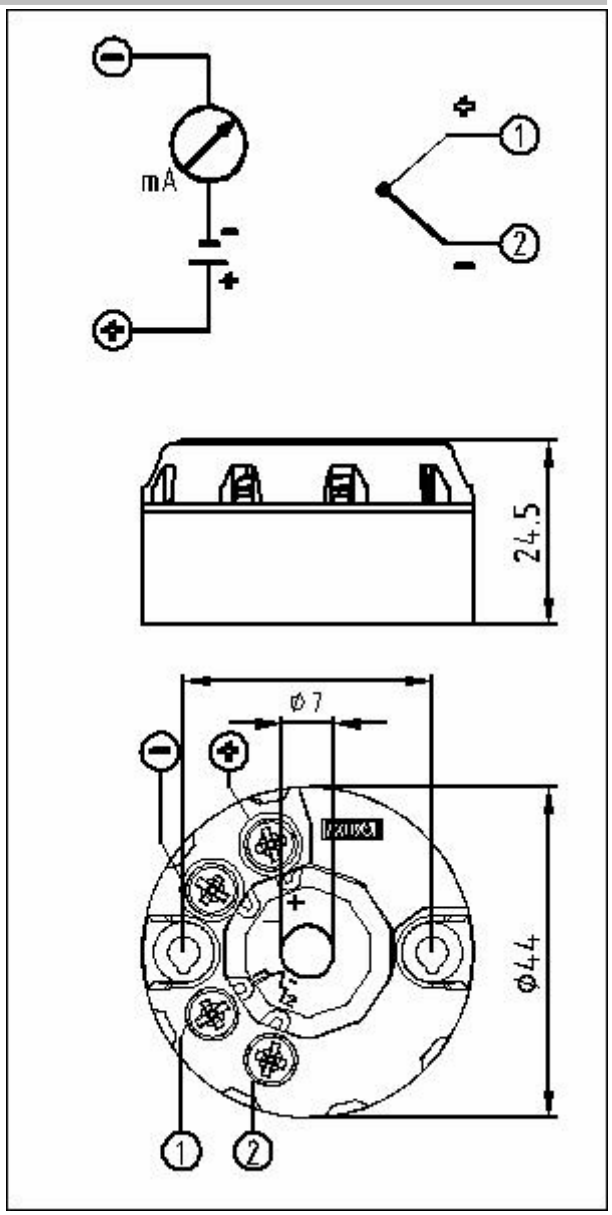
Digital temperature transmitter for thermocouples T16

Modelcode type: T16

Item number: 14220057

Digital temperature transmitter for thermocouples T16	
Design	Head
Housing	
Material	Plastic PBT, glass-fibre reinforced
Weight	50 g
Ingress Protection	IP00 (Electronics completely potted)
Connection terminals	Captive screws
Wire cross-section	Solid wire 0.14 ... 2.5 mm² (AWG 24 ... 14)
Wire cross-section	Wire with end splice 0.14 ... 1.5 mm² (AWG 24 ... 16)
Screwdriver	Cross head (Pozidrive tip), size 2 (ISO 8764)
Tightening torque	0,5 Nm
Ambient conditions	
Permissible ambient temperature transmitter	Standard -40...85°C
Climate class per IEC 654-1:1993	Cx (-40 ... +85 °C, 5 ... 95 % r. F.)
Vibration resistance per IEC 60068-2-6:2008	Test Fc: 10 ... 2,000 Hz; 10 g, amplitude 0.75 mm
Shock resistance per IEC 68-2-27:2009	Acceleration / shock width
Shock resistance per IEC 68-2-27:2009	100 g / 6 ms
Salt fog	Acc. IEC 68-2-52:1996, IEC 60068-2-52:1996
Condensation	Acceptable
Free fall - in line with IEC 60721-3-2:1997, DIN EN 60721-3-2:1998	Drop height 1.5 m



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Electromagnetic compatibility (EMC)	Acc. DIN EN 55011:2010, DIN EN 61326-2-3:2013 NAMUR NE21:2012, GL 2012 VI Part 7 Emission (group 1, class B) and interference immunity (industrial application) [HF field, HF cable, ESD, Burst, Surge]

Temperature transmitter input

Configuration sensor	Thermocouple Type K
Standard	Per IEC 60584-1
Input configuration	Thermocouple (CJC internal)
Unit	°C
Measuring range start value - sign	Plus (incl. 0)
Measuring range start value	0
Measuring range end value - sign	Plus (incl. 0)
Measuring range end value	600

Time response

Switch-on time (time to get the first measured value)	Max. 4 s
Warm-up time	After a max. 45 minutes the accuracy specifications are reached (due to the internal cold junction)
Response time	< 0,9 s (typ. 0,6 s)
Typical measuring rate	Measured value update approx. 8/s

Monitoring

Transmitter Signalling of error	Down scale 3,5 mA
Measuring range monitoring	Deactivated (Monitoring of the set measuring range for upper/lower deviations configurable)
Drag pointer (internal temperature of the electronics)	Stores the maximum ambient temperature (no reset possible)

Specifications

Output signal	4...20mA
Reference conditions	Calibration temperature Tref = 23 °C ±3 K Power supply Ui_ref = 24 V Atmospheric pressure = 860 .. 1,060 hPa All accuracy specifications refer to the reference conditions.

Accuracy specifications

Configuration sensor	Thermocouple Type K
Measuring deviation per DIN EN 60770, NE145	≥ 0 °C: 0,6 K + 0,06 % MW
Measuring deviation per DIN EN 60770, NE145	≤ 0 °C: 0,6 K + 0,3 % |MW|
Mean temperature coefficient (TC) every 10 K ambient temperature deviation from Tref	±2,0 K
Long-term drift in line with IEC 61298-2 per year	40 µV / 0.1 % MV (greater value applies)
Cold junction	≤ ±1,5 K
Cold junction TC	≤ 0,2 K
Cold junction Long-term drift	≤ 0,4 K
Output measuring deviation (DA converter)	0,045 % of the MS
Output measuring deviation (DA converter) (TC)	0,06% of the MS
Output measuring deviation (DA converter) - Long-therm drift	0,1 % of the MS

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Influence of power supply every 1 V voltage change from Ui_ref	±0,005 % of MS
Approvals / certificates	
Explosion protection	Without
Power supply	
Power supply UB	UB DC 10 ... 35 V
Load RA	RA ≤ (UB - 10 V) / 0,0215 A with RA in Ω und UB in V
Certificates	
Certificates	Without

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