

# STC-100A Operation Instructions

## Main functions:

Switch the mode between heating and refrigerating; controlling the temperature by adjusting both the temperature setting value and difference value; Delay protection when refrigerating and heating starts; Limit the temperature setting range; Calibrate the temperature; Alarm when sensor error.

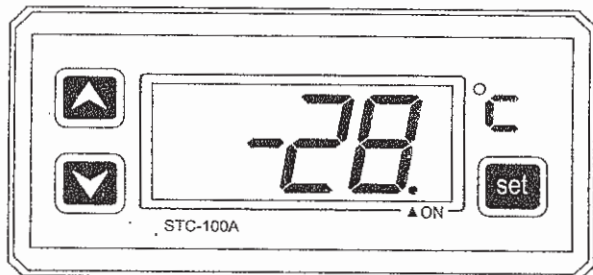
## Size:

- Front panel size: 77 (L) × 34.5 (W) mm
- Installing hole size: 71 (L) × 29 (W) mm
- Product size: 77 (L) × 34.5 (W) × 62 (D) mm
- Sensor wire length: 2 meters (including the probe)

## Technical Parameters:

- Power supply: 220VAC+10%/-15%, 50/60Hz
- Power consumption: <3W
- Temperature measuring range: -40°C ~ +99°C
- Temperature controlling range: -40°C ~ +99°C
- Resolution: 1 °C
- Accuracy: ±1 °C ± 0.5digit
- Relay output capacity: 10A(0.5HP)/220VAC
- Delay time when sensor error: 1 min
- Sensor type: NTC sensor
- Safety level of the front panel: IP54
- Operating temperature: 0°C ~ + 60°C
- Storage temperature: -30°C ~ +75°C
- Relative humidity: +20% ~ +85%(No condensate)

## Operation and display panel:



Display instruction: Two-digit LED displays the temperature value and other information.

Key operation instruction: ▲ key: up key, ▼ key: down key;  
"set" key: to set the parameter value.

## Indicator light status instruction:

Indicator light	Code	Status	Function
Working status indicator light	▲ ON	Flash	Control output delay
Working status indicator light	▲ ON	Always on	Control output start up

## Operation instruction:

1. The way to adjust temperature setting value:

When the controller under normal working status, press "set" key to display the current temperature setting value, press the ▲ key or ▼ key to increase or decrease the temperature setting value, if no key operation within 4 seconds, system will save the modified parameter value and back to normal working status.

Note: LED displays "Er" if there is an error during the memory process, and system back to normal display status after 3 seconds.

2. The way to modify the parameter setting value:

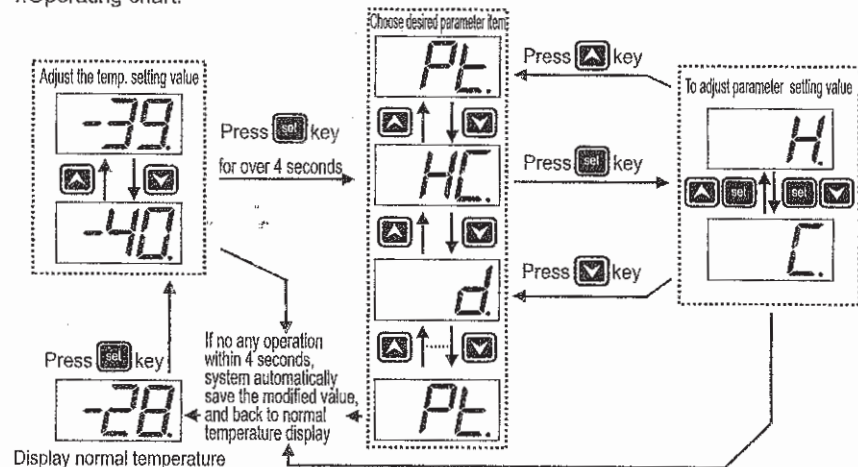
Under controller normal working status, press and hold "set" key for more than 4 seconds to enter into parameter modifying mode, and LED displays the first parameter item code: "HC". Pressing ▲ key or ▼ key can choose the desiring parameter code, then press "set" key to confirm the desired parameter item, by pressing both "set" and ▲ key or ▼ key, LED accordingly displays the increase or decrease the parameter value. If no key operation within 4 seconds, system will save the modified parameter value and back to normal display status.

Note: LED displays "Er" if there is an error during the data memory process, and system back to normal display status after 3 seconds.

3. The way to restore the system data:

After electrified, controller checks the parameter setting. LED displays "Er" when error exits, then pressing any key will restore the default parameter setting, and work normally. It is advised to reset the parameter under this situation.

4. Operating chart:



## Control output:

Relay connects or disconnects when :

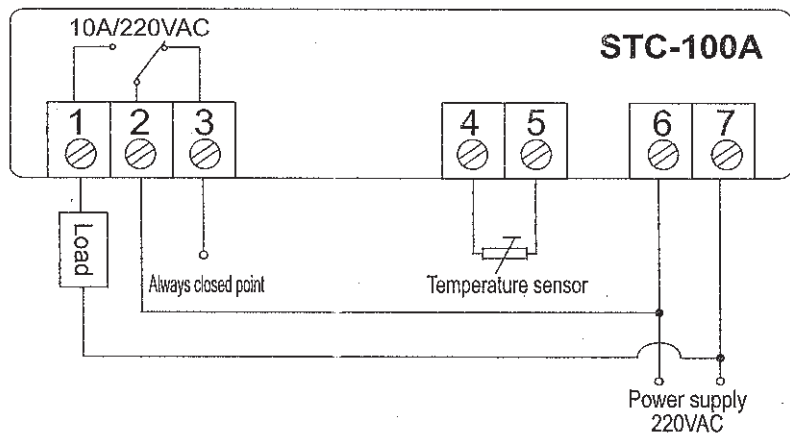
- When working mode is set as "Refrigerating", the relay connects if the measuring temperature is above or equal to the setting temp. value plus the difference value; and relay disconnects when measuring temp. value is below or equal to the setting temp. value.
- When working mode is set as "Heating", the relay will connect if the measuring temp. value is below or equal to the setting temp. value; the relay will disconnect when the measuring temperature is above or equal to the setting temp. value plus the difference value.
- LED displays "HH" when temperature is between  $+99^{\circ}\text{C} \sim +120^{\circ}\text{C}$ ; LED displays "EE" and system close the output when sensor error. The controller can restart up or close only when the control output delay time is running out.

## Menu instruction:

Menu code	Menu function	Setting range	Unit	Default
HC	Controller working mode optional C: refrigerating H: heating	C ~ H	none	C
d	Temperature control return deference	1 ~ 15	$^{\circ}\text{C}$	5
LS	Temperature setting min. value	-40 ~ SP	$^{\circ}\text{C}$	-40
HS	Temperature setting max. value	SP ~ 99	$^{\circ}\text{C}$	70
CA	Temperature calibration value	-7 ~ +7	$^{\circ}\text{C}$	0
Pt	Control output protection time	0 ~ 7	minute	1
SP	Temperature setting value	LS ~ HS	$^{\circ}\text{C}$	-40

Note: the parameter "SP"(temperature setting value) won't appear in the menu.

## Wiring diagram:



## Error information:

Error code	Error analysis	Response way
Er	It occurs to error during the memory process	----
EE	Sensor error	Close control output
HH	Temperature exceeds setting display range.	----

## Safety rule:

### ★Danger:

Please strictly distinguish the connections of relay, sensor and power. Make sure the relay is not overload.

All the wire connection must be operated under the power off status.

### ★Warning :

Prohibit to use the controller under the circumstances such as :over moisture, over high temperature, strong electromagnetic interference, strong corrosion.

### ★Notice:

Make sure the voltage confirm to the marking on the machine and the power supply steady. It is advised to keep proper distance between sensor leads and power supply wire to avoid possible interference.

## Appendix1: Character set:

0 1 2 3 4 5 6 7 8 9  
0 1 2 3 4 5 6 7 8 9

A b C d E F G H i J  
A b C d E F G H i J

K L M n o P q r S t  
K L M n o P q r S t

U V W X y Z ° -  
U V W X y Z ° -