TN2530

Temperature sensor with display

TN-013KBBD10-MFP

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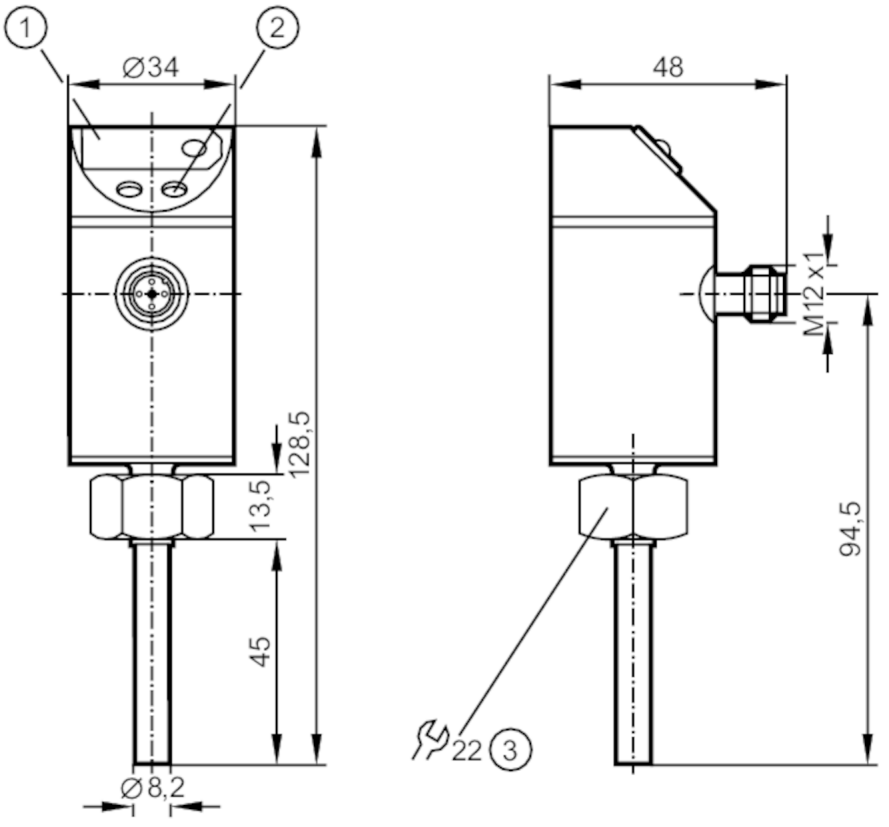

1 7-segment LED display
2 programming button
3 internal thread M18 x 1.5

Product characteristics			
Number of inputs and outputs		Number of digital outputs: 1; Number of analogue outputs: 1	
Measuring range		-40...125 °C	-40...257 °F
Process connection		threaded connection M18 x 1,5 internal thread	
Application			
Special feature		Gold-plated contacts	
Measuring element		1 x Pt 1000; (to DIN EN 60751, class B)	
Media		liquids and gases	
Pressure rating	[bar]	300	
Minimum installation depth	[mm]	15	

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Electrical data			
Operating voltage	[V]	20...30 DC	
Current consumption	[mA]	< 66	
Min. insulation resistance	[MΩ]	100; (500 V DC)	
Protection class		III	
Reverse polarity protection		yes	
Power-on delay time	[s]	1.5	
Integrated watchdog		yes	
Inputs / outputs			
Number of inputs and outputs		Number of digital outputs: 1; Number of analogue outputs: 1	
Outputs			
Total number of outputs		2	
Output signal		switching signal; analogue signal; (configurable)	
Electrical design		PNP	
Number of digital outputs		1	
Output function		normally open / normally closed; (parameterisable)	
Max. voltage drop switching output DC	[V]	2	
Permanent current rating of switching output DC	[mA]	250	
Number of analogue outputs		1	
Analogue current output	[mA]	4...20	
Max. load	[Ω]	500	
Analogue voltage output	[V]	0...10	
Min. load resistance	[Ω]	2000	
Short-circuit protection		yes	
Type of short-circuit protection		pulsed	
Overload protection		yes	
Measuring/setting range			
Probe length L	[mm]	45	
Measuring range		-40...125 °C	-40...257 °F
Set point SP		-39.5...125 °C	-39...257 °F
Reset point rP		-40...124.5 °C	-40...256 °F
Analogue start point		-40...115 °C	-40...239 °F
Analogue end point		-30...125 °C	-22...257 °F
In steps of		0.5 °C	1 °F
Resolution			
Resolution of switching output	[K]	0.5	
Resolution of analogue output	[K]	0.125	
Resolution of display	[K]	0.5	

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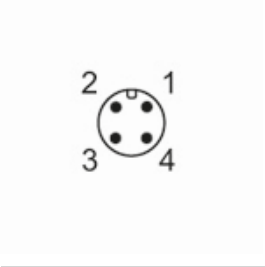
Accuracy / deviations			
Switch point accuracy	[K]	± (Pt 1000 + 0,2 K)	
Precision analogue output	[K]	± (Pt 1000 + 0,2 K + 0,4%)	
Display accuracy	[K]	± (Pt 1000 + 0,2 K + 1/2 Digit)	
Temperature drift per 10 K	[K]	0.1	
Response times			
Dynamic response T05 / T09	[s]	1 / 3; (to DIN EN 60751)	
Max. measuring/display cycle	[ms]	200	
Software / programming			
Adjustment of the switch point		programming button	
Parameter setting options		hysteresis / window; normally open / normally closed; min/max memory reset; Display unit; zero-point calibration; analogue output selectable and scalable	
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
		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)
Mechanical data			
Housing		compact type for adapter	
Materials		stainless steel (1.4301 / 304); PBT; PC; EPDM/X; FKM	
Materials (wetted parts)		stainless steel (1.4404 / 316L)	
Process connection		threaded connection M18 x 1,5 internal thread	
Displays / operating elements			
Display		switching status	LED, red
		function display	7-segment LED display
		measured values	7-segment LED display
Remarks			
Remarks		The values for accuracy apply to flowing water.	
Pack quantity		1 pcs.	

Electrical connection

Connector: 1 x M12; Contacts: gold-plated



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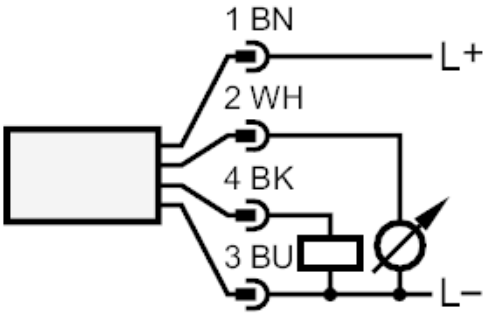
Connection



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