

S430 Series of Digital Thermostat

S430

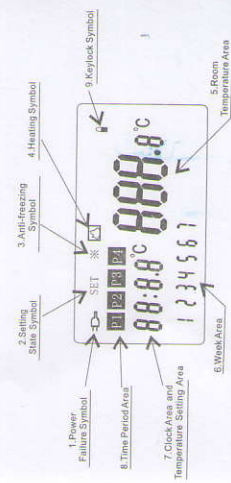
Installation Manual



S430110609

"⏻" Key:
 Short Press: Switch the temperature display of internal and external sensors or enter/exit the mode setting state.
 Long Press: ON/OFF
 Remark: Long press "+" and "-" keys at the same time to enter or exit the keylock state.

4.LCD Display Explanation:



4.1 Power Failure Symbol: Display this symbol when it is not connected with power or the power is dropped.
 4.2 Setting State Symbol: Display this symbol when setting the parameter of controller.
 4.3 Anti-freezing Symbol: Under "OFF" state, enter into the anti-freezing state and display this symbol when the room temperature is lower than anti-freezing temperature.

4.4 Heating Symbol: Display this symbol and connect with the relay to heat when the room temperature is lower than the setting temperature.
 4.5 Room Temperature Area: Display the room temperature, and display the Error symbol when the sensor goes wrong.
 4.6 Week Area: Display week.
 4.7 Clock Area and Temperature Setting Area: Display time/controlling temperature.
 4.8 Time Period Area: Display time period.
 4.9 Keylock Symbol: Display this symbol when the keyboard is locked.

5. Clock Setting:

Under the working mode, short press "⏻" key once to enter into the mode choice state, and "F0" will begin to twinkle at the same time, then press "⏻" key to enter into the setting interface of clock, and week will begin to twinkle at the same time.



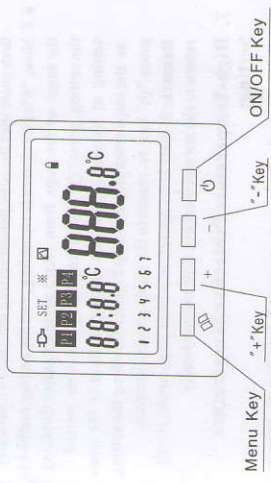
5.1 Press "+" / "-" key to adjust the week, then press "⏻" key to enter into the setting of hour.

1. Product Summary:
 S430 series of thermostats are LCD heating thermostats with week programmable function.
 S430PE thermostat is applied to control the electrical load of electrical floor heating system.
 S430PW thermostat is applied to control the motorized valve of water floor heating system.
 Can be installed in the wall by standard 86 junction box (Standard EU Junction Box).

2. Technical Parameter:

- 2.1 Rated Voltage: AC220(110V ± 10%, 50/60Hz)
- 2.2 Output Format: Relay Contact
- 2.3 Output Current: Electrical Heating: 16A (Resistive load); Water Heating: 3A (Resistive load)
- 2.4 Temperature Controlling Range: 5~45°C
- 2.5 Environmental Temperature: -10~50°C; Humidity: <85%, no dewing
- 2.6 Temperature Controlling Precision: 0.2°C
- 2.7 External Material: PC Engineering Plastic

3. Explanation of Key Function:



"⏻" Key:
 Short Press: Enter/exit the mode choice state
 Long Press: Increase quickly
 "+" Key:
 Short Press: Adjustive step is 1, increase the setting value.
 Long Press: Increase quickly
 "-" Key:
 Short Press: Adjustive step is 1, decrease the setting value.
 Long Press: Decrease quickly

5.2 Press "+" / "-" key to set hour, then press "⏻" key to enter into the setting of minute.
 5.3 Press "+" / "-" key to set minute, then press "⏻" key to return to the mode choice state.

6. Time Period Program Setting (It will work according to the following setting values in the auto mode):

The default value of time period program:

| Time Period | Start Time | Setting Temperature(°C) | | |
|-------------------|------------|-------------------------|------------|----|
| | | Mon.- Fri. | Sat.- Sun. | |
| P1:6:00-8:00 | 6:00 | 25 | 25 | 25 |
| P2:8:00-16:00 | 8:00 | 10 | 40 | 40 |
| P3:16:00-22:00 | 16:00 | 25 | 25 | 25 |
| P4:22:00-Next6:00 | 22:00 | 15 | 15 | 15 |

If you are not satisfied with the default value, you can adjust the time and the relative temperature of each time period according to your requirements, details are as follows:
 Under the mode choice state, press "+" / "-" key to choose "F1", then press "⏻" key to enter into the week setting interface of the time period program and "1----5" at week area will begin to twinkle at the same time.



6.1 Press "+" / "-" key to choose the week: 1234567. After finishing the setting, press "⏻" key to confirm and enter into the setting interface of time period and "P1" at time period area will begin to twinkle at the same time.
 6.2 Press "+" / "-" key to choose the time period: P1/P2/P3/P4. After finishing the setting, press "⏻" key to confirm and enter into the time setting interface of this time period and time will begin to twinkle at the same time.
 6.3 Press "+" / "-" key to set the time of time period, short press once to increase/decrease 15 minutes; please pay attention to the time limit of time period: 0:00 ≤ P1 < P2 < P3 < P4 < 24:00; after finishing the setting, press "⏻" key to confirm and enter into the temperature setting interface of time period and temperature area will begin to twinkle at the same time.
 6.4 Press "+" / "-" key to set the temperature, press once to increase /decrease 1°C; Min. 5°C → 6°C → → → 45°C. Max. press "⏻" key to confirm and enter into the setting of next selected time period.

9. Measured Temperature Adjustment:

Under the mode choice state, press "+" / "-" to choose "F4", then press "0" key to enter into this mode. Press "+", "-", or "0" to adjust the measured temperature, press once to increase/decrease 1°C, press "0" key to confirm and return to the mode choice mode.

10. Sensor Mode Setting:

Under the mode choice state, press "+" / "-" to choose "F5", then press "0" key to enter into the sensor setting mode, and the default value is 1, just as the following picture:



10.1 Three Kinds of Sensors Mode:

- Mode 1: Internal sensor to control the temperature. If the internal sensor is damaged, it will display "Err1".
- Mode 2: External sensor to control the temperature. If the external sensor is damaged, it will display "Err2".
- Mode 0: Internal sensor to control the temperature, and external sensor to limit the temperature. If any external sensor is damaged, it will display "Err3".

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16. Manual Model or Auto Mode Control:

Under the working mode, long press "+" key to switch to the manual mode or auto mode.

Manual Mode: Only work in a setting temperature, without the display of time period (P1-P4).

Auto Mode: Work according to the setting temperature in the relative time period, and the temperature in different time period and different working day can be different.

17. Attention:

- 17.1 Should be installed by professionals correctly according to the manual.
- 17.2 Please check if the electrical source is the same as the voltage marked on the controller before the installation.
- 17.3 Please do not install the products near the high temperature place or bad conditions.
- 17.4 Please choose the right power line according to the electrical load power.
- 17.5 If the system comes out abnormal phenomena or dead, please try to cut off the power and then supply the power again.
- 17.6 If the product was damaged because of the wrong wire connection, it is outside to our quality warranty.

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6.5 Repeat the operations of step 2 and step 3, till finish the setting of four time periods of working days (1 2 3 4 5), then enter into the time period setting interface of Saturday.

6.6 Now, "6" at week area is twinkling, and the setting method is the same as the steps from step 2 to step 5. After finishing the setting, press "0" key to enter into the time period setting of Sunday (7), and the setting method is the same as the steps from step 2 to step 5. After finishing the setting, press "0" key to return to the mode choice interface.

Remark: If there is no operation within 10 seconds, it will return to the normal working state automatically.

7. High-Temperature Protective Temperature Setting:

Under the mode choice state, press "+" / "-" key to choose "F2", then press "0" key to set the high-temperature protective temperature value. Press "+", "-" key to adjust, and the adjustable step is 1°C; press once to increase/decrease 1°C, and the default setting value is 50°C (40-70°C adjustable). Press "0" key to return to the mode choice mode after finishing the setting.

8. Anti-freezing / On Duty Temperature Setting:

Under the mode choice state, press "+" / "-" key to choose "F3", then press "0" key to set the anti-freezing/on duty temperature value. Press "+", "-" key to adjust, and the adjustable step is 1°C; press once to increase/decrease 1°C, and the default setting value is 3°C (2-10°C adjustable). Press "0" key to return to the mode choice state after finishing the setting.

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When the power is dropped, the clock will go on working for some times, but it will consume so much power with time passed that the clock and week will be recovered to a random value by system. When the power is supplied again, it will switch on and enter into the running mode automatically.

14. Temperature Controlling Characteristic:

It will enter into the heating state and display the heating symbol when the temperature is less than the controlling temperature by 2°C; it will stop heating and will not display the heating symbol when the room temperature reach the setting temperature. Under the mode 0, it will stop heating when the temperature of external sensor is more than the setting protective temperature. Under the OFF state, it will begin to heat when the temperature is less than the protective temperature set in F3.

Remarks: Under the working mode, can directly press "+" / "-" key to adjust the temperature. Short press "0" key or do not operate for 10 seconds to exit the setting of temperature.

15. Keyboard Locking State:

Under the working mode, long press "+" and "-" keys at the same time to enter or exit the keyboard locking state. When the keyboard is locked, pressing any key is invalid, and the symbol of "Lock" will be displayed on the top right corner of LCD display.

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Short press "0" key: Check the temperature of auxiliary sensor;
Long press "0" key: Switch to ON/OFF;
Short press "+" / "-" key: Enter into the mode choice state, press "+" / "-" key to choose the mode (F0-F5), press "ON/OFF" key to enter into the setting state of mode value;

Short press "+" / "-" key: Increase or decrease the setting temperature value;
Long press "+" key: Recover to the default setting value;
Long press "-" key: Realize the switch of auto mode and manual mode.

13. Power-fail State:

When it is not connected with commercial power or the power is dropped, the system will save the all running parameter and enter into standby state, only run and display the clock and week, and display the power failure symbol on top left corner at the same time; When power is supplied again, the system will be aroused and enter into the working state automatically.



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18. Product Function Choice:

| Model | Week Period Program | External Sensor | Backlight | Multifunction Link Function | Current Load | guage |
|---------|---------------------|-----------------|-----------|-----------------------------|-----------------------|-----------------------------|
| S430PE | ✓ | ✓ | ✓ | | <18A (Resistive load) | 2.5mm ² (1AWG) |
| S430PW | ✓ | ✓ | ✓ | | <3A (Resistive load) | 0.75mm ² (18AWG) |
| S430PWH | ✓ | ✓ | ✓ | ✓ | <3A (Resistive load) | 0.75mm ² (18AWG) |
| S430PWS | ✓ | ✓ | ✓ | ✓ | <3A (Resistive load) | 0.75mm ² (18AWG) |

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.

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