

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

Calibratable tube contact temperature measuring transducer **THERMASGARD® ALTM 2** with eight switchable, measuring ranges, external sensor, continuous output, housing made from impact-resistant plastic with quick-release screws, optionally **with/without display**, with **cable gland** or **M12 connector** according to DIN EN 61076-2-101.

The surface-contact sensor is used for temperature detection on lines, pipes (e.g. cold and hot water) or on heating sections for heating system control.

The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

**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, see working resistance diagram
Load resistance:	$R_L > 5 \text{ kOhm}$ for U variant
Power consumption:	< 1.0 VA / 24 V DC; < 2.2 VA / 24 V AC
Insulating resistance:	≥ 100 MΩ, at +20 °C (500 V DC)
Sensor:	Pt1000, DIN EN 60751, class B <b>(Perfect Sensor Protection at IP68)</b> sensor external
Measuring ranges:	<b>multi-range switching</b> <b>with 8 switchable measuring ranges</b> see table (other measuring ranges optional) <b>T<sub>max</sub> above +100 °C</b> , operating range -50...+150 °C <b>with manual zero point correction (± 10 K)</b>
Deviation in temperature:	typically ± 0.2 K at +25 °C
Output:	0 - 10 V or 4...20 mA
Connection type:	2- or 3-wire connection
Cable connection:	<b>cable gland</b> , plastic (M 16 x 1.5; with strain relief, exchangeable, max. inner diameter 10.4 mm) <b>or</b> <b>M12 connector</b> (male, 5-pin, A-code) according to DIN EN 61076-2-101
Housing:	plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, with quick-release screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), cover for display is transparent!
Housing dimensions:	72 x 64 x 37.8 mm (Tyr 1 without display) 72 x 64 x 43.3 mm (Tyr 1 with display)
Sensor cable:	Silicone, SiHF, 2 x 0,25 mm <sup>2</sup> ; cable length (KL) = 1.5m (other lengths and jacket materials, e.g. PTFE or glass fibre with steel mesh, available on request)
Sensor protection:	pipe feeder made of stainless steel <b>V4A</b> (1.4571), Ø = 6 mm, L = 50 mm
Electrical connection:	0.14 - 1.5 mm <sup>2</sup> , via screw terminals
Process connection:	endless strap with metal tightener (included in the scope of delivery) Ø = 13 - 92 mm (1/4 - 3"), L = 300 mm
Ambient temperature:	measuring transducer -30...+70 °C
Permitted humidity:	< 95% RH, non-precipitating air
Protection class:	III (according to EN 60730)
Protection type housing:	<b>IP 65</b> (according to EN 60529) Housing tested, TÜV SÜD, Report No.713139052 (Tyr 1)
Protection type sensor:	<b>IP 65</b> (according to EN 60529) <b>sleeve</b> humidity-tight (standard) <b>IP 68</b> (according to EN 60529) <b>sleeve</b> water-tight (optional)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326, according to EMC Directive 2014 / 30 / EU
Optional:	<b>display with illumination</b> , two-line, cut-out approx. 36x15 mm (B x H), to display the <b>actual temperature</b> and <b>internal diagnostics</b> (measuring range exceeded, measuring range not reached, sensor breakage, sensor short circuit)
<b>ACCESSORIES</b>	(see table)

**ALTM 2**  
with cable gland



**ALTM 2-Q**  
with M12 connector





S+S REGELTECHNIK

THERMASGARD® ALTM 2

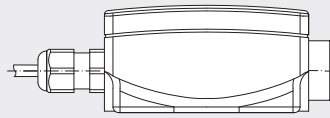
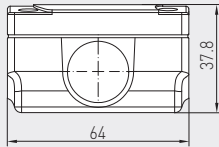
Surface contact / tube contact temperature measuring transducers, incl. strap, with detached sensor head, calibratable, with multi-range switching and active output



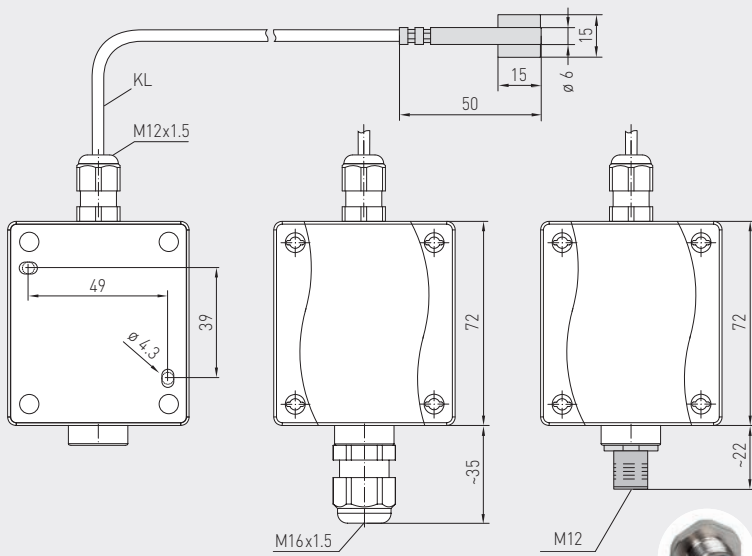
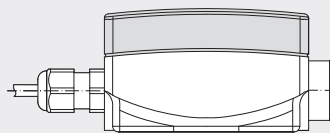
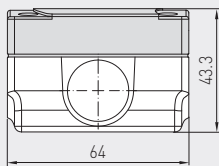
Dimensional drawing

ALTM 2

without display



with display



Housing with cable gland

Housing with M12 connector

ALTM 2 with cable gland and display



ALTM 2-Q with M12 connector and display



Display and internal diagnostics

THERMASGARD® Measuring transducer with display



Standard



Measuring range exceeded



Measuring range not reached



Sensor breakage



Sensor short circuit



IP65 (standard) humidity-tight

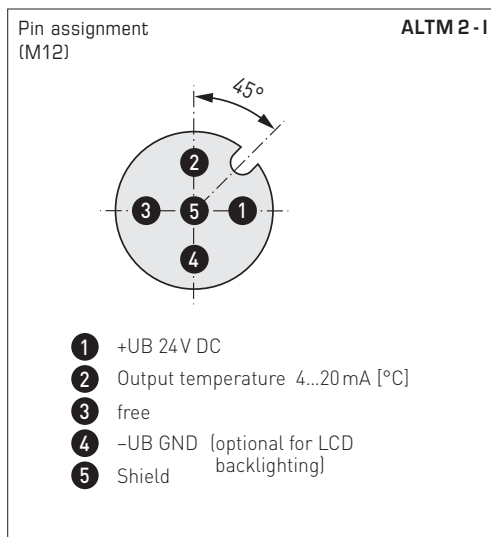
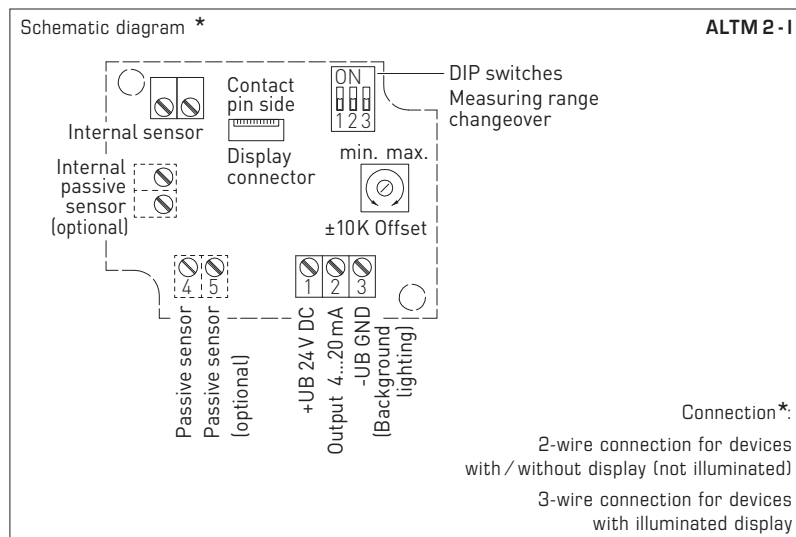
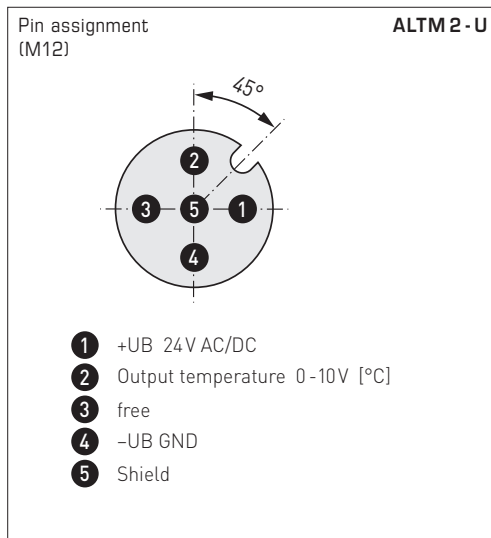
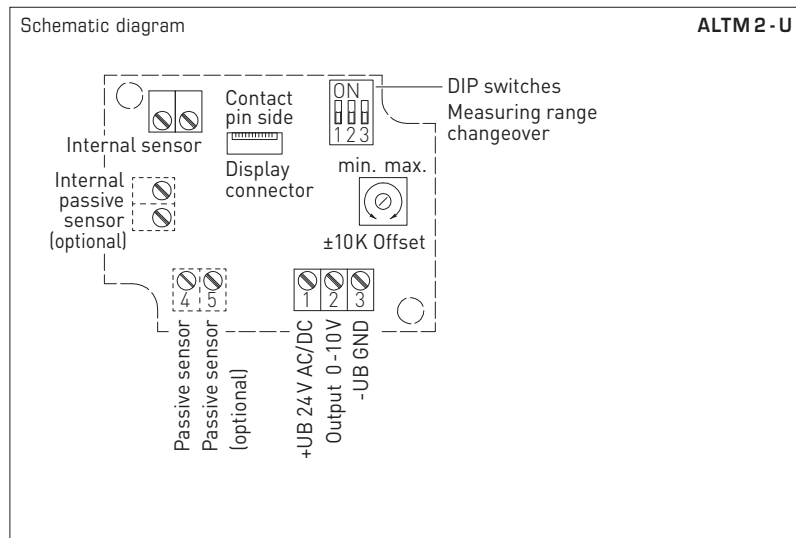


IP68 (optional) water-tight Perfect Sensor Protection

\* High-performance encapsulation against vibration, mechanical stress and humidity

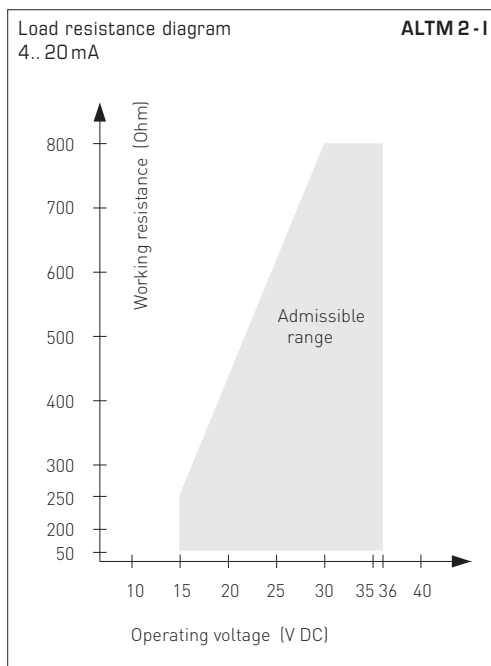
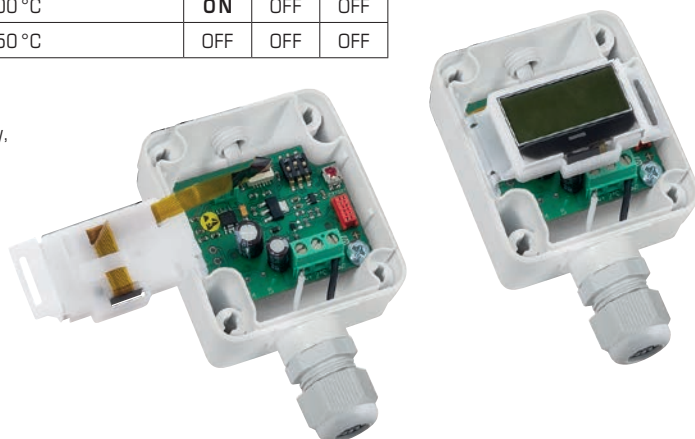
**PS-PROTECTION**  
PERFECT SENSOR PROTECTION

Surface contact / tube contact temperature measuring transducers,  
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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 (default)	OFF	ON	OFF
0... +100 °C	ON	OFF	OFF
0... +150 °C	OFF	OFF	OFF

**ALTM 2-xx**  
with display,  
hinged





S+S REGELTECHNIK

THERMASGARD® ALTM 2

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with multi-range switching and active output

ALTM 2 - Q  
with M12 connector



ALTM 2  
with cable gland

THERMASGARD® ALTM 2		Surface contact / tube contact temperature measuring transducers (with cable gland)				
Type / WG01	Sensor	Output	Type	Display	Item No.	Price
<b>ALTM 2</b>						
ALTM2-I	Pt1000	4...20 mA	Remote sensor		1101-1122-0219-920	112,02 €
ALTM2-I LCD	Pt1000	4...20 mA	Remote sensor	■	1101-1122-2219-920	162,96 €
ALTM2-U	Pt1000	0-10 V	Remote sensor		1101-1121-0219-920	112,02 €
ALTM2-U LCD	Pt1000	0-10 V	Remote sensor	■	1101-1121-2219-920	162,96 €
<b>Housing variant:</b>	Cable connection <b>with cable gland</b>					
Extra charge:	other measuring ranges optional					25,40 €
	Protection type <b>IP68</b> (Sensor sleeve watertight compound-filled)					3,40 €
	2-wire connecting leads, per running meter (silicone / PTFE / glass fibre)					on request

THERMASGARD® ALTM 2 - Q		Surface contact / tube contact temperature measuring transducers (with M12 connector)				
Type / WG01	Sensor	Output	Type	Display	Item No.	Price
<b>ALTM 2 - Q</b>						
ALTM2-I Q	Pt1000	4...20 mA	Remote sensor	●	2001-2121-2100-001	153,95 €
ALTM2-I Q LCD	Pt1000	4...20 mA	Remote sensor	● ■	2001-2122-2100-001	204,87 €
ALTM2-U Q	Pt1000	0-10 V	Remote sensor	●	2001-2121-1100-001	153,95 €
ALTM2-U Q LCD	Pt1000	0-10 V	Remote sensor	● ■	2001-2122-1100-001	204,87 €
<b>Housing variant "Q":</b>	Cable connection <b>with M12 connector</b> (male, 5-pin, A-code)					
Extra charge:	see table above!					

ACCESSORIES			
WLP-1	Heat-conductive paste, silicone-free	7100-0060-1000-000	3,38 €
<b>Special accessories for M12 connector</b> see chapter Accessories!			