

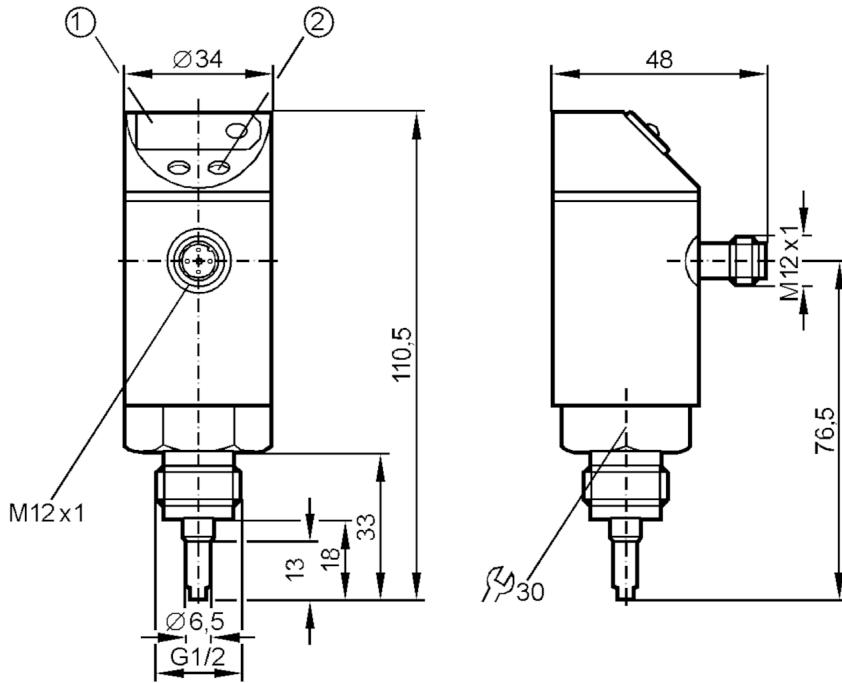
Temperature sensor with display

TN-013KBBR12-MFPKG/US /V

Article no longer available - archive entry

Alternative articles: TN2511 + E40096

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



- 1 7-segment LED display
2 Programming button



Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1	
Measuring range	-40...125 °C	-40...257 °F
Process connection	threaded connection G 1/2 external thread	

Application

System	gold-plated contacts	
Measuring element	1 x Pt 1000; (to DIN EN 60751, class B)	
Media	Liquids	
Pressure rating	[bar]	400
Minimum installation depth	[mm]	15

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

TN2430



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Inputs / outputs		
Number of inputs and outputs		Number of digital outputs: 1; Number of analog outputs: 1
Outputs		
Total number of outputs		2
Output signal		switching signal; analog signal; (configurable)
Electrical design		PNP
Number of digital outputs		1
Output function		normally open / closed; (configurable)
Max. voltage drop switching output DC	[V]	2
Permanent current rating of switching output DC	[mA]	250
Number of analog outputs		1
Analog current output	[mA]	4...20
Max. load	[Ω]	500
Analog voltage output	[V]	0...10
Min. load resistance	[Ω]	2000
Short-circuit protection		yes
Type of short-circuit protection		yes (non-latching)
Overload protection		yes
Measuring/setting range		
Measuring range	-40...125 °C	-40...257 °F
Set point SP	-39.5...125 °C	-39.5...257 °F
Reset point rP	-40...124.5 °C	-40...256 °F
In steps of	0.5 °C	1 °F
Resolution		
Resolution of switching output	[K]	0.5
Resolution of analog output	[K]	0.125
Resolution of display	[K]	0.5
Accuracy / deviations		
Switch point accuracy	[K]	0,2 + 0,2%
Precision analog 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
Reaction times		
Dynamic response T05 / T09	[s]	5 / 20; (according 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 / closed; min/max memory reset; Display unit; zero-point calibration; analog output selectable and scalable

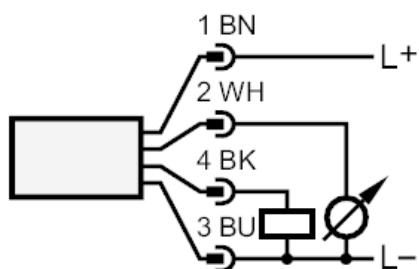
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Operating conditions		
Ambient temperature	[°C]	-25...70
Storage temperature	[°C]	-40...100
Protection		IP 67
Tests / approvals		
EMC	DIN EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	DIN EN 61000-4-4 Burst	2 kV
	EN 61000-4-6 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		
Material	stainless steel (1.4301 / 304); PBT; PC; EPDM/X; FKM	
Materials (wetted parts)	stainless steel (1.4305 / 303)	
Process connection	threaded connection G 1/2 external 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		
Connection		



Connector: 1 x M12; Contacts: gold-plated