DTC-1000 Operation Instruction

Main Instructing

Switch the modes between cool and heat; Control temperature by setting the temperature setting value and the difference value; Temperature calibration; Refrigerating control output delay protection; Alarm when temperature exceeds temperature limit or when sensor error.

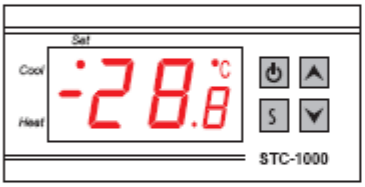
Specification and Size

◆Front panel size：75(L)×34.5(W)(mm)
◆Mounting size:71(L)×29(W)(mm)
◆Product size：75(L)×34.5(W)×85(D)(mm)
◆sensor length：2m(include the probe)

Technical Parameters

◆Temperature measuring range:-50℃～99℃
◆Resolution:0.1℃
◆Accuracy:±1℃(-50℃～70℃)
◆sensor error delay:1 minute
◆Power supply:220VAC±10%，50/60Hz
◆Power consumption:＜3W
◆Sensor:NTC sensor (1PC)
◆Relay contact capacity:Cool(10A/250VAC);Heat(10A/250VAC)
◆Ambient temperature:0℃～60℃
◆Storage temperature:-30℃～75℃
◆Relative humidity:20～85%(No condensate)

Panel instruction



Display instruction: Three-digit LED +Minus digit + Status indicator light (Status indicator light (Cool, Heat) + Set indicator light (Set)
Key instruction: "S" key: the key to set;"∧" key: Up key;
"∨" key: Down key; "⏻": the key to turn on and off the power

Indicator light status instruction

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

Key operation instruction

1.The way to check parameter:

Under normal working status, press and release "∧" key once instantly, it displays temperature setting value;press and release "∨" key once instantly, it displays the difference value. It back to display the normal temperature display status in 2s.

2.The way to set parameter:

Under controller normal working status, press "S" key for 3s or more to enter parameter modifying mode, and the "Set" indicator light on, screen displays the first menu code "F1". Press "∧" key to avoid the interference, the sensor down-lead and power wire should be kept a distance or "∨" key to page up and page down menu item to find accordingly code, press "S" key to display the parameter set value of the current menu. Press and hold "S" key, Press "∧" key or "∨" key again to adjust up and down the parameter setting value of the current menu item. Press and hold both "S" key and "∧" key or "∨" key simultaneously to choose and adjust the parameter value of the current menu value promptly. After finishing the setting, press and release the "⏻" key instantly to save the parameter modified value and return to display the normal temperature value. 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.

3. 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.

Operation instruction

Under controller normal working status, press and hold "⏻" key for 3s can turn off the controller; Under controller "off" status, press and hold "⏻" key for 3s can turn on the controller.

Under the controller normal working status, screen displays the current temperature value; also the controller can also switch the working mode between heating and cooling.

Controller starts refrigerating with cool indicator light on when the measuring temperature ≥ temperature set value + difference value, and the refrigerating relay is connected; The "Cool" indicator light flashes, it indicates the refrigerating equipment is under compressor delay protect status; when the measuring temperature ≤ temperature set value, the Cool indicator light on, and refrigerating relay disconnects.

System starts heating when the measuring temperature value ≤ the temperature set value-difference value, and the "Heat" indicator light on, and the heat relay connects; When the measuring temperature ≥ temperature set value, the "Heat" indicator light is off, and the heat relay disconnects.

Menu instruction

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

Error description

Alarm when sensor error：Controller activate the sensor error alarm mode when sensor open circuit or short circuit, all the running status is closed off with the buzzer alarms, and the nixie tube displays "EE"，Press any key can cancel alarm sound, system back to display the normal temperature when the error and the fault is cleared.

Alarm when the measuring temperature exceeds temperature measuring range：Controller activates the error alarm function when the measuring temperature exceeds the temperature measuring range, all the running status is closed off with the buzzer alarms, and the nixie tube displays "HH"，Press any key can cancel alarm sound, system back to display the normal temperature when the error and the fault is cleared.

Safety Regulations

★Danger：

1. Strictly distinguish the sensor down-lead, power wire and output relay interface from one another, and prohibit wrong connections or overloading the relay.
2. Dangers: Prohibit connecting the wire terminals without electricity cut-off.

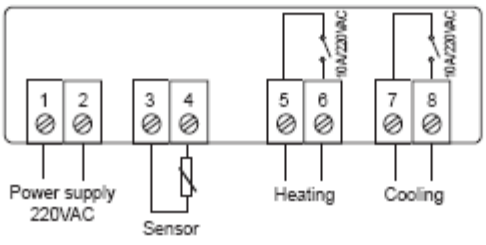
★Warning：

Prohibit using the machine under the environment of over damp, high temp., strong electromagnetism interference or strong corrosion.

★Notice：

1. The power supply should conform to the voltage value indicated in the instruction.
2. To avoid the interference, the sensor down-lead and power wire should be kept a distance.

Wiring diagram



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