

Programmable LCD Temperature Controller

User's Manual

C-50

NOTE: Thermal coupler must be attached to the drum roughly 6" up from the bottom at ALL TIMES!

Failure to do so could cause over-heating of the material & hot plate.

ALSO, plate MUST be bolted securely to the floor to alleviate cracking of the hot plate



The C-50 series is designed for indoor temperature control. A microcomputer with intelligent logic design is utilized, allowing you to tailor your comfort levels and changing them as desired.

Additional functions:

Time setting, over-temperature alarm, remote controller and RS485 communicating system.

Product Features:

Simultaneously-displayed settings and measured values

Easy-operating menu

Ultrathin panel

Sleep mode for energy-savings

Power-off memory function

Temperature correction function

"5.0°C" anti-frost function, keeping temperature above 5.0°C

Blue/orange LED backlight

Temperature sensor NTC

Setting temperature: 5.0°C ~35.0°C 41-99F Accuracy: ±0.5°C

Display temperature: 1.0°C~90.0°C 41-99F

(E1 displays when the inside probe is disconnected)

Deviation value: 1.0-5.0°C adjustable

Temperature probe could be adopted for floor heating.

External temperature range: 20.0°C~85.0°C

(E2 displays when the external probe is disconnected)

Optional Accessories:

Remote controller (LED display or ordinary button type RS485 communicating function.

Technical data:

Power supply: AC90-260V Output: AC250V 16-40A

Size: 86mmx86mmx36mm Panel material: ABS plastic

Hole distance: 60mm(standard) Display range: -9.0°C-60.0°C

Controlling range: 5.0°C (factory setting 21.0°C)

Deviation range: 1.0-5.0°C (factory setting 2.0°C)

Correction range: -9.0°C-9.0°C (factory setting 0.0°C)

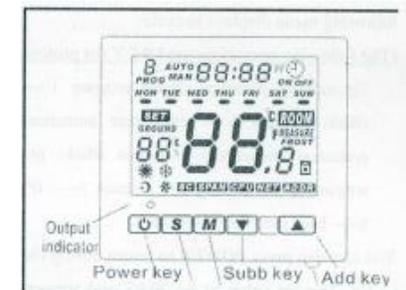
Protect temperature range: 20.0-85.0°C (factory setting 60.0°C)

Protect temperature correction range: -9.0-9.0°C (factory setting 0.0°C)

Protect temperature deviation range: 1.0-5.0°C (factory setting 2.0°C)

Function description:

1. Temperature control: When the temperature is lower than set value, the controller starts heating: On the contrary, it stops heating.
2. Auto mode: automatically working according to user's programmed settings of 6 different values every day.
3. Manual mode: working according to the set value constantly.
4. Sleep mode: 60 minutes after the sleep mode starts, the set value will be 1°C lower and so on and so forth. 8 hours later, the sleep mode would be turned off automatically and the set value resumes to the original value.
5. Time: Use timer to turn on and off the controller.
6. Temperature correction: to correct the measured value to the actual temperature. The correction range is -9.0°C~+9.0°C.
7. Anti-frosting function: In all circumstances (including turned off situation when the temperature is lower than 5.0°C, the controller starts to work automatically. The function could be turned on/off manually. **It is strongly advised that you turn on the function.** When the function is turned on, displays 5.0°C when the controller is turned off.
8. Deviation controlling: to control the return differences between set value and measured value.
9. Self-diagnosis function: to test the situation of loading and insulation so as to ensure the safety.
10. Double-temperature controlling: to display both the indoor and external (with an external probe) temperature. The external temperature displays on the left and indoor right.
11. External controlling: The external temperature displays on the right.



Operating instruction

1. Press **POWER** to turn controller on/off

When the controller is on, you can set the temperature, indoor temperature, time and auto/manual mode. In manual mode, you can choose sleep mode and timer function. The green light turns on when heating.

When the controller is off, it displays **5°C** in anti-frosting mode and **TIMER ON** in timer mode.

2. **Menu**

Press **S** button and the following menu shows in cycle: Set of date (flash)—set of hour (flash)—set of minute (flash):

Setting Date:

Press ▲ ▼ button to change the date (From Monday to Sunday). Press “S”

Setting Hour

Press button to change the hour (from 0 to 23).

Press “S” to the next menu:

Setting of minute:

Press button to change the minute (from 0 to 59).

Press “S” to the next menu.

3. **Second Menu**

When the controller is closed, press “S” for 5 seconds and the following menu displays in cycle:

(The following operations are ONLY for professional personnel)

Temperature correction (flash) program 1----

Temperature deviation (flash) program 2----

Temperature protection (flash) program 3----

Protection temperature correction (flash)

Program 4---- protection temperature deviation

(flash) program 5---- IP address (flash) program 6-

--- baud rate (flash) program 7.

You can also press **POWER** to return during the setting process.

EG. The set value to be 20.0°C and temperature deviation 2.0°C, when the actual temperature is lower than 18.0°C, the heater gets connected to 220V: when the actual temperature is higher than 20.0°C the heater gets disconnected to 220V

Program 1 Temperature correction	9.0°C-9.0°C	Press ▲ ▼ to adjust
Program 2 Temperature deviation	0.0°C-80.0°C	Press ▲ ▼ to adjust
Program 3 Temperature protection (flash)	0.0°C-85.0°C	Press ▲ ▼ to adjust
Program 4 Protection temperature correction	9.0°C-9.0°C	Press ▲ ▼ to adjust
Program 5 Protection temperature deviation	0.0°C-5.0°C	Press ▲ ▼ to adjust
Program 6 RS485/IP Address	-32	Press ▲ ▼ to adjust
Program 7 Baud rate	800/9600/14400	Press ▲ ▼ to adjust

4. **Auto/Manual/Sleep Mode:**

Press “M” for 5 seconds and it displays AUTO: Another 5 seconds on “M” and it displays MANUAL.

Press ▲ for 5 seconds and it displays the sleep symbol mode: Another 5 seconds to turn off sleep mode.

Press ▼ for 5 seconds to lock and another 5 seconds to unlock.

Manual Control:

Timer: (only in manual mode)

Press “S” for 5 seconds to enter the timer menu:

Press “S” and the menu cycles: Timer on (flash) ---- “01” (flash) ---- time off (flash) ---- “01” (flash)

During the setting process you can press power to return.

Timer on: press ▲ ▼ and choose to allow/forbid timer on.

Press “S” to the next menu.

Setting the hour: (ONLY WHEN TIMER IS ON)

Press ▲ ▼ to adjust hour (from 0 to 16). Press **S** to the next menu:

Timer off: press ▲ ▼ and choose to allow/forbid timer off.

Press “S” to the next menu.

Setting the hour: (ONLY WHEN TIMER IS OFF)

Press to adjust the hour (from 0 to 16) Press “S” to the next menu. When the timer is “ON” flashes after you return from the menu.

Auto Mode: press “S” for 5 seconds, it displays program 1. “one, two...five”, “time” flashes. Press ▲ ▼ to adjust minutes (add/delete 15 minutes each time). Press “S” again and it displays “program 1”, “one, two...five”, “temperature” flashes. Press ▲ ▼ to adjust temperature, press “S” again and it displays “program 2”, “one, two...five”, “time” flashes. And repeat the above steps until it displays program 1 again. **You can exit the settings menu by pressing power. In this case, your previous settings will not be saved.**

In auto mode, it works automatically in the sequence described above.

Program:

There are 6 programs on workdays and weekends. Press “Function” for 5 seconds. Then press “Function” to view the time and temperature.

Protection:

Press “M” for 5 seconds before turning on the controller and it displays “program 1”. Press “function” again and it displays “program 2”. Press ▲ ▼ to choose whether or not to turn on/off the anti-frosting function.

Press “M” to enter the menu. Press “S” to enter the second menu.

Program 1	-2	: Indoor : External : Double Temperature
Program 2	OFF/ON	OFF: anti-frosting turned off ON: anti-frosting turned on
Program 3	0, 90	Display range: 5.0-60.0°C
Program 4	C/F	Display in °C or °F
Program 5t	OFF/ON	Communicating CRC
Program 6	OFF/ON	LOG

Press “S” to enter the menu: See the article 3 on this page.