

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

ALTM 2

Calibratable surface-contact temperature measuring transducer (detached variant)  
**THERMASGARD® ALTM 2** with eight switchable measuring ranges, continuous output, in an impact-resistant plastic housing with quick-locking screws, optionally with /without display, cable sensor with a pipe feeder, incl. strap.

The pipe surface-contact sensor is used to detect the temperature on lines, pipes (e.g., cold and warm water) or on heating sections for heating control. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.






### TECHNICAL DATA

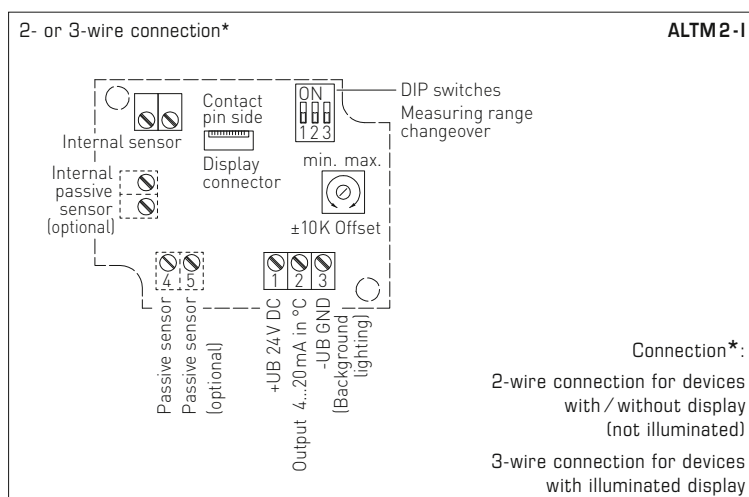
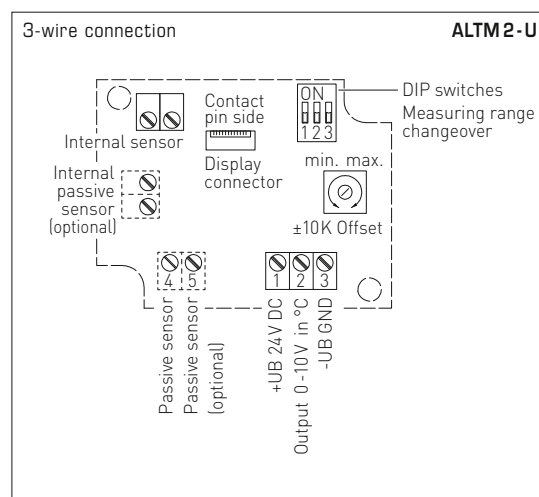
|                         |  |
|-------------------------|--|
| Power supply:           | 24 V AC / DC (± 10 %) for U variant<br>15...36 V DC for I variant, depending on working resistance, residual ripple stabilised ± 0.3 V   |
| Working resistance:     | $R_a(\text{ohm}) = (U_b - 14 \text{ V}) / 0.02 \text{ A}$ 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> with IP68)  |
| Measuring ranges:       | <b>multi-range switching with 8 switchable measuring ranges</b> , see table (other ranges optional)<br><b>T<sub>max</sub> over +100 °C</b> , operating range -50...+150 °C;<br><b>with manual zero point correction (± 10 K)</b>                               |
| Deviation, temperature: | typically ± 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   |
| Housing:                | plastic, UV-stabilised, material polyamide, 30 % glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), housing cover for display is transparent!                                |
| Housing dimensions:     | 72 x 64 x 37.8 mm (Tyr 1 without display)<br>72 x 64 x 43.3 mm (Tyr 1 with display)  |
| Cable connection:       | <b>cable gland</b> , plastic (M 16 x 1.5; with strain relief, exchangeable, inner diameter 10.4 mm) or <b>M12 connector</b> according to DIN EN 61076-2-101 (optional on request)  |
| Connection cable:       | silicone, SiHF, 2 x 0.25 mm², KL = 1.5 m (other lengths and range limits optional, e.g. PTFE leads up to +250 °C or glass fibre with steel wire mesh up to +350 °C)  |
| Electrical connection:  | 0.14 - 1.5 mm² 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 60730)  |
| Protection type:        | <b>IP 65</b> (according to EN 60529) humidity-tight stamped<br><b>IP 68</b> (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 <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**

|   |                             |
|---|-----------------------------|
|  | Standard                    |
|  | Measuring range exceeded    |
|  | Measuring range not reached |
|  | Sensor breakage             |
|  | Sensor short circuit        |

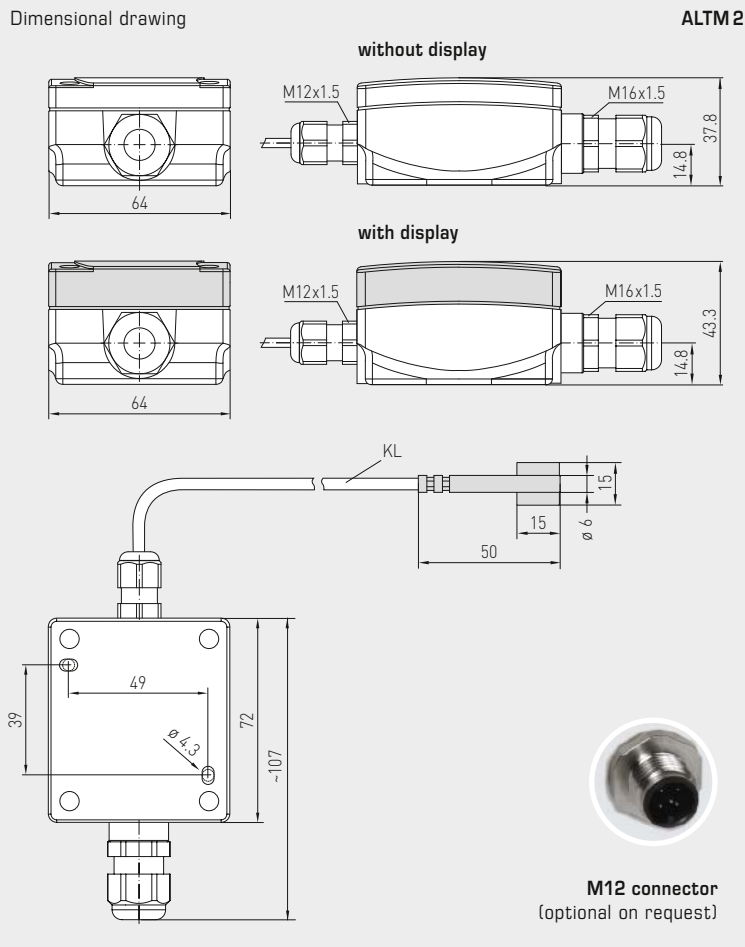




S+S REGELTECHNIK

THERMASGARD® ALTM 2

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including strap, with detached sensor head, calibratable,  
with multi-range switching and active output



ALTM 2  
with display

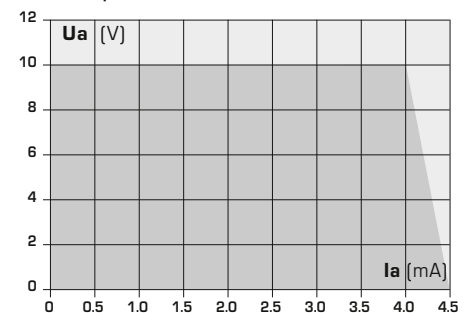


\* High-performance encapsulation against  
vibration, mechanical stress and humidity

**PS-PROTECTION**  
PERFECT SENSOR PROTECTION

| Measuring ranges<br>(adjustable) | DIP<br>1 | DIP<br>2 | DIP<br>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      |

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                  |
|--|--------|-----------|---------------|---------|--------------------|------------------------|
| <b>ALTM 2-I</b>  |        |           |               |         |                    | <b>IP65, I-variant</b> |
| ALTM2-I  | Pt1000 | 4...20 mA | Remote sensor |         | 1101-1122-0219-920 | 96,85 €                |
| ALTM2-I DISPLAY  | Pt1000 | 4...20 mA | Remote sensor | ■       | 1101-1122-2219-920 | 140,88 €               |
| <b>ALTM 2-U</b>  |        |           |               |         |                    | <b>IP65, U-variant</b> |
| ALTM2-U  | Pt1000 | 0-10 V    | Remote sensor |         | 1101-1121-0219-920 | 96,85 €                |
| ALTM2-U DISPLAY  | Pt1000 | 0-10 V    | Remote sensor | ■       | 1101-1121-2219-920 | 140,88 €               |
| Extra charge:  |        |           |               |         |                    |                        |
| other ranges optional  |        |           |               |         |                    | 21,96 €                |
| Protection type <b>IP68</b> (Sensor sleeve watertight compound-filled)     |        |           |               |         |                    | 2,94 €                 |
| 2-wire connecting leads, per running meter ( <b>PVC / silicone</b> )       |        |           |               |         |                    | on request             |
| Cable connection with <b>M12 connector</b> according to DIN EN 61076-2-101 |        |           |               |         |                    | on request             |

#### ACCESSORIES

|              |                                      |                    |        |
|--------------|--------------------------------------|--------------------|--------|
| <b>WLP-1</b> | Heat-conductive paste, silicone-free | 7100-0060-1000-000 | 2,92 € |
|--------------|--------------------------------------|--------------------|--------|