



## 1. Preface

QD85C is our latest universal control system for both DC & AC inverter cabinet air conditioners.  
Thank you for choosing this product, and it's our great pleasure to bring convenience for your daily life. Please read the user's manual carefully before using this control system, which will assist you to install and use the control system correctly.

## 2. Control system introduction

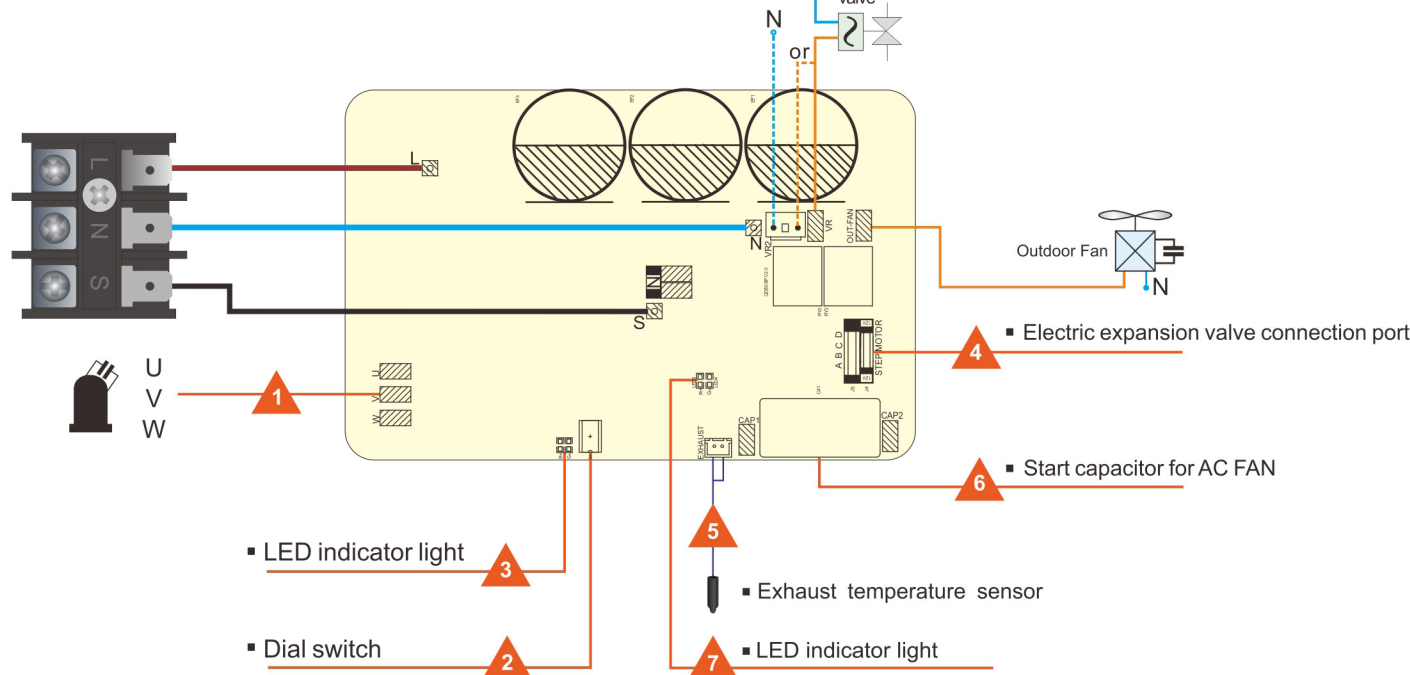
- 1)Parts of control system: ①universal indoor board, ②remote control, ③universal outdoor inverter board.
- 2)To identify the working principle of the air conditioner(AC inverter or DC inverter) before installation.
- 3)With 3 minutes' delay for protection, the compressor will restart after 3 minutes once power off or defrost.
- 4)If the air conditioner works nosily, check three phases to see if there are cases of phase missing or phase dislocation. Ensure the maximum compressor working current is not over 110% rating current of the air conditioner.

## 3. Attentions before installation

- ▲ Maximum service power 24000BTU
- Please hire professional technicians for installation and do conduct power-on test before it. There is still high voltage in the board within 3 minutes after power off. Please be careful.
- Stabilize QUNDA's heat sink with the original one through silicone grease to ensure better heat dissipation.
- Users need to use the gear 1 on the outdoor inverter board to select DC inverter or AC inverter, and use gear2 to chose the maximum service power.
- Gear 1(at the side of number ) on outdoor inverter board is suitable for DC compressor. So before installation, please distinguish the compressor model (DC inverter or AC inverter). For AC inverter, please set gear 1 to be on state.
- Make sure the three lines of L N S connection is correct between indoor board and outdoor board
- Connect the three cables(U, V, W) of the original compressor with plugs (U, V, W )of the outdoor inverter board correspondingly. Ensure the connection is stable.
- Any damage due to improper installation or burned module resulting from human factors are not in warranty scope. If products need factory maintenance, please return the main board together with the packing box and a note to clarify specific failure phenomenon.

## 4. Outdoor unit instruction

### 4.1 Structure and installation



- 1) **U V W output terminal:** connect with the wires( U V W )of compressor correspondingly. if reverse rotation occur, please exchange two wires of them.
- ▲ Before installation, please use the omh band of the multimeter to test the compressor and make sure the compressor coil is good and the resistance of three compressor feet is the same. If not, something may be wrong with the compressor. In that case, don't install the control system to avoid damaging it.
- 2) **Dial switch:** it has 2 gears to choose  
Gear1 is used to select DC inverter or AC inverter. as followings  
For AC inverter, please set gear1 to be ON side  
For DC inverter, please set gear1 to number side  
So before installation, please identify the compressor type(AC inverter or DC inverter)  
Gear2 is used to select the type of split air conditioner  
For the Maximum service power is 24000BTU, please set gear2 to number side  
For the Maximum service power is 18000BTU, please set gear2 to ON side  
Gear3 and gear4 are both unused.

- 1 -



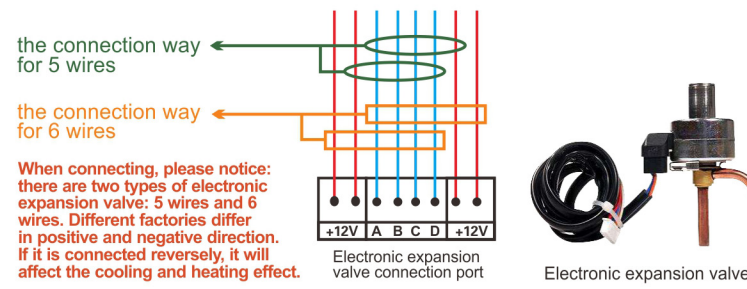
- 3) **LED Indicator light:** when the unit is working normally, For DC inverter, the green LED light will be on; For AC inverter, the green LED light will flicker. When failures occur, the green LED light will be off, at the same time, the red LED light will flicker. The red LED light will flicker differently according to the failure phenomenon. as followings:

- Outdoor unit trouble code meaning:

Red LED light flashing frequency	Trouble display (in display panel)	Trouble explanation
Once	E4	DC bus over voltage and undervoltage
Twice	E5	Over current protection
3 times	E6	IPM over current protection
4 times	E7	Over exhaust temperature
5 times	E8	Compressor rotor out-of-step trouble for DC inverter

- Note: when the outdoor unit shut-down alarm blows, identify trouble reasons and restart after power off to end the alarm.

### 4) Electric expansion valve installation



The way to confirm the positive direction of electronic expansion valve:  
When electrifying, before the compressor's running, the electronic expansion valve will reset, and it will turn off then turn on. Please connect a single electronic expansion valve, and make the coil and the valve body assembled correctly. After power on, blow air with your mouth. If you feel more and more difficult when blowing but it is still ventilated, which means the connection of electronic expansion valve is correct. If you can blow smoothly in the beginning but it is blocked finally, which means the connection direction is reversed, the common side of the valve should be connected to other common side of valve connection port.

### 5) Exhaust temperature sensor connection port

when compressor exhaust temperature is higher than 110℃, it will shut down for protection.

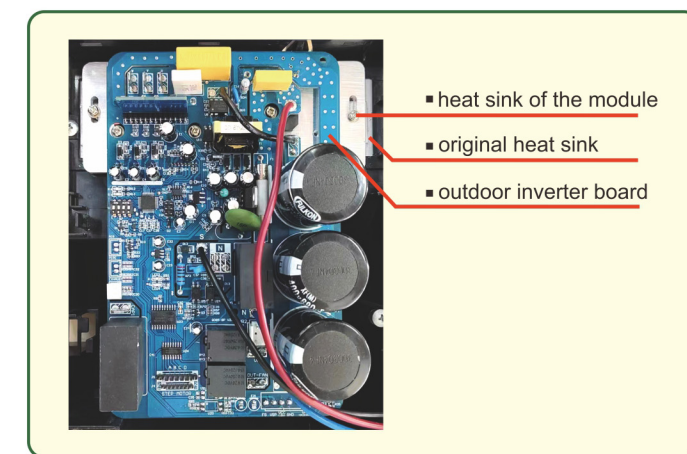
### 6) Start capacitor

If the outdoor fan is three-wires AC fan, You need to connect CAP1 terminal to Null line, and connct CAP2 terminal to C(start) of AC Fan. If the outdoor fan is two-wires AC fan, the start capacitor is unused.

### 7) LED indicator light

When the Green LED light is on, it means compressor started. When the red LED light flashes, it means the communication between indoor and outdoor unit is failure.

- ▲ Stabilize original heat sink with the original one through silicone grease to ensure better heat dissipation. And also use two screws to tighten up the two heat sinks.



### 4.2 Technical parameters

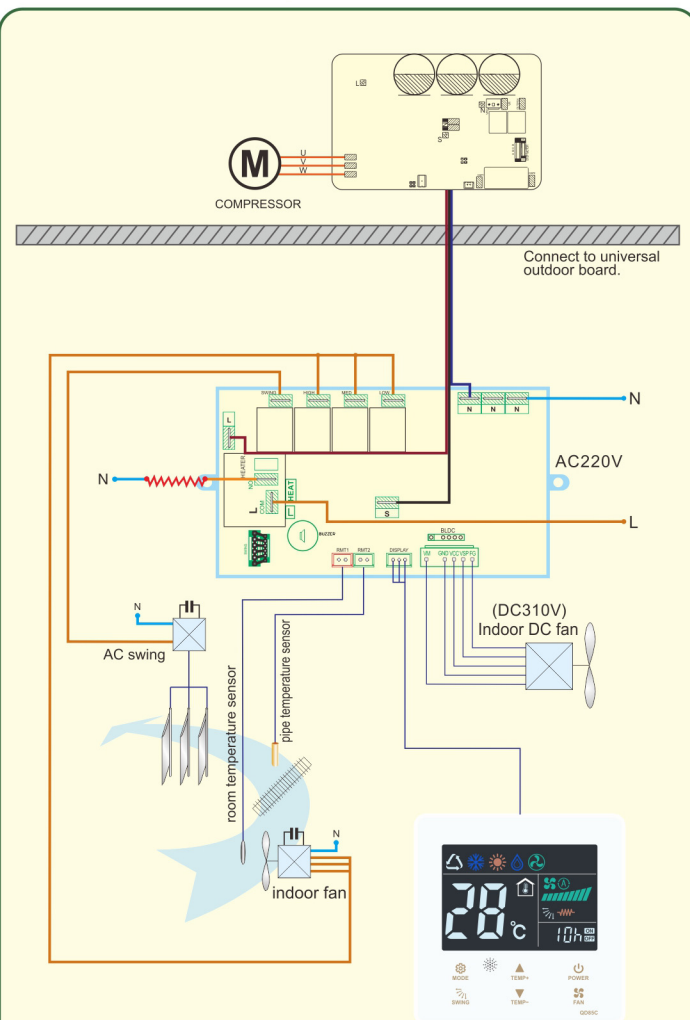
Application scope	Split air conditioner
Maximum service power	24000BTU
Maximum input voltage	AC240V
Minimum input voltage	AC180V
Maximum output current	20A
Maximum output frequency	100Hz

- 2 -



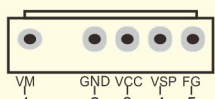
## 5. Indoor unit instruction

### 5.1 Indoor unit wire diagram and installation instruction



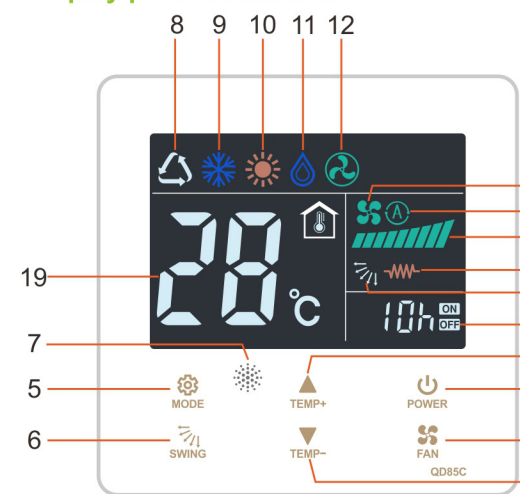
#### Attention:

- The output socket of step motor is 6 pins, and common ports(12V) are on the both sides. The common port of swing motor plug must be inserted into one common port of step motor output socket. If the motor rotates reversely, reinsert the plug into the other one.
- No hard light in front of IR receiver.
- DC fan motor connection port rule.



Name	Parameter	Description
1	VM	Fan power supply 310V
2	GND	Fan earthing terminal
3	VCC	Power DC 15V
4	VSP	Control voltage DC 0-6.5V
5	FG	Fan feedback

### 5.2 Display panel instruction



1	Power button. Turn on or off the controller manually.
2	Fan speed select. When power on, used to toggle the fan speed among high, middle, low and auto .
3	Up button. When power on, used to rise the temperature.
4	Down button. When power on, used to decrease the temperature.
5	Mode button. When power on, used to toggle the controller mode among cooling, heating, ventilating, drying, auto.
6	Wind direction. When power on, used to control the swing moving or stopping.
7	IR receiving window. Used to receiving order from remote controller.
8	Auto symbol. Indicate the working mode is auto.
9	Cool symbol. Indicate the working mode is cooling. The symbol flashing means the compressor stops.
10	Heat symbol. Indicate the working mode is heating. The symbol flashing means the compressor stops.
11	Dry symbol. Indicate the working mode is drying.
12	Ventilate symbol. Indicate the working mode is ventilating.
13	Fan working symbol. The symbol goes on when the indoor fan starts. the symbol flashing means the indoor fan stops.
14	Auto fan speed symbol. The symbol going on indicates the fan on auto mode.
15	Manual fan speed symbol. 3-line indicates low fan speed, 6-line indicate middle fan speed, 9-line indicates high fan speed.
16	Electrical heating symbol: the symbol goes on when the electrical heating starts.
17	Swing symbol. The symbol going on indicates swing waving.
18	Timer symbol. to show timer on set or timer off set.
19	Temperature symbol. to show room temp and set temp.

### 5.3 Indoor unit fault code meaning

trouble display (in display panel)	Trouble explanation
E1	Room temperature sensor trouble
E2	Indoor pipe temperature sensor trouble
EE	The connection fails between indoorboard and display panel

### 5.4 Timer function set

When power off, press and hold the fan key for 5 seconds to start timer on setting. Then press up and down to adjust timer on hour. At last, you have to press fan key to confirm the setting. After setting timer on function, 0N will be displayed on the screen.  
When power on, press and hold the fan key for 5 seconds to start timer off setting. Then press up and down to adjust timer off hour. At last, you have to press fan key to confirm the setting. After setting timer off function, 0F will be displayed on the screen.

- 3 -



### 5.5 Parameter setting

When power off, press and hold the swing key for 5 seconds to start parameter setting. Repeat to press the swing key to switch the parameter setting. Press up and down to change the parameter. After finished the setting, press the fan key to exit the setting interface and save the set parameter (if there's no any operation within 10 seconds when setting, the system will exit the setting interface and abandon the changed parameter.)

Step	Press Button	Display(Factory Defaults)	Press ▲ or ▼ to select	Default parameters	Description
01	5 seconds	F1	0-1	1	enable memory function or not
02		F2	0-1	0	backlight mode
03		RETURNS TO NORMAL OPERATION			

#### 1) memory function set (F1)

Users can set system memory function, when you select F1 equals 0, memory function is disabled, when you select F1 equals 1, memory function is enabled.

#### 2) backlight mode (F2)

Users can chose backlight mode, when you select F2 equals 0, the backlight will get dark, when you select F2 equals 1, the backlight will be always on.

### 5.6 Fan Speed Level Selection

If you find three fan speeds(high,medium,low) are all slower than the normal, refer the following diagram to adjust to the higher fan speed gear. Similarly, if you find three fan speeds(high,medium,low) are all faster than the normal, then adjust to the lower fan speed gear.

While the remote control is powered off, hold the Mode button for 5 seconds to enter Parameter Setting Mode.

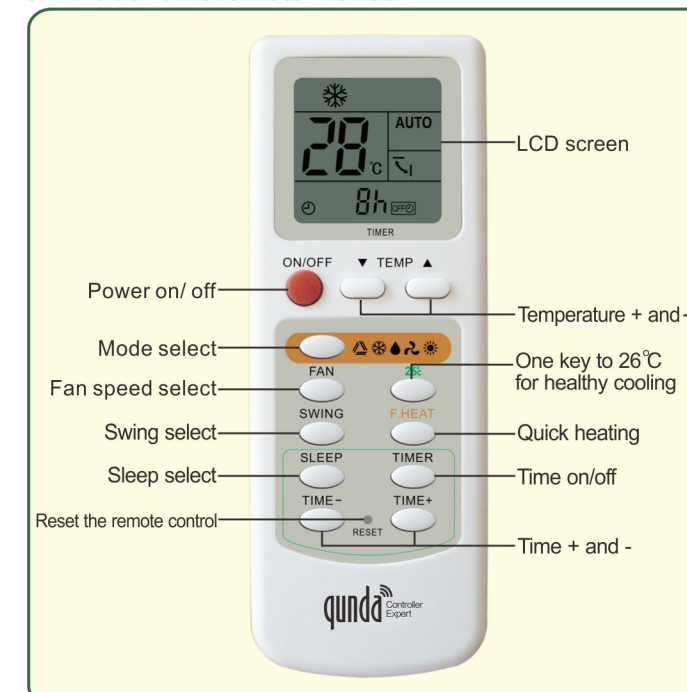
Continue to press the Mode button to select parameter C5, then press TEMP+ or TEMP- to change the parameter value.

Press the Power button to save the settings and exit.

#### Fan Speed Levels and Corresponding RPM:

	FS	DC fan speed
Higher gear	FS = 02	High speed 1600 r/min
		Medium speed 1300 r/min
		Low speed 1100 r/min
Default fan speed gear	FS = 01	High speed 1340 r/min
		Medium speed 1160 r/min
		Low speed 880 r/min
Lower fan speed gear	FS = 00	High speed 1200 r/min
		Medium speed 1000 r/min
		Low speed 800 r/min

### 5.7 Indoor unit remote 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℃ to 30℃. 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℃; when the room temperature is higher than 27℃, the A/C would come to the cooling mode. The setting temperature is 24℃.

#### 4)Fan key:

fan speeds conversion. In the dry mode, the Indoor fan is low speed and works automatically: it is the high speed when the temperature gap between the setting temperature and the room temperature is more than 4℃; 2-3℃ is the middle speed; 2℃ is the low speed. The wind speed would convert in every minute.

#### 5)26℃ key:

26℃ 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℃ 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 fan coil would turn off automatically in 8 hours.

#### 9)TIMER:

press for timer on/off or cancelling the timer.

#### 10)TIME+TIME-:

the time setting rage from 1 to 16 hours.

#### 11)RESET:

press to reset the remote control.

## 6. Packing components

Item	Quantity	Unit
Universal indoor board	1	pc
Indoor unit sensors	2	pcs
Display panel	1	pc
Remote control	1	pc
Universal outdoor board	1	pc
Four-way valve wire	1	pc
Outdoor inverter board	1	pc
Compressor exhaust temperature sensor	1	pc
User's manual	1	pc
Packaged parts	1	pc

## Company information

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- 4 -