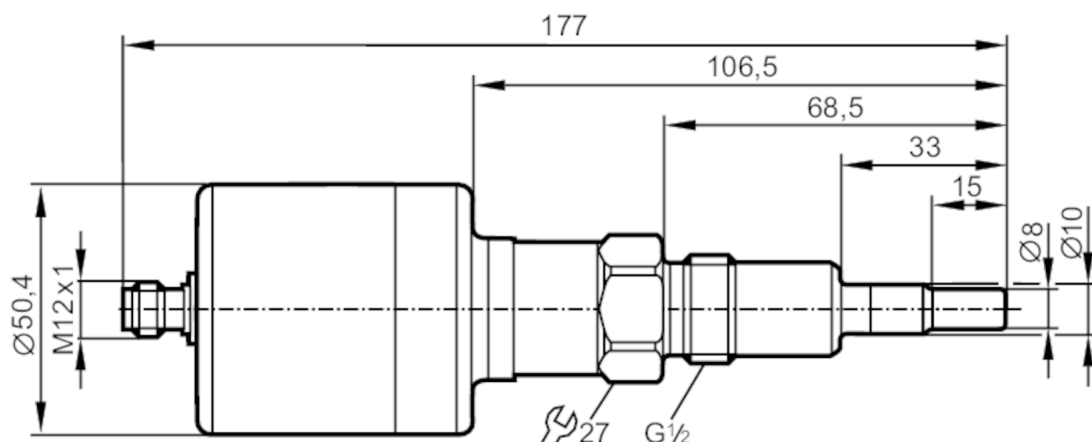


TAD991



Temperature transmitter with drift detection

TAD033KLER12-A-ZKG/US



Product characteristics

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1	
Measuring range	-25...160 °C	-13...320 °F
Communication interface	IO-Link	
Process connection	threaded connection G 1/2 external thread sealing cone	
Installation length EL [mm]	33	

Application

Special feature	gold-plated contacts	
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))	
Media	liquids and gases	
Pressure rating	50 bar	5 MPa
Minimum installation depth [mm]	25	
MAWP (for applications according to CRN) [bar]	50	

Electrical data

Operating voltage [V]	18...32 DC; (cULus - Class 2 source required)	
Current consumption [mA]	6; (24 V)	
Protection class	III	
Reverse polarity protection	yes	
Power-on delay time [s]	8	
Integrated watchdog	yes	

Inputs / outputs

Number of inputs and outputs	Number of digital outputs: 1; Number of analog outputs: 1
------------------------------	---

Outputs

Total number of outputs	2
Output signal	switching signal; analog signal; IO-Link; (configurable)
Electrical design	PNP/NPN



Temperature transmitter with drift detection

TAD033KLER12-A-ZKG/US

Number of digital outputs	1
Output function	normally open / normally closed / diagnostic signal; (configurable)
Max. voltage drop switching output DC [V]	2
Permanent current rating of switching output DC [mA]	150; (200 (...60°C); 250 (...40 °C))
Diagnostic output	Drift monitoring; Fault monitoring
Number of analog outputs	1
Analog current output [mA]	4...20
Max. load [Ω]	(U _b - 15 V) x 50
Short-circuit protection	yes
Type of short-circuit protection	yes (non-latching)
Overload protection	yes
Measuring/setting range	
Probe length L [mm]	33
Measuring range	-25...160 °C -13...320 °F
Note on measuring range	scalable
Factory setting	0...150 °C / 32...302 °F
Drift warning	0.2...5 °C 0.4...9 °F
Drift alarm	0.2...5 °C 0.4...9 °F
In steps of	0.05 °C 0.1 °F
Resolution	
Resolution of analog output [K]	0.05
Accuracy / deviations	
Precision analog output [K]	± 0,2 (-10...130°C); ± 0,3 (130...140°C); ± 0,3 ± 0,1% MS (-25...-10/140...160°C); (probe completely inserted into the measured medium up to the sealing chamfer)
Temperature coefficient [% of the span / 10 K]	< ± 0,01; (In case of deviation from the reference condition 25 ± 5 °C)
Reaction times	
Dynamic response T05 / T09 [s]	3 / 6
Software / programming	
Parameter setting options	drift warning/drift alarm threshold; Fail-Safe; Display unit; scaling of the analog output; redundancy switching; performance diagnostic output; switching logic; normally open / closed
Interfaces	
Communication interface	IO-Link
Transmission type	COM1 (4,8 kBaud)
IO-Link revision	1.1
SDCI standard	IEC 61131-9 CDV
Profiles	Smart Sensor - SSP 0 Generic Profiled Sensor
Function	Device identification
Function	Process data variable
Function	Device diagnosis
SIO mode	yes
Required master port class	A

TAD991



Temperature transmitter with drift detection

TAD033KLER12-A-ZKG/US

Process data analog	1	
Process data binary	1	
Min. process cycle time [ms]	33.6	
Supported DeviceIDs	Type of operation	DeviceID
	default	558

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

Tests / approvals		
EMC	DIN EN 61000-6-2	
	DIN 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	
Note on approval	Including free 5-point calibration certificate.	

Mechanical data		
Weight [g]	335	
Housing	tubular	
Dimensions [mm]	Ø 50.4 / L = 177	
Material	stainless steel (1.4404 / 316L); PEI; FKM	
Materials (wetted parts)	stainless steel (1.4404 / 316L)	
Tightening torque [Nm]	30...50	
Process connection	threaded connection G 1/2 external thread sealing cone	
Surface characteristics Ra/Rz of the wetted parts	Ra < 0.6 µm	
Probe diameter [mm]	10	
Installation length EL [mm]	33	

Remarks		
Remarks	MS = set measuring span	
Pack quantity	1 pcs.	

Electrical connection		
Connector: 1 x M12; coding: A; Contacts: gold-plated		

Temperature transmitter with drift detection

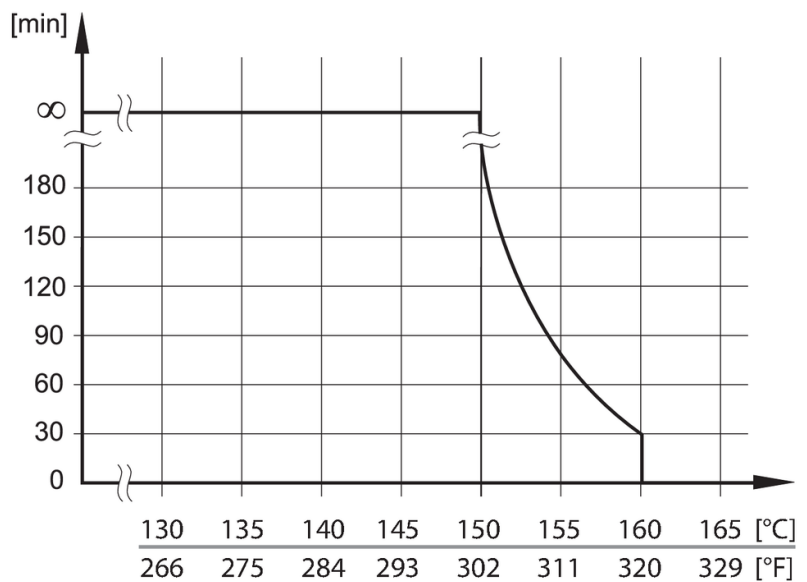
TAD033KLER12-A-ZKG/US

Connection



OUT: connection for 2-wire operation
 analog output
 connection for 3-wire operation
 OUT2: analog output
 OUT1: diagnosis / IO-Link

Diagrams and graphs



Maximum operation time depending on the medium temperature