division 1 or Division 2
Electronics housing: Class I, Division 2

LTC50

Electrical output = PA (TRC [27])

Housing = A2													
Electrical output	Temperature class	P 1		P 2		P 3		P 4		P 5		P 6	
		T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
1 channel used	T6 (85 °C)	-20 °C	60 °C	60 °C	60 °C	80 °C	56 °C	80 °C	-20 °C	-20 °C	-20 °C	-	-
2 channels used	T6 (85 °C)	-20 °C	60 °C	60 °C	60 °C	80 °C	56 °C	80 °C	-20 °C	-20 °C	-20 °C	-	-

LTC51

Electrical output = PA (TRC [27])

Housing = A2													
Electrical output	Temperature class	P 1		P 2		P 3		P 4		P 5		P 6	
		T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
1 channel used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	53 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	68 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	80 °C	80 °C	80 °C	135 °C	69 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	80 °C	80 °C	80 °C	200 °C	56 °C	200 °C	-40 °C	-40 °C	-40 °C	-	-
2 channels used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	53 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	68 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	75 °C	75 °C	75 °C	135 °C	63 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	75 °C	75 °C	75 °C	200 °C	50 °C	200 °C	-40 °C	-40 °C	-40 °C	-	-

Housing = A3													
Electrical output	Temperature class	P 1		P 2		P 3		P 4		P 5		P 6	
		T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
1 channel used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	51 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	66 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	80 °C	80 °C	80 °C	135 °C	67 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	80 °C	80 °C	80 °C	200 °C	48 °C	200 °C	-40 °C	-40 °C	-40 °C	-	-
2 channels used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	51 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	66 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	75 °C	75 °C	75 °C	135 °C	61 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	75 °C	75 °C	75 °C	200 °C	45 °C	200 °C	-40 °C	-40 °C	-40 °C	-	-

Standard Division 2 Wiring

**Probe: Class I, Zone 0 or Zone 1/Class I, Division 1 or Division 2
Electronics housing: Class I, Division 2**

LTC57

Electrical output = PA (TRC [27])

Housing = A2													
Electrical output	Temperature class	P 1		P 2		P 3		P 4		P 5		P 6	
		T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
1 channel used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	55 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	70 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	80 °C	80 °C	80 °C	135 °C	71 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	80 °C	80 °C	80 °C	185 °C	64 °C	185 °C	-40 °C	-40 °C	-40 °C	-	-
2 channels used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	55 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	70 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	75 °C	75 °C	75 °C	135 °C	65 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	75 °C	75 °C	75 °C	185 °C	58 °C	185 °C	-40 °C	-40 °C	-40 °C	-	-

Housing = A3													
Electrical output	Temperature class	P 1		P 2		P 3		P 4		P 5		P 6	
		T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
1 channel used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	53 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	68 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	80 °C	80 °C	80 °C	135 °C	69 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	80 °C	80 °C	80 °C	185 °C	60 °C	185 °C	-40 °C	-40 °C	-40 °C	-	-
2 channels used	T6 (85 °C)	-40 °C	60 °C	60 °C	60 °C	85 °C	53 °C	85 °C	-40 °C	-40 °C	-40 °C	-	-
	T5 (100 °C)	-40 °C	75 °C	75 °C	75 °C	100 °C	68 °C	100 °C	-40 °C	-40 °C	-40 °C	-	-
	T4 (135 °C)	-40 °C	75 °C	75 °C	75 °C	135 °C	63 °C	135 °C	-40 °C	-40 °C	-40 °C	-	-
	T3 (200 °C)	-40 °C	75 °C	75 °C	75 °C	185 °C	54 °C	185 °C	-40 °C	-40 °C	-40 °C	-	-

LTC5X

optional specification, option "Probe design" = B

Electrical output = PA (TRC [27])

Housing = A2, A3													
Electrical output	Temperature class	P 1		P 2		P 3		P 4		P 5		P 6	
		T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}	T _p	T _{amb}
1 channel used	T6 (85 °C)	-	60 °C	-	60 °C	-	60 °C	-	-40 °C	-	-40 °C	-	-
	T5 (100 °C)	-	80 °C	-	80 °C	-	80 °C	-	-40 °C	-	-40 °C	-	-
2 channels used	T6 (85 °C)	-	59 °C	-	59 °C	-	59 °C	-	-40 °C	-	-40 °C	-	-
	T5 (100 °C)	-	74 °C	-	74 °C	-	74 °C	-	-40 °C	-	-40 °C	-	-

T_p = dependent on the sensor

Probe and electronics housing: Class II, III, Division 1

Electrical output = PA (TRC [27])

Housing = A2, A3	
1 channel used	2 channels used
T = T _{amb} + 5 K	T = T _{amb} + 20 K

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