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# Rooftop RV Air Conditioner (Heat Pump Type)

Installation and Operation Instructions

Applicable models: RTN2-100HP, RTN2-135HP, ACRG16



**Warning**

This manual must be carefully read and understood before installation, adjustment, repair or maintenance. The equipment must be installed by qualified technicians. Transformation of this product is an extremely dangerous operation, which may lead to personal injury or property loss. Important: please keep this manual with the product.

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## 1. Overview

### 1.1. Safety Instructions

This manual, provided by the manufacturer, is part of the air conditioner, which must be read by users carefully. The information provided in the instructions, if correctly observed, can ensure the correct use of the machine and help users eliminate or reduce the risk of accidents and injuries.


Safety Symbol





This is a safety warning sign. When you see this sign in this manual, the corresponding contents may cause personal injury, so you must follow the recommended preventive measures and safe operation instructions.

#### Sign:

Warning or caution signs are used simultaneously, which indicate the potential risk level.

 indicate a potentially dangerous situation that may lead to death or serious injury.

 indicate a potentially dangerous situation, which may lead to minor or moderate injury.

 indicate a potentially dangerous situation, which may cause property damage.

### 1.2. Installation Environment of Air Conditioner

- It can be installed during the production or after the completion of RV.
- The air conditioner can only be installed horizontally on the top of the RV.

- The minimum spacing between rafters and joists on the roof structure is 400mm.
- The minimum thickness of the roof of RV is 26mm and the maximum thickness is 100mm.
- When the roof thickness is greater than 100mm, additional air duct is required for connection.

### 1.3. Introduction of Air Conditioner

The design and installation of this machine is suitable for RV to improve its internal temperature and provide a comfortable environment. It can cool the RV when it's hot and warm up the RV when it's cold. Its temperature can be adjusted in the two environments.

### 1.4. User Guide

The performance of air conditioner is related to the heating condition of insulation box of RV itself. Users can take some preventive measures to reduce heat entry, so as to improve the refrigeration performance of air conditioning equipment. When outdoor temperature is high, the following methods can be adopted to reduce the heat entry of RV and improve work efficiency:

- Park the RV in a cool place.
- Strengthen thermal insulation of the compartment, remove or block the opening in the vehicle, and block the window with shade curtains (shutters or hanging curtains).
- Close doors and windows or avoid frequent opening and closing of them.
- Avoid using heating devices inside the vehicle.

Turn on the air conditioner in advance to achieve better effect.

When indoor or outdoor temperature is high, setting the air conditioner in cooling mode and turning on high wind speed will bring the performance of air conditioner into full play.

**Note:** during the use of this product, due to the great change of air temperature in the vehicle, when the temperature drops rapidly, part of condensate will adhere to the surface of objects near the air outlet, which is a normal phenomenon. After the air conditioner works normally for a certain period, it will be automatically dried and detached from the surface of objects. Therefore, when the air conditioner works, please close the doors and windows as much as possible to reduce the coagulation of water vapor on the surface of objects inside the vehicle.

The manufacturer will not be responsible for any damage arising from condensation on the ceiling or the surface of other objects caused by the condensate of this product.

## 1.5. Main Parameters

| Model      | Rated cooling capacity | Rated heating capacity | Power supply      | Compressor      |                      | Rated cooling power | Rated heating power | Air volume (high speed) | Refrigerant (R 410 A) | Cable standard                                       | Circuit protection      |
|------------|------------------------|------------------------|-------------------|-----------------|----------------------|---------------------|---------------------|-------------------------|-----------------------|--|-------------------------|
|            |                        |                        |                   | Running current | Locked-rotor current |                     |                     |                         |                       |  |                         |
| RTN2-100HP | 9000BTU                | 9500BTU                | 220-240 VAC/ 50Hz | 4.2A            | 22.5A                | 1000W               | 800W                | 490m <sup>3</sup> /h    | 620g                  | 12AWG Copper wire with the length of no more than 8m | 20A safety wire or fuse |
| RTN2-135HP | 12000BTU               | 12500BTU               |                   | 5.5A            | 28A                  | 1300W               | 1060W               | 480m <sup>3</sup> /h    | 740g                  |  |                         |

### Note:

- Please use the connecting wires complying with the national regulations.
- During model selection of the generator, the total power consumption of RV must be considered. Tip: the generator will lose power due to high altitude and lack of maintenance.
- Circuit protection: please use leakage circuit breaker all the time.

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## 2. Installation Instructions

### 2.1. Precautions

Please read the installation and operation instructions carefully before the installation and use of this product. The manufacturer will not be liable for any loss or injury caused by the noncompliance with this manual;

- The installation must comply with national electrical codes regulations or industry standards;
- Without manufacturer's authorization, this product shall not be equipped with any equipment or accessory;
- This product must be installed and maintained by qualified personnel.

### 2.2. Installation Position

#### 2.2.1. Preparation for Installation

This product is installed on the roof of RV. When determining your cooling requirements, the following points should be considered:

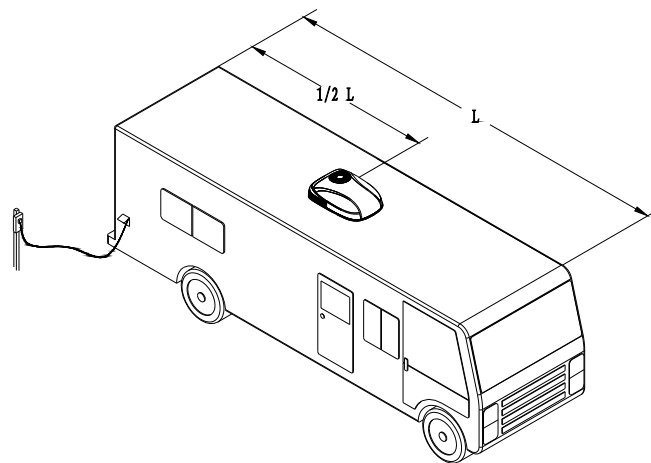
- Size of RV
- Window area of RV (the larger the area, the more heated)
- Thickness and thermal insulation performance of insulating materials in compartment plate and roof
- Geographical location where the RV is used by users

#### 2.2.2. Selection of Installation Position:

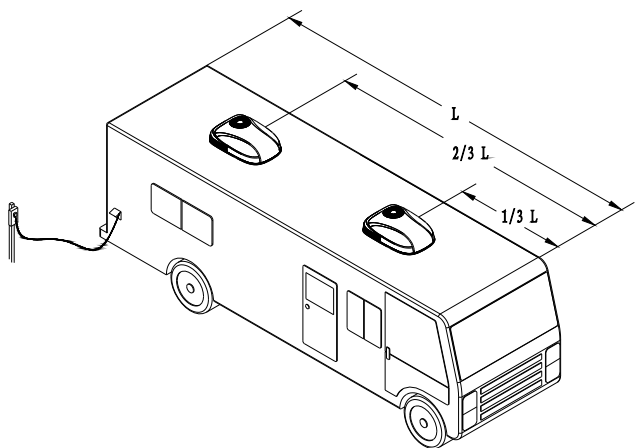
- This product should be installed on the existing roof vent. There is usually a 362x362mm  $\pm$  3mm opening on the roof after the vent is removed.
- When there is no vent on the roof or this product needs to

be installed in other positions, it is recommended to take the following measures:

1. For the installation of a single air conditioner, the air conditioner should be installed at a position slightly ahead of the center point (as viewed from the head of the vehicle) and at the center point of left and right ends, as shown in the following figure:

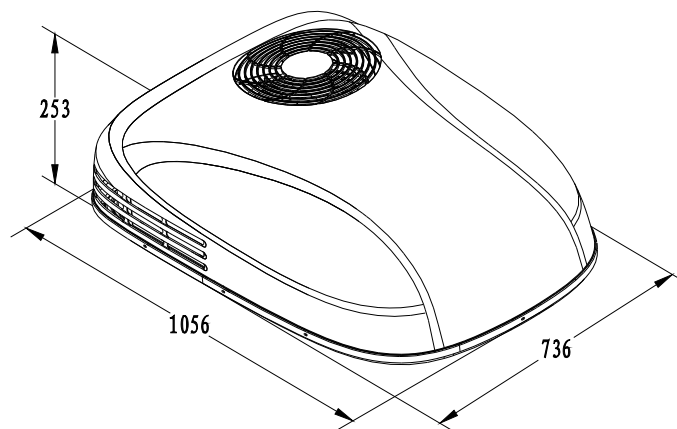


2. For the installation of two air conditioners, the air conditioners should be installed at 1/3 and 2/3 positions away from the front end of RV respectively, and at the center point of left and right ends, as shown in the following figure:

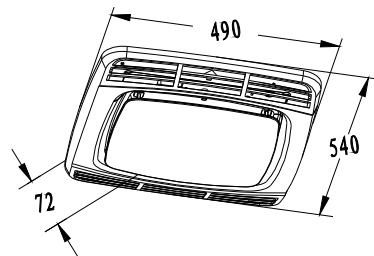


- The overall dimensions of each outdoor unit and panel are as follows:

Outdoor unit



Panel



- It's best to install this product horizontally (subject to the standard that the RV stops on a horizontal surface) with a maximum gradient of not exceeding 15°.
- After the installation position is determined, it is required to check whether there are obstacles in the installation area, and the distance between the back of vehicle body and other roof equipment should be at least 457 mm.
- When the RV is moving, the top must be able to support heavy objects weighing 60kg. Generally, the static load design of 100kg can meet this requirement.
- Check whether there are obstacles (i.e., door openings, partition frames, curtains, ceiling fixtures, etc.) that hinder the installation of inner panel of the air conditioner.

## 2.3. Preparation for Installation

### 2.3.1. Disassembly of Roof Vent

- Unscrew the screws and remove the vent;
- Remove all joint fillers at the opening;
- Seal all screw holes and joints at the roof washer, and use excellent all-weather sealant to ensure the sealing effect.

### 2.3.2. New Roof Opening (not the Installation of Vent)

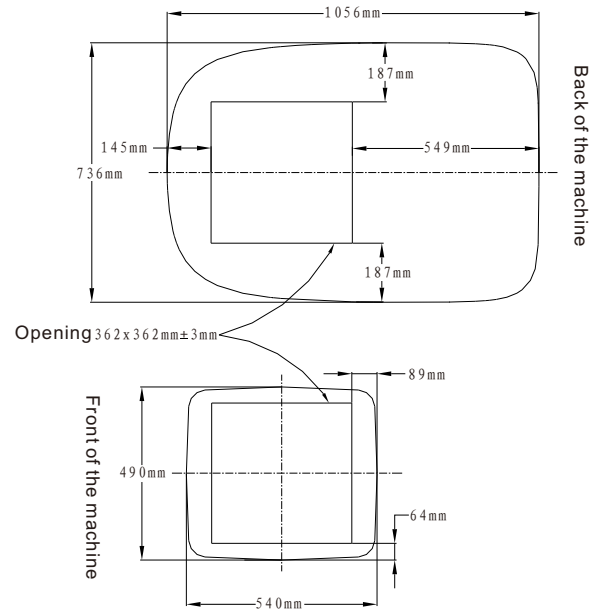
- Cut a  $362 \times 362 \text{mm} \pm 3 \text{mm}$  opening on the roof of RV, which must be located between the roof reinforcements and must pass through the roof and ceiling of the RV;



### Warning

There may be wiring between the roof and ceiling. The 220V AC power supply must be cut off before installation. Failure to follow this instruction may result in electric shock and further cause death and personal injury.

- Mark a  $362 \times 362 \text{mm} \pm 3 \text{mm}$  square on the roof and cut an opening carefully;
- Cut a matching hole on the ceiling based on the roof opening, as shown in the following figure. (There should be no obstacle within a minimum distance of 457mm at the back of vehicle body.)



### 2.3.3. Notes for Hole Opening

- If the opening exceeds  $365 \times 365 \text{mm}$ , gaskets must be installed.
- If the opening exceeds  $358 \times 358 \text{mm}$ , the opening must be enlarged.

### 2.3.4. Wiring Requirements

- The wiring method must comply with all national wiring regulations.
- Fuse or circuit breaker should be installed and it should be well grounded. Lead out a  $2.5 \text{m}^2$  copper cable from

the circuit breaker to the front position of the roof opening:

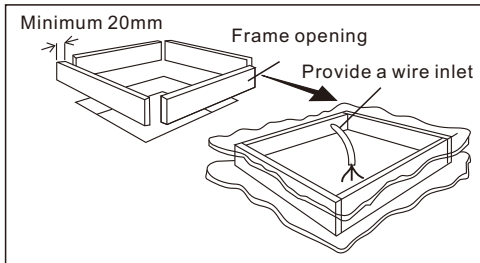
The power line must be located on a separate 20A delay-action circuit breaker;

- Ensure that the wire extends into the roof opening by at least 380mm, which can facilitate the installation of air conditioning equipment;
- After the ventilator is removed, if the size of wire left is appropriate and the fuse specification is also appropriate, it can be used;

The wire entering the opening should be protected to avoid damage.

### 2.3.5. Opening Treatment

- The opening must be adequately supported, and the roof interlayer should be filled with insulating materials. To prevent resonance caused by air in the upper interlayer, it is required to seal the periphery with battens with a thickness of 20mm or more, and provide a wire inlet for the power line, as shown in the following figure:



- The 362 x 362mm±3mm roof opening is an integral part of the return air duct and must be polished according to industry standards.

#### **Note**

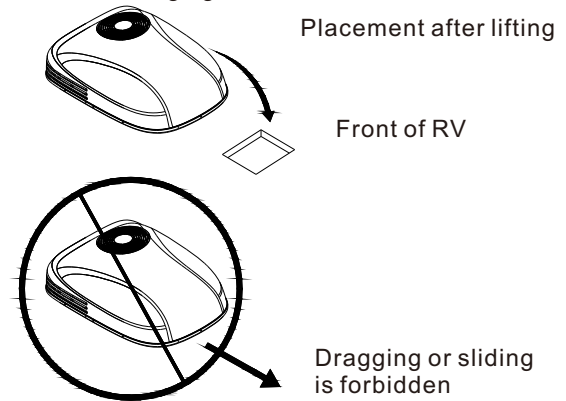
The installation personnel of air conditioning equipment shall be responsible for ensuring structural integrity of the roof of RV. Do not create a low-lying place where water will accumulate on the roof. Otherwise, stagnant water around may seep into the vehicle, causing damage to this product and RV.

### 2.3.6. Placement of Air Conditioner on the Roof

#### **Note**

The heaviest outdoor unit of this product weighs about 45Kg. To prevent damage to the air conditioning equipment, please lift this product to the roof with a crane.

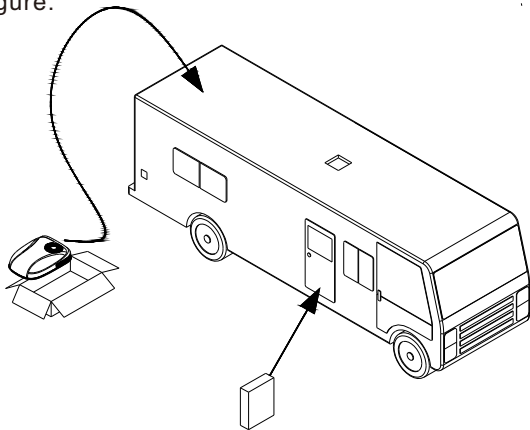
- Take out the outdoor unit of air conditioner in the carton;
- Place the outdoor unit of air conditioner on the roof;
- Lift the equipment (do not drag it) based on the box sponge of air conditioner, and place it above the prepared opening with the condenser coil facing the rear of RV, as shown in the following figure:



**Note**

It is forbidden to drag the air conditioner, which will damage the box sponge at the bottom and further result in water leakage caused by untight sealing of the sponge after installation.

- Install the panel assembly into the RV. The panel assembly contains fasteners for the installation of air conditioner, which will be used inside the RV, as shown in the following figure:

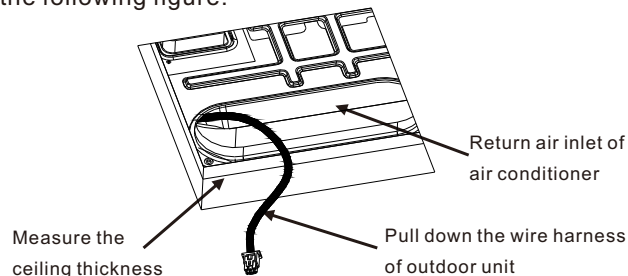


All cardboards should be recycled

- In case any deviation is found at the position of outdoor unit on the roof during panel installation, the outdoor unit of air conditioner can be finely adjusted internally through the mounting hole (the box sponge on the roof must be just aligned with the 362x362mm square hole).

### 2.3.7. Installation of Air Duct and Top Fixing Plate

- Take out the panel and accessories for installation in the carton;
- Reach into the return air inlet of air conditioner and pull down the wire harness of outdoor unit of the air conditioner (heat pump model also has four-way valve connecting wire and sensor lead, and electric heating model also has electric heating connecting wire) for the convenience of subsequent connection, as shown in the following figure:

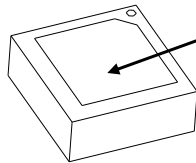


- Measure the thickness from ceiling to roof to select the appropriate air duct sponge:
  1. If the distance is 26-30mm, choose the air duct sponge with a thickness of 15mm;
  2. If the distance is 30-40mm, choose the air duct sponge with a thickness of 30mm;
  3. If the distance is 40-60mm, choose the air duct sponge with a thickness of 45mm;
  4. If the distance is greater than 60mm, the air duct sponges with a thicknesses of 15mm, 30mm and 45mm shall be used in a combined manner according



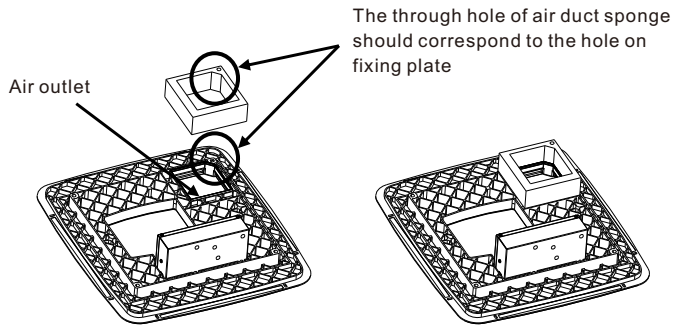
to the actual situation;

5. If the distance is greater than 100mm, an optional pipe joint should be used.



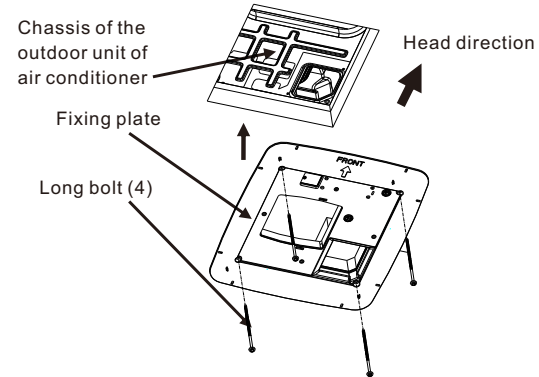
Chassis of the outdoor unit of air conditioner  
The sponge in the middle part should be removed during installation.

- Air duct sponge (including 3 thickness specifications, i.e., 15mm, 30mm and 45mm)  
**Note:** air duct sponge in the middle part is to keep the sponge from deformation, which should be removed during installation.
- Select the correct air duct sponge, remove the middle part, and paste it on the fixing plate along the air outlet (the through hole on the sponge should correspond to the hole on fixing plate), as shown in the following figure:



- Make the arrow on the fixing plate towards the head of the

RV, cover the fixing plate into the 362x362mm opening on the ceiling, and fix the fixing plate with the outdoor unit of air conditioner on the roof with 4 long bolts.



**Note:** before tightening the long bolts, screw each bolt by hand at first. The four rivet nuts on the chassis of the outdoor unit of air conditioner are located at four corners of the opening. Screw the 4 long bolts into the corresponding rivet nuts by hand, and then tighten them evenly one by one with a torque of 4.5N.m-5.5N.m, so that the thickness of box sponge on the roof will be compressed to about 13mm. The bolts are self-locking bolts, so there is no need to tighten them excessively.

**Note**

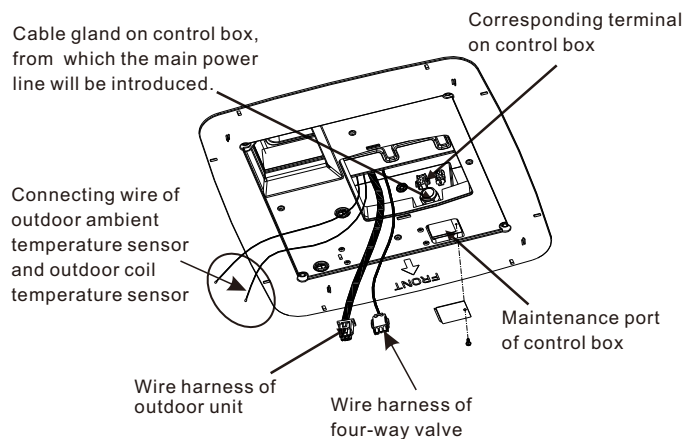
If the bolts are loose, the roof may not be sealed sufficiently. If the bolts are tightened excessively, the chassis of air conditioner or fixing plate may be damaged. Please tighten them according to the torque specification listed in this manual.

## 2.4. System Wiring

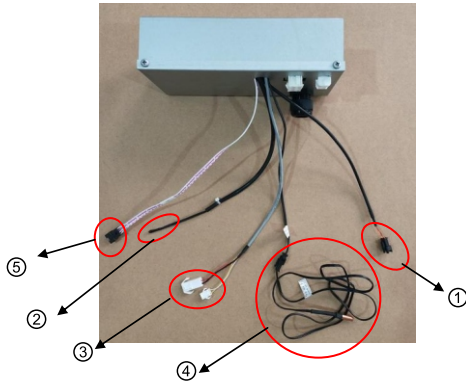
### Warning

1. Please disconnect the main power supply at first. Failure to comply with these instructions will result in electric shock hazard and further cause death or serious injury!
2. The air conditioning equipment is reserved for grounding to prevent electric shock hazard. Please ensure that the equipment has been connected to a 220V/50Hz circuit with reliable grounding. Failure to follow the above instructions will result in death, injury or equipment damage.

**Important:** electrical installation must be carried out by professionals, and wiring must be conducted in accordance with national electrical codes and industry standards.

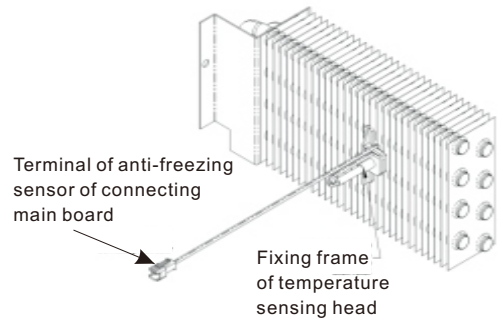
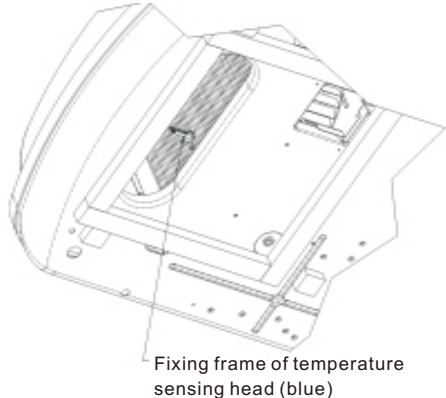


- First of all, remove the maintenance plate of the maintenance port of control box. Introduce the main power line into the control box (for about 150mm long) from the cable gland on the control box. The cable gland needs to be tightened to prevent the main power line from being pulled and causing the connection to become loose.
- Connect the white wire in the control box to the white wire or zero wire of the main power line, the black wire to the black wire or live wire of the main power line, and the yellow-green wire to the yellow-green wire or ground wire of the main power line. All wires are recommended to be connected by special wiring terminals, which must be connected well and firmly.
- Put the connected wires back into the maintenance port of control box, and fix the maintenance plate again. Insert the plug-in wire harness of outdoor unit pulled out from the return air outlet of air conditioner into the corresponding six-core terminal plug of the control box. (If it is a heat pump type or an electric heating type, the three-core plug pulled out from the return air outlet of air conditioner should be correspondingly inserted into the three-core terminal plug.) Make sure that all plug-in terminals are inserted in place.
- Connect other plug-in wires on the control box correspondingly, and each plug-in wire is as follows:



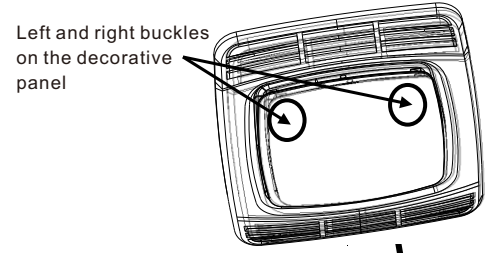
- 1. Connecting wire of display panel;
- 2. Room temperature sensor;
- 3. Outdoor ambient temperature sensor and outdoor coil temperature sensor;
- 4. Anti-freezing sensor;
- 5. LED strip connecting wire(optional)

Insert the anti-freezing temperature sensing head into the fixing frame of temperature sensing head on the evaporator, as shown in the following figure:



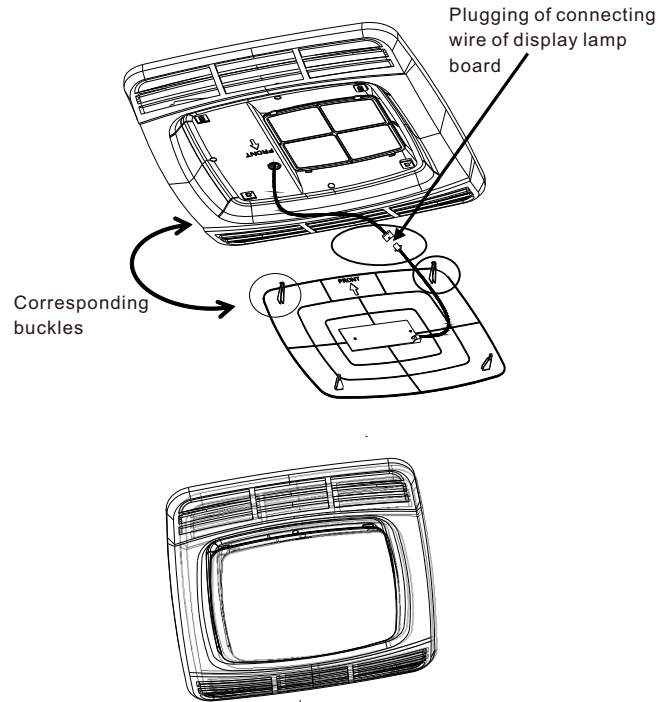
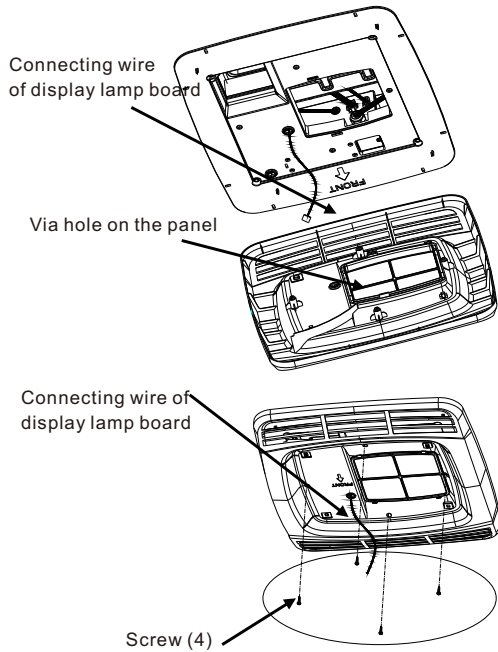
### 2.5. Panel Installation

Press the left and right buckles on the decorative panel at the same time to remove the decorative panel, as shown in the following figure:



↓  
Arrow direction on the panel (vehicle head direction)

Take out the panel, place it according to the direction indicated on the panel, pass the connecting wire of display panel on the control box through the via hole on the panel, install the panel on the fixing plate and fix it tightly with 4 screws, as shown in the following figure:

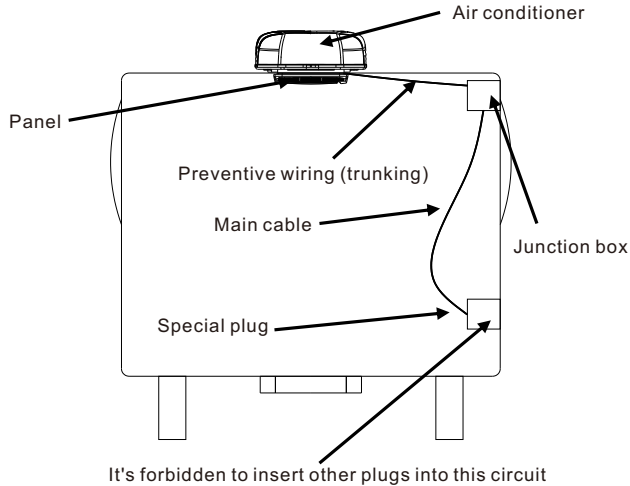


- Take out the decorative panel, make the arrow direction face the head of RV, plug the connecting wire of display lamp board with the connecting wire of display lamp board of the decorative panel in place, and then install the lamp board on the panel (when installing the decorative panel, first clamp the two buckles in arrow direction on the corresponding holes of the panel, and then clamp the rear two buckles on the panel lock), as shown in the following figure:

- After the air conditioning equipment is installed, turn on the power supply of the equipment to conduct running inspection. Before continuing the operation, read operation instructions of the equipment.

## 2.6. Installation to the Top of RV

- The permanent wiring of air conditioning control box can be introduced from the main incoming line of RV (routed by the side wall), as shown in the following figure:



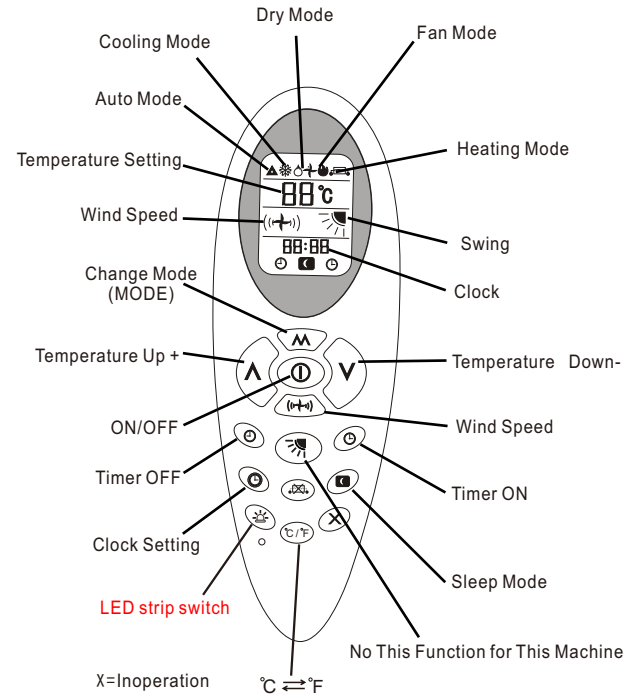
- Special socket for air conditioning equipment shall be arranged on the side wall of RV. The cable should be connected to socket and fuse.
- The main connecting cable must be resistant to oil, water and ozone corrosion.

## 3. Control Instructions

### 3. 1. Description of Remote Controller

After power-on, the compressor will be turned on in a few minutes.

Press the “MODE” button to switch various modes (Auto, Cooling, Dry, Fan and Heating). 2 seconds later, the system will confirm to enter the selected working mode, and internal buzzer sound can be heard. During the operation, the remote controller should aim at the signal receiving module.



## Auto Mode



|          |  |  |
|----------|--|--|
| <b>1</b> |  | Press the power button "⏻" to switch on the air conditioner, and the air conditioner will run in the running mode before the last shutdown based on memory.  |
| <b>2</b> |  | Press the running mode button "△" to switch the air conditioner to the "△" automatic mode, and the air conditioner will run in the auto mode.  |
| <b>3</b> |  | The temperature can be automatically set by judging the indoor ambient temperature, and the setting of the temperature setting button "△ V"  |
| <b>4</b> |  | Press the wind speed selection button "(H+L)" to adjust the wind speed "H" means low speed wind, "(H+M)" means medium speed wind and "(H+H)" means high speed wind. When automatic wind is selected, the wind speed will be automatically adjusted according to ambient temperature and setting temperature. |
| <b>5</b> |  | Press the power button "⏻" to switch off the air conditioner, and the air conditioner will stop working. Upon pressing the power button "⏻" next time, the air conditioner will run in this mode as memorized.   |

Note: in this mode, the machine will automatically set the compressor, heat pump and wind speed according to the indoor temperature as shown in Table A.

Note: in this mode, the machine will automatically adjust the wind speed according to the difference between the setting temperature and ambient temperature.

Table A

| Indoor temperature  | T≤20°C                      | 20°C<T<25°C             | T≥25°C  |
|---------------------|-----------------------------|-------------------------|---------|
| Running mode        | Heating<br>O<br>Ventilation | Dry<br>O<br>Ventilation | Cooling |
| Temperature setting | 20°C                        | 22°C                    | 25°C    |

## Cooling Mode



|          |  |  |
|----------|--|--|
| <b>1</b> |  | Press the power button "⏻" to switch on the air conditioner, and the air conditioner will run in the running mode before the last shutdown based on memory.  |
| <b>2</b> |  | Press the running mode button "△" to switch the air conditioner to the "❄️" cooling mode, and the air conditioner will run in the cooling mode.  |
| <b>3</b> |  | Press the temperature selection button "△ V" to set the required ambient temperature between 18°C and 30°C.  |
| <b>4</b> |  | Press the wind speed selection button "(H+L)" to adjust the wind speed "H" means low speed wind, "(H+M)" means medium speed wind and "(H+H)" means high speed wind. When automatic wind is selected, the wind speed will be automatically adjusted according to ambient temperature and setting temperature. |
| <b>5</b> |  | Press the power button "⏻" to switch off the air conditioner, and the air conditioner will stop working. Upon pressing the power button "⏻" next time, the air conditioner will run in this mode as memorized.   |

## 👤 Dry Mode



|   |  |  |
|---|--|--|
| 1 |  | Press the power button "ⓘ" to switch on the air conditioner, and the air conditioner will run in the running mode before the last shutdown based on memory.  |
| 2 |  | Press the running mode button "M" to switch the air conditioner to the "♦" dry mode, and the air conditioner will run in the dry mode.   |
| 3 |  | Press the temperature selection button "Λ V" to set the required ambient temperature between 18°C and 30°C.  |
| 4 |  | It is invalid to press the wind speed selection button "(r+)" and the wind speed is fixed at low speed "r+".   |
| 5 |  | Press the power button "ⓘ" to switch off the air conditioner, and the air conditioner will stop working. Upon pressing the power button "ⓘ" next time, the air conditioner will run in this mode as memorized. |

## 👤 Fan Mode



|   |  |  |
|---|--|--|
| 1 |  | Press the power button "ⓘ" to switch on the air conditioner, and the air conditioner will run in the running mode before the last shutdown based on memory.  |
| 2 |  | Press the running mode button "M" to switch the air conditioner to the "+" fan mode, and the air conditioner will run in the fan mode.   |
| 3 |  | Press the temperature selection button "Λ V" to set the required ambient temperature between 18°C and 30°C.  |
| 4 |  | Press the wind speed selection button "(r+)" to adjust the wind speed "r+" means low speed wind, "(r+)" means medium speed wind and "(r+)" means high speed wind. When automatic wind is selected, the wind speed will be automatically adjusted according to ambient temperature and setting temperature. |
| 5 |  | Press the power button "ⓘ" to switch off the air conditioner, and the air conditioner will stop working. Upon pressing the power button "ⓘ" next time, the air conditioner will run in this mode as memorized.   |

## ⊗ Heating Mode



|          |  |   |
|----------|--|---|
| <b>1</b> |  | Press the power button "Ⓜ" to switch on the air conditioner, and the air conditioner will run in the running mode before the last shutdown based on memory.   |
| <b>2</b> |  | Press the running mode button "Ⓜ" to switch the air conditioner to the "Ⓜ" heating mode, and the air conditioner will run in the heating mode.  |
| <b>3</b> |  | Press the temperature selection button "Λ V" to set the required ambient temperature between 18°C and 30°C.   |
| <b>4</b> |  | Press the wind speed selection button "(r+)" to adjust the wind speed. "r+" means low speed wind, "(r+)" means medium speed wind and "(r+)" means high speed wind. When automatic wind is selected, the wind speed will be automatically adjusted according to ambient temperature and setting temperature. |
| <b>5</b> |  | Press the power button "Ⓜ" to switch off the air conditioner, and the air conditioner will stop working. Upon pressing the power button "Ⓜ" next time, the air conditioner will run in this mode as memorized.  |

## ⊗ Timer OFF Mode



|          |  |  |
|----------|--|--|
| <b>1</b> |  | Press the power button "Ⓜ" to switch on the air conditioner, and the air conditioner will run in the running mode before the last shutdown based on memory.  |
| <b>2</b> |  | Press the running mode button "Ⓜ" to switch the air conditioner to the "Λ" required running mode, and press other mode button "V (r+)" to set the required temperature, wind speed, etc.   |
| <b>3</b> |  | Press the temperature selection button "Λ V" to set the required ambient temperature between 18°C and 30°C.  |
| <b>4</b> |  | Press the wind speed selection button "(r+)" to adjust the wind speed. "r+" means low speed wind, "(r+)" means medium speed wind and "(r+)" means high speed wind. When automatic wind is selected, the wind speed will be automatically adjusted according to ambient temperature and setting temperature.  |
| <b>5</b> |  | Press the timer off setting button "Ⓜ" to set the scheduled shutdown time, press "Λ" to set the hour, which increases by 1 hour for each press, and press "V" to set the minute, which increases by 10 minutes for each press. Upon the scheduled shutdown time is set, press "Ⓜ" for confirmation, and the system will automatically shut down at the scheduled shutdown time. In case of pressing the timer off setting button "Ⓜ" again before the system shuts down automatically, the scheduled shutdown will be cancelled. |



## Timer ON Mode



|          |   |   |
|----------|---|---|
| <b>1</b> | Ⓢ | It shall be conducted in the shutdown state.  |
| <b>2</b> | Ⓢ | In system shutdown state, set the required running mode, temperature and wind speed, press the timer on setting button "Ⓢ" to set the scheduled start-up time, press "▲" to set the hour, which increases by 1 hour for each press, and press "▼" to set the minute, which increases by 10 minutes for each press. Upon the scheduled start-up time is set, press "Ⓢ" for confirmation, and the system will automatically start up at the scheduled start-up time. In case of pressing the timer on setting button "Ⓢ" again before the system starts up automatically, the scheduled start-up will be cancelled. |

Note: when you press the button "Ⓢ" for the first time, this icon will flash on the display screen, which indicates that you are using the timer program. Press the button "Ⓢ" for the second time, you can save the data, and the icon freezes, which indicates that the timer has started. Press the button "Ⓢ" for the third time to turn off this timer off function.

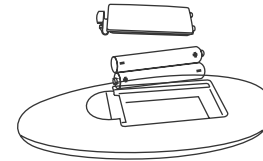
Note: when you press the button "Ⓢ" for the first time, this icon will flash on the display screen, which indicates that you are using the timer on program. Press the button "Ⓢ" for the second time, you can save the data, and the icon freezes, which indicates that the timer has started. Press the button "Ⓢ" for the third time to turn off this timer on function. The air conditioner will enter the auto mode after being started up according to the set time.

LED strip control: in the cooling/heating mode, the operation of LED strip can be controlled by sleep button. The LED strip will continuously cycle according to "off-on-white-blue-yellow-off".

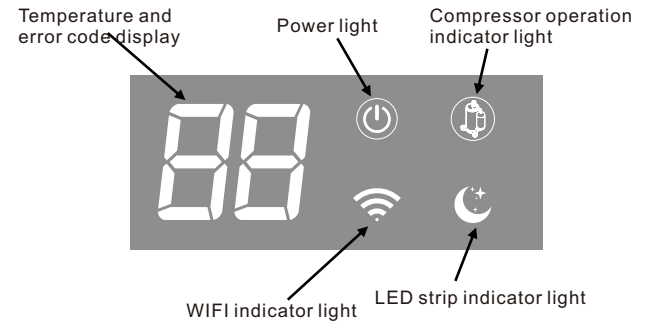
**Note: in the dry mode, LED strip cannot be controlled.**

### 3.2. Installation and Replacement of the Battery of Remote Controller

- (1) Open the battery cover: hold the handle of the battery cover, gently pull it up, and remove the battery cover;
- (2) Put in the battery (AAA): pay attention to the polarity of battery, which should be consistent with the identifications in the battery box;
- (3) Install the battery cover;
- (4) Inspection: if there is no display on the display screen of remote controller after pressing the button "Ⓢ", please reinstall the battery.



### 3.3. Display of the Display Board of Decorative Panel and Function Description:



Temperature and error code display: used to set the display of temperature, room temperature and error code;

Power light: when the machine is started up, the power light will be on. When it's shut down, the power light will go out;

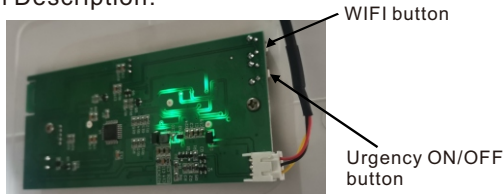
Compressor operation indicator light: it will be on when the compressor is turned on, and go out when the compressor is turned off;

WIFI indicator light: used to indicate WIFI connection.

When the WIFI indicator light flashes, it can be connected with mobile APP. When the APP is successfully connected, the WIFI light will be on continuously;

LED strip indicator light: used to display the running status of LED strip. When LED strip is running, the indicator light will be on, and when LED strip is turned off, the indicator light will go out.

### 3.4. Display of the Display Board of Decorative Panel and Function Description:



WIFI button: turn on the WIFI connection button;

Urgency ON/OFF button: used to start up/shut down the machine urgently when the remote controller is lost.

### 3.5. WIFI Connection and Instructions for Use:

#### 3.5.1. Downloading of Graffiti Smart APP



3.5.2 Register the APP account and log in, add equipment and set WIFI network according to the prompts;

3.5.3 WIFI connection of air conditioning equipment; Press the WIFI ON/OFF button, and press this button briefly to select EZ and AP connection modes.

Note: before connecting the air conditioning equipment with APP, it must be ensured that the mobile phone is connected with WIFI, otherwise, the air conditioner cannot be connected with APP.

#### • EZ Connection

- (1) Turn on the mobile APP, select the equipment, and set the connection conditions properly;
- (2) After the mobile APP is set properly, briefly press the WIFI ON/OFF button of the display board on the decorative panel. (SW1) can turn on/off the WIFI function. At this time, the WIFI indicator light on the display board will flash at the frequency of 2Hz/s.
- (3) Connect with the mobile APP during the flashing of WIFI indicator light. If it's connected successfully, the WIFI indicator light will remain on, otherwise, it will not flash continuously. After it's connected successfully, the air conditioner can be controlled through mobile APP.

#### • APP

- (1) Turn on the mobile APP, select the equipment, and set the connection conditions properly;
- (2) After the mobile APP is set properly, briefly press the WIFI ON/OFF button of the display board on the decorative panel. (SW1) can turn on/off the WIFI function. At this time, the WIFI indicator light on the display board will flash at the frequency of 2Hz/s.
- (3) Connect with the mobile APP during the flashing of WIFI indicator light. If it's connected successfully, the WIFI indicator light will remain on, otherwise, it will not flash continuously. After it's connected successfully, the air conditioner can be controlled through mobile APP.

#### 4. Maintenance of Air Conditioner

**4.1 Cleaning of Filter Screen:** Position of left and right buckles of the decorative panel Regularly remove the filter screen behind the decorative panel inside the panel (press the left and right buckles of the decorative panel, and the decorative panel can be removed), flush it backwards with clear water, dry it and reinstall it.

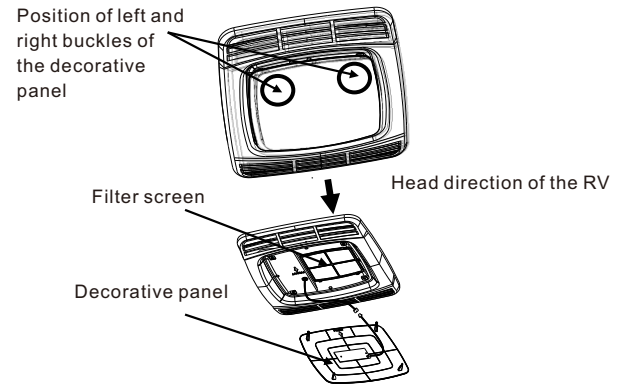
**Note:** it is forbidden to operate the air conditioner without the filter screen, otherwise, the evaporator coil will be defiled and the service life of air conditioner will be affected.

#### 4.2 Panel Surface Cleaning:

Clean the outer surface of the panel with soft cloth dipped in neutral detergent. Do not use polishing or cleaning powder.

#### 4.3 Fan Motor:

The fan motor has been lubricated before leaving the factory and does not need special maintenance.



#### 5. Troubleshooting

- If the air conditioning equipment cannot work normally, please carry out inspection as follows to remove the faults:
- Check whether the fuse of air conditioning equipment or leakage circuit breaker of the RV is turned on; If the air conditioner is powered by a generator, please first confirm whether the generator power matches the air conditioner, whether the generator runs normally and generates electricity, and whether voltage output of the generator is stable.
- If the RV is connected to the mains supply, please make sure that the specification of power line matches the operating load of this product and that there is power supply. Check whether the mains voltage meets related requirements (the operating voltage of air conditioner is 220V);
- Check whether the connecting wires of air conditioner are inserted in place and connected in good condition.

•If the air conditioner still cannot work normally after the above inspection, please contact the factory for further help.

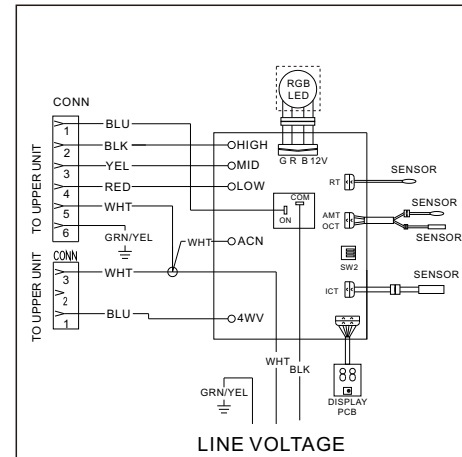
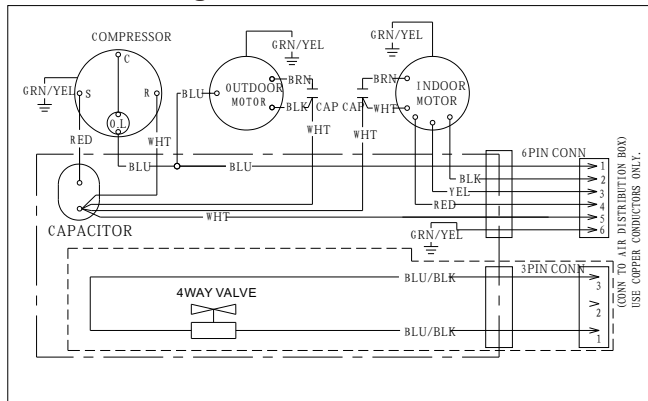
Note: the equipment must be repaired by qualified personnel.

## 6. Error Code of Display Board

| Code | Cause                                       | Solution  |
|------|---|---|
| E1   | Fault of indoor temperature sensor          | Check the sensor butt joint and replace the temperature sensing head. |
| E2   | Fault of indoor coil temperature sensor     | Check the sensor butt joint and replace the temperature sensing head. |
| E3   | Fault of outdoor coil temperature sensor    | Check the sensor butt joint and replace the temperature sensing head. |
| E4   | Fault of outdoor ambient temperature sensor | Check the sensor butt joint and replace the temperature sensing head. |

Note: when the display board displays “df”, it does not indicate a fault, but the machine is defrosting.

## 7. Circuit Diagram of Outdoor Unit and Panel



## 8. Installation Exploded Drawing

