

JC-1000 Micro-computer Digital Temperature Controller

User's Manual

Functions

Applicable for heating or refrigerating control; Control temperature as per set temperature and backlash; calibrate temperature; Control the starting interval to prevent frequent startup of refrigerating system; over-range alarm and sensor fault alarm or sometimes the refrigerating/heating output is disabled at the same time;

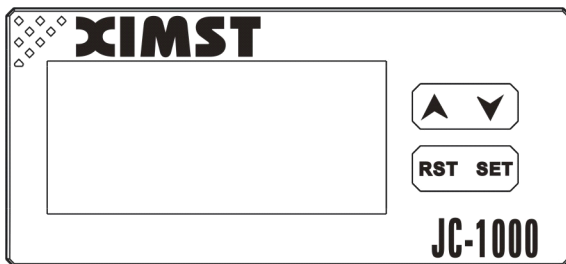
Measurements

- ◆ Frontal panel: Length 75× Width 34.5(mm)
- ◆ Overall size: Length 75 × Width 34.5 × Depth 75.5(mm)
- ◆ Installation hole: Length 71× Width 29(mm)
- ◆ Wire length of sensor: 2m (including probe)

Specifications

- ◆ Measurement range: $-35^{\circ}\text{C} \sim 120^{\circ}\text{C}$
- ◆ Measurement accuracy: $\pm 1^{\circ}\text{C}$ ($-30^{\circ}\text{C} \sim 70^{\circ}\text{C}$)
- ◆ Power consumption: < 3W
- ◆ Temperature resolution: 0.1°C
- ◆ Power supply: 220VAC $\pm 10\%$, 50/60HZ
- ◆ Output capacity of relay: refrigerating (10A/250VAC), fault (10A/250VAC)
- ◆ Sensor: NTC sensor(10K, B value 3950)
- ◆ Relative humidity: 0~90%(no condensation)
- ◆ Ambient temperature: $-30^{\circ}\text{C} \sim 70^{\circ}\text{C}$

Operating and display panel



Instructions of display:

It employs multi-functional display modules, including 3-digit digital tube + minus + icon indicator (the information appearing in the display varies with the model of the machine).

Functions of keys:

“▲”: Up “▼”: Down
“SET”: Set “RST”: Reset and return

Instructions of icon indicators

Icon Indicator	Functions	Remarks
"❄" indicator	On: The machine is refrigerating; Off: The machine stops refrigerating; Flashing: the refrigerating system is under protection against frequent startup	The two icons may not illuminate concurrently.
"🔥" indicator	On: The machine is heating; Off: The machine stops heating; Flashing: the heating system is under protection against frequent startup	
"🔒" indicator	On: The keys are locked; Off: The keys are unlocked; Flashing: reminding users of entering password	
"°C" indicator	On: the unit of current temperature readings is Celsius degree ("°C")	The two icons may not illuminate concurrently.
"°F" indicator	On: the unit of current temperature readings is Fahrenheit degree ("°F")	



Instructions of keys

1. How to set temperature:

While the controller is working, press “▲” together with “▼” once, when the indicator “password” in the display turns off,

press “SET” once then release it immediately, the screen will flash and display the current temperature you set, press “▲” or “▼” to change the parameters, or press and hold “▲” or “▼” to quickly change the parameters. After the setting is finished, press “RST” to return to normal working displaying status.

2. How to configure management parameters:



While the controller is working, press “▲” together with “▼” once, when the indicator “” in the display turns off, press and hold “SET” till “000” appears in the display, the moment the icon “” flashes reminding you of entering the password. Press “▲” to the current password which is flashing, press “▼” to change the position of flashing number, enter the password “168” and press “SET”, the system will enter the parameter setting menu, and the menu No. currently appearing in the display is “F00”, press “▲” or “▼” to change menu No., press “SET” to enter the menu you select, and the parameters of corresponding menu will appear in the display, press “▲” or “▼” to change the values of parameters, or press and hold “▲” or “▼” to fast change the parameters, after parameter configuration is finished, press “SET” return to menu No. displaying screen. After the parameter setting is finished, press “RST” to return to normal working displaying status.



Tips:



While in any screen other than normal working displaying screen, the system will automatically return to normal working displaying status if there are no key operations within 20 seconds. The system will automatically save the change of parameters if any.



Operating instructions

After power on, the system will run self-inspection program, and relevant information will appear in the display, then buzzer gives out three sounds. After self-inspection, the system will enter normal working status, current measurement temperature appears in the display.

While in refrigerating mode: the system will enter refrigerating status when measurement temperature is \geq set temperature + set temperature difference, the icon “” is on, the NO point of relay is closed; if the icon “” flashes, it indicates the refrigerating device is under protection against frequent startup, the relay will not close.

The NO point of relay is opened when measurement temperature is \leq set temperature, the icon “” flashes, the refrigerating device enters the protection against frequent startup. After the protection is over, the icon “” will turn off.

While in heating mode: the system will enter heating status when measurement temperature is \leq set temperature - set temperature difference, the icon “” is on, the NO point of relay is closed; if the icon “” flashes, it indicates the heating device is under protection against frequent startup, the relay will not close.

The NO point of relay is opened when measurement temperature is \geq set temperature, the icon “” flashes, the heating device enters the protection against frequent startup. After the protection is over, the icon “” will turn off.

Instructions of Menus

Code of menu	Functions of menu	Range of parameters	Default value	Notes
F00	Set unit of temperature	C/F	C	
F01	Set maximum temperature	Allowed lowest temperature \sim 100 °C/°F	30	
F02	Set minimum temperature	-20 \sim Allowed highest temperature °C/°F	5	
F03	Set temperature difference	0 \sim 20°C/°F	1	
F04	Set high-temperature alarm value	Low-temperature alarm value \sim 120°C/°F	50	
F05	Set low-temperature alarm value	-25 \sim high-temperature alarm value	4	
F06	Set temperature compensation value	0 \sim 5°C/°F	0	
F07	Set interval of compressor startup	0 \sim 250s	60	

F08	Select H/C	H/C	C	H: heating C: cooling
-----	------------	-----	---	-----------------------

Fault codes and protective actions

Code of fault	Description	Protective actions
E01	Sensor is in open circuit	Refrigerating output relay is closed, fault output relay acts, buzzer alarms
E02	Sensor is in short circuit	
E03	The system alarms if the measurement temperature is too high	Buzzer alarms, output relay closes while in heating mode. While in refrigerating mode, the alarm will be mute automatically when the high temperature exceeding limit disappear.
E04	The system alarms if the measurement temperature is too low	Buzzer alarms, output relay closes while in refrigerating mode. While in heating mode, the alarm will be mute automatically when the low temperature exceeding limit disappear.

Resetting operations: when fault alarm sounds, press “RST” to reset fault action.

Safety Rules

●: Danger

- Exactly identify the sensor wire power cord and the port of output relay, make sure they are properly connected. Avoid exceeding the capacity of relay;
- Before changing any connection, make sure you have shut off the power supply of the device.

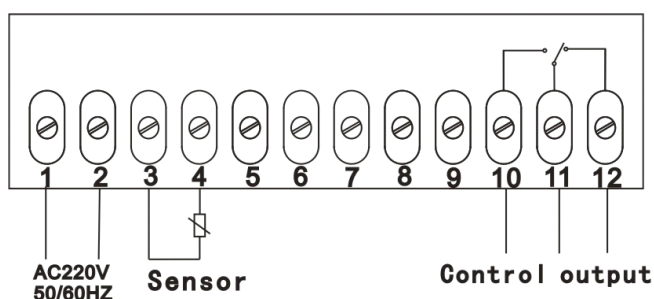
● Warning:

Don't use the controller in extremely damp environment.

● Caution:

- Make sure the voltage of power supply identical to the voltage as specified in the label of the controller, and keep the power supply in steady voltage;
- User is recommended to keep a certain distance between the lead wire of sensor and electric wire, so as to prevent any possible interference thus incurred.

Wiring



Shenzhen Ximosite Electric Co., Ltd.

Technical Services: 13798293845
(+086)0755-81799326
Web site: www.ximst.com V1.0