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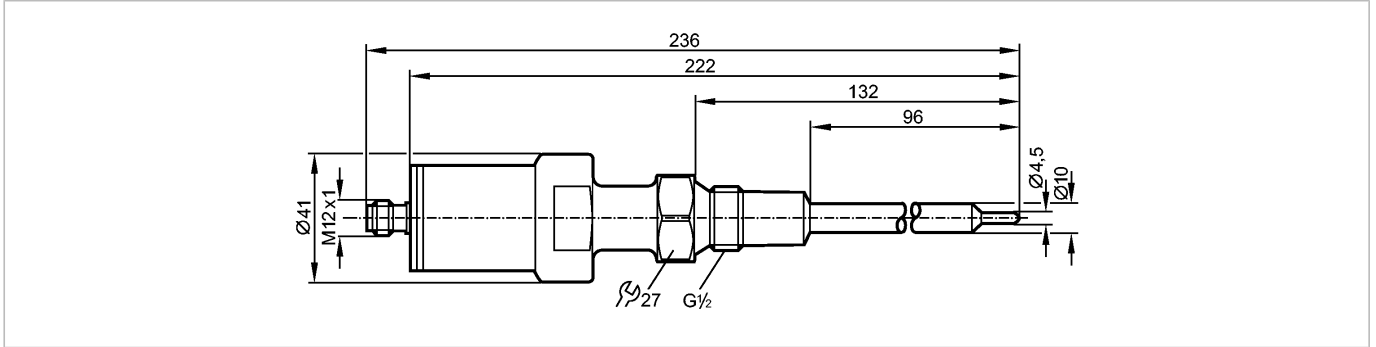
efector 600

TAD171



TAD096KLER12-A-DKG/US

Temperature sensors



Including free 5-point calibration certificate.

Product characteristics

Temperature transmitter

with diagnostic output

Process connection: G 1/2 A

Redundant sensor elements

with backup function

Analog output 4...20 mA

(NAMUR NE43, NE89)

Diagnostic output for drift and fault monitoring

Measuring range: 0...150 °C / 32...302 °F

Measuring element: 1 x Pt 1000 + 1 x NTC, thermally coupled, with backup function (temperature measuring even if one of the two sensor elements fails)

Application

Application

liquids and gases

Pressure rating [bar]

50

Minimum installation depth [mm]

15

Electrical data

Electrical design

DC PNP/NPN

Operating voltage [V]

20...32 DC ¹⁾

Current consumption [mA]

23 (24 V)

Protection class

III

Reverse polarity protection

yes

Outputs

Output

Analog output 4...20 mA

(NAMUR NE43, NE89)

Diagnostic output for drift and fault monitoring

Output function

normally open / normally closed / heartbeat programmable, 4...20 mA analog

Current rating [mA]

250

Voltage drop [V]

< 2

Short-circuit protection

yes (non-latching)

Overload protection

yes

Analog output

4...20 mA; R_{max} [Ω]: (U_b - 10 V) x 50

Measuring / setting range

Measuring range

0...150 °C

32...302 °F

Drift warning °C / °F

0.20...5.00 / 0.4...9.0

Drift alarm °C / °F

0.20...5.00 / 0.4...9.0

Setting range

in steps of

0.05 °C

0.1 °F

Resolution

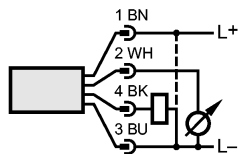
Analog output [K]

0.05

TAD171 - Temperature transmitter with diagnostic output - eclass: 27200208 / 27-20-02-08

Accuracy / deviations		
Analog output	[K]	± 0.2 (-10...100°C); ± 0.3 (-25...-10/100...150°C) *)
Temperature coefficients (in % of the span per 10 K)		$< \pm 0.01$ *****)
Drift monitoring	[K]	± 0.2 (-10...100°C); ± 0.3 (-25...-10/100...150°C) *)
Reaction times		
Power-on delay time	[s]	4
Dynamic response	T05 / T09 [s]	6 / 13
Integrated watchdog		yes
Software / programming		
Programming options		Drift warning / drift alarm threshold; Fail-Safe; display unit; scaling of the analog output; redundancy switching; behaviour of the diagnostic output; output polarity; normally open / normally closed; Programmable via EPS interface
Environment		
Ambient temperature	[°C]	-25...70, operating temperature electronics: -25...70 °C operating temperature process connection: -32...+170 °C
Storage temperature	[°C]	-40...85
Protection		IP 67 / IP 69K
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		G 1/2 A
Materials (wetted parts)		stainless steel 316L / 1.4404; surface characteristics Ra: < 0.6
Probe length L	[mm]	96
Housing materials		stainless steel 316L / 1.4404; PA; PBT
Weight	[kg]	0.452
Electrical connection		
Connection		M12 connector; gold-plated contacts

Wiring



Remarks

Remarks

The measuring range can be scaled:

-25...150 °C / -13...302 °F

1) to EN50178, SELV, PELV;

referring to UL: For use on a low voltage circuit with overcurrent protection in accordance with UL873 Tab. 28.1 or $I_{max} = 100/U_b$ (U_b = voltage of the circuit).

*) probe completely inserted into the measured medium up to the sealing chamfer

*****) In case of deviation from the reference condition 25 ± 5 °C

Pack quantity [piece]

1