

New generation available: TN2511

When selecting an alternative article and accessories please note that technical data may differ!

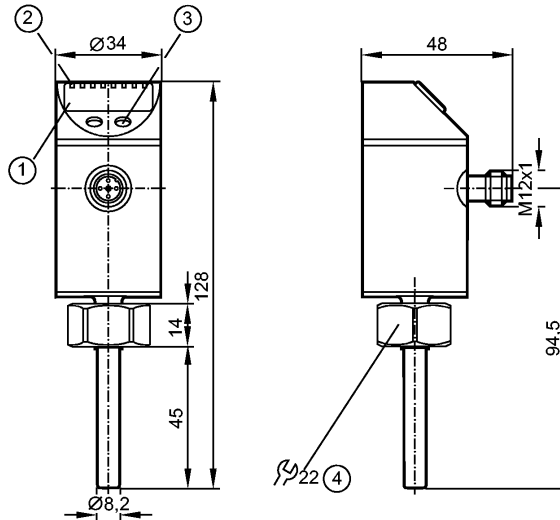
efector600

TN2531



TN-013KCBD10-MFRKG/US/ IV

Temperature sensors



1: 4-digit alphanumeric display

2: status LEDs

3: Programming button

4: 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

Installation length EL: 45 mm

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

4-digit alphanumeric display

Measuring range: -40...150 °C / -40...302 °F

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

Application

Application	liquids and gases	
Pressure rating [bar]	300	
Minimum installation depth [mm]	12	
Electrical data	DC PNP/NPN	
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	Switching output, analog output 4...20 mA or 0...10 V	
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 / 0...10 V	
Measuring / setting range		
Measuring range	-40...150 °C	-40...302 °F

TN2531 - Electronic temperature sensor - eclass: 27200208 / 27-20-02-08

Analog start point, ASP	°C / °F	-40.0...145.0 / -40.0...293.0
Analog end point, AEP	°C / °F	-35.0...150.0 / -31.0...302.0
Setting range		
Set point, SP		-39.5...150.0 °C -39.0...302.0 °F
Reset point, rP		-40.0...149.5 °C -40.0...301.0 °F
in steps of		0.1 °C 0.1 °F
Resolution		
Switching output	[K]	0.1
Analog output	[K]	< 0.1
Display	[K]	0.1
Accuracy / deviations		
Switch point accuracy	[K]	± 0.3
Analog output	[K]	± 0.3
Display	[K]	± 0.3
Temperature drift (/ 10 K)	[K]	0.1
Reaction times		
Power-on delay time	[s]	1
Dynamic response	T05 / T09 [s]	1 / 3 *)
Measuring / display cycle	[ms]	200
Integrated watchdog		yes
Software / programming		
Adjustment of the switch point		Programming button
Interfaces		
IO-Link Device		
Transfer type		COM2 (38.4 kBaud)
IO-Link revision		1.0
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 61000-4-5 Surge: 1 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)
MTTF	[Years]	209
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		304 / 1.4301 (V2A); PBT (Pocan); PC (Makrolon); EPDM/X (Santoprene); FPM (Viton)
Weight	[kg]	0.203
Displays / operating elements		
Display		Display unit 2 x LED green Switching status LED yellow Measured values 4-digit alphanumeric display Programming 4-digit alphanumeric display
Electrical connection		
Connection		M12 connector; gold-plated contacts
Wiring		

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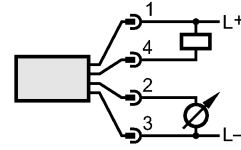
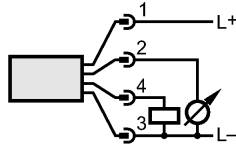
Programming of the output function:

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.

load for current output: $R_{max} [\Omega]: (U_b - 10 \text{ V}) \times 50$ / for voltage output:

$R_{min} [\Omega]: 2000$

Pack quantity [piece]

1

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