



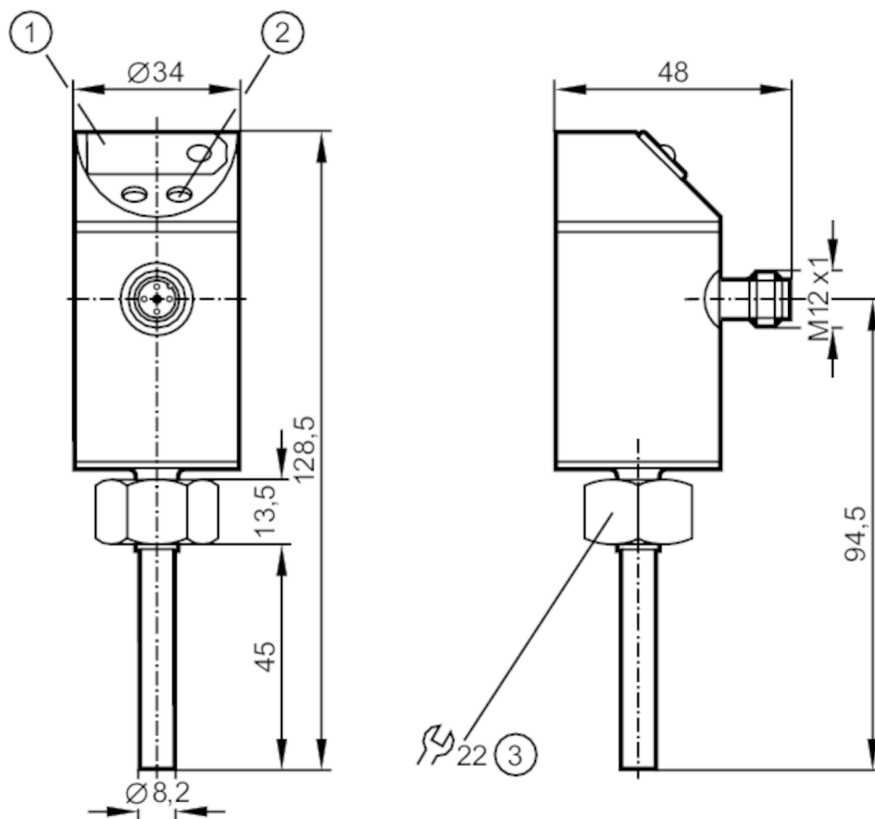
Temperature sensor with display

TN-013KBBBD10-MFP

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Alternative articles: TN2511

When selecting an alternative article and accessories please note that technical data may differ!



- 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	

Electrical data

Operating voltage [V]	20...30 DC	
Current consumption [mA]	< 66	



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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
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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

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 + ½ Digit)
Temperature drift per 10 K	[K]	0.1



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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; coding: A; Contacts: gold-plated		
		

TN2530



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Connection

