Micro-computer Temperature Controller Instructions of STC-8080

General:

STC-8080 is a universal temperature controller with single sensor, specify all the functions as refrigerating, defrosting, alarming when temperature exceeds setting limit.
Compressor delay protection time is solidified as 3 minutes, controller start up and close according to the solidified proportional time when sensor error, which can be applied to the industries such as cold storage, refrigerator car, etc.

Main functions:

◆To measure, display and control temperature
◆Defrosting cycle and defrosting time is adjustable
◆Alarm when temperature exceeds setting temperature limit value
◆Compressor start up delay protection
◆Compressor work as scheduled time when sensor error

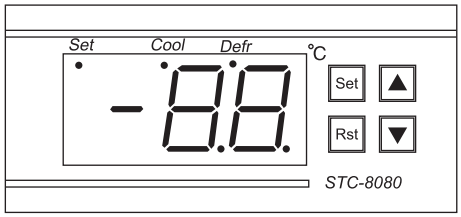
Specifications and size:

◆Front panel size: 75mm(length) × 34.5mm(width)
◆Installing hole size: 71mm(length) × 29mm(width)
◆Product size: 71mm(length) × 34.5mm(width) × 85mm(depth)
◆sensor wire length: 2 meters (including the probe)

Technical parameters:

◆Power supply: 220VAC +10%/-15%, 50/60Hz
◆Power consumption: ≤3W
◆Temperature measuring range: -50℃~+99℃
◆Temperature controlling range: -40℃~+50℃
◆Resolution: 1℃
◆Accuracy: ±1℃when temperature -40℃~+50℃, ±2℃ at others
◆Relay capacity of compressor: 10A/220VAC
◆Relay capacity of defroster: 10A/220VAC
◆Sensor error relay time: 1 minute
◆Sensor type: NTC sensor
◆Front panel safe level: IP64
◆Operating temperature: 0℃～+60℃
◆Relative humidity: 20%～85% (No condensate)
◆Storage temperature: -30℃～+75℃

Panel diagram:



Key Functions and operation instructions:

◆Check parameters setting value (in the state of non-setting): Press▲key and release it immediately to display the set maximum value;Press▼key and release it immediately to display the set minimum value;

◆To modify the parameter setting mode:
☆Press “Set” for 3s to enter the parameter adjusting mode, and set indicator light on. LED displays the parameters adjusted last time.
☆Press ▲or▼ to choose desired parameters. After the selection of parameters the value of corresponding parameter is displayed by pressing “Set”.
☆Press Set, and ▲or▼ simultaneously to adjust the value of parameters; Press “Set”, and hold on ▲or▼ for more than 1 second to quickly increase or decrease the parameter value; Press ▲or▼ to alter other parameters after the setting of one parameter value. Just repeat the above-mentioned steps.
☆System will save the modified parameter value and back to the normal working status if pressing the “Rst” key or no key operations in 30s.
◆Manual defrost:
☆Manual defrosting is allowed when defrosting time value is not set as “0”.
☆Under non-defrosting status, press“Rst”key for 3s to start up the manual defrost.
☆Under defrosting status, press“Rst” key for 3s to close the manual defrosting.

◆To restore parameter setting
☆Firstly, controller checks the parameter setting when electrified. Screen display “E1” when finding error, and buzzer alarm, then Press the “Set” key to restore the default value, and system works normally, it is advised to reset the parameter value in such cases.

Key function table:

Key operation mode	Normal working status	Parameter mode
Press Set key for more than 3s	Enter into the parameter adjusting mode	
Press and release the "Rst" key		Exit from the parameter modifying mode
Press and release the "▲" key	To check the max. temperature value	Menu item page up
Press and release the "▼" key	To check the min. temperature value	Menu item page down
Press "Rst" key for more than 3s	Manual defrosting	
Press "set" key and "▲" key simultaneously		To increase the parameter value quickly
Press "set" key and "▼" key simultaneously		To decrease the parameter value quickly

Control output:

◆Compressor:
Compressor starts up when measuring temperature is higher than the setting max. temperature value, and compressor close when the measuring temperature is lower than setting min. temperature value. Compressor works following the cycle as when probe fails: works for 15 minutes and then stops for 30 minutes. Compressor can restart up or completely stop only when the 3 minute’s compressor protection time is run out of.
◆Defrosting:
Defrosting starts in any of the following status:
☆Controller runs out of the setting defrosting cycle.
☆Under the non-defrosting mode, pressing the“Rst”key for more than 3 seconds.
Note: Refrigerating output is forbidden during the defrosting process.
Defrosting stops in any of the following status:
☆Defrosting time is run out of.
☆Under the defrosting mode, pressing the“Rst”key for more than 3 seconds.
Another defrosting cycle run again when electrified or when the defrosting time used up. Defrosting function is canceled when defrosting cycle or defrosting time is set as 0.Manual defrosting is allowed when defrosting time is not set as 0.
◆Alarm:
☆Exceeding temperature limit alarm:
☆When sensor measuring value is higher than maximum value + set alarming temperature value or lower than minimum value - set alarming temperature value, temperature controller alarms, buzzer works and LED blinks. Alarm will continue until temperature back to normal range.
☆Screen flashes and displays E1 with buzzer alarms if error occurs during storage process; Screen flashes and displays E2 with buzzer alarms when sensor error;
LED displays ”HH” when measuring temperature is between +99℃ and 120℃.
Note: Pressing any key can manually cancel the alarm sound, while alarm indicator light display status doesn’t change.

Descriptions of Indicator Lights:

Indicator light	Light status	Function
Defr	always on	Defroster works
Cool	always on	Compressor works
Cool	flashes	Compressor relay output
Set	always on	Parameters modifying status

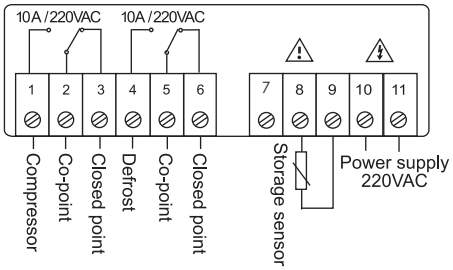
Menu instruction:

Code	Manu function	Parameter setting ranges	Unit	Defaul
F1	Temp. upper limit	F2~+50	℃	10
F2	Temp. lower limit	-40~F1	℃	20
F3	Temp. calibration	-5~+5	℃	0
F4	Defrost cycle	0~99,Timing defrost be canceled when F4 is set as "0"	Hour	8
F5	Defrost duration	0~99,Timing defrost be canceled when F5 is set as "0"	Minute	20
F6	Exceeding temp. limit alarm	0~50,Alarming be canceled when F6 is set as "0"	℃	15

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.

Wiring diagram:



Error information:

Error code	Error analysis	Response way
E1	It occurs to error during the storage process	Alarm, and the machine doesn’t work
HH	Temperature exceeds setting display range	---