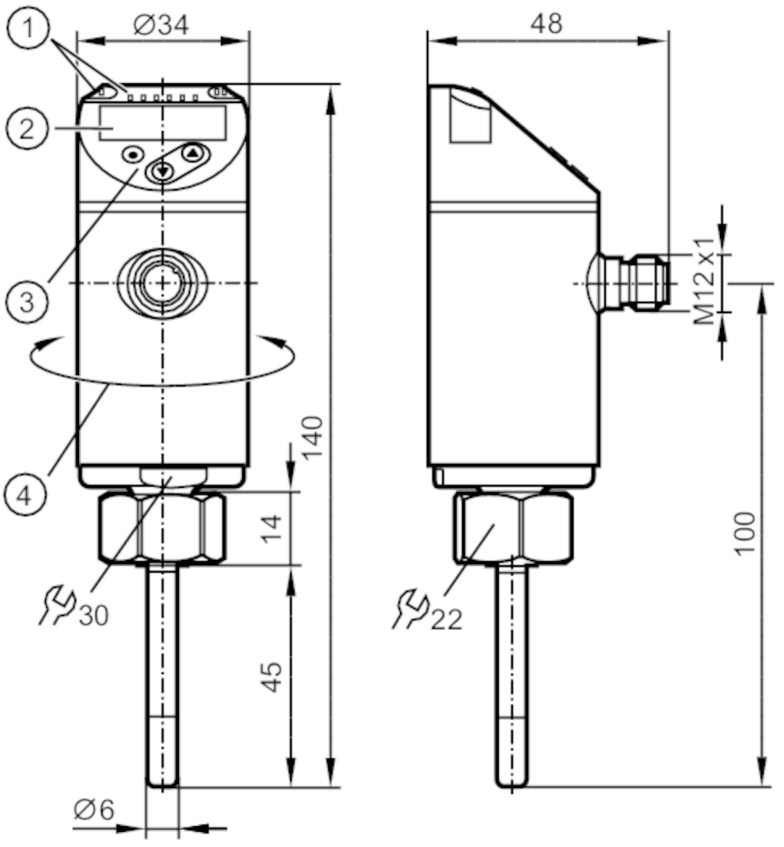
TN7511

Temperature sensor with display

TN-045KCBD18-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°

Product characteristics			
Number of inputs and outputs		Number of digital outputs: 2	
Measuring range		-50...150 °C	-58...302 °F
Process connection		threaded connection M18 x 1,5 Internal thread	
Installation length EL	[mm]	45	
Application			
System		gold-plated contacts	
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	

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Electrical data			
Operating voltage	[V]	18...32 DC; (cULus - Class 2 source required)	
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	
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 / closed; (configurable)	
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		yes (non-latching)	
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)	
Reaction times			
Dynamic response T05 / T09	[s]	1 / 3; (according to DIN EN 60751)	
Software / programming			
Parameter setting options		hysteresis / window; normally open / closed; switch-on/ switch-off delay; Damping; Display unit; current/voltage output	

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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	
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 number	K014
Mechanical data			
Weight	[g]	204	
Housing		Compact type for adapter	
Material		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.	
		cULus - Class 2 source required	
Pack quantity		1 pcs.	

Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated

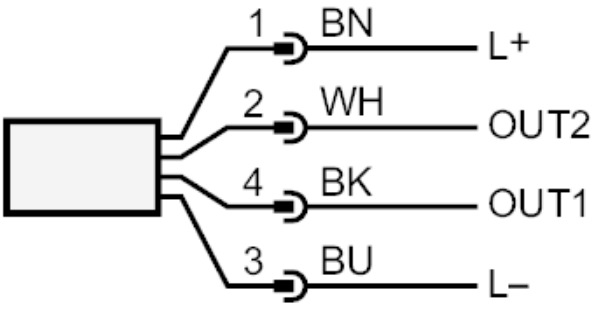


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Connection



OUT1:	Switching output / IO-Link
OUT2:	Switching output
	Colors to DIN EN 60947-5-2
	Core colors :
BK =	black
BN =	brown
BU =	blue
WH =	white