

Operating instructions

RTC 230 V~ with NO contact, control light and sensor
Order no. 2474 00



Table of Contents

1 Safety instructions 3

2 Device components 3

3 Intended use 3

4 Product characteristics 3

5 Functional description 4

6 Operation 5

7 Information for electrically skilled persons 5

 7.1 Commissioning 7

8 Technical data 8

9 Warranty 9

1 Safety instructions



Electrical devices may only be mounted and connected by electrically skilled persons.

Serious injuries, fire or property damage possible. Please read and follow manual fully.

Danger of electric shock. Always disconnect before carrying out work on the device or load. In so doing, take all the circuit breakers into account, which support dangerous voltages to the device and or load.

This manual is an integral part of the product, and must remain with the end customer.

2 Device components

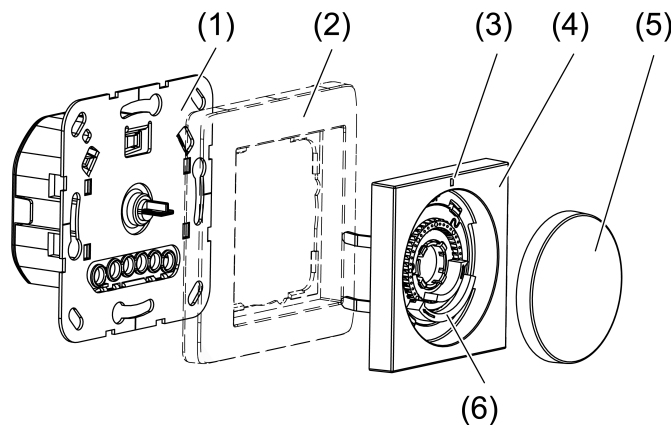


Image 1: Device components

- (1) Room temperature controller insert
- (2) Cover frame
- (3) Status LED
- (4) Central plate
- (5) Control knob
- (6) Adjustment rings for temperature limit

3 Intended use

- Electronic temperature controller for controlling electric underfloor heating or floor temperature conditioning systems
- Control of the floor temperature in closed rooms
- Mounting in appliance box with dimensions according to DIN 49073

4 Product characteristics

- Manually setting a comfort temperature
- Manually switching off the temperature control
- Input terminal for activation of reduction temperature (ECO) via central clock

- External temperature sensor (remote sensor)
- Frost protection function
- Controller output working method: pulse width modulation (PWM) or two-point switchable
- Interruption of heating for 5 minutes after one hour in continuous heating mode

5 Functional description

Lowering mode (ECO)

In many areas of the building it makes sense for the temperature to be set to a lower level at certain times rather than to heat permanently to the comfort temperature. By connecting the input terminal \ominus to 230 V, the temperature is reduced by 4 °C. This should be controlled by a central clock.

Controller adaptation

Depending on the heating system, the control behaviour can be adjusted.

Pulse width modulated control (factory setting): The output is not permanently actuated, but for a time period (pulse width) that depends on the difference between target and actual temperature. This method brings the actual temperature gradually closer to the target temperature.

Two-point control: The output remains switched on until the selected target temperature has been exceeded by 0.5 °C. The output will not be switched on again until the target value is undercut by 0.5 °C. Since most heating systems respond very slowly, this type of control can entail temperature overshooting.

6 Operation

Brief overview

Function	Control knob	Status LED	LED colour
Change room temperature	... turn right or left	maximum 2 minutes	Red = heating mode Orange = frost protection (10 seconds)
Display operating mode	... press briefly	10 seconds.	Red = heating mode Orange = frost protection

Increasing or reducing the floor temperature

- Turn the control knob to the right or left.

If the target temperature is not reached, the LED lights up red for a maximum of 2 minutes.

In the middle position, the device regulates to approx. 30 °C target temperature. The lowest target temperature is approx. 5 °C and the highest target temperature is approx. 50 °C

Indication of the current operating mode

- Press the control knob briefly.

The LED lights up for 10 seconds in the colour of the current operating mode. **Orange** = frost protection, **red** = heating mode.

Switching off the temperature control

- Press the control knob for longer than 2 seconds until the LED lights up **orange**.

The device has switched to frost protection. The frost protection prevents the temperature from falling below 5 °C.

Each time the control knob is turned, the LED lights up **orange** for 10 seconds.

- To activate the temperature control, press the control knob again for more than 2 seconds.

The device switches back to heating mode. The LED lights up red for 10 seconds.

7 Information for electrically skilled persons

Remote sensor mounting instructions

The remote sensor must meet the requirements of protection class II and be routed together with sensor cable S03VV in a protective tube. This protects the remote sensor from humidity and allows for an easier exchange in the event of repair.

- i** Is the status LED (3) flashes red rapidly, there is an error at the remote sensor. No temperature measurement, and thus no control, is possible. If the sensor cable is interrupted or no remote sensor is connected, continuous heating is carried out. If there is a short circuit of the sensor cable, heating is not carried out.



DANGER!

Mortal danger of electric shock.
Disconnect the device. Cover up live parts.

Connecting and fitting the device

Recommended installation height: 1.50 m.

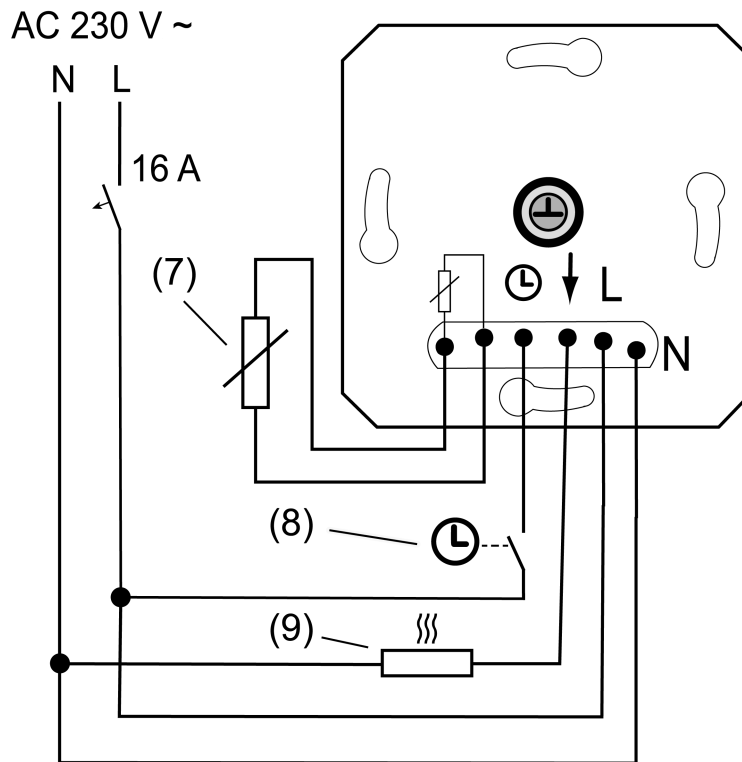


Image 2: Connection example of the insert

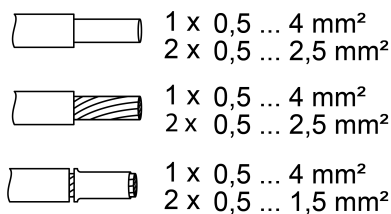


Image 3: Clampable conductor cross-section

- (7) External temperature sensor (remote sensor)
- (8) Switching contact of central clock
- (9) Electric underfloor heating

- Connect insert (1) according to the connection diagram (see figure 2). Observe the conductor cross-sections (see figure 3).
- Optionally, connect the lowering mode input \ominus via a switching contact of a central clock (8).
If 230 V is applied to the input, the target temperature is reduced by 4 °C.
- Fit device in appliance box; terminals must be at the bottom.
- Fit cover frame (2), central plate (4) and control knob (5).
- Switch on mains voltage.

7.1 Commissioning

Setting control behaviour

Factory setting: pulse width modulated control (PWM)

This setting can be used with most heating systems without adaptation.

Changing the settings

- Press the control knob for longer than 20 seconds.
The LED flashes **green** for PWM control and **green/blue** for 2-point control.
- Press the control knob briefly: The control behaviour is changed.
- Press the control knob for longer than one second.
The current control behaviour is saved and the setting mode is exited automatically.

i After approx. 2 minutes without any operation the menu is exited without saving.

Setting the temperature limits

The temperature control has a setting range from 5 to 50 °C. The adjustment rings on the central plate can be used to limit the temperature setting range.

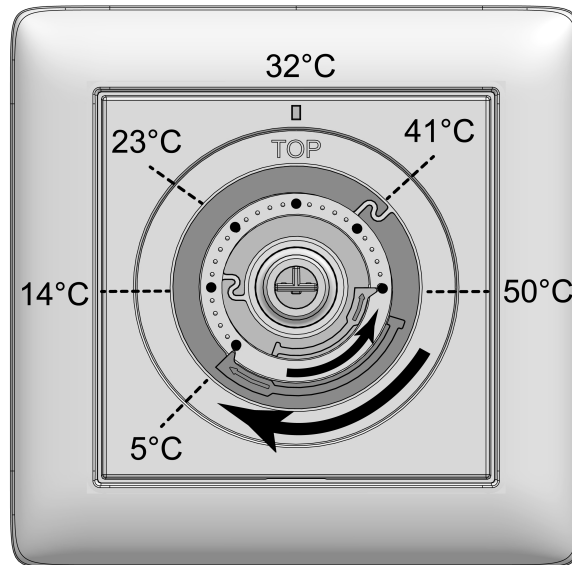


Image 4: Adjustment rings for temperature limit

- Pull the control knob (5) off the central plate (4) so that the adjustment rings (6) are visible (see figure 4). The temperature values shown in the picture are for orientation purposes.
- Turn the large blue adjustment ring clockwise to the desired minimum temperature. Each notch corresponds to a change of about 2 °C.
- Turn the small red adjustment ring anticlockwise to the desired maximum temperature.
- Replace the control knob, observing the coding of the control knob and rotary axle.

8 Technical data

Rated voltage	AC 230 V ~
Mains frequency	50 / 60 Hz
Switching current	10 A
Connected load	
Ohmic load	2300 W
Standby power	max. 0.15 W
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C
Cable length inputs	max. 100 m
Controller class (EU 811/2013)	IV
Contribution to energy efficiency	2%
Data according to EN 60730-1	
Type of action	1.C
Degree of soiling	2

Measured surge voltage	4000 V
Remote sensor, order no. 1493 00	
Dimensions Ø×H	7.8 × 28 mm
Length connecting cable	4 m (can be extended to 50 m)
Degree of protection	IP 67

9 Warranty

The warranty is provided in accordance with statutory requirements via the specialist trade. Please submit or send faulty devices postage paid together with an error description to your responsible salesperson (specialist trade/installation company/electrical specialist trade). They will forward the devices to the Gira Service Center.

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