STC-1000 Temperature Controller Operating Manual

1. Overview

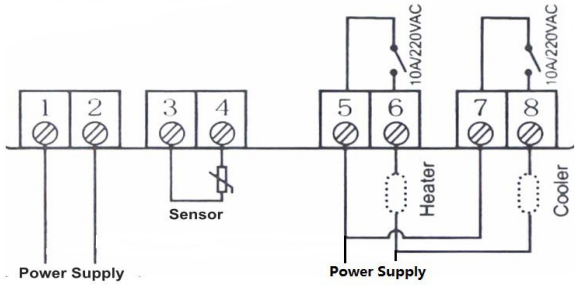
- Switch between heat and cool.
- Support delay start and temperature calibration.
- Alarm when temp exceed temperature limit or sensor error
- All parameters setting can be saved after short circuit.
- Refrigerating control output delay protection
- Can be used for domestic freezer, water tanks, refrigerator, industrial chiller, steamer, industrial equipment and other temperature-controlled system.

2. Specifications

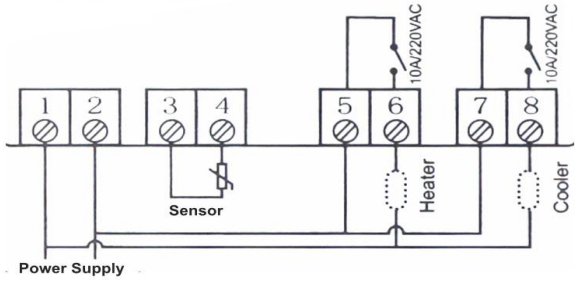
- Power Supply: AC90~250V 50/60HZ/ DC12V/ DC24V
- Temperature control range: -50~99°C
- Difference Set Value: 0.3~10°C
- Accuracy: ±1℃(-50℃～70℃) Resolution : 0.1°C
- Sensor error delay:1 minute
- Measuring input: NTC(10K0.5%) Waterproof sensor 1m
- Relay contact capacity: Cool Heat(10A/250VAC)
- Ambient temperature: -20-70°C , humidity 20% -85%RH
- Size: 75mm(L)*34mm(W)*85mm(Depth)
- Mounting size: 71(L)*29(W)mm
- Power consumption: ≤3W

3. Wiring Diagram

Connection 1:Independent power supply for load

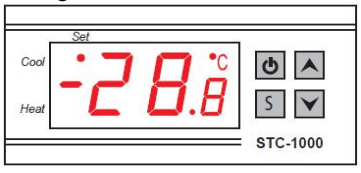


Connection 2:Same power supply for load



4. Key Instruction

S:Set key,Confirm the setting value,Entry and Set parameter.
⏻:powr on/off, or quit the setting.
▲:increase value
▼:decrease value
Cool:cool output indicator
Heat:heat output indicator
Set:Setting indicator



Indicator	Function	Notes
Heat light	On:Refrigeration starts; Off:Refrigeration stops; Flash:compressor delay	Cool、Heat indicator light can not be "on" status simultaneously
Cool light	On: heating starts; Off:heating stops	
Set light	On:parameter setting status	

5. Key Operation Instruction

- **Check parameter:**In normal working status, the screen display real time temperature.press▲. it dispay the setting temperature value.press▼. it dispay the difference value. Press⏻to back to normal display.
- **Set parameter:**In normal working status, press **S** for 3s to enter set parameter mode. Press▲or▼to switch from F1-F4.(see menu code table). Press **S** to display the parameter set value of the current code.Press and hold **S**, Press▲or▼again to adjust up and down the parameter setting value of the current code. Press and hold both **S** and ▲ or ▼ simultaneously to choose and adjust the parameter value of the current menu value promptly.After finishing the setting,press and release⏻instantly to save the parameter modified value and return to normal display. If no key operation within 30 seconds, system won't save modified parameter, screen back to display normal temperature. Screen display "Er" if error appears during parameter saving, and back to normal working status in 3 seconds.
- **Restore system data:**When electrified, system will check itself, screen will display"Er"if error exit, please press any key at this time, and it restore default value and enter into normal working mode. it is advised to reset the parameter value under this condition.

6. Operation Instruction

- In normal working status, hold⏻for 3seconds to power off, hold⏻for 3seconds to power on.
- In normal working status, the screen display **RT**(real time temperature value). the controller can also switch the working mode between heating and cooling.
- ①**Refrigerating starts when RT≥ST** (temperature set value) + **F2** (difference value), the refrigerating relay is connected. cool indicator flashes. it indicates the refrigerating equipment is under compressor delay protect status;When **RT≤ST**, cool indicator light off, refrigerating relay disconnects.cooler stop working.
- ②**Heating starts when RT≤ST-F2**, heat indicator light on. heat relay connect. When **RT≥ST**, heat indicator turn off, heat relay disconnect, heater stop working.
- For example,set 10℃,difference 3℃,heater work when **RT**≤7℃.heater stop when **RT**≥10℃. Cooler work when **RT**≥13℃,Cooler stop when **RT**≤10℃.

Code	Function	Set Range	Default
F1	Temperature set value	-50～99℃	10℃
F2	Return Difference	1～10℃	3℃
F3	Compressor delay time	1～10minute	3 minutes
F4	Temperature calibration value	-10℃～10℃	0℃