

WIRED CONTROLLER MINI CHILLER

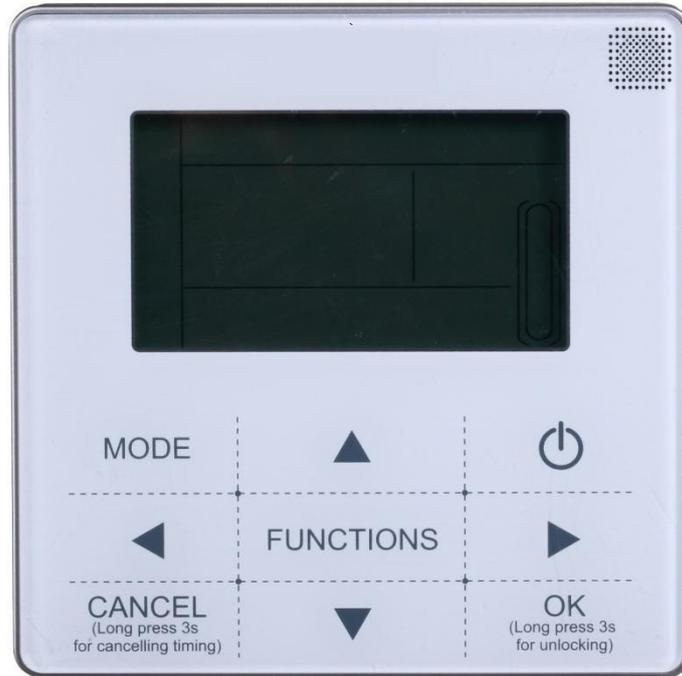
USER MANUAL

KJR-120F



“Original instructions”

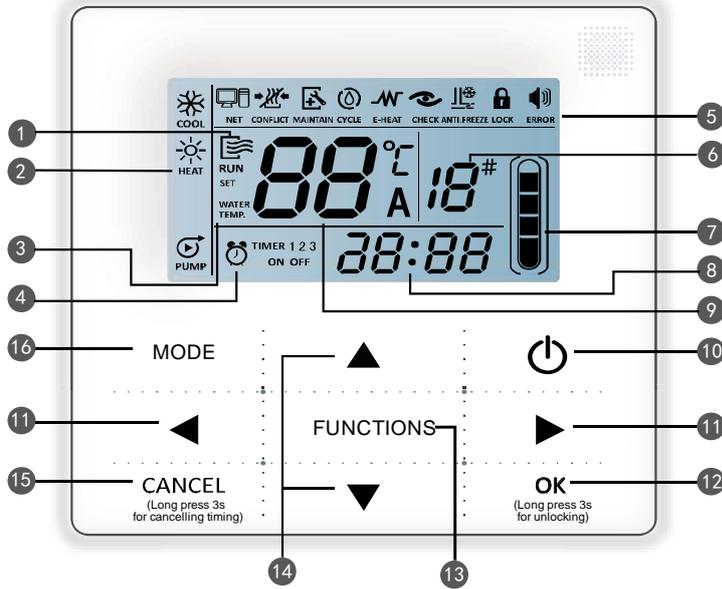
1.1 Mini chiller wired controller: KJR-120F



1.1.1 Specifications

Model	Description	power adapter
KJR 120F	Touch key and backlight function	230-240V~50Hz
Input Voltage	10V AC	
Operating environment temperature	-15°C~+43°C	
Operating RH	RH 40%~RH 90%	

1.1.2 Button introduction



Item	Description	Item	Description
1	Operation icon	9	Water temperature
2	Mode area	10	ON/OFF key
3	Water temperature	11	Right, left key
4	Timer ON/OFF	12	OK key
5	Function icon	13	Function key
6	On-line unit qty. indication	14	Add, reduce key
7	Reserved	15	Cancel key
8	Clock	16	Mode key

1. Operation icon :

Indicate the ON and OFF status; when it is ON, it will display; when it is OFF, it will disappear;

2.Mode area:

Indicate the main unit operating mode;

3. Water temperature

Two status can be displayed:   ;

4. Timing ON/OFF indication TIMER 1 2 3 :

Indicate the timer information;

5. Function icon;

1) Computer NET

Display when connects to computer.

2) Conflict CONFLICT

Displays when the unit operation forced cooling mode.

3) Maintenance MAINTAIN

Displays when the unit is needed. Press "MODE" key for 3 seconds to cancel the icon and timing will restart until next maintenance.

4) Cycle CYCLE : The reserved icon

5) E-heating E-HEAT: The reserved icon.

6) Check CHECK

Display when check function is operated;

7) Anti-freezing MAINTAIN

Displays when ambient temperature is low which means the main unit need anti-freezing action

8) Lock MAINTAIN

Displays when no key operation for 2 minutes and all keys are locked. Press "OK" key for 3 seconds to unlock;

9) Error ERROR

: Displays when error or protection occurs and means the unit need maintenance by professionals.

6. On-line unit qty. indication:

Under normal status display the quantity of the units connected to the wired controller; under check status display the device serial number.

7. Water level indication: The reserved icon

8. Clock:

Under normal status display clock; during timer setting it displays the setting timing time.

9. Water temperature:

Under normal status display water temperature; during water temperature setting it displays the setting numerical value; under spot check status display spot check parameter;

10. ON/OFF key: On and Off functions.

11. Right, Left key:

Under main page to press this key can query the setting water temperature; Press right key to shift to the next step setting under timing setting status; Press these keys to turn over the unit parameter information under check status.

12. OK key:

After setting the parameter then press this key to confirm. After keys locking then long press this key for 3 seconds to unlock.

13. Function key:

Setting water temperature, timing and clock etc; Press FUNCTION key for 3 seconds to enter check status, setting unit number and forced open water pump.

14. Add, Reduce key:

Move up or move down values of temperature, timing etc.

15. Cancel key:

During setting parameters press this key to cancel setting. After timing setting and then long press this key 3 seconds to cancel timing.

16. Mode key: Power on the cooling function, heating function or water pump function.

1.1.3 Operation instruction** On and Off the main unit**

1) Press the On/Off key to control On and Off status of the main unit.

2) Under Off status, press the On/Off key  to operate the main unit, at that time the LCD of wired controller will display the operation icon . The main unit will be operated as the current setting of the wired controller.

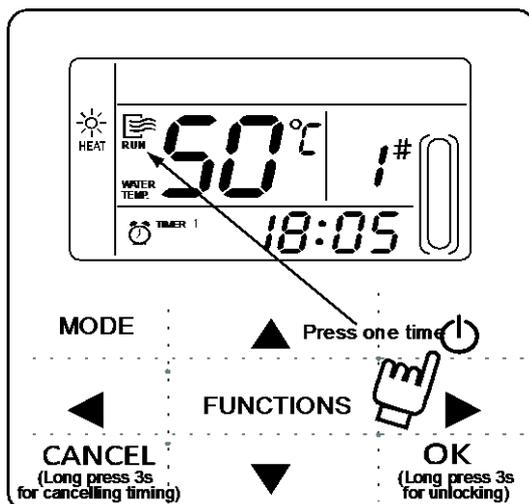
3) Under On status, press the On/Off key  to off the main unit, at that time the operation icon  on the LCD of wired controller will disappear.

Note:

1. When outdoor unit is in restore-to-factory-default setting mode (outdoor unit displays “OFF”), wired controller won’t start the unit. Quit “OFF” status through outdoor unit display operation panel.

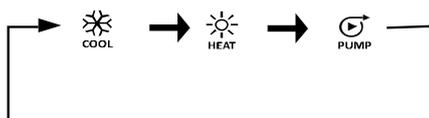
2. If outdoor unit is forced shutdown by remote control, then the unit won’t start by using wired controller.

Relieve the unit from shutdown status by remote control.

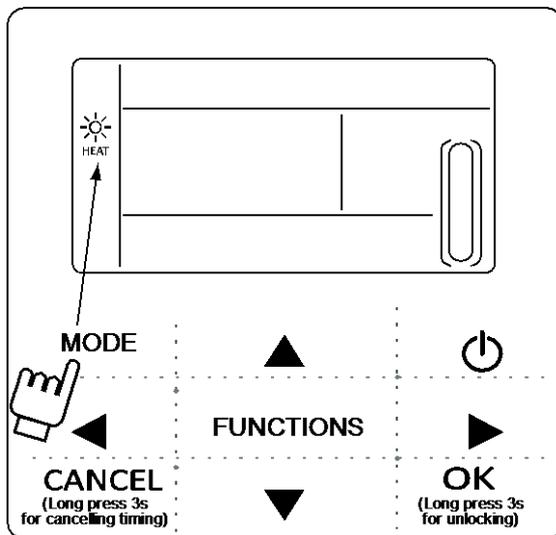


Operating mode setting

Press "MODE" key to choose operation mode. The setting mode will change as the following order each time the key is pressed:



Press "OK" key or wait for 7 seconds to confirm. During the setting process, pressing the "CANCEL" key to exit without saving.



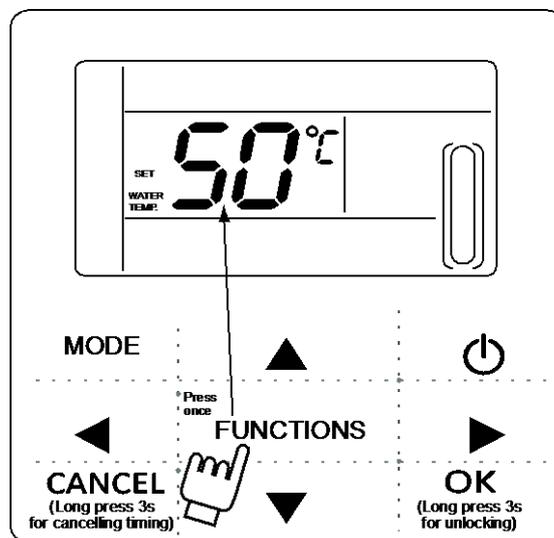
✚ Setting water temperature:

Method 1:

Press the ▲ or ▼ to adjust the water temperature under main interface. Press OK key or wait for 7 seconds to confirm.

Method 2:

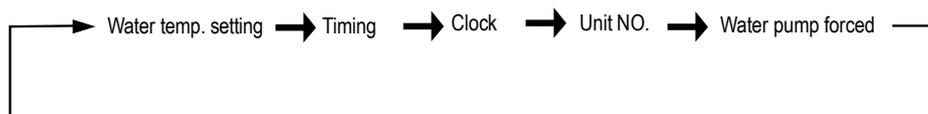
Setting water temperature in function parameter: Press FUNCTIONS key under main interface once to enter water temperature setting interface. Press the ▲ or ▼ to adjust the water temperature .Press OK key or wait for 7 seconds to confirm.



Water temperature setting check: To check the water temperature setting value, press the ◀ or ▶ key under the main page (the page displayed after the controller is powered on).

✚ Function parameters setting

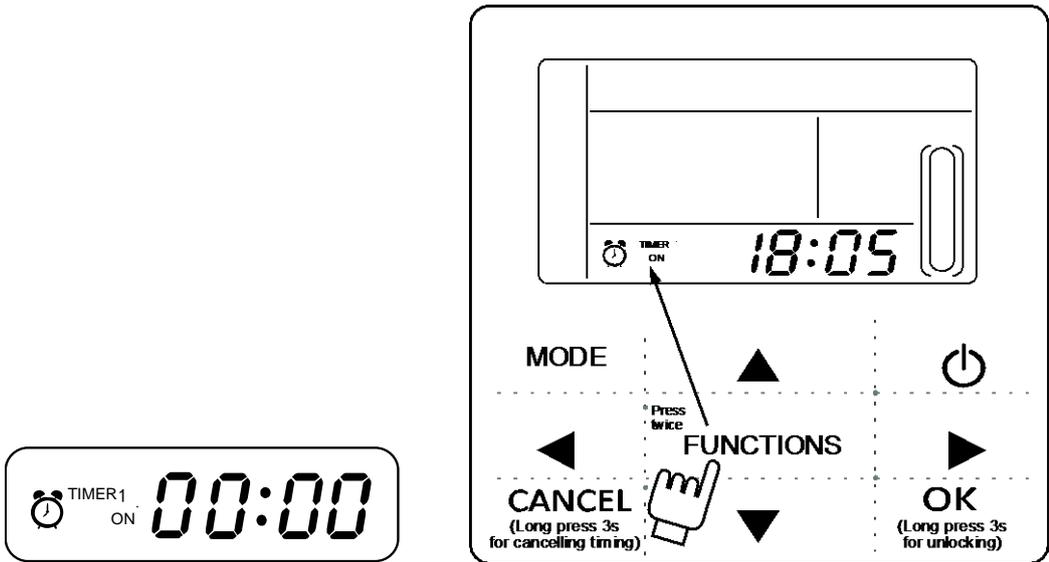
Press FUNCTIONS key to choose operation parameters. The setting function parameters will change as the following order each time the key is pressed:



1. Timer setting:

3 timing periods can be set on the wire controller: Timer 1, Timer 2, and Timer 3. These 3 timers can control the main unit to be turned ON and OFF 3 times at most during a day.

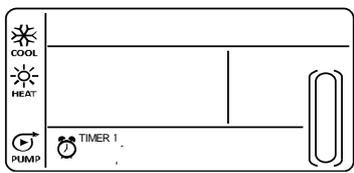
Setting method: press “FUNCTIONS” key under main page twice to enter timing setting. Then the LCD will display as the following:



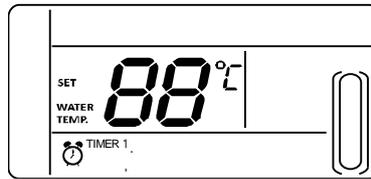
2. At this time the hour of the clock will flash, which means the current setting is the hour of Timer 1 “On”, press the ▲ or ▼ to adjust, press ► key when finished, and then the minute of the clock will flash, which means the current setting is the minute of Timer 1 “On”, press the ▲ or ▼ to adjust, press ► key when finished, the LCD will display as the following:



3. At this time the hour of the clock will flash, which means the current setting is the hour of Timer 1 “Off”, press the ▲ or ▼ to adjust, press ► key when finished, and then the minute of the clock will flash, which means the current setting is the minute of Timing 1 “Off”, press the ▲ or ▼ to adjust, press ► key when finished, the LCD will display as the following:



4. At this time the mode icon will flash, it means the current setting is the running mode in the Timer 1 , press the ▲ or ▼ to adjust, press ► key when finished, the LCD will display as the following:



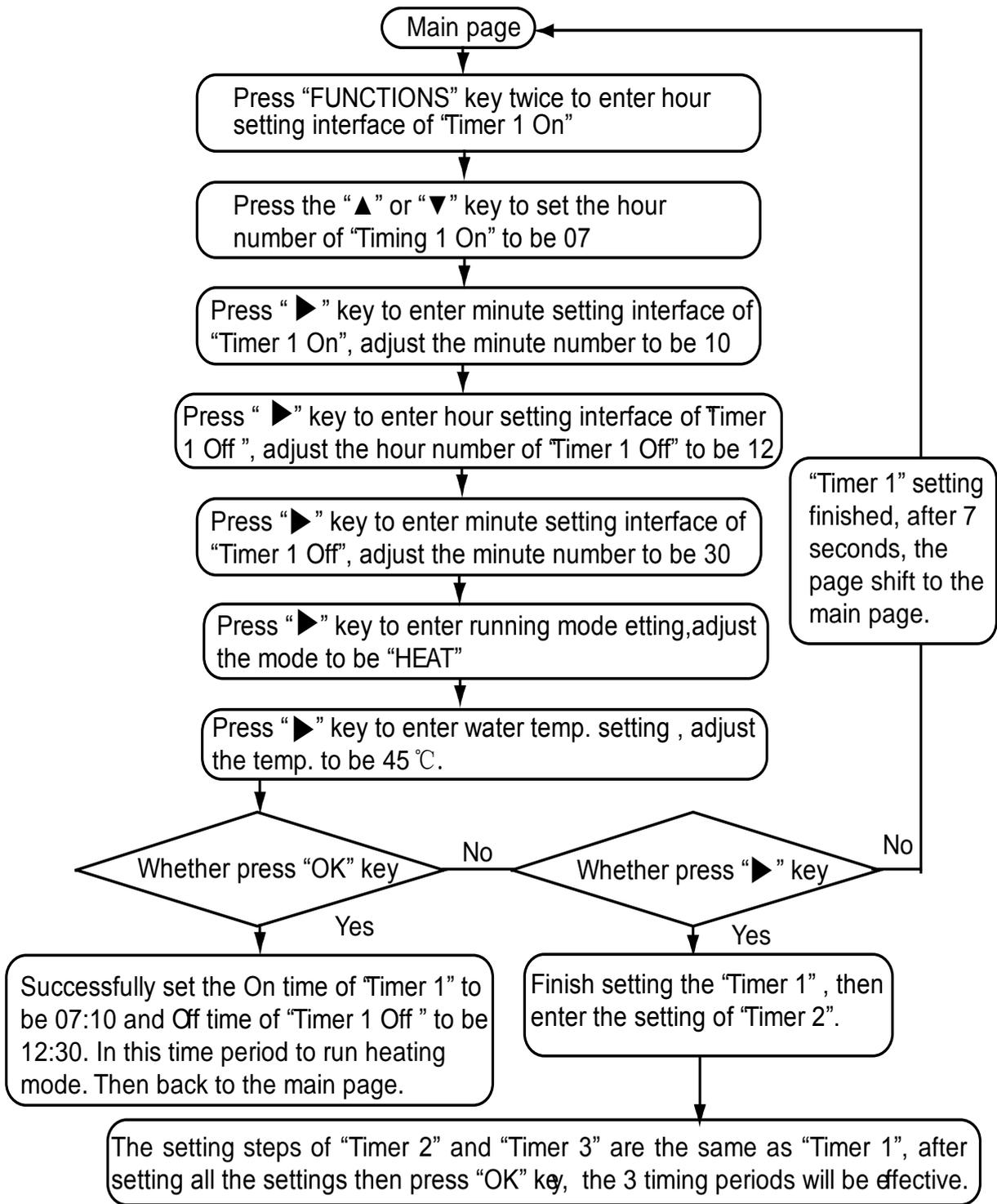
5. At this time the water temperature icon will flash, it means the current setting is the water temperature, press the ▲ or ▼ to adjust, press ► key when finished, the LCD will display as the following:



6. At this time the hour of the clock will flash, it means the current setting is the hour of the Timer 2 "On". And the follow setting method will be the same as the Timer 1. Similarly, the setting of Timing 3 is the same as this method. After setting is finished, press "OK" key or wait for 7 seconds to confirm the setting, and the LCD will display the effective timing information, as the following display:



7. Example of Timing setting:



During any period of timing setting to press "OK" key, the timing periods which have been set will be effective (only if the "On" and "Off" of one timing period have been set, the setting is effective).

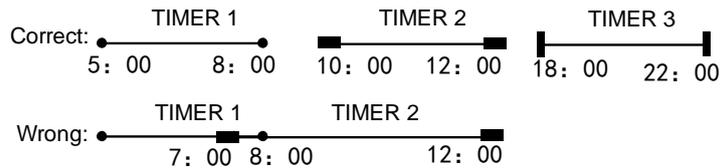
Check timing information: to check the timing which has been set, press ◀ or ▶ key under main page, the “On” and “Off” time of Timer1, Timer 2 and Timer3 will be displayed in turns.

Cancel timing:

Press “CANCEL” key for 3 seconds, then all the effective timing periods will be cancelled.

Notes:

1. To avoid timing error, each period of timing should not be crossed. E.g.:



2. Once timer on works, the unit will run as the timer on set mode and set water temperature.

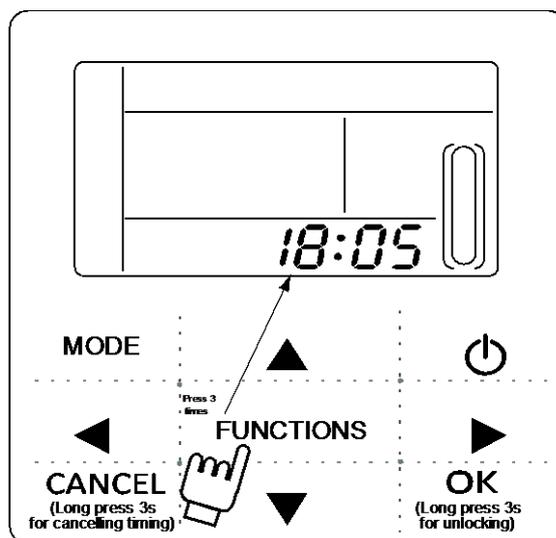
3. When timing on and timing off work at the same time, wire control execution timing off.

🌈 Clock setting

Press the FUNCTIONS key 3 times to enter clock setting. The hour of the clock will flash, which means the current setting is the hour of the clock, press the ▲ or ▼ to adjust, press ▶ key when finished, and then the minute of the clock will flash, it means the current setting is the minute of the clock, press the ▲ or ▼ to adjust, press OK key when finished or wait for 7 seconds to confirm. During the setting process, pressing the CANCEL key to exit without saving.

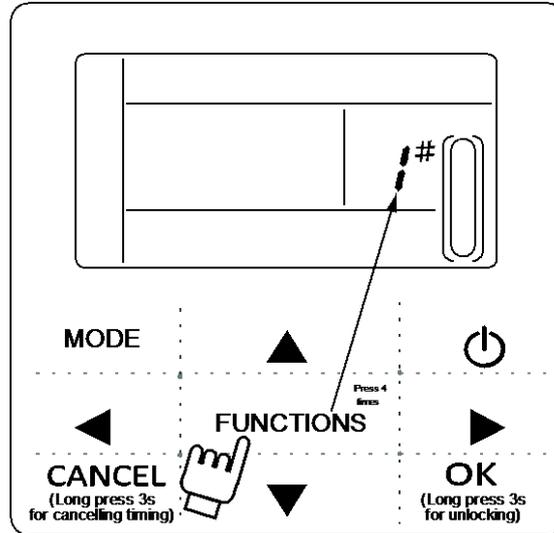
Note:

To get the correct timing On and timing Off time, please correctly set the clock!



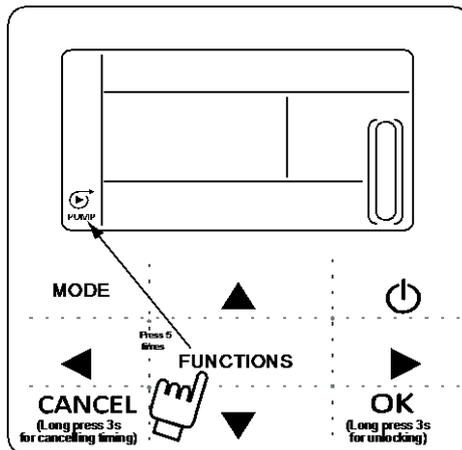
Unit number setting

Press the FUNCTIONS key 4 times to enter the unit number setting. Press ▲ or ▼ to adjust the unit number. Press OK key when finished or wait for 7 seconds to confirm. During the setting process, pressing the CANCEL key to exit without saving. The setting value is 0-19.



Forced open water pump

Press the FUNCTIONS key 5 times to force open the water pump. The water pump icon will flash. Press OK key to confirm. During the setting process pressing the CANCEL key to return to the main interface, and log off the forced water pump mode.



Notes:

- Forcing water pump function is only limited to stand-by mode, others modes not response.
- Under forcing water pump function, other settings will not responsible, except stopping
- When communication disconnects, it will show E2 error in 2 minutes, the wired controller will automatically cancel the forcing water pump function; while connected, the wired controller keeps

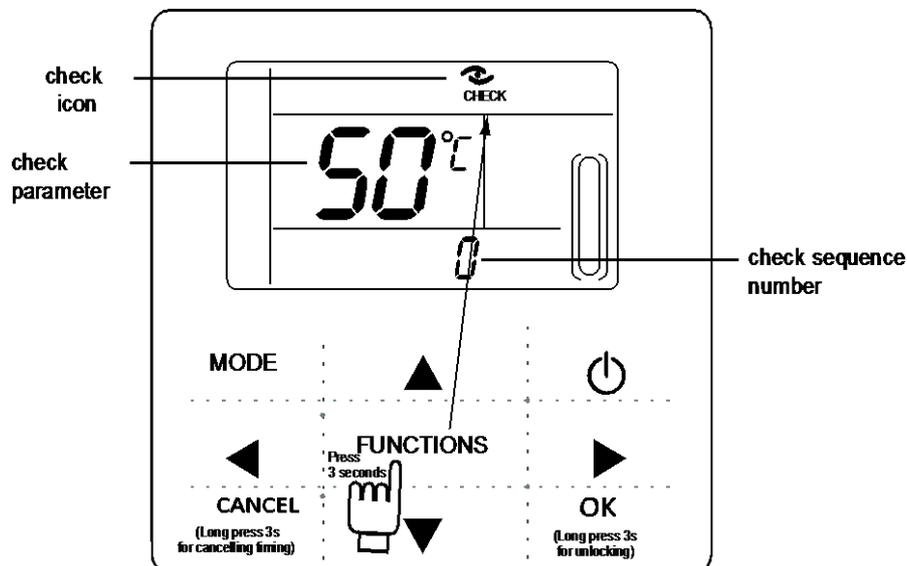
synchronizing with the unit(If forcing water pump function is still on-going, the controller keeping showing its status).

d. The outdoor unit does not response after activating the forcing water pump function, (e.g.: forcing water pump function cannot be activated under forcing heating in stand-by mode), the function will be automatically stopped if it is not activated within 5 minutes.

Check function

1) Check function allows the user to check all the operating parameters, error and protection information of the unit.

2) Enter method: press FUNCTIONS key for 3 seconds to enter check interface, as the figure display:



3) Press ◀ or ▶ key to check all the status information of the unit.

Chiller wired controller

Check content

NO.	Description
0	When in standby mode, water pump mode, displays water inlet temperature. In cooling and heating mode, displays the operating frequency. When defrosting, displays dF; When anti-freezing, displays Pb. When oil returning, displays d0; When remote controlling displays d8.
1	Running model: 0-shutdown, 1-Pump mode, 2-Cooling, 3-Heating, 4-Forced cooling, 5-Forced heating.
2	Fan speed: 0-Shutdown, 1~7-Fan speed.
3	Total capacity requirements.
4	The revised capacity requirements.
5	Cooling/heating temperature setting.
6	Condenser temp. Value.(T3)
7	Outdoor ambient temp. Value.(T4)
8	Comp. Discharge temp. Value.(Tp)
9	Inlet water temp. Value.(Tin)
10	Outlet water temp. Value.(Tout)
11	Plate heat exchanger anti-freezing temp. Value 1.(Tb1)
12	Plate heat exchanger anti-freezing temp. Value 2.(Tb2)
13	T6 temp. Value (Reserved)
14	Outdoor unit current
15	Power supply voltage AD value
16	Electronic expansion valve opening steps
17	The unit model
18	The program version number
19	The last error record
20	The second error record
21	The first error record
22	--

Error handling

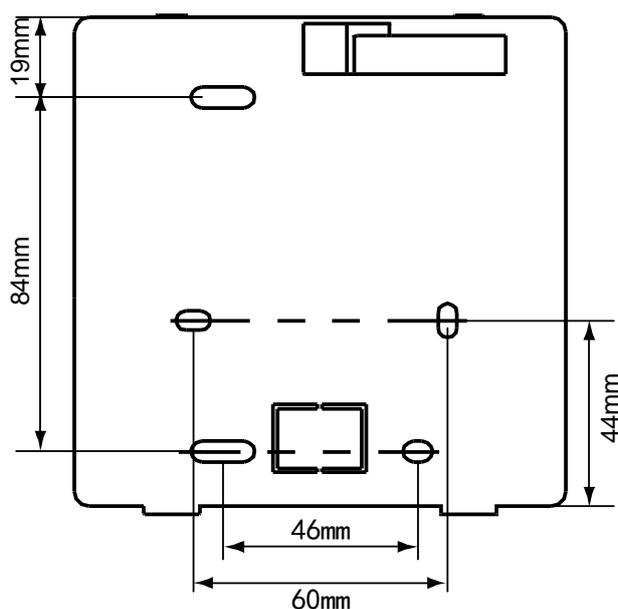
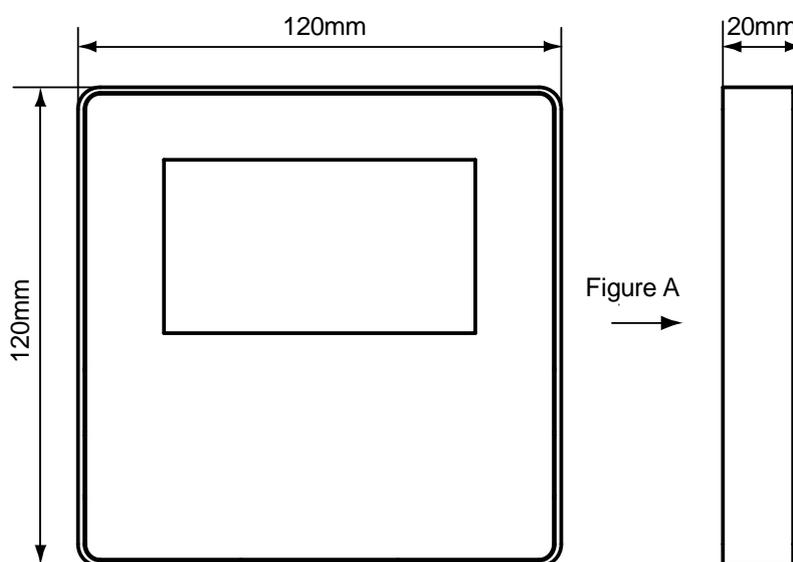
When the unit has error or protection,  icon will flash. If the “error” icon is on, it means the corresponding unit has error or protection at that time. The last 3 error or protection codes of the unit can be checked. The error icon will disappear if the error or protection is cleared.

Code	Description	Code	Description
EE	EEPROM error code(Wired controller)	CP	Anti-idling protection of water pump
E9	EEPROM malfunction	F7	Tb1 temperature sensor malfunction
EA	Fan error in A region last for more than 5 minutes in heating mode	F8	Tb2 temperature sensor malfunction
Eb	Two times of E6 protection in 10 minutes	P1	High pressure protection
E4	T3&T4 temperature sensor malfunction	P2	Low pressure protection
E5	Voltage protection	P3	Outdoor units current protection
E6	DC fan motor malfunction	P4	Compressor discharge temp. Protection
H0	Communication malfunction between the main control chip and IPDU	P5	Condenser high temperature protection
C0	Tin temperature sensor malfunction	P6	IPM mode protection
C1	Tout temperature sensor malfunction	P8	Typhoon protection
C8	Flow switch malfunction	Pb	Outdoor units anti-freezing protection
CH	High temperature protection in heating mode	PL	Radiator high temperature protection
CL	Low temperature protection in heating mode	PH	Water inlet and outlet temp. difference too large protection

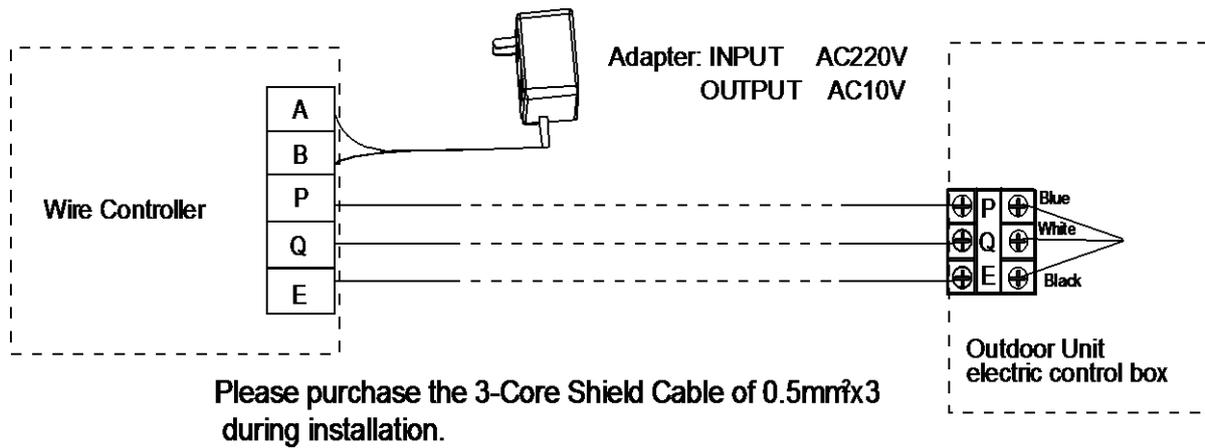
1.1.4 Installation instruction

- ✓ Circuit of wired controller is the low voltage circuit. Never connect it with a standard 220V/380V circuit or put it into a same Wiring Tube with the circuit.
- ✓ The shield cable must be connected stable to the ground, or transmission may fail.
- ✓ Do not attempt to extend the shield cable by cutting, if it is necessary, use Terminal Connection Block to connect.
- ✓ After finishing connection, do not use Megger to have the insulation check to the signal wire.

1. Structure size: 120*120*20mm



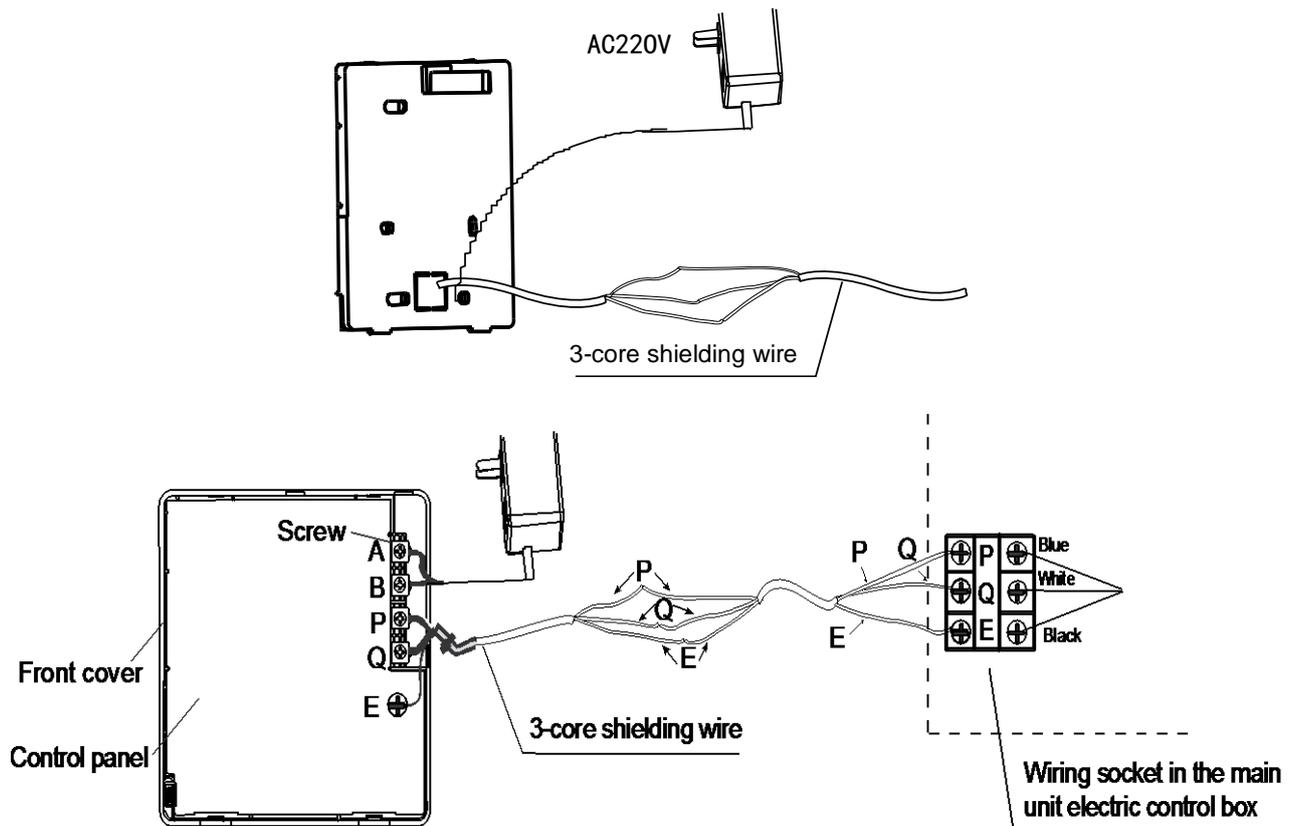
2. Wiring sketch



3. Wiring figure

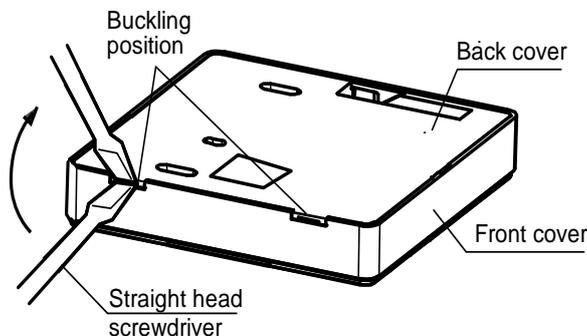
1) During installation, make sure correctly wiring the 5 wiring terminals of the wire controller: A, B connect to output terminal of adapter; P, Q, E should connect to the P, Q, E terminals of the wiring socket in the electric control box through 3-core shielded wire.

2) The tightening torque range of screw is: 0.8~1.2N · m (8~12 kgf · cm).



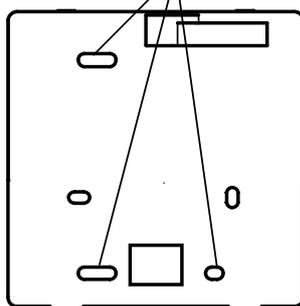
4. Back cover installation

1) Use straight head screwdriver to insert into the buckling position in the bottom of wire controller, and spin the screwdriver to take down the back cover. (Pay attention to spinning direction, otherwise will damage the back cover!)



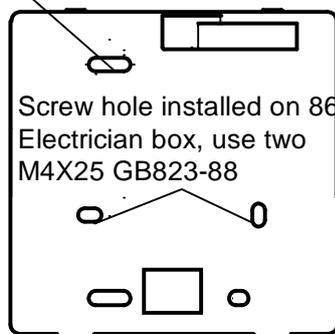
2) Use three GB950-86 M4X20 screws to directly install the back cover on the wall.

Screw hole installed on the wall, use three GB950-86 M4X20

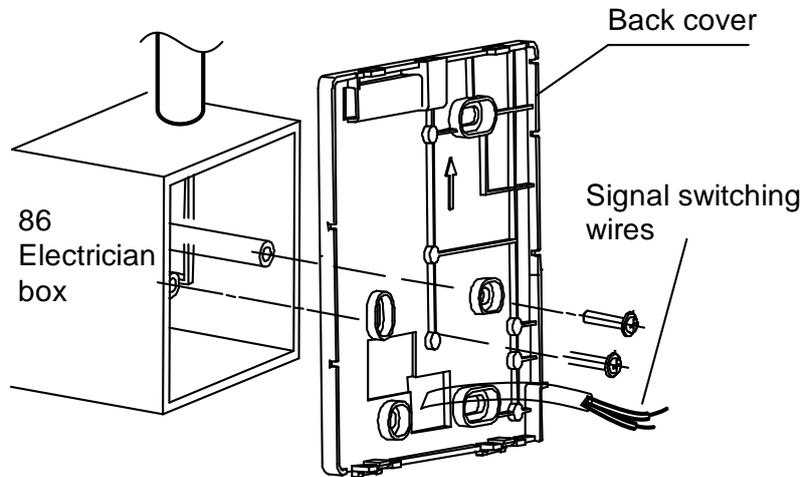


3) Use two M4X25 GB823-88 screws to install the back cover on the 86 electrician box, and use one GB950-86 M4X20 screws for fixing on the wall.

Screw hole fixed on the wall, use one GB950-86 M4X20



4) Adjust the length of two plastic screw bars in the accessory to be standard length from the electrical box screw bar to the wall. Make sure when install the screw bar to the electrical box screw bar, make it as flat as the wall.

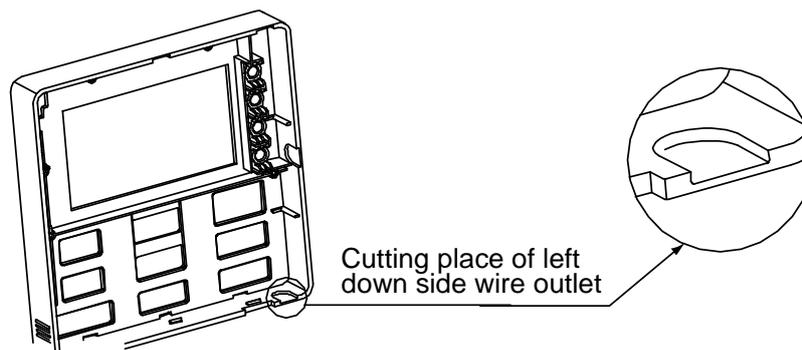


5) Use cross head screws to fix the wire controller bottom cover in the electric control box through the screw bar. Make sure the wire controller bottom cover is on the same level after installation, and then install the wire controller back to the bottom cover.

6) Over fasten the screw will lead to deformation of back cover.

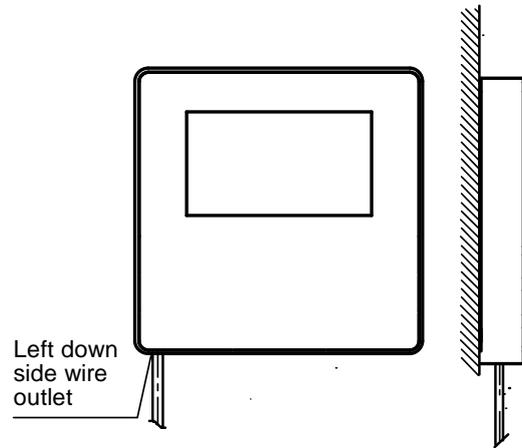
5. Wiring

1) Wiring, three out letting positions

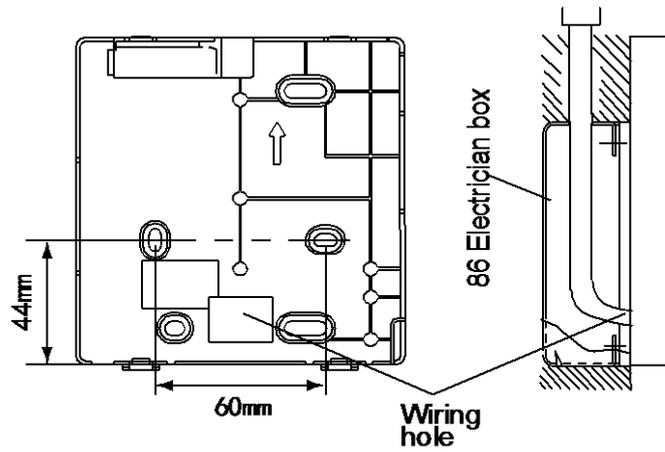


Chiller wired controller

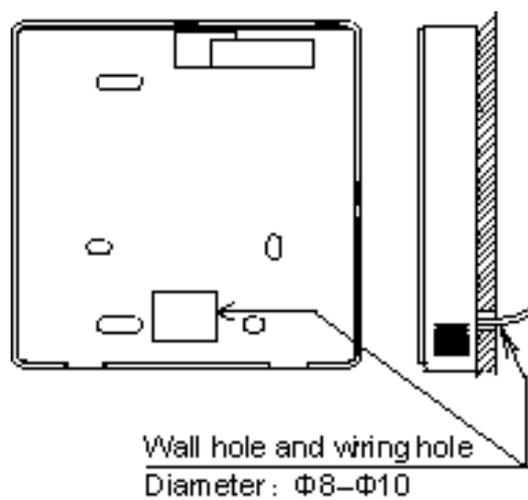
When under installation, reserve certain length of the connecting wire for convenient to take down the wired controller while during maintenance.



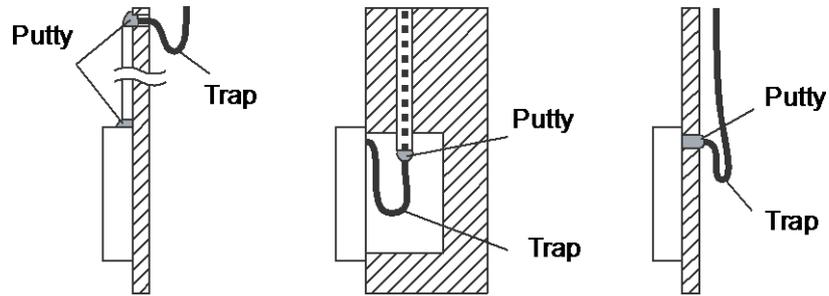
2) Embedded 86 electrician box wiring



3) Shielded wiring

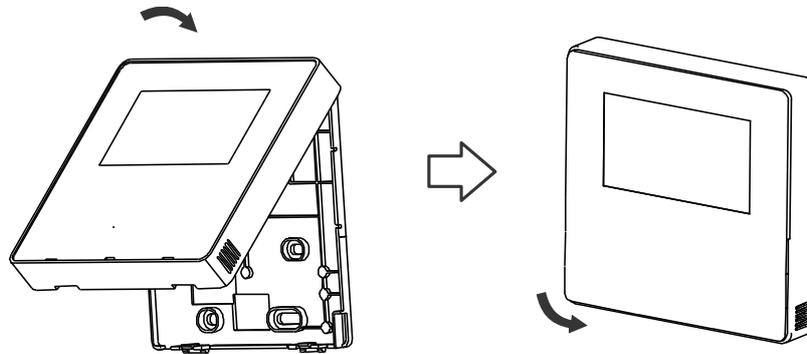


Avoid the water enter into the wired remote controller, use trap and putty to seal the connectors of wires during wiring installation.

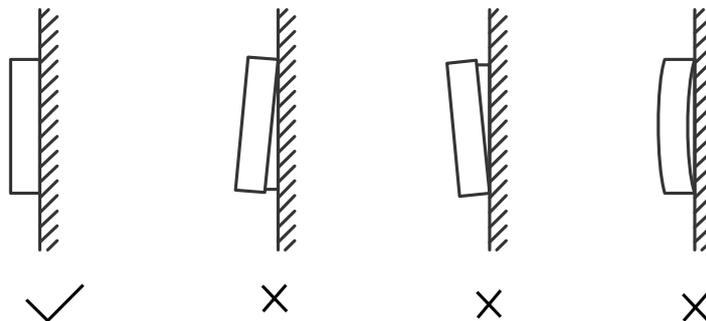


5. Front cover installation

After adjusting the front cover and then buckle the front cover; avoid clamping the communication switching wire during installation.



Correct install the back cover and firmly buckle the front cover and back cover, otherwise will make the front cover drop off.



NOTE CONCERNING PROTECTION OF ENVIRONMENT



This product must not be disposed of via normal household waste after its service life, but must be taken to a collection station for the recycling of electrical and electronic devices. The symbol on the product, the operating instructions or the packaging indicate such disposal procedures. The materials are recyclable in accordance with their respective symbols. By means of re-use, material recycling or any other form of recycling old appliances you are making an important contribution to the protection of our environment. Please ask your local council where your nearest disposal station is located.

In case of quality problem or other please contact your local supplier or authorized service center.

Emergency number: 112

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