DC Inverter Package Unit Wired Controller

Installation & Owner's Manual

Read this manual carefully before installation and keep it where the operator can easily find it for future reference.

Due to updates and constantly improving performance, the information and instructions within this manual are subject to change without notice.

Version Date: 09/07/23
Please visit *www.mrcool.com/documentation* to ensure you have the latest version of this manual.

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CONTENTS

Safety Precautions

Read Before Using

Incorrect usage may cause serious damage or injury.

The symbols below are used throughout this manual to indicate instructions that should be followed closely or actions that should be avoided to prevent death, injury, and/or property damage.

⚠ **WARNING**	Indicates that ignoring instructions may cause death or serious injury.
❗ **CAUTION**	Indicates that ignoring instructions may cause bodily injury, damage to the unit, or other surrounding property.
🚫	Indicates that you should NEVER perform the indicated action.

❗ CAUTION

- **This product should not be installed in a corrosive, flammable, or explosive environment, or a location capable of these factors, such as a kitchen.**
- **If the unit is installed in one or more of these environments, normal operation will be affected resulting in a shorter service life for the unit, fire hazard, or serious injury.**
- **For the above mentioned locations, utilize a specialized unit with an anti-corrosive and/or anti-explosive function.**

2.1 Dimensions & Components

Unit：mm
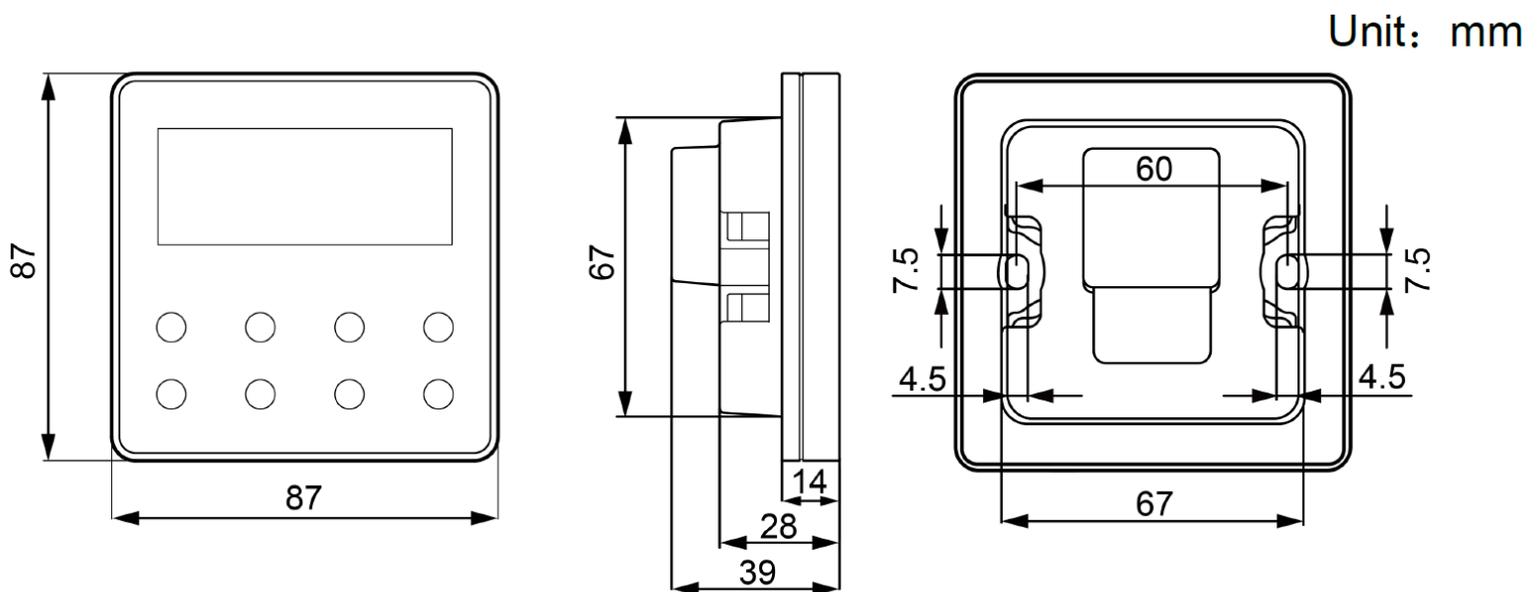
Figure 2-1 Dimension of Wired Controller
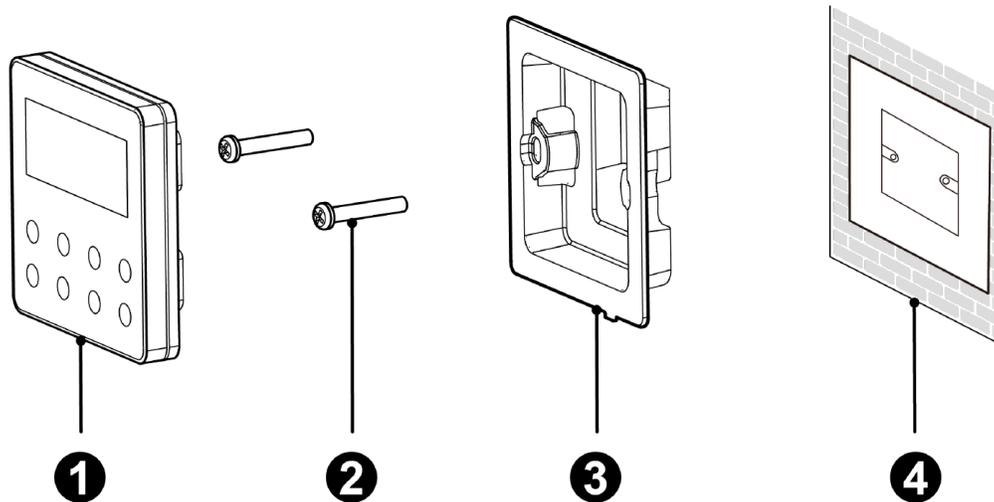
Figure 2-2 Components of Wired Controller

Name	Qty.
Wired Controller	1
M4x25 Screw	2
Installing Box	1
Junction Box (for inside wall installation)	1

2.2 Installation Requirements

Installation Location Requirements

1. Do not install the wired controller in a location that is wet or likely to become wet.
2. Do not install the wired controller near high-temperature objects or under direct sunlight.
3. Do not install the wired controller in a position facing a window, as it can lead to interference with a nearby remote controller of the same model, resulting in possible malfunction.
4. Before installing, disconnect the power supply inside the wall. Do not install while power is connected.
5. In order to avoid malfunction due to electromagnetic interference and other causes, take note of the following:
   • Ensure that the interface of the communication wire is correct, otherwise communication cannot occur.
   • Ensure the signal wire of the wired controller is separated from the power cord and indoor and outdoor connecting wire. The shortest distance should be at least 8in (20cm), or communication will be affected.
   • If the unit is installed in a location likely impacted by an electromagnetic interface, the signal wire of the wired controller should be made of STP (shielded twisted pair).
6. The wired controller should only be installed indoors, with a working temperature range of 32°F~122°F (0°C~50°C).

2.3 Installation & Disassembly

Select the correct signal wire of the wired controller that meets the following requirements:

• 2-Core Signal Wire
• Diameter: at least .0008in (.75mm)
• Length: less than 98.4ft (30m) (Recommended length is 26.25ft (8m))

For proper installation, follow the steps below:

1. Before installation, cut off the power supply of the indoor unit.

2. Pull out the 2-core STP from inside the installing hole in the wall. Thread the wire through the connecting hole in the back of the mounting plate of the wired controller.

3. Place the mounting plate of the wired controller on the wall, and use the M4x25 screws to attach the mounting plate on the wall.

4. Connect the 2-core STP with the two wiring terminals on the back of the wired controller respectively, and tighten the screw. (There is no polarity for these two wiring terminals. They should not be connected to high voltage.

5. Secure the panel of the wired controller to the mounting plate, and installation is complete.

Figure 2-3
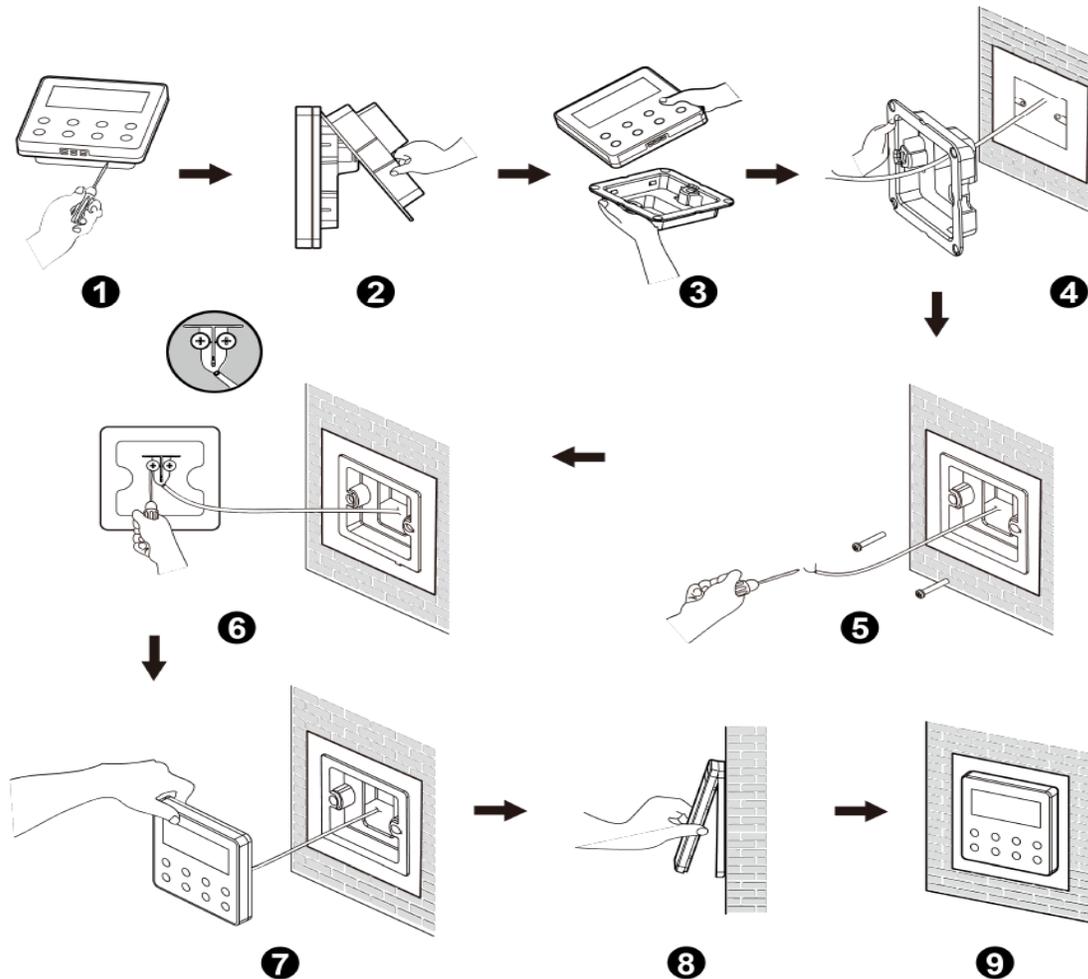
For disassembly, follow the steps demonstrated in the figure below:

Figure 2-4
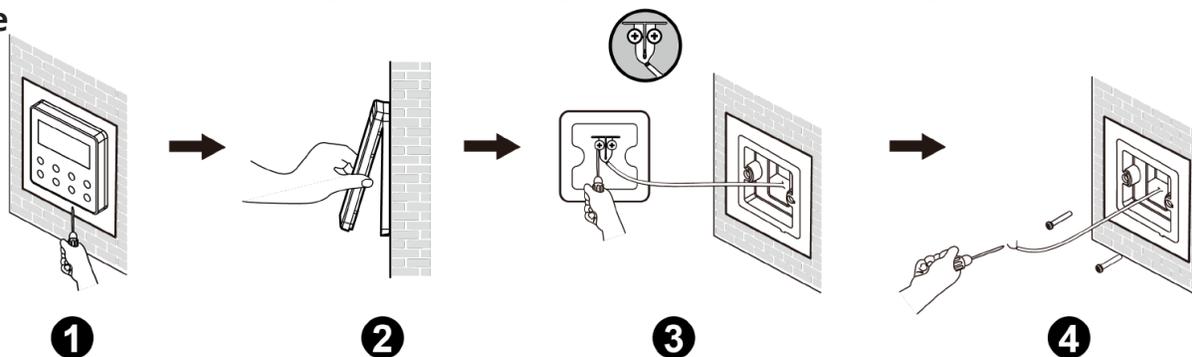
3.1 Outline of Wired Controller
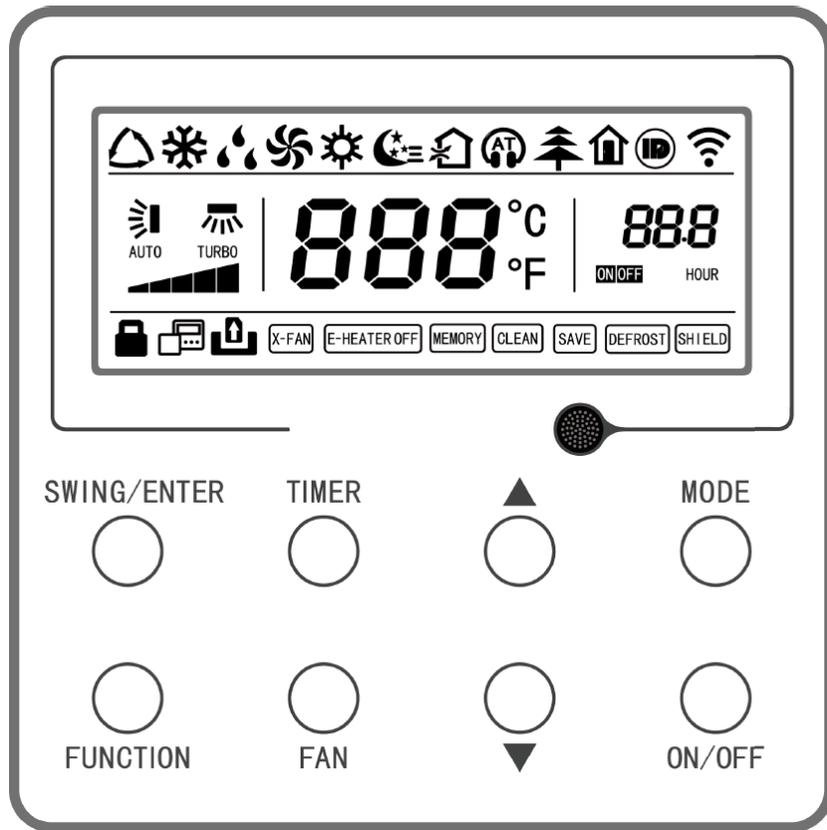
Figure 3-1

3.2 LCD Display of Wired Controller
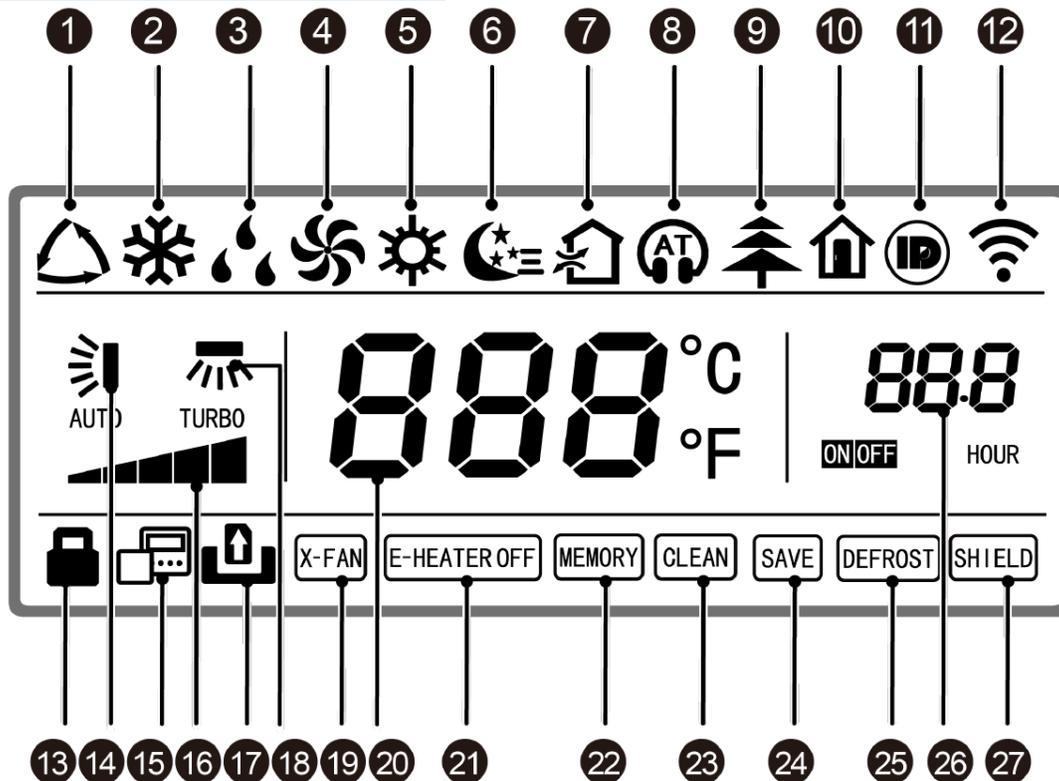
Figure 3-2

3.3 LCD Display Functions

No.	Display	Function Description
1	Auto	Automatic Mode (Under this mode, the indoor unit will select its operating mode according to the variation of room temperature.)
2	Cool	Cooling Mode
3	Dry	Dry Mode
4	Fan	Fan Mode
5	Heat	Heating Mode
6	Sleep	Display when Sleep Function is set (Only display sleep mode II)
7	Exchange	Display when air exchange function is set
8	Silent	Display when silent function is set (only display silent, no AT)
9	Health	Display when health function is set
10	Absent	Display when absent function is set
11	I-DEMAND	Display when I-DEMAND function is set
13	Child-Lock	Child-Lock status / display when child-lock function is set
14	Up & Down Swing	Display when up and down function is set
15	Addt'l Wired Controller	Icon of addt'l wired controller; it will display when slave wired controller is set
16	Fan Speed	The current set fan speed
17	No Card	No card in gate control system
18	Left & Right Swing	Display when left and right swing function is set
19	X-Fan	Display when dry function is set
20	Temperature	Displays the set temperature
21	E-Heater	On/Off switch for auxiliary heating
22	Memory	Memory Status (After power failure and re-energizing unit, it will resume to ON/OFF status of unit before the power failure)
23	Clean	Filter washing reminder
24	Save	Display when energy-saving function is set
25	Defrost	Defrosting status
26	Timer	Display when timer status is set
27	Shield	Shielding status

4.1 Silkscreen of Buttons
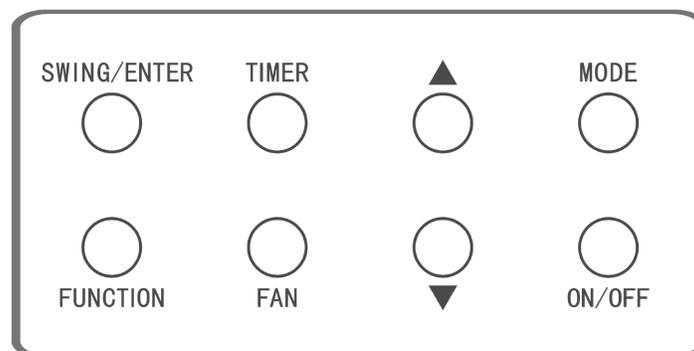
Figure 4-1

4.2 ON/OFF Setting

Press "ON/OFF" button to turn on the unit. The controller will display the setting temperature, fan speed, mode, etc. Press "ON/OFF" button again to stop operation of the unit, and the wired controller will only display the setting temperature. The ON and OFF status of the unit will display as shown below.
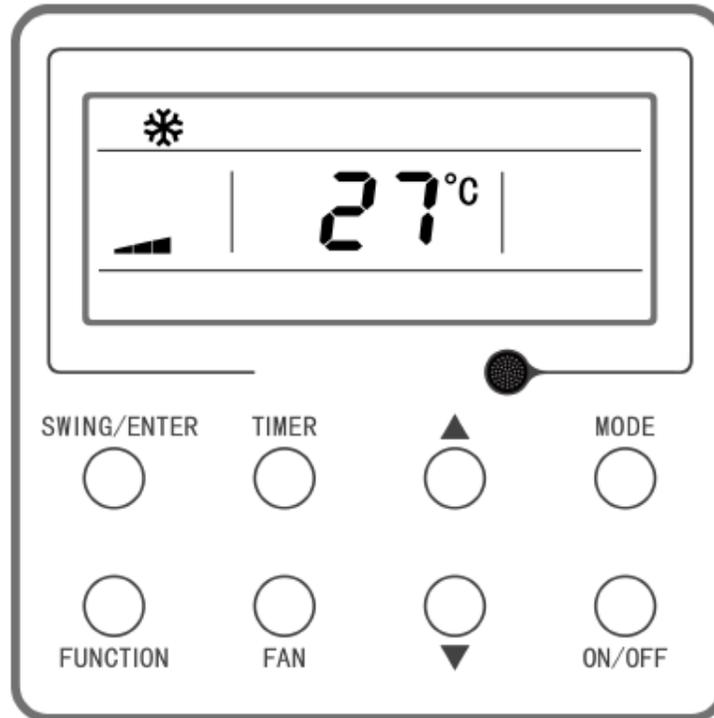
Figure 4-2 ON Status
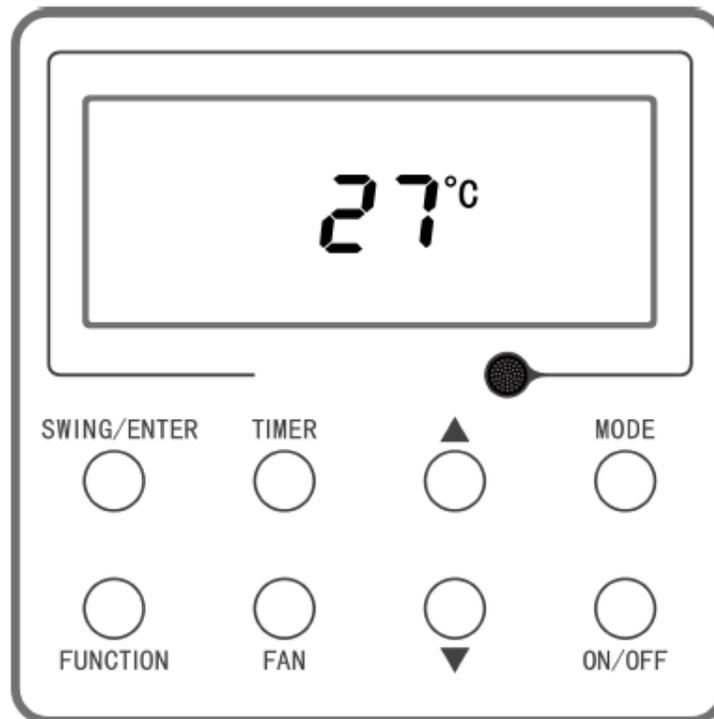
Figure 4-3 OFF Status

4.3 Mode Setting

When the unit is set to "ON", each time the "MODE" button is pressed, the mode icons will rotate in the order shown on the following figure.
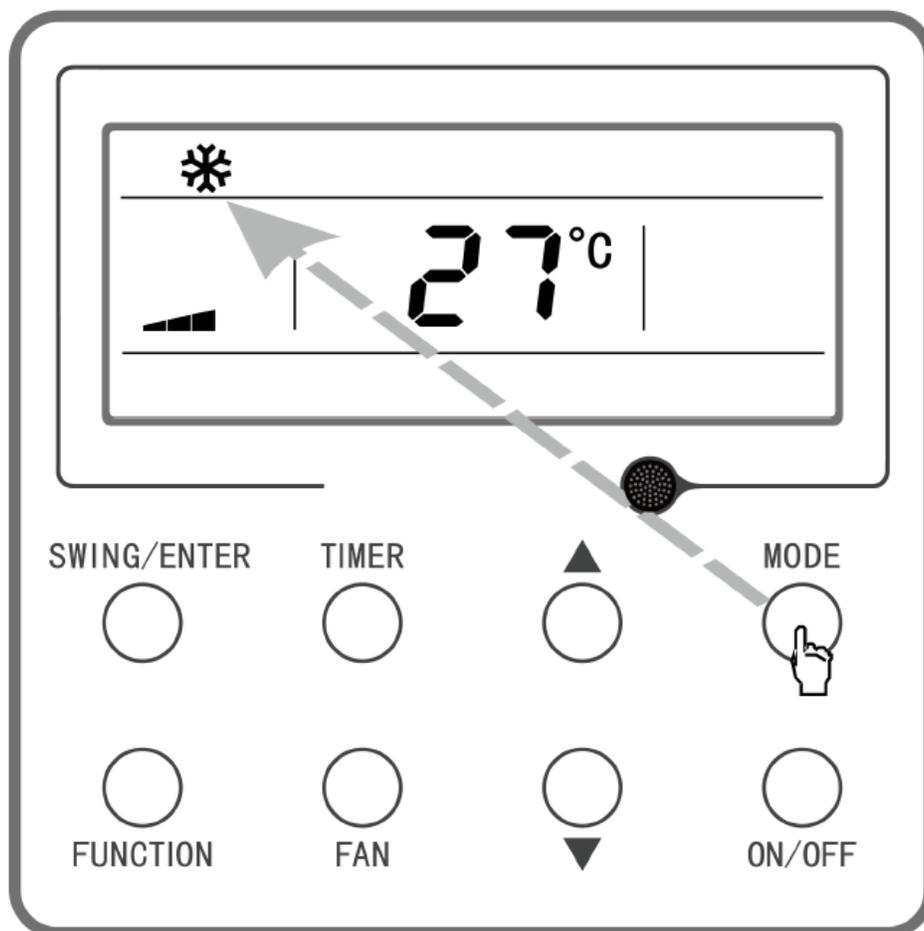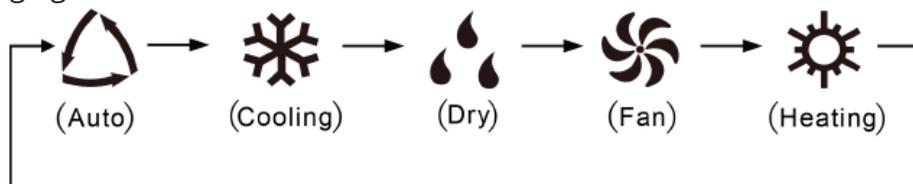
Figure 4-4 Mode Setting

NOTE:

Under auto mode, if the unit conducts auto cooling, "△" and "❄" are turned on;

if the unit conducts auto heating, "△" and "☀" are turned on.

4.4 Setting of Temperature

When the unit is set to "ON", press the up or down arrow buttons and the set temperature of the unit will increase or decrease by 34°F (1°C) with each press.

Press and hold the up or down arrow buttons and the set temperature of the unit will increase or decrease by 34°F (1°C) every .3 second.

The temperature setting range under the cooling, dry, fan, and heating modes is 61°F~86°F (16°C~30°C). There are two statuses under auto mode.

- Status 1: the temperature can be adjusted within the range of 61°F~86°F (16°C~30°C)
- Status 2: The temperature cannot be adjusted. The status is decided by the unit model.
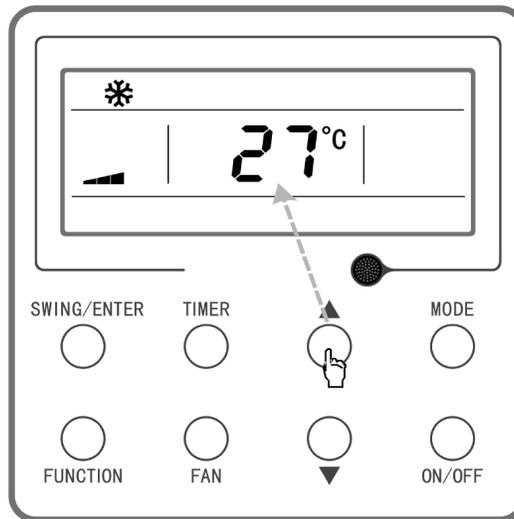
Figure 4-5 Setting of Temperature

4.5 Setting of Fan Speed

When the unit is set to "ON", press the "FAN" button and the fan speed icons will rotate circularly according to the order shown below:
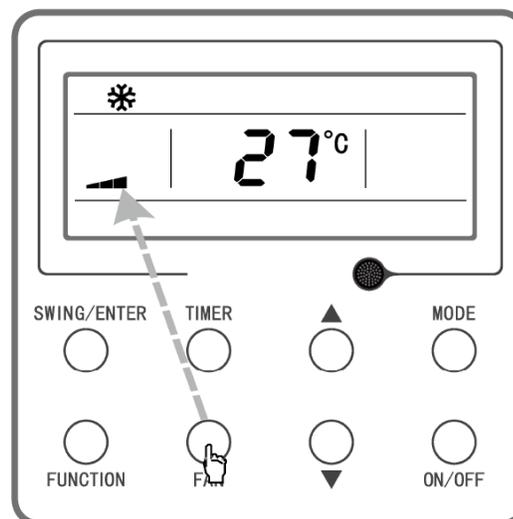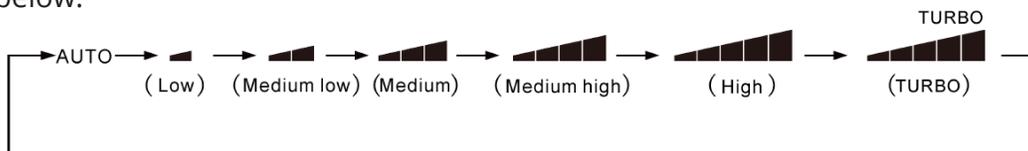
Figure 4-6 Setting of Fan Speed

NOTE:

1. Under dry mode, the fan speed will automatically be set at low speed, and the fan speed cannot be adjusted.

2. Under fan and auto mode, turbo speed cannot be used.

4.6 Setting Swing Function

There are two options for swing mode: simple swing and fixed swing. When the unit is set to "OFF", press the "SWING/ENTER" button and the up arrow button simultaneously for 5 seconds. The up and down swing icon will flash.

To use the up and down swing option under simple swing, press the "SWING/ENTER" button. This will activate the up and down swing. Press the button again to turn off up and down swing.

To use the left and right swing option under simple swing, press the "FUNCTION" button. This will activate the left and righ swing. Press the "SWING/ENTER" button to turn left and right swing on or off.

To use the up and down swing option under fixed swing mode, press the "SWING/ENTER" button. The unit will circularly switch the up and down swing mode as shown below:

Figure 4-7 Order for Up & Down Fixed Swing

To use the left and right swing option under fixed swing mode, press the "FUNCTION" button to select left and right swing, then press the up or down arrow button. The unit will circularly switch the left and right swing mode as shown below. Press the "SWING/ENTER" button to cancel this setting.

Figure 4-8 Order for Left & Right Fixed Swing

NOTE:

The fixed swing mode can only be successfully set when the unit model supports the function.

4.7 Setting of Timer Function

When in ON/OFF status, pressing the "TIMER" button will set the ON/OFF time of the unit.

Timer-On Setting: Under OFF status and when the timer function has not been set, press the "TIMER" button. The LCD screen will display "xx.x hour", and the "ON" and "hour" icons will flash simultaneously. Press the up or down arrow button to adjust the on time. Pressing the "TIMER button will complete the setting. Before pressing the "TIMER" button to complete the setting, press the "MODE" button. This will switch to the timer setting status. The screen will display "xx.x hour", and the "OFF" and "hour" icons will flash simultaneously. Press the up or down arrow button to adjust the off time, and press the "TIMER" button again to complete the setting. The timer areas will display "xx.x hour ON/OFF". "xx.x hour" is the time for turning on the unit in setting time, and the timer-off time is not displayed.

Timer-Off Setting: Under ON status when the timer function has not been set, press the "TIMER" button. The screen will display "xx.x hour" and the "OFF" and "hour" icons will flash simultaneously. Press the up or down arrow button to adjust the off time. Pressing the "TIMER" button, will complete the setting. Before pressing the "TIMER" button to finish the setting, pressing the "MODE" button will switch to timer setting status. The screen will display "xx.x hour" and the "ON" and "hour" icons will flash simultaneously. Press the up or down arrow button to adjust the on time, and press the "TIMER" button again to complete the setting. The timer area will display "xx.x hour ON/OFF". "xx.x hour" is the time for turning off the unit in setting time, and timer-on time is not displayed.

Canceling the Timer: After setting the timer function, press the "TIMER" button. The LCD screen will NOT display "xx.x hour" anymore, and the timer function is canceled.

Timer Duration: The timer can be set between 0.5 hour to 24 hours. Press the up or down arrow button once and the setting time will increase or decrease in 0.5 hour increments. Press and hold the up or down arrow button and the unit will automatically increase or decrease 0.5 hour every 0.3 seconds.

NOTE: Under ON status, the timer-on time is counted from the time when the unit is turned off. Under OFF status, the timer-off time is counted from the time when the unit is turned on.

4.8 Setting of Main Functions

Under ON status, press the "FUNCTION" button to to select:
- Sleep (can be set under cooling, dry, or heating modes)
- Air exchange
- Silent (can be set under auto, cooling, or heating modes)
- Health
- Absent (can be set under heating mode)
- I-Demand (can be set under cooling mode)
- Left and Right Swing
- Turbo Fan (can be set under cooling and heating modes)
- X-Fan (can be set under cooling and dry mode)
- Auxiliary Heating (can be set under heating mode)
- Washing Remind

The selected function icon will flash. Press "SWING/ENTER" to activate or cancel the function.

Before setting, if the function has not been activated, press "SWING/ENTER" to turn on the function. If the function is already activated, pressing "SWING/ENTER" can turn off the function.

When the function is activated, the corresponding icon will turn bright.

After setting one function, the screen will move to the next function.

Setting Air Exchange Function:

There are a total of 10 types of air exchange modes ranging from 1 to 10. The temperature area will display the current mode. Press the up or down arrow button to select the desired mode, then press the "SWING/ENTER" button to confirm.

Air Exchange Mode Details:
- Mode 1-The unit runs for 60 minutes, and the fresh air valve opens for 6 minutes.
- Mode 2-The unit runs for 60 minutes, and the fresh air valve opens for 12 minutes.
- Mode 3-The unit runs for 60 minutes, and the fresh air valve opens for 18 minutes.
- Mode 4-The unit runs for 60 minutes, and the fresh air valve opens for 24 minutes.
- Mode 5-The unit runs for 60 minutes, and the fresh air valve opens for 30 minutes.
- Mode 6-The unit runs for 60 minutes, and the fresh air valve opens for 36 minutes.
- Mode 7-The unit runs for 60 minutes, and the fresh air valve opens for 42 minutes.
- Mode 8-The unit runs for 60 minutes, and the fresh air valve opens for 48 minutes.
- Mode 9-The unit runs for 60 minutes, and the fresh air valve opens for 54 minutes.
- Mode 10-Both the unit and fresh air valve are turned on.

Setting the Auxiliary Heating Function:

When setting the auxiliary heating function, press the up or down arrow button to select one of the three auxiliary heating modes:

No.	Display	Display Function
1	E-HEATER	Auxiliary Heating Mode 1
2	E-HEATER	Auxiliary Heating Mode 2
3	E-HEATER OFF	Prohibited Auxiliary Heating

After selecting the desired mode, press "SWING/ENTER" to confirm the setting. Different icons will be displayed depending on different states of auxiliary heat as shown below.

No.	Display	Display Details
1	No display	Auxiliary heating is not running.
2	E-HEATER	
3		Auxiliary heating is running.
4	E-HEATER	
5	E-HEATER OFF	Prohibited Auxiliary Heating

Note: This function is only available for a unit with auxiliary heating. Auxiliary heating will operate according to the environment requirements and reliability. The difference between Auxiliary Heating Mode 1 and Auxiliary Heating Mode 2 is that auxiliary heating is not allowed to run when the outdoor ambient temperature during Auxiliary Heating Mode 2 is higher than 32°F (0°C). Other conditions for running the auxiliary heating mode are the same.

Setting the Washing Remind Function:

When setting the washing remind function, the timer area will display a 2-bit number that denotes the pollution level. Press the up or down arrow button to select, and press "SWING/ENTER" to confirm the setting. Refer to the following list to identify the conversion relation between the displayed pollution level and the accumulative operating time. After setting, when the washing time is reached, the "CLEAN" icon will flash. If you press the up or down arrow button to adjust the level followed by the "SWING/ENTER" button, the accumulative time will not reset. If the time after adjustment is larger than the current accumulative time, the "CLEAN" icon will stop flashing. If the time after adjustment is less than the current accumulative time, the "CLEAN" icon will continue to flash. The only method for cancelling the remind function is to press "FUNCTION" to switch to the "CLEAN" icon, set the timer area to "00", and press the "SWING/ENTER" button. After this is completed, the accumulative time of the filter washing reminder is reset.

Pollution Level	Accumulative Operating Time (hour)	Pollution Level	Accumulative Operating Time (hour)	Pollution Level	Accumulative Operating Time (hour)
10	5500	20	1400	30	100
11	6000	21	1800	31	200
12	6500	22	2200	32	300
13	7000	23	2600	33	400
14	7500	24	3000	34	500
15	8000	25	3400	35	600
16	8500	26	3800	36	700
17	9000	27	4200	37	800
18	9500	28	4600	38	900
19	10000	29	5000	39	1000

Setting the Absent Function:

When the absent function is set, the setting temperature will display 46°F (8°C), the setting fan notch displays "AUTO" and cannot be adjusted.

Setting the I-Demand Function:

When the I-Demand function is set, the setting fan notch displays "AUTO" and cannot be adjusted.

4.9 Setting of Other Functions

Setting of Energy-Saving Function:

Under OFF status, press "TIMER" and the up arrow button simultaneously for 5 seconds to enter the energy-saving setting. The "SAVE" icon and cooling icon are displayed, the "SAVE" icon flashes, and the temperature area displays the upper limit and lower limit temperature. Press the up or down arrow button to set the limit temperature. The setting range is 61°F~86°F (16°C~86°C).

Press "MODE" to switch between cooling and heating mode. For a cooling-only unit, the lower limit temperature can only be set during energy-saving mode. Press "SWING/ENTER" at any time to save the setting temperature and the energy-saving status of different modes, then start up the energy-saving function.

After the energy-saving function is activated, under OFF status, press "TIMER" and the up arrow button simultaneously for 5 seconds again, and the function will be canceled.

Setting of Low-Temperature Dry Function:

Under dry mode, when the setting temperature is 61°F (16°C), press the down arrow button twice. The setting temperature lowers to 54°F (12°C) and the unit enters into low-termpature dry function.

When the low-temperature dry function is turned on, immediately press the up arrow button or switch the mode to quit the function.

Setting of Child-Lock Function:

Without error, under ON or OFF status, press the up and down arrow buttons simultaneously for 5 seconds to enter the child-lock function. The LCD screen will display " ". Press the up and down arrow buttons simultaneously again for 5 seconds to quit the child-lock function.

Under child-lock status, no response will occur from pressing any button. The unit will remember to enter back into child-lock status after power failure.

Setting of Memory Function:

Under OFF status, press "MODE" and the up arrow button simultaneously for 5 seconds to turn on or turn off the memory function. When the memory function is properly set, "MEMORY" will be displayed on the screen.

If the memory function has not been set, if a power failure occurs, the unit will return to off status. If the memory function is set, the unit will resume its previous operating status after power failure.

Switching between Fahrenheit and Celcius:

Under OFF status, press "MODE" and the down arrow button simultaneously for 5 seconds. The display will switch between Fahrenheit and Celcius.

Inquiry of Ambient Temperature:

Under OFF or ON status, press and hold the "SWING/ENTER" button for five seconds to enter into the ambient temperature inquiry interface. The timer area will display the ambient temperature type 01 (outdoor ambient temperature) or 02 (indoor ambient temperature), and the ambient temperature area displays the corresponding ambient temperature of corresponding type.

Press any button other than "MODE", or when the unit receives remote control signal, and the controller will quit the inquiry status. If there is no activity for 20 seconds, the controller will quit automatically.

NOTE:

- When the outdoor temperature sensor detects the same temperature for 12 hours, it will shield the display of the outdoor temperature sensor.
- When the outdoor unit enters into low power consumption mode, the wired controller cannot check for a valid outdoor ambient temperature.

Setting of Auto Clean Function:

Under OFF status, press and hold the "TIMER" and "MODE" buttons simultaneously for 5 seconds to turn on or turn off the internal cleaning function.

When the internal cleaning function is turned on, the temperature display area will show "CL".

During the self-cleaning process of the evaporator, the unit will perform fast cooling or fast heating. It may emit some noise, which is the sound of flowing liquid, thermal expansion, or cold shrinkage. The air conditioner may blow cool or warm air, which is normal and to be expected.

During cleaning, ensure the room is well-ventilated to avoid any alteration to the environment's comfort level.

NOTE:

- The self-cleaning function can only work under normal ambient temperature. If the room is dusty, it is recommended to use the self-cleaning function once a month. If not, it is recommended to use the self-cleaning function once every three months.

- It isn't required to remain with the unit once the self-cleaning function is turned on. When self-cleaning is finished, the unit will automatically enter standby mode.

- This function is only applicable for some models.

5.1 Error Code Display

When an error occurs in the system, the temperature area of the LCD screen will display an error code. When multiple errors occur simultaneously, each error code will be cycled through circularly on the screen. If the controller is connected to multiple systems, when an error occurs in one system, the first section of the error code on the screen refers to the system number. If there is only one system, no system number will be displayed.

When an error occurs, turn off the unit and seek professional assistance.

The following figure shows the high-pressure protection under on status.
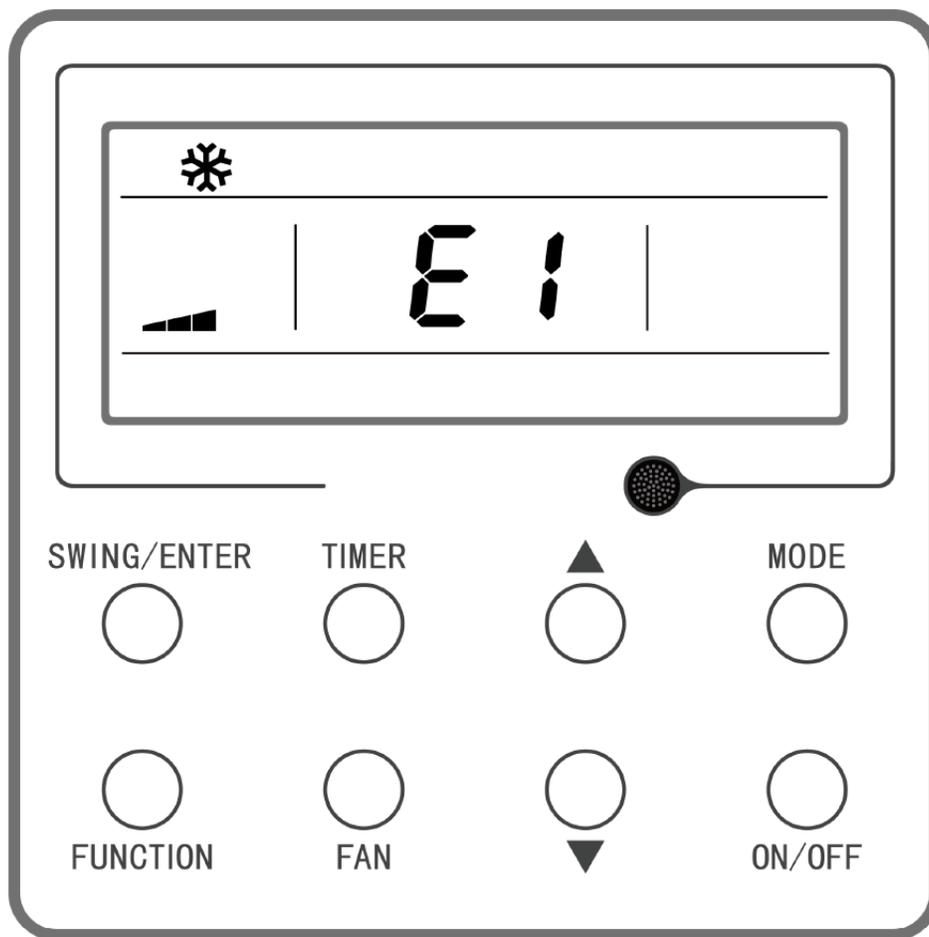
Figure 5-1

Error Code	Error Description
E1	Compressor High-Pressure Protection
E2	Indoor Anti-Freeze Protection
E3	Compressor Low-Pressure Protection, Low Refrigerant Protection, Refrigerant Collection Mode
E4	Compressor Air Discharge High-Temperature Protection
E6	Communication Error
E8	Indoor Fan Error
E9	Maximum Water Capacity Protection
F0	Indoor Ambient Temperature Sensor Error
F1	Evaporator Temperature Sensor Error
F2	Condenser Temperature Sensor Error/Condenser Middle Section Temperature Sensor Error
F3	Outdoor Ambient Temperature Sensor Error
F4	Discharge Temperature Sensor Error
F5	Wired Controller Temperature Sensor Error
C5	IDU Jumper Cap Error
EE	IDU or ODU Memory Chip Error
PF	Electrical Box Sensor Error
H3	Compressor Overload Protection
H4	Overload
H5	IPM Protection
H6	DC Fan Error
H7	Driver Out-Of-Step Protection
HC	PFC Protection
Lc	Startup Failure
Ld	Compressor Phase-Sequence Protection
LF	Power Protection
LP	IDU and ODU Unmatched or Controller Unmatched
U7	4-Way Valve Switch-Over Error
P0	Driver Reset Protection
P5	Over-Current Protection

Error Code	Error Description
P6	Master Control and Driver Communication Error
P7	Driver Module Sensor Error
P8	Driver Module High Temperature Protection
P9	Zero-Crossing Protection
PA	AC Current Protection
Pc	Driver Current Error
Pd	Sensor Connection Protection
PE	Temperature Drift Protection
PL	Bus Low-Voltage Protection
PH	Bus High-Voltage Protection
PU	Charging Loop Error
PP	Input Voltage Error
ee	Driver Memory Chip Error
C4	ODU Jumper Cap Error
dJ	Phase-Loss and Anti-Phase Protection
oE	ODU Error: For specific error, see the status of the ODU indicator.
EL	Emergency Stop
LE	Compressor Stall Protection
F6	Condenser Medium Pipe Temperature Sensor Error
EH	Auxiliary Heating Protection
Un	Communication Error between Grid-Connected Drive Board and Main Control Board
CJ	DIP Switch Code Error
Ud	Invalid Configuration Information of Inverter
GE	High or Low Photovoltaic Voltage Protection
G8	Overcurrent Protection at Power Grid Side
G7	Voltage Over/Under Frequency at Power Grid Side
G9	Drive IPM Module Protection at Power Grid Side
GL	Hardware Overcurrent Protection at Power Grid Side
GC	Photovoltaic DC Hardware Overcurrent Protection

Error Code	Error Description
GJ	Module High-Temperature Protection at Power Grid Side
GP	Temperature Sensor Protection at Power Grid Side
G6	Photovoltaic Low Voltage Ride Through
Gy	Drive Beyond Retrieve Error at Power Grid Side
G1	Photovoltaic Anti-Islanding Protection
G0	Photovoltaic Reversed Connection Protection
GU	Charged Circuit Protection at Power Grid Side
GA	Low/High Input Voltage Protection at Power Grid Side
G2	Photovoltaic DC Overcurrent Protection
Gb	Relay Protection at Power Grid Side
G3	Photovoltaic Power Generation Overload
Gd	Current Sensor Protection at Power Grid Side
GF	DC Bus Midpoint Potential Imbalance
Gn	Insulated Impedance Protection
G4	Photovoltaic Leakage Current Protection
G5	Phase-Lacking Protection at Power Grid Side
q0	Indoor Fan Bus Low-Voltage Protection
q1	Indoor Fan Bus High-Voltage Protection
q2	Indoor Fan AC Current Protection
q3	Indoor Fan IPM Protection
q4	Indoor Fan PFC Protection
q5	Indoor Fan Startup Failure
q6	Indoor Fan Phase-Sequence Protection
q7	Indoor Fan Driver Reset Protection
q8	Indoor Fan Over-Current Protection
q9	Indoor Fan Power Protection
qA	Indoor Fan Driver Current Error
qb	Indoor Fan Driver Out-of-Step Protection
qC	Master Control and Indoor Fan Driver Communication Error
qd	Indoor Fan Driver Module High Temperature Protection

Error Code	Error Description
qE	Indoor Fan Driver Module Sensor Error
qF	Indoor Fan Driver Memory Chip Error
qH	Indoor Fan Charging Loop Error
qL	Indoor Fan Input Voltage Error
qo	Indoor Fan Electrical Box Sensor Error
qP	Indoor Fan Zero-Crossing Protection
dc	Suction Temperature Sensor Error
CA	Evaporator Inlet Pipe Temperature Sensor Error
Cb	Evaporator Outlet Pipe Temperature Sensor Error
A5	Condenser Inlet Pipe Temperature Sensor Error
e1	High Pressure Sensor Error
e3	Low Pressor Sensor Error
AL	Outdoor Fan Bus Low-Voltage Protection
AH	Outdoor Fan Bus High-Voltage Protection
AA	Outdoor Fan AC Current Protection
A1	Outdoor Fan IPM Protection
AF	Outdoor Fan PFC Protection
Ac	Outdoor Fan Startup Failure
Ad	Outdoor Fan Phase-Sequence Protection
A0	Outdoor Fan Driver Reset Protection
UL	Outdoor Fan Over-Current Protection
UP	Outdoor Fan Power Protection
AE	Outdoor Fan Driver Current Error
AJ	Outdoor Fan Driver Out-of-Step Protection
A6	Master Control and Outdoor Fan Driver Communication Error
A8	Outdoor Fan Driver Module High Temperature Protection
A9	Outdoor Fan Driver Module Sensor Error
An	Outdoor Fan Driver Memory Chip Error
AU	Outdoor Fan Charging Loop Error
AP	Outdoor Fan Input Voltage Error
Ar	Outdoor Fan Electric Box Sensor Error
U9	Photovoltaic Low Voltage Ride Through

DC Inverter Package Unit Wired Controller

Installation & Owner's Manual

The design and specifications of this product and/or manual are subject to change without prior notice.
Consult with the sales agency or manufacturer for details.