STC-1000 | Operating Instructions

STC-1000 Operating Instructions

Function

The STC-1000 is a multi purpose Temperature Controller. It allows for temperature controller, adjustable hysteresis, offset calibration and output relay delay. An alarm will sound if the temperature limits are exceeded or a sensor issue is detected

Specification & Size

♦Front panel size: 75x34.5mm LxW
♦Product size: 75x34.5x85mm LxWxD
♦Mounting size: 71x29mm LxW
♦Sensor length: 2m (including the probe)

Technical Parameters

♦Temperature measuring range: -50°C - 99°C
♦Accuracy: ±1°C (-50°C-70°C)
♦Power supply: 220VAC±10%, 50/60Hz
♦Sensor: NTC sensor (1PC)
♦Relay contact capacity: Cool (10A/250VAC); Heat(10A/250VAC)
♦Ambient temperature: 0°C - 60°C
♦Relative humidity: 20-85% (No condensate)

♦Resolution: 0.1°C
♦Sensor Error Delay: 1 minute
♦Power consumption: <3W

♦Storage temperature: -30°C - 75°C

Controls



- Cool Indicator
- Heat indicator
- 3 digit LED Display
- **Power Button** - Power On/Off, Confirm Parameter Adjustment
- **S Button** - Set
- **Up Button**
- **Down Button**

Indicator Light Status

Light	Display	Function
Cooling Indicator	Flashing	Compressor Delay On
Cooling Indicator	On	Cooling Relay On
Heating Indicator	On	Heating Relay On
Set Indicator	On	Paramater Setting Status On

Key Operation

1 Check Parameter

Press and release the ▲ **Up Button.** The current Temperature Setting value is displyed

Press and release the ▼ **Down Button.** The current hysteresis is displayed

2 Set Parameter

Hold the S **Button** for 3 seconds to enter **Parameter Modifying Mode.** The **Set** Indicator light will illumintae, and the display will show **F 1**

Change the displayed Parameter by using the ▲ **Up Button** or the ▼ **Down Button.**

Press the S **Button** to display the current setting for the displayed parameter

To adjust the value of the parameter, hold the S **Button** and use the ▲ **Up Button** or the ▼ **Down Button** to change the value of the parameter. To save the new value, press and release the ⏻ **Power Button.**

If the ⏻ Power Button is not pushed withn 10 seconds, the modified value will not be saved

If there is an error when setting a different parameter value, the display will show **Er** and revert to normal status within 3 seconds

Operation

- To turn the STC-1000 OFF or ON, press and hold the ⏻ **Power Button** for three seconds
- Under normal working conditions, the STC-1000 displays the current measured temperature. The Heat and Cool indicator will illuminate to show if the Heating or Cooling relay is active
- Cooling activates when the measured temperature is greater than the Set Point temperature and the Hysteresis. If the Cooling indicator is flashing, this indicates that the Compressor Delay is active. Cooling will begin when this period ends. When the measured temperature reaches the Set Point temperature, the Cooling Relay will deactivate and cooling will stop.
- Heating activates when the measured temperature is less than the Set Point temperature and the Hysteresis. When the measured temperature reaches the Set Point temperature, the Heating Relay will deactivate and heating will stop.

Menu | Parameter Settings

Parameter Code	Function	Set Range	Default
F1	Temperature Set Point Value	-50.0 - 99.9°C	10.0°C
F2	Hysteresis Set Value	0.3 - 10.0°C	0.5°C
F3	Compressor Delay Time	1 - 10 minutes	3 minutes
F4	Temperature Calibration (offset) Value	-10.0 - 10.0°C	0°C

- Temperature Set Point - this is the set point temperature that you wish to maintain using the STC-1000 Controller
- Hysteresis - this is the allowed value above/below the set point before cooling/heating activates
- Compressor Delay Time - this si the delay before the Cooling relay activates (to prevent excessive compressor use)
- Temperature Calibration (offset) Value - this allows the temperature probe to be calibrated - see **Temperature Calibration** below

NOTE: If the STC-1000 is pre-installed then the default settings mat differ from the above

Temperature Calibration

If there is a large variance between the *displayed* temperature (IE the temperature of the temperature probe and the *actual* internal temperature (as measureed by a calibrated thermometer) then the Temperature Offset can be adjusted from -10°C to 10°C

A Temperature Offset will *offset* the displayed temperature by the entered amount.

Thus, if the displayed temperature is 2°C but the actual internal temperature is 4°C, and offset of +2°C is required.

Note: In most cases this is not necessary to be adjusted.

Error Codes

EE Error

This indicates the temperature probe is unplugged, damaged or faulty. Press any key to cancel the alarm and investigate the source of the error.

HH Error

This indicates the measured temperature as exceeded the temperature mesuring range (-50°C - 99°C). Heating and Coolling will be suspended. Press any key to cancel the alarm. The system will revert when the measured temperature is back within range.

Safety

- Ensure correct wiring is followed (see below for wiring diagram)
- Ensure unit is not connected to electricity when wiring unit
- Do not use unit in areas that exceed temperature, humidity range of the device
- Ensure it is connected to a suitable power outlet
- Minimise/avoid contact between the temperature probe and the power lead to avoid interference

Wiring Diagram

