

Surface contact / tube contact temperature measuring transducers, including strap, with detached sensor head, calibratable, with multi-range switching and active output

Calibratable tube contact temperature measuring transducers **THERMASGARD® ALTM 2** with eight switchable measuring ranges, internal or remote sensor, continuous output, strap and terminal box enclosure made of impact-resistant plastic, enclosure cover with quick-locking screws, with or without optional display. This surface contact sensor is used for temperature detection on piping and tubes (e.g. cold water and hot-water), or on heating sections for heating system control. The tube sensors are factory-calibrated. Adjustment / fine adjustment by the user is possible (range and zero point are adjustable).

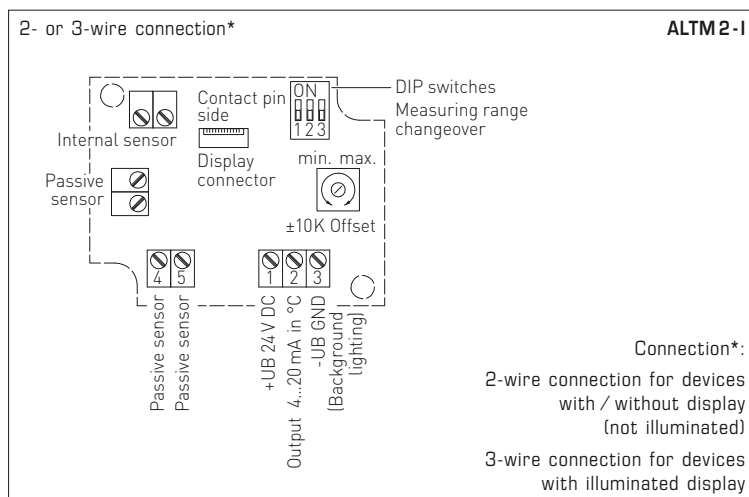
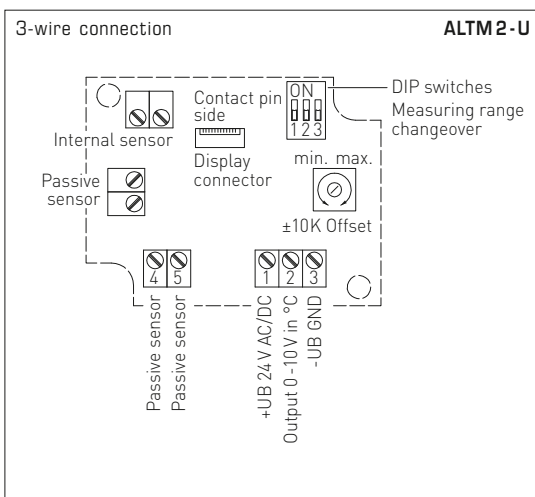
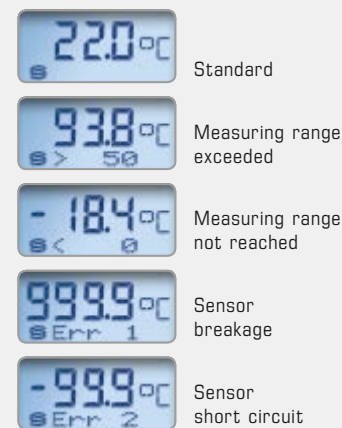
ALTM 2
(with remote sensor)



TECHNICAL DATA

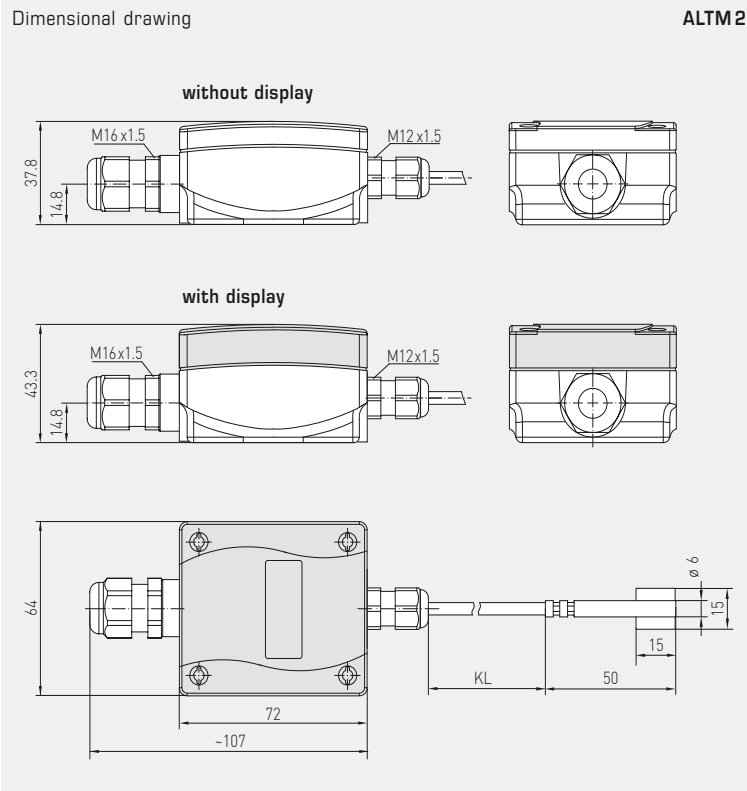
Power supply:	24 V AC / DC (± 10 %) for U variant 15...36 V DC for I variant, depending on working resistance, residual ripple stabilised ± 0.3 V
Working resistance:	$R_a(\text{ohm}) = (U_b - 14 \text{ V}) / 0.02 \text{ A}$ for I variant
Load resistance:	$R_L > 5 \text{ kOhm}$ for U variant
Power consumption:	< 1.0 VA / 24 V DC; < 2.2 VA / 24 V AC
Sensor:	Pt1000, DIN EN 60751, class B
Measuring ranges:	multi-range switching with 8 switchable measuring ranges , see table (other ranges optional) detached sensor variant: T_{max} over 100 °C , operating range -50...+150 °C; with manual zero point correction (± 10 K)
Deviation, temperature:	± 0.2 K at +25 °C
Output:	0 - 10 V or 4...20 mA
Ambient temperature:	measuring transducer -30...+70 °C
Connection type:	2- or 3-wire connection
Process connection:	endless metal strap and metal tightener (included in the scope of delivery)
Strap dimensions:	Ø = 13 - 92 mm (1/4 - 3"), length L = 300 mm
Enclosure:	plastic, material polyamide, 30 % glass-globe-reinforced, with quick-locking screws, (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), enclosure cover for display is transparent!
Dimensions:	72 x 64 x 37.8 mm (Tyr 1 without display) 72 x 64 x 43.3 mm (Tyr 1 with display)
Cable gland:	M 16 x 1.5, including strain relief, exchangeable, max. inner diameter 10,4 mm
Electrical connection:	0.14 - 1.5 mm ² via terminal screws
Connection cable:	silicone, SiHF, 2 x 0.25 mm ² , KL = 1.5 m, ends stripped, with wire end sleeves (optional PTFE leads up to +250 °C or glass fibre with steel wire mesh up to +350 °C)
Insulating resistance:	≥ 100 MΩ, at +20 °C (500 V DC)
Humidity:	< 95 % r. H., non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP65 (according to EN 60 529) rolled / stamped humidity-tight IP68 (optional sensor sleeve watertight compound-filled)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326, according to EMC directive 2014 / 30 / EU
Optional:	Two-line display with illumination , cutout approx. 36 x 15 mm (W x H), for displaying the ACTUAL temperature and the internal diagnostics (measuring range exceeded, measuring range not reached, sensor breakage, sensor short circuit)

Display and internal diagnostics
THERMASGARD®
Measuring transducer with display





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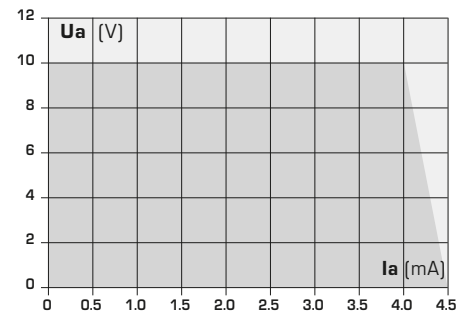


ALTM 2 with display (with remote sensor)



Measuring ranges (adjustable)	DIP 1	DIP 2	DIP 3
-20...+150 °C	ON	ON	ON
-50... +50 °C	OFF	ON	ON
-20... +80 °C	ON	OFF	ON
-30... +60 °C	OFF	OFF	ON
0... +40 °C	ON	ON	OFF
0... +50 °C	OFF	ON	OFF
0...+100 °C	ON	OFF	OFF
0...+150 °C	OFF	OFF	OFF

Dependency of output voltage on output current



THERMASGARD® ALTM 2 – Surface contact / tube contact temperature measuring transducers						
Type / WG01	Sensor	Output	Type	Display	Item No.	Price
ALTM 2-I					IP65, I-variant	
ALTM2-I	Pt1000	4...20 mA	Remote sensor		1101-1122-0219-920	94,49 €
ALTM2-I_DISPLAY	Pt1000	4...20 mA	Remote sensor	■	1101-1122-2219-920	137,44 €
ALTM 2-U					IP65, U-variant	
ALTM2-U	Pt1000	0-10 V	Remote sensor		1101-1121-0219-920	94,49 €
ALTM2-U_DISPLAY	Pt1000	0-10 V	Remote sensor	■	1101-1121-2219-920	137,44 €
Extra charge:	other ranges optional Protection type IP68 (Sensor sleeve watertight compound-filled) 2-wire connecting leads, per running meter (PVC / silicone)					21,42 € 2,86 € on request
Accessories						
WLP-1	Heat-conductive paste set				7100-0060-1000-000	2,85 €