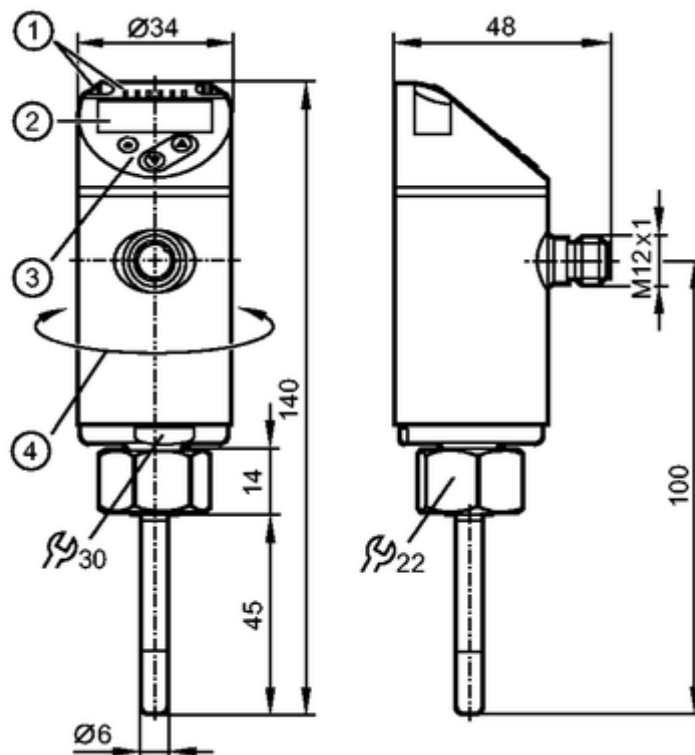


efector600**TN2511**

TN-045KCBD18-MFPKG/US/

Temperature sensors



- 1: LEDs (display unit / switching status)
 2: 4-digit alphanumeric display / alternating indication of red and green
 3: Programming buttons
 4: Upper part of the housing can be rotated by 345°

**Product characteristics**

Electronic temperature sensor

Compact type for adapter

Quick disconnect

Process connection: internal thread M18 x 1.5 for adapter

Installation length EL: 45 mm

Switching output, analog output 4...20 mA or 0...10 V

4-digit alphanumeric display

Measuring range: -50...150 °C / -58...302 °F

Measuring element: 1 x Pt 1000, to DIN EN 60751, class A

Factory setting: -40...150 °C / -40...302 °F

Application

Application	liquids and gases
Pressure rating [bar]	300
Minimum installation depth [mm]	12

Electrical data

Electrical design	DC PNP/NPN
Operating voltage [V]	18...32 DC; cULus - Class 2 source required

Current consumption [mA]	< 50	
Protection class	III	
Reverse polarity protection	yes	
Outputs		
Output	Switching output, analog output 4...20 mA or 0...10 V	
Output function	1 x normally open / closed programmable + 1 x analog (4...20 mA / 0...10 V, scalable)	
Current rating [mA]	250	
Voltage drop [V]	< 2.5	
Short-circuit protection	yes (non-latching)	
Overload protection	yes	
Analog output	4...20 mA / 0...10 V	
Max. load [Ω]	4...20 mA: 500	
Min. load [Ω]	0...10 V: 2000	
Measuring / setting range		
Measuring range	-50...150 °C	-58...302 °F
Factory setting	-40...150 °C / -40...302 °F	
Setting range		
Set point, SP	-49.8...150 °C	-57.6...302 °F
Reset point, rP	-50...149.8 °C	-58...301.6 °F
Analog start point, ASP	-50...145 °C	-58...293 °F
Analog end point, AEP	-45...150 °C	-49...302 °F
in steps of	0.1 °C	0.1 °F
Resolution		
Switching output [K]	0.1	
Analog output [K]	MS / 4096 *) MS / 3561 **)	
Display [K]	0.1	
Accuracy / deviations		
Switch point accuracy [K]	$\pm 0.3 + (\pm 0.1 \% \text{ MS})$	
Analog output [K]	$\pm 0.3 + (\pm 0.1 \% \text{ MS})$	
Display [K]	$\pm 0.3 + (\pm 0.1 \% \text{ MS})$	
Temperature coefficients (in % of the span per 10 K)	0.1	
Reaction times		
Power-on delay time [s]	1	
Dynamic response T05 / T09 [s]	1 / 3 ***)	
Integrated watchdog	yes	
Software / programming		
Programming options	hysteresis / window function; NO / NC; output polarity; on delay, off delay; damping; display unit	
Interfaces		
IO-Link Device		
Transfer type	COM2 (38.4 kBaud)	
IO-Link revision	1.1	
Environment		
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]		470
UL approval number		K013

Mechanical data

Process connection	internal thread M18 x 1.5 for adapter	
Materials (wetted parts)	stainless steel (316L / 1.4404); O-ring: FKM 8 x 1.5 gr 80° Shore A	
Probe length L [mm]	45	
Installation length EL [mm]	45	
Housing materials	stainless steel (316L / 1.4404); PBT+PC-GF 30; PBT-GF 20; PC	
Weight [kg]	0.206	

Displays / operating elements

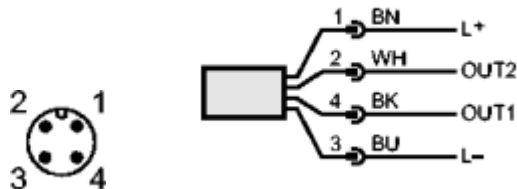
Display	Display unit	2 x LED green
	Switching status	LED yellow
	Measured values	4-digit alphanumeric display / alternating indication of red and green

Electrical connection

Connection	M12 connector; gold-plated contacts
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Wiring

Core colors
 BK black
 BN brown
 BU blue
 WH white



OUT1: switching output or IO-Link
 OUT2: Analog output
 Colours to DIN EN 60947-5-2

Remarks

Remarks	<p>*) current output **) voltage output ***) according to DIN EN 60751 MS = set measuring span The values for accuracy apply to flowing water. cULus - Class 2 source required</p>
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Pack quantity [piece]	1
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