SALUS RT 10

Electronic room thermostat for radiant panel, radiator and convector heating systems

Installation and operating instructions

General

Congratulations on choosing to purchase a SALUS room thermostat. In selecting the RT10 model you have opted for an electronic room temperature controller that can boast some considerable advantages over its conventional, mechanical counterparts. This controller is very simple to use with its standard rotary knob and, with its state-of-the-art electronics, it can offer you unparalleled ease of control for all manner of heating systems.

The RT10's features, which are described in detail below, ensure that you can control your heating system in a precise, easy and energy-saving way.

Technical characteristics

Pulse width modulation (PWM)
Radiant panel heating systems tend to have a problem with overshooting, i.e. rooms continue to be heated even after the desired temperature has been reached and the valve has been closed. The RT10 solves this problem electronically and especially effectively using what is known as pulse width modulation. By continuously comparing set temperature with actual temperature, the lengths of opening times for the valve actuators are regulated in such a way that the temperature is almost completely prevented from exceeding or falling below the set temperature. In this way, the required temperature setting is regulated in a precise and convenient way.
Note: When the RT10 is used with radiator or convector heating systems, pulse width modulation can be switched off if necessary (see 'Basic settings' section).

Valve protection function
To ensure that valves remain movable and ready for use even when they are unused for considerable periods – e.g. over the summer – the RT10 includes a valve protection function. Briefly once a week, even when there is no requirement for any heat, the valve actuators open the valves that they control. Note: The valve protection function can be switched off if it is not required (see 'Basic settings' section).

Temperature reduction
Timed and demand-oriented heating control are amongst the best ways of managing heating energy in an economical way. The RT10 has an integrated temperature reduction function which enables you to automatically reduce the set temperature by 4K with no need for any costly add-on installation on the boiler controller. This 'night reduction' can be activated by an external signal, e.g. time control from a terminal strip, or using a standard external timer.

Installation

The RT10 room thermostat is designed as an electronic temperature controller for the electrical fine adjustment of hot-water based heating systems, and is used for controlling electro-thermal valve actuators or other electrical devices. It is vitally important that the maximum switching current specified in the technical specifications should not be exceeded! We are not liable for any form of improper use.

This equipment must only be installed by an authorised, qualified engineer, and only in accordance with the wiring diagram. Installation must also be in accordance with the latest VDE regulations as well as your electricity supplier's regulations. The system must be in a de-energised state whilst installation is carried out, and all safety instructions must be followed to the letter.

Find a position for the thermostat where it is not covered by curtains, furniture or anything else. The controller must not be installed too close to any heat source (lights, stove, direct sunlight etc.), nor should it be installed in a position where it will be exposed to draughts. The controller must be installed in a suitable location in order for room temperature to be monitored accurately and accordingly regulated with precision.

Important: The thermostat must be disconnected from its power supply before its housing is opened.

Wall mounting
The housing cover must be separated from the base plate before the controller is fitted. Follow the steps listed below:
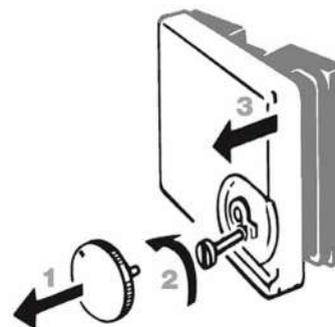
1. Carefully pull off the adjuster wheel.
2. Remove the screw from under the adjuster wheel.
3. Open the housing by pulling off its cover on the adjuster wheel (right) side.

Now, using the screws supplied, screw the base plate firmly to the wall or the flush-mounted socket.

Wiring diagram

The thermostat must be wired in accordance with the wiring diagram below:

RT 10	230 Volt Model
Terminal	
⏱	Lead for temperature reduction (230V timer)
N	Neutral conductor supply lead
L	230V power supply lead
←	Switch output (valve actuator, terminal strip)

RT 10	24 Volt Model
Terminal	
⏱	Lead for temperature reduction (24V timer)
L2	24V power supply lead
NC	Circuit closed once temperature reached [1]
→	Centre-point connection
NO	Circuit open once temperature reached [2]
L1	24V power supply

[1] e.g. cooling unit   [2] e.g. heating unit

Basic settings

The jumpers on the PCB can be used to turn on or off various functions of the RT10.

RT 10	Jumpers		
Switch	Function	ON	OFF
VP	Valve protection function	▢▢○	○▢▢
PWM	Pulse width modulation	▢▢○	○▢▢
⏱	Temperature reduction	▢▢○	○▢▢

The factory setting for all these functions is ON. You can change these settings according to your own requirements by moving the contact terminals on the jumpers. Important: The contact terminals should not be removed.

As long as the installation is carried out to a professional standard, the criteria for protection class II will be satisfied.

Operation

The RT10 electronic room thermostat is used for regulating the temperature in dry, enclosed rooms with a normal environment and maximum humidity of 95% (non-condensing).

It is extremely simple and convenient to set the desired room temperature using the rotary knob. This electronic control system ensures that the set room temperature is maintained virtually without fluctuation and, when required, automatically activates a reduction in temperature.

Never use anything other than a soft, dry cloth to clean the unit. Never use any cleaning agents containing solvents or any sharp objects to clean the unit.

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RT 10	Technical data	230 V	24 V
Product no.:		412.100	412.101
Operating voltage:		230V AC / 50Hz	24V AC / 50 Hz
Electronic switch output			
Max. switching current.:		10 (3) A	
Max. no. of valve actuators.:		5 Stück à 3W	
Temperature range:		5°- 30°C	
Protection class:		IP 30	
Dimensions W/H/D:		75mm / 75mm / 30,5mm	
Operating temperature:		0°- 50°C	
Storage temperature:		-25° - 65°C	
Control pollution:		Normal	