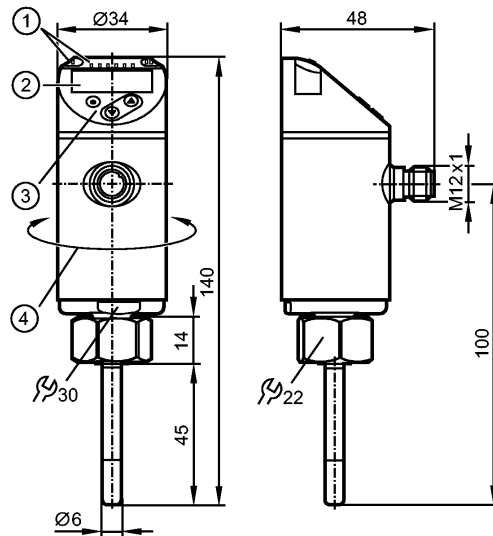


TN7511

TN-045KCBD18-QFPKG/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
Connector
Process connection: internal thread M18 x 1.5 for adapter
Installation length EL: 45 mm
2 switching outputs
4-digit alphanumeric display
Measuring range: -50...150 °C / -58...302 °F
Measuring element: 1 x Pt 1000, to DIN EN 60751, class A

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; "supply class 2" to cULus.
Current consumption [mA]	< 50
Protection class	III
Reverse polarity protection	yes

Outputs

Output	2 switching outputs
Output function	2 x normally open / closed programmable
Current rating [mA]	250
Voltage drop [V]	< 2.5
Short-circuit protection	pulsed
Overload protection	yes

TN7511

TN-045KCBD18-QFPKG/US/

Temperature sensors

Measuring / setting range		
Measuring range	-50...150 °C	-58...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
in steps of	0.1 °C	0.1 °F
Resolution		
Switching output [K]		0.1
Display [K]		0.1
Accuracy / deviations		
Switch point accuracy [K]		± 0.3 + (± 0.1 % MS)
Display [K]		± 0.3 + (± 0.1 % MS)
Temperature drift (/ 10 K)		0.1 % MS
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; on delay, off delay; damping; display unit; current/ voltage output	
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]	254	
UL approval number	K014	
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]	0.204	
Displays / operating elements		
Display	Display unit	2 x LED green
	Switching status	LED yellow

TN7511

TN-045KCBD18-QFPKG/US/

Temperature sensors

4-digit alphanumeric display / alternating indication
Measured values of red and green

Electrical connection

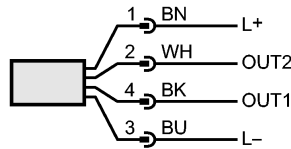
Connection

M12 connector; Gold-plated contacts

Wiring

Core colours

- BK black
- BN brown
- BU blue
- WH white



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

Remarks

Remarks

*) according to DIN EN 60751
MS = set measuring span
The values for accuracy apply to flowing water.
cULus - Class 2 source required

Pack quantity

[piece]

1