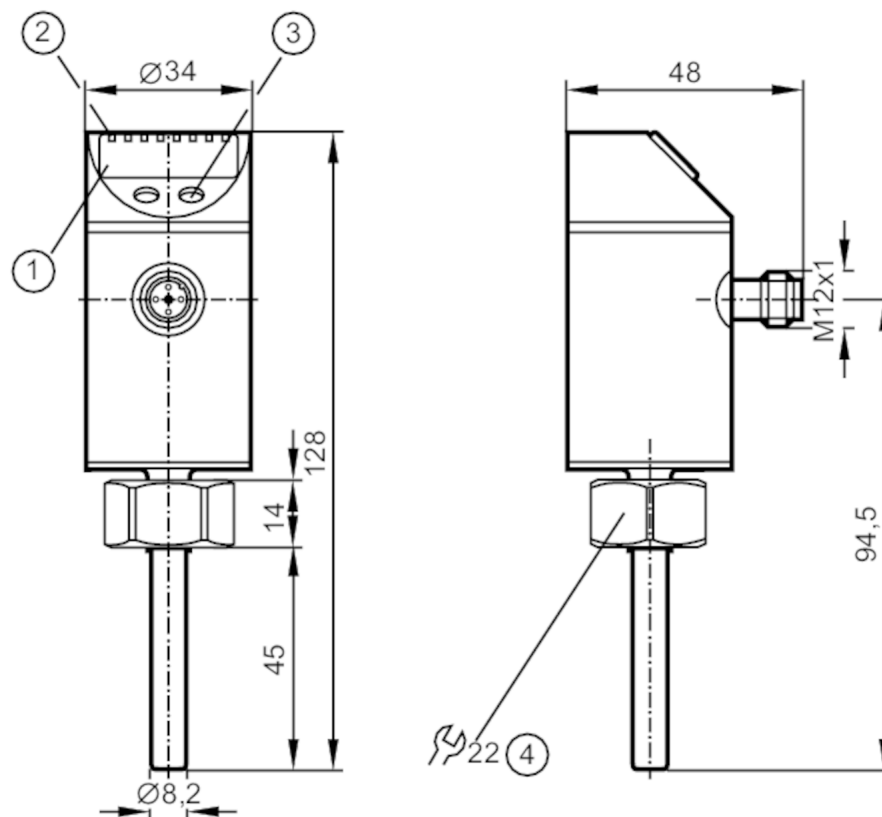


TN7531



Temperature sensor with display

TN-013KBBD10-QFPKG/US/ IV



- 1 alphanumeric display 4-digit
- 2 status LEDs
- 3 programming button
- 4 internal thread M18 x 1.5



Application

Measuring element	1 x Pt 1000; (to DIN EN 60751, class B)
Media	liquids and gases
Pressure rating [bar]	300
Minimum installation depth [mm]	12

Electrical data

Operating voltage [V]	18...32 DC; ("supply class 2" to cULus)
Current consumption [mA]	< 50
Protection class	III
Reverse polarity protection	yes
Power-on delay time [s]	1
Integrated watchdog	yes

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 2
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Temperature sensor with display

TN-013KBBD10-QFPKG/US/ IV

Outputs			
Total number of outputs		2	
Output signal		switching signal; IO-Link; (configurable)	
Electrical design		PNP/NPN	
Number of digital outputs		2	
Output function		normally open / normally closed; (parameterisable)	
Max. voltage drop switching output DC	[V]	2	
Permanent current rating of switching output DC	[mA]	250	
Short-circuit protection		yes	
Type of short-circuit protection		pulsed	
Overload protection		yes	
Measuring/setting range			
Probe length L	[mm]	45	
Measuring range		-40...150 °C	-40...302 °F
Set point SP		-39.5...150 °C	-39...302 °F
Reset point rP		-40...149.5 °C	-40...301 °F
In steps of		0.1 °C	0.1 °F
Resolution			
Resolution of switching output	[K]	0.1	
Resolution of display	[K]	0.1	
Accuracy / deviations			
Switch point accuracy	[K]	± 0,3	
Display accuracy	[K]	± 0,3	
Temperature drift per 10 K	[K]	0.1	
Response times			
Dynamic response T05 / T09	[s]	1 / 3; (to DIN EN 60751)	
Interfaces			
Transmission type		COM2 (38,4 kBaud)	
IO-Link revision		1.0	
Operating conditions			
Ambient temperature	[°C]	-25...70	
Storage temperature	[°C]	-40...100	
Protection		IP 67	
Tests / approvals			
EMC		DIN EN 61000-4-2 ESD	4 kV CD / 8 kV AD
		EN 61000-4-3 HF radiated	10 V/m
		DIN EN 61000-4-4 Burst	2 kV
		DIN EN 61000-4-5 Surge	1 kV
		EN 61000-4-6 HF conducted	10 V
Shock resistance		DIN IEC 68-2-27	50 g (11 ms)
Vibration resistance		DIN EN 60068-2-6	20 g (10...2000 Hz)
MTTF	[years]	242	

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Mechanical data		
Weight	[g]	212.6
Housing		for adapter
Materials		stainless steel (1.4301 / 304); EPDM/X; CO-PC; PBT; FKM; PA
Materials (wetted parts)		stainless steel (1.4404 / 316L); O-ring: FKM 80 Shore A
Process connection		threaded connection M18 x 1,5 internal thread
Installation length EL	[mm]	45

Displays / operating elements		
Display	Display unit	2 x LED, green
	switching status	2 x LED, yellow
	measured values	alphanumeric display, 4-digit
	programming	alphanumeric display, 4-digit

Remarks	
Remarks	The values for accuracy apply to flowing water.
Notes	discontinued article
Pack quantity	1 pcs.

Electrical connection

Connector: 1 x M12; Contacts: gold-plated



Connection

