

1. Description

Temperature control device RTS-01 keeps constant air temperature inside of sauna cabin. Periodic measure of air temperature by the help of intelligent temperature sensor provides information to set desired heater power. So the control device tune heater power to maintain required temperature and at the same time lowers electric consumption.

Due to the appropriate buttons it is possible to change required temperature of air, you can set operation time of regulator (in hours). When this delay elapsed heating is automatically turned off. And what is more, there is count down minute timer, which helps you to measure time spending inside of sauna cabin. All user parameters are stored in nonvolatile memory. By the appropriate button you can control sauna lighting.

Controller has build-in double safety to prevent overheating of the sauna cabin.


In the case the heater overheats, the safety sensor (on the same board with temperature sensor) automatically stops the heater. Second safety element is used inside electrical heater unit and this safety element is able to paralyze the heater as well, in the case the heater overheats.

Set of controller consist of control panel, relay board and temperature sensor&fuse board. Control panel, which is in one small box, is connected to the temperature sensor&temperature fuse board with temperature resistant cable. Relay board is placed in plastic box near the heater (outside sauna cabin). Relay board is connected to control board by special shielded cable. Heart of the control panel is microcontroller and its firmware.

2. Handling control panel

There are four buttons and three digit LED display for communication with the user. In simple way you can change desired parameters.


2.1 Turning on and off

To turn it on or off simply press button  for at least 3 seconds. After turning ON selftest is running, then controller goes to basic state. Actual temperature is displayed and regulator is seeking to rich preset temperature.

After elapsed operation time is the heater automatically turned off.

There is possibility to turn on and off controller by external make contact (remote control).

2.2 Handling lighting

By pressing button  you can turn on and off lighting. On state is indicated by yellow LED indicator. After turning on regulator, lighting always goes to off state.




2.2 Parameters modification

There are three user parameters to change:

°C - requested temperature of air inside of the sauna cabin in °C



Ho - operating time in hours

bu – minute alarm timer






After pressing one time button  or  in basic state you can browse through all three parameters around by button .

There is always displayed name of the parameter and then his value. Leaving buttons free for at least five second the unit goes back to the basic state.






°C - **Adjusting requested temperature, range 20 - 110°C**

Pressing and holding button  or  you can set new requested temperature.

Ho - Operation time modification, range 1-10 hours

Press once button  or  and then press once button , firstly **Ho** is displayed for two seconds, then presetting value is displayed. By pressing and holding button  or  you can set new operation time.

bu - Minute timer modification, range 0-20 minutes

Press once button  or  and then press twice button , **bu** is displayed for two seconds, then presetting value is displayed. By pressing and holding button  or  you can set new alarm time.

By leaving buttons free for at least five second the regulator puts down new parameters and then goes back to the basic state.

3. Minute timer description

Minute timer (range 0 to 20 minutes) might be used to follow your time spent in sauna cabin. When you set some value, timer automatically counts down to zero. In the case its value reach value 15 or 10 or 5minutes, it is indicated by lamp twice flashing and twice beep. When its value reach zero, lamp is three times flashing and three times acoustic alarm sounds too.

If you do not want to use minute timer, please set its value simply to zero.

3. Expert mode

It is possible to turn on control device to so-called expert mode, which is almost the same as previous described user mode, but you have access to additional configuration parameters. You can set or change following function:

- enable/disable acoustic reply of control panel
- setting function of external remote control
 - ON/OFF function by telephone or cellular module
 - ON/OFF function by PC
 - Idle mode function, by make contact you can switch between two requested temperatures t1 / t2
- enable/disable “sauna ready (hot)” acoustic indication

Detailed description of expert mode is in expert manual of control device RTS01.

4. Technical parameters

<i>Power supply:</i>	3 x 230V 50Hz , PE, N
<i>Max. Power VA:</i>	5VA
<i>Fuse:</i>	T50mA
<i>Max. heater power:</i>	9kW
<i>Heater temp. fuse input:</i>	230V 50Hz max. 50 mA
<i>Air temperature fuse:</i>	128°C
<i>Air temperature sensor:</i>	digital, max. length of cable 20m
<i>Regulation range:</i>	+20 to + 110 °C, step 1°C
<i>Operation time:</i>	1 - 10 hours, step 1 hour
<i>Temperature measure range:</i>	0 - 125 °C
<i>Accuracy:</i>	+/- 0.5 °C
<i>Heater outputs:</i>	3 x make contact 250VAC/16A
<i>Lighting output:</i>	1 x make contact 250VAC/4A
<i>Lighting fuse</i>	T1A
<i>Display:</i>	<i>three digit red LED</i> display, High- 14 mm
<i>Operating temperature:</i>	0 - 40 °C
<i>Storage temperature:</i>	0 - 50 °C
<i>Max. cable length:</i>	25meters
<i>(contr. panel to relay board)</i>	

Sauna temperature control device

RTS-01

User Manual

V 1.07