

# Bimetal room temperature controllers RTBSB

For surface-mounted installation – Design Berlin 2000



## Technical data

<b>Operating voltage:</b>	230 V ~; 24 V ~, 50 Hz
<b>Sensor:</b>	bimetal
<b>Switching capacity:</b>	see "Equipment"
<b>Setting ranges:</b>	5 ... 30 °C; 10 ... 60 °C; –20 ... +30 °C
<b>Switching difference:</b>	approx. 0,5 K with a temperature change of max. 4 K/h
<b>Temperature decrease:</b>	approx. 4 K
<b>Degree of protection:</b>	IP 30
<b>Protection class:</b>	II, after according installation
<b>General equipment:</b>	thermal feedback, mechanical range reduction
<b>Admissible air moisture:</b>	max. 95 % r.h., non condensing
<b>Storage temperature:</b>	–20 ... +70 °C
<b>Safety and EMC:</b>	acc. to DIN EN 60730
<b>Ambient temperature:</b>	0 ... 30 °C, 0 ... 60 °C, –20 ... +30 °C (depending on the temperature range)
<b>Housing colour:</b>	pure white, similar to RAL 9010
<b>Housing material:</b>	Plastic (ABS)
<b>Mounting/installation:</b>	surface- / wall-mounted installation (4 hole fixing on a flush mounting box)
<b>Weight:</b>	approx. 90 g
<b>Electrical connections:</b>	terminal screws

## Application

Control or supervision of temperatures in closed rooms. Suited for all types of heating systems.

Valve actuator: normally closed type. Normally open heating valves must, if existing, be connected to the cooling outlet of the changeover contact.

Up to 10 valve actuators can be connected (break contact) and up to 5 actuators to the changeover contact (please note the switching capacity information listed under "Equipment").

The **installation** on a flush-mounted box is recommended on account of the restricted wiring space inside of the device. The controller can nevertheless be mounted on an even, non-conductible surface.

Ideal for applications in **switch cabinets, see Industrial Technology page 113**, type PTR 01.082

Suitable valve actuators on page 43.

More climate controllers as of page 51.

See also "Technical terms" (as of page 172).

Model/Picture	Item No.	Equipment	Circuit diagram	PG
	MA 010000	Break contact, 5 ... 30 °C, <b>230 V ~, 10 (4) A</b> , Ambient temperature 0 ... 30 °C		I
	MA 010100	Break contact, 5 ... 30 °C, temperature decrease input, <b>230 V ~, 10 (4) A</b> , Ambient temperature 0 ... 30 °C		I
	MA 010200	Changeover contact (max. 5 actuators), 5 ... 30 °C, <b>230 V ~</b> , <b>Heating (Terminal 3): 10 (4) A</b> , <b>Cooling (Terminal 2): 5 (2) A</b> , Ambient temperature 0 ... 30 °C		I
	MA 010900	Changeover contact (max. 5 actuators), 5 ... 30 °C, ON/OFF switch, permanently operated fan, <b>230 V ~</b> , <b>Heating (Terminal 3): 10 (4) A</b> , <b>Cooling (Terminal 2): 5 (2) A</b> , <b>Fan (Terminal 2): 5 (2) A</b> , Ambient temperature 0 ... 30 °C		I


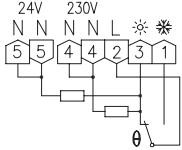

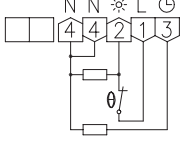

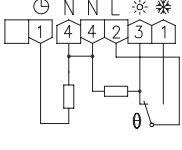

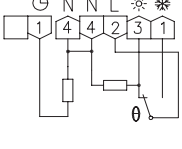

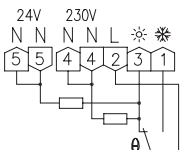
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Model/Picture	Item No.	Equipment	Circuit diagram	PG
	MA 011200	Changeover contact (max. 5 actuators), <b>-20...+30°C</b> , <b>230 V~</b> , <b>Heating (Terminal 3): 10 (4) A</b> , <b>Cooling (Terminal 1): 5 (2) A</b> , Ambient temperature <b>-20...30°C</b>		I
	MA 011300	Changeover contact (max. 5 actuators), <b>10...60°C</b> , <b>230 V~</b> , <b>Heating (Terminal 3): 10 (4) A</b> , <b>Cooling (Terminal 1): 5 (2) A</b> , Ambient temperature <b>10...60°C</b>		I
	MA 011400	Break contact, <b>5...30°C</b> "ON/OFF" switch, "Heating" lamp, switch/indicator lamp "additional heating" <b>230 V~</b> , <b>10 (4) A</b> , Ambient temperature <b>0...30°C</b>		I
	MA 012400	Break contact, <b>5...30°C</b> , ON/OFF switch, temperature decrease input, heating indicator lamp, <b>230 V~</b> , <b>10 (4) A</b> , Ambient temperature <b>0...30°C</b>		I
	MA 010600	Changeover contact (max. 5 actuators), <b>5...30°C</b> , heating/cooling switch <b>Climate controller for use with 2-pipe systems, especially heat pumps</b> <b>230 V~</b> , <b>5 (2) A</b> , Ambient temperature <b>0...30°C</b>		I
	MA 010500	Changeover contact (max. 5 actuators), <b>5...30°C</b> , triple switch "temperature decrease/heating/temperature decrease via external timer", temperature decrease mode, indicator lamp, <b>230 V~</b> , <b>Heating (Terminal 3): 10 (4) A</b> , <b>Cooling (Terminal 1): 5 (2) A</b> , Ambient temperature <b>0...30°C</b>		I
	MA 010800	Break contact, <b>5...30°C</b> , numeric scale <b>1...6</b> , <b>switching capacity 3000 Watt</b> , for use with direct electrical heating systems, such as marble heating systems and others. <b>230 V~</b> , <b>13 (4) A</b> , <b>If heating output exceeds 1500 W, do not connect terminal 4</b> Ambient temperature <b>0...30°C</b>		I
	MA 012500	Break contact, <b>5...30°C</b> , numeric scale <b>1...6</b> , heating indicator lamp, <b>switching capacity 3000 Watt</b> , for use with direct electrical heating systems, such as marble heating systems and others. <b>230 V~</b> , <b>13 (4) A</b> , <b>If heating output exceeds 1500 W, do not connect terminal 4</b> Ambient temperature <b>0...30°C</b>		I

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Model/Picture	Item No.	Equipment	Circuit diagram	PG
<b>RTBSB-001.110</b> 	MA 012701	Changeover contact (max. 5 actuators), 5...30°C, <b>230 V~ /24 V~</b> , <b>Heating (Terminal 3):</b> <b>230 V~ 10 (4) A or</b> <b>24 V~ 2 (2) A,</b> <b>Cooling (Terminal 1):</b> <b>230 V~ 5 (2) A or</b> <b>24 V~ 2 (2) A,</b> Ambient temperature 0...30°C		I
<b>RTBSB-001.202</b> 	MA 011700	Break contact (max. 5 actuators), 5...30°C, temperature decrease input, <b>24 V~ , 1 (1) A,</b> Ambient temperature 0...30°C		I
<b>RTBSB-001.910</b> 	MA 012000	Changeover contact, 5...30°C temperature decrease input, <b>Internal setting,</b> <b>230 V~</b> , <b>Heating (Terminal 3): 10 (4) A,</b> <b>Cooling (Terminal 1): 5 (2) A,</b> Ambient temperature 0...30°C		I
<b>RTBSB-001.910 / 2</b> 	MA 012100	Changeover contact (max. 5 actuators), 5...30°C, temperature decrease input, <b>internal setting</b> <b>24 V~ , 1 (1) A,</b> Ambient temperature 0...30°C		I
<b>RTBSB-001.948 / 1</b> 	MA 012600	Changeover contact (max. 5 actuators), <b>10...60°C</b> , <b>internal setting,</b> <b>230 V~ /24 V~</b> , <b>Heating (Terminal 3):</b> <b>230V~ 10 (4) A or</b> <b>24V~ 2 (2) A,</b> <b>Kühlen (Klemme 1):</b> <b>230V~ 5 (2) A or</b> <b>24V~ 2 (2) A,</b> Ambient temperature 10...60°C		I

