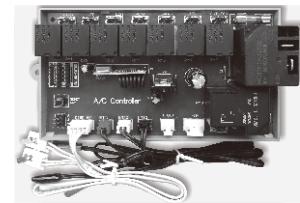




— QD65A —

**Wireless Programmable
Universal Air Conditioner
Controller**



RF



IR



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Catalogue

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⚠ Notice:

Please hire the professionals with certificate to install the control system. The control system has to pass the power test. Any damage due to the incorrect installation shall not be guaranteed. In the trial run process, ensure to avoid the strong light for fear of the interference.



⚠ To avoid constant interference from other wireless devices nearby and use this RF control system properly, make sure the transmitter and receiver is not covered by any metal products. Otherwise, the device cannot work properly.

1.Preface

Dear users:

Thank you for choosing Qunda's new product QD65A-- the programmable control system for air conditioners. To bring much convenience to your daily life is the greatest wish of all the staff in our company. Please read the manual carefully before using it, which will assist you getting the most from this control system.

2.Production Function Overview

2.1 Application

Suitable for cabinet air conditioner, split unit, ceiling & floor units and ceiling cassette.

For the control of complicated refrigeration system.

For the control of refrigeration house and the greenhouse.

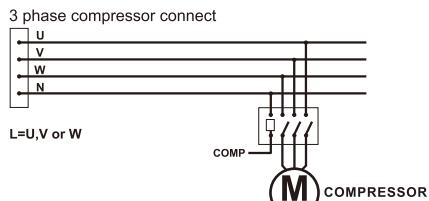
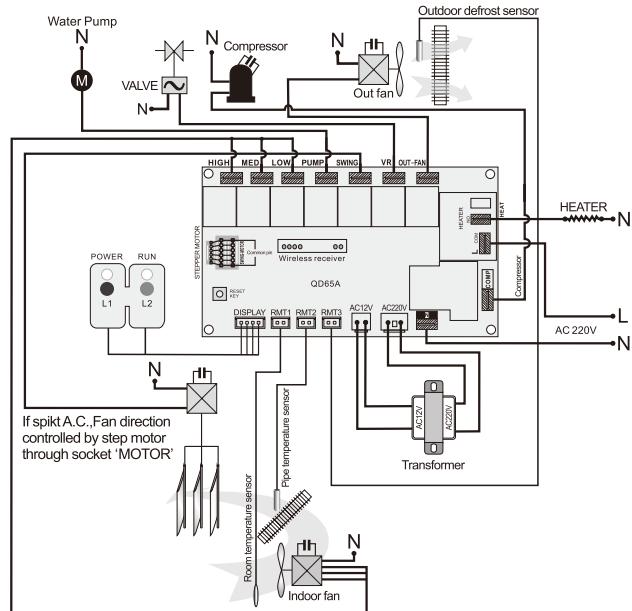
2.2 Feature

- ▶ Being programmable, the customer can set specific parameter in terms of protective time duration for compressor, temperature range etc according to their own preference.
- ▶ 5+2 days programmable week timer setting function.
- ▶ Wireless connection between the display panel and the PCB and there is no need for cabling.
- ▶ The effective range is within 50 meters(without obstacles)
- ▶ Universal control system that is applicable to floor-standing air conditioner, the split unit and the ceiling air conditioner.
- ▶ Double sockets design for stepper motor, which is convenient for installation.
- ▶ Password protection functions for the parameter of the control system.
- ▶ 86 type display panel
- ▶ Large LCD screen display.
- ▶ White back-light display function.
- ▶ IR remote control function.
- ▶ Five working modes: auto, cooling, dry, ventilation and heating.
- ▶ Four fan speeds: high, middle, low and auto.
- ▶ Three sensors design: sensors for room temperature, indoor pipe temperature sensor, outdoor pipe temperature
- ▶ Two ways for the swing control: stepper motor control and AC motor control for the swing.
- ▶ High-power electrical heating function.
- ▶ Prevent cold air in the heating mode.
- ▶ Sleep function.
- ▶ Outdoor fan is controlled independently.
- ▶ Delay protection of the compressor
- ▶ Restart automatically after power recovery at the blackout accident.



3. Diagram and instruction

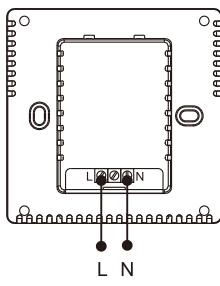
3.1 Connection diagram



⚠ This product does not apply inverter A.C



Display Panel(Wireless)



AC 220V

1. Be sure not to install the control system in an enclosed metal box in case it would weaken the wireless receiving.
2. Be sure not to install the display panel in an enclosed metal box in case it would weaken the wireless transmitting.
3. For split A.C., the stepper motor socket(MOTOR)has 6 pins. Two pins on both sides are common pins(12V).Either of them must be connect with the common pin of the stepper motor plug that has 5 pins. If stepper motor rotating direction is reversed, the common pin of the motor plug should be connect to be other common pin of the motor socket.

⚠ To avoid constant interference from other wireless devices nearby and use this RF control system properly, make sure the transmitter and receiver is not covered by any metal products. Otherwise, the device cannot work properly.



3.2 Front and Back Diagram and Description

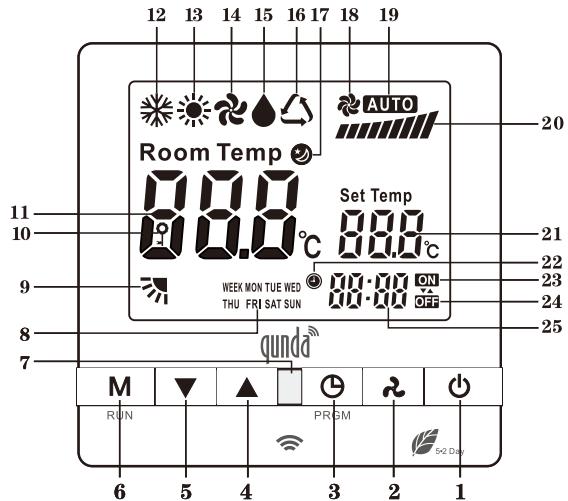


Diagram Illustration

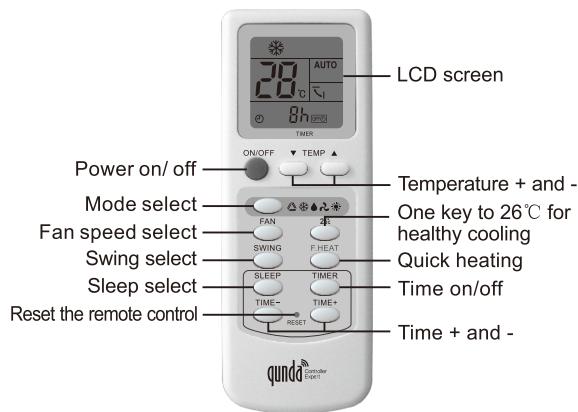
Item	Illustration
1	Power key. To turn on or turn off the air conditioner.
2	Fan speed key. To switch the fan speed (high, middle, low and auto) in the working state; to press and hold a while can turn on or turn off the swing controlled by the AC motor.
3	Clock key. To adjust current time and set week timer. To press and hold for a while to change the parameters of the 5+2 week timer.
4	Up key. To increase the setting temperature in working state; it can also be used to change parameters in the factory model and in the time setting process.
5	Down key. To decrease the setting temperature in working state; it can also be used to change parameters in the factory model and in the time setting process.
6	Mode key. To switch between different working mode including cooling, heating, ventilation, dry and auto in the working state; to press and hold for a while to set or cancel the week timer function.



7	IR receiver. To receive the order from the remote control.
8	Icon to show the week time.
9	Swing sign. It would appear when the swing is working and disappear when it not working.
10	Lock for the key. It would appear when the key is locked and only the power key works. Otherwise the keys are unlocked.
11	Indoor temperature. To show the room temperature.
12	Sign of cooling. To show the current mode is cooling mode.
13	Sign of heating. To show the current mode is heating mode.
14	Sign of ventilation. To show the current mode is ventilation mode.
15	Sign of dehumidification. To show the current mode is dehumidification mode.
16	Sign of auto. To show the current mode is auto mode.
17	Sign of sleep. It would appear when the sleep mode turns on.
18	Sign to show the working state of fan. The mobile sign shows the fan is in the working state and the still shows the otherwise state.
19	Sign to switch fan speed mode. It shows the fan is in the auto mode.
20	Sign to switch fan speed manually. 3 vertical bar means low, 6 middle and 9 high respectively.
21	Sign to show the setting temperature when it is turning on.
22	Week timer sign. It would appear when the week timer is setting.
23	Sign of turning on. It would appear when the timer on is setting.
24	Sign of turning off. It would appear when the timer off is setting.
25	Clock. To show time of the system.

3.3diagram and instruction for the remote control

(1) instruction of the remote



(2)The remote control manual

1.ON/OFF key: press to turn on/ off the A/C.

2.TEMP(temperature setting key): it can set the temperature from 16°C to 30°C. The key would not work under the auto or dry mode.

3.Mode key: working modes conversion (auto, cooling, dry, ventilation, heating). In the auto mode, the A/C would come to the heating mode when the room temperature is under 21°C; when the room temperature is higher than 27°C, the A/C would come to the cooling mode. The setting temperature is 24°C.

4.Fan key: fan speeds conversion. In the dry mode, the indoor fan is low speed and work automatically; it is the high speed when the temperature gap between the setting temperature and the room temperature is more than 4°C; the gap of 2-3°C is the middle speed; the gap of being under 2°C is the low speed. The wind speed would convert in every minute.

5.26°C key: 26°C key would set the A/C in the cooling mode and provide you the environmental-friendly and comfortable temperature.

6.SWING key: press to set the vane to swing or not.

7.F. HEAT key: 20°C key would set the A/C in the heating mode and provide you the environmental-friendly and comfortable temperature.

8.SLEEP: Press to set the sleep mode. In the sleep mode. The A/C would turn off automatically in 8 hours.

9.TIMER: press for timer on/off or cancelling the timer.

10.TIME+|TIME-: the time setting ranging from 1 to 16 hours.

11.RESET: press to reset the remote control.

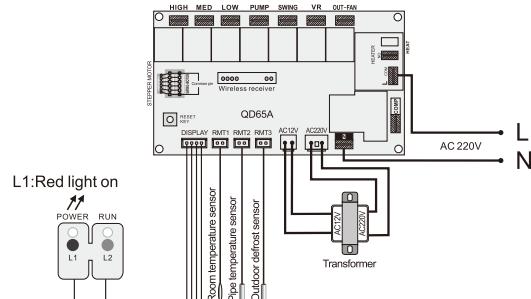
4. Installation Instruction

4.1 Before installation, please conduct the power test to ensure that the control system, display panel and remote control can work properly.

4.2 Before using it, it is necessary for users to finish the wireless address codes match between the control system and display panel. Be sure not to use the factory setting codes to avoid mutual interference among different sets of control system.

4.3(Step1)

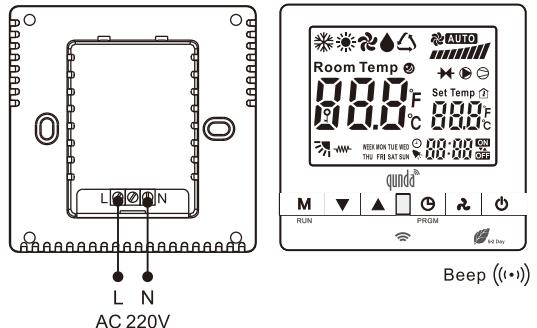
Switch on QD65A and the red right on the display panel is on, which shows the power is all right. (Pic1)



(Pic1)

4.3(Step2)

Connect the live wire and the null wire with the L and N terminal. When it is switched on and the display panel beeps, try to check to see if the display panel is OK. If the display panel shows normally, the connection for the display panel is OK. (Pic2)

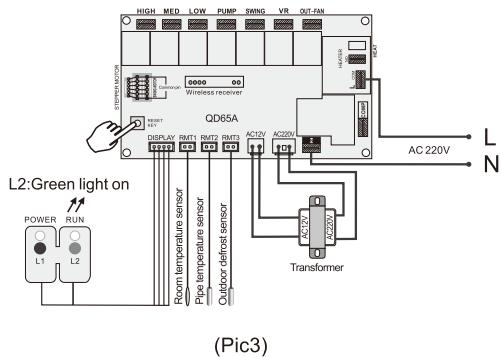


(Pic2)

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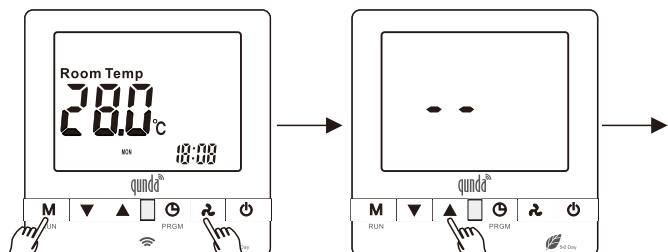
4.3(Step3) (Pic3)

Press the reset key and hold until 5 seconds after the two indicator lights on the display panel turning off and the green light is on. The control system enters the wireless address codes match process.



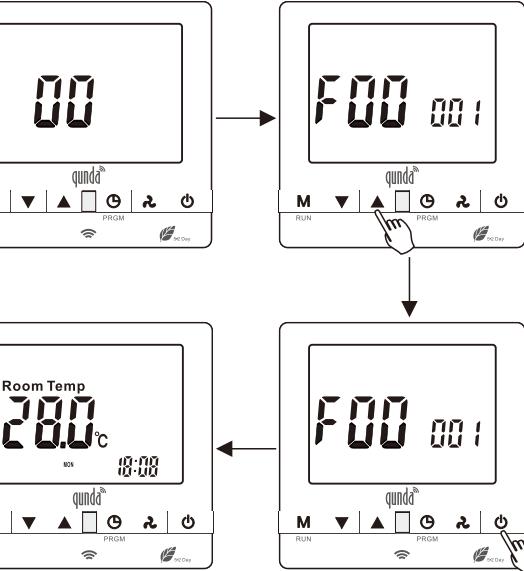
4.3(Step4) (Pic4)

- Turn off the display panel and to press "M" and "A" key simultaneously for 3 seconds. You will notice the " - - " on the screen, which shows the control system enters the setting interface: press "▲" and "▼" key to set the code. (the factory default code is 00 and users can press "M" to set other parameters).
- To set the parameter of F0: press "▲" and "▼" key to match wireless address codes.
- Press "O" key to save the setting.



Press them simultaneously for 3 seconds

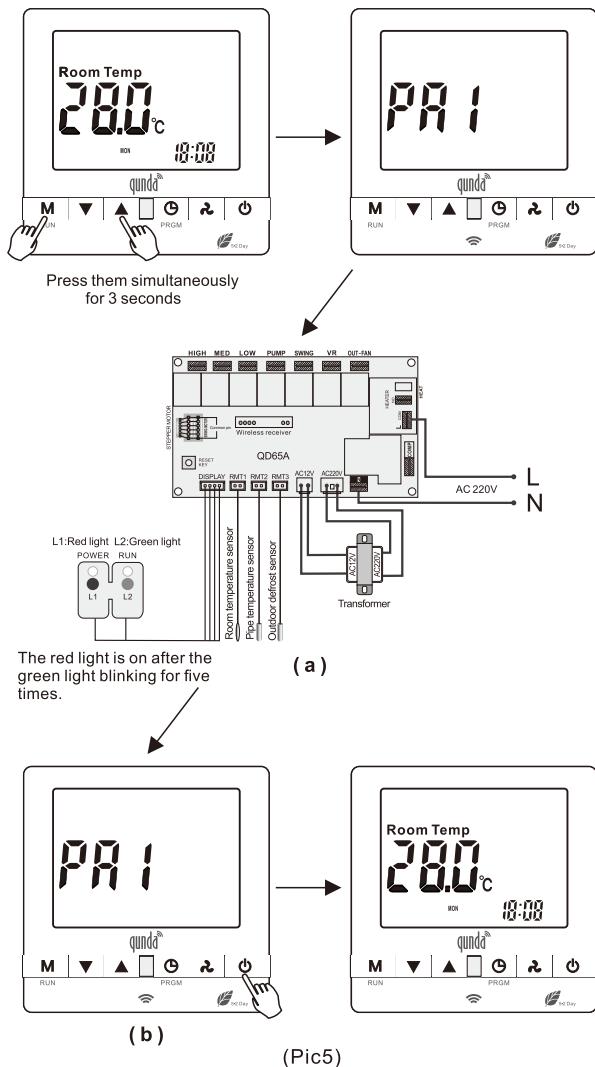
QD65A Wireless Programmable Universal Air Conditioner Controller



(Pic4)

4.3(Step5) (Pic5)

- Put the display panel close to the control system. Turn off the display panel and press "M" and "A" key simultaneously for 3 seconds. Then you can see "PAI" on the display panel, which shows the display panel is in the process of wireless address codes match. In the mean time, when you see the green indicator light of the control system is off after blinking five times and the red one is on, the wireless address codes match is finished.
- Press "O" key to exit the match setting process.



4.3(Step6)

Use the remote control to operate the display panel to see if all the functions are OK. If so, disconnect the power and to install the control system according to the wiring diagram.

5. How to operate

5.1 Conventional functions:

(1) Turn on /turn off: Press “

(2) Temperature setting: when the air conditioner is on, press “” “” to setting the temperature.

The temperature would change 0.5 degree once. To press the key and hold for a while, the temperature changes fast.

(3) Mode selection: when the air conditioner is on, press “” key to change the mode. The current interface is “”, which means cooling. Press “” repeatedly, it would show “” for dehumidification, “” for ventilation, “” for heating and “” for auto in order.

(4) Fan speed selection: when the air conditioner is on, press “” key to switch the fan speed. The current interface is “”, which means auto speed. Press “” key repeatedly it would be low, middle, high, auto speed.

Notice: In the auto mode, the fan speed changes automatically: when the gap between room temperature and setting temperature is more than 3 degree, it would be high speed; when the gap is 2-3 degree, it would be middle speed; and when the gap is 1 degree, it would be low speed. When the room temperature reaches the setting temperature, the fan stops or you can set the parameter to make it go on working.

(5) Clock key: when the air conditioner is on, press for a short time to adjust the time:

Press “” once, hour flashes and you can use “” “” to adjust it. Press “” once again, minute flashes and you can use “” “” to adjust it.

Press “” once again, week flashes and you can use “” “” to adjust it.

Press “” once again to quit the setting.

(6) Swing selection: Press and hold “” key for a few seconds to turn on or turn off the swing function.

5.2 5+2 week timer setting function:

(1) To turn on and turn off the 5+2 week timer setting function: Press “” key for a while to set or cancel the week timer.

(2) 5+2 week timer setting in terms of the change of the parameters: press the “” key for a while and enters the week timer setting mode. Then the screen shows the times to turn on the air conditioner from Monday to Friday, you can use “” “” to adjust it:

Press “” once, the screen would show the setting temperature for turning on the air conditioner from Monday to Friday, you can use “” “” to adjust it.

Press “” key once again, the screen would show the flash of the setting time to turn off the air conditioner from Monday to Friday, you can use “” “” to adjust it;



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Press “ \oplus ” key once again, the screen would show the setting time for turning on the air conditioner on Saturday and Sunday, you can use “ \blacktriangle ” “ \blacktriangledown ” to adjust it;

Press “ \ominus ” key once again, the screen would show the setting temperature for turning on the air conditioner on Saturday and Sunday, you can use “ \blacktriangle ” “ \blacktriangledown ” to adjust it;

Press “ \ominus ” key once again, the screen would show the setting time for turning off the air conditioner on Saturday and Sunday, you can use “ \blacktriangle ” “ \blacktriangledown ” to adjust it;

Press “ \ominus ” key once again to quit the week timer setting mode.

5.3 Other functions:

(1) Back-light function: the back-light is on all the time. You can turn off the back-light function by changing specific parameter.

(2) Buzzer prompt: when you operate the display panel through the key or remote control, there would be voice prompt from the buzzer.

(3) Remote control function: you can use remote to control the control system.

(4) Single day timer function: the remote control can set the air conditioner to turn on or turn off on every single day. When the week timer is setting, single day timer set is invalid.

6.Factory Parameters Setting and Wireless Address Codes Match

6.1 Notice

⚠ Attention: after resetting the factory parameters, ensure to do the wireless address codes match between the control system and display panel once again. Otherwise the parameters reset will be invalid.

6.2 Parameter setting

When the air conditioner turns off, press “**M**” and “**2**” key to come into the parameter setting interface. Then the display panel show the password “**—**” to change the parameters, to adjust to the correct password by pressing “ \blacktriangle ” and “ \blacktriangledown ” key (the range is 00-99, and the original is 00). Press “**M**” key when the correct pass-word appears.

Then it enters the parameters setting interface, with the display panel shows the parameter number and the corresponding parameter.

Press “ \blacktriangle ” and “ \blacktriangledown ” key to adjust the parameters. Press “**M**” key repeatedly to show parameters of F00-F19. Press “ \ominus ” key to save the setting when finishes the setting. (If you don't operate for a long time, the system would auto-quit and give up the changes.)

6.3 Restore factory settings

When the air conditioner turns off, press “**M**” and “ \oplus ” key for 5 seconds and it would be the interface of restoring the factory setting, with the screen shows “**DEF**”. Then press “ \ominus ” key to confirm the setting and go back to the working state.

6.4 Steps for Wireless Address Codes Match

(1) Please set the parameters according to the setting table below. (Do reset the user's address code to avoid mutual interference among different sets of control system)

(2) Operation of the control system: press the RESET key on the control system, and you'll notice both the POWER light and the RUNNING light on the LED panel would be off. 5 seconds later, the



QD65A Wireless Programmable Universal Air Conditioner Controller

RUNNING light will be on, which shows the control system is in the mode to receive the wireless address code.

(3) Turn off the display panel and press “**M**” key and “ \blacktriangle ” key simultaneously. Then “**PAI**” would display on the display panel.

(4) With the RUNNING light going off after blinking for 5 times, the match will be finished successfully.

(5) Press “ \ominus ” key to exit the mode to do the wireless address codes match.

Number	parameter	About the parameter	unit	range	Default parameters
F00	User's Address Code	Users can reset the address codes to distinguish different sets of control system to avoid mutual interference.	byte	000-999	000
F01	Setting of Indoor Temperature Sensor	0: RMT1 is room temperature of system 1: Panel sensor is room temperature of system	digit	0/1	0
F02	Time delay for compressor	Time duration for compressor to restart	minute	0-10	3
F03	Cooling temperature difference	When room temperature reaches the temperature, i.e the set temperature minus the difference value, the compressor would stop.	degree	0-20	1
F04	Heating temperature difference	When room temperature reaches the temperature, i.e the set temperature plus the difference value, the compressor would stop.	degree	0-20	2
F05	Temperature correction for room temperature sensor	Sensor error correction	degree	-10 -- +10	0
F06	To set the lowest temperature for cooling	To set the lowest temperature for cooling.	degree	-9 -- +50	16
F07	To set the highest temperature for heating	To set the highest temperature for heating.	degree	0 -- 99	30
F08	Defrost function	0: Without defrost function. 1: with defrost function.		0/1	1
F09	Defrost mode	0:to defrost periodically; 1: to defrost by the heat from the pipe.		0/1	1
F10	Defrost pipe selection	0:indoor pipe defrost 1: outdoor unit and pipe defrost.		0/1	0
F11	Defrost time duration	Time gap for defrost.	minute	10-99	25
F12	Defrost time	Time duration for defrost.	minute	1-10	5
F13	Temperature to start defrosting for the outdoor pipe		degree	-5 -- +5	-2
F14	Temperature for the outdoor pipe to stop defrosting		degree	0 -- +8	5
F15	Restart function	0: without 1: with		0/1	1
F16	To lock or unlock the key	0:unlock 1:lock		0/1	0
F17	Back-light setting	0: without back-light 1: with back-light		0/1	1
F18	Cooling mode of Indoor fan	0: when it reaches the setting temperature, the fan goes on working; otherwise it stops working.		0/1	0
F19	Password setting		byte	00-99	00



7.Error condition display

7.1 Control System

(1) When you come across the following: the RUNNING light on the LED indicator light panel goes off, and the POWER light flash once a second and the control system stops working, and you are unable to do the wireless address codes match and reset the factory parameters. Please check to see if the connection of the room temperature sensor RMT1 is OK.

(2) Another case you may come across: the RUNNING light on the LED indicator light panel goes off, and the POWER light goes off after flashing once a quarter of a second for twice and the control system stops working, and you cannot do the wireless address codes match and reset the factory parameters. Please check to see if the connection of the room temperature sensor RMT2 is OK.

(3) Another case: the RUNNING light on the LED indicator light panel goes off, and the POWER keeps flashing once a quarter of a second, please check to see if the connection of the room temperature sensor RMT3 is OK.(this error status won't occur unless the defrost function of outdoor fan coil unit starts.)

7.2 Display Panel

When "Er" occurs in the display area of the display panel, please check to see if the connection of the room temperature sensor of the display panel is OK.

7.3 The control system will turn off 4 minutes later without receiving any wireless signal. But there are two exceptions:

POWER light and RUNNING light flashes quickly and simultaneously (once a quarter of a second), which shows there is no wireless connection between the display panel and the control system. Users need to check the following:

- The display panel is in a power-on state.
- The distance between the display panel and the control system is within the effective range.
- The control system or the display panel is in an enclosed metal box.

When POWER light and the RUNNING light flash simultaneously (once a second), it shows there is a connection between the display panel and the control system. But the wireless address codes match is incorrect. Users need to reset the match.

8.Points for attention

8.1 Please reset the user's address code and do not use the default setting for fear of mutual interference among different sets of similar control systems.

8.2 Non-professionals are not supposed to install, repair or change the parameters of the control system.

8.3 If you intend to connect the compressor, we suggest you set the time delay for the compressor to restart for more than 3 minutes to protect the compressor.

8.4 This control system is not suitable for inverter air conditioner.

8.5 If it is the split units with the stepping motor controlling the swing, please select the SWING-MOTOR plug. The output plug for stepping motor is 6-pin plug, with two sides as common port (12V). IN installation



process, the common port of swing motor plug must be inserted into one common port of stepping motor's output plug. If stepping motor works in the wrong direction, change the common port of the swing motor into the other common port of the output plug of the stepping motor.

8.6 Make sure there is no strong light in front of the IR receiver.

9.Techical Parameters

Power	AC220V~240V 50/60HZ
Temperature setting range	-9°C~99°C
Temperature display range	-9°C~99°C
RMT1 testing range	-9°C~99°C
RMT2 testing range	-9°C~99°C
RMT3 testing range	-9°C~99°C
Temperature error range	±1°C
Timer setting range	0~24h
Fuse specifications	5A 250V
Current of relay for compressor	20A 250V
Current of relay for electrical heating	20A 250V
Current of relay for indoor fan	3A 250V
Current of relay for outdoor fan	3A 250V
Current of relay for the swing controlled by AC motor	3A 250V
Current of relay for reversing valve	3A 250V
Current of relay for water pump	3A 250V
Stepping motor output	(DC12V) 5 lines or 6 lines
Remote control with LCD display	DC3V AAA battery *2
Working temperature	0°C~50°C
Effective distance	0~50 meter
Wireless signal working frequency	Default to 433MHZ(315MHZ optional)

10.Packing fittings

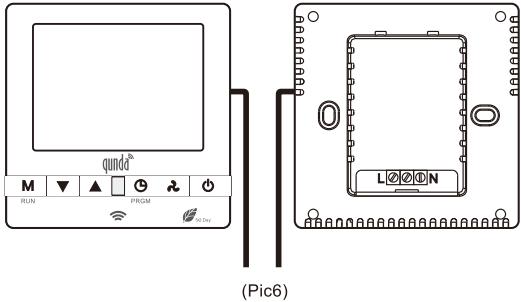
Name	Quantity
Control system	1
Display panel	1
Remote control	1
Indicator light penal	1
Transformer	1
Sensor	3
Spare parts package	2
Introduction	1

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



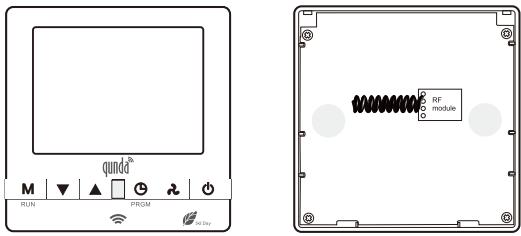
11. Additional instruction for RF installation.

1.Best condition for factory setting as the picture(Pic6), set the antenna out of the case to keep the communication best.
Notice: bend the antenna carefully when installing to prevent breaking.



(Pic6)

2.If the distance between control system and the display panel is close (less than 20m), set the antenna out of the display panel completely. After installed, it will be more elegant.(Pic7)



(Pic7)

3. Attention: The default working frequency of the RF signal is 433MHZ, if user needs to choose the working frequency to be 315MHZ, please contact us in advance before place the order.

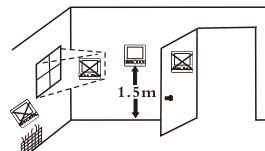
12. Display Panel Installation

12.1 Preparation

12.1.1 Confirm installation place. Pre-install the 86 dimension wire box with the screws in the fitting list.

12.1.2 Installation place:

For the proper installation place, please check the picture in the right: 1.5 meters high from the ground. Avoid the following cases:



1. Corners and places near the door or window;
2. Spaces free from temperature, enclosed heating pipe and flue pipe;
3. Places near gas pipe or radiator;
4. Places in direct sunlight or near other heating objects.

12.2 Display Panel Installation

1. Avoid pressing the LCD display heavily;
2. Be careful in the installation process to avoid the display panel crashing, striking or falling on the ground;
3. Keep the display panel from water and mud;
4. Peel away the film after the installation.

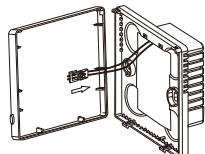
12.3 Installation steps



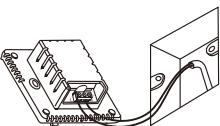
Step 1: Insert the 3.5 mm screwdriver into the slot with 4mm.



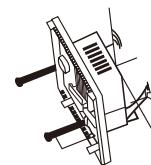
Step 2: Insert and pry it a little to disassemble the display panel.



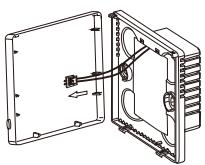
Step 3: Take out the wire.



Step 4: Connect the wire according to the wiring diagram.



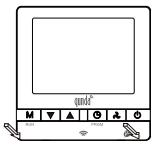
Step 5: Fasten the display panel to the wall with two screws.



Step 6: insert the ribbon wire.



Step 7: Hang the display panel at the angle of 30 to the two hooks.



Step 8: Press the panel to fix it into the bottom to finish the installation.