

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. $-20...+150\text{ }^{\circ}\text{C}$), 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 $\pm 0.3\text{ V}$
Working resistance:	$R_a\text{ (Ohm)} = (U_b - 14\text{ V}) / 0.02\text{ A}$
Connection type:	2-wire connection
Output:	4...20 mA

RTM 1 - A (AOS)

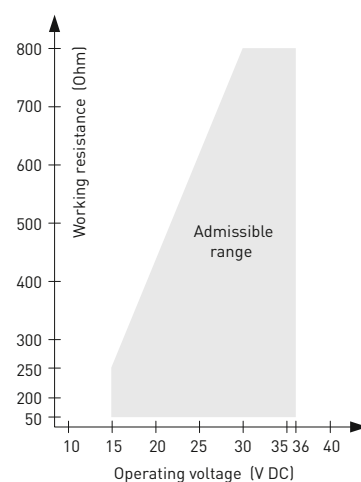
Power supply:	24 V AC / DC ($\pm 10\%$)
Load resistance:	$R_L = 25...450\text{ Ohm}$ with AOS I variant $R_L > 15\text{ kOhm}$ with AOS U variant
Connection type:	3-wire connection
Output:	automatic 0-10V / 4...20 mA (via Automatic Output Switching – the unit detects the required output type and automatically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

GENERAL

Power consumption:	$< 1.0\text{ W} / 24\text{ V DC}$; $< 2.2\text{ VA} / 24\text{ V AC}$
Measuring ranges:	multi-range switching with 8 measuring ranges see table (other ranges optional) with manual zero point correction ($\pm 10\text{ K}$)
Sensor:	Pt1000, DIN EN 60751, class B
Deviation, temperature:	typically $\pm 0.2\text{ K}$ at $+25\text{ }^{\circ}\text{C}$
Housing:	plastic, material ABS, colour pure white (similar to RAL 9010), optional stainless steel V2A (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 ² , via terminal screws on circuit board
Installation:	wall mounting or on in-wall flush box $\varnothing 55\text{ mm}$, 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 $-30...+70\text{ }^{\circ}\text{C}$
Permitted humidity:	$< 95\%$ RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP 30 (according to EN 60 529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326, according to EMC directive 2014 / 30 / EU

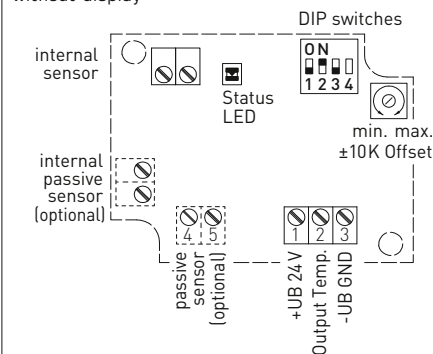
Load resistance diagram
(2-wire)

RTM xx - I



Schematic diagram
without display

RTM 1



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 [$^{\circ}\text{C}$] (adjustable)	DIP 1	DIP 2	DIP 3
$-20...+150\text{ }^{\circ}\text{C}$	ON	ON	ON
$-50...+50\text{ }^{\circ}\text{C}$	OFF	ON	ON
$-20...+80\text{ }^{\circ}\text{C}$	ON	OFF	ON
$-30...+60\text{ }^{\circ}\text{C}$	OFF	OFF	ON
$0...+40\text{ }^{\circ}\text{C}$	ON	ON	OFF
$0...+50\text{ }^{\circ}\text{C}$ (default)	OFF	ON	OFF
$0...+100\text{ }^{\circ}\text{C}$	ON	OFF	OFF
$0...+150\text{ }^{\circ}\text{C}$	OFF	OFF	OFF

DIP4 has no function!

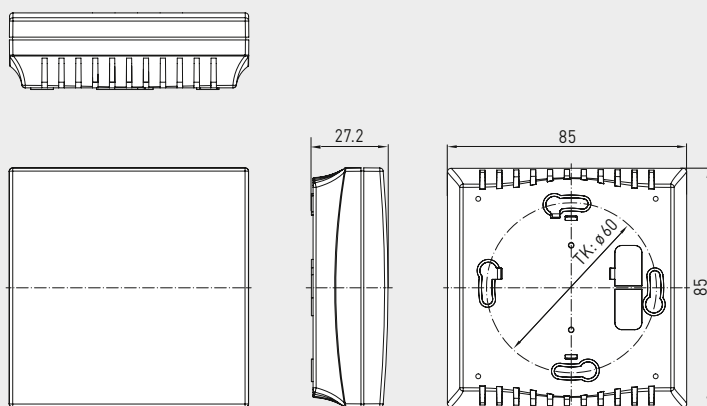
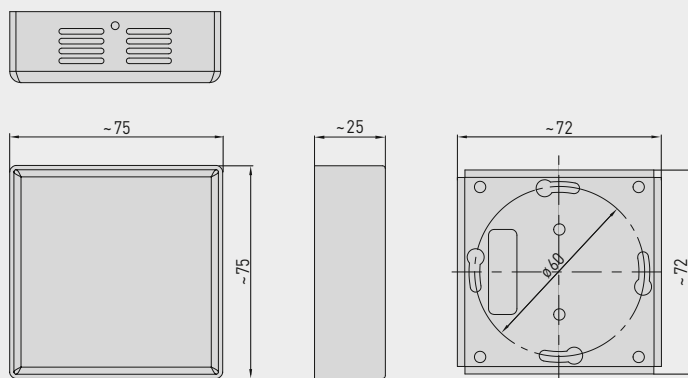
For further technical information,
see the operating instructions

**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.
RTM1-I	(2-wire)		
RTM1-I	4...20 mA	–	1101-41A2-0000-200
RTM1-I VA	4...20 mA	Stainless steel housing V2A (1.4301)	1101-4152-0000-200
RTM1-A	(3-wire AOS)		
RTM1-A	0-10 V / 4...20 mA	–	1101-41AE-0000-200
RTM1-A VA	0-10 V / 4...20 mA	Stainless steel housing V2A (1.4301)	1101-415E-0000-200
Automatic Output Switching:	patented analogue interface (patent no. DE 10 2015 015 941 B4) Unit automatically detects the required output type 0-10 V or 4...20 mA.		
Measuring range:	multi-range switching 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		
Note:	for units with display and/or potentiometer, see the following pages		