

**Surface contact / tube contact temperature measuring transducers, including strap, compact variant, calibratable, with multi-range switching and active output**

Calibratable tube contact temperature measuring transducers **THERMASGARD® ALTM 1** 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).

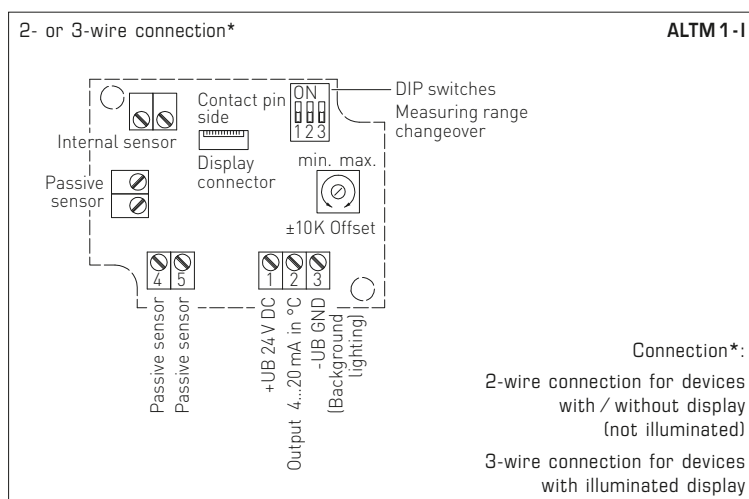
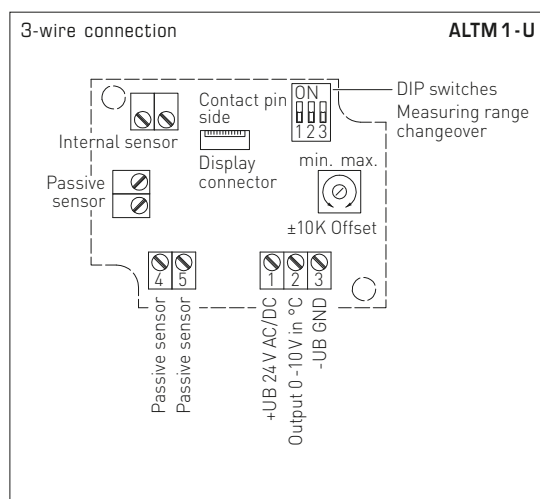
**ALTM 1**  
(compact)



**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 ( <b>Perfect Sensor Protection</b> )
Measuring ranges:	<b>multi-range switching with 8 switchable measuring ranges</b> , see table (other ranges optional) compact variant: <b>T<sub>max</sub> up to +100 °C</b> , operating range -50...+100 °C <b>with manual zero point correction (± 10 K)</b>
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 (¼ - 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 <sup>2</sup> via terminal screws
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:	IP 65 (according to EN 60 529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326, according to EMC directive 2014 / 30 / EU
Optional:	Two-line <b>display with illumination</b> , cutout approx. 36 x 15 mm (W x H), for displaying the <b>ACTUAL temperature</b> and the <b>internal diagnostics</b> (measuring range exceeded, measuring range not reached, sensor breakage, sensor short circuit)

Display and internal diagnostics  
**THERMASGARD®**  
**Measuring transducer with display**

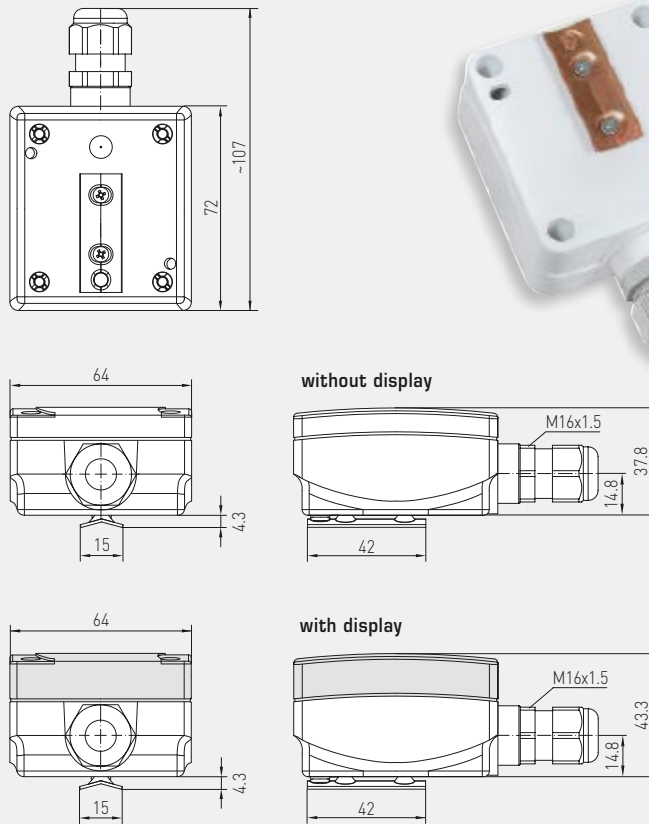




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Dimensional drawing

ALTM 1



ALTM 1 with display (compact)

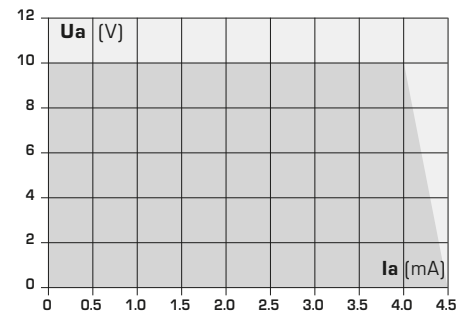


High-performance encapsulation against vibration, mechanical stress and humidity



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 1 – Surface contact / tube contact temperature measuring transducers (compact)						
Type / WG01	Sensor	Output	Type	Display	Item No.	Price
<b>ALTM 1-I</b>					<b>IP65, I-variant</b>	
ALTM1-I	Pt1000	4...20 mA	Compact		1101-1112-0219-920	88,59 €
ALTM1-I_DISPLAY	Pt1000	4...20 mA	Compact	■	1101-1112-2219-920	131,54 €
<b>ALTM 1-U</b>					<b>IP65, U-variant</b>	
ALTM1-U	Pt1000	0-10 V	Compact		1101-1111-0219-920	88,59 €
ALTM1-U_DISPLAY	Pt1000	0-10 V	Compact	■	1101-1111-2219-920	131,54 €
Extra charge:	Other ranges optional					21,42 €
<b>Accessories</b>						
WLP-1	Heat-conductive paste set				7100-0060-1000-000	2,85 €