

**Pendulum room temperature measuring transducers, calibratable, with multi-range switching and active output (Automatic Output Switching)**

**Patented quality product** (patent no. DE 10 2015 015 941 B4)

Calibratable room pendulum temperature measuring transducer (with globe) **THERMASGARD® RPTM 2**, with eight switchable measuring ranges (max. -20...+150 °C), active output, cable sensor with a black plastic globe, housing made from impact-resistant plastic with quick-release screws, with cable gland or M12 connector according to DIN EN 61076-2-101, optionally with/without display. The standard display can be changed from SI [°C] to imperial [°F] units via DIP switch.

The measuring transducer converts the measured variables into a standard signal of 0- 10 V or 4...20 mA. The unit with **Automatic Output Switching** (AOS variant) detects the required output type and automatically switches to U or I output. Alternatively, a **type version** (2-wire I variant) with 2-wire connection and I output is available.

The pendulum sensor has been specially designed to detect the temperature in larger rooms or halls. The resistance thermometer (globe thermometer) achieves a very good, representative measurement result due to its positioning in the room. The dark radiation sensor determines the effective radiation heat at the measured location. This is relevant for calculating the thermal comfort (operative room temperature) taking into account the co-action of thermal radiation and thermal convection. The ratio of globe temperature / air temperature is approx. 70% / 30%. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

**RPTM 2**  
with cable gland



**TECHNICAL DATA**

**RPTM 2 - I**

|                     |  |
|---------------------|--|
| Power supply:       | 15...36 V DC,<br>depending on working resistance, residual ripple stabilised ± 0.3 V |
| Working resistance: | $R_a$ (Ohm) = $(U_b - 14 V) / 0.02 A$  |
| Connection type:    | 2-wire connection  |
| Output:             | <b>4...20 mA</b>   |

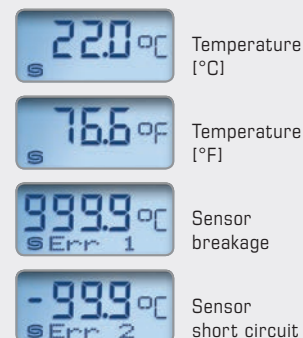
**RPTM 2 - A (AOS)**

|                  |   |
|------------------|---|
| Power supply:    | 24 V AC / DC (± 10 %)   |
| Load resistance: | $R_L = 25...450$ Ohm with AOS I variant<br>$R_L > 15$ kOhm with AOS U variant   |
| Connection type: | 3-wire connection   |
| Output:          | <b>automatic 0-10 V / 4...20 mA</b> (via <b>Automatic Output Switching</b> – the unit detects the required output type and automatically switches to U or I output) |

**GENERAL**

|                        |  |
|------------------------|--|
| Power consumption:     | < 1.0 VA / 24 V DC; < 2.2 VA / 24 V AC   |
| System of units:       | <b>SI</b> (default) or <b>Imperial</b> (switchable via DIP switch)   |
| Data points:           | Temperature [°C] [°F]  |
| Measuring ranges:      | <b>multi-range switching with 8 measuring ranges</b> , see table (other ranges optional)<br><b>T<sub>min</sub> -5 °C, T<sub>max</sub> +60 °C, with manual zero point correction (± 10 K)</b>                           |
| Sensor:                | Pt1000, DIN EN 60751, class B  |
| Accuracy, temperature: | typically ± 0.2 K at +25 °C  |
| Globe:                 | plastic, colour black, Ø = 50 mm   |
| Sensor cable:          | PVC, H03VV-F, 2 x 0.5 mm <sup>2</sup> ,<br>KL = approx. 1.5 m (other lengths optional)   |
| 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 dimension:     | 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, max. inner diameter 10.4 mm) or <b>M12 connector</b> (male, 5-pin, A-code) according to DIN EN 61076-2-101                                 |
| Electrical connection: | 0.14 - 1.5 mm <sup>2</sup> , via terminal screws   |
| Ambient temperature:   | measuring transducer -30...+70 °C  |
| Permissible humidity:  | < 95 % RH, non-precipitating air   |
| Protection class:      | III (according to EN 60 730)   |
| Protection type:       | <b>IP65</b> (according to EN 60 529) Housing tested, TÜV SÜD, Report No.713139052 (Tyr 1)  |
| Standards:             | CE conformity according to EMC directive 2014 / 30 / EU  |
| Optional:              | two-line <b>display with illumination</b> , cutout approx. 36x15 mm (W x H), for displaying the <b>ACTUAL temperature</b> and the <b>internal diagnostics</b> (sensor breakage, sensor short circuit)                  |

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



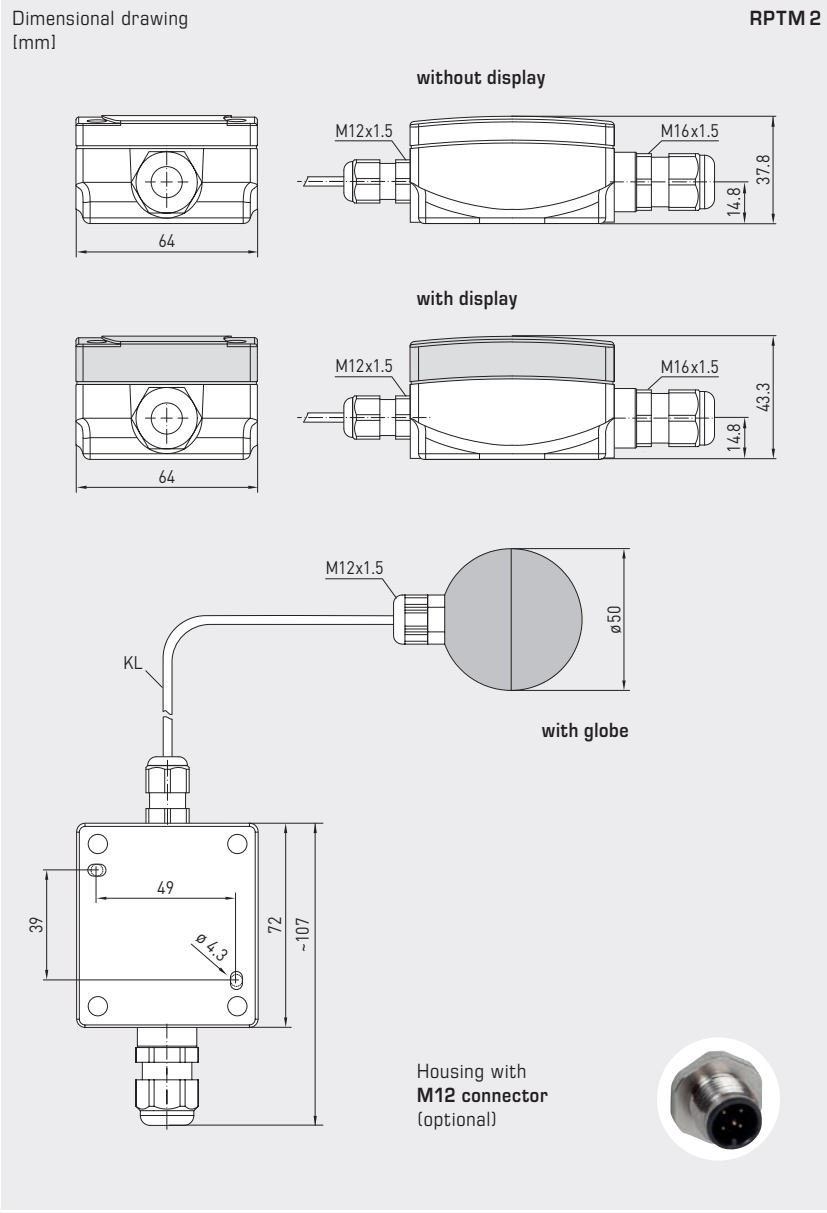


**NEW**

S+S REGELTECHNIK

THERMASGARD® RPTM 2

Pendulum room temperature measuring transducers, calibratable, with multi-range switching and active output (Automatic Output Switching)



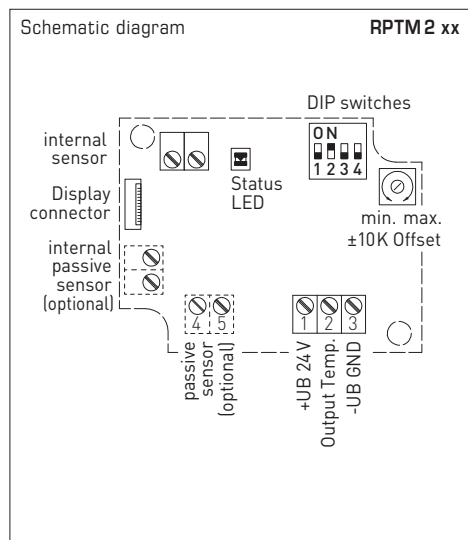
RPTM 2 with cable gland and display



Automatic detection and switching to standard signal 0...10V or 4...20mA

**AOS-PATENTED**  
AUTOMATIC OUTPUT SWITCHING

Pendulum room temperature measuring transducers, calibratable, with multi-range switching and active output (Automatic Output Switching)



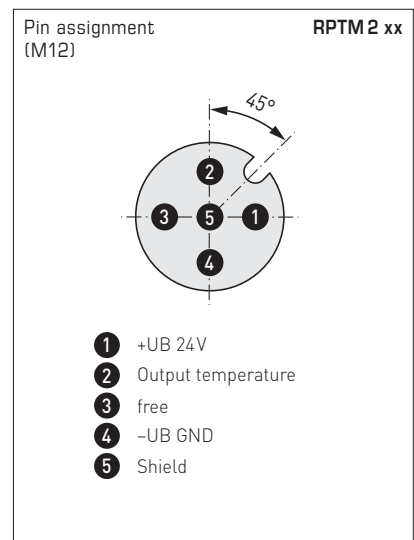
**2-wire connection\*** **RPTM 2 - I**

- 1 +UB 24V DC
- 2 Output Temp. 4...20mA
- 3 -UB GND (optional for backlighting)

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

**3-wire connection (AOS)** **RPTM 2 - A**

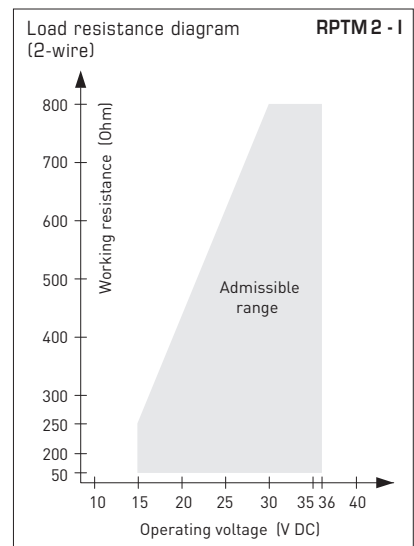
- 1 +UB 24V AC/DC
- 2 Output Temp. 0-10V / 4...20mA
- 3 -UB GND



| Measuring ranges [°C] | DIP 1      | DIP 2     | DIP 3      | Measuring ranges [°F] |
|-----------------------|------------|-----------|------------|-----------------------|
| -20...+150 °C         | ON         | ON        | ON         | -4...+302 °F          |
| -50... +50 °C         | OFF        | ON        | ON         | -58...+122 °F         |
| -20... +80 °C         | ON         | OFF       | ON         | -4...+176 °F          |
| -30... +60 °C         | OFF        | OFF       | ON         | -22...+140 °F         |
| 0... +40 °C           | ON         | ON        | OFF        | 32...+104 °F          |
| <b>0... +50 °C*</b>   | <b>OFF</b> | <b>ON</b> | <b>OFF</b> | <b>32...+122 °F*</b>  |
| 0...+100 °C           | ON         | OFF       | OFF        | 32...+212 °F          |
| 0...+150 °C           | OFF        | OFF       | OFF        | 32...+302 °F          |

| Display [°C] / [°F]      | DIP 4      |
|--------------------------|------------|
| Imperial [°F]            | ON         |
| <b>SI (default) [°C]</b> | <b>OFF</b> |

**Display switchable**  
Temperature [°C] → [°F]  
The display value depends on the set unit system (DIP 4).



For further technical information, see the operating instructions





**NEW**

**THERMASGARD® RPTM 2**

**S+S REGELTECHNIK**

Pendulum room temperature measuring transducers,  
calibratable, with multi-range switching  
and active output (Automatic Output Switching)

**RPTM 2 - Q**  
with M12 connector  
(on request)



**RPTM 2**  
with cable gland

| THERMASGARD® RPTM 2                      |   | Pendulum room temperature measuring transducers (with globe) |         |                    |  |
|--|---|--|---------|--------------------|--|
| Type / WG01                              | Output  | Type   | Display | Item No.           | Price                                      |
| <b>RPTM 2 - I</b> (2-wire)               |   |  |         |                    |  |
| RPTM2-I                                  | 4...20 mA   | Remote sensor  |         | 1101-1172-0219-910 | <b>168,54 €</b>                            |
| RPTM2-I LCD                              | 4...20 mA   | Remote sensor  | ■       | 1101-1172-2219-910 | <b>223,53 €</b>                            |
| <b>RPTM 2 - A</b> (3-wire AOS)           |   |  |         |                    |  |
| RPTM2-A                                  | 0-10 V / 4...20 mA  | Remote sensor  |         | 1101-117E-0219-910 | <b>168,54 €</b>                            |
| RPTM2-A LCD                              | 0-10 V / 4...20 mA  | Remote sensor  | ■       | 1101-117E-2219-910 | <b>223,53 €</b>                            |
| <b>Automatic Output Switching (AOS):</b> | Patented analogue interface (patent no. DE 10 2015 015 941 B4)<br>Unit automatically detects the required output type 0-10 V or 4...20 mA.                        |  |         |                    |  |
| Extra charge:                            | other measuring ranges optional<br>2-wire connecting leads, per running meter (PVC)<br>Cable connection with <b>M12 connector</b> according to DIN EN 61076-2-101 |  |         |                    | <b>28,03 €</b><br>on request<br>on request |

