QD92 Thermostat for hot water floor heating system

1. Preface

Dear customers:
Thank you for choosing our new product： QD92 water floor heating thermostat. It's our biggest wish to bring convenience to your daily life. Before using this product, please read the user's manual carefully, which will help you use it correctly.

2. Function Overview

2.1 Application

QD92 is applied to the independent-household floor heating system, and it can control the working status of the floor heating device through comparison between the environmental temperature and setting temperature, improving comfort and saving energy.

2.2 Features

- **Large LCD backlight display**
- **Strong and stable switching power supply**
- **Auto restart function(optional)**
- Setting temperature and room temperature display, intuitively and conveniently.
- Elegant and fashionable exterior design
- Accurate and stable temperature control
- Accurate weekly timer function(able to do temporarily manual adjustment)
- Electric ball valve control and passive linkage control function
- Three working modes: manual, automatic, antifreezing.
- Antifreezing protection and overheat protection.
- Temperature calibration function
- Return difference temperature setting
- Key lock function
- Backlight function
- IR remote (purchase it separately)

3. Diagram and Description

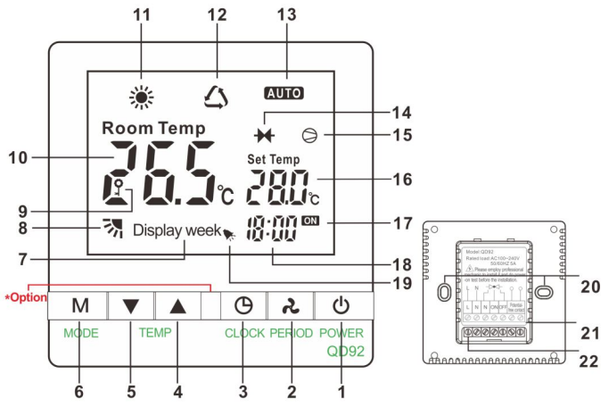


Diagram Description

No.	Description
1	Power button: turn on or turn off the thermostat manually.
2	Period programming button: Enter into 5+2 programming mode. Press "M" Key to adjust time period, and press UP and Down button to adjust time and temperature. Press POWER button to save the setting and exit.
3	Clock button: Adjust current clock, and press UP and Down button to adjust the time.
4	Up button: Adjust the setting temperature, clock, and factory parameters. It will be invalid to press this button in antifreezing mode.
5	Down button: Adjust the setting temperature, clock, and factory parameters. It will be invalid to press this button in antifreezing mode.
6	Mode button: In the state of power on, it can be used to switch the working mode among manual, automatic, antifreezing. When setting the clock and factory parameters, it can be used to switch different parameters.
7	Week display: Display the current week. It will indicate the corresponding numbers in period programming.
8	Antifreezing protection indication: In the state of antifreezing protection, this symbol flickers.
9	Button lock symbol: This symbol will be always bright when the buttons are locked. In the state of power on, press and hold UP & DOWN button together for 3 seconds to lock and unlock the buttons.
10	Room temperature display: Display the current room temperature.
11	Manual mode: This symbol will be always bright when the thermostat works in manual mode. When it flickers, it means the thermostat is in the temporary manual operation under the automatic mode.
12	Antifreezing mode: This symbol will be always bright when the thermostat works in antifreezing mode.
13	Automatic mode: This symbol will be always bright when the thermostat works in automatic mode(5+2 days mode).
14	Water valve symbol: This symbol will be always bright when the water valve is opened, and it will disappear when the water valve is turned off.
15	Passive connection port: This symbol will be always bright when passive connection function is on, and disappear when it is off, and flicker when it is in the state of delayed open.
16	Setting temperature: Display setting temperature.
17	5+2 days period programming setting: It will show "ON" when entering into period programming setting.
18	Current time : Display the current time or the contents of programming.
19	Overheat protection symbol: It will flicker When the overheat protection is opened. And it will disappear in normal state.
20	Screw holes on the baseplate: When installing the thermostat, they are used to fasten baseplate.
21	Wiring diagram: Please connect wires according to this instruction.
22	Connecting terminals: Connect the external wires.
*Option	IR receiver: Receive the instruction from remote control(purchase it separately)

4. Basic operation

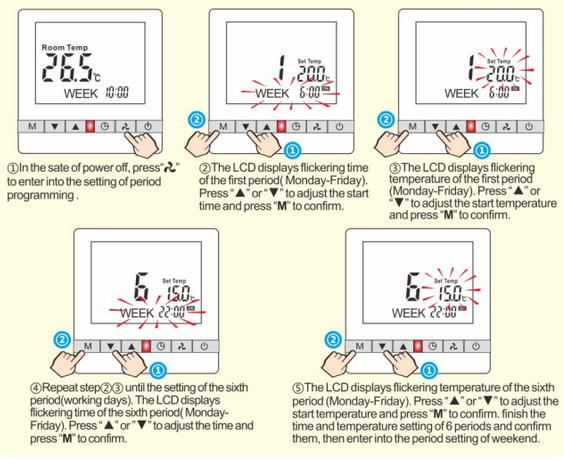
4.1 Turn on/Turn off: Press "⏻"once to turn on the thermostat. Press "⏻" again to turn off it, and the screen will only show the current time and room temperature. At the same time, the electrical ball valve and passive connection function will be off.
4.2 Setting temperature: In the state of power on, press "▲" or "▼" to set the temperature. Pressing "▲" can raise the setting temperature, and pressing "▼" can lower the setting temperature. Each time you press "▲" or "▼" , you can raise or lower the setting temperature by 1℃. Pressing and holding "▲" or "▼" , after 1 second can help adjust the temperature quickly. It is invalid in antifreezing mode.
4.3 Mode selection: In the state of power on, press "**M**" to switch working mode. Pressing this button repeatedly can switch the mode among manual, automatic, antifreezing.
● Manual mode: Adjust the setting temperature manually, and control the floor heating device to turn on and turn off.
● Automatic mode: At this mode, the thermostat will work automatically according to time and temperature set in period programming. (For detailed information, please check 4.5.) It totally has 12 periods of time for setting. (6 periods in working days, and 6 periods on weekend)
● Temporarily manual mode: In the automatic mode, you can adjust the setting temperature temporarily as required. This setting temperature is only valid in the current period. When it enters into next period, the temperature will restore setting temperature of this period.
● Antifreezing mode: When the users go out for a long time, in order to avoid the damage to the device in low temperature.(eg: water pipe damaged by frost) When the room temperature is lower than the antifreezing temperature, thermostat will turn on automatically.
4.4 Clock setting: In the state of power on or power off , press" ◷ " to enter into clock setting.
4.4.1 Firstly, week symbol flickers, and press "▲" or "▼" to adjust. After finishing, press " ◷" to confirm week and enter into hour setting.
4.4.2 Secondly, hour symbol flickers, and press "▲" or "▼" to adjust. After finishing, press " ◷" to confirm hour and enter into minute setting.
4.4.3 Thirdly, minute symbol flickers, and press "▲" or "▼" to adjust. After finishing, press " ◷" to confirm the minute, and the thermostat will save the clock data and exit from the clock setting.
4.5 Period programming: Check the table 4.5 for the factory default parameters of period programming. In the state of power off, press "⏦" to enter into period programming setting.
4.5.1 Time and temperature setting in working days (Monday--Friday)(Picture 4.5.1)
Firstly, the period icon in working days (Monday--Friday) flickers, and the LCD temperature area display "1", which means you are setting the first period of working days. Press "▲" or "▼" to adjust the time. After finishing, press "**M**" to confirm and enter into temperature setting. Now the starting temperature will flicker, Press "▲" or "▼" to adjust the temperature. After finishing, press "**M**" to confirm and enter into the second period setting.
4.5.2 Finish the setting of 6 periods (Monday--Friday) through repeated setting.
After entering into the second period setting, the LCD temperature area display "2", which means you are setting the second period of working days. According to the step of 4.5.1, finish the time and temperature setting of 6 periods and confirm them, then enter into the period setting of weekend.
4.5.3 Time and temperature setting on weekend (Saturday--Sunday)(Picture 4.5.2)
Now, the period symbol flickers, and the LCD temperature area display "1", which means you are setting the first period of weekend. Set all 6 periods according to the same setting ways with working days.
4.5.4 Setting confirmation
After setting, press "⏻" to save all the periods setting. When you finish setting a certain period and don't need to set continuous periods, you can press "⏻" to save the period setting.

4.5.5 Notice
● During the setting, if there is no parameter adjustment in 30 seconds, the thermostat will cancel the setting automatically and exit from the period programming.
● If you need to restore the factory default parameters(table 4.5), please check 5.4 Restore factory setting.

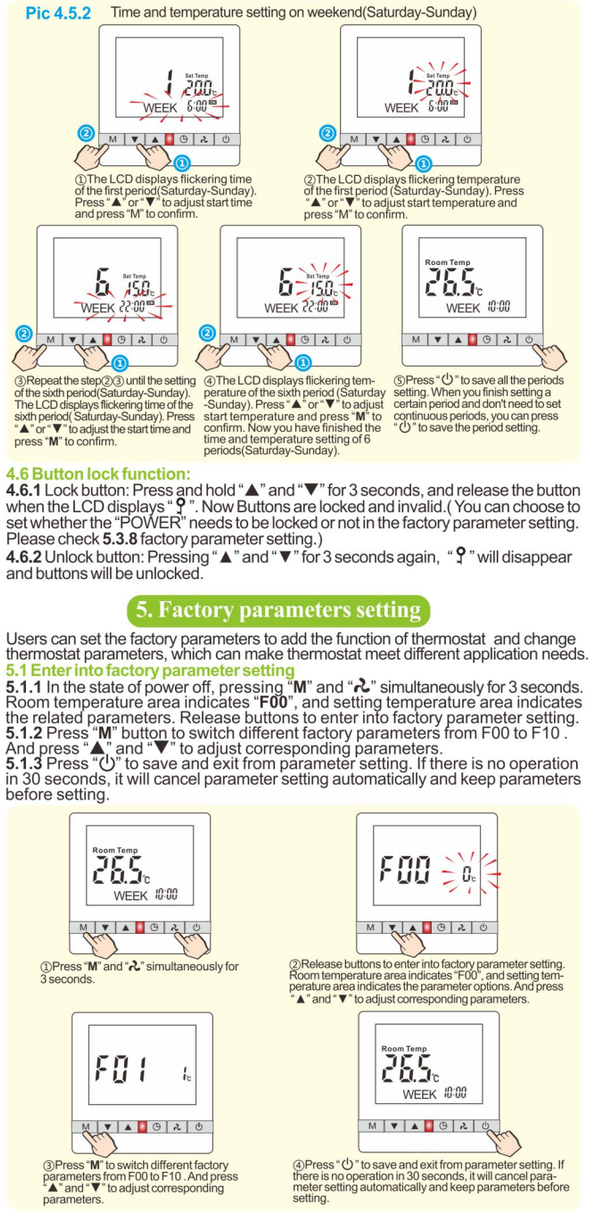
Table 4.5 Factory default parameters

Period	Working days(Monday-Friday)		Period	Weekend(Saturday, Sunday)	
	Start time	Start temperature		Start time	Start temperature
The first period	6:00	20℃	The first period	6:00	20℃
The second period	8:00	15℃	The second period	8:00	15℃
The third period	11:30	15℃	The third period	11:30	15℃
The fourth period	12:30	15℃	The fourth period	12:30	15℃
The fifth period	17:00	22℃	The fifth period	17:00	22℃
The sixth period	22:00	15℃	The sixth period	22:00	15℃

Pic 4.5.1 Time and temperature setting in working days(Monday-Friday)



Pic 4.5.2 Time and temperature setting on weekend(Saturday-Sunday)



4.6 Button lock function:

4.6.1 Lock button: Press and hold "▲" and "▼" for 3 seconds, and release the button when the LCD displays " ". Now Buttons are locked and invalid.(You can choose to set whether the "POWER" needs to be locked or not in the factory parameter setting. Please check **5.3.8** factory parameter setting.)
4.6.2 Unlock button: Pressing "▲" and "▼" for 3 seconds again, " " will disappear and buttons will be unlocked.

5. Factory parameters setting

Users can set the factory parameters to add the function of thermostat and change thermostat parameters, which can make thermostat meet different application needs.

5.1 Enter into factory parameter setting

5.1.1 In the state of power off, pressing "**M**" and "⏦" simultaneously for 3 seconds. Room temperature area indicates "**F00**", and setting temperature area indicates the related parameters. Release buttons to enter into factory parameter setting.
5.1.2 Press "**M**" button to switch different factory parameters from F00 to F10 . And press "▲" and "▼" to adjust corresponding parameters.
5.1.3 Press "⏻" to save and exit from parameter setting. If there is no operation in 30 seconds, it will cancel parameter setting automatically and keep parameters before setting.

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5.2 Parameter table

Code	Parameter name	Setting range	Parameter description	Default setting
F00	Temperature calibration	-10~+10℃	Correction of indoor temperature	0
F01	Return difference temperature setting	1~10℃	Setting return difference temperature	1
F02	Maximum of setting temperature	35~80℃	Setting the maximum temperature	35
F03	Minimum of setting temperature	2~10℃	Setting the minimum temperature	2
F04	Overheat temperature protection	5~80℃	Temperature setting for overheat protection	35
F05	Antifreezing protection	5~10℃	Temperature setting for antifreezing protection	5
F06	Delay for the passive connection function	0~5 minutes	After starting the ball valve, delay the passive connection function	0
F07	Button lock selection	0 or1	0: All buttons are locked except power button 1: All buttons are locked	0
F08	Auto restart function	0 or1	0: OFF 1: ON	1
F09	Backlight function	0 or1	0: OFF 1: ON	1
F10	Buzzer function selection	0 or1	0: Make sounds when pressing buttons 1: Make no sound when pressing buttons	1

5.3 Parameter description

5.3.1 F00 Temperature calibration function: There will be a temperature deviation because of different installation places. You can adjust the room temperature from -10 to 10℃ through the temperature calibration function.
5.3.2 F01 Return difference temperature setting: When the room temperature reaches the setting value, the thermostat will turn off. When room temperature is less than the temperature difference between setting temperature and return difference, the thermostat will turn on again.
5.3.3 F02 Maximum of setting temperature: Selection for maximum temperature
5.3.4 F03 Minimum of setting temperature: Selection for minimum temperature
5.3.5 F04 Overheat protection temperature : When the room temperature is higher than a certain value, the overheat protection will be on. In overheat protection, the LCD will display " ", and the thermostat will turn off automatically, which can prevent the equipment from overheat damage.
5.3.6 F05 Antifreezing protection: Under the antifreezing mode, the room temperature is lower than a certain value, the antifreezing protection function will be on. In antifreezing protection, the LCD will display the flickering icon " ", and the thermostat will turn on automatically, which can avoid the water pipe damaged by frost. In manual and automatic mode, when the room temperature is lower than 5℃, the antifreezing protection function will be on.
5.3.7 F06 Delay for the passive connection function: After setting the electrical valve, the passive connection function will be on after several minutes.
5.3.8 F07 Button lock selection: When setting the lock function, you can choose whether power button needs to be locked or not.
5.3.9 F08 Auto restart function: The thermostat will keep all the settings before power failure and restore all the settings when power on again.
5.3.10 F09 Backlight function: ON/OFF
5.3.11 F10 Buzzer function: ON/OFF

5.4 Restore factory setting

In the state of power off, pressing "**M**" and " ◷ " for 3 seconds simultaneously, the LCD screen will display " ", then release buttons. Pressing " ⏻ " again, the thermostat will restore factory settings.

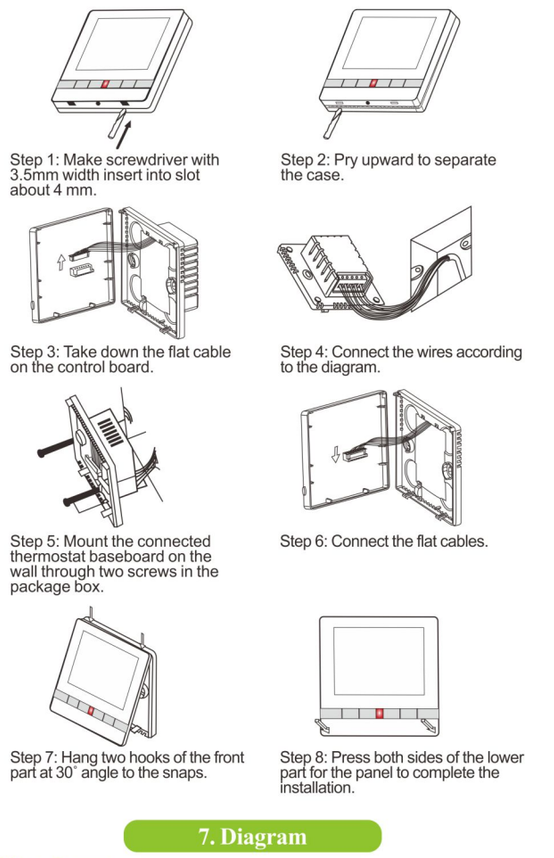
6. Installation

6.1 Preparation

6.1.1 Please read 9. Attentions
6.1.2 Make following preparation:
6.1.2.1 In the location for installation, mount 86*86 wire box by the fasten bolt in controller package.
6.1.2.2 Draw the wiring diagram according to the equipment controlled and thermostat.
6.1.2.3 Place the wire and identify every single wire for next step.
6.1.2.4 Shut down the power supply, and check the equipment and make the connection correct.

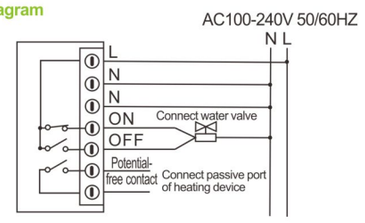
6.2 Installation steps

6.2.1 After finishing above preparation, please install the thermostat correctly according to the following installation steps.
6.2.2 Notice:
After finishing the installation, please tear off the protective film on the surface of LCD before using.



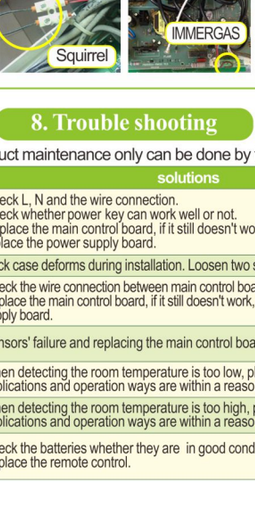
7. Diagram

7.1 Wiring diagram



7.2 Wiring diagram for passive connection port

7.2.1 About the applicable brand of wall-hanging gas boiler.
This thermostat is applied to the gas boiler with thermostat connection port , and use two wires to connect it with thermostat.
7.2.2 About the thermostat connection port on the gas heating boiler.
The connection port on the gas heating boiler has a small jumper. Take out the small jumper and connect the thermostat with 2 wires. Here are the connection wires of different gas boiler for your reference. If you still have doubts, please contact us.



Connect the gas boiler with two wires of passive connection port

8. Trouble shooting

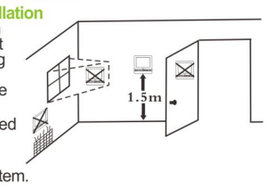
Declaration: All our product maintenance only can be done by the technical personnel.

Problems	solutions
Unable to turn on	1.Check L, N and the wire connection. 2.Check whether power key can work well or not. 3.Replace the main control board, if it still doesn't work, then replace the power supply board.
Messy code	1.Back case deforms during installation. Loosen two screws a little bit.
Normal displaying but no regular output	1.Check the wire connection between main control board and power supply board. 2.Replace the main control board, if it still doesn't work, then replace the power supply board.
"ER" displayed on the LCD screen	1.Sensors' failure and replacing the main control board.
"LO" displayed on the LCD screen	1.When detecting the room temperature is too low, please check whether the applications and operation ways are within a reasonable range.
"HI" displayed on the LCD screen	1.When detecting the room temperature is too high, please check whether the applications and operation ways are within a reasonable range.
Remote failure (Purchase the remote control separately)	1.Check the batteries whether they are in good condition. 2.Replace the remote control.

9. Attentions

9.1 Location selection for thermostat installation

The correct installation location is shown in the right picture. Usually the height is about 1.5 meters, and you should avoid the following situations for the installation location.
1.Corner, near window, near door, and on the front or back of door.
2.Out of the temperature control space, closed heating pipe or flue.
3.Near radiator.
4.Direct sunlight place, or near other heating item.



9.2 Notice for thermostat installation

1.If using hard plastic wire for installation, please make it in a proper angle.
2.Please connect the wires strictly according to the diagram.
3.When dismount the flat cables, you should push the flat cables plug out by using your thumbs. Do not pull the flat cables.
4.Please do not press the LCD and do not hit the thermostat in the process of installation.
5.LCD type thermostat belongs to precise electronic equipment. Please avoid bump and falling when installing.
6.Please do not make water, mud and other liter into the thermostat.
7.After finishing the installation, please tear off the protective film on the surface of LCD before using.

10. Technical parameters

Temperature sensor	NTC
Temperature control precision	±1℃
Temperature setting range	2~80℃
Temperature displaying range	-9~99℃
Working temperature	0~45℃
Working humidity	5~95%RH (no defrost)
Button	Tact Switch
Supply voltage	AC100-240V 50/60HZ
Self power consumption	< 1W
Connection terminal	2 wires•1.5m², or 1 wire•2.5mm²
Load current	5A
Outer Case	Fire retardant ABS
Dimension	86•86•14mm(L•W•H)
Distance between mounting holes	60mm
Protection degree	IP30
Operating life	Times of relay's opening and closing is more than 100,000 times

11. Package

Inner box	1pc
Thermostat	1pc
Manual	1pc
Screw	2pcs

★The final explanatory right is reserved to this company. Any alteration on the design and model will not be further notified.

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