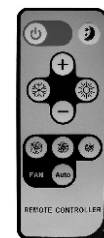


HEAT REGULATOR

"VENTS RTS-1-400"

"VENTS RTSD-1-400" (with remote controller)



DESTINATION

Heat regulator is intended for air heating or cooling with the help of control SPST or SPDT mixers with electrical servo drive, control of 3-speed fan.

BASIC TECHNICAL SPECIFICATIONS

- Power supply: 220 V AC, 50 Hz
- Output capacity for contacts 2, 3, 4: not more than 2.0 A
- Output capacity for contacts 5, 6: not more than 0.1 A
- Temperature setting range: +5°C - +37°C
- Overall dimensions: 86x86x15 mm
- Illuminated LC display
- Temperature setting is carried out simply by pressing buttons with "up" and "down" arrows
- On the display, setting temperature and temperature in the premise are displayed simultaneously
- Maintaining temperature to within 1 set degree
- Automatic switching of 3-speed fan
- Saving of user settings after switching off power supply
- Availability of remote controller (model RTSD-1-400)

DESCRIPTION OF DESIGN

- Front panel (Fig.1)
- Display 1
- "power" button 2
- mode selection button (HEATING, COOLING) 3
- fan speed selection button (HIGH, MEDIUM, LOW, AUTO) 4
- "night" mode selection button 5
- increase of set value of temperature 6
- decrease of set value of temperature 7
- IR receiver 8 (for model RTSD-1-400)

- Display (Fig.2)
- shows that heat regulator is switched to "night" mode 9
- shows that heat regulator is switched to cooling mode 10
- shows temperature in the premise or set temperature 11
- shows set temperature or temperature in the premise 12
- shows whether valve with drive is switched or not 13
- shows selection of fan speed 14
- shows that heat regulator is working in heating mode 15

COMPLETE SET

- The delivery set includes:
- heat regulator 1
 - remote controller 1 (only for model RTSD-1-400)
 - certificate

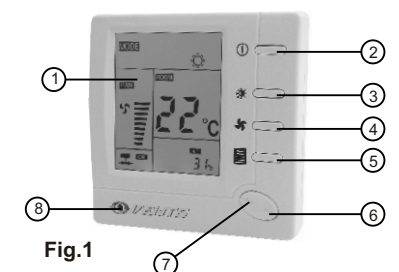


Fig.1

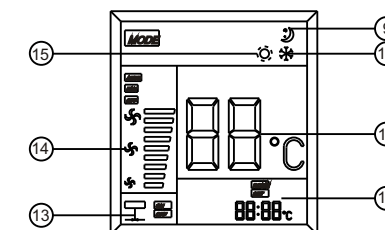


Fig.2

If no button is pressed during 20 seconds, heat regulator will switch off.

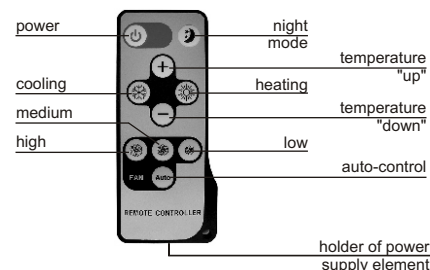
Menu item 1: Accuracy of maintaining temperature. On the display, the text "Temp adjust" will appear. The default value is 0; it is blinking in configuration menu. Any value from "-3" to "+3" may be selected. You may set on the display the temperature of the premise of up to 3 degrees higher or lower than the set value.

Menu item 2: Entering upper limit of temperature setting. On the display, 37 0C is represented, that is default value of upper limit, set by the manufacturer. Using "+" and "-" button, the upper limit may be set in the range from 26 0N to 37 0C.

Menu item 3: Entering lower limit of temperature setting. On the display, 5 0C is represented, that is default value of lower limit, set by the manufacturer. Using "+" and "-" button, the lower limit may be set in the range from 5 0N to 26 0C.

Menu item 4: Control of fan. On the display, "ON" is represented, that is default value, set by the manufacturer. Using "+" and "-" button, "ON" or "OFF" may be selected. If "ON" is selected, heat regulator will switch the fan to the set speed and will not stop it until mode selection button or fan speed selection button is pressed. When "OFF" is selected, if, during heating, set temperature is lower than room temperature, or, during cooling, set temperature is higher than room temperature, heat regulator will stop the fan and will stay in this mode until mode selection button is pressed.

REMOTE CONTROL



REMOTE CONTROLLER

For control of operation of heat regulator with the help of remote controller, point the remote controller to the front panel of heat regulator from the distance of not more than 4 m.

In the course of long-term operation, discharge of power supply element is possible. In this case, replacement of power supply element is required. To do this, pull out holder of the element from the bottom part of remote controller and replace power supply element, observing polarity.

STORAGE RULES

It is necessary to store heat regulator in manufacturer's package in the ventilated premise at temperature from +5°C to +40°C and relative air humidity of not more than 80 % (at T = 25°C).

MANUFACTURER'S WARRANTY

The manufacturer, "Vents" Joint-Stock Company, guarantees normal operation of heat regulator during 12 months from the date of sale through retail trade network, in case of observance of transportation, storage, assembling and operation rules. The warranty does not cover the goods with signs of mechanical damages.

If note about date of sale is absent, warranty period is started from the date of production. If any failures in operation of heat regulator through manufacturer's fault are detected during the warranty period, the consumer has a right to replace heat regulator at the manufacturer, according to Clause 14, Item 9 of the Law of Ukraine "About Protection of Consumers".

Replacement is carried out by the address: 01030, Kiev, M.Kotsiubinsky Str. 1

ACCEPTANCE CERTIFICATE

Heat regulator of speed is accepted as ready for operation

Model "Vents RTS-1-400"	<input type="checkbox"/>	Date of production	Sold (name of trade enterprise, stamp of the shop)
"Vents RTSD-1-400" (with the remote controller)	<input type="checkbox"/>	Acceptance stamp	Date of sale

INSTALLATION OF HEAT REGULATOR

ATTENTION! THERE IS A HAZARD OF ELECTRIC INJURY!

Prior to dismantling or installation of existing heat regulator, de-energize wiring being connected

IMPORTANT:

Installation of terminal box in the premise must comply with local and national building norms and regulations. Connection to supply network must be carried out via switch with gap between open contacts of not less than 3 mm for all poles, built in fixed wiring.

Activities on installation of heat regulator must be carried out by qualified specialist that have appropriate admission.

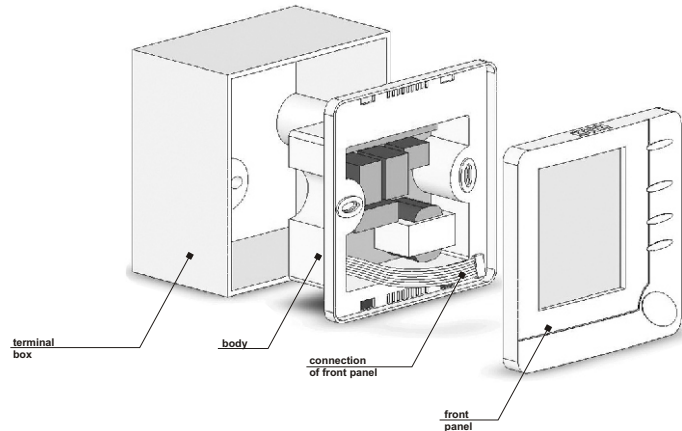
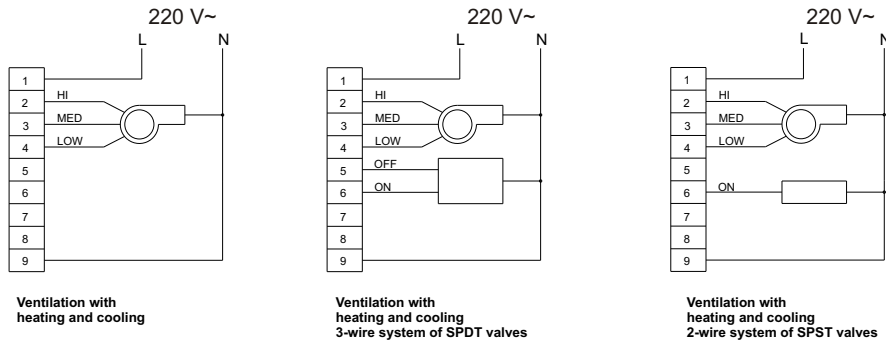


Fig.3

1. Fix terminal box to the wall
2. Remove packaging material from heat regulator. Carefully disengage front control panel from the body. Excessive effort may lead to damage of heat regulator.
3. Connect wires to the terminals of heat regulator according to the connection layout.
4. Put the body into 86x86 mm terminal box.
5. With the help of two assembling screws, attach the body of heat regulator to the terminal box.
6. With the help of level, adjust position of body of heat regulator, then tighten fixing screws (leveling effects only the appearance and has no influence on operation of heat regulator).
7. Mount front panel on the body of heat regulator, pressing it until the click.

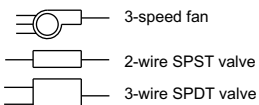
CONNECTION LAYOUT



Ventilation with heating and cooling

Ventilation with heating and cooling 3-wire system of SPDT valves

Ventilation with heating and cooling 2-wire system of SPST valves



OPERATION OF HEAT REGULATOR

Switch on the heat regulator, pressing "power" button (2).

Press fan speed selection button. On the display, one of the characters (14 in Fig.2) will appear or AUTO. This means that fan will rotate at HI (high), MED (medium), or LOW (low) speed or in AUTO (automatic mode). If AUTO mode is selected, fan rotation speed will change, depending on difference between actual temperature in premise and set temperature. If temperature in the premise is by more than 3 degrees higher than set temperature during cooling and by more than 3 degrees lower than set temperature during heating, fan will operate at the highest speed. If temperature in the premise is by 2-3 degrees higher than set temperature during cooling and by 2-3 degrees lower than set temperature during heating, fan will operate at medium speed. If temperature in the premise is by 0-1 degrees higher than set temperature during cooling and by 0-2 degrees lower than set temperature during heating, fan will operate at low speed.

Operation of heating system

Using mode selection button, select heating mode (15 in Fig.2).

Press "+" to increase the value of set temperature. If temperature in the premise is lower than set temperature, the heating system will start operation.

Press "-" to decrease the value of set temperature. If temperature in the premise is higher than set temperature, the heating system will stop operation.

Operation of cooling system

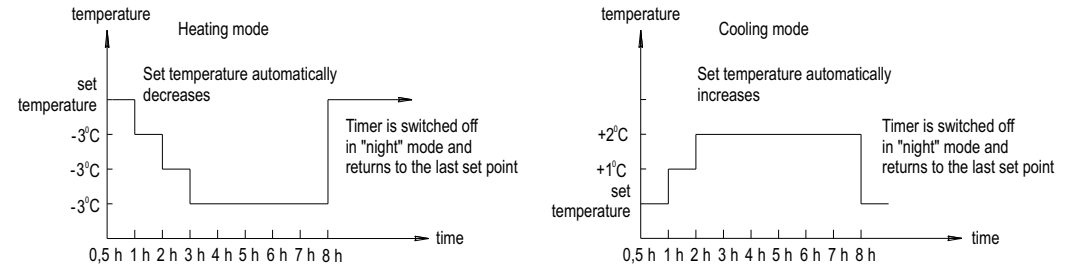
Using mode selection button, select cooling mode (10 in Fig.2).

Press "-" to decrease the value of set temperature. If temperature in the premise is higher than set temperature, the heating system will start operation.

Press "+" to increase the value of set temperature. If temperature in the premise is lower than set temperature, the heating system will stop operation.

Operation of "night" mode

Press "night" mode selection button (5 in Fig.1). Symbol of "night" mode (9 in Fig.2) will appear. This mode will be active during 8 hours, at that, heat regulator will control heating or cooling according to the chart (see below). Press "night" mode selection button once more, appropriate symbol will disappear; this means cancellation of "night" mode operation.



PECULIARITIES OF FUNCTIONING OF NIGHT MODE

Heat regulator is set to cooling mode: For smooth change of temperature, an hour after setting "night" mode, set temperature automatically increases by 1 degree, in two hours by two degrees; then, the temperature will be maintained at this level during 8 hours until timer is switched off. After switching off timer, set point will be automatically returned to initial value.

Heat regulator is set to heating mode: For more smooth change of temperature, half an hour after setting "night" mode, set temperature automatically decreases by 1 degree, in two hours by two degrees; then, the temperature will be maintained at this level during 8 hours until timer is switched off. After switching off timer, set point will be automatically returned to initial value.

ADJUSTMENT OF CONTROL MODES

Adjustment of control modes allows setting certain performance characteristics of heat regulator according to your requirements.

Switch off heat regulator, pressing "power" button, then press and hold "night" mode selection button (5, Fig.1) at least 4 seconds until the display switches on. This means that you have entered the first menu option of setting mode. There are 4 menu options, that is represented on the display. Selection of appropriate menu option is made by pressing (5) button. In each menu option, press "+" or "-" button to change settings. To quit the menu and return to normal operation mode, switch off heat regulator, pressing "power" button and, then, switch it on again.