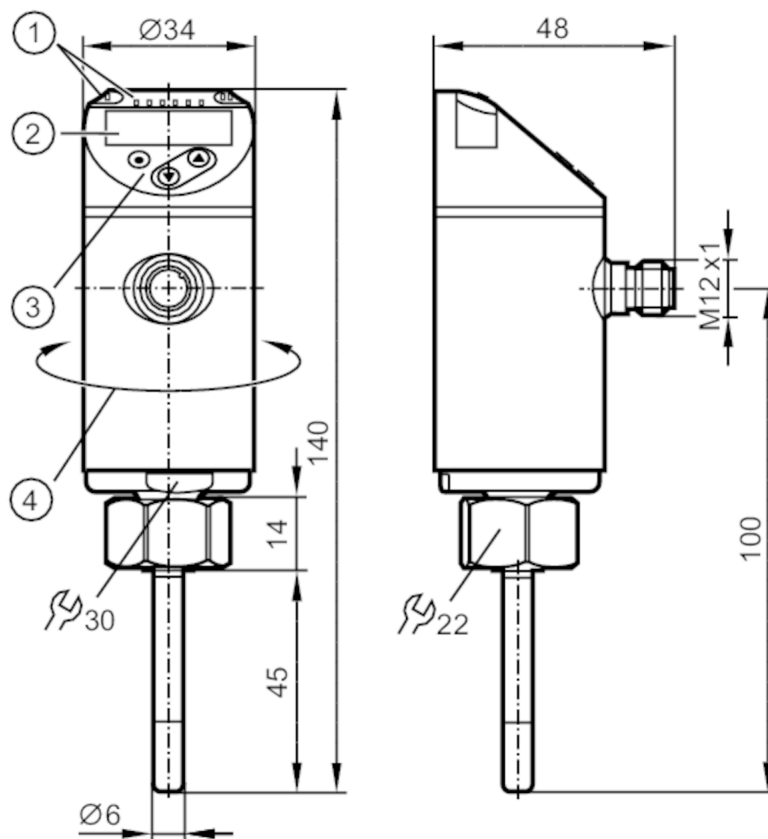


TN7511



Temperature sensor with display

TN-045KCB18-QFPKG/US/



- 1 LEDs Display unit / switching status
- 2 alphanumeric display 4-digit red/green
- 3 programming buttons
- 4 upper part of the housing can be rotated 345°



Application

Measuring element	1 x Pt 1000; (to DIN EN 60751, class A)
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-045KCB18-QFPKG/US/

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]	2.5	
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		-50...150 °C	-58...302 °F
Set point SP		-49.8...150 °C	-57.6...302 °F
Reset point rP		-50...149.8 °C	-58...301.6 °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 + (± 0,1 % MS)	
Display accuracy	[K]	± 0,3 + (± 0,1 % MS)	
Temperature coefficient [% of the span / 10 K]		0,1; (in case of deviation from the reference condition 25 ± 5 °C)	
Response times			
Dynamic response T05 / T09	[s]	1 / 3; (to DIN EN 60751)	
Software / programming			
Parameter setting options		hysteresis / window; normally open / normally closed; switch-on/ switch-off delay; Damping; Display unit; current/voltage output	
Interfaces			
Communication interface		IO-Link	
Transmission type		COM2 (38,4 kBaud)	
IO-Link revision		1.1	
Operating conditions			
Ambient temperature	[°C]	-25...80	
Storage temperature	[°C]	-40...100	
Protection		IP 67	

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Tests / approvals		
EMC	DIN EN 61000-6-2	
	DIN EN 61000-6-3	
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]	254	
UL approval	UL Approval no.	K014
Mechanical data		
Weight [g]	204	
Housing	compact type for adapter	
Materials	stainless steel (1.4404 / 316L); PBT+PC-GF30; PBT-GF20; PC	
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	LED, yellow
	measured values	alphanumeric display, red/green 4-digit
Remarks		
Remarks	MS = set measuring span	
	The values for accuracy apply to flowing water.	
	operating voltage "supply class 2" according to cULus	
Pack quantity	1 pcs.	
Electrical connection		
Connector: 1 x M12; Contacts: gold-plated		
		

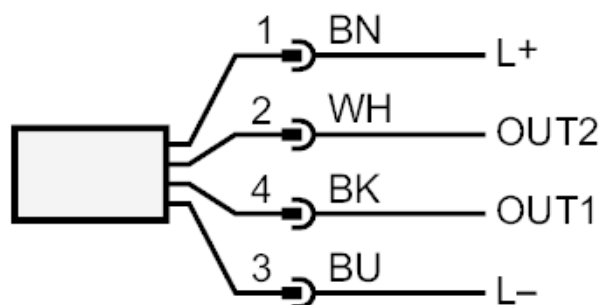
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Temperature sensor with display

TN-045KCBD18-QFPKG/US/

Connection



OUT1: switching output / IO-Link

OUT2: switching output

colours to DIN EN 60947-5-2

Core colours :

BK = black

BN = brown

BU = blue

WH = white