

terneo rol thermostat is designed to maintain constant temperature from 0 to 35 °C in electric heating systems.

According to data from the internal temperature sensor, the thermostat turns off the heating when the desired temperature is reached and turns on when it decreases by 1 °C.

IN THE BOX

- Thermostat, frame** **1 piece**
- Technical data sheet and installation and operation manual and warranty card** **1 piece**
- The packing box** **1 piece**

TECHNICAL DATA

Adjustment range	0...35 °C
Maximum load current (for category AC-1)	16 A
Rated load capacity (for category AC-1)	3 000 VA
Input voltage	230 V ±10 %
Weight in the complete set	0,18 kg ±10 %
Overall dimensions (w × h × d)	75 × 75 × 39 mm
Temperature sensor	NTC thermo-resistor 10 kOhm 25 °C (R10)
Number combinations under heat, at least	50 000 cycles
Number of combinations without heating, no less than	20 000 000 cycles
Temperature hysteresis	1 °C
Degree of protection GOST14254	IP20

IMPORTANT. Before the installation and operation of the device, please read by the end of this document. This will help to avoid possible danger, mistakes and misunderstandings.

RELIABILITY OF THE POWER RELAY provides protection against frequent switching in the thermostat. If there was less than 1 minute between relay switching, the relay activation will be delayed, marking the countdown with a flashing dot.

DURABILITY AND ROBUSTNESS OF PCB RELAY CONTACTS is ensured by turning on the load as close as possible to the point when the voltage sinusoid crosses zero. Small deviations from the zero crossing associated with different break times for different types of PCB relays are possible.

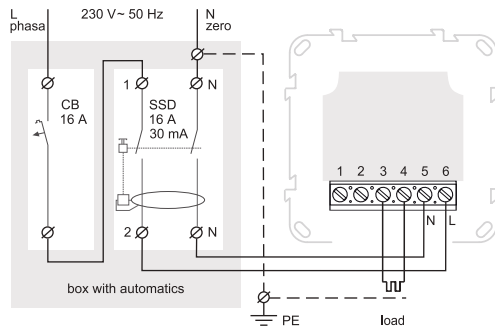
THE EFFECT OF INTERNAL HEATING OF COMPONENTS ON TEMPERATURE MEASUREMENT IS TAKEN INTO ACCOUNT BY THE THERMOSTAT CORRECTION SYSTEM. Be sure to enter data on the connected load power in settings (page 5). After a short-term voltage outage, it may take some time to stabilize the measurements (no more than 2 hours).

WIRING

Power voltage (230 V ± 10 %, 50 Hz) is supplied to terminals 5 (neutral, N) and 6 (phase, L) .

Load (connecting wires from heating element) is connected to terminals 3 and 6.

THE THERMOSTAT IS MOUNTED AND CONNECTED after the installation and load testing



Wiring 1. Connection of the circuit breaker and SSD

INSTALLATION

The thermostat is designed for indoor installation. The ingress risk of moisture or liquid into the place of installation must be minimized. When installed in a bathroom, toilet, kitchen, swimming pool the thermostat should be installed at the place out of reach of casual spraying.

The ambient temperature during installation must be between -5 ... + 45 °C. The installation height of the thermostat should be in the range 0,4...1,7 m above the floor level.

To protect against short-circuit in the load circuit the circuit breaker (CB) has to be installed before installing the thermostat. The circuit breaker is installed in the gap of phase conductor, as shown in the Wiring 1. It should be designed for not more than 16 A.

To protect a people against electric shock leakage is installed the SSD (safety shutdown device).

For installation you must:

- make a hole in the wall for box mounting and wall chase for power wires and the sensor;
- take the power wires of the heating system to the mounting box;
- perform the compounds according to the passport data;
- fix the thermostat in the mounting box.

The thermostat terminals are designed for a wire with section not more than 2,5 mm². To reduce the mechanical loads on the terminals it is desirable to use a soft wire. The wires are tightened in the terminals using a screwdriver with a blade width no more than 3 mm. The terminals should be tighten with torque 0,5 N·m. **Use of aluminum is not desirable.** The sections of the wires, which is connected to the thermostat, must be at least copper 2 × 1,0 mm². The screwdriver with a blade width more than 3 mm can cause mechanical damage to the terminals. This may result in the loss of right for warranty.

It is important to remember that it is desirable to place the on the inner wall of the room. It is recommended to store out the thermostat of direct sunlight and drafts (Fig. 1).

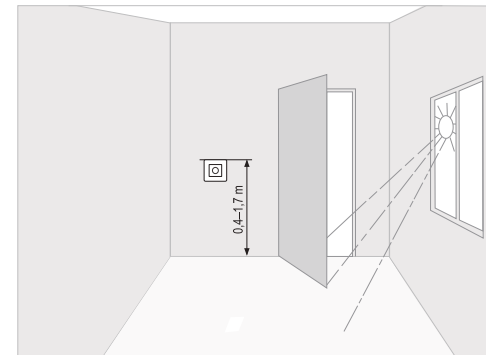


Figure 1. Mounting the thermostat

THE INDICATOR SHOWS THE REGULATOR STATE and the installed power:
 blinking green — installed power,
 glowing green — voltage is supplied,
 blinking red — there is a malfunction in the regulator,
 glowing red — heating is on.

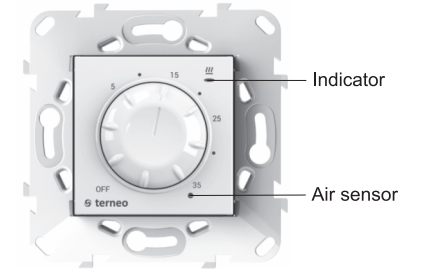


Figure 2. Control and display

WARRANTY TERMS

The warranty for **terneo** devices is valid for **36 months** from the date of sale, provided that the instructions are followed. The warranty period for products without a warranty certificate is counted from the date of production.

If your device is not working properly, we recommend that you first read the section «Possible problems». If you cannot find an answer, contact Service Center. In most cases, these actions resolve all issues.

If you continue to have issues with the device, please send it to a Service Center or to the store where you purchased the device. If your device is defective due to our fault, we will repair or replace it under warranty within 14 business days.

Please see the full text of the warranty and the data you need to send to your Service Center on the website <https://www.ds-electronics.com.ua/en/>. If you have a warranty case, please, contact the General distributor in your area.

terneo SERVICE CENTER CONTACT:
 +38 (091) 481-91-81
 WhatsApp Viber Telegram
 support@dse.com.ua

WARRANTY CARD

serial №:	date of sale:
a seller, a seal:	place of a seal
an owner contact for a service center:	

SET THE POWER OF THE CONNECTED LOAD before its operation.

EXPLOITATION

Turn on / turn off

Tweak the control knob clockwise **to turn it on**. After a specific click, the thermostat will turn on and the indicator will inform you sequentially with a short interval:

1. about the installed power of the load by flashing green. If you have turned the control knob all the way to the right, the green indicator light will additionally flash one more time.
2. about the supply of voltage to the thermostat by a constant glow of green.
3. about turning on the heating system with a constant red glow.

To turn it off, turn the control knob to the «OFF» position until a specific click is heard.

LOGIC FOR DISPLAYING THE INSTALLED POWER BY THE THERMOSTAT: a long pulse in green means kilowatts, a short pulse means tenths of kilowatts.
For example, 1,3 kW indicator will display 1 long and 3 short pulses.

Load power setting

(factory setting 1,3 kW, range 0,1–3 kW)

To set the power, perform sequentially, with an interval of no more than 5 seconds, the following steps:

1. turn off the thermostat;
2. turn the knob clockwise until it stops. The indicator will blink to show the installed power. Then wait until the indicator flashes again;
3. turn the knob counterclockwise until it stops, but do not turn off the thermostat. Wait until the indicator flashes green.
4. turn the knob clockwise until it stops. The indicator will blink to show the installed power.
5. turn the knob to set the desired power. For example, 25 °C corresponds approximately to 2,5 kW. By setting the knob to 25 °C, the indicator will display 2 long and 5 short pulses 3 times in a row. Guided by the indicator blinking, select the position of the knob corresponding to the desired power.
6. exit power setting mode. To do this, forcibly de-energize the thermostat automatically or do not change the position of the knob until the indicator displays the set power 3 times in a row.

Temperature selection

To select, turn the control knob to the desired position. The glow of the red indicator signals about the supply of load to the equipment.

POSSIBLE PROBLEMS, CAUSES AND WAYS TO OVERCOME THEM

Heating temperature does not correspond to the settings

Possible cause: load power is not correctly set.

It is necessary: to correctly set the load power. If it is installed correctly, contact the Service Center.

The load is off, the indicator does not light in any position of the control knob

Possible cause: No power supply.

It is necessary: make sure that the supply voltage is available. If power supply is available, contact the Service Center.

The load is working, the red indicator gives a series of short flashes (3 or 4 times) every 5 seconds

Possible cause: is a break or short circuit of the internal overheating sensor. Internal overheating is not monitored.

It is necessary: to send the thermostat to the service center. Otherwise, overheating control will not be carried out.

The load is not working, the red indicator gives a series of short flashes (5 or 6 times) every 5 seconds

Possible cause: is a break or short circuit of the internal air sensor.

It is necessary: to send the thermostat to the service center.

When the thermostat is turned on and the set power is output, the red indicator gives 7 short flashes once

Possible cause: malfunction of the control system for the transition of the sinusoid through zero.

It is necessary: the thermostat requires maintenance. Otherwise, the transition of the sinusoid through zero will not be controlled.

The load is not working, the indicator flashes red 1 time per second

The temperature inside the housing exceeded 95 °C, the protection against internal overheating worked.

Possible cause: internal overheating of the thermostat, which can be caused by: poor contact in the terminals

of the thermostat, high ambient temperature, exceeding the power of the switching load, or the cross section of the wires for connection is incorrectly selected.

It is necessary: to check the tightening of power wires in the terminals of the thermostat, make sure that the switching load power does not exceed the permissible one, the cross section of the wires for connection are selected correctly.

Features of the protection against internal overheating: when the temperature inside the housing drops below 85 °C, the thermostat will resume operation. If the protection is triggered more than 5 times in a row, the thermostat will block and turn off the load. To unlock it, turn off and turn on the thermostat.

ADDITIONAL INFORMATION

Do not fire and do not throw away the device with the household waste.

After the end of its service life, the product must be disposed of in accordance with applicable law.

Transportation of goods carried in the package, ensuring the safety of the product.

The device is transported by any kind of transport (rail, sea, motor, air transportation).

Date of manufacture is on the back side of device. Application time is unlimited.

The device does not contain harmful substances.

If you have any questions or you something will not clear, call the Service centre the telephone number listed below.

SAFETY INSTRUCTIONS

Carefully read and become aware of yourself these instructions.

Connection of the device must be done by a qualified electrician.

Do not connect 230 V mains voltage instead of the sensor (it leads to failure of the thermostat).

Before the installation (dismantling) and connection (disconnection) of the device, turn off voltage supply and also act according to the «Rules of an arrangement of electric installations».

Do not immerse the sensor with a connecting wire in the liquid medium.

Do not switch the non assembled device to the network.

Turning on and off or and configure the device should be with dry hands.

Do not connect the device to the network disassembled.

Avoid hitting of water or moisture to the device.

Do not expose the device to extreme temperatures (higher than 40 °C or below –5 °C) and high humidity.

Never clean the device with the use of chemicals such as benzene, solvents.

Do not store the device and do not use it in areas with the dust.

Do not attempt to disassemble and repair the device.

Do not exceed the landmarks value adaptor and power.

To protect against overvoltage caused by lightning discharges, use a lightning protector.

Protect the children from games with the working device, it is dangerous.

V26_2110



Low Voltage Directive 2014/35/EU
EMC Directive 2014/30/EU

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