

**Pendulum room temperature measuring transducer,**  
(with globe), calibratable,  
with W-Modbus (wireless)

Calibratable room pendulum temperature measuring transducer (with globe) **THERMASGARD® RPTM2-wModbus**, with with W-Modbus (wireless), in an impact-resistant plastic housing with quick-locking screws, cable sensor with a black plastic globe, optionally with /without display, measures temperature (–50...+150 °C). International system of units **SI** (default) can be changed to **imperial** (via Modbus). The W-Modbus (wireless) replaces the RTU cable, the BMS connection is wireless and is established via a W-Modbus gateway.

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%.

**Innovative W-Modbus sensor** with DIP switch for setting the bus address in current-free state, internal LEDs for displaying the connection quality and telegram status, push-in terminal and large three-line display (illuminated, individually programmable in the 7-segment range and dot-matrix range). Uses **internal diagnostics** to detect sensor breakage or sensor short circuit as errors. The error messages can be retrieved via Modbus and are shown on the display. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

#### TECHNICAL DATA

|                           |  |
|---------------------------|--|
| Voltage supply:           | 24 V AC (±20%); 15...36 V DC   |
| Power consumption:        | < 1.2 W / 24 V DC; < 1.8 VA / 24 V AC  |
| System of units:          | <b>SI</b> (default) or <b>Imperial</b> (switchable via Modbus)   |
| Data points:              | Temperature [°C] [°F]  |
| Sensor:                   | Pt1000, DIN EN 60751, class B  |
| Measuring range:          | –50...+150 °C; $T_{min}$ –50 °C, $T_{max}$ +80 °C  |
| Deviation, temperature:   | typically ±0.2 K at +25 °C   |
| Zero point offset:        | ± 10 °C  |
| Ambient temperature:      | Measuring transducer –30...+70 °C  |
| Medium:                   | clean air and non-aggressive, non-combustible gases  |
| Communication:            | <b>W-Modbus</b> (Wireless Modbus with 2.4 GHz ISM)   |
| Bus protocol:             | Modbus (RTU mode), address range 0... <b>247</b> selectable  |
| Signal filtering:         | 0,3 s / 1 s / 10 s   |
| Housing:                  | plastic, UV-resistant, 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:       | 108 x 78.5 x 43.3 mm (Tyr 3 without display)<br>108 x 78.5 x 45.8 mm (Tyr 3 with display)  |
| Cable connection:         | <b>cable gland</b> , plastic (M 20 x 1.5; with strain relief, exchangeable, inner diameter 8 - 13 mm) or <b>M12 connector</b> according to DIN EN 61076-2-101 (optional on request)  |
| Connection cable:         | PVC, H03VV-F, 2 x 0.5 mm <sup>2</sup> , cable length (KL) = approx. 1.5 m (other lengths optional)   |
| Globe:                    | plastic, colour black, Ø = 50 mm   |
| Electrical connection:    | 0.2 - 1.5 mm <sup>2</sup> , using push-in terminals  |
| Permissible air humidity: | <95 % RH, non-precipitating air  |
| Protection class:         | III (according to EN 60 730)   |
| Protection type:          | <b>IP 65</b> (according to EN 60 529)  |
| Standards:                | CE conformity, electromagnetic compatibility according to EN 61326, according to EMC Directive 2014 / 30 / EU, Radio Directive ETSI 300 328 V2.2.2   |
| Features:                 | <b>Display with illumination</b> , three-line, programmable, cutout approx. 51 x 29 mm (W x H), for displaying the actual temperature, error message or an individually programmable display value                             |
| Internal diagnostics:     | <b>Error 1</b> at sensor breakage<br><b>Error 2</b> at sensor short circuit  |

RPTM2-wModbus

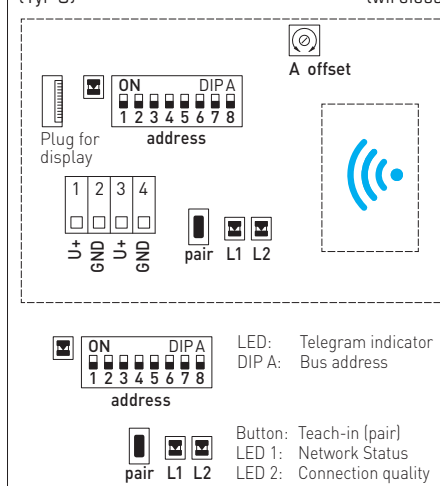


Device version  
with **M12 connector**  
(optional on request)



Schematic diagram  
(Tyr 3)

**W-Modbus**  
(wireless)



Programmable  
display screen

**Modbus**  
**Tyr 3**



**NEW**

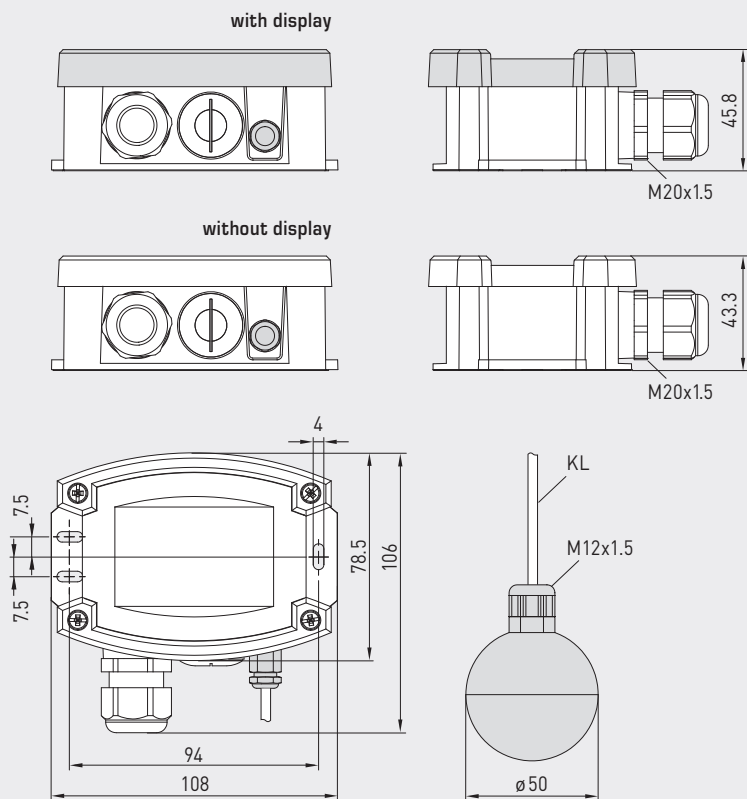
S+S REGELTECHNIK


THERMASGARD® RPTM 2-wModbus

Pendulum room temperature measuring transducer,  
(with globe), calibratable,  
with W-Modbus (wireless)

Dimensional drawing  
[mm]

RPTM 2-wModbus

RPTM 2-wModbus  
with display

| THERMASGARD® RPTM 2 -wModbus Pendulum room temperature measuring transducer (with globe) |  |                     |               |   |                    |          |
|--|--|---------------------|---------------|---|--------------------|----------|
| Type/ WG01   | Measuring Range<br>Temperature   | Output              | Type          | Display   | Item No.           | Price    |
| RPTM 2 -wModbus  |  |                     |               |   |                    |          |
| RPTM2-wModbus  | -50...+150 °C  | W-Modbus (wireless) | Remote sensor |   | 1101-629F-0210-000 | 267,83 € |
| RPTM2-wModbus LCD  | -50...+150 °C  | W-Modbus (wireless) | Remote sensor |  | 1101-629F-4210-000 | 324,34 € |
| Extra charge:  | per running metre of connecting lead (PVC)   |                     |               |   | on request         |          |
|  | Cable connection with <b>M12 connector</b> according to DIN EN 61076-2-101   |                     |               |   | on request         |          |
| <b>Note:</b>   | System of units <b>SI</b> (default) or <b>imperial</b> (can be changed via Modbus).  |                     |               |   |                    |          |
| ACCESSORIES  |  |                     |               |   |                    |          |
|  | <b>Gateway</b> with W-Modbus (wireless), for wireless connection to Modbus networks, with "Gateway" (master) and " <b>Node</b> " operating modes (max. 1 wired node) |                     |               |   | 1801-1211-1101-000 | 229,00 € |
| <b>GW-wModbus</b>  |  |                     |               |   |                    |          |
| <b>GW-wModbus Pro</b>  | <b>"Node Pro"</b> (max. 16 wired nodes)  |                     |               |   | 1801-1211-1101-100 | 310,00 € |