

Room temperature controller

Ref.-no.: TR .. 231 ..
 TR .. 241 ..
 TR .. 236 ..
 TR .. 246 ..

Operating instructions

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.

A relative air humidity of max. 95% may not be exceeded. Avoid any moisture condensation.

These instructions are an integral part of the product, and must remain with the end customer.

2 Structure of the device

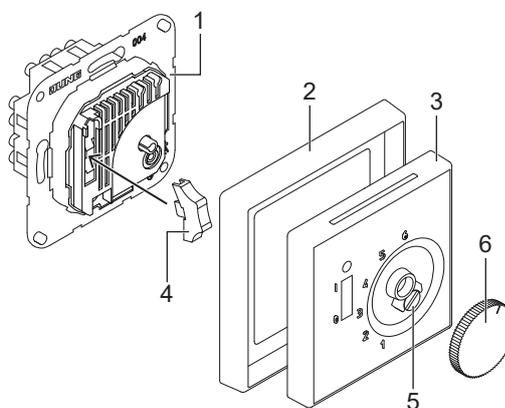


Fig. 1: Geräteaufbau

- (1) Insert
- (2) Frame
- (3) Cover
- (4) Rocker
- (5) Screw
- (6) Setting knob

3 Function

Intended purpose

The room temperature controller is used to regulate the temperature in closed rooms such as flats, schools, function suites, workshops, etc.

Product characteristics

Neutral conductor required

TR 231 U / TR 241 U:

- Separate terminal for temperature reduction of 5 K (e.g. during night time)
- ON/OFF switch with status LED
- When set temperature is reached the contact opens up.

TR 236 U / TR 246 U:

- No OFF-position
- Without switch and control LED
- When set temperature is reached the NO/NC contact switches over.

4 Information for electrically skilled persons

Installation and electrical connection



DANGER

Electric shock from touching live parts in the installation environment.
An electric shock can be fatal.

Before working on the device, disconnect the power and cover live parts in the area.

- Mount the room temperature controller on an internal wall opposite the heat source if possible.
- Do not mount the room temperature controller on outside walls.
- Avoid draughts from windows and doors.
- Ensure that the normal air circulation in the room reaches the controller without any obstacles.
- External heat sources influence the accuracy of the controller. Avoid direct sunlight and do not place heat-emitting devices in the vicinity of the room temperature controller (heaters, lamps, etc.).
- Dimmers also generate heat.
If a controller is installed in a common switch frame with a dimmer, the distance between them should be as great as possible. When arranging them vertically, the controller must be installed underneath the dimmer.

Connection

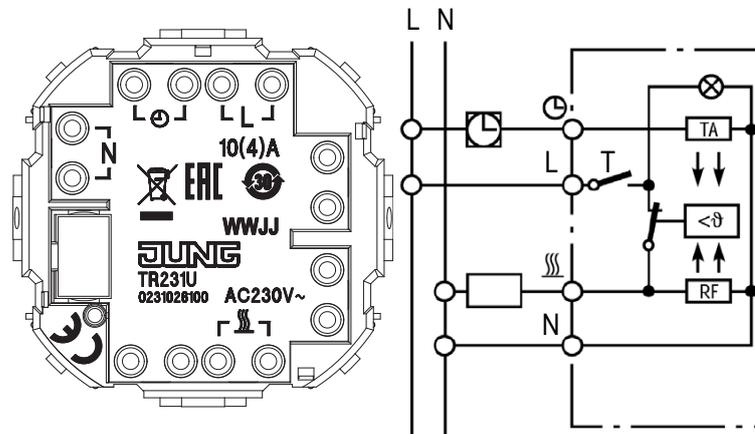


Fig. 2: TR 231 U

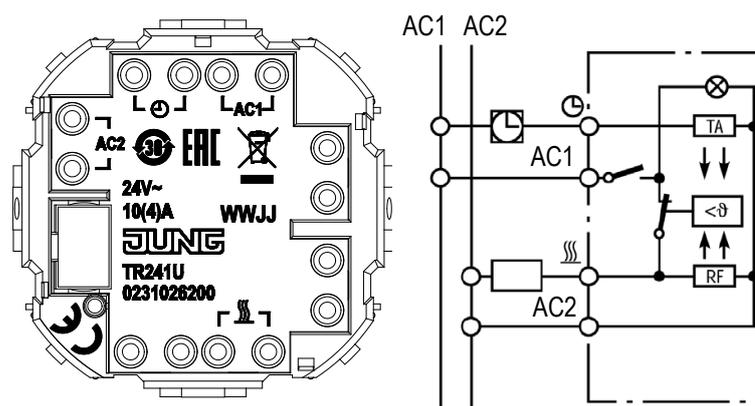


Fig. 3: TR 241 U

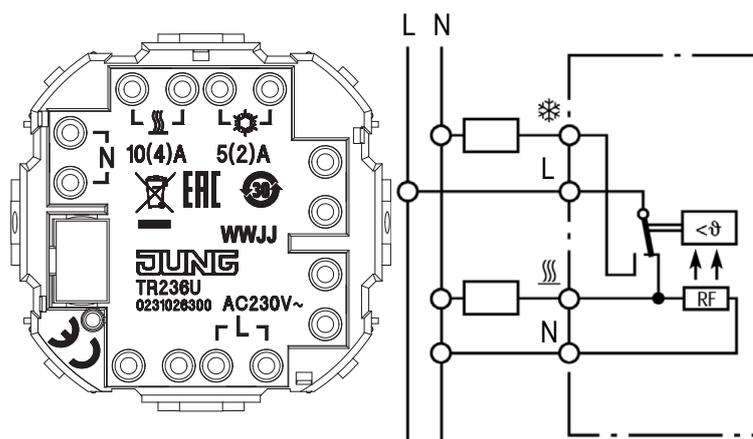


Fig. 4: TR 236 U

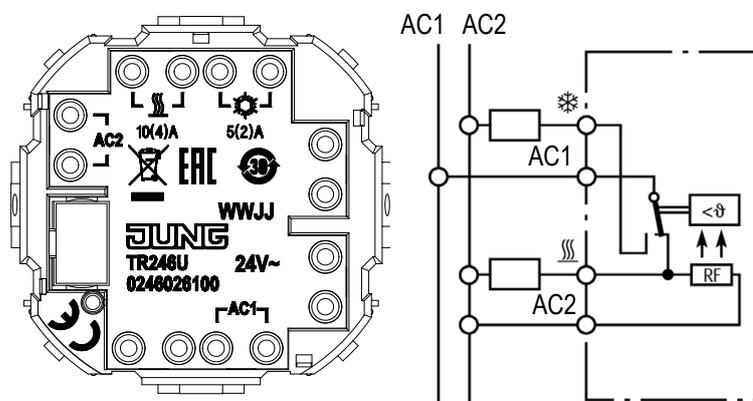


Fig. 5: TR 246 U

- Carry out the electrical connection according to the respective wiring diagram.

- ⓘ Ensure that the neutral conductor N is connected to terminal N. Considerable fluctuations in temperature may otherwise occur.
Conductor cross-section: 1 to 2.5 mm² solid conductor

Symbols used in the wiring diagram

- L = L conductor
- N = N-conductor
- AC1 = 24 V power supply
- AC2
- ⊕ = Connection for clock signal to reduce temperature
- ≡ = Heating
- ❄ = Cooling
- RF = Resistor for thermal feedback
- TA = Resistor for night reduction of room temperature

Installation

- Mount room temperature controller in a switch box in accordance with DIN 49073.
Mounting height: approx. 1.5 m above the floor
- Clip the rocker (4) on the switch in the flush insert. (fig. 1)
- Place the center plate together with the frame on the flush insert. The center plate must snap in place in the top left of the housing base.
- Tighten the screw (5). (fig. 1)
- Clip on the setting knob (6). (fig. 1)

5 Operation

Restricting the temperature setting range

The temperature controller is set ex works to the maximum setting range of 5 °C to 30 °C.

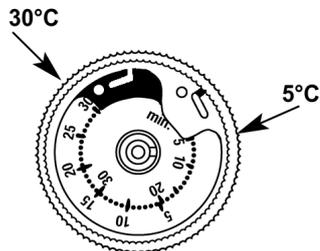


Fig. 6: Temperature setting range

Two adjustment rings are located in the setting knob. You can use these rings to restrict the temperature setting range required e.g. between 8 °C and 23 °C.

Procedure:

- Select the temperature limits.
Example: min 8 °C, max. 23 °C
- **Important!**
First position the setting knob roughly in the centre of the required setting range.
Example: The centre point between 8 °C and 23 °C is approximately 15 °C.
- Now remove the setting knob.
- Set the red locating ring to the max. temperature limit.
Example: 23 °C
- Rotate anti-clockwise.
The numbers on the outer dial apply!
- Insert the tip of a pen in the hole and turn the red ring to the left until it reaches 23 °C (max. scale).

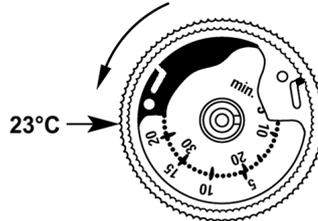


Fig. 7: Temperature setting range max.

- Set the blue locating ring to the min. temperature limit.
Example: 8 °C
- Rotate clockwise.
The numbers on the inner dial apply.
- Insert the tip of a pen in the hole and turn the blue ring to the right until it reaches 8 °C (min. scale).

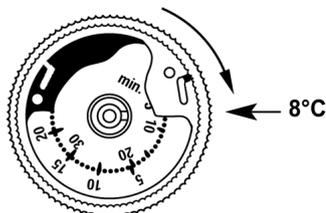


Fig. 8: Temperature setting range min.

- Clip on the setting knob.
The pointer must be roughly in the centre of the new setting range.
Example: approx. 15 °C

Scale for setting the temperature with dials

- 1 = approx. 5 °C
- 2 = approx. 10 °C
- 3 = approx. 15 °C
- 4 = approx. 20 °C
- 5 = approx. 25 °C
- 6 = approx. 30 °C

Symbols

- O Off
- I On

6 Technical data

TR 231 U / TR 241 U:

Switching principle	1-pole break contact + on/off switch
Temperature range	5 ... 30 °C
Nominal voltage	
TR 231 U	AC 230 V ~
TR 241 U	AC 24 V ~
Nominal current*	10 (4) A
Differential of functioning temperature	approx. 0.5 K
Temperature reduction	approx. 4 K
Energy class	I = 1 %

* The value in brackets indicates the inductive load at a $\cos \varphi$ of 0.6.

TR 236 U / TR 246 U:

Switching principle	1-pole change over contact without switch
Temperature range	5 ... 30 °C
Nominal voltage	
TR 236 U	AC 230 V ~
TR 246 U	AC 24 V ~
Nominal current*	
Heating	10 (4) A
Cooling	5 (2) A
Differential of functioning temperature	approx. 0.5 K

* The value in brackets indicates the inductive load at a $\cos \varphi$ of 0.6.

7 Accessories

Inserts	TR 231 U TR 241 U TR 236 U TR 246 U
Covers	.. TR 231 PL TR 241 PL TR 236 PL TR 246 PL ..
Special knob	MS TR 231 ..

8 Warranty

The warranty follows about the specialty store in between the legal framework as provided for by law.