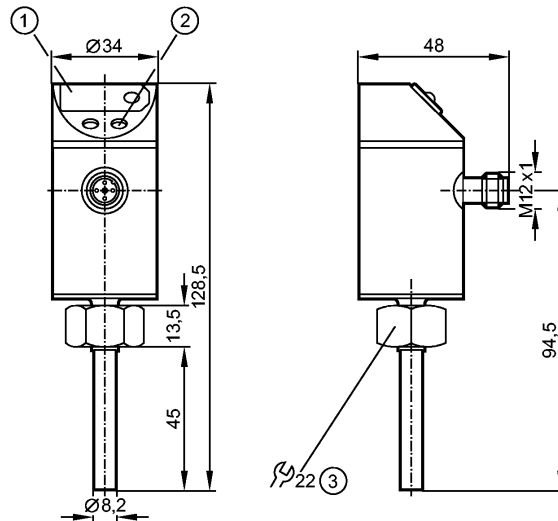




TN-013KBBD10-MFPKG/US/ IV

Temperature sensors



- 1: 7-segment LED display
 2: Programming button
 3: internal thread M18 x 1.5



Product characteristics

Electronic temperature sensor

Compact type for adapter

Quick disconnect

Process connection: internal thread M18 x 1.5 for adapter

gold-plated contacts

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

7-segment LED display

Measuring range: -40...125 °C / -40...257 °F

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

Application

Application

liquids and gases
 detection of surface temperatures

Pressure rating [bar]

30

Minimum installation depth [mm]

15

Electrical data

Electrical design

DC PNP

Operating voltage [V]

20...30 DC

Current consumption [mA]

< 66

Insulation resistance [MΩ]

> 100 (500 V DC)

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

Short-circuit protection

yes (non-latching)

Overload protection

yes

Analog output

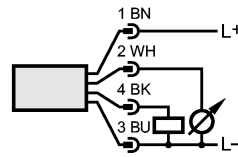
4...20 mA (Rmax: 500 Ω) / 0...10 V (Rmin: 2000 Ω)

TN2930 - Electronic temperature sensor - eclass: 27200208 / 27-20-02-08

Measuring / setting range		
Measuring range		-40...125 °C -40...257 °F
Analog start point, ASP	°C / °F	-40...115 / -40...239
Analog end point, AEP	°C / °F	-30...125 / -22...257
Setting range		
Set point, SP		-39.5...125 °C -39...257 °F
Reset point, rP		-40...124.5 °C -40...256 °F
in steps of		0.5 °C 1 °F
Resolution		
Switching output	[K]	0.5
Analog output	[K]	0.125
Display	[K]	0.5
Accuracy / deviations		
Switch point accuracy	[K]	± (Pt 1000 + 0.2 K)
Analog output	[K]	± (Pt 1000 + 0.2 K + 0.4%)
Display	[K]	± (Pt 1000 + 0.2 K + 1/2 Digit)
Temperature drift (/ 10 K)	[K]	0.1
Reaction times		
Power-on delay time	[s]	1.5
Dynamic response	T05 / T09 [s]	1 / 3 *)
Measuring / display cycle	[ms]	200
Integrated watchdog		yes
Software / programming		
Adjustment of the switch point		Programming button
Programming options		hysteresis / window; normally closed/open; min./max. memory reset; °C/°F selectable; adjustment up to 10 K; analog output selectable and scaleable
Environment		
Ambient temperature	[°C]	-25...70
Storage temperature	[°C]	-40...100
Protection		IP 67
Tests / approvals		
EMC		EN 61000-4-2 ESD: 4 kV CD / 8 kV AD EN 61000-4-3 HF radiated: 10 V/m 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		
Process connection		internal thread M18 x 1.5 for adapter
Materials (wetted parts)		stainless steel 316L / 1.4404
Probe length L	[mm]	45
Housing materials		stainless steel (304S15); PBT (Pocan); PC (Makrolon); EPDM/X (Santoprene); FPM (Viton)
Weight	[kg]	0.25
Displays / operating elements		
Display		Switching status LED red Function display 7-segment LED display Measured values 7-segment LED display
Electrical connection		
Connection		M12 connector; gold-plated contacts
Wiring		

TN2930 - Electronic temperature sensor - eclass: 27200208 / 27-20-02-08

Programming of the output function:
 Hno = hysteresis / N.O.
 Hnc = hysteresis / N.C.
 Fno = window function / N.O.
 Fnc = window function / N.C.



Remarks

Remarks

*) according to DIN EN 60751
 The values for accuracy apply to flowing water.

Pack quantity [piece]

1