Cassette Type Solar Air Conditioner

Owner's Manual

- Installation work should be done by professionals .
- For your convenience , please read this manual carefully and follow the steps in the manual .
- Please keep the manual properly for easy reference .

CONTENTS

EQUIPMENT DESCRIPTION

■ Equipment description

The equipment consists of an indoor unit , an outdoor unit air conditioning and panel system . The system produces heating or cooling as required .

The system can be powered in several ways .

- By DC solar alone . It wil start up and run on just the solar
- By DC solar and a smal amount of AC 208-240 Volt power .
- By AC 208-240 volt only . This would be applicable at night .

Instalation is the same as a standard split system air conditioner with the addition of Solar PV modules to supply the DC input .

PRECAUTIONS

- Read the following " PRECAUTIONS" carefully before installation.
- The caution items stated here must be followed because these important contents are related to safety. The meaning of each indication used is as below.
  Incorrect installation due to ignoring of the instruction will cause harm or damage, and the seriousness is classified by the following indications.

⚠ **WARNING**	This indication shows the possibility of causing death or serious injury.
⚠ **CAUTION**	This indication shows the possibility of causing injury or damage to properties only.

NOTE :

1. Injury means causing harmed, burned, electrical shocked, but not serious for hospitalization.
2. Damage of property means disrepair of property, material.

- Carry out test running to confirm that no abnormality occurs after the installation. Then, explain to user the operation, care and maintenance as stated in instructions. Please remind the customer to keep the operating instructions for future reference.

WARNING

- Engage dealer or specialist for installation. If installation done by user is defective, it will cause water leakage, electrical shock or fire.
- Install according to this installation instructions strictly. If installation is defective, it will cause water leakage, electrical shock or fire.
- Use the attached accessories parts and specified parts for installation. Otherwise, it will cause the set to fall, water leakage, fire or electrical shock.
- Install at a strong and firm location which is able to withstand the set's weight. If the strength is not enough or installation is not properly done, the set will drop and cause injury.
- For electrical work, follow the local national wiring standard, regulation and this installation instructions. An independent circuit and single outlet must be used. If electrical circuit capacity is not enough or defect found in electrical work, it will cause electrical shock or fire.
- When carrying out piping connection, take care not to let air or other substances other than the specified refrigerant go into refrigeration cycle. Otherwise, it will cause lower capacity, abnormal high pressure in the refrigeration cycle, explosion and injury.
- Grounding is necessary. It may cause electrical shock if grounding is not perfect.
- Do not install the unit at place where leakage of flammable gas may occur. In case gas leaks and accumulates at surrounding of the unit, it may cause fire.
- It suits for 36000~48000Btu/h cooling and heating capacity type.When the outdoor temperature is lower than 6 ℃,the system should be electrified over 12 hours.

WARNING for using R32/R290 Refrigerant

- When flamnable refrigerant are employed , appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specifiec for operation .
  For R32 frigerant models :
  Appliance shall be installed , operated and stored in a room with a floor area larger than 4m².
  Appliance shall not be installed in an unvertilated space , if that space is smaller than 4m².
- Reusable mechanical connectors and flared joints are not allowed indoors .
  (EN Standard Requirements)
- Mechanical connectors used indoors shall have a rate of not more than 3g/year at 25% of the maximumn allowable pressure . When mechanical connectors are reused indoors, sealing parts shall be renewed . When flared joints are reused indoors , the flare part shall be re - fabricated.(ULStandard Requirements)
- When mechanical connectors are reused indoors , sealing parts shall be renewed . When flared joints are reused indoors , the flare part shall be re-fabricated .
  (IEC Standard Requirements)
- Mechanical connectors used indoors shall comply with ISO 14903.

Operating condition

The protective device maybe trip and stop the unit within temp range listed below:

HEATING	Outdoor air temperature is over 24℃
	Outdoor air temperature is below -7℃
	Room temperature is over 27℃
COOLING	Outdoor air temperature is over 48℃
	Room temperature is below 16℃
DRY	Room temperature is below 10℃

If the air conditioner runs for a long time in "COOLING" or "DRY" mode at air relative humidity higher than 80% (doors or windows opened),dew may generate and drip near air outlet.

Noise pollution

- Install the air conditioner in a place that can bear its weight in order to operate more quietly.
- Install the outdoor unit in a place where the air discharged and the operation noise do not annoy your neighbors.
- Do not place any obstacles in front of the outlet of the outdoor unit for fear it affects operation and increases the noise level.

Features of Protector

1. The protective device will trip at following cases.
   - Stop the appliance and restart it at once or change other modes during operation, you have to wait 3 minutes before restarting.
   - After switching on the power circuit breaker and then turn on the air conditioner at once, you have to wait about 20 seconds.
2. In case all operations have stopped, you need
   - Press "ON/OFF" button again to restart it.
   - Set TIMER once again if it has been canceled.

Inspection

After a long time of operation, the air conditioner should be inspected for the following items.

- Abnormal heating of the power supply cord and plug or even a burnt smell.
- Abnormal operating noise or vibration.
- Water leakage from indoor unit.
- Metal cabinet electrified .

Stop using the air conditioner if above problem happened.

It is advisable that the air conditioner should be given a detail check-up after using for five years even if none of the above happen.

Feature of HEATING mode

Preheat

2-5 minutes are necessary to preheat the indoor heat exchanger at the beginning of "HEATING" operation, lest cold air be discharged.

Defrost

In "HEATING" operation the appliance will defrost automatically. This procedure lasts 2~10 minutes, then returns to "HEATING" mode automatically. During defrosting, indoor fan stop running and return to heating mode operation automatically when defrosting has finished.

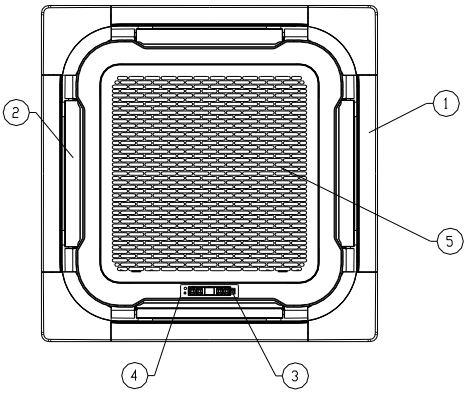
FUNCTION AND OPERATION OF PANEL'S PARTS

NOTICE

Please adjust room temperature properly especially when the old men, children, patients stay at house.

Lightning and other electromagnetic radiation may cause ill effect .If it is ,please plug off the power switch ,and replug in ,then restart the unit.
Do not block the inlet of indoor unit or outlet of oudoor unit, any of blocks will reduce cooling or heating efficiency.

CONSTITUTION OF PANEL



1.PANEL

2.AIR FLOW LOUVER

3.INFRARED SIGNAL RECEIVER

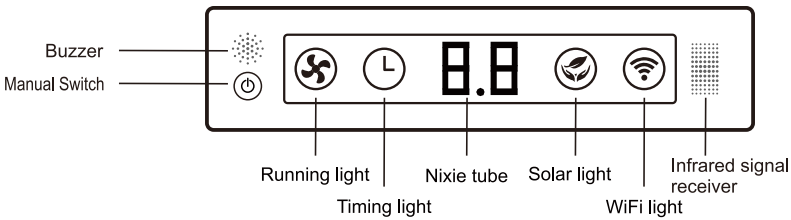
4.DISPLAY PANEL

5.AIR-IN GRILLE

DISPLAY PANEL

Infrared signal receiver: receive the signal from the remote controller.
To make your remote controller operation more efficient, please letremote controller emittor aim at infrared signal receiver.
Buzzer: firstly power supplied or any of remote controller operations will make the buzzer sound once.
Some obstacles occuring in the system will be recognized by intelligent recognition system of unit ,lighting on the DISPLAY PANEL flashing show the type of obstacles .

DISPLAY PANEL



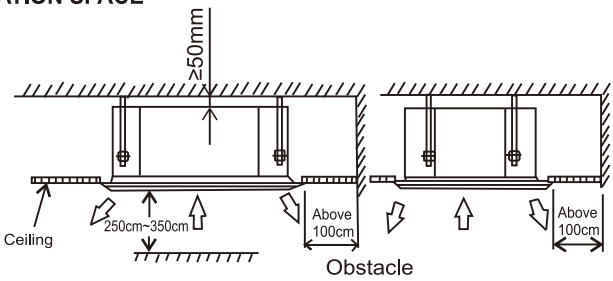
INDOOR UNIT INSTALLATION

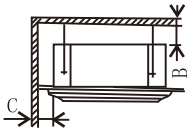
INSTALLATION LOCATIONS

⚠ CAUTIONS

1.Location in the following places may cause malfunction of the machine. (If unavoidable, please consult your local dealer)
a. A place where there is flammable gas leakage.
b. There is salty air surrounding(near the coast).
c. There is caustic gas(the sulfide, for example) existing in the air (near a hot spring).
d. A place where can not bear the weight of the machine.
e. In kitchen where it is full of oil gas
f. There is strong electromagnetic wave existing.
g. There is acid or alkaline liquid evaporating.
h. A place where air circulation is not enough.
I.The appliance shall not be installed in the laundry
2. Electrical Insulation must be done on the air conditioner and the building complying to National Regulations.

INSTALLATION SPACE





Wall material	Flammable material	Fire-proof material or other nonflammable materials other than metal	Fire-proof structure
Up(B)	Above 5cm	Above 5cm	Above 5cm
Sides(C)	Above 100cm	Above 100cm	————

HEIGHT BETWEEN CEILING AND FLOOR

The installation height between ceiling and floor must be 2.7m~3.2m.

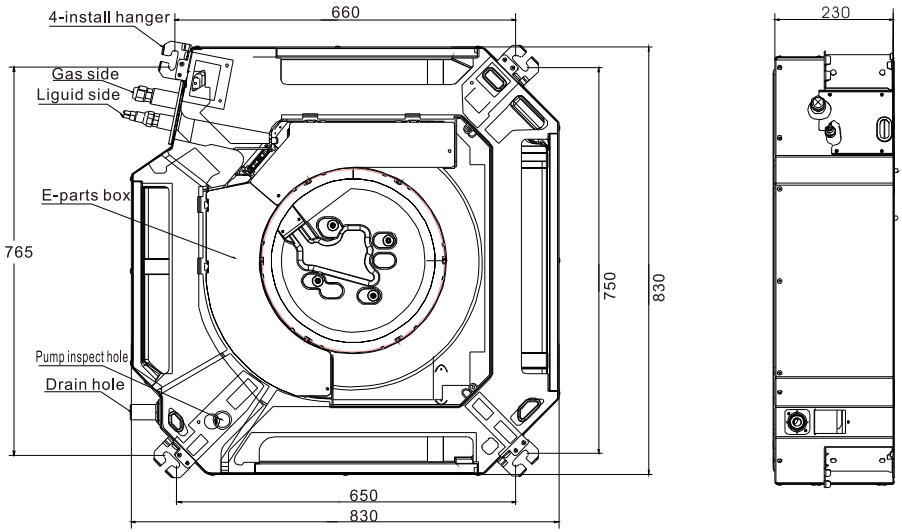
■ INDOOR UNIT INSTALLATION

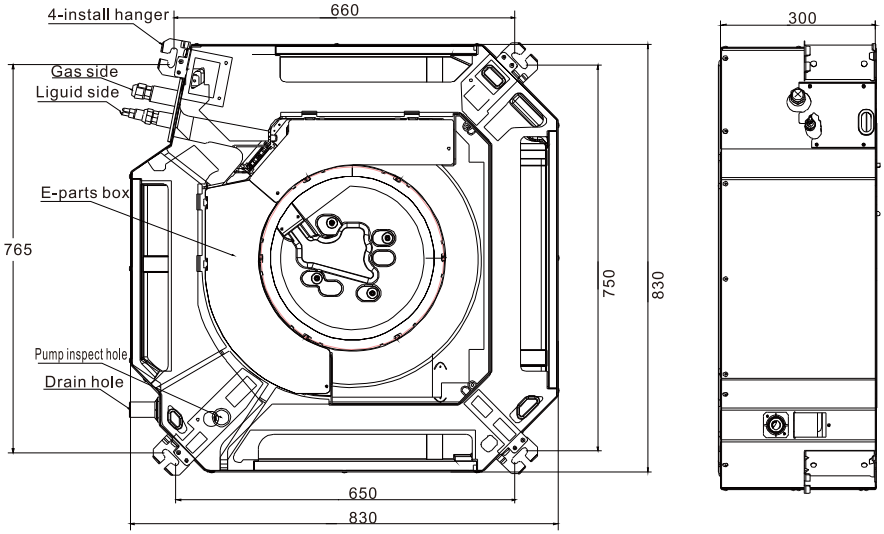
(Please select the space to install indoor unit according to the dimension show above,then install correctly,and have enough space for maintenance.)

Select installation location considering piping and wiring connection after the Indoor Unit has been hanged. Then decide the piping wiring leading direction.

- Be sure to lead the refrigerant pipes, drain pipes and connection wires out to its connection location before hanging the unit if the opening on the ceiling has been decided.
- Confirm sizes of the indoor unit and ceiling opening with the attached installation paper pattern. (Please fix the paper pattern below the body with M5X16 screws (4).

18/24k





CEILING HOLE AND THE HOOK INSTALLATION

Preparation Work on the Ceiling

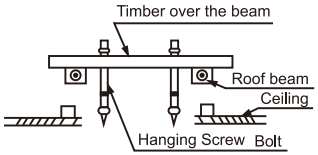
- Installation method should be changed under the different construction structure. Please consult the professional for the detailed information.
- After opening a hole, the ceiling should be horizontal and strong to prevent vibration.
  ① Cut the beams at the hole and remove them.
  ② Reinforcing the beams that have been cut and the beams fixing the ceiling .

Installation of the hanging screw bolt

Bolt with M10 whorl is to be used. The center distance between the bolts is decided by the size of the unit . Use the following method to install:

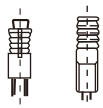
Wooden construction

Put the square timber over the roof beam, then install the hanging screw bolts.



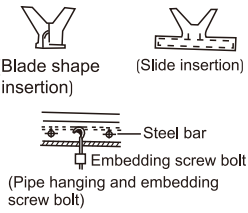
For finished concrete bricks

Install the hanging hook with expansible bolt into the concrete deep to 45~50mm to prevent loose.



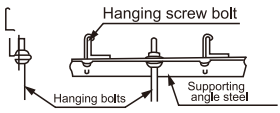
New Concrete Bricks

Inlaying or embedding the screw bolts.



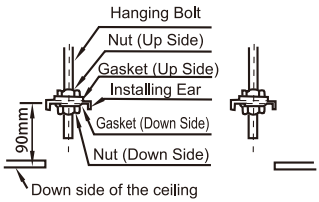
Steel roof beam structure

Install the supporting angle steel.

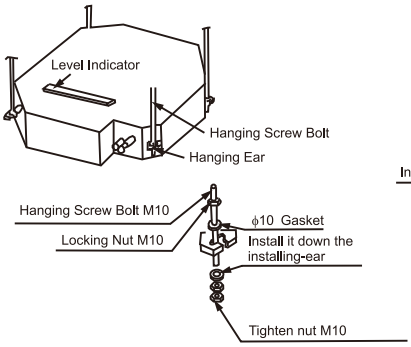


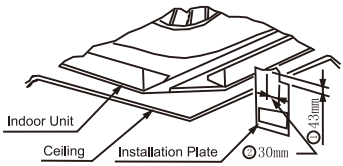
Overhanging the indoor unit

Adjust the gasket (down side) to 90mm over the ceiling.



- Install the hanging bolt into T groove of the hanging tool. Overhang the indoor unit and ensure it is level using a level indicator.





PANEL INSTALLATION

- Panel installation should be done after piping and wiring.
- Be sure that the indoor unit and ceiling hole installation size is right before installation.

CAUTION

Be sure to seal the connection parts between the panel - the ceiling and the panel - the indoor unit ,or even small gaps may cause wind/water leakage or condensing water.

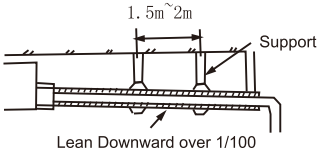
DRAINAGE PIPE INSTALLATION

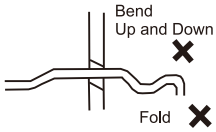
CAUTION

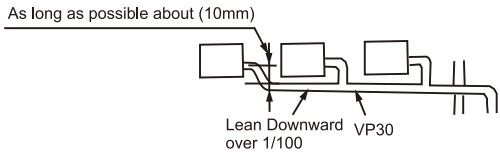
Be sure to follow Installation Manual during drainage installation,
the drainage pipe must have the heat insulation to prevent condensing.

⚠ CAUTION

- The drain pipe of indoor unit must have the heat insulation , or it will condense dew, as well as the connections of the indoor unit.
- The declivity of the drain pipe downwards should be over 2/100, and no winding and bending.
- The total length of the drain pipe when pulled out traversely shall not exceed 20m , when the pipe is over long, a prop stand must be installed every 1.5 to 2m to prevent winding.
- Refer to the following figures about the installation of the pipes.
- Do not impose any pressure on the connection part of the drainage pipe.







Drainage Pipe Material, Heat-insulating Material

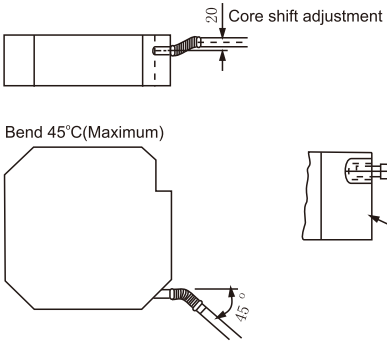
The listed material should be used:

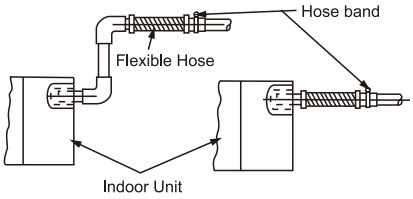
Drainage Pipe Material	Polyvinyl chloride pipe (ϕ32mm outer diameter)
Heat Insulation Material	Foamed polyethylene insulation plate (10mm thickness)

Flexible Hose

Measure diameter of the hard pipe using cutting method, and adjust the joining angle.

- Pull out the flexible hose, do not over deform than illustrated below.
- Be sure to bind it with the attached band.
- Please place the flexible hose horizontally.





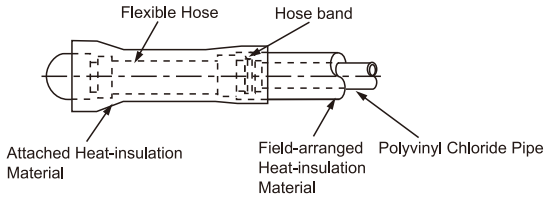
Connection Procedure

Connect the transparent pipe with the polyvinyl chloride pipe.

- Use polyvinyl chloride glue at the connection part of the drainage pipe, be sure no water leakage.
- Paste glue at the front 40mm of the polyvinyl chloride pipe, insert it into the transparent pipe.
- It needs 10 minutes for the glue to dry. Do not impose pressure on the connection during the drying period.

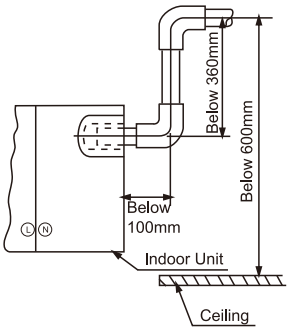
Heat Insulation

Wrap the flexible hose carefully with the attached heat insulation material from the start to the end (to indoor part)



Drainage Upward

To make sure that the drainage pipe would not be slanted downward, lead it upward to a height 360mm maximum, then downward lead it.



Drainage Test

- Check whether the drain pipe is unhindered before testing.
  1) Stow water from sprue to check.
  2) Stow 600cc water with pot or hose from sprue slowly , preventing touching the drain pump motor.
  3) After the preparation work , disconnect the water level switch , power 220-240VAC to the terminal board, and the drain pump start up immediately.
  4) After drain pump run 2 min.,reset the water level pin, and the drain pump motor will stop after running 1 min..

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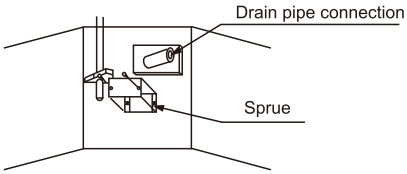


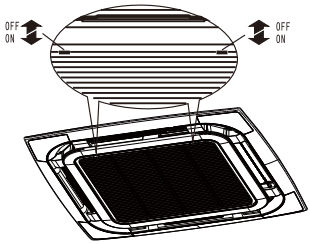
Motor Sound Test

- The drainage test is doing during checking the drain pump motor running sound .
- Reset the water level switch connection to the original position after the drainage test .

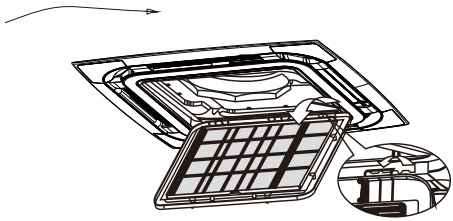
INSTALLATION OF PANEL

BODY DIMENSION:

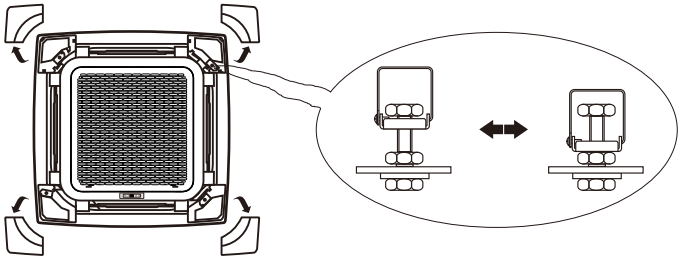
Unload air-in grille



Take off air-in grille

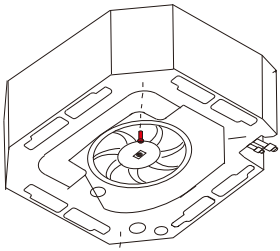


Unload panel installation cap



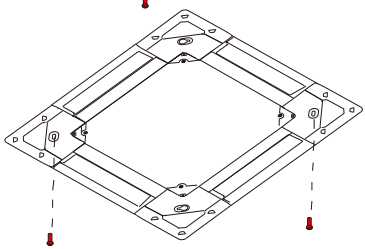
INSTALLATION OF PANEL

1.Please screw M10 gasket and M6*20 bolt at the corner of indoor unit ,before screwing them fasten ,screw other two additional bolts which locates red bolt showing as figure and notice that the direction of red arrow on the electrical box aligns the one on the panel.



2.Please connect step motor wire,display board wire to the electrical box according to ELECTRIC WIRING DIAGRAM on the electrical box.

3.Then screw the other two M6*20 bolt with M10 gasket through the hole of panel into outdoor unit



4.Adjust the location and direction of panel to tally louver of panel with outlet of outdoor,screw all the bolts fasten to make the panel and outdoor unit pressed together.

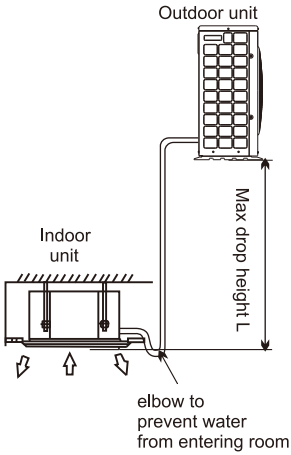
5.Return the air-in grille and panel back to the outdoor unit.

OUTDOOR UNIT INSTALLATION

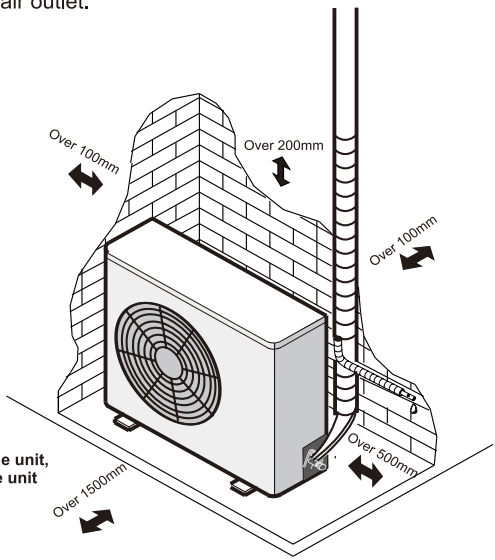
● Location for installing outdoor unit

1. Install it at a place where it is convenient for installation and well ventilated.
2. Keep the required distance away from the wall as reqiured on the previous page when carrying on installation.
3. Pipe length and drop height should comply with the scope required below.

Liquid pipe size	Φ6.35	Φ9.52	Φ12.7
Max pipe length	30m	50m	70m
Max drop height L	15m	20m	30m
Max. bending No.	5	5	5



4. When operating at a special place, for example, a place of greasy dirt, vulcanization gas or high-salty seashore, make sure to adopt an effective isolation measure.
5. Avoid installing it on the roadside where there is a risk of muddy water.
6. Install it where your neighbors would not be annoyed by operating noise or discharged hot air.
7. Install it on a fixed shelf that is not subject to increasing noise.
8. Install it at a place without blockage for air outlet.



- **Please install the air conditioner according to international rules.**
- **Above figure is only a simple presentation of the unit, it may not match the external appearance of the unit you purchased.**

REFRIGERANT PIPE INSTALLATION

CAUTION

Ventilate the air if there was any refrigerant leakage during the installation.
Leaked refrigerant will generate poisonous gas if meeting fire.

Make sure there is no refrigerant leakage after the installation.
Leaked refrigerant will generate poisonous gas if meeting fire.

Allowed Length and Drop of Pipes

Requirements are different when installing the outdoor unit.

Material and Size of the Pipes

Pipe Material		Copper Pipe for Air Conditioner			
Size(mm)	Liquid side	f6.35(1/4inch)	f6.35(1/4inch)	f9.52(3/8inch)	f9.52(3/8inch) f12.7(1/2inch)
	Gas side	f9.52(3/8inch)	f12.7(1/2inch)	f15.8(5/8inch)	f19.05(3/4inch)

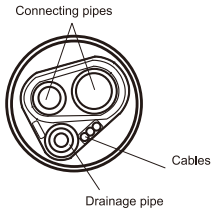
Connection of the Refrigerant Pipe

- Double-span should be used when connecting the pipes.
- The wrench torque follow the below table:

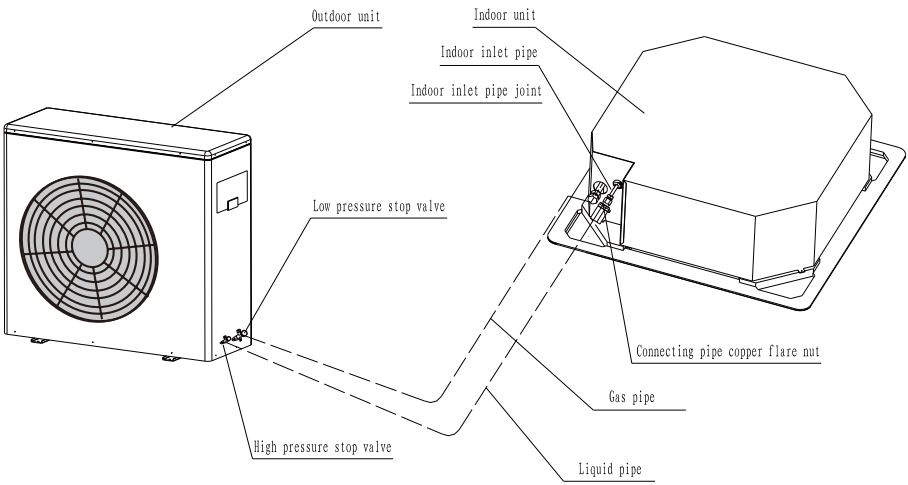
Pipe external diameter	Added wrench torque (N.m)	Pipe external diameter	Added wrench torque (N.m)
Φ6.35	14.2(1.4kgf.m)~17.0（1.7kgf.m）	Φ12.7	49.5(5.04kgf.m)~60.3(6.16kgf.m)
Φ9.52	32.7(3.33kgf.m)~39.9(4.07kgf.m)	Φ19.05	97.2(9.9kgf.m)~118.6(12.1kgf.m)
Φ15.88	61.8(6.3kgf.m)~75.4(7.7kgf.m)		

Wrap the piping

- Wrap the connecting pipes and cables together with tape, but not including the drainage pipe. Drainage pipe can be fixed along them separately.
- Wrapping from the joint of outdoor unit to that of indoor unit, each round of tape should cover half of its previous one.



- The following figure only shows the assembly relationship of the indoor unit ,outdoor unit and refrigerant pipes.
- Please refer to the following figures to install.



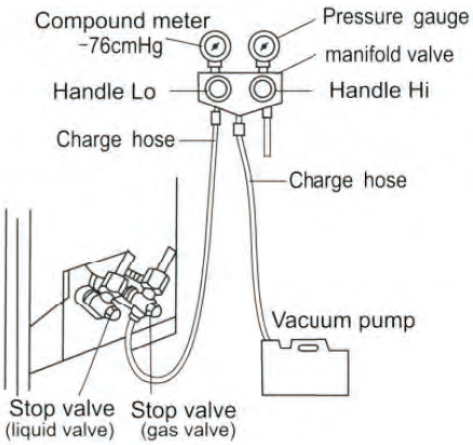
NOTE

- The throttle subassembly **has** been installed in the outdoor unit..
- Use two spanners to connect the pipe with indoor/outdoor pipes to avoid the copper pipe cracking.
- Please pay attention to the connection orientation when connecting.

EVACUATE THE SYSTEM

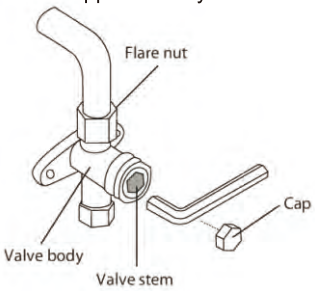
Connect the low - pressure hose from the gauge set to the Low - pressure connection on the outdoor unit .

Vacuum the system down to 500 Microns of mercury . Alow the system to stand for one hour to detect leakage . A smal rise may indicate water boiling off in the system . A large rise above 600 microns may indicate leakage in the piping . Australia and New Zealand refrigerant handling code of practice 6.4.



Releasing the refrigerant into the system

Check that the low - pressure hose is connected to the low - pressure side of the outdoor unit .
Check that the system has been evacuated to 500 microns . Remove the Vacuum micron gauge to prevent damage to it .
Open the low pressure and high - pressure valves by winding them out anti clockwise until seated .
The low - pressure gauge should read approximately 150 PSI .



CHARGE ADDITIONAL REFRIGERANT

Refrigerant Volume to Be Added

Refrigerant volume to be added is calculated according to outdoor unit installation manual.
Be sure to add refrigerant measuring by a scale.

CAUTION

- If the added refrigerant volume is inadequate (too much or insufficient), the compressor malfunction will be caused. Be sure to calculate the refrigerant volume carefully.
- The service man should write down the piping length and the added refrigerant volume in the nameplate, which is on the electric control box cover of outdoor unit, for diagnosing the compressor and refrigeration circulation malfunction.

The refrigerant refrigerant charge volume for the unit is based on using a 5m connecting pipe. If the connecting pipe's length is longer than 5m, it is advisable to charge additional refrigerant for the unit in order to achieve better operation.

Specification of Liquid pipe	Max. length	R32	R410A
Φ6.35	15m	(L-5)X0.015kg	(L-5)X0.022 kg
Φ9.52	20m	(L-5)X0.035kg	(L-5)X0.054kg
Φ12.7	25m	(L-5)X0.075kg	(L-5)X0.11kg

(* "L" refers to length of connection pipe.)

The additional refrigerant should be charged from the service port of the 3-way valve when the appliance is operating in cooling mode.
Do not allow air enter the refrigeration system while charging refrigerant.

Open/Close the valves

Open/Close the spools or the valves of outdoor unit with a ϕ5mm hexagon spanner.

ELECTRIC WIRING

WARNING

Specified power cables should be used. Do not apply any pressure on the terminals used to connect.

Improper connection may cause fire.

Grounding must be properly done.

The grounding wire should be away from gas pipes, water pipes, telephone, lightening rods or other grounding wires. Improper grounding may cause electric shock.

Electric Wiring must be done by professionals. Use a separate circuit according to national regulations.

The temperature of refrigerant circuit will be hight ,please keep the interconnection able away from the copper tube.

If the wiring capacity is not enough, electric shock or fire may occur.
If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard
An all-pole disconnection switch having a contact separation of at least 3mm in all poles should beconnected in fixed wiring.

CAUTION

Be sure to Install Current Leakage Protection Switch. Or electric shock may occur.
the appliance must be positioned so that the plug is accessible
the appliance shall be installed in accordance with national wiring regulations

CAUTION

- Power cord is to be selected according to national regulations.
- Outdoor unit power cord should be selected and connected according to the outdoor unit installation manual.
- Wiring should be away from high temperature components, or the insulation layer of the wires may melt down.
- Use wire clamp to fix the wires and terminal block after connection.
- Control wire should be wrapped together with heat insulated refrigerant pipes.
- Connect the indoor unit to power only after the refrigerant has been vacuumed.
- Don't connect the power wire to the signal wire connection end.
- Connect the solar DC to the dc connections provided via a solar isolator mounted adjacent to the out-door unit

Panel Wiring

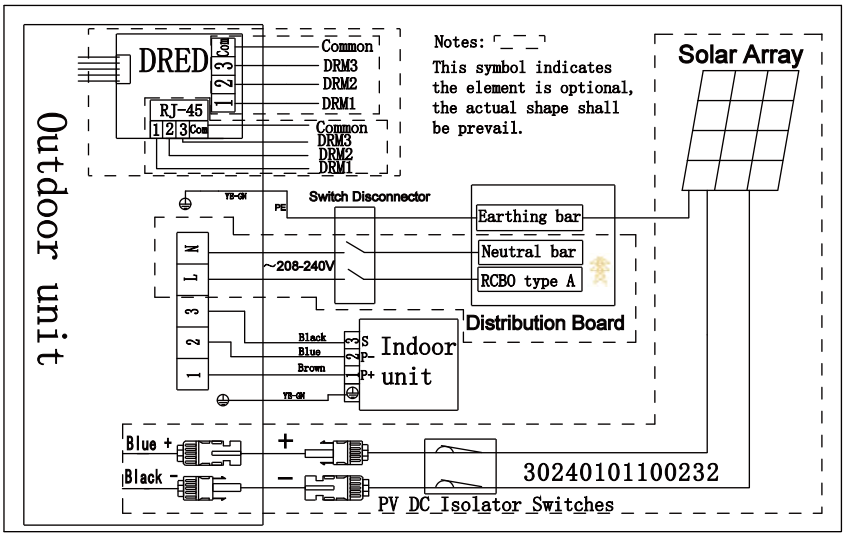
Connect the Swing Motor terminal block according to cassette indoor unit wiring diagram.

Terminal Board Diagram

Please refer to cassette indoor unit wiring for the wiring.

Steps of external wiring connection

1. Remove air intake grille and electric box cover of indoor unit.
2. Remove access door of outdoor unit.
3. Connect the power supply connecting cable, and the control connecting cable.Please refer to the following pages for details.
4. Make sure the cables being fixed well with an effective anchorage after connecting.
5. Grounding work must be carried out for indoor and outdoor units.
6. Install the components removed back to the unit.



■ Installation of Solar Modules

Solar Modules must be installed in accordance with all applicable codes. Some of them are the local building codes, the Building Code of Australia, AS / NZS 4777 and AS / 5033. The must be installed by a licenced, competent person.

■ SolarArray Maximum Voltage

The maximum Voltage Open Circuit (VOC) must be calculated to account for low temperature voltage rise. Failure to do may damage the equipment and void warranty.

For guidance see AS / NZS 5033 4.2 PV array maximum voltage.

The maximum Voltage Open Circuit for this equipment is 380 Vdc.

For example, if the lowest recorded temperature is 4 to 0 degrees C and the VOC of a module is 44.2 Vdc, one would multiply 44.2 by 1.1 equalling 4.42 volts.

Adding 44.2 and 4.42 equals the low temperature VOC of 48.62.

Dividing the maximum VOC input of 380 Vdc by 48.62 yields the maximum number of solar modules 7.81. Rounding down yields 7 modules max at that low temperature.

VOLTAGE CORRECTION FACTORS FOR CRYSTALLINE AND MULTI-CRYSTALLINE SILICON PV MODULES

Lowest expected operating temperature °C	Correction factor
24 to 20	1.02
19 to 15	1.04
14 to 10	1.06
9 to 5	1.08
4 to 0	1.10
−1 to −5	1.12
−6 to −10	1.14
−11 to −15	1.16
−16 to −20	1.18
−21 to −25	1.20
−26 to −30	1.21
−31 to −35	1.23
−36 to −40	1.25

Solar Array maximum current

Paralleling of the solar array is not recommended as the maximum rated Array Short circuit current is 12 amps.

Galvanic considerations outdoor unit.

The outdoor unit is to be treated as a non-galvanically isolated regulator. The solar isolation switches must be rated for the full array voltage and current. If connected to the AC supply, the outdoor unit must be connected to the AC distribution board via a type A or B residual current and overcurrent device.

Solar Module installation

This manual contains information regarding the installation and safe handling of solar photovoltaic module(s). All instructions should be read and understood before attempting to install. If there are any questions, please contact our sales department for further explanation. The installer should conform to all safety precautions listed in this guide when installing the modules. Local codes and regulations must be followed.

This manual does not describe specific structures and installation procedures.

An approved solar technician must be consulted to determine the following:

- The specifications of the solar photovoltaic system
- Cable material
- Connecting components
- Bracket and support
- Supporting parts
- Switching and circuit protection

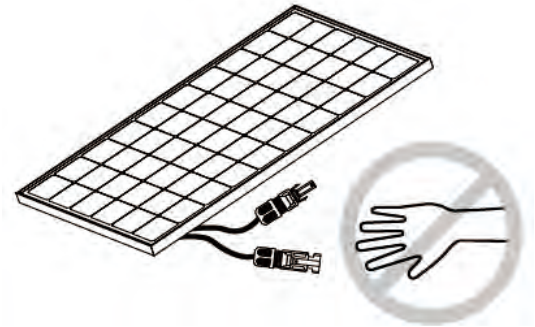
Solar modules are large and require careful handling. Only a qualified technician should inst all Solar Modules. Solar arrays are current limited sources. Use appropriate protection measures when working on them. They contain hazardous DC voltages.

Installation of Solar Modules should be performed only by qualified persons, who are familiar with the mechanical and electrical requirements.

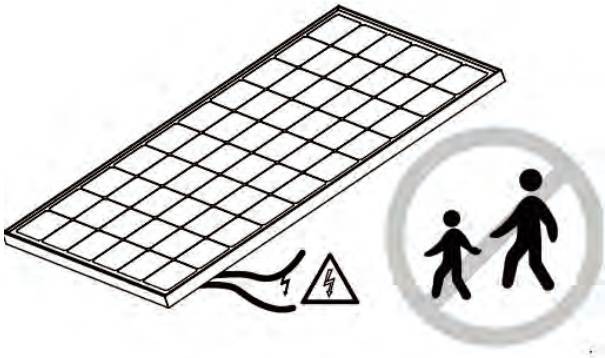
All electrical connections should be made with approved MC-4 type connectors, and from the same manufacturer. (AS / NZS 5033 clause 4.3.7 (k)

One individual solar module generates DC voltage greater than 30V when exposed to sunlight. Contact with a DC voltage of 30V or more is potentially hazardous. Do not touch the contacts of electrical terminals.

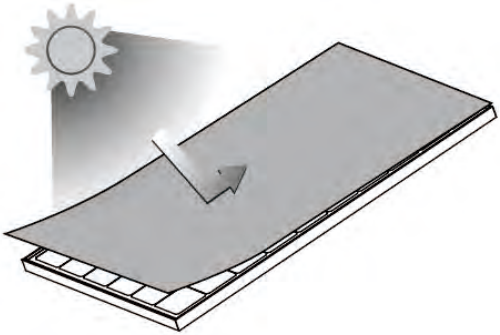
Do not touch the module contacts.



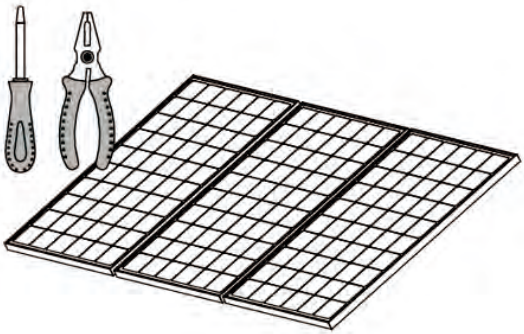
Keep children away from the system while transport and installing mechanical and electrical components.



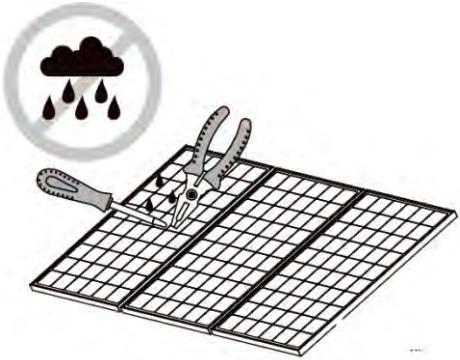
Completely cover the module with an opaque material during installation to keep electricity from being generated. Do not touch the ends of live wires. Do not wear metallic rings, watchbands, ear, nose lip rings or other metallic devices while installing or troubleshooting photovoltaic systems



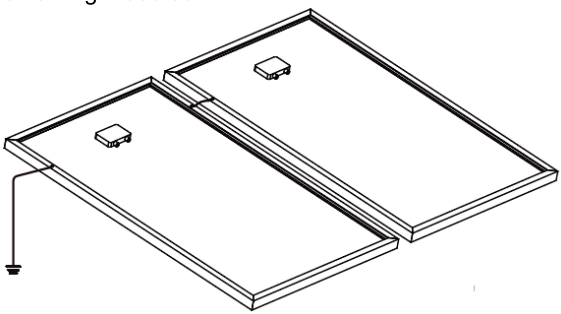
Use only insulated tools that are approved for electrical installations.



Do not work on solar modules in wet conditions



The module frame must be properly earthed. Removal on any one module must not interrupt the earthing of the remaining modules.



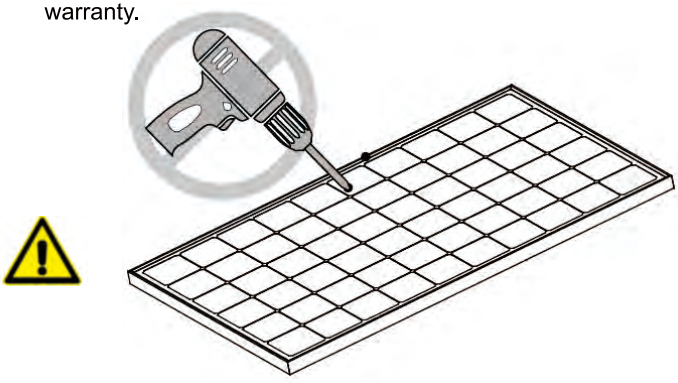
Solar Array Mechanical installation

Selecting an installation place:

- Select a suitable place for installation of the solar modules. The modules should not be shaded during the solar window part of the day.
- The module should be facing north in the southern latitudes for best power generation.
- An approved solar technician should be consulted to determine the best orientation of the solar panels.

Selecting the proper support frame:

- Always observe the instructions and safety precautions included with the support frame to be used with the modules.
- Never attempt to drill holes in the glass surface of the module. It will void the warranty.
- Do not drill additional mounting holes in the frame of the module. It will void the warranty.



- Modules must be securely attached to the mounting structure using four mounting points for normal installation. If additional wind or snow loads are considered for the installation additional mounting points should also be used.
- The support frame must be made of durable, corrosion resistant and UV resistant material.
- The heat expansion and cold contraction of the support frame should have no effect on its usage and performance.

Ground mounting:

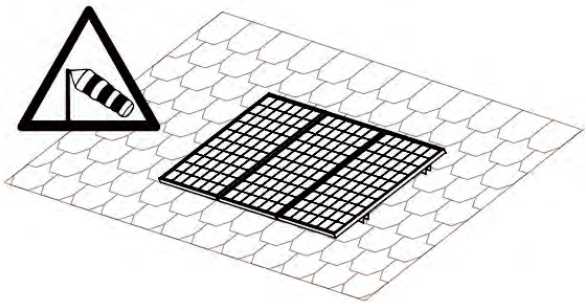
- Select the height of the mounting system to prevent the lowest edge of the module from being covered by snow in winter in areas the experience heavy snowfalls. In addition, assure the lowest portion of the module is placed high enough that it is not shaded by plants or trees and is free from the effects of sand and stone driven by wind.

Roof Mounting:

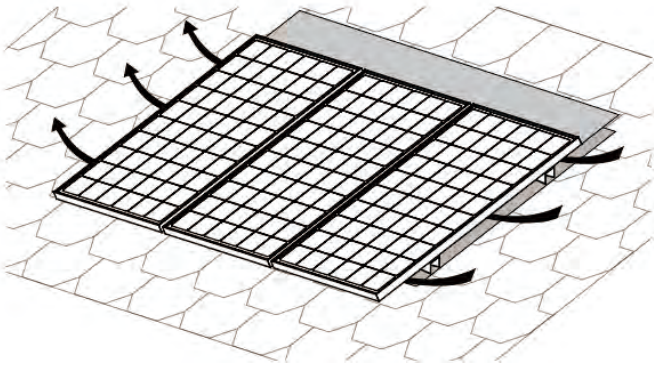
When installing the modules on a roof ensure that they are securely fastened and cannot fall because of wind or snow loads.

When installing on a roof, ensure that the roof construction is suitable. In addition, any roof penetration required to mount the module must be properly sealed to prevent leaks.

The roof installation of solar modules may affect the fireproofing of the house construction and it may be necessary to use an earth ground fault circuit breaker.

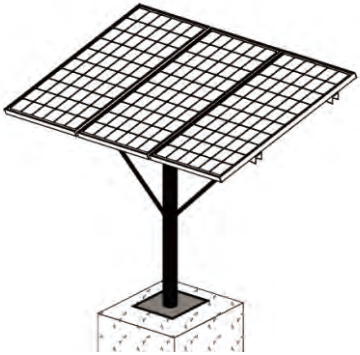


Provide adequate ventilation under a module for cooling. 50 mm minimum between the module and the mounting surface.



Pole mounting:

When installing the modules on a pole, choose a pole and module mounting structure that will withstand anticipated winds for the area. The pole must have a solid foundation.



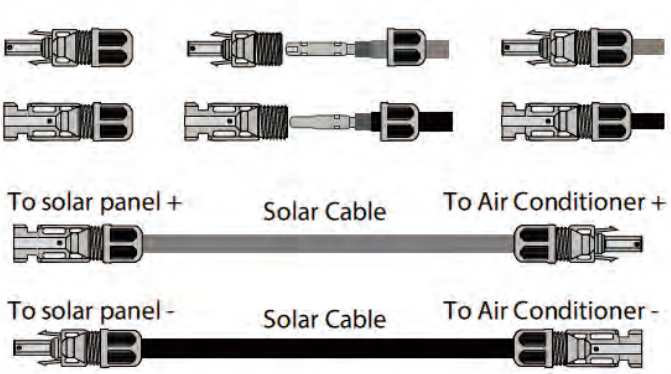
Solar Array Wiring

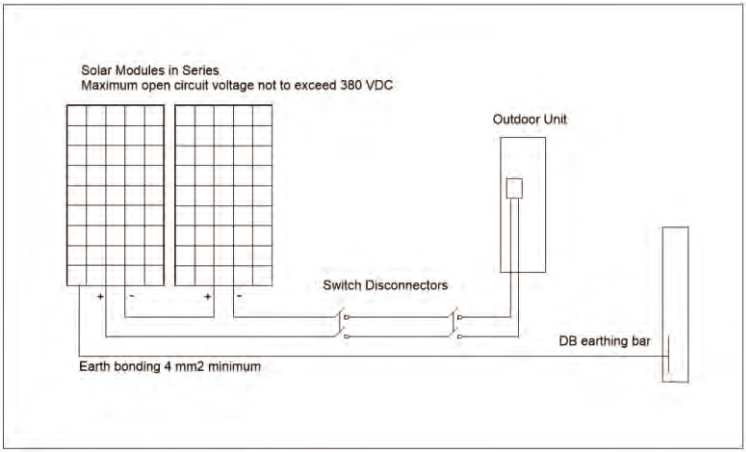
The array is formed of modules in series. The switch disconnectors must be approved for disconnecting solar DC under load.

The MC 4 connectors must be approved and from the same manufacturer at each join. Mismatching connectors can cause failure and possible fire.

General installation:

- Do not use modules of different configurations in the same system.
- The solar photovoltaic array consists of a maximum of 10 modules of 270 watts or 8 modules of 370 watts.
- The solar array total system voltage must not exceed 380 volts DC open circuit. If installed in an area that experiences temperatures lower than 20 degrees C the
- Voltage open circuit will rise and a calculation must be done by a qualified technician.
- Both sides of an MC 4 type connection must be of the same type and manufacturer.
- Multistrand solar wire, having a minimum cross section of 2.5 sq mm or larger must be used.
- Cable installation must comply with all local and national codes and regulations.
- A switch disconnector rated for DC must be used between the array and the outdoor unit. If not adjacent to the array a separate switch must be installed at the array.





■ E arthFault Protection Solar DC

Roof mounted DC PV arrays located on dwellings must be provided with DC earth fault protection per US Electrical code NEC 2005 Article 690.5. Earth fault protection isolates the Neutral conductor. (in DC this is usually the negative wire) from earth when a ground fault occurs.

■ Solar Disclaimer

Because the use of this manual and conditions or methods of installation, operation, use and maintenance of the photovoltaic (PV) product are beyond our control, we do not take any responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with such installation, operation use or maintenance. Nor responsibility is assumed by us for any infringement of patents or other rights of third parties, which may result by using the PV product. No license is granted by modification or otherwise under any patent or patent rights.

The information in this manual is based on company knowledge and experience and is believed to be reliable, but such information including product specification (without limitations) and suggestions do not constitute a warranty, expressed or implied.

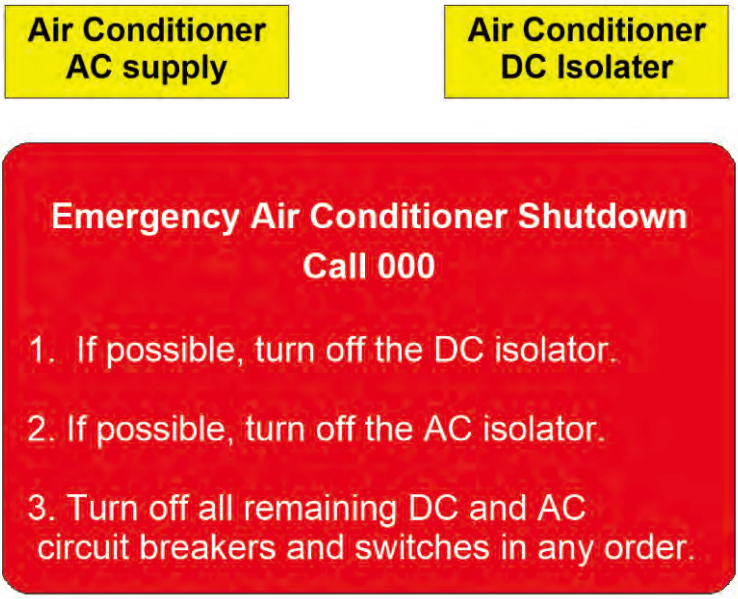
We reserve the right to change the manual, the PV product, the specifications, or product data sheets without prior notice.

■ Signage

Additional Solar signage to be posted on the outdoor unit

Warning Multiple Supplies
Isolate all supplies before working on this Air Conditioner

To be posted adjacent to the AC and DC isolating Switches.



TEST RUN

Before the test run :

Verify that :

- The unit's electrical system is safe and wil operate properly
- The gas leak checks have been performed
- Confirm that the low - and high - pressure valves are fully open

The test should run for at least 30 minutes

Connect power to the unit

Press the On / Of button on the remote while pointing it at the indoor unit . The indoor unit wil respond .

Press the Press the MODE button to scroll the functions one at a time :

COOL - Select the lowest temperature . Allow to run for 5 minutes .

HEAT - Select the highest possible temperature . Allow to run for 5 minutes .

After the Test Run is completed , return the unit to normal operating temperature .

Wrap the pipe connections with insulation .

commissioning checklist

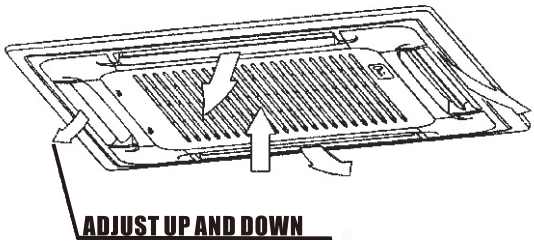
List of Checks to Perform	Pass (√)	FAL (√)	TEST RESULT
Solar array Voc test			
Solar array grounding fault test			
Solar array operating currentest			
No electrical leakage			
Unit is properly grounded			
All electrical termina Is properly covered			
Indoor and Outdoor Units are solidly installed			
All pipe connection points do not leak	Outdoor (2):	Intdoor (2):	
Water drains properly from drain hose			
All piping is properly insulated			
Unit performs COOL function properly			
Unit performs HEAT function properly			
Indoor unit louvers rotate properly			
Indoor unit responds to remote controller			

ADJUSTING AIR FLOW DIRECTION

■ Cassette Type

While the unit is in operation, you can adjust the air flow louver to change the flow direction and naturalize the room temperature evenly. Thus you can enjoy it more comfortably.

1. Set the desired air flow direction.
   Push the SWING button to adjust the louver to the desired position and push this button again to maintain the louver at this position.
2. Adjust the air flow direction automatically.
   Push the SWING button, the louver will swing automatically.



While this function is set,the swing fan of indoor unit runs;otherwise,the swing fan doesn't run.The swing scale of every side is 30 .When the air conditioner isn t in operation(including when TIMER ON is set),the SWING button will be disabled.

MAINTENANCE

⚠WARNING

Before you clean the air conditioner, be sure to disconnect the AC and DC power supply plug.

Cleaning the indoor unit and remote controller

⚠CAUTIONS

- Use a dry cloth to wipe the indoor unit and remote controller.
- A cloth dampened with cold water may be used on the indoor unit if it is very dirty.
- Never use a damp cloth on the remote controller.
- Do not use a chemically-treated duster for wiping or leave such material on the unit for long, because it may damage or fade the surface of the unit.
- Do not use benzine,thinner,polishing powder,or similar solvents for cleaning. These may cause the plastic surface to crack or deform.

If you do not plan to use the unit for at least 1 month.

(1) Operate the fan for about half a day to dry the inside of the unit.

(2) Stop the air conditioner and disconnect power.

(3) Remove the batteries from the remote controller.

Checks before operation

⚠CAUTIONS

- Check that the wiring is not broken off or disconnected.
- Check that the air filter is installed.(Some air-conditioners have no air filters)
- Check that the outdoor unit air outlet or inlet is not blocked.

Before you clean the air conditioner, be sure to disconnect the power supply plug.

Clean the air filter

- The air filter can prevent the dust or other particulate from going inside.In case of blockage of the filter,the working efficiency of the air conditioner may greatly decrease. Therefore,the filter must be cleaned once two weeks during long time usage.
- If the air conditioner is positioned in a dust place,the cleaning frequency of the air filter must be increased.
- If the accumulated dust is too heavy to be cleaned,please replace the filter with a new one(replaceable air filter is an optional fitting).

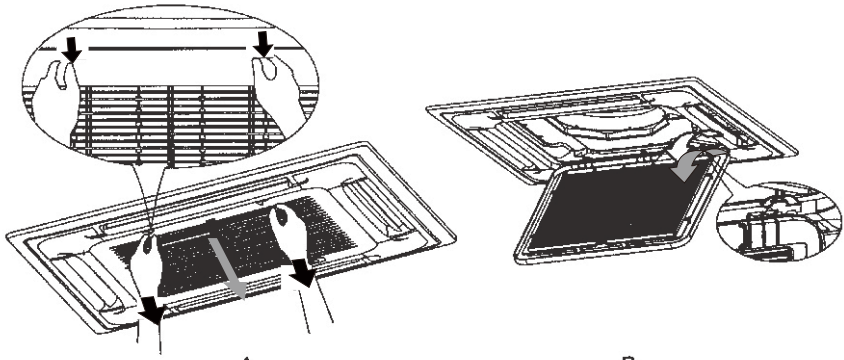
■ Cassette Type

1. Open the air-in grill

Push the grill switches towards the middle simultaneously as indicated in sketch A. Then pull down the air-in grill.

Caution:

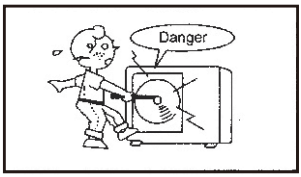
The control box cables,which are originally connected with the main body electrical terminators must be pulled off before doing as indicated below.



A B

2. Take out the air-in grill(together with the air filter shown in Sketch B)
   Pull the air-in grill down at 45°and lift it up to take out the grill.
3. Dismantle the air filter
4. Clean the air filter(Vacuum cleaner or pure water may be used to clean the air filter.If the dust accumulation is too heavy,please use soft brush and mild detergent to clean it and dry out in cool place).

IMPORTANT SAFETY INFORMATION

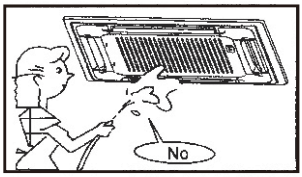


⚠CAUTION

Do not attempt to install this unit by yourself.This unit requires installation by qualified persons.

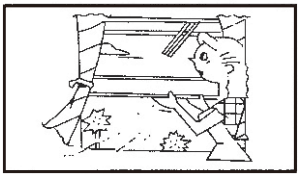
⚠DANGER

Do not attempt to service the unit yourself.This unit has no user serviceable components.Opening or removing the cover will expose you to dangerous voltage.Turn off the power supply will not prevent potential electric shock.



⚠DANGER

Never put hands or objects into the Air Outlet of indoor or outdoor units.These units are installed with a fan running at high speed. To touch the moving fan will cause serious injury.

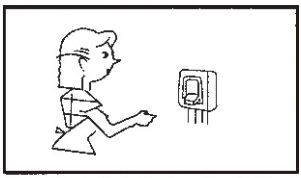


⚠DANGER

To avoid the risk of serious electrical shock,never sprinkle or spill water or liquid on unit.

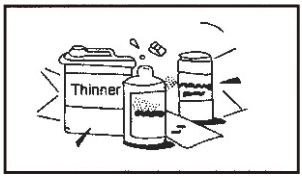
⚠WARNING

Ventilate the room regularly while the air conditioner is in use, especially if there is also a gas appliance in use in this room. Failure to follow these directions may result in a loss of oxygen in the room.



⚠WARNING

To prevent electric shock,turn off the power or disconnect the power supply plug before beginning any cleaning or other routine maintenance.

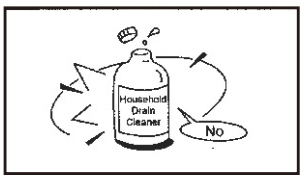


⚠WARNING

Do not use liquid cleaners or aerosol cleaners,use a soft and dry cloth for cleaning the unit .To avoid electric shock,never attempt to clean the units by sprinkling water.

⚠CAUTION

Do not use caustic household drain cleaners in the unit.Drain cleaners can quickly destroy the unit components(drain pan and heat exchanger coil etc).



⚠NOTE

For proper performance,operate the unit in temperature and humidity ranges indicated in this owner s manual.If the unit is operated beyond these conditions,it may cause malfunctions of the unit or dew dripping from the unit.

These are not failures

Room air is smelly.

A bad odor comes from the air conditioner.

- Smells impregnated in the wall,carpet,furniture,clothing,or furs,are coming out. A white mist of chilled air or water is generated from the outdoor unit.

▲CAUTION

If any of the following conditions occur,stop the air conditioner immediately,set off the power switch, and contact the dealer.

- The indicator lamps flash rapidly(five times per second),you disconnect the unit with the power and then connect the unit with the power again after two or three minutes but the lamps still flash.
- Switch operations are erratic.
- The fuse is blown frequently or the circuit breaker is tripped frequently.
- Foreign matter or water has fallen inside the air conditioner.
- Any other unusual condition is observed.

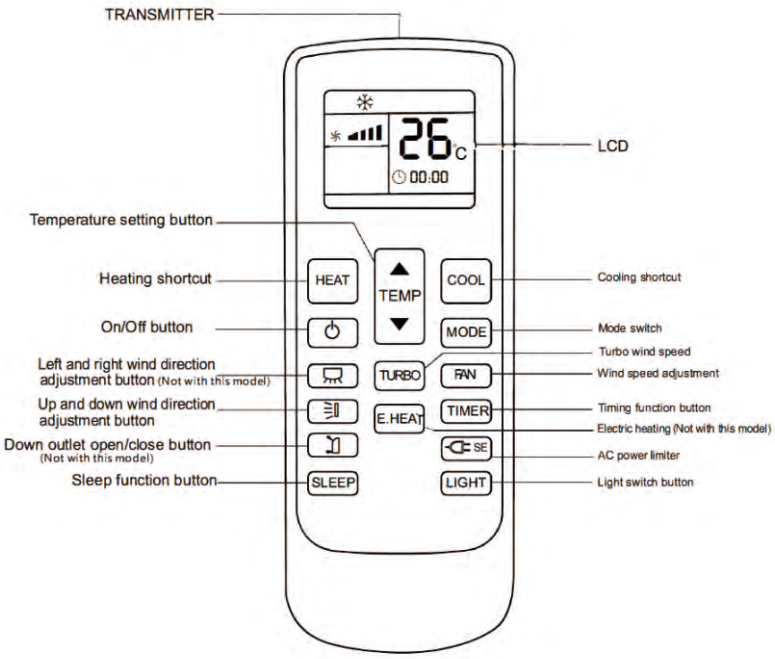
OPERATION

■ Operation

The air conditioner has an infrared remote and an android or I phone app.

■ Remote control operation

Some functions may not be available in all units.



● “⏻” button	Press the " ⏻ " button to switch the air conditioner
● “Mode” button	Press the "Mode" button and select the "Auto/Cooling/ Dehumidifying/Air Supply/Heating" mode.
● “COOL” button	This button is used to set the air conditioner to enter the cooling mode, and the set temperature is 26℃run. 1. When the air conditioner is on or off, just press the button, the air conditioner will enter coolingMode and set the temperature to 26℃. 2. In the timing on state, press this button to cancel the timing on setting and turn on in advance.Run cooling mode, set temperature to 26℃. 3. In sleep state, press this button to run the cooling mode, set the temperature to 26℃.
●“HEAT” button	This button is used to set the air conditioner into heating mode, and set the temperature to 24℃run. 1. When it is turned on or off, as long as you press this button, the air conditioner will enter the heating modeAnd the set temperature is 24℃ for operation. 2. In the timing on state, press this button to cancel the timing on setting and turn on in advance.Run heating mode, set temperature to 24℃ 3. In sleep state, press this key to run heating mode, and set temperature to 24℃
●“TEMP” button	In cooling, heating, and dehumidification modes, press the " ▲ "," ▼ " keys to adjust the temperature degree, range 16-32℃ Note: The temperature is not adjustable in the air supply mode.
● “FAN” button	Press the "Wind Speed" button to select the wind speed of "Breeze/ Low Wind/Mid Low Wind/Stroke/High Wind/Auto". Note: There is no automatic wind speed in air supply mode.
● “SE” button	When connected to the mains, press the " " button, the one-key power saving logo of the internal unit will turn green, and enterPower saving mode.

■ Wire controller display and key description（Optional）

1. Wire controller display and description

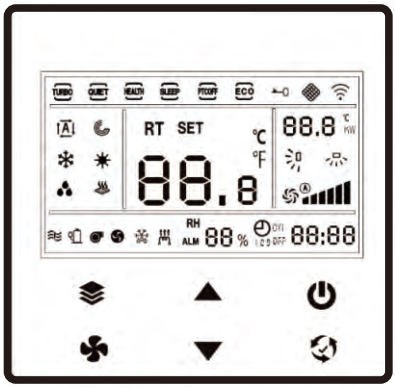


Figure 1. Overall appearance

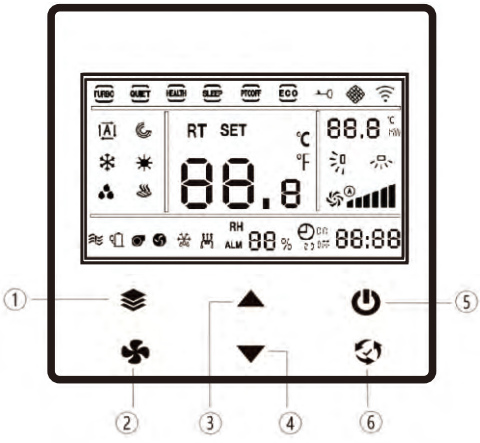


Figure 2. Buttons of the remote controller

2. Description of the buttons of the remote controller

Serial number	Icon name	Key Function
1	Parameter setting/ timing button	1. Short press to enter timing setting; 2. Long press for 5 seconds to enter the parameter setting interface.
2	Wind speed/time setting	1. Short press to adjust the wind speed; 2. Long press for 5s to enter the time setting, and press the mode key to return after setting.
3	“+” button	1. Increase or decrease of set temperature, increase or decrease of set time, increase or decrease of set parameters and serial number; 2. Long press can speed up the scrolling speed of time and parameters.
4	“−” button	
5	On/off button	1. Short press to control the switch.
6	Mode switch button	1. Short press to switch the mode according to the sequence of auto/cooling/dehumidifying/supply/heating.

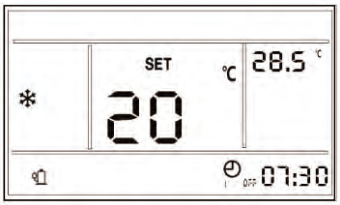
■ Operation instructions of the wire controller

1. Turn on and off

Lightly press the button to start the unit. In the power-on state, the interface displays the set temperature and other states;

Tap the button again to stop the unit. In the shutdown state, the interface does not display the set temperature,

The following Figures 1 and 2 correspond to the interface display in the power-on state and the power-off state



1. Power-on state display Figure

2. Power-off state display

2. Operation instructions of the wire controller

In the power-on state, every time you press the "Mode" button ( ),the operation mode will switch as shown in Figure 6 (automatic-cooling-dehumidification-air supply-heating):

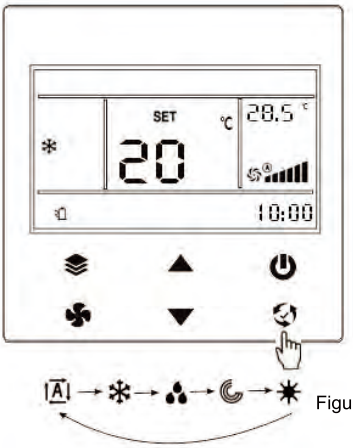


Figure 3. Schematic diagram of mode switching

3. Set temperature

In the power-on state, short press or to realize the set temperature, as shown in Figure 4.

1. After selecting the timing to enable, that is, after the timing is displayed at the time, short press the button to enter the timing power-on time setting, as shown in the rightmost picture in Figure10. At this time, the time is blinking.

2. Set the power-on time by short-pressing or long-pressing for 5 seconds or button. For example, set the power on at 6:00. When the time is adjusted to 6:00, press the button to indicate that the time period timing power-on time setting is completed (such as Figure 9). At this time, the interface will jump to the time period 1 timer shutdown time setting, the shutdown timer time flashes, as shown in the leftmost side of Figure 10.

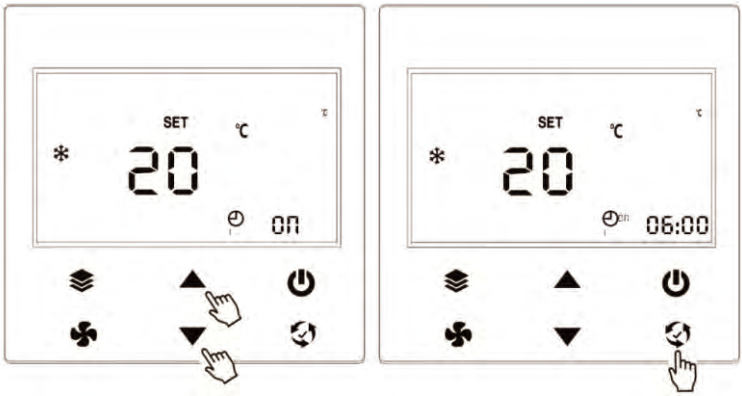


Figure 9. Set time period 1 boot timing time

After the interface jumps to the shutdown timing period, long press or short press or to adjust the time, for example, adjust to 23:00, then short press the button , it means that the time period 1 timing setting is completed.

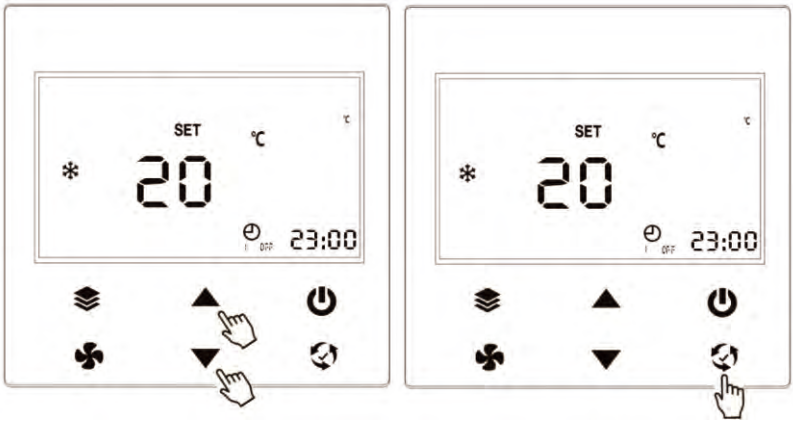


Figure 10. Set time period 1 shutdown timing time

4 . Set timing

At present, the wire controller can realize a timing setting of 3 periods of 1 day at most. The user can set the opening or closing of each time period and the opening time and closing time according to their own needs. After the time setting is completed, you can set the timing.

Setting steps:

1. Short press the button , and the screen enters the timing setting interface, and the timing period and timing status are displayed blinking. If you short press the button continuously, the timing period will switch among period 1, period 2, and period 3. In addition, in the timing period, the nixie tube displays On to indicate that the period is enabled, and to realize OFF indicates that the period is not enabled. As shown in Figure 7:

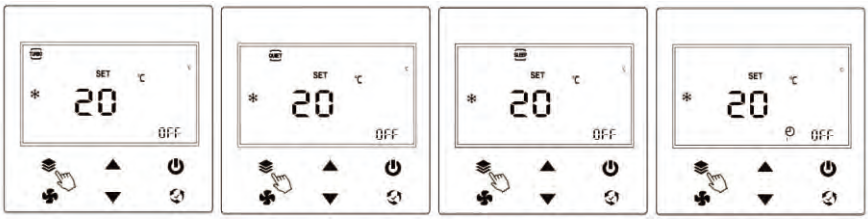


Figure7. Function selection switch interface

Special Note:

1) After timing period 1 is activated, it means that only solar energy (ECO) is used during operation during this period, and the use of city power is restricted;

The ECO in the opening section is automatically in the on state; the ECO in the closing section is in the automatically off state.

2) Time period 2 and period 3 indicate the time period when the host starts and stops running

2. After adjusting to the timing function, short press or to select timing to enable or disable. If the timing is canceled, the timing function of the time period will not be enabled. Display OFF means disable, display ON means enable, as shown in Figure 8:

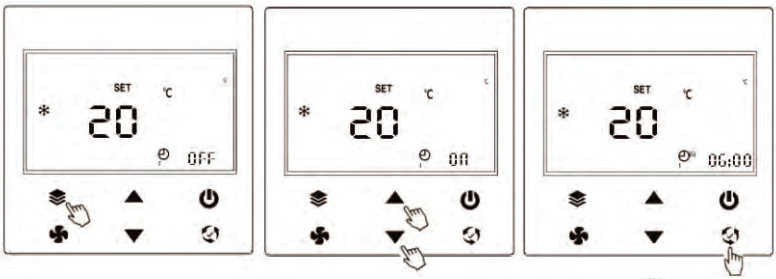


Figure 8. Select to enable or cancel time period timing by short pressing or

3. After selectingthe timing to enable,that is, after the timing is displayed at the time, short pressthe button to enter the timing power-on time setting, as shown in the rightmost picture in Figure10. At this time, the time is blinking.

4. Setthe power-ontime by short-pressingor long-pressingfor 5 seconds or button. Forexample, set the power on at 6:00. When the time is adjustedto 6:00, pressthe button to indicatethat the time period timing power-ontime settingis completed(suchas Figure9). At this time, the interfacewill jump to the time period 1 timer shutdowntime setting,the shutdowntimer time flashes,asshownin the leftmost sideof Figure10.

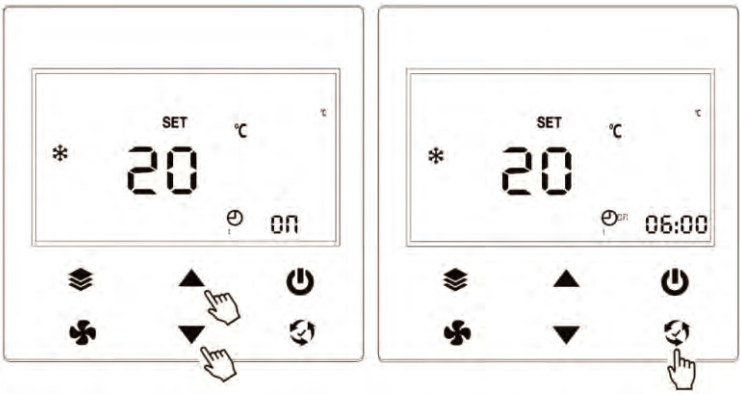


Figure 9. Settime period 1 boot timing time

After the interfacejumpsto the shutdowntiming period, long pressor short press or to adjustthe time, for example,adjust to 23:00, then short pressthe button , it meansthat the time period 1 timing settingis completed.

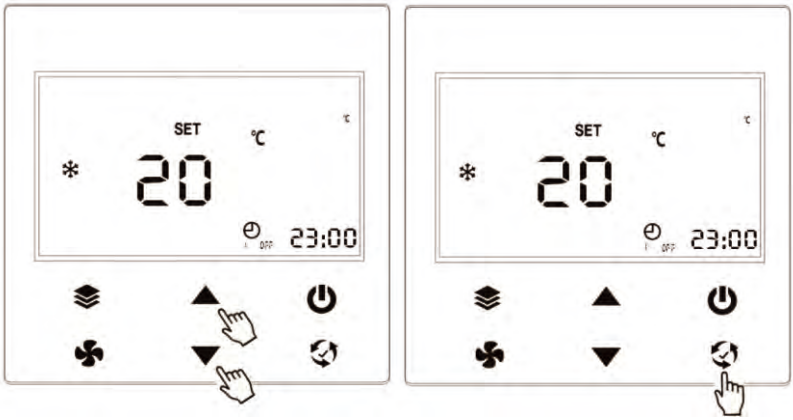


Figure 10. Set time period 1 shutdown timing time

5. After the timing of the time period is completed,the timing time stops flashing,and the timing task that will be executed first is displayed.For example,the current time is 10:00 and the unit is in the power-on state,and the unit shutdown task at 23:00 in period 1 will be executed first. The display interface is shown in Figure11

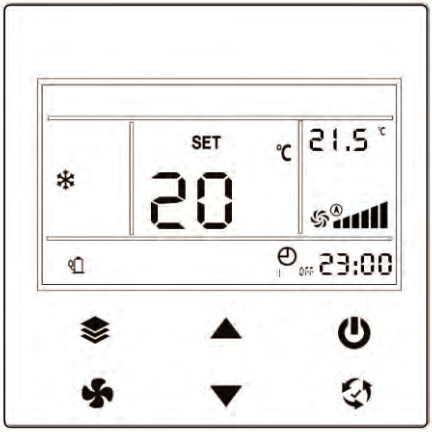


Figure11. The timing setting is completed,and the timing task closest to the current time is displayed by default

The above is the timing function setting steps.The other "Turbo mode" and other functions are enabled in the same way. You only need to set "ON" to start, and "OFF"is to turn off. Refer to the description of timing function activation,so I won't repeat it.

5. Secondary screen display

When the KW icon on the secondary screen of the remote controller is lit, it indicates that the real-time power display function has been configured to be turned on, otherwise the configuration display is the indoor ambient temperature display

Display function, the ℃ icon lights up at this time.

1. Real-time power display function KW

When the KW icon on the secondary screen of the remote controller lights up, the indoor ambient temperature will be folded to the RT temperature value of the main screen for display, and the real-time power display will be an alternating current.

Current input power, unit KW;

2. Indoor environment temperature display function ℃

When the ℃ icon on the secondary screen of the remote controller lights up, the real-time power display function will be closed, and the ambient temperature will be fixed on the secondary screen, and the main screen SET chart

The standard is always displayed, and the set temperature value is fixedly displayed.

Note: The switch display of this function can be set by the EEPROM parameter value of the indoor main control program. If you are unclear, you can consult the software developermember.

6. Common troubleshooting

When the unit has an operating fault, if the fault determination is completed, the fault code will be displayed on the LCD panel of the wire controller.

In addition, when there is a problem with the wire controller itself, such as a communication problem, it will flash "8888";

In case of malfunction, please contact professional maintenance personnel in time. Figure 17 shows the fault code of F3.

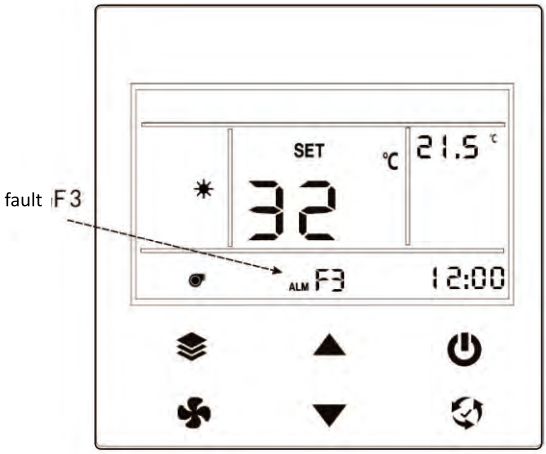


Figure17 Unit shows "F3" fault

7. Attachment: Description of the failure code of the air conditioner

Fault name	error code（APP）	error code(Wire controller)	Remarks
Indoor parameter error	01	01	
Internal and external machine communication failure	03	03	
Indoor key stuck fault	04	04	
Outdoor parameter error	05	05	
Internal fan communication failure	06	06	
Wire controller communication failure	07	07	
PFC temperature sensor failure	18	18	
High-voltage switch disconnection protection (high-voltage over-high protection))	24	H4	
Low-voltage switch disconnection protection(low-voltage too lowprotection)	25	H5	
Indoor environment sensor failure	31	J1	
Indoor coil sensor failure	32	J2	
Outdoor air temperature sensor failure	35	J5	
Outdoor heat exchanger sensor failure	36	J6	
Exhaust temperature sensor failure	37	J7	
Indoor fan stall failure	51	L1	
Indoor drain pump failure	52	L2	
Compressor feedback failure	55	L5	
Refrigerant leakage failure	57	L7	X
Outdoor fan failure	58	L8	
Input current control failure	73	73	
Over /short voltage protection	76	76	X
PFC overcurrent	81	81	
IPM module high temperature	91	91	
Compressor lack of phase	92	92	
Compressor stall failure	93	93	
IPM module overcurrent	95	95	
Oil return failure protection	E0	E0	
Compressor low speed protection	E1	E1	

Android or I phone app

1. **The indoor unit has a QR code that can be scanned to download the app.**

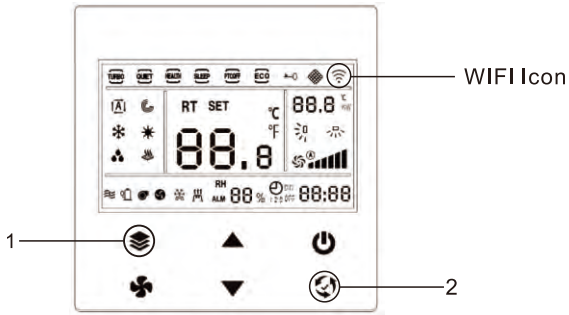
Download the app and register your phone number.

2 Distribution network process

- Remote controller triggers network distribution process
- Turn the Solar air conditioner on, use the remote control and press the “LIGHT” button 8 times or more withing 10 seconds. When you hear “Di” the wi fiindicator should be flashing.

3 Wire controller triggers network distribution process

- P ress "" button to switch to WIFI distribution network selection function (icon flashes);



- Long press the " " button automatically to jump to the main interface and release.

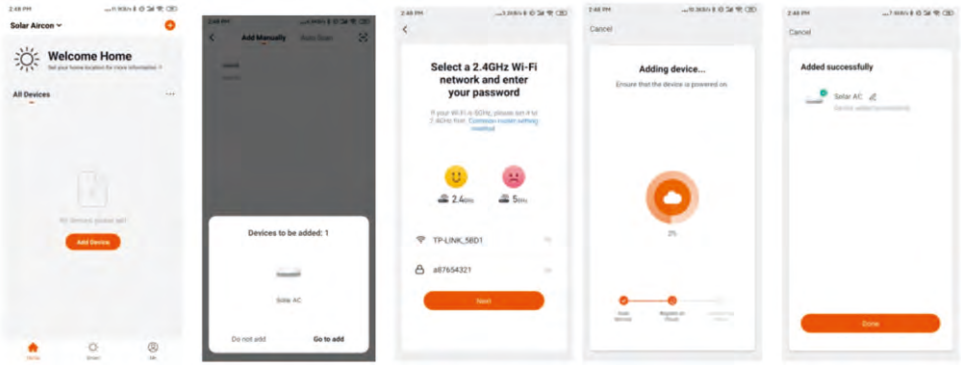
At this time, the icon will flash automatically, triggering the network distribution successfully, and then the device will enter the state of being connected;

- If the WIFI connection is successful, the icon will turn from flashing to normal on;

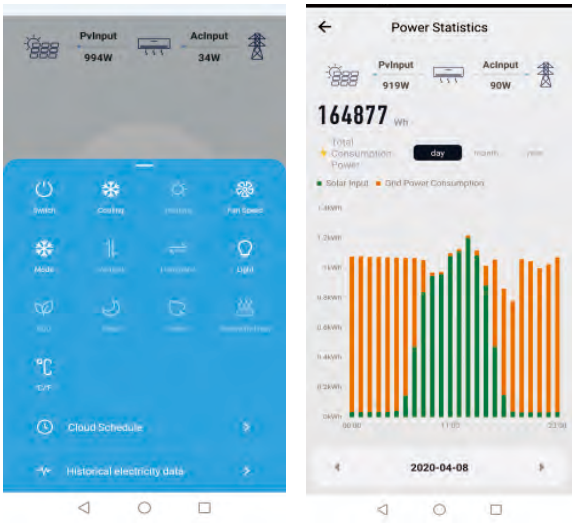
If there is no connection within 30 seconds, it will also stop flashing and the icon will go out.

- Triggering the distribution network will reset the distribution network information, and the mode of distribution network will be switched between "Hot Distribution Network (Compatibility Mode)"and "Bluetooth Distribution Network".

4. Turn the Bluetooth on your phone on and connect to the home WIFI.
5. Open the Solar Aircon app on and it should automatically detect the Solar air conditioner. Confirm the device, enter the home WIFI password and start the connection.



6. Use the app to control the air conditioner anywhere via WIFI. Observe the power saving data and view the power consumption by hour/day/month/year.



TROUBLESHOOTING AND REPAIR

1. Matters needing attention for remote/wire controller distribution network
2. Networking mode fails within 3 minutes. Networking mode needs to be restarted.
3. If the connection to WIFI fails many times, it is necessary to check the whether the Wi-Fi password is correct, whether the Wi-Fi network is 2.4G, or whethre the network communication is normal, etc.
4. If some models are failed to be connected to the Internet, it is recommended to power off for 30S before connecting to the Internet.

Warning disassembly of the units can result in an electric shock hazard. This unit employs multiple sources of supply and care must be taken that all supplies are turned off and energy storage devices disconnected

Common Issues. Please check the following before contacting a repair company.

Issue	Possible Causes
Unit does not turn on when pressing the on off button	The Unit has a 3-minute protection feature that prevents the unit from overloading. The unit will not restart within three minutes of being turned off.
The unit changes from COOL/HEAT mode to FAN mode	The unit may change its setting to prevent frost from forming on the unit. Once the temperature increases, the unit will start operating in the previously selected mode again.
	The set temperature has been reached, at which point the unit turns off the compressor. The unit will continue operating when the temperature fluctuates again
The indoor unit emits white mist	In humid regions, a large temperature difference between the room's air and the conditioned air can cause white mist.
Both the indoor and outdoor units emit white mist	When the unit restarts in HEAT mode after defrosting, white mist may be emitted due to moisture generated from the defrosting process.
The indoor unit makes noises	A rushing air sound may occur when the louver resets its position.
	A squeaking sound may occur after running the unit in HEAT mode due to expansion and contraction of the unit's plastic parts.
Both the indoor unit and outdoor unit make noises	Low hissing sound during operation: This is normal and is caused by refrigerant gas flowing through both indoor and outdoor units.
	Low hissing sound when the system starts, has just stopped running, or is defrosting: This noise is normal and is caused by the refrigerant gas stopping or changing direction.
	Squeaking sound: Normal expansion and contraction of plastic and metal parts caused by temperature changes during operation can cause squeaking noises.
The outdoor unit makes noises	The unit will make different sounds based on its current operating mode.
Dust is emitted from either the indoor or outdoor unit	The unit may accumulate dust during extended periods of non-use, which will be emitted when the unit is turned on. This can be mitigated by covering the unit during long periods of inactivity.
The unit emits a bad odour	The unit may absorb odours from the environment (such as furniture, cooking, cigarettes, etc.) which will be emitted during operations.
	The unit's filters have become mouldy and should be cleaned.
The fan of the outdoor unit does not operate	During operation, the fan speed is controlled to optimize product operation.
Operation is erratic, unpredictable, or unit is unresponsive	Interference from cell phone towers and remote boosters may cause the unit to malfunction. In this case, try the following: • Disconnect the power, then reconnect. • Press ON/OFF button on remote control to restart operation.

Problem	Possible Causes	Solutions
Poor Cooling Performance	Temperature setting may be higher than ambient room temperature	Lower the temperature setting
	The heat exchanger on the indoor or outdoor unit is dirty	Clean the affected heat exchanger
	The air filter is dirty	Remove the filter and clean it according to instructions
	The air inlet or outlet of either unit is blocked	Turn the unit off, remove the obstruction and turn it back on
	Doors and windows are open	Make sure that all doors and windows are closed while operating the unit
	Excessive heat is generated by sunlight	Close windows and curtains during periods of high heat or bright sunshine
	Too many sources of heat in the room (people, computers, electronics, etc.)	Reduce amount of heat sources
	SLEEP function is activated	SLEEP function can lower product performance by reducing operating frequency. Turn off SLEEP function.
	Solar power is not enough. grid power is off, air conditioner runs only on solar panels.	Turn on the grid power.
The unit is not working	Both solar and grid power is off	Turn on grid and solar power
	Remote control batteries are dead	Replace batteries
	Timer is activated	Turn timer off
Poor heating performance	The outdoor temperature is lower than 7°C (44.5°F)	Use auxiliary heating device
	Cold air is entering through doors and windows	Make sure that all doors and windows are closed during use
Error code appears in the window display of indoor unit: • E0, E1, E2… • P1, P2, P3… • F1, F2, F3… • Lo/Lp	The unit may stop operation or continue to run safely. If the indicator light continues to display an error code, wait for about 10 minutes. The problem may resolve itself. If not, disconnect both solar and grid power, then connect it again 2 minutes later. Turn the unit on. If the problem persists, turn off the unit and contact an authorized service centre	