

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® ALT M 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).

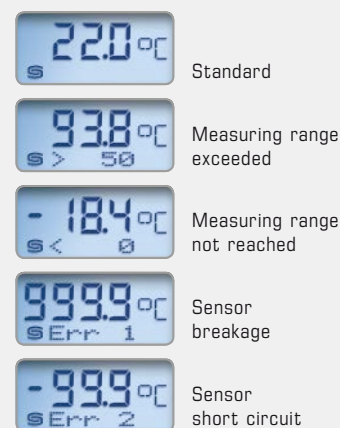
TECHNICAL DATA

Power supply:	24 V AC / DC ($\pm 10\%$) 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:	$< 1.0 \text{ VA} / 24 \text{ V DC}$; $< 2.2 \text{ VA} / 24 \text{ V AC}$
Sensor:	Pt1000, DIN EN 60751, class B (Perfect Sensor Protection)
Measuring ranges:	multi-range switching with 8 switchable measuring ranges , see table (other ranges optional) compact variant: T_{max} up to $+100^\circ\text{C}$, operating range $-50...+100^\circ\text{C}$ with manual zero point correction ($\pm 10 \text{ K}$)
Deviation, temperature:	$\pm 0.2 \text{ K}$ at $+25^\circ\text{C}$
Output:	0 - 10 V or 4...20 mA
Ambient temperature:	measuring transducer $-30...+70^\circ\text{C}$
Connection type:	2- or 3-wire connection
Process connection:	endless metal strap and metal tightener (included in the scope of delivery)
Strap dimensions:	$\varnothing = 13 - 92 \text{ mm}$ ($1/4 - 3"$), length $L = 300 \text{ mm}$
Enclosure:	plastic, UV-stabilised, 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!
Enclosure 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:	M16 x 1.5, including strain relief, exchangeable, max. inner diameter 10,4 mm
Electrical connection:	0.14 - 1.5 mm ² via terminal screws
Insulating resistance:	$\geq 100 \text{ M}\Omega$, at $+20^\circ\text{C}$ (500 V DC)
Humidity:	$< 95\%$ r. H., non-precipitating air
Protection class:	III (according to EN 60730)
Protection type:	IP 65 (according to EN 60529)
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)

ALT M 1
(compact)

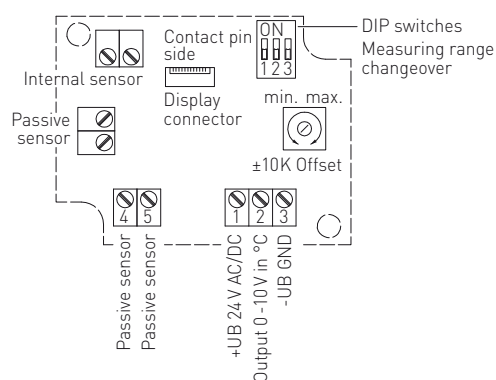


Display and internal diagnostics
THERMASGARD®
Measuring transducer with display



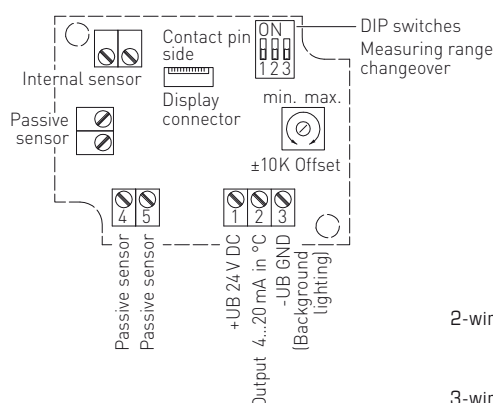
3-wire connection

ALT M 1-U



2- or 3-wire connection*

ALT M 1-I



Connection*:

2-wire connection for devices with / without display (not illuminated)

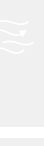
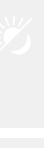
3-wire connection for devices with illuminated display



S+S REGELTECHNIK

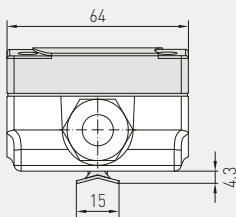
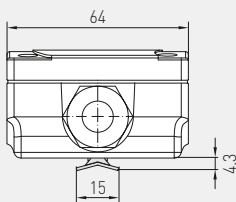
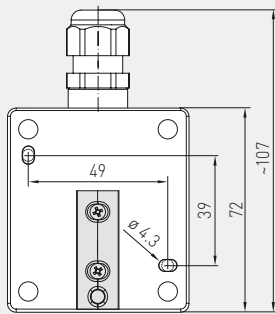
THERMASGARD® ALTM 1

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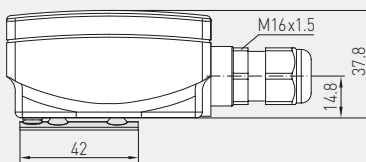


Dimensional drawing

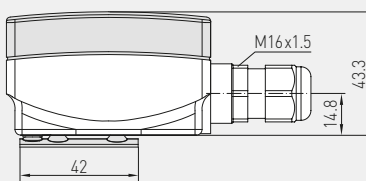
ALTM 1



without display



with display



ALTM 1
with display
(compact)



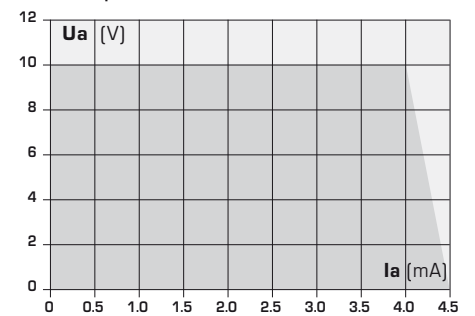
High-performance encapsulation against
vibration, mechanical stress and humidity



PS-PROTECTION
PERFECT SENSOR PROTECTION

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
ALTM 1-I						IP65, I-variant
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 €
ALTM 1-U						IP65, U-variant
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 €

Accessories

WLP-1	Heat-conductive paste set	7100-0060-1000-000	2,85 €
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