

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

Calibratable room pendulum temperature measuring transducer (with globe) **THERMASGARD® RPTM 2-Modbus-T3**, with Modbus connection, 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). With **wModbus** device version, the W-Modbus (Wireless) replaces the RTU cable; the BMS connection is radio-based using 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 Modbus sensor** with galvanically isolated RS485 Modbus interface, switchable bus terminating resistor, DIP switch for setting in current-free state, internal LEDs for telegram status display, push-in terminals and large three-line display (illuminated, individually programmable). Uses **internal diagnostics** to detect sensor breakage or sensor short circuit as errors. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

**RPTM 2-Modbus-T3**  
without display  
(RTU cable)

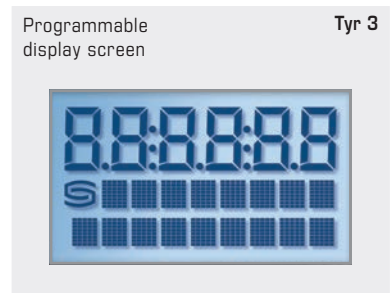


**RPTM 2-wModbus**  
without display  
(wireless)



**TECHNICAL DATA**

Power 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; <b>T<sub>min</sub> -50 °C, T<sub>max</sub> +80 °C</b>
Accuracy, 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>Modbus</b> (RTU cable), Bus interface RS 485, <b>galvanically isolated</b> , Baud rate 9600, 19200, 38400 baud <b>or</b> <b>W-Modbus</b> (Wireless Modbus, AES-128 encrypted) Frequency <b>2.4 GHz</b> ISM, Transmission power <b>100 mW</b> , Range <b>max. 500 m</b> (open field) / approx. 50-70 m (inside buildings)
Bus protocol:	Modbus (RTU mode), address range 0... <b>247</b> adjustable
Signal filtering:	0,3 s / 1 s / 10 s
Globe:	plastic, colour black, Ø = 50 mm
Sensor cable:	PVC, H03VV-F, 2 x 0.5 mm <sup>2</sup> , cable length (KL) = approx. 1.5 m (other lengths optional)
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) 108 x 78.5 x 45,8 mm (Tyr 3 with display)
Cable connection:	<b>cable gland</b> , plastic (M20 x 1.5; with strain relief, exchangeable, inner diameter 8 - 13 mm) <b>or</b> <b>M12 connector</b> according to DIN EN 61076-2-101 (optional on request)
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 (Modbus):	CE conformity according to EMC Directive 2014 / 30 / EU
Standards (W-Modbus):	CE conformity according to Radio Directive 2014 / 53 / EU
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 <b>Error 2</b> at sensor short circuit



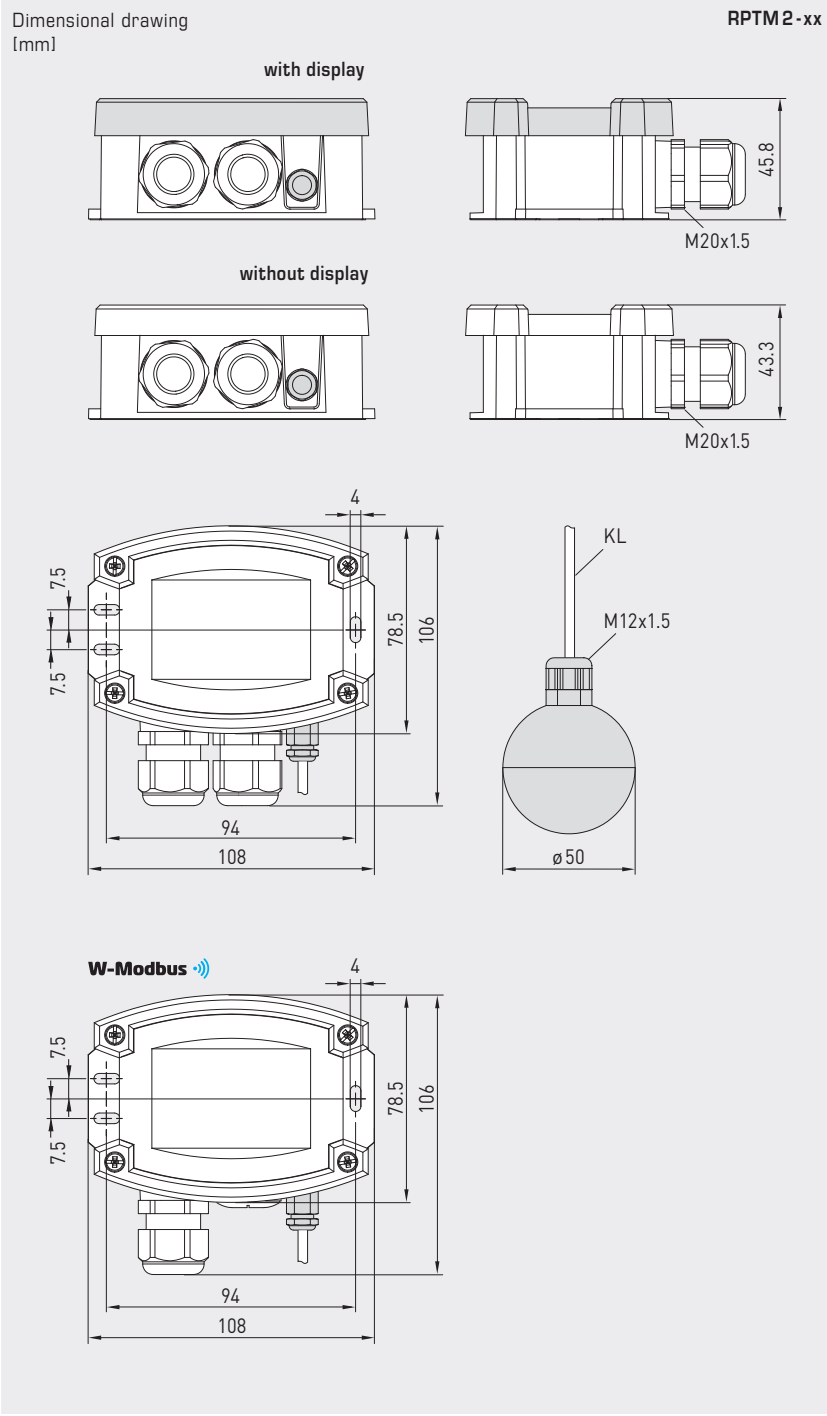


**NEW**

S+S REGELTECHNIK

# THERMASGARD® RPTM 2-Modbus-T3 THERMASGARD® RPTM 2-wModbus

Pendulum room temperature measuring transducer,  
(with globe), calibratable,  
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Device version  
with **M12 connector**  
(optional on request)



**RPTM 2-Modbus-T3**  
with display  
(RTU cable)



**RPTM 2-wModbus**  
with display  
(wireless)



# THERMASGARD® RPTM 2-Modbus-T3

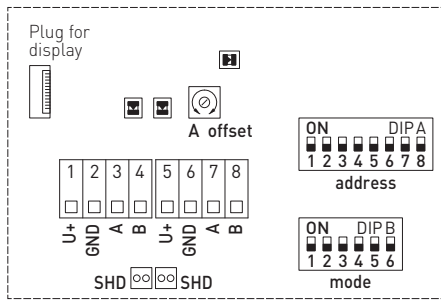
## THERMASGARD® RPTM 2-wModbus



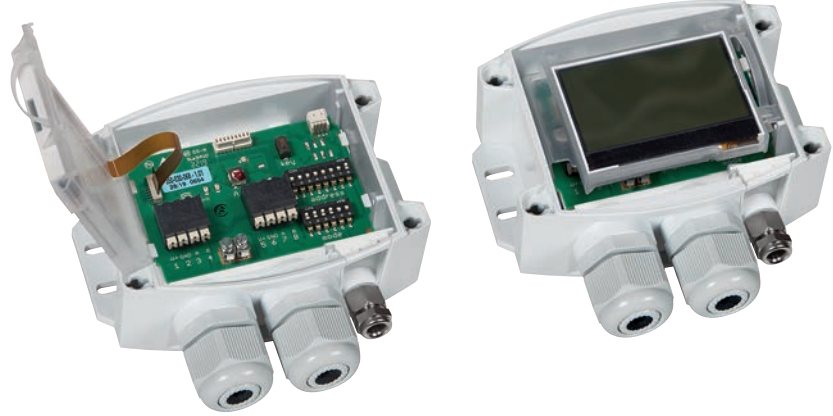
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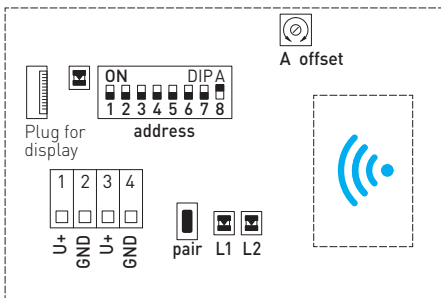
### Schematic diagram (Tyr3) Modbus (RTU cable)



- DIP A: Bus address
- DIP B: Bus parameters (Baud rate, parity...)
- Telegram indicator Reception (LED green) Error (LED red)
- LED (internal status)
- Offset correction
- Shielding



### Schematic diagram (Tyr3) W-Modbus (wireless)



- DIP A: address
- LED: Telegram Status
- DIP A: Bus address
- pair L1 L2
- Button: Teach-in (pair)
- LED 1: Network Status
- LED 2: Connection quality



### GW-wModbus (Pro)

Gateway with W-Modbus module,  
for radio-based connection to Modbus networks





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Pendulum room temperature measuring transducer,  
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with Modbus connection or W-Modbus (wireless)

RPTM 2 - wModbus  
with / without display  
(wireless)



RPTM 2-Modbus-T3  
with / without display  
(RTU cable)



THERMASGARD® RPTM 2 - Modbus - T3 RPTM 2 - wModbus Pendulum room temperature measuring transducer, (with globe) with Modbus connection (RTU cable) or with W-Modbus (wireless)

Type / WG01	Output	Type	Display	Item No.	Price
<b>RPTM 2 - xx</b>					
RPTM2-Modbus-T3	Modbus (RTU cable)	Remote sensor		1101-6296-0210-000	244,05 €
RPTM2-Modbus-T3 LCD	Modbus (RTU cable)	Remote sensor	■	1101-6296-4210-000	304,58 €
RPTM2-wModbus	W-Modbus (wireless)	Remote sensor		1101-629F-0210-000	286,90 €
RPTM2-wModbus LCD	W-Modbus (wireless)	Remote sensor	■	1101-629F-4210-000	347,43 €
Extra charge:	per running metre of connecting lead (PVC) Cable connection with <b>M12 connector</b> according to DIN EN 61076-2-101			on request on request	
<b>Note:</b>	System of units <b>SI</b> (default) or <b>imperial</b> (can be changed via Modbus).				

### MODBUS ACCESSORIES

<b>GW-wModbus</b>	Gateway with W-Modbus (Wireless) for radio-based connection to Modbus networks, operating modes <b>'Gateway'</b> (basic function as a base station) and <b>'Node'</b> (adapter function for max. 1 wired sensor)	1801-1211-1101-000	245,30 €
<b>GW-wModbus Pro</b>	and <b>'Node Pro'</b> (adapter function for max. 16 wired sensors)	1801-1211-1101-100	332,07 €
<b>KA2-Modbus</b>	<b>Communication adapter</b> (USB/RS485) for system connection	1906-1200-0000-100	236,11 €
<b>LA-Modbus</b>	<b>Line termination device</b> (with terminating resistor) as an active bus termination	1906-1300-0000-100	88,05 €

For further information see the end of the chapter!