NORTEK GLOBAL HVAC, LLC

OWNER'S MANUAL

Split Air Conditioner INVERTER

Please read this owner's manual carefully before operation and retain for future reference. Specifications & illustrations subject to change without notice or incurring obligations.

GHH12(3.5)SSK4DH
GXH12(3.5)SSK4DH

◆ CONTENTS

Operation and maintenance

Installation service

This symbol stands for the items should be forbidden.

This symbol stands for the items should be followed

This appliance is not intended for use by persons (including children) with reduced physiced, sensory or mental capabilities or lack of experience and knowledge.
Children should be supervised to ensure that they do not play with the appliance.

Do not dispose this product as unsorted household waste. Please dispose of properly. Recycle as required by local regulations.

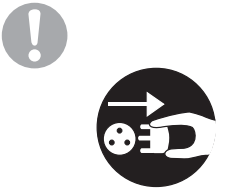
Note: Images shown in this manual are for reference only. The actual product you receive may differ.

◆ Operation and maintenance-notices for operation

★ Ground: The ground be connected!

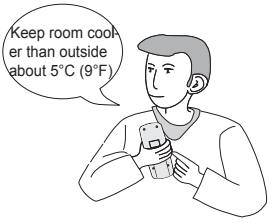
If not, please ask the qualified personnel to install. The grounding wire shouldn't be connected with gas pipe, water pipe, lightning arrester or telephone line.

★Be sure to unplug the power plug when not using the air conditioner for a long period of time.



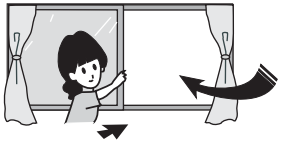
Otherwise, the accumulated dust may cause fire or electric shock.

★ Select the most appropriate temperature.



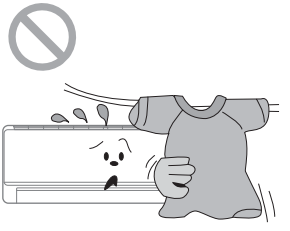
To save energy usage.

★ Don't leave windows and doors open while operating the air conditioner.



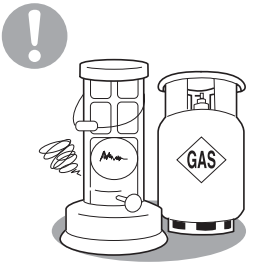
It can decrease the air conditioning capacity.

★ Don't block the air intake or outlet vents of either the outdoor or indoor units.



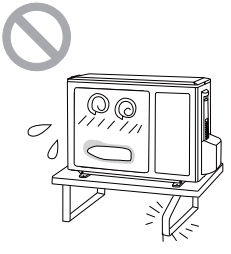
It can decrease the air conditioning capacity or cause a malfunction.

★ Combustible materials should be kept at least 1 meter (3 feet) away from unit.



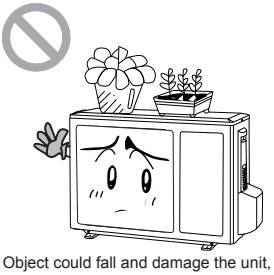
It can cause fire or explosion.

★ Make sure that the unit is installed securely.



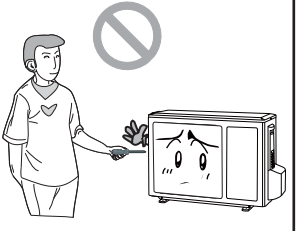
Unit could fall and cause injury or property damage.

★ Don't step on the top of the outdoor unit or place anything on it.



Object could fall and damage the unit, other property or cause personal injury.

★ Don't attempt to repair the air conditioner by yourself.

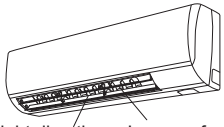


Faulty repair will lead to an electric shock or fire. Contact the service center to repair. center to repair.

◆ Notices for operation

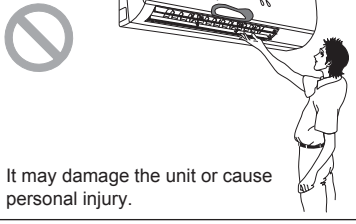
★ **If the supply cord is damaged, it must be replaced by qualified person in order to avoid a hazard.**

★ The airflow direction can be adjusted. At adjust the vertical airflow direction by adjusting the louvers of upward/downward direction. Grasp two ends of left and right louver to adjust the horizontal air-flow.



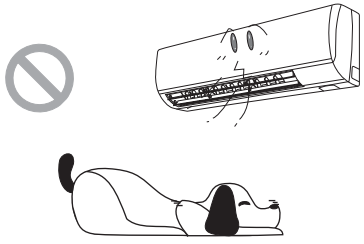
Louver of left/right direction Louver of upward/ downward direction.

★ Don't insert your hands or other objects into the air intake or outlet vents.

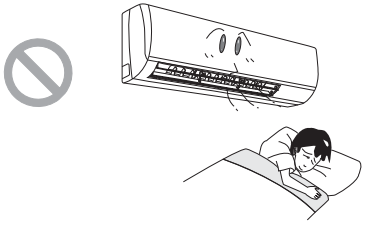


It may damage the unit or cause personal injury.

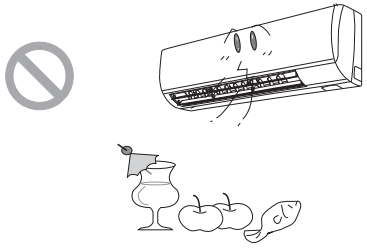
★ Don't direct air flow directly at animals or plants for extended period of time.



★ Don't direct air flow directly toward body for extended time.

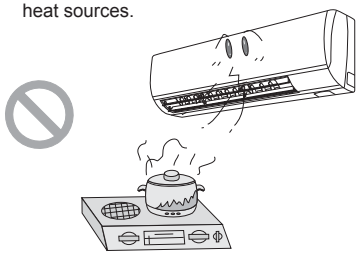


★ Don't use the air conditioner for drying clothes, preserving foods, etc.



★ Splashing water on the air conditioner can cause an electric shock and malfunction.

★ Don't place air conditioner near stove or other heat sources.



◆ Notices for use

Working principle and special functions for cooling

Principle:

Air conditioner absorbs heat from the indoor space and transmits it to the outdoors to be discharged. The indoor ambient temperature is cooled. The indoors cooling capacity will increase or decrease based on outdoor ambient temperature.

Anti-freezing function:

If the unit is running in COOL mode and in low temperature, there will be frost formed on the coil. When the indoor heat exchanger temperature drops below 0℃(32°F), the indoor unit microcomputer will stop compressor running to protect the unit.

Working principle and special functions for heating

Principle:

* Air conditioner absorbs heat from outdoor and transmits it to the indoor space to increase room temperature. This is the heat pump heating principle. The unit heating capacity will be reduced as the outdoor temperature decrease.
* If outdoor temperature becomes too low, use auxiliary heating sources.

Defrosting:

* **When outdoor temperature is low but with high humidity, after running for a long time frost will form on outdoor unit. This will reduce the heating effect. When this happens, the unit will automatically switch to from heating to defrost mode for 8-10 minutes.**
* **During auto defrosting, the fan motors of indoor unit and outdoor unit will stop.**
* **During the defrosting, the indoor indicator flashes. The outdoor unit may emit vapor. This is due to the defrosting. It isn't malfunction.**
* **After defrosting is comlete, the heating will resume automatically.**

◆ Notices for use

Anti-cool air function:

When the unit is in heating mode, to prevent cool air from blowing into the room, the indoor fan will let the heat exchanger warm up before engaging. The fan will be delayed approximately two minutes under the following conditions.

1. Thermostat call for heat
2. Auto Defrost is complete
3. Heating in low temperature mode

Introduction of DC solar power management

The outdoor unit can be powered by solar energy in addition to AC power input. The solar power device (for example a poly-crystalline panel) would be the primary power source. The AC power supply would be the reserve.

The rated voltage of DC solar power should be less than 165V and the rated current should be less than 9A.

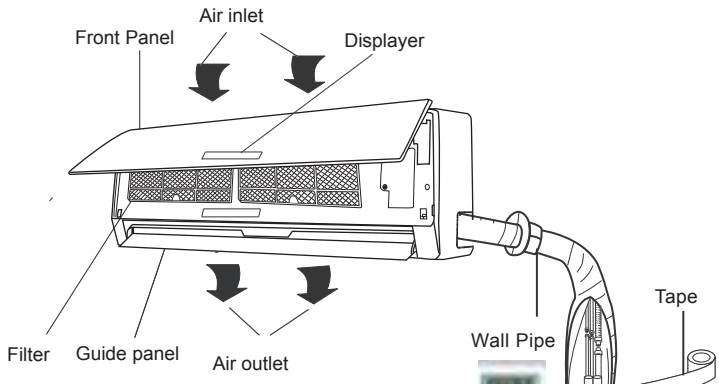
※ Working temperature range

	Indoor sideDB/WB °C (°F)	Outdoor sideDB/WB °C (°F)
Maximum cooling	35/24 (95/75)	48/30 (118/86)
Minimum cooling	21/15 (70/59)	21/- (70/-)
Maximum heating	24/- (75/-)	21/15.5 (70/60)
Minimum heating	20/- (68/-)	-15/- (5/-)

The operating temperature range (outdoor temperature) for cooling unit is 21～48°C(70~118°F) and heating unit is -15~48°C(5~118°F).

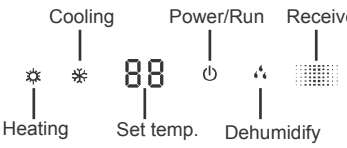
◆ Names and functions of each part

Indoor unit (Image shown here are for reference only. Actual product may differ)

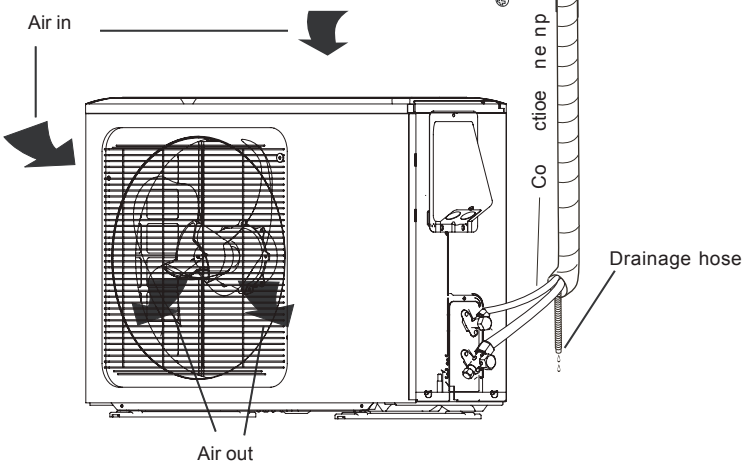


Wireless remote control

Display icon（Only for some Units）:



Outdoor unit



◆ Operation of wireless remote control

Names and functions of wireless remote control

Note: Be sure that there are no obstructions between receiver and remote controller. Don't drop or throw the remote control. Don't spill any liquid on the remote control and put the remote control in direct sunlight, or expose it to high heat.

Signal transmitter

Remote control

ON/OFF

ON/OFF button

- Press this button, the unit will be turned on, press it once more, the unit will be turned off. When turning off the unit, the Timer, Sleep function will be canceled, but the settings will be saved.

MODE

MODE button

- Press this button to select, Auto, Cool,Dry, Fan, or Heat mode.
  Auto mode is default while power on. Under Auto mode,the temperature will not be displayed.; Under Heat mode, the initial value is 28℃(82℉). In other modes, the initial value is 25℃(77℉).

AUTO
COOL
DRY
FAN
HEAT
(for cooling and heating unit)

SLEEP

SLEEP button

- Press this button to select, Sleep On and Sleep Off . After powered on,Sleep Off is the default setting. After the unit is turned off, the Sleep function is canceled. After Sleep function set up, the Sleep icon will display. In this mode, the timer can be adjusted. Under Fan and Auto modes, this function is not available.

FAN

FAN button

- Press this button to select, Auto, Low, Middle, High speed. After powered on, Auto fan speed is default.

Low fan Middle fan
High fan

Note:Under the Dry mode, the fan speed isn't adjustable, low fan speed is mandatory.

CLOCK

CLOCK button

- To set the clock, press this button and the ◴ display will blink.
  Press the + or - button within 5 seconds to adjust the time setting. Holding the + or - button for at least 2 seconds to adjust the time in 10 minute increments. Once the desired time has been reached, press the clock button again and the ◴ icon will stop blinking indicating the setting has been successful. 12:00 is the default setting and the ◴ icon will be displayed. While the ◴ icon is displayed the current time will be shown. When not displayed the Timer value will be shown.

LIGHT

LIGHT button

- Press this button to select LIGHT on or off in the displayer.

◆ Operation of wireless remote control

Names and functions of wireless remote control

Notice: This remote can control different air conditioning models. Some models may not have all functions shown on remote. Pressing the buttons for these functions will have no affect on the air conditioner.

Remote control

X-FAN

X-FAN button

- Press this button to turn on or off drying function.In Cool or Dehumidifying mode, press this button and " ", icon will display indicating the X-FAN is turned on. If repressthis button," " will be concealed, at disappear indicating the X-FAN function is turned off.
  After powered on, X-FAN OFF is the default. In Auto, Fan as well as Heat mode, X-FAN function can not be selected.
  Note: X-FAN is sometimes referred to as BLOW.

\-

- button

- Thermostat temperature can be decreased.
  Each time the button is pressed, the temperature setting is changed by 1 degree. Press and hold this button to change the temperature setting more rapidly.
  The temperature adjustment is unavailable under the Auto mode.

\+

+ button

- Each time the button is pressed, the temperature setting is changed by 1 degree. Press and hold this button to change the temperature setting more rapidly.
  Centigrade setting range :16-30; Fahrenheit scale setting range 61-86.

TURBO

TURBO button

- In Cool or Heat mode, press this button to turn on or turn off the Turbo function. After turned on the Turbo function, icon will be displayed. When switching the mode or changing fan speed, this function will be canceled automatically.

TEMP

TEMP button

- Press this button, to display the indoor setting temperature or indoor ambient temperature.When the indoor unit powers on, it will display the setting temperature. If the temperature display status is changed to " ", the ambient temperature displays. After about 5 seconds, or if it receives another signal from the remote, it will return to display the setting temperature. If the users haven't set up the temperature displaying status,that will display the setting temperature.
  (This function is not available on all models)

◆ Operation of wireless remote control

Names and functions of wireless remote control

Notice: This remote can control different air conditioning models. Some models may not have all functions shown on remote. Pressing the buttons for these functions will have no affect on the air conditioner.

Remote control

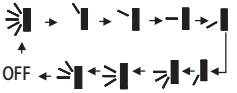
TIMER ON

TIMER ON BUTTON

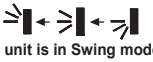
- Timer On setting: Signal "ON" will blink and display. The clock icon will disappear. The numerical section will indicate the timer on setting status and begin to blink. Press the + or - button within 5 seconds to adjust the time value. Each press of the button will increase or decrease the timer setting by 1 minute. Press and hold + or - buttons for 2 seconds to change the timer more rapidly. After 2.5 seconds the timer setting will increase or decrease at 10 minute intervals. Release + or - buttons and press the Timer On button within 5 seconds to save the setting. Repress the timer on button to cancel the setting. Before setting the Timer, please adjust the Clock to the current actual time.

SWING UP AND DOWN BUTTON

- Press this button, to set up swing or stationary angle of the louvers.



This is an universal use remote controller. Icon show the status of main unit swing setting.



When the unit is in Swing mode, when Swing mode is turned off, the air guide louver will stop at current position.

indicates the guide louver swings up and down through all five positions.

TIMER OFF

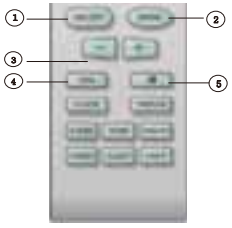
TIMER OFF BUTTON

- Once press this key to set up TIMER OFF setting, in which case the TIMER OFF icon will blink. The method of setting is the same as for TIMER ON.

◆ Operation of wireless remote control

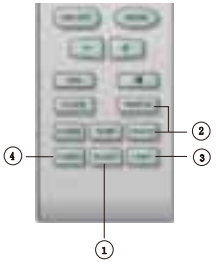
Guide for operation- General operation

1. After startup, press ON/OFF button, the unit will start to run.(Note: When it is powered on, the guide louver of main unit will close automatically.)
2. Press MODE button, select desired running mode.
3. Pressing +or - button, to set the desired temperature. (It is unnecessary to set the temp. in AUTO mode.)
4. Pressing FAN button, set fan speed, select AUTO FAN, LOW, MID or HIGH.
5. Pressing button, to select the swing.



Guide for operation- Optional operation

1. Press SLEEP button, to set sleep.
2. Press TIMER ON and TIMER OFF button, to set the scheduled timer on or timer off.
3. Press LIGHT button, to control the display light on the unit (This function may be not available for some units).
4. Press TURBO button, to activate the ON and OFF of TURBO function.



Introduction for special function

★ About X-FAN function

This function indicates that moisture on evaporator of indoor unit will be blown after the unit is stopped to avoid mold.

1. X-FAN function on: After turning off the unit by pressing ON/OFF button indoor fan will continue running for about 10 min. at low speed. In this mode, press X-FAN button to stop indoor fan.
2. X-FAN function off: After turning off the unit by pressing ON/OFF button, the complete unit will be off.

★ **About AUTO RUN**

When AUTO RUN mode is selected, the setting temperature will not be displayed on the LCD display. The unit will . automatically select a suitable running method to make ambient comfortable.

★ **About turbo function**

If TURBO function is selected,, the unit will run at super-high fan speed to cool or heat quickly so that the ambient temp. approachs the preset temp. as soon as possible.

◆ Operation of wireless remote control

★ About lock

Press +and - buttons simultaneously to lock or unlock the keyboard. If the remote controller is locked, the icon will be displayed. Pressing any button will only cause the lock icon to blink three times. The lock icon will disappear when the keyboard is unlocked.

★ About swing up and down

1. Pressing and holding the Swing up/down button for more than 2 seconds will cause the louver to swing up and down through all five positions. Releasing the button will stop the louver at the current position.

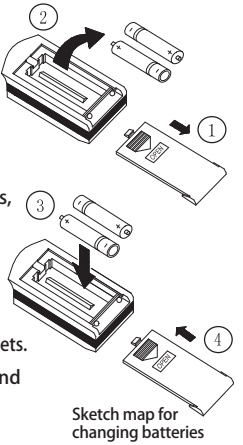
2. Under swing up and down mode, when the status is switched from off to, pressing this button again 2s later, status will switch to off status. Pressing press this button again within 2s, changes the swing status again based on the alternate sequences stated earlier in this manual.

★ About switch between Fahrenheit and Centigrade

Under status of unit off, pressMODE and - buttons simultaneously to switch ℃ and ℉.

Changing batteries and notices

1. Slightly to press the , along the arrowhead direction to push the back cover of wireless remote control. (As show in figure)
2. Take out the old batteries. (As show in figure)
3. Insert two new AAA1.5V dry batteries(make sure positive and negative poles are inserted properly). (As show in figure)
4. Attach the back cover of wireless remote control. (As show in figure)



Sketch map for changing batteries

★ NOTE:

- When changing the batteries, do not use the old or mismatched batteries, otherwise, it can cause the malfunction of the wireless remote control.
- If the wireless remote control will not be used for a long time, please remove batteries and store remote in cool, dry place.
- The operation should be in its receiving range.
- It should be placed at where is 1m(3 ft) away from the TV set or stereo sound sets.
- If the wireless remote control will not operate, try removing batteries and reinserting them. If it still won't work, replace batteries.

◆ Emergency operation

Displayer indicator light control of indoor unit

● Display indicator light on: When setting the light function,the mark will display on the remote controller screen after pressing this button. In which case,the display indicator light will be on if the AC receives this signal.

● Display indicator light off: Pressing the button again will turn the light indicator off and the mark will disappearper on the remote controller screen. In which case, the displayer indicator light will be off if the AC receives this signal.

Emergency operation

If the wireless remote control is lost or broken, please use the manual switch button. The unit will run in Auto mode, but the temperature and fan speed cannot be changed. Operate manual switch as shown below:

Open the panel, the manual switch is on the displayer box.

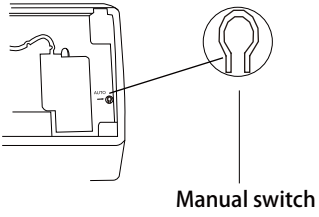


Fig.3

- Turn on the unit: If unit is turned off, press the button,the unit will run in Auto mode immediately.The microcomputer will sense to the indoor temperature to select the appropriate mode (Cooling, Heating, Fan) to make the room comfortable.
- Turn off the unit: If unit turned on, press the button, the unit will stop working.

◆ Clean and care

Caution

- **Turn power off and unplug before cleaning air conditioner, or it may cause electric shock.**
- **Never sprinkle water on the indoor unit or the outdoor unit for cleaning or it may cause an electric shock.**
- **Volatile liquid (e.g. thinner or gasoline) will damage the air conditioner. (So wipe the units with a dry soft cloth, or a damp cloth with a little mild detergent)**

Clean the front panel

When cleaning the front panel, use damp cloth with water temperature below 45℃(113° F), then wipe with dry cloth

Note: Please do not to immerse the front panel in water, or it will damage the microcomputer components and circuit diagrams.

Clean the air filter (Recommended once every three months)

NOTE: If air conditioner is exposed to very dusty conditions, please clean the filter more frequently. After taking off the filter, don't touch the fin to avoid damage or personal injury.

① Take down the air filter

Lift the front panel up, and pull the air filter downward and remove. See see the Fig.4(a, b).

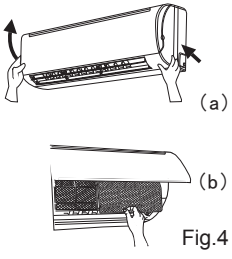
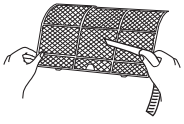


Fig.4

② Clean the air filter

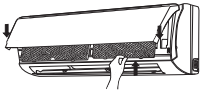
To clean the dust from the filters, you can either use a vacuum cleaner, or wash them with warm water the water with the neutral detergent should below 45 °C (113°F) ,and dry it in the shade.

NOTE: Never use water above 45°C(113°F) to clean, or it can cause warping or fading. Never dry filter over an open flame or it could become warped.



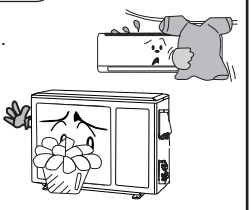
③ Insert the air filter

Reinsert the filters as directed by the arrowhead, and close the front cover. Make sure it is completely closed.



◆ Clean and care

Check before use



① Be sure that nothing obstructs the air outlet and intake vents.

② Check that the ground wire is properly connected.

③ Check that the batteries of remote control need replacing.

④ Check that the outdoor unit is mounted securely. If not, contact a qualified service technician.

Service and Maintenance

① Turn main power off.

② Clean the cabinets of both the indoor and the outdoor units. Clean filter.

③ Clear dust and obstructions from the outdoor unit.

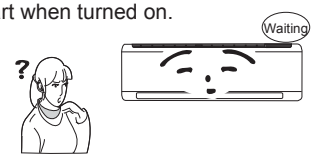
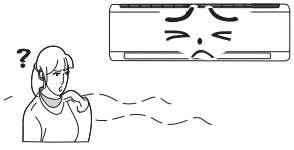
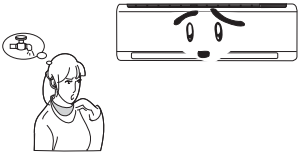
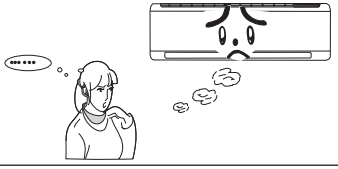
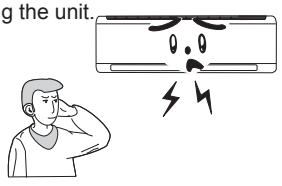
④ If rust is present on outdoor unit, remove rust and paint to prevent it from spreading. Check the inside as well as the outside of the cabinet for rust.

⑤ Use the special shield to cover the outdoor unit to avoid (as much as possible) rain, dust or other debris.

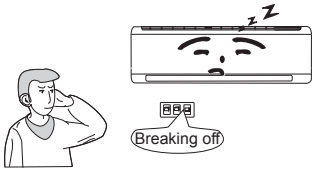
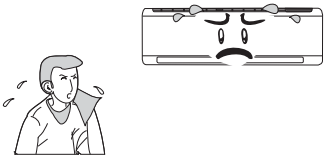
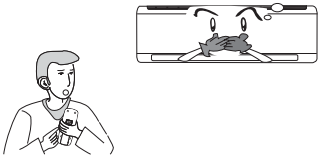
◆ Troubleshooting

CAUTION

Don't attempt to repair the air conditioner by yourself, it can cause an electric shock or fire. Please check the following items before calling for service.

Malfunction	Troubleshooting
The air conditioner does not immediately start when turned on. 	● Once the air conditioner is stopped, it will not operate for approximately 3minutes to protect itself from overload.
There's unusual odor from the outlet after operation is started. 	● The unit recirculating odors or smoke from the room. ● Solution method: Clean the filter. If problem still exists, contact a qualified service technician.
Sound of water flowing can be heard during operation. 	● When the air conditioner is running, just starting up, or just stopping, there is sometimes a gurgling down. This is refrigerant flowing through the pipes and not a malfunction.
In COOL mode, sometimes a mist is emitted from the air outlet vent. 	● If the indoor temperature and humidity are high, the room air is swiftly cooled in the air conditioner causing a mist or fog. After running for a while and the room cools down, the mist should stop.
Creaking noise can be heard when starting or stopping the unit. 	● This is caused by the expansion or contraction of plastic due to the changes of temperature.

Troubleshooting

Malfunction	Troubleshooting
The unit will not run . 	● Is the power supply turned off? ● Is the unit unplugged? ● Has the circuit breaker tripped? ● Is voltage too high or too low? (Tested by professionals) ● Has the TIMER been set by the remote control?
Cooling(Heating) efficiency is poor. 	● Is the thermostat set correctly? ● Is the inlet or outlet vent blocked? ● Is filter dirty? ● Are the windows and doors closed? ● Is Fan speed set at low speed? ● Is there any heat sources in the room?
Wireless remote control won't work . 	● The air conditioner may be receiving false signals from other electromagnetic sources. Or, too many signals have been sent too rapidly from the wireless controller. Try turning off main power and turn back on after a few seconds. ● Is it in its receiving range? Or is there an obstacle in the path? Are the batteries fresh? ● Is the wireless remote control is damaged?
If water leakage in the room.	● There is high humidity in the room. ● Condensing water reservoir over flowed. ● The condensate drain connection is damaged.
If water leakage in outdoor unit.	● When the unit is running in COOL mode, the pipe and connection of pipe could cause condensation due to the water cooled down. ● When the unit is running in Auto Defrosting mode the ice melted. ● When the unit is running in HEAT mode, the water condensing on heat exchanger dripped off.
Noise from indoor unit emitted.	● The sound of fan or compressor relay is switching on or off. ● When Defrost mode starts or stops, there could be a sound heard due to the refrigerant flowing in the reverse direction.

◆ Troubleshooting

Malfunction	Troubleshooting
Indoor unit cannot deliver air.	● In HEAT mode, when the temperature of **indoor** heat exchanger is very low, that **will stop** to prevent blowing cool **air. (Within 2min)** ● In HEAT mode, if frost begins to form on the outdoor heat exchanger, that the unit will automatically switch to Defrost mode. The indoor unit will stop for 3-12 min. During the defrosting, there may be water flowing out or vapor be produced. ● In dehumidifying mode, sometimes indoor **fan will** stop, in order to avoid condensing **water becoming vaporized** again.
Moisture on air outlet vent.	● If unit is running under the high humidity for a long time, the moisture will be condensed on the air outlet grill and drip off.

Immediately turn unit off, unplug, and contact a qualified service center if the following situations occur.

There is harsh sound during operation.
Unusual odors emitted during operation
Water is leaking in the room.
The fuse or circuit breaker trips frequently.
Water or other liquid is spilled on the air conditioner.
Power cord overheats.

▶ Stop running and pull out of the plug.

◆ Notices for installation

Important Notices

1. The unit installation work must be done by qualified personnel according to the local rules and this manual.
2. Before installation, please contact a local authorized maintenance center, if unit is not installed by the qualified maintenance center, the unit may malfunction and be seriously damaged beyond repair.
3. Once installed, the unit should not be removed and installed somewhere else.

Basic Requirements For Outdoor Unit Installation

Installation in the following conditions may cause malfunction. If it is unavoidable contact a qualified service center for assistance:

- Locations with strong heat sources, flammable gas or other volatile vapors are present
- Locations where high frequency waves from electronic equipment may be present.
- Locations with high salt content in the air such as along the coast.
- Locations with large amounts of machine oil or other contaminants in the air.
- Locations with high sulfur content in the air such as near hot springs.
- Locations with other high contaminants in the air.

Indoor Unit Installation Location

1. The air inlet and outlet vent should be free from obstruction, make sure that the air can circulate through the whole room.
2. Select a location that is convenient for connecting to outdoor unit and condensate water can be easily drained.
3. Select a location out of reach of children.
4. Check the support structure to verify that it has sufficient load-carrying capacity to support the weight of the unit. The unit should be able to be securely mounted to avoid vibration.
5. Be sure to leave enough space to allow access for routine maintenance. The height of the installed location should be 250cm(8 ft) or more above the floor.
6. Select a place about 1m(3 ft) or more away from TVset or any other electric appliances.
7. Select a with easy access for maintenance such as removing the filter for cleaning.
8. Make sure that the indoor unit installation complies with dimension diagram requirements.
9. Do not use the unit in high humid areas such as a laundry, bath, shower, or swimming pool.

Outdoor Unit Installation Location

1. Select a location where noise and outflow air emitted by unit will not inconvenience neighbors, animals, plants.
2. Select a location where there is sufficient ventilation.
3. Select a location where the air inlet and outlet vents are unobstructed.
4. Check the support structure to verify that it has sufficient load-carrying capacity to support the weight of the unit. The unit should be able to be safely and securely mounted to avoid vibration.
5. The unit should not be exposed to direct sunlight, rainfall or strong wind.
6. Make sure that the outdoor unit installation complies with installation dimension diagram, and is convenient for maintenance, repair.
7. The height difference of connecting the tubing within 5m(15 ft), the length of connecting the tubing within 10m(30 ft).
8. Select a location out of reach of children.
9. Select a location that will not block walkways or driveways or detract from building appearance.

◆ Notices for installation

Safety Requirements For Electric Appliances

1. The power supply match used the rated voltage and dedicated power supply should be used.
2. Don't tug or pull unit by power cord.
3. The unit should be securely grounded by a qualified electrical professional.
   The air switch must have the functions of magnetic tripping and heat tripping, for short circuit and overload protection.
4. The minimum clearance from combustibles should be 1.5m (5 ft).
5. The appliance shall be installed in accordance with national wiring regulations.
6. An all-pole disconnection switch having a contact separation of at least 3mm(1/8 in) in all poles should be connected in fixed wiring.
7. Poly-crystalline solar panel is strongly recommended as solar power device. The rated voltage of DC solar power should be less than 165V and the rated current should be less than 10A. For example apoly-crystalline solar panel of 200W (open-circuit voltage:33V short-circuit current:8.12A) . A maximum of 5 panels should be connected in series.

Note:

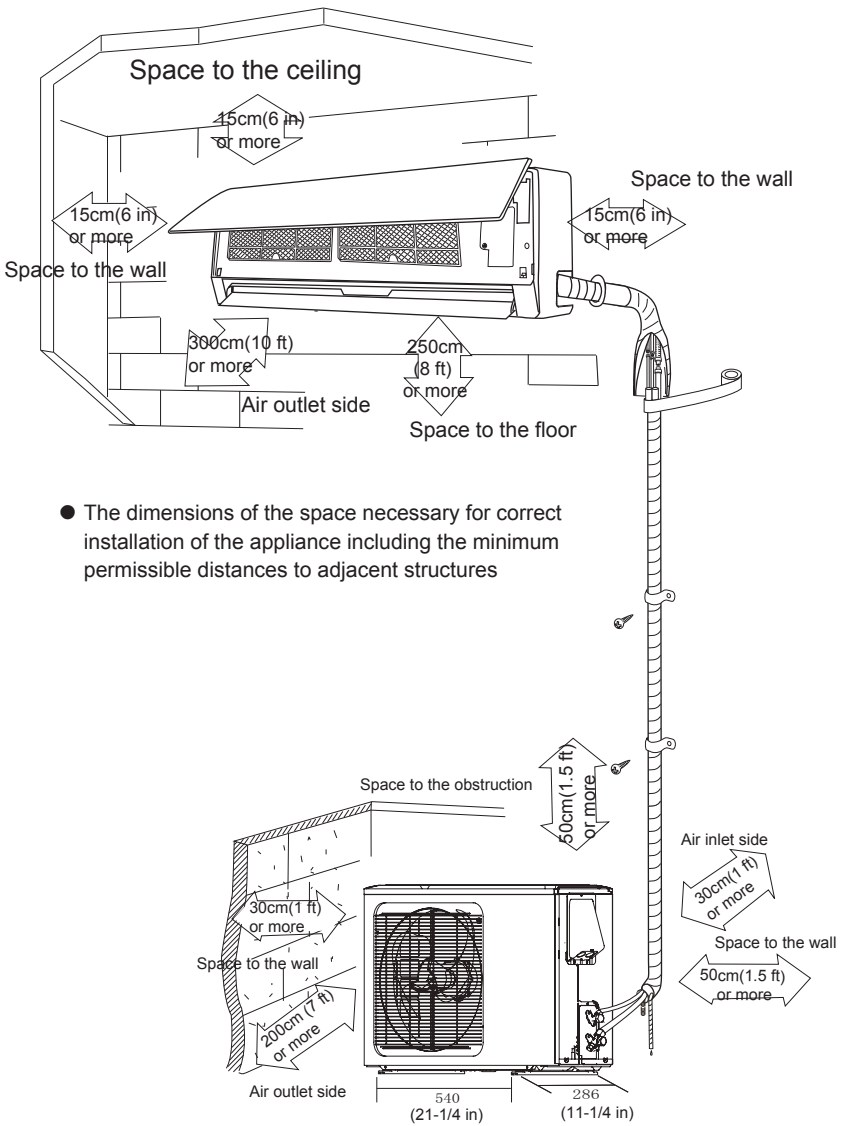
- Make sure that the Live wire or Zero line as well as the ground wire are properly connected. Refer to wiring diagram to avoid short circuit.
- wrong connection may cause fire.

Grounding requirements

1. Air conditioner is type Ⅰ electric appliance, It should be securely grounded by a qualified professional.
2. The yellow-green two-color wire in air conditioner is the grounding wire and cannot be used for any other propose. It cannot be cut and spliced or it would cause electric shock.
3. The ground resistance should accord to local and national codes and regulations.
4. Please don't connect the grounding wire with the following:
   ① water pipe. ② Gas pipe. ③ Contamination pipe.
   ④ Other places that professional personnel consider unreliable.
5. The model and rating values for fuses should match the diagram on fuse cover or related PCB board.

◆ Installation dimension diagram

Installation dimension diagram



- The dimensions of the space necessary for correct installation of the appliance including the minimum permissible distances to adjacent structures

◆ Install indoor unit

Install the rear panel

1.Always mount the rear panel horizontally. The indoor unit is designed to drain water in either direction. The water tray should be adjusted slightly downward when installing.
2.Secure the rear panel on the wall with screws.
3.The rear panel should be able to support 60 kg (135 lbs). The weight should be evenly distributed among the screws.

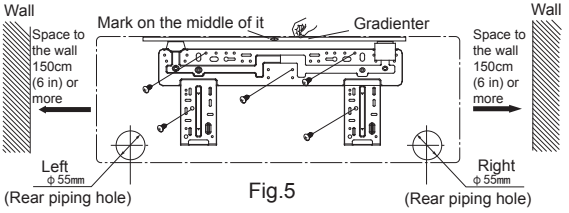
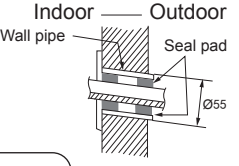


Fig.5

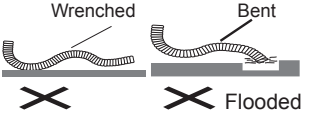
Install the piping hole

1.Make the piping hole (Φ55mm (2-13/16 in)) in the wall at a slight downward slant to the outdoor side.
2.Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the hole.



Install the water drainage pipe

1.For proper draining, the drain hose should be placed at a downward slope
2.Do not wrench or bend the drain hose or water will not drain properly and leak into room or wall.
3.If the drainage hose is long, it should be wrapped with insulating material.



Connect indoor and outdoor electric wires

1.Open the surface panel.
2.Remove the wiring cover Fig 6.
3.Route the power connection cord and signal control wire (for cooling and heating unit only) from the back of the indoor unit and pull it toward the front through the wiring hole for connection.
4.Attach wiring clamp.
5.Recover the surface panel.

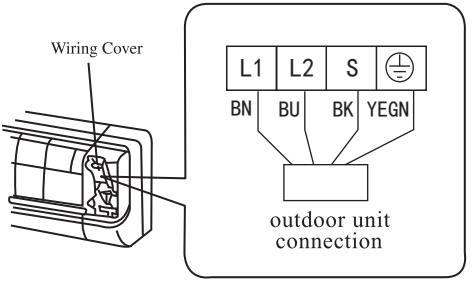


Fig.6

◆ Install indoor unit

NOTE:

Only single unbroken electrical wires should be used. Spliced wires are not allowed.

- The electric wiring must be correctly connected, Faulty connection may cause malfunction.
- Securely tighten all terminal screws to prevent short circuit.
- After attaching, slightly pull on wire to confirm screw is securely tightened.
- If the ground wire is improperly connected, it may cause an electric shock.
- The cover plate must be firmly secured to avoid dust and moisture collecting on the connection terminal and causing an electrical shock.

Install the indoor unit

- The piping can be lead out from right, right rear, left , or left rear.

1. When routing the piping and wiring from the left or right side of indoor unit, cut off the tailings from the chassis as necessary(Show in Fig.7)
   (1) Cut off the tailings 1 when routing the wiring only;
   (2) Cut off the tailings 2 and tailings 2 when routing both the wiring and piping.
2. Take out the piping from body case, wrap the piping electric wire, water pipe with tape and pull them through the piping hole (As show in Fig.8)
3. Hang the mounting slots of the indoor unit on the upper tabs of the rear panel and check if it is secure. (As show in Fig.9)
4. The height of the installed location should be 2.5m(8 ft) or more from the floor.
5. The water drainage pipe can also be installed on the left of the indoor-uint.

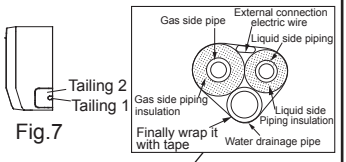


Fig.7

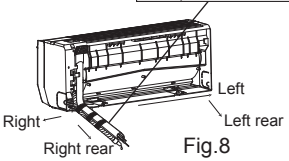


Fig.8

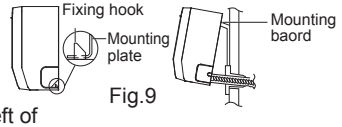
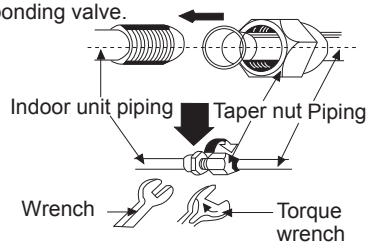


Fig.9

Install the connection pipe

1. Align the center of the piping flare with the corresponding valve.
2. Screw in the flare nut by hand and then tighten the nut with torque wrench. Refer to the following table:

Hex nut diameter	Tightening torque(N·m)
Φ 6(1/4 in)	15～20
Φ 9.52(3/8 in)	31～35
Φ 12(1/2 in)	50～55
Φ 16(5/8 in)	60～65
Φ 19(3/4 in)	70～75

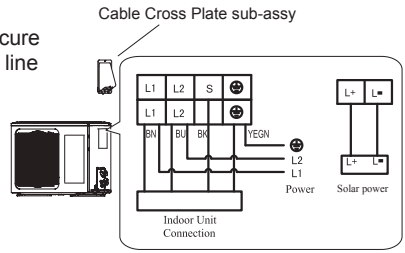


NOTE: First connect the pipe to indoor unit, then to outdoor unit. Be careful when bending pipe. Do not damage the connection pipe. Do not overtighten the nut or it may cause leakage.

◆ Install outdoor unit

Electric wiring

1. Remove the cable cross plate sub-assy on the outdoor unit right side plate.
2. Take off wire clamp. Connect and secure power cord (for cooling and heating unit,connect and secure power cord and signal control wire)to terminal of line bank. Wiring should fit that of indoor unit.
3. Secure the power cable with wire clamp, (for cooling and heating unit, use the wire clamp to secure the power cable and the signal control wire), then connect the corresponding connector.
4. Ensure wire has been well secured.
5. Install the cable cross plate sub-assy.



Important note:
The rated voltage of solar power should be less than 165V and the rated current of solar power should be less than 10A.

NOTE:

- Faulty wiring may cause malfunction.
- After the cable is attached, make sure there is slack between the connection and the wire clamp on the lead wire.

Air purging and leakage test

1. Connect refrigerant charging hose to the low pressure valve (both high/low pressure valves must be tightly shut).
2. Connect charging hose to vacuum pump.
3. Fully open handle handle of Lo manifold valve.
4. Open the vacuum pump to evacuate. At the beginning, slightly loosen joint nut of low pressure valve to check if there is air coming inside. (If noise of vacuum pump has been changed, the reading of gauge is 0) Then tighten the nut.
5. Keep evacuating for more than 15mins and make sure the reading of gauge is -15 psi.
6. Fully open high/low pressure valves.
7. Remove charging hose from low pressure valve.
8. Tighten bonnet of low-pressure valve. (As shown in Fig.10)

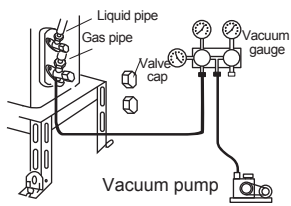
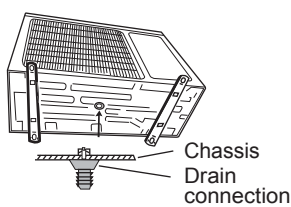


Fig. 10

Condensate drainage of outdoor unit (not applicable to cooling only unit)

The condensate and defrosting water formed during heating in the outdoor unit can be properly discharged by drainage pipe .
Installation method:set the drain connection in Ø 25(1 in) hole of the chassis and then connect drainage pipe with drain nozzle, so that condensate and defrosting water can be properly discharged



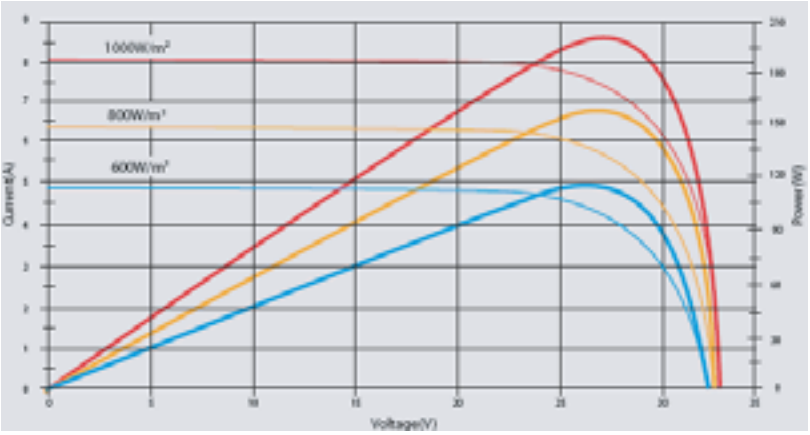
◆ Install PV-Module

PV-Module Characteristics

Electrical Characteristics	
Open - Circuit Voltage (Voc)	33.4V
Optimum Operating Voltage (Vmp)	26.2V
Short - Circuit Current (Isc)	8.12A
Optimum Operating Current (Imp)	7.63A
Maximum Power at STC (Pmax)	200Wp
Operating Temperature	-40ºC to +85ºC(-40 to 185°F)
Maximum System Voltage	600V DC
Maximum Series Fuse Rating	20AMPS
Power Tolerance	±3 %
Mechanical Characteristics	
Solar Cell	Poly-crystalline 156×156mm (6inch)
No. of Cells	54 (6×9)
Dimensions	1482×992×35mm (58.3×39.1×1.4inch)
Weight	16.8kg (37.0lbs.)
Front Glass	3.2 mm (0.13inch) tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP65 rated
Output Cables	LAPP (4.0mm2), asymmetrical lengths (-) 1200mm(47.2inch) and (+) 800mm (31.5inch), MC Plug Type IV connectors

STC: Irradiance 1000W/m2, Module temperature 25ºC(77°F), AM=1.5

Current-Voltage & Power-Voltage Curve



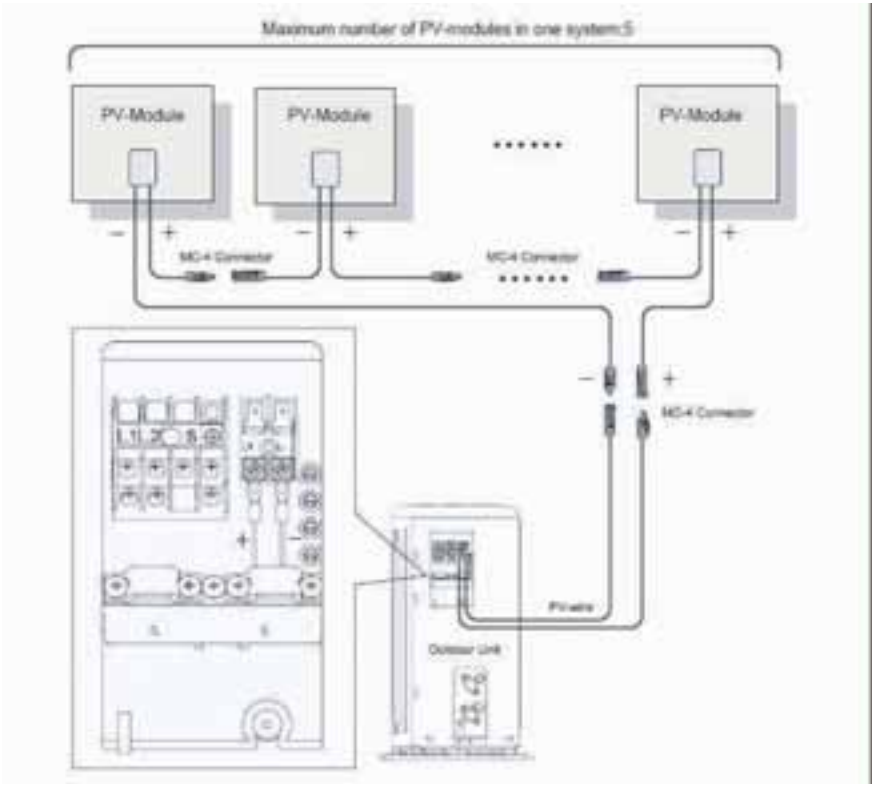
◆ Install PV-Module

Mechanical Installation

1. Mechanical Installation of PV-modules should be performed by professional solar photovoltaic installer guides or reputable solar installer or systems integrator.
2. Manufacturer does not provide any mechanical installation guide for PV-modules or offer any service support.

Electrical Installation

1. General Installation
• Any hardware used must be compatible with the mounting structure material to avoid galvanic corrosion
• It is not recommended to use modules with different configurations in the same system.
• Multiple modules should be connected in series to form a string as needed.The maximum number of series connected modules is 5.
• MC-4 is the recommended connector and the recommended system wires size is AWG12 .
2. Installation diagram



◆ Install PV-Module

Assembly of PV-wire

1.The PV-wire should be single-pole, double insulated solar cable, the length will depend on the distance from PV-modules to outdoor unit of AC, the recommended conductor cross section is AWG12, and it should comply to UL4703.

2. Attach MC 4 connector to one of the PV wire and spade terminal to the other.

Assembly of MC-4 Connector

1. Introduction of MC-4 Connector
The MC-4 Connector contains three Parts, male PV cable coupler(PV-KST4/6II-UR), female PV cable coupler(PV-KBT4/6II-UR) and a safty lock clip(PV-SSH4).

Male PV cable coupler (PV-KST4/6II-UR)

Female PV cable coupler (PV-KBT4/6II-UR)

Safty lock clip (PV-SSH4)

2.Assembly Method

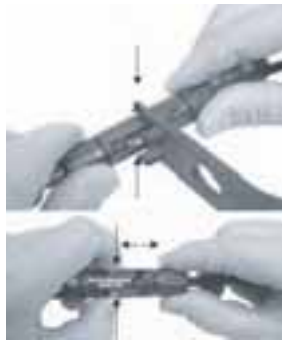
◆ Install PV-Module

	Introduction	Photo	Recommended tool
Step1	Strip cable insulation. L = 6-7,5 mm(about 1/4 in) Be careful not to cut individual strands.		Stripping pliers: 
Step2	Open and hold clamping clip (K).Insert contact in the appropriate cross-section range of the crimping tool. Turn contact till crimping tabs face the top. Release clamping clip (K). The contact is secured.		Crimping pliers: 
Step3	Lightly press the pliers together so that the crimping tabs lie securely within the crimping die.		

◆ Install PV-Module

Step4	Insert the stripped cable until the insulation comes into contact with the crimping insert. Close crimping tool completely. Check crimp.		
Step5	Push the crimped contact into the socket resp. plug insulator until it engages. Pull lightly on the lead to check that the metal part has engaged.		
Step6	Insert the test pin with the corresponding side into the socket or plug to the end position. If the contact is correctly assembled, the white marking on the test pin must be still visible.		Test plug PV-PST 
Step7	Screw on the cable gland, hand-tight, with the tools PV-MS. The tightening torque must be adapted to the solar cables used in each specific case. Typical values lie in a range between 2,5Nm to 3Nm.		Open-end spanner PV-MS 1 set = 2 pieces 

◆ Install PV-Module

Step8	Plug the coupling together until they engage. Check correct engagement by pulling on the coupling.		
Step9	Separate the connector by hand or with the PV-MS tool and separate the coupling.		
Step10	Plugging: Mount the plug connection until it engages. Check correct engagement by pulling on the coupling. Unplugging: The plug connection can only be unlocked with the tool PV-MS.		PV-SSH4 

◆ Check after installation and test operation

Check after installation

Items to be checked	Possible malfunction
Has it been firmly secured?	The unit may fall, shake or emit noise.
Have you done the refrigerant leakage test?	It may cause insufficient cooling(heating) capacity.
Is heat insulation sufficient?	It may cause condensation and dripping.
Will water drain from the unit completely?	It may cause condensation and dripping.
Is the voltage in accordance with the rated voltage marked on the nameplate?	It may cause electric malfunction or damage.
Is the electric wiring and piping connection installed correctly and securely?	It may cause electric malfunction or damage.
Has the unit been connected to a secure earth connection?	It may cause short circuit.
Is the proper power cord installed securely?	It may cause electric malfunction or damage.
Are the inlet and outlet free of obstruction?	It may cause insufficient cooling(heating) capacity.
Has the length of connection pipes and refrigerant capacity been recorded?	The refrigerant capacity is not accurate.
Is the PV-wire installed correctly and securely?	It may cause PV-modules malfunction or damage the PV-modules.
Is the MC-4 connectors plugged correctly and securely?	It may cause PV-modules.
Test the voltage of L+ and L- to ensure the PV-modules is connected to AC correctly.	It may cause PV-modules.

Test Operation

1. Before test operation

(1) Do not switch on power before installation is completed.

(2) Electric wiring must be connected correctly and securely.

(3) Cut-off valves of the connection pipes should be opened.

(4) All the impurities such as scraps and debris must be cleared from the unit.

2. Test operation method

(1) Switch on power, press "ON/OFF" button on the wireless remote control to start the operation.

(2) Press MODE button, to select the COOL, HEAT(HEAT not available on cooling only unit), FAN to check for normal operation.

◆ Installation and Maintenance of Healthy Filter

Installation Instructions

1. Lift the fron panel with two hands up and away from the body. Then pull the air filter downwards to remove it. (See Fig.a)

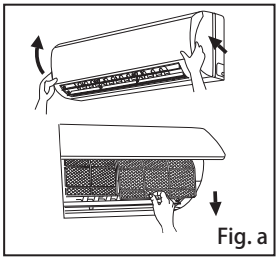


Fig. a

2. Mount the healthy filter onto the air filter,(as shown in Fig.b). If the air filter cannot be installed, please mount the healthy filter on the front case. (as shown in Fig.c)

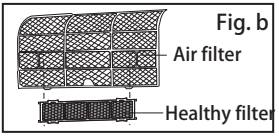


Fig. b

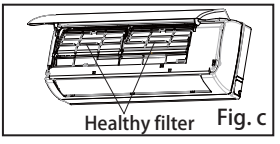


Fig. c

3. Reinstall the air filter as shown in Fig.d, and then close the panel cover.

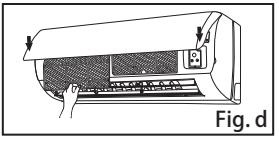


Fig. d

Cleaning and Maintenance

Take out the healthy filter before cleaning and reinstall it after cleaning according to the installation instruction. Please not that that silver ion filter can NOT be cleaned with water, while active carbon, photocatalyst, low temperature conversion (LTC) catalyst, formaldehyde eliminator, catechin or mite killing filter can. Do not use hard bristle brush as this will cause damage. Do not use towel or other material to wipe dry. Allow the filter to dry in shade or sun.

Service Life

The healthy filter has an average lifetime of about one year under normal conditions. The silver ion filter should be disposed when the surface becomes blackish green.

- Instructions for heathy filter are for reference only. Illustrations are for reference only. Different models may vary as to quantity of filters, etc.

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