



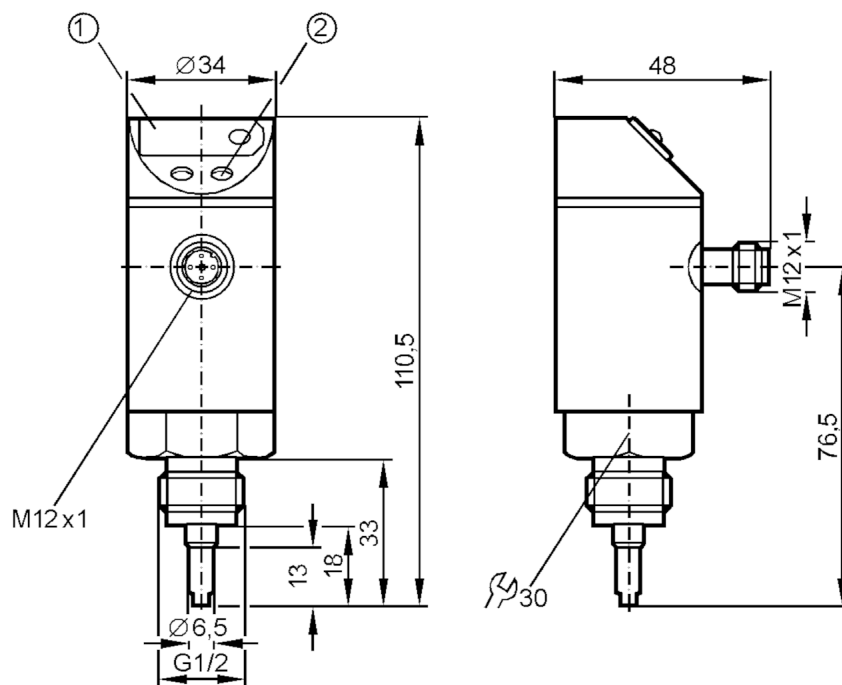
Temperature sensor with display

TN-013KBBR12-MFPKG/US/ IV

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 analogue outputs: 1	
Measuring range	-40...125 °C	-40...257 °F
Process connection	threaded connection G 1/2 external thread	

Application

Special feature	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	



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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		
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 analogue output [K]	0.125	
Resolution of display [K]	0.5	
Accuracy / deviations		
Switch point accuracy [K]	0,2 + 0,2%	
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	
Response times		
Dynamic response T05 / T09 [s]	5 / 20; (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	

TN2430



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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

Materials	stainless steel (304/1.4301); PBT; PC; EPDM/X; FKM
Materials (wetted parts)	stainless steel (303/1.4305)
Process connection	threaded connection G 1/2 external thread

Displays / operating elements

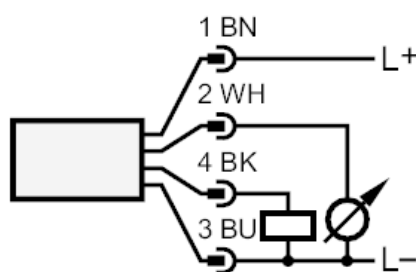
Display	switching status	LED, red
	function display	7-segment LED display
	measured values	7-segment LED display

Remarks

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

Electrical connection

Connection



Connector: 1 x M12; Contacts: gold-plated