

**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 temperature measuring transducer **THERMASGARD® RTM 1**, with eight switchable measuring ranges (max. -20...+150 °C), active output, in an elegant housing made of plastic, with snap-on lid, base with 4-hole attachment for installation on vertically or horizontally installed in-wall flush boxes, with predetermined breaking point for on-wall cable entry. Optionally available as a design with vandal-proof housing made of stainless steel (top and base screwed together).

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

This room temperature sensor is used to detect temperatures in closed dry rooms such as flats, in offices and business facilities. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

**TECHNICAL DATA**

**RTM 1 - I**

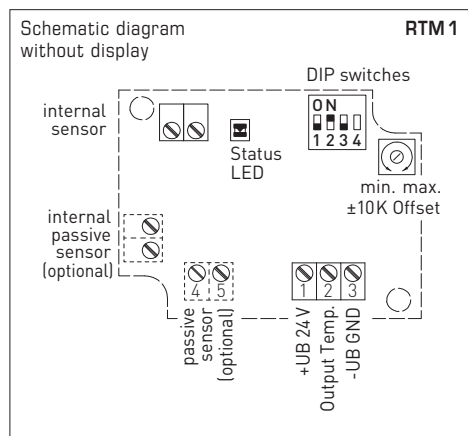
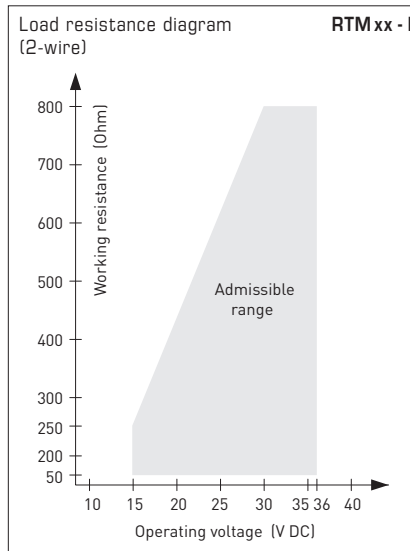
Power supply:	15...36 V DC, depending on working resistance, residual ripple stabilised ± 0.3 V
Working resistance:	$R_a \text{ (Ohm)} = (U_b - 14 \text{ V}) / 0.02 \text{ A}$
Connection type:	2-wire connection
Output:	<b>4...20 mA</b>

**RTM 1 - A (AOS)**

Power supply:	24 V AC / DC (± 10%)
Load resistance:	$R_L = 25...450 \text{ Ohm}$ with AOS I variant $R_L > 15 \text{ kOhm}$ with AOS U variant
Connection type:	3-wire connection
Output:	<b>automatic 0-10V / 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:	< 1,0W / 24V DC; < 2.2VA / 24V AC
Measuring ranges:	<b>multi-range switching with 8 measuring ranges</b> see table (other ranges optional) <b>with manual zero point correction (± 10K)</b>
Sensor:	Pt1000, DIN EN 60751, class B
Accuracy, temperature:	typically ± 0.2K at +25 °C
Housing:	plastic, flame retardant (UL 94 V-0), PC/ABS material, colour white (similar to RAL 9016), optional stainless steel <b>V2A</b> (1.4301)
Housing dimensions:	85 x 85 x 27 mm (Baldur 1) 75 x 75 x 25 mm (stainless steel)
Electrical connection:	0.14 - 1.5 mm <sup>2</sup> , via terminal screws on circuit board
Installation:	wall mounting or on in-wall flush box Ø55 mm, base with 4-hole for mounting on vertically or horizontally installed in-wall flush boxes for cable entry from the back, with predetermined breaking point for on-wall cable entry from top/bottom in case of plain on-wall installation
Ambient temperature:	measuring transducer -30...+70 °C
Permitted humidity:	< 95% RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	<b>IP 30</b> (according to EN 60529)
Standards:	CE conformity according to EMC directive 2014 / 30 / EU



**2-wire without display RTM 1 - I**

1	+UB 24V DC
2	Output Temp. 4...20mA
3	free

**3-wire (AOS) without display RTM 1 - A**

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

Measuring ranges [°C] (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
<b>0... + 50 °C (default)</b>	OFF	ON	OFF
0...+ 100 °C	ON	OFF	OFF
0...+ 150 °C	OFF	OFF	OFF

**DIP4** has no function!

For further technical information, see the operating instructions



NEW

S+S REGELTECHNIK

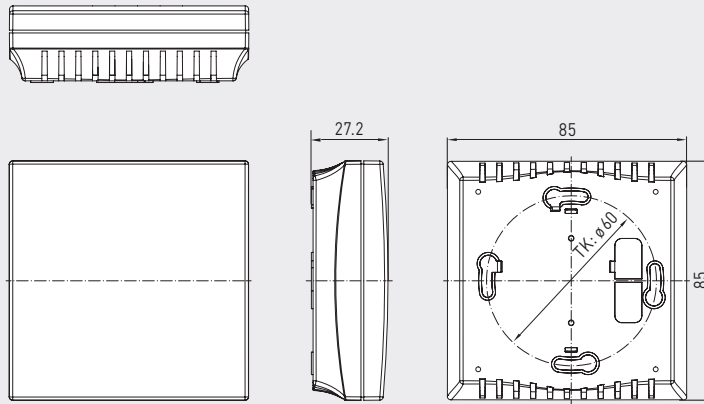
THERMASGARD® RTM 1

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



Dimensional drawing [mm]

Housing Baldur 1

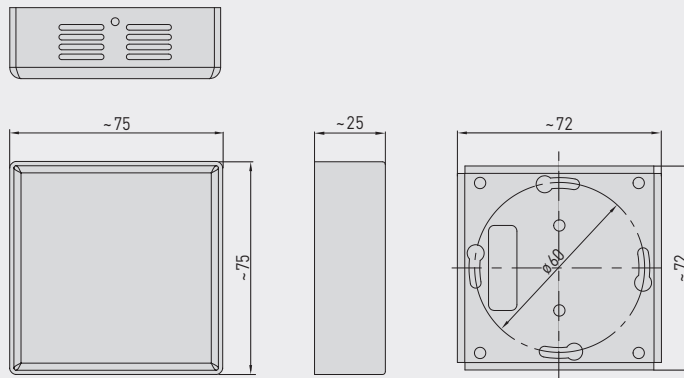


RTM 1 without display (Baldur 1)



Dimensional drawing [mm]

Housing stainless steel



RTM 1 without display (stainless steel)



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

**AOS-PATENTED**  
AUTOMATIC OUTPUT SWITCHING

THERMASGARD® RTM 1		Room temperature measuring transducers with multi-range switching (without display)		
Type / WG01	Output	Features	Item No.	Price
<b>RTM1-I</b>	<b>(2-wire)</b>			
RTM1-I	4...20 mA	-	1101-41A2-0000-200	<b>82,05 €</b>
RTM1-I VA	4...20 mA	Stainless steel housing <b>V2A</b> (1.4301)	1101-4152-0000-200	<b>213,44 €</b>
<b>RTM1-A</b>	<b>(3-wire AOS)</b>			
RTM1-A	0-10 V / 4...20 mA	-	1101-41AE-0000-200	<b>82,05 €</b>
RTM1-A VA	0-10 V / 4...20 mA	Stainless steel housing <b>V2A</b> (1.4301)	1101-415E-0000-200	<b>213,44 €</b>
<b>Automatic Output Switching:</b>	patented analogue interface (patent no. DE 10 2015 015 941 B4) Unit automatically detects the required output type 0-10V or 4...20 mA.			
<b>Measuring range:</b>	<b>multi-range switching</b> with 8 switchable measuring ranges (see DIP table) 0...+50 °C (default), max. -20...+150 °C			
Extra charge:	other measuring ranges optional additional passive sensor (pin 4/5) optionally upon request			<b>27,21 €</b>
Note:	for units <b>with display</b> and/or potentiometer, see the following pages			



Room temperature measuring transducers, calibratable, with display and/or potentiometer and active output (Automatic Output Switching)

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

Calibratable room temperature measuring transducer **THERMASGARD® RTM xx** with active output, temperature range (0...+50 °C), in an elegant housing made of plastic, with snap-on lid, base with 4-hole attachment for installation on vertically or horizontally installed in-wall flush boxes, with predetermined breaking point for on-wall cable entry, optionally with potentiometer and/or 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)** detects the required output type and automatically switches to U or I output. Alternatively, a **type version** (2-wire I) with 2-wire connection and I output is available.

This room temperature sensor is used to detect temperatures in closed dry rooms such as flats, in offices and business facilities. The sensor is factory-calibrated; an environmental precision adjustment by an expert is possible.

RTM xx  
without potentiometer,  
with display



TECHNICAL DATA

RTM - I

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

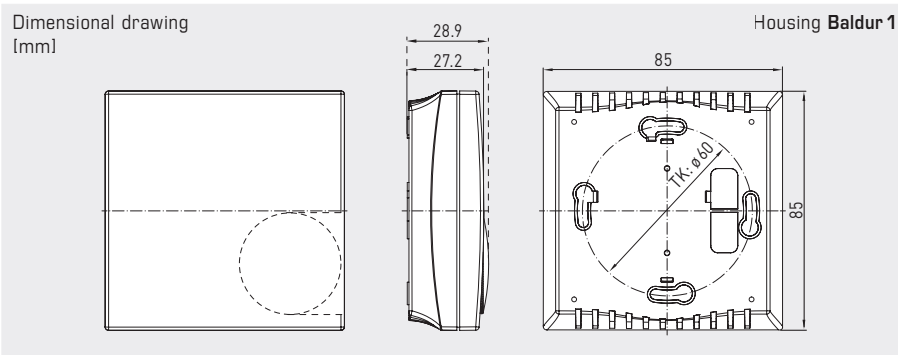
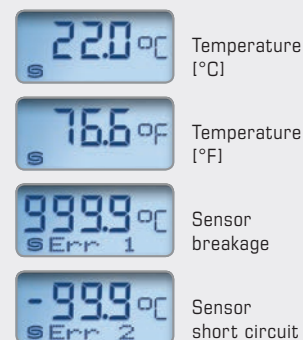
RTM - A (AOS)

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

GENERAL

Power consumption:	< 1.0W / 24V DC; < 2.2VA / 24V AC
System of units:	SI (default) or Imperial (switchable via DIP switch)
Data points:	Temperature [°C] [°F]
Measuring ranges:	0...+50 °C (other ranges optional) with manual zero point correction (± 10K)
Sensor:	digital temperature sensor
Accuracy, temperature:	typically ± 0.2K at +25 °C
Housing:	plastic, flame retardant (UL 94 V-0), PC/ABS material, colour white (similar to RAL 9016)
Housing dimensions:	85 x 85 x 27 mm (Baldur 1)
Electrical connection:	0.14 - 1.5 mm <sup>2</sup> , via terminal screws
Installation:	wall mounting or on in-wall flush box Ø55 mm, base with 4-hole for mounting on vertically or horizontally installed in-wall flush boxes for cable entry from the back, with predetermined breaking point for on-wall cable entry from top/bottom in case of plain on-wall installation
Ambient temperature:	measuring transducer -30...+70 °C
Permitted humidity:	<95% RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP 30 (according to EN 60529)
Standards:	CE conformity according to EMC directive 2014/30/EU
Control element:	potentiometer, with angle of rotation limiter, the standard marking is a swelling arrow with centre position, unfilled (others upon request)
Optional:	Two-line display with illumination, cutout 36 x 15 mm (W x H), for displaying the ACTUAL temperature and the internal diagnostics (sensor breakage, sensor short circuit)

Display and internal diagnostics  
THERMASGARD®  
Measuring transducer with display



Display (switchable)	DIP 1
Imperial [°F]	ON
SI (default) [°C]	OFF

Display  
Temperature [°C] → [°F]  
The display value depends on the set unit system (DIP 1).

For further technical information, see the operating instructions

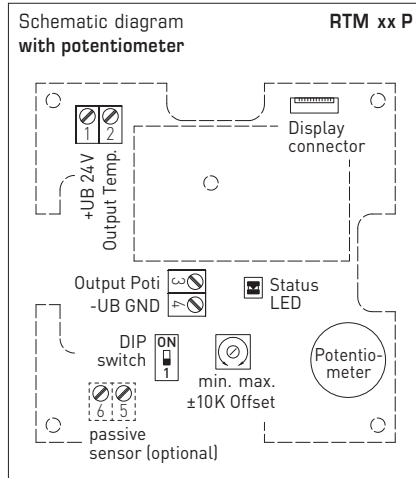
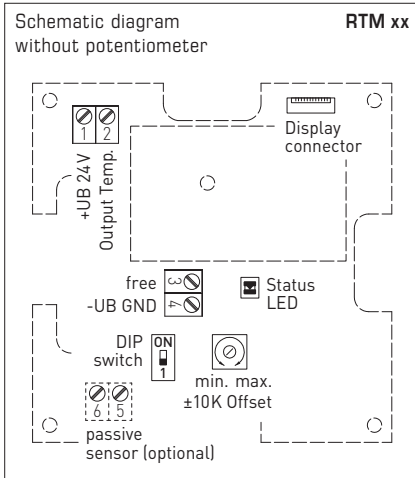


**NEW**

S+S REGELTECHNIK

THERMASGARD® RTM xx

Room temperature measuring transducers, calibratable, with display and/or potentiometer and active output (Automatic Output Switching)



**RTM xx**  
with Potentiometer,  
with/without display



**2-wire\* RTM-I LCD**  
without potentiometer,  
with display

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

\* 2-wire connection for devices with display (not illuminated)  
3-wire connection for devices with illuminated display

**4-wire (AOS) RTM-A P**  
with potentiometer,  
with/without display

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

**6-wire (AOS) RTM-A P Pt1000**  
with potentiometer,  
with passive sensor

- 1 +UB 24V AC/DC
- 2 Output Temp. 0-10V / 4...20mA
- 3 Output Poti 0-10V / 4...20mA
- 4 -UB GND
- 5 Rx
- 6 passive sensor (optional)

**3-wire (AOS) RTM-A LCD**  
without potentiometer,  
with display

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



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

**AOS-PATENTED**  
AUTOMATIC OUTPUT SWITCHING

THERMASGARD® RTM xx		Room temperature measuring transducers (with display and/or potentiometer)					
Type / WG01	Output Temperature active	Output Temperature passive	Output Potentiometer active	Poti	Display	Item No.	Price
<b>RTM-I</b>	<b>(2-wire)</b>						
RTM-I LCD	4...20 mA	(optional)	–		■	1101-41A2-2000-200	<b>129,41 €</b>
<b>RTM-A</b>	<b>(AOS)</b>						
RTM-A LCD	0-10 V / 4...20 mA	(optional)	–		■	1101-41AE-2000-200	<b>129,41 €</b>
RTM-A P LCD	0-10 V / 4...20 mA	(optional)	0-10 V / 4...20 mA	●	■	1101-41AE-2004-346	<b>266,33 €</b>
RTM-A P	0-10 V / 4...20 mA	(optional)	0-10 V / 4...20 mA	●		1101-41AE-0004-346	<b>157,24 €</b>
RTM-A P Pt1000	0-10 V / 4...20 mA	<b>Pt1000</b>	0-10 V / 4...20 mA	●		1101-41AE-0054-346	<b>164,88 €</b>
<b>Automatic Output Switching:</b>	patented analogue interface (patent no. DE 10 2015 015 941 B4) Unit automatically detects the required output type 0-10V or 4...20mA.						
<b>Measuring range:</b>	<b>0...+50 °C</b> (permanently set)						
<b>Extra charge:</b>	other measuring ranges optional additional passive sensor (pin 5/6) optionally upon request						<b>27,21 €</b>
<b>Potentiometer:</b>	the standard marking is a swelling arrow with centre position, (–•+), unfilled optionally wedge-shaped without centre position (–...+) or with marking points (–3K...+3K) – special print upon request						