



# ***Owner's Manual***

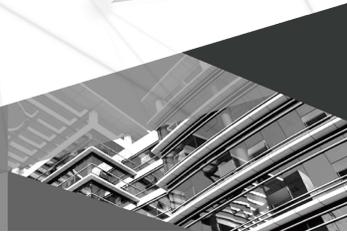
## **Original Instructions**

Wired Controller ZF93511AJ  
Wired Controller ZF93511BJ



App Download Linkage

Thank you for choosing this product. Please read this Owner's Manual carefully before operation and retain it for future reference.



# To Users

Thank you for selecting C&H product. Please read this instruction manual carefully before installing and using the product, so as to master and correctly use the product. In order to guide you to correctly install and use our product and achieve expected operating effect, we hereby instruct as below:

- (1) This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- (2) This instruction manual is a universal manual; some functions are only applicable to particular product. All the illustrations and information in the instruction manual are only for reference, and control interface should be subject to actual operation.
- (3) In order to make the product better, we will continuously conduct improvement and innovation. If there is adjustment in the product, please subject to actual product.
- (4) If the product needs to be installed, moved or maintained, please contact our designated dealer or local service center for professional support. Users should not disassemble or maintain the unit by themselves, otherwise it may cause relative damage, and our company will bear no responsibilities.

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## 1 Safety Notices (Please Be Sure to Abide)



**WARNING:** If not abide them strictly, it may cause severe damage to the unit or the people.



**NOTE:** If not abide them strictly, it may cause slight or medium damage to the unit or the people.



This sign indicates that the items must be prohibited. Improper operation may cause severe damage or death to people.



This sign indicates that the items must be observed. Improper operation may cause damage to people or property.



### **WARNING!**

This product can't be installed at corrosive, inflammable or explosive environment or the place with special requirements, such as kitchen. Otherwise, it will affect the normal operation or shorten the service life of the unit, or even cause fire hazard or serious injury. As for the above special places, please adopt special air conditioner with anti-corrosive or anti-explosion function.

## 2 Display

### 2.1 Appearance of Wired Controller

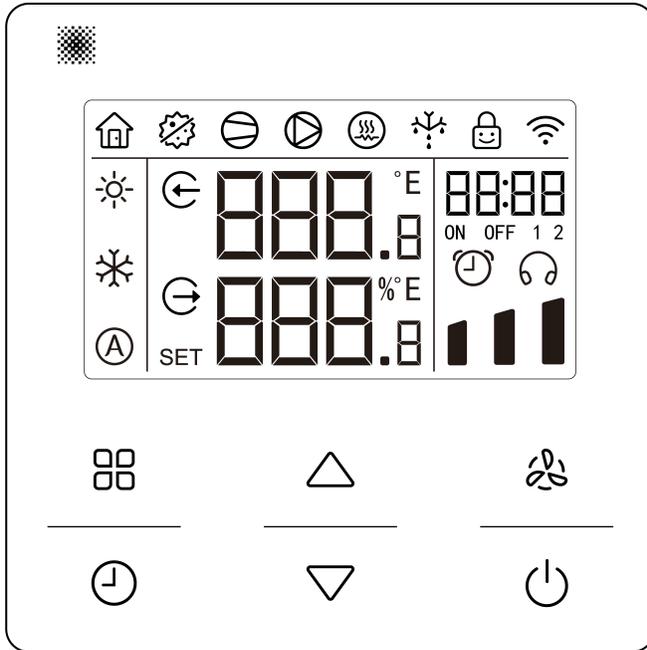


Figure 2-1 Appearance of Wired Controller

## 2.2 LCD Display and Description

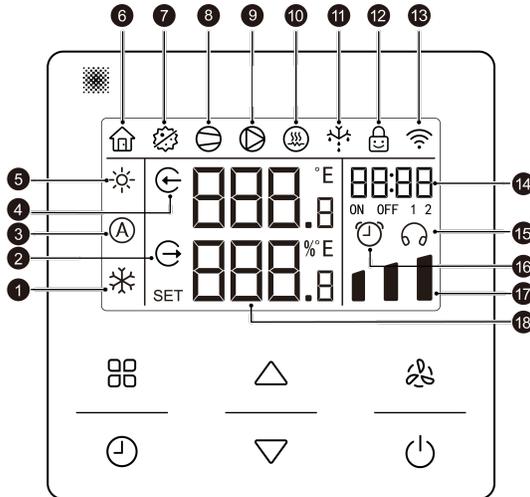


Figure 2-2 LCD Display of Wired Controller

Table 2.2.1 LCD Display Description

No.	Symbols	Instructions
1		Cooling mode
2		Water outlet icon; water outlet icon and lower part of temperature area jointly refers to water outlet temperature.

No.	Symbols	Instructions
3		Auto mode
4		Water inlet icon; water inlet icon and upper part of temperature area jointly refers to water inlet temperature.
5		Heating mode
6		Absence
7		Sterilization
8		Operating status of compressor
9		Operating status of water pump
10		Auxiliary electric heating
11		Defrosting status
12		Child lock

No.	Symbols	Instructions
13		WiFi status
14		Timer area
15		Timer ECO icon
16		Timer ON/OFF icon
17		Grade
18		Temperature area

NOTE: When wired controller is connected with different indoor units, some functions will be different.

### 3 Operating Modes

Table 3.1 Operation Modes Description

Mode	Description
Cooling	Cooling mode
Heating	Heating mode

Mode	Description
Auto	Auto mode

Table 3.2 Operation Grades Description

Grade	Description
	Energy saving
	Smart
	Fast

## 4 Functions

Table 4.1 Functions Description

Name	Introduction
Timer on/off	To set timer on and timer off time, the unit will operate in the set period. After setting, the unit will operate circularly every day.
Timer ECO	Set the timer ECO time, the unit will operate in ECO mode in the set period. After setting, the unit will operate circularly every day.
WiFi	Can control wired controller via smart APP.
Clean	It can drain and wash the water inside the circulating water heater.

## 5 Instruction for Operation

### 5.1 ON/OFF

Press “” button to turn on the unit. Press “” button again, the unit is turned off and stopped operation. ON state and OFF state interface of the unit are shown as below:

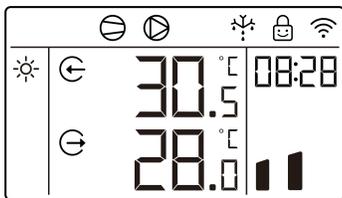


Figure 5-1 ON state interface

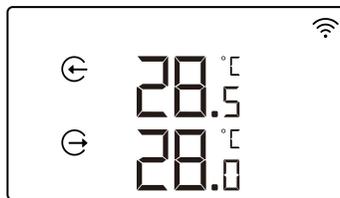


Figure 5-2 OFF state interface

### 5.2 Mode Setting

In the ON state interface, each time press the “” button for once, the mode will switch among heating, cooling and auto modes, the order for switching is shown as the figure.

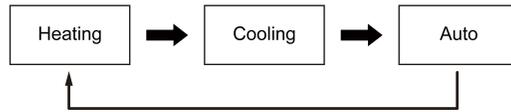


Figure 5-3 Mode Setting

### 5.3 Grade Setting

In the ON state interface, each time press the “” button for once, the grade will switch among smart, fast and energy saving grades, the order for switching is shown as the figure.

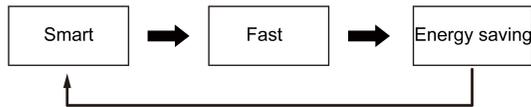


Figure 5-4 Grade Setting

### 5.4 Temperature Setting

In the ON state, press “” or “” button, the set temperature will increase or decrease for 0.5 degree Celsius or Fahrenheit; when press and hold the buttons, the set temperature will continuously increase or decrease for 1 degree Celsius or

Fahrenheit.

The settable highest temperature of different modes is different. For the settable water temperature range of each model shall refer to actual unit.

## 5.5 Timer Setting

### 5.5.1 Setting of System Time

- (1) Press “” button, the hour of clock icon flashes, press “” or “” button can adjust the hour.
- (2) Press “” button again, the minute of clock icon flashes, press “” or “” button can adjust the minute.
- (3) During setting, press “” button or no button operation for 20 seconds, it will automatically return to the homepage and the setting system time is done.

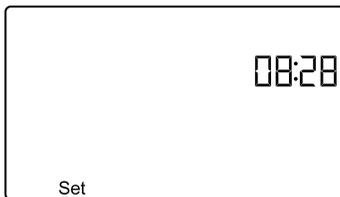


Figure 5-5 Setting of system time

## 5.5.2 Timer ON/OFF Setting

- (1) Press "" button to enter setting interface of system time, after the system time is set, press "" button to enter timer ON/OFF setting interface, the temperature area "ON" or "OFF" are flashing, press "" or "" button can set timer ON/OFF, when it displays "ON", it refers timer ON is activated; when it displays "OFF", it refers the timer setting is off.
- (2) Press "" button again, set the timer ON hour, "" and "ON" icons are constantly on, and timer ON hour icon flashes, press "" or "" button to adjust timer ON hour.
- (3) Press "" button again, set the timer ON minute, "" and "ON" icons are constantly on, and timer ON minute icon flashes, press "" or "" button to adjust timer ON minute.
- (4) Press "" button again, set the timer OFF hour, "" and "OFF" icons are constantly on, and press "" or "" button to adjust timer OFF hour.
- (5) Press "" button again, set the timer OFF minute, "" and "OFF" icons are constantly on, and press "" or "" button to adjust timer OFF minute;

- (6) During setting, press “” button or no button operation for 20 seconds, it will automatically return to the homepage and the setting of timer ON/OFF time is done.



Figure 5-6 Setting of timer ON/OFF time

### 5.5.3 Timer ECO Setting

- (1) Press “” button to enter setting interface of system time, after the system time is set, press “” button to enter timer ON/OFF setting interface, press “” button again to enter the setting interface of timer ECO.
- (2) Timer ECO “” is constantly on, “ON” or “OFF” in temperature area are flashing, press “” or “” button to set ON/OFF of timer ECO function. When it displays “ON” it refers to the timer ECO function is activated, when it displays “OFF” it refers to the timer ECO function is turned off.

- (3) Press “” button again, set the timer ON hour of ECO function, “” and “ON” icons are constantly on, and timer ECO hour icon flashes, press “” or “” button to adjust timer ON hour of ECO function.
- (4) Press “” button again, set the timer ON minute of ECO function, “” and “ON” icons are constantly on, and timer ECO minute icon flashes, press “” or “” button to adjust timer ON minute of ECO function.
- (5) Press “” button again, set the timer OFF hour of ECO function, “” and “OFF” icons are constantly on, and press “” or “” button to adjust timer OFF hour of ECO function.
- (6) Press “” button again, set the timer OFF minute of ECO function, “” and “OFF” icons are constantly on, press “” or “” button to adjust timer OFF minute of ECO function.
- (7) During setting, press “” button or no button operation for 20 seconds, it will automatically return to the homepage and the setting of timer ECO timer is done.



Figure 5-7 Setting of timer ECO time

### 5.5.4 Multistep Timer Setting

- (1) In ON or OFF status, or setting interface of system time, press and hold “” button for 5 seconds to enter setting of multistep timer ON/OFF and multistep ECO function.
- (2) Press “” button again, the icons status will switch in timer ON/OFF 1, timer ON/OFF 2, timer ECO 1, and timer ECO 2.
- (3) In timer ON/OFF 1 interface, “” and “ON” and “1” icons are constantly on, press “” button can set the ON/OFF time of timer ON/OFF 1, for setting methods please see “Timer ON/OFF setting”.
- (4) In timer ON/OFF 2 interface, “” and “ON” and “2” icons are constantly on, press “” button can set the ON/OFF time of timer ON/OFF 2, for setting methods please see “Timer ON/OFF setting”.

- (5) In timer ECO 1 interface, “” and “ON” and “1” icons are constantly on, press “” button can set the ON/OFF time of timer ECO 1, for setting methods please see “Timer ECO setting”.
- (6) In timer ECO 2 interface, “” and “ON” and “2” icons are constantly on, press “” button can set the ON/OFF time of timer ECO 2, for setting methods please see “Timer ECO setting”.
- (7) During setting, press “” button or no button operation for 20 seconds, it will automatically return to the homepage and the setting of timer is done.

### 5.5.5 Weekly Timer Setting

Switch timer ON/OFF 2 as weekly timer, for setting method please see the setting of Timer 2 type in “Special parameters setting”.

- (1) Press and hold “” button, switch to setting interface of timer ON/OFF 2 according to “Multistep timer setting”, then it is weekly timer setting.
- (2) “ON” or “OFF” in temperature area are flashing, press “” or “” buttons to set on and off of weekly timer, when it displays “ON”, the weekly timer is activated, when it displays “OFF”, the weekly timer is turned off.

- (3) Press “⌚” button again, “⌚” and “2” icons are constantly on, “d:XX” is flashing, it refers to what day of the week currently. Press “△” or “▽” button can adjust the time.
- (4) Press “⌚” button again, “⌚” and “2” and “ON” icons are constantly on, “d:XX” is flashing, it refers to it will turn on in what day of the week. Press “△” or “▽” button can adjust the weekly timer ON time.
- (5) Press “⌚” button again, “⌚” and “2” and “OFF” icons are constantly on, “d:XX” is flashing, press “△” or “▽” button can adjust the weekly timer OFF time.
- (6) During setting, press “⏻” button or no button operation for 20 seconds, it will automatically return to the homepage and the setting of timer is done.
- (7) The following shows the current time, ON time, OFF time of weekly timer setting.



Figure 5-8 Display of weekly timer

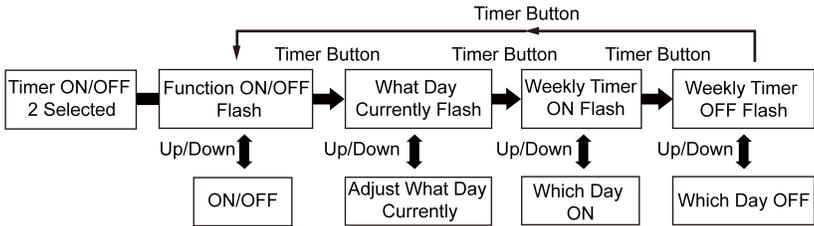


Figure 5-9 Setting steps of weekly timer

## 5.6 Wifi Function Setting

You can use App to control it, please scan the QR code in the home page to download it.

Only common functions of WiFi wired controller can be set through App: ON/OFF, mode, set temperature, grade, timer ON/OFF, timer ECO.

If you use the App for the first time, please reset WiFi at first (restore ex-factory setting for WiFi).

When the wired controller is ON/OFF, long press “🕒” + “🔺” buttons for 5 seconds, the prompting sound will occur 3 times and the wired controller will display “YES” for 5 seconds, WiFi reset is successful.

If there's WiFi communication error, after long press "" + "" buttons for 5 seconds, the prompting sound will occur 2 times and the wired controller will display "JF" for 5 seconds, the current reset is invalid.

## 5.7 Other Functions

### 5.7.1 Child Lock Function

In the ON state or OFF state without error, press "" and "" buttons simultaneously for 5 seconds, the wired controller will enter into child lock function, the LCD will display ""; press "" and "" buttons simultaneously for 5 seconds again can quit the child lock function.

Under child lock status, there will be no response for pressing other buttons. If the function is set before power failure, after re-energizing the unit, the unit will still in child lock mode.

### 5.7.2 Clean Setting

When the wired controller is off status, when the clean function is not activated,

press and hold “” button for 5 seconds, the clean function is activated, “” and “” icons flash, temperature area displays ON, and timer area displays the started time of clean function.

After clean function is activated, the following operations can turn off the clean function.

- (1) Press and hold “” button for 5 seconds.
- (2) Press “” button (it will not change the ON/OFF status) to quit the clean function.
- (3) After clean function is activated for 30min, it will automatically quit after the clean is done.

When the clean function is turned off, “” and “” icons flash, temperature area displays “OFF” for 5 seconds, after the clean function is turned off, it will return to temperature display interface.

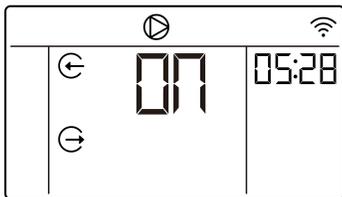


Figure 5-10 Clean function is on



Figure 5-11 Clean function is off

### 5.7.3 Special Parameters Setting

- (1) In ON or OFF state interface, press and hold  +  buttons for 5 seconds, temperature area displays “00”.
- (2) When the system parameters inquiry interface is “00”, press and hold  +  buttons for 5 seconds, temperature area displays “E00”.
- (3) When the engineering parameters interface is “E00”, press and hold  +  buttons for 5 seconds, temperature area displays “F00”.
- (4) Press  or  button can adjust the value of special parameters;
- (5) Press  button to select special parameters value;
- (6) Press  or  buttons to adjust the parameter option “01” or “00” of special parameter value;

(7) Press “” button to confirm the parameter option, then the setting is done.

Table 5.10.1 Instruction for Special Parameters

Special Parameters	Special Parameter Value	Parameter Option	Instruction	Remarks
ON/OFF memory after power failure	E01	01	ON/OFF memory after power failure	Settable in both ON and OFF states
		00	No ON/OFF memory after power failure	
Temperature display transition setting	E02	01	Fahrenheit (°F)	Settable in both ON and OFF states
		00	Celsius (°C)	
Resume to Ex-factory Setting	E12	01	Resuming to ex-factory setting of wired controller is on	Settable in OFF states
		00	Resuming to ex-factory setting of wired controller is off	
Timer 2 type	E16	00	Timer ON/OFF 2 is clock timer	Settable in both ON and OFF states
		01	Timer ON/OFF 2 is weekly timer	

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Special Parameters	Special Parameter Value	Parameter Option	Instruction	Remarks
Anti-overheating setting	E04		Adjust within the range of 62~79°C	Settable in both ON and OFF states
Water pump stop time	E19		Adjust within the range of 0~60 (Unit: min)	Settable in both ON and OFF states
Water pump operating time	E20		Adjust within the range of 0~60 (Unit: min)	Settable in both ON and OFF states
ON/OFF control temperature sensor	F04		Selectable value: 00; 01; 02	Settable in both ON and OFF states
Water temperature compensatory status value	F05	00	Valid	Settable in both ON and OFF states
		01	Invalid	
Heating startup temperature difference	F10		Adjust within the range of 0.5~12	Settable in both ON and OFF states

Special Parameters	Special Parameter Value	Parameter Option	Instruction	Remarks
Cooling startup temperature difference	F11		Adjust within the range of 0.5~12	Settable in both ON and OFF states

## Notes:

- ① Resuming to ex-factory setting is available only in the OFF state.
- ② During the setting, press “” button or no operation for 180 seconds, the unit will automatically quit the setting, and the setting is invalid.
- ③ Except for the aforesaid special parameter setting, other special parameter setting can only be set by installing and debugging personnel, please do not alter by yourself, otherwise it may cause malfunction of unit.

## 5.8 Reset to Ex-Factory Setting

If the functions of unit cannot work well due to ex-factory setting is altered by misoperation, user can reset to ex-factory setting via wired controller.

Method 1: press and hold “” button for 5 seconds, the unit will resume to ex-

factory setting. This operation is only valid for some models.

Method 2: please set according to “Special Parameters Setting” section.

## 6 Error Display

When errors occur during the operation of the system, timer display area will display the error code, and the temperature area displays the current water inlet temperature and outlet temperature, please turn off the unit and ask professional to repair.

When error occurs, except for the operation of ON/OFF, special parameter setting, other operations are not available.

If many errors occur simultaneously in the unit, the error codes will be displayed circularly.

The following figure shows communication error.

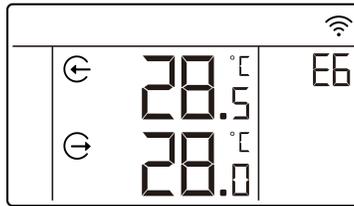


Figure 6-1 Display of error

Table 6.1 List of Errors

Error Code	Error Name	Error Code	Error Name
E1	System high-pressure protection	F4	Air discharge temperature sensor error
E3	System less refrigerant protection/ low-pressure protection	Fd	Inhalation temperature sensor error
E6	Communication error	F6	Outdoor tube temperature sensor error
C5	Jumper cap error	E4	Air discharge protection
F3	Outdoor ambient temperature sensor error	L6	Inadequate capacity of unit
Ec	Water flow switch protection	F8	Water inlet temperature sensor error

Error Code	Error Name	Error Code	Error Name
F9	Water outlet temperature sensor error	P9	Inverter compressor driver AC input zero-sequence overcurrent protection

Table 6.2 List of Driver Errors

Error Code	Error Name	Error Code	Error Name
EE	EPROM storage chip error	AA	Inverter outdoor fan AC protection (input side)
ee	Inverter compressor driver storage chip error	AC	Inverter outdoor fan startup failure
H5	Inverter compressor driver IPM module protection	Ad	Inverter outdoor fan less phase protection
HC	Inverter compressor driver PFC protection	AE	Inverter outdoor fan driver current detecting circuit error
H7	Inverter compressor out-of-step protection	Ar	Inverter outdoor fan driver electric box temperature sensor error
Lc	Inverter compressor startup failure	AL	Inverter outdoor fan driver DC bus low-voltage protection or voltage drop error

Error Code	Error Name	Error Code	Error Name
Ld	Inverter compressor de-fault phase protection	A8	Inverter outdoor fan driver module high-temperature protection
LF	Inverter compressor power protection	AH	Inverter outdoor fan driver DC bus high-voltage protection
PA	Inverter compressor driver AC protection (input side)	AP	Inverter outdoor fan driver AC input voltage error protection
Pc	Inverter compressor driver current detecting circuit error	AU	Inverter outdoor fan driver charging loop error
PF	Inverter compressor driver electric box temperature sensor error	PP	Inverter compressor driver AC input voltage error protection
PL	Inverter compressor driver DC bus low-voltage protection or voltage drop error	A6	Master controller and inverter outdoor fan driver communication error
A0	Inverter outdoor fan driver module reset	AJ	Inverter outdoor fan out-of-step protection
PU	Inverter compressor driver charging loop error	A9	Inverter outdoor fan driver module temperature sensor error

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Error Code	Error Name	Error Code	Error Name
P0	Inverter compressor driver module reset	U9	Inverter outdoor fan driver AC input zero-sequence overcurrent protection
P5	Inverter compressor overcurrent protection	An	Inverter outdoor fan driver storage chip error
P6	Master controller and inverter compressor driver communication error	AF	Inverter outdoor fan driver PFC protection
P7	Inverter compressor driver module temperature sensor error	P8	Inverter compressor driver module high-temperature protection
UL	Inverter outdoor fan overcurrent protection	UP	Inverter fan power protection

# 7 Installation and Engineering Commissioning of Wired Controller

Unit: mm

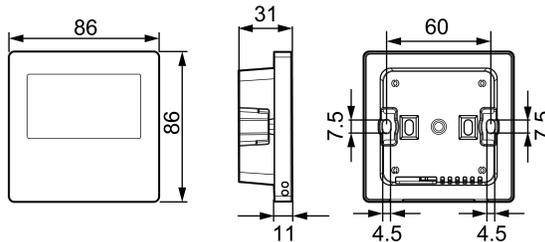


Figure 7-1 Dimensions of Wired Controller

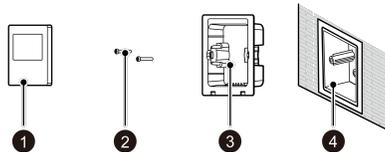


Figure 7-2 Parts and Components of Wired controller

Table 7.1.1 Parts and Components introduction

No.	①	②	③	④
Name	Wired controller	Screw M4×25	Soleplate of wired controller	Junction box installed inside the wall
QTY	1	2	1	Prepared by user

## 7.1 Installation of Wired Controller

### 7.1.1 Instruction of Interface

Table 7.1.2 Instruction of interface

Interface	A/B
Type	485 communication interface (nonpolar)
Parameter	24VDC input

## 7.2 Requirement for Installation Location

- (1) Please do not install the wired controller in the position where is likely to be spattered with water;
- (2) Please do not install the wired controller near the high-temperature object or under direct sunlight;
- (3) Before installation, please first cut off the power source of heavy current wire embedded inside the installing hole, hot-line work is not allowed during the

whole course of the installation;

- (4) In order to prevent malfunction due to electromagnetic interference or related reasons, please pay attention to the following notices:
- 1) Make sure that the interface of communication wire is correctly connected, otherwise it may cause communication error;
  - 2) Communication wire of wired controller should be separate with the power cord and outdoor connecting wire, the minimum distance should be over 20cm, otherwise it may cause communication error of unit;
  - 3) If the product is installed in the position where is likely to be interfered by electromagnetism, the signal wire of wired controller must adopt STP wire.
- (5) The wired controller should only be installed indoors or in the unit, the working temperature range is  $-15^{\circ}\text{C}\sim 48^{\circ}\text{C}/5^{\circ}\text{F}\sim 118^{\circ}\text{F}$ .

## 7.2.1 Indoor Installation

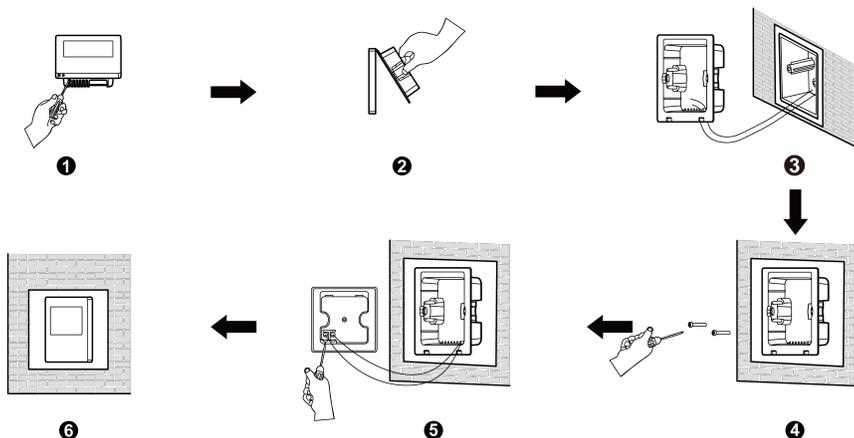


Figure 7-3 Installation of wired controller

The above figure shows the simple installation of wired controller, and the following points should be noted:

- (1) Before installation, please cut off the power source first, hot-line work is not allowed during the whole course of installation.
- (2) Pull out the 2-core STP wire inside the installing hole of wall, and thread the wire through the wire connecting hole in the back of soleplate of wired controller.
- (3) Stick the soleplate of wired controller on the wall, use screw M4×25 to fix the

soleplate into the installing hole of wall.

- (4) Connect the 2-core STP wire to the two wiring terminals respectively in the back of wired controller, and screw up the screws.
- (5) Buckle the wired controller panel and wired controller soleplate together, the installation is done.
- (6) The length of the communication cable between the wired controller and the unit can't be more than 8m.

## 7.2.2 Install in the unit

The wired controller can be directly installed in the unit by installation personnel.

## 7.2.3 Removal

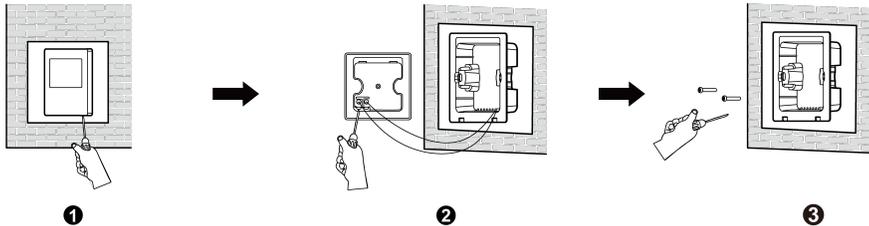


Figure 7-4 Removal of wired controller



**Caution!**

For removing wired controller in figure ①, please use slot type screwdriver for easily lever the panel and soleplate of wired controller. If the rear cover of wired controller is required to remove, please unscrew the screws of wiring terminals first.

## 8 FCC STATEMENT

This product ZF93511BJ contains FCC ID:2ADAP-GRJWB05J5 and IC:12478A-GRJWB05J5 CAN ICES-003(B)/NMB-003(B).

This device ZF93511BJ complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy

and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.





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