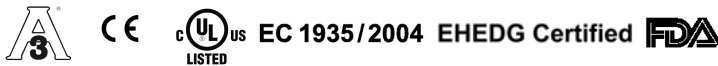
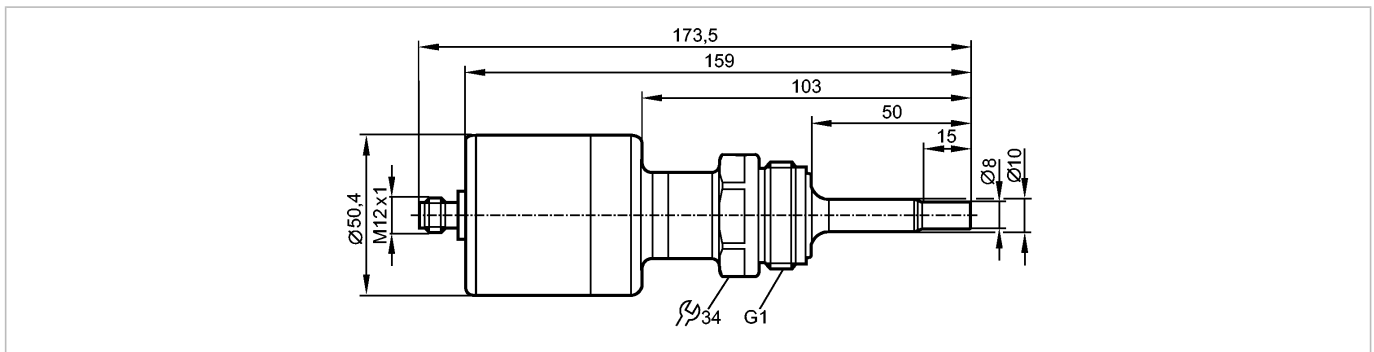


TAD081

TAD050KLEM01-A-ZKG/US

Temperature sensors



Including free 5-point calibration certificate.

Product characteristics

Temperature transmitter with diagnostic output
Process connection: G 1 A / Aseptoflex Vario
Installation length EL: 50 mm
Redundant sensor elements with backup function
Analog output 4...20 mA (NAMUR NE43, NE89) Diagnostic output for drift and fault monitoring
Measuring range: -25...160 °C / -13...320 °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)
Factory setting: 0...150 °C / 32...302 °F

Application

Application	liquids and gases
Pressure rating [bar]	50
Minimum installation depth [mm]	25

Electrical data

Electrical design	DC PNP/NPN
Operating voltage [V]	18...32
Current consumption [mA]	6 (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; Rmax [Ω]: (Ub - 15 V) x 50

Measuring / setting range

Measuring range, (scalable)	-25...160 °C	-13...320 °F
Factory setting	0...150 °C / 32...302 °F	



TAD081

TAD050KLEM01-A-ZKG/US

Temperature sensors

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

Accuracy / deviations

Analog output	[K]	± 0.2 (-10...100°C); ± 0.3 (-25...-10/100...150°C); ± 0.5 (150...160°C *)
Temperature coefficients (in % of the span per 10 K)		< ± 0.01 **)
Drift monitoring	[K]	± 0.2 (-10...100°C); ± 0.3 (-25...-10/100...150°C); ± 0.5 (150...160°C *)

Reaction times

Power-on delay time	[s]	8
Dynamic response	T05 / T09 [s]	3 / 6
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
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Interfaces

IO-Link Device		
Transfer type		COM1 (4.8 kBaud)
IO-Link revision		1.1
SDCI standard		IEC 61131-9 CDV
IO-Link Device ID		323 d / 00 01 43 h
Profiles		Smart Sensor
Function class		Device Identification
Function class		Device Diagnosis
SIO mode		yes
Required master port class		A
Process data analogue		1
Process data binary		1
Min. process cycle time	[ms]	18.8

Environment

Ambient temperature	[°C]	-25...70
Storage temperature	[°C]	-40...85
Protection		IP 68 / IP 69K

Tests / approvals

EMC		EN 61000-6-2 EN 61000-6-3
Shock resistance		DIN EN 68000-2-27: 50 g (11 ms)
Vibration resistance		DIN EN 60068-2-6 20 g (10...2000 Hz)
MTTF	[Years]	213

Mechanical data

Process connection		G 1 A / Aseptoflex Vario
Materials (wetted parts)		stainless steel 316L / 1.4404; surface characteristics Ra: < 0.6

TAD081

TAD050KLEM01-A-ZKG/US

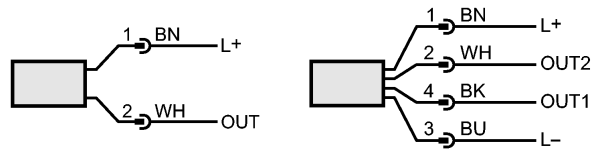
Temperature sensors

Probe length L	[mm]	50
Installation length EL	[mm]	50
Housing materials		stainless steel 316L / 1.4404; PEI; FPM
Weight	[kg]	0.427

Electrical connection

Connection	M12 connector; gold-plated contacts
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Wiring



connection for 2-wire operation
 OUT: Analog output

 connection for 3-wire operation
 OUT2: Analog output
 OUT1: Diagnosis / IO-Link

Remarks

Remarks	cULus - Class 2 source required *) probe completely inserted into the measured medium up to the sealing chamfer **) In case of deviation from the reference condition $25 \pm 5 \text{ }^\circ\text{C}$
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Pack quantity	[piece]	1
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Other data

Function class	Process Data Variables
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