

Digital Thermostat

S400 Series

Installation Manual



S400-170105

1. Product Summary:

S400 series of thermostats are mainly used to control the 2-pipe & 3-speed fan coil and valve, or 4-pipe & 3-speed fan coil and valve in the civil, commercial and industrial constructions.

2. Technical Parameter:

- 2.1 Power Supply: AC220V±10%, 50/60Hz
- 2.2 Temperature Controlling Range: 5~45°C
- 2.3 Standard Load: <3A (Resistive Load)
- 2.4 Power Consumption: <3W
- 2.5 Temperature Sensing Element: NTC
- 2.6 Temperature Controlling Precision: ±1°C (Range: 0.5~3°C)
- 2.7 Transportation & Storage Environment: Temperature: -25~+60°C
Relative Humidity: RH<93% (no condensation)
- 2.8 Working Environment Temperature: -10~+55°C
- 2.9 External Material: PC Engineering Plastic, Fire-resistant
- 2.10 Dimension: 86×86×40.5 (mm)
- 2.11 Installation: Standard 86 Junction Box (Standard EU Junction Box)

3. Main Function:

- 3.1 Large screen of LCD, English display, with white backlight
- 3.2 8-hours of sleep function.
- 3.3 With temperature correction function.
- 3.4 Fan controlled anti-condensation, anti-cold air function.
- 3.5 Temperature correction function.
- 3.6 With key lock function, can prevent the mis-operation.
- 3.7 Backup function, can recover the foregoing working state before power off.
- 3.8 With RS485 communication interface (optional).
- 3.9 With Mainframe Link (optional).
- 3.10 Hotel special card (optional), economic operation model running without card.

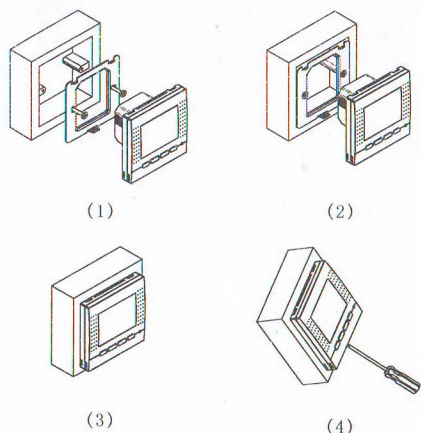
-1-

4. Installation Explanation:

- 4.1 Please do the operations of installation by professionals after the power is cut off.
- 4.2 Choose the correct installation location, do not install the product under direct sunshine or near high humidity areas.
- 4.3 Working Environment Temperature: -10°C~+50.0°C
- 4.4 Installed in the high humidity areas like bathroom, special waterproof cover is a must.
- 4.5 Height above sea level: 2000m at most
5. Installation Step:
- 5.1 Open the Power Panel and LCD Main Board, and use screws to fasten the cover of the power panel to the pre-placed installing box. Please notice the cover direction;
- 5.2 Follow the wire diagram for the electrical connection;
- 5.3 Please refer to the fig.3, push the thermostat into box, and make sure the thermostat install well;
- 5.4 Finish the installation and connect power supply to test.

-2-

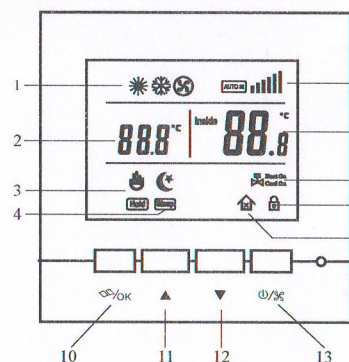
6. Installation Diagram:



NOTE: During disassembly, as shown in (4), a flat-blade screwdriver should be perpendicular to the direction of 35 degrees angle.

-3-

7. User Interface Explanation:



1. Working Mode
2. Set Temperature
3. Manual Mode
4. Sleep Mode
5. Fan Speed
6. Room Temperature
7. Valve Symbol
8. Key Lock
9. No card Mark
10. Mode/Confirmation Key
11. Increasing Key
12. Decreasing Key
13. On/Off/Fan-speed Key

-4-

8. Operational Details:

■ Power on/off

OFF status, press "⊗/⊗" key, the thermostat is ON;
ON status, long press "⊗/⊗", the thermostat is OFF.
(OFF Status, "OFF" and room temperature shown on the screen).

■ Mode choice

Under the power on state, short press "⊗/⊗" switch working mode, Short press "⊗/⊗" key to confirm.
Two pipes product working model as following:
Heating(☀)/Cooling(☁)/Ventilate(☁);
Four pipes product working model as following:
Heating/Cooling/Ventilate/Constant temperature(☀☁).

■ Fan speed setting

Under the power on state, short press the "⊗/⊗" can adjust fan speed: Low(⬇)/Middle(⬆)/High(⬇)/Auto(⬇).
Note: There is no automatic wind under ventilation mode.

■ Temperature setting

Under the power on state, adjust the temperature by pressing "▲" or "▼" key. The step is 1°C, range: 5~45°C.

■ Sleeping mode

Under power on state, long press "⊗/⊗" key and "⊗/⊗" key at the same time, sleep mode activated and its icon (☾) displayed on the screen, the same operation can cancel the sleep mode.

Remark: Effective only in the case of Heating and Cooling mode.

■ Key lock

Press "▲" and "▼" in same time for 3S to adjust the key lock state. When "⊗" symbol appears, all keys are useless.

■ Advanced Mode

In working mode, long press "⊗/⊗" to enter into the selection state of advanced mode.

-5-

- Short press "▲" or "▼" to choose mode F0~F4;
- Short press "⊗/⊗" key to enter mode's parameter setting;
- Short press "▲" or "▼" to adjust the parameter's values;
- Short press "⊗/⊗" key to enter into next step or goback.
- Short press "⊗/⊗" key to exit advanced mode.

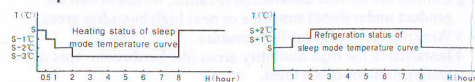
Mode	Function	Explanation
F0	Temperature adjustment	Adjustment step: 0.5°C Range: 0~5°C Default: 0°C
F1	Fan coil Controlled	Change the fan coil controlled state: 1: Controlled 0: Uncontrolled (default setting)
F2	Temperature control width setting	Adjustment step: 0.5°C Range: 0.5~3°C Default: 1°C
F3	Power down memory settings	0: When re-power, the controller is turned off 1: When re-power, the controller keeping the state which is before power off (default setting)
F4	Communication address setting (suitable for product with the function)	Adjustment step: 1 Range: 1~250 Default: 1 Note: The controller address on the same line should be different

-6-

■Restore the factory setting

In working mode, long press "▲" key to restore the factory setting, press "0/%" to confirm, press other key to cancel.

■Sleep Mode



S: Set Temperature

9. Selection table for S400 series:

Model	Language	sleep	Key lock	Card inserted	Mainframe Link	Applicable device
S400T	English	✓	✓			2-Pipe System
S400H1	English	✓	✓		✓	2-Pipe System
S400H2	English	✓	✓	✓		2-Pipe System
S400F	English	✓	✓		✓	4-Pipe System
S400FH2	English	✓	✓	✓		4-Pipe System
S400-S	With RS485 communication					

10. The solution of abnormal problems:

Please confirm again: whether the N-wire and L-wire is connected correctly; whether the cooling and heating running mode setting conforms with the requirement.

exception handling	Reason	Solutions
No display when power is on	terminal 2 doesn't connected fire line L; terminal 1 doesn't connected zero line N	Ensure the terminal power connection correct
	User power failure	Check relevant line
The actual wind speed and display wind speed discrepancy	Terminal 3, 4, 5 connection order error	Check external line
Display normal, control error	Connection order staggered line not connected or loose	Check exhaust line
	line connected error	Check external line
Room temperature (measurement temperature) deviation	Temperature not correction	Adjust the measurement temperature again
	Thermistor(sensor)	Check the sensor
	Installation location is unfavorable	Improve installation environment
Display trouble code Err1	Internal sensor goes wrong	Exchange the internal sensor
Communication abnormal	Check communication terminal (10A; 9B) and the external wires.	

11. Notice:

- Please read the manual carefully before using, if you have any questions, please contact with the professional engineer of our company;
- This thermostat must have individual electrical power control equipment, if you will not use it for a long time (over one month), please cut off the electrical power;
- The thermostat should be installed correctly by the professionals according to the manual;
- Please don't install the thermostat near the high temperature heat source or in bad environment;
- Please make sure the power is the same as the voltage marked on the controller before installation;
- The functions and specification of thermostat will be updated gradually without further notice;

Warning:



The symbol means the unit is being installed, it may cause electrical shock hazard during maintaining, so please make sure it is operated by the professional technical worker.

