Haswill STC-1000 Temperature Controller User Manual

Contents

Haswill

Haswill STC-1000 Temperature Controller

Product Information

STC-1000 Thermostat

- **Manufacturer:** Haswill Electronics
- **Product Name:** STC-1000 Thermostat

Product Interface & Operation

The STC-1000 temperature controller is designed to regulate temperature by turning on/off the power status of the connected load. This unit is equipped with dual individually relays which can connect two loads simultaneously: one for refrigeration and another for heating. The heating and refrigeration controlling modes auto switch according to the room sensor temperature. The front panel of the STC-1000 thermostat displays icons that indicate its operation mode. The unit is designed to switch between heating and refrigeration modes automatically, making it an all-purpose temperature controller.

Product Package Contents

- Controller – 1 PCS
- Clips – 2 PCS
- Sensor – 1 PCS
- Manual – 1 PCS
- Waterproof Cover – 1 PCS

Product Specification

- **Input Power:** Maximum current 10A (Default) under 220V AC
- **Sensor:** IP65 to the front panel

Product Usage Instructions

STC-1000 Thermostat To use the STC-1000 thermostat, follow these steps:

1. Connect the controller to the power source and the load you wish to regulate temperature for.
2. Place the sensor in the room where you want to monitor the temperature.
3. The controller will automatically switch between heating and refrigeration modes based on the room sensor temperature.

4. To check the temperature set-point, press the F1 key. To check the Hysteresis value, press the F2 key.
5. To power off/on, hold the key for 3 seconds.

STC-1000 temperature controller regulates the temperature by turn on/off the power status of the connected load. Within dual individual relays, this unit could connect two loads simultaneously, one for refrigeration, another for heating, and the heating and the refrigeration controlling modes auto switch according to the room sensor temperature; that's why it was called the "All-Purpose Temperature Controller."

Package

- **Controller:** 1 PCS
- **Clips:** 2 PCS
- **Sensor:** 1 PCS
- **Manual:** 1 PCS
- **Waterproof Cover:** 1 PCS

Specification

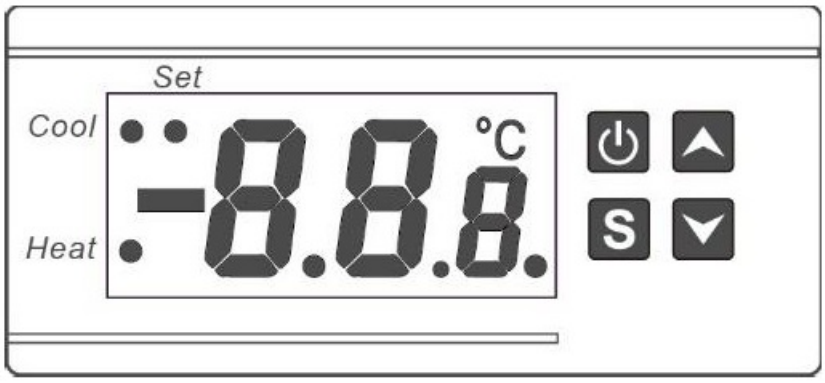
- **Input Power:** 220V AC ± 10% 50/60HZ; (12/24/48/110V Option)
- **Maximum current:** 10A (Default) under 220V AC
- **Sensor:** NTC Sensor (NTC), 25°C /10 KΩ, the sensor cable 200cm
- **Protection Class:** IP65 to the front panel
- **Storage:** -10°C ~ 60°C, RH<90%, without condensation
- **Measuring Range:** -50.0°C ~ 120°C
- **Controlling Range:** -50.0°C ~ 99.9°C
- **Resolution:** 0.1°C
- **Accuracy:** ± 1°C
- **Power Consumption:** ≤ 3W

Environmental Information

- **Package:** The package's material is 100% recyclable. Just dispose of it through specialized recyclers.
- **Product:** The electro components can be recycled or reused if it is disassembled for specialized companies.
- **Disposal:** Please do not burn or throw the controllers in domestic garbage. Observe the respective law in your region concerning the environmentally responsible manner of disposing of its devices.

Interface & Operation

Front Panel & Icon



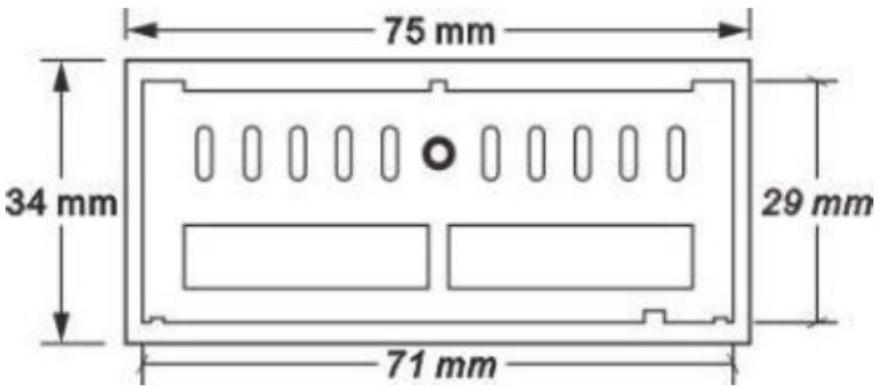
Under normal status

- Press the key to check the temperature set-point F1;
- Press the key to check the Hysteresis value F2F2;
- Hold the key for 3s to power off / on;
- Hold the key and the key at the same time for 5s to restore factory settings

Indicators / Characters

Indicator	**Meaning**	**Light on**	**Light off**	**Light Flashing**
Cool	Refrigerating	Working	Stop	Delay
Heat	Heater status	Working	Stop	N/A
Set	Setting status	On Set	Non-setting	N/A

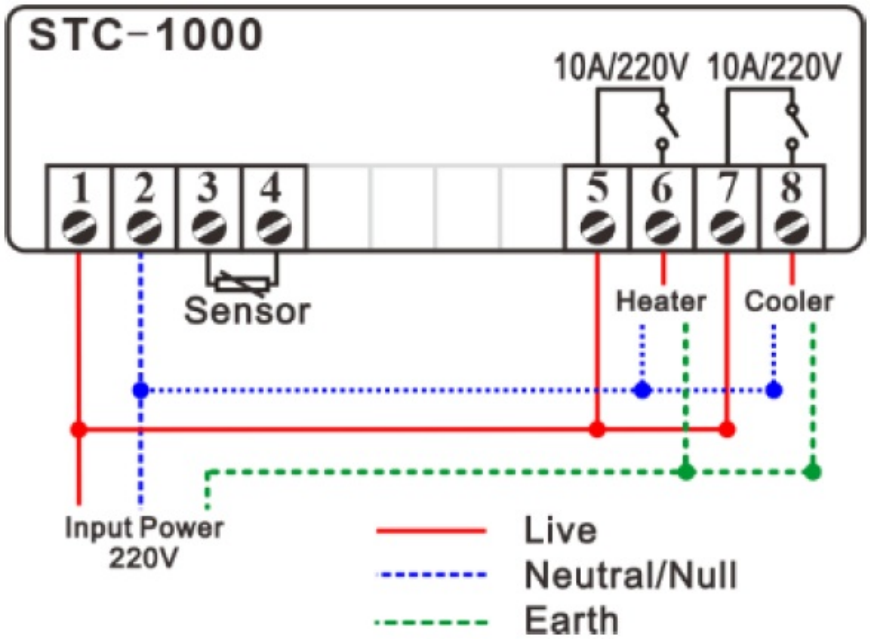
Dimensions & Installation



- Suggested amount dimension: 71 * 29 * 85 + mm (W*H*D)
- Detach the slide fasteners, put the controller into the hole, wiring follow the diagram
- Install the fasteners, and install the waterproof cover

- Please avoid installing in the below environments:
  - Relative humidity > 90%, have condensation.
  - The places that temperature <-10°C or >60°C.
  - The places that have inflammable and explosives.
  - Strong vibration or struck.
  - Exposed to the continuous water mist spraying.
  - Exposed to the dust.
  - Exposure to corrosive and pollution gas (gas, smoke, or salt fog that contains sulfur or ammonia.
  - Wireless electromagnetic interference or strong magnetic fields (near to transmitting antenna or switch board room);

Wiring Diagram



- Need not to distinguish + or – when wiring the NTC sensor's cable or the Input power.
  - Wiring the 5 to the live wire and terminal 6 to a heater, or the opposite.
  - Wiring the 7 to the live wire and terminal 8 to a refrigerator, or opposite.
  - The heating and cooling mode will switch automatically.
- The input voltage must be within the voltage value marked in the diagram ±10% value.
- Suggest Load Power ≤ (The voltage of Load * Max current of Relay)/Factor
  - The factor for Inductive Load like compressor, heating pump, usually be 5~8;
  - The factor for Resistive Load like Electric heating rod, Electric blanket usually is 1.5 ~ 2;
  - The factor for an Incandescent lamp usually is 15.

Configurations

Code and Function Menu

- Hold the **S** button for 3s to enter the menu list.

Code	Function	Min	Max	Default	Unit
F1	Temperature Setpoint	-50.0	99.9	10.0	°C
F2	Temperature Hysteresis / Return Difference	0.3	10.0	0.5	°C
F3	Protection Delay Time for Refrigerator	1	10	3	Min
F4	Temperature Calibration	-10.0	10.0	0	Hour

- **F1:** Temperature Setpoint
  - It is the room temperature value users wish to keep around.
- **F2:** Temperature Hysteresis / Return Difference Value
  - **A.** Switch to heating mode once found
    - Measured Temperature ≤ Temp Set-point – Return Difference
  - **B.** Switch to Refrigeration mode once found
    - Measured Temperature ≥ Temp Set-point + Return Difference
    - But the compressor will not start up until the compressor's delay time is over.
- **F3:** Compressor Delay Time: The purpose of this value is to protect the compressor.
- **F4:** Temperature Calibration
  - **F4 =** Real Temperature – Measured Temperature

How to Set Parameters?

- **Step 1:** Hold the for 3s to enter the menu list; the display shows the code F1
- **Step 2:** Press the or to select the code you want to update;
- **Step 3:** Press the to check the current value.
  - Hold the and press or key to change the value;
- **Step 4:** Release keys to back to function menu list.
  - Repeat operation from Step 2 / 3 / 4 to adjust other parameters;
- **Step 5:** After configuring all values, remember to press the for saving data, and back to normal monitor status, the display shows the room sensor temperature.
  - The modified value will be discarded and back to normal status if without operation in 8 seconds.

When Will is the Load Works/Stops?

Loads	Startup Condition	Stop Condition
Refrigeration	Room Temp ≥ F1 + F2 and The instant period passed the delay time (F3)	Room Temp ≤ F1
Heating	Room Temp ≤ F1 – F2	Room Temp ≥ F1

- **Room Temp:** Measured temperature value by the controller's sensor.
- **F 22:** Return difference Hysteresis.
- The instant period is counts from load stops last moment to the instant time; Means, the time should be later than the compressor's last stops moment + delay time.

Error & Solution

When an alarm occurred, the buzzer scream "di-di-di," press any key to stop screaming; but the error code on display will not disappear until all the failures are resolved

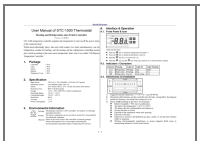
Code	Reason	Troubleshooting
E1	The memory unit broken	Press/key to restoring the default data or get factory reset.
EE	Sensor error	Ensure the sensor was installed firmly or replace a new sensor, display back to normal in 10 seconds once the problem is fixed.
HH	Room temp. > 99.9°C	Check the room temperature and all loads, then stop the loads from working manually if necessary.

- Video on YouTube

Haswill Electronics

- https://www.thermo-hygro.com

Documents / Resources

	Haswill STC-1000 Temperature Controller [pdf] User Manual STC-1000, STC-1000 Temperature Controller, Temperature Controller, Controller