

User Manual

Properties and functions

- Small size and built-in intelligent control
- Temperature display, cooling control, heating control
- Alarm function/Self-diagnosis

Technical Parameters:

Supply voltage: 230VAC

Temperature sensor: NTC (2m)

Measuring range: -45°C ~ 150°C

Adjustable temperature range: -40°C ~ 120°C

Size: 77mmx35mmx60mm

Installing size: 71mmx29mm

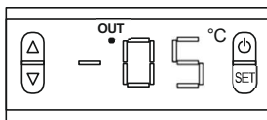
Environmental conditions for installation: -10°C ~ 60°C, 20% ~ 90% relative humidity

Relay load capacity: N.O. 10A/250VAC

Accuracy: 1°C

Factory value: + / - 0°C

Display structure and programming



- 1. OUT Led:** If the room temperature is constant, the LED does not light up. Flashes during the delay, lights up during cooling/heating.
- 2. Set room temperature (SET point) check:** Press and hold the  button once. The set value appears flashing on the display. After 2 seconds, the display returns to the current room temperature value.
- 3. Checking the set hysteresis:** Press the  button once. The set value appears flashing on the display. After 2 seconds, the display returns to the current room temperature value.
- 4. Switching on and off:** Press and hold the  button for 3 seconds. The display shows a "---" indication and the device switches to standby mode. Then the control/regulation does not work. The thermostat can be switched on by pressing and holding the  button for 1 second. The current room temperature is shown on the display and the control works again.
- 5. Setting desired room temperature (SET point):** Press the SET button. The current value is flashing on the display. Use the  and  buttons to set the desired temperature. With the SET button you can store the value and exit to the basic mode. After 6 seconds of inactivity, the device automatically returns to basic mode.
- 6. Setting parameters:** Press and hold the SET and  buttons simultaneously for 6 seconds. F0 is shown flashing on the display. You can switch between individual menu items with the  and  buttons. You can enter and store the values of individual parameters with the SET button. Within the menu item, the value can be changed with the arrows. After 6 seconds of inactivity, the device automatically returns to basic mode.
- 7. Factory reset:** Press and hold the  button for 1 second. Release the button, then immediately press and hold the  and  buttons for 6 seconds. "888" will appear on the display. At this moment, all parameters are reset to factory values. After another 6 seconds, the thermostat will return to basic mode.

Structure of the parameter menu

Menu	Function	Value range	Factory value
F0	Hysteresis	1~25°C	3°C
F1	Delay	0~9 perc	3 perc
F2	SET point lower limit	-40°C~SET point	-20°C
F3	SET point upper limit	SET point~120°C	20°C
F4	Operating mode	1= Cooling 2= Heating 3= Alarm	1
F5	Temperature correction	-20~20°C	0°C

Operating modes:

1. Cooling mode: Cooling starts when the room temperature exceeds the SET point+hysteresis value and the delay time expires. When the room temperature reaches the value of the SET point, cooling stops.

2. Fűtés mód: When the room temperature is lower than the value of the SET point and the delay time expires, the heating starts. The heating stops when the room temperature reaches the SET point+hysteresis value.

3. Alarm mode

High temperature alarm: If the room temperature is higher than the SET point+hysteresis value, the alarm is activated and the display shows Hi. When the room temperature drops below the SET point+hysteresis value, the alarm will stop.

Low temperature alarm: When the room temperature is lower than the SET point, the thermostat switches to alarm mode. The display shows Lo. If the temperature rises above the SET point, the alarm will stop.

During an alarm, the relay switches, a sound signal is heard and the text corresponding to the given alarm can be read on the display. The alarm can be acknowledged by pressing any key.

4. In case of abnormal operation:

If the measured temperature is lower than -45°C or higher than 150°C, or the sensor circuit is short-circuited or broken, this mode is automatically activated.

1. In cooling mode: Cooling starts automatically and works in cycles of 30 minutes of cooling and 15 minutes of operation break.
2. In heating mode: Interrupts the relay output.
3. In alarm mode: Interrupts the relay output.

Error code table

Code	Meaning
E1	Sensor circuit open
E2	Sensor circuit short circuit
HH	Temperature higher than 150°C.
LL	Temperature lower than -45°C.

Installation advices

1. Make sure that the sensor, power supply and cooling/heating connections are well separated.
2. When placing the sensor, make sure that the sensor is up, and the cable is down.
3. The sensor cable can be extended over 100m without calibration. If the distance is greater than this, always check the accuracy of the measured values and, if necessary, calibrate the device (parameter menu).
4. Install the thermostat in a water-free place.

Accessories

- 1pcs. temperature sensor probe
- 2pcs. mounting
- 1pcs. protecting cover

FST-150

 ***Frigostar***