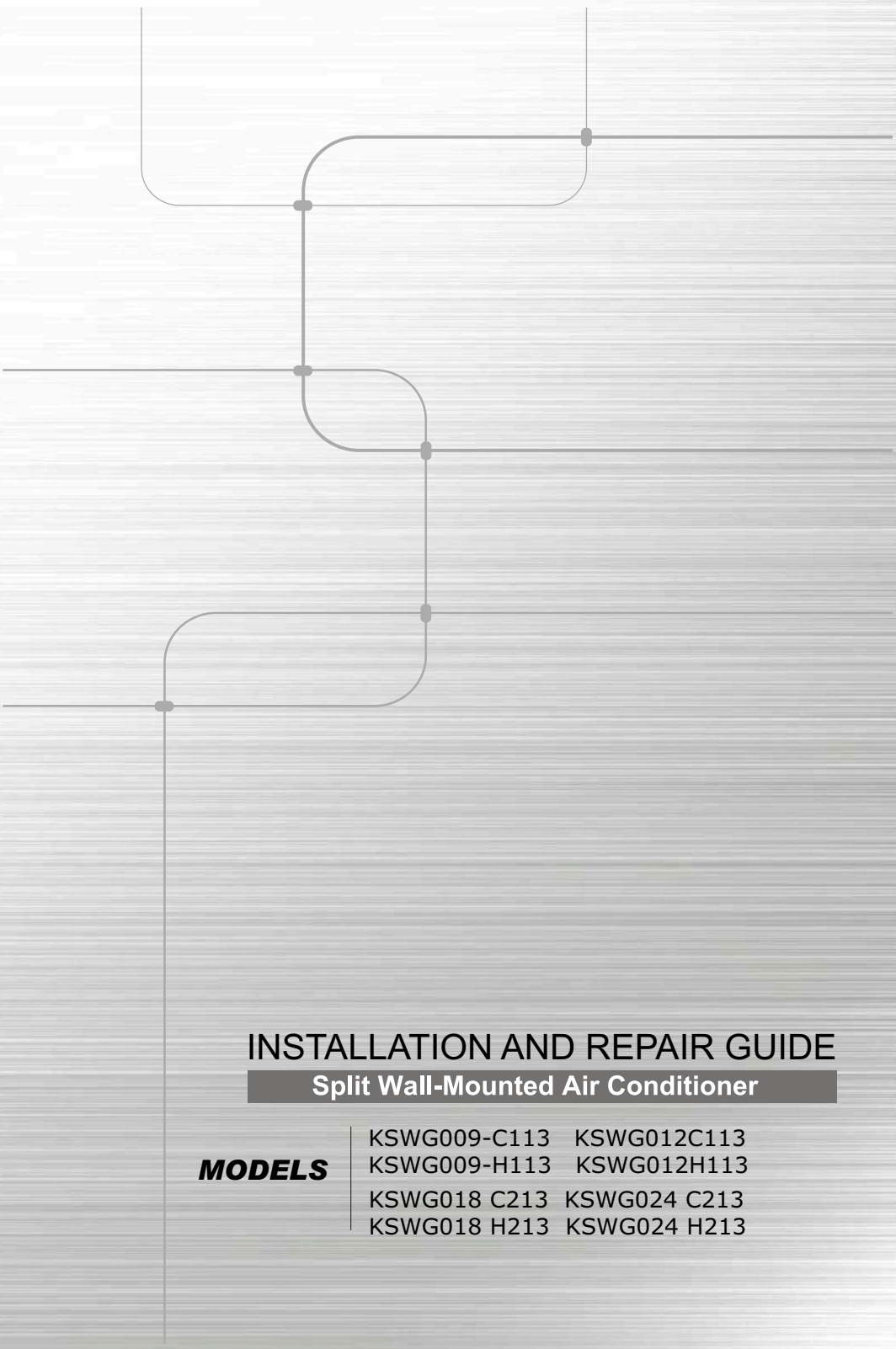




INSTALLATION AND REPAIR GUIDE

Split Wall-Mounted Air Conditioner

MODELS

KSWG009-C113	KSWG012C113
KSWG009-H113	KSWG012H113
KSWG018 C213	KSWG024 C213
KSWG018 H213	KSWG024 H213

Foreword

Air conditioners are pieces of high value. In order to ensure your lawful rights and interests, please have the professional technicians to do the installation for you.

This Instruction Guide is the universal-purpose version for the models of split wall-mounted air conditioners manufactured by our Co. The appearance of the units that you purchase might be slightly different from the ones described in the Guide, but it does not affect your proper operations and usage.

Please read carefully the sections corresponding to the specific model you choose, and keep the Guide properly so as to facilitate your reference at later time.

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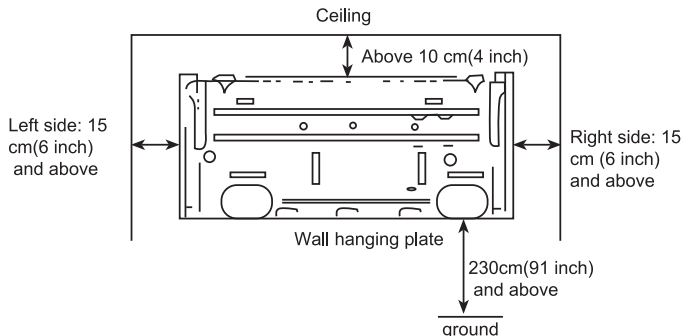
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【Selection of installation positions for indoor unit】

- To be installed at the position where the air delivered from the unit can reach every corner of the room;
- To avoid being affected by the outdoor air;
- To avoid blockage to the air inlet or outlet of the unit;
- To avoid too much oil smoke or steam;
- To avoid possible generation, inflow, lingering or leakage of flammable gases;
- To avoid high-frequency facilities (such as high frequency arc welders, etc.);
- To avoid the places where acid solutions are frequently used;
- To avoid the places where some special sprayers (sulfides) are frequently used.
- Not to install a fire alarming device near the air outlet of the unit (during operation, the fire alarm device might be erroneously triggered by the warm air from the unit);

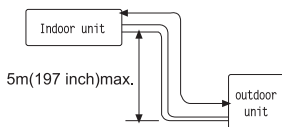
■ Make sure of enough space for installation and maintenance.

- To take into consideration the operational convenience and safety in installation, it is recommended to ensure enough space between the unit and the walls.



■ Height limits of indoor and outdoor units.

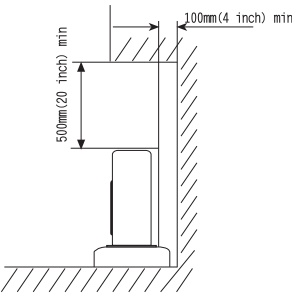
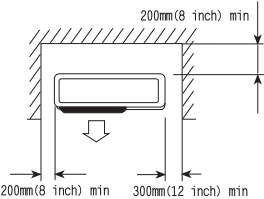
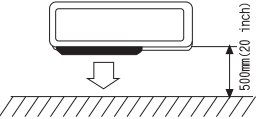
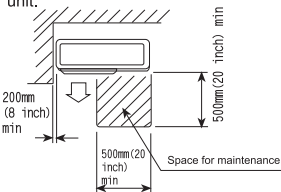
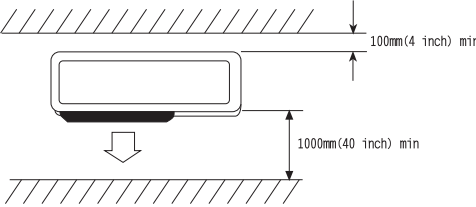
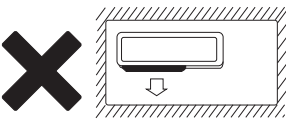
- Either the indoor unit or the outdoor unit can be higher, but the height difference must comply the stated requirements.
- Try to reduce the bending of the piping line as much as possible so as to avoid possible negative impacts upon the performances of the units.



【Selection of installation positions for outdoor unit】

- To install the outdoor unit at the places which can stand the load of the machine weight and will not cause big vibrations and noises;
- To install the unit at the places not to be exposed to rain or direct sunshine, and the places with good ventilation;
- The noises generated from the unit will not affect the neighboring places;
- Do not install the unit on non-metal frame;
- Not to install the unit at the places where there might occur the generation, inflow, stay or leakage of inflammable gases;
- Pay attention to the drainage of the condensed water from the base plate during operations;
- To avoid the air outlet being directly against the wind.

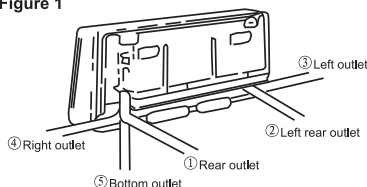
Detailed space requirements around the outdoor unit

1. When there are obstacles above the unit 	2. When the front (air outlet) is open 	3. When there are obstacles only in the front (air outlet)  Space for maintenance Shown as in the following figure. Keep the maintenance space in front of the unit. 
4. When there are obstacles at the front and rear sides. 		5. When there are obstacles all around the unit on four sides. Although the top side is open, the installation is not to be done if there are obstacles all around.  ● At least two sides should be kept open.

【Installation fixture of indoor unit】

Pipe lines can be connected in the directions of ①、②、③、④、and ⑤ as indicated in Figure 1. When the pipelines are connected to the directions of ③、④ and ⑤, a groove for the pipes has to be opened at the proper place on the base stand.

Figure 1



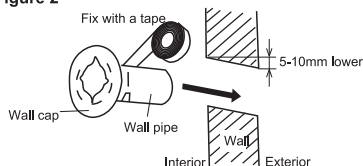
1、Installation of wall-mounting plate

Fix the wall-mounting plate firmly on the wall with screws. Make sure of the leveling of the plate. Slanted wall-mounting plate might jeopardize the smooth discharge of the condensed water.

2、Drill holes on the wall

Drill holes at places slightly below the wall-mounting plate, with hole diameter of 65mm and the outer edge of the hole 5-10mm lower (Figure 2) so that the condensed water can smoothly flow out. Cut the wall penetrating pipe to proper length according to the thickness of the wall (3-5mm longer than the wall thickness) and insert the pipe as indicated in Figure 2.

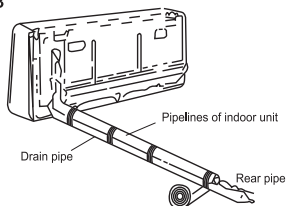
Figure 2



3、Installation of drain pipe

Install the pipelines of the indoor unit in accordance with the direction of the wall holes. Wrap tightly the drain pipe and the pipelines with tape. Make sure that the drain pipe is underneath the pipelines. (Figure 3) (When the drain pipe passes the room interior, some condensed water might occur to its surfaces if the humidity is very high).

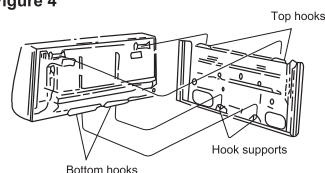
Figure 3



4、Installation of indoor unit

Pass the connection wires, connecting pipelines and drain pipe through the wall hole. Hang the indoor unit on the hooks at the top of the wall-mounting plate so that the hooks at the bottom of the indoor unit match the hooks of the wall-mounting plate. (Figure 4)

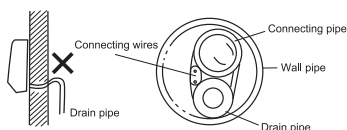
Figure 4



Inspections:

- See if the hooks at the top and bottom are firmly fixed.
- See if the position of the master unit is properly leveled.
- The drain pipe should not curve upward (Figure 5).
- The drain pipe should be at the lower part of the wall pipes (Figure 5).

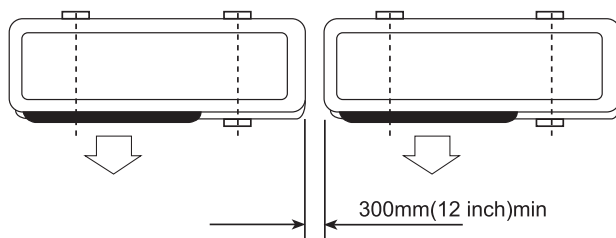
Figure 5



【Installation fixture of outdoor unit】

- Try to ship the product to the installation location in its original package;
- As the gravity center of the unit is not at the installation center, special caution should be taken when using hoisting cables to lift it up;
- During shipping, the outdoor unit must not be slanted to over 45 degrees (Do not store the unit in a horizontal way).
- Use expansion bolts to fix the mounting supports on the wall;
- Use bolts and nuts to fix the outdoor unit firmly on the supports and keep on the same level;
- If the unit is installed on the wall or at the rooftop, the supports have to be firmly fixed so as to resist earthquake or strong wind.

Dimensions for parallel units installations



【Pipelines connection】

■ Ordinary pipelines connection (it is suitable for non-quick coupler)

No dust, foreign articles, air or moisture should be allowed to enter the air conditioning system. Careful attention should be paid when pipeline connection for outdoor unit is made. Try to avoid repeated curves as much as possible, otherwise hardening or cracks might be caused to the copper pipes. Suitable wrenches should be used when the pipeline connection is done so as to ensure appropriate torque (refer to following torque Table 1). Excessive torque might damage the joints while too little torque might lead to leakage.

Table 1 Torque based upon the wrench to be used

Outer diameter of copper pipe	Tightening torque	Strengthened tightening torque
∅ 6.35 (1/4")	160kgf·cm(63kgf·inch)	200kgf·cm(79kgf·inch)
∅ 9.52 (3/8")	300kgf·cm(118kgf·inch)	350kgf·cm(138kgf·inch)
∅ 12.7 (1/2")	500kgf·cm(197kgf·inch)	550kgf·cm(216kgf·inch)
∅ 15.88 (5/8")	750kgf·cm(295kgf·inch)	800kgf·cm(315kgf·inch)
∅ 19.05 (3/4")	1200kgf·cm(472kgf·inch)	1400kgf·cm(551kgf·inch)

Special pipelines connection(it is suitable for quick coupler)

In case of the users purchasing the machine for quick coupler, there is no need to do the air exhausting procedures and the following pipeline connection procedures should be adopted:
1.Remove the dust caps from the indoor and outdoor units,and the connecting pipe.

2.Align the joint counter of connecting pipe with the proper indoor and outdoor joint conic surfaces,tighten the connecting nut manually.Then,make it secure with wrench(refer to above torque Table 1)(Figure 6).

3.Remove the two valve core caps from the outdoor unit.

4.Turn on the high and low pressure valve cores with an socket wrench,then tighten the two valve core caps of the outdoor unit (Figure 7).

5.Finally ,wrap the hot insulating cotton around the joints of indoor and outdoor units.

Figure 6

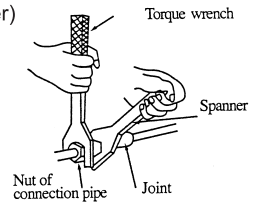
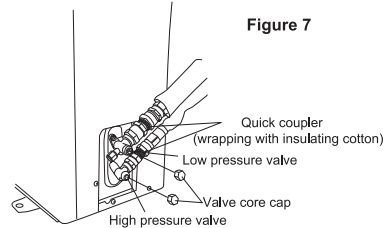


Figure 7



Notes on installation of quick coupler:

1.Connecting pipe bending minimum radius parameters (Table 2)

2.Quick coupler assembly and disassembly limit: the assembly and disassembly times are inadvisably more than 7.

【Exhaust air】

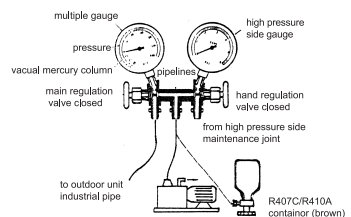
(it is just suitable for non-quick coupler)

■R407C/R410A:use pump vacuum to exhaust the air.

The procedures must be operated by professional technicians (Figure 8).

Table 2 Minimum bending radius

Normal diameter(mm)	Minimum bending radius(mm)	cooling capacity
DN8	80	2100~2300W (7000~8000BTU)
DN10-12	100	2500~5100W (9000~18000BTU)
DN14-16	150	6100~7000W (22000~24000BTU)



refrigerant charging diagram

Figure 8

R22:you can choose the suitable methods to exhaust air according to following table

Pipe length	Exhaust air methods	Add refrigerant volume	
<5m(197inch)	Use the refrigerant in outdoor unit	—	
5-10m (197-394inch)	Use refrigerant pot	Liquid pipe diameter $\varnothing 6.35(1/4")$	Liquid pipe diameter: $\varnothing 9.52(3/8")$
		(Connecting pipe length-5m)x30g or (Connecting pipe length-197inch)x0.76g	(Connecting pipe length-5m)x65g or (Connecting pipe length-197inch)x1.65g

■ use refrigerant in outdoor unit to exhaust the air

- 1.Tighten the union nut B,C,D with wrenchs according to torque Table 1,then loose half-circle after tightening union nut A(Figure 9).
- 2.Turn the valve core of valve B about 6-7 seconds with an angle of 45 anti-clockwisely to exhaust the air from valve A,then tighten the union nut A.
- 3.Open the valve core of check valve B and A completely,then tighten the valve core cap of the check valve.

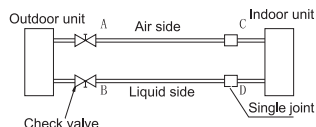
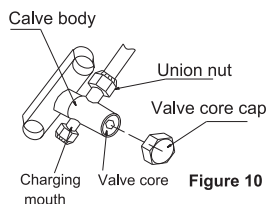


Figure 9

■ use refrigerant pot to exhaust the air

- 1.Tighten the union nut C and D of indoor unit ,also for union nut A of outdoor unit(refer to above torque Table1).
- 2.Connect the charging hose of refrigerant pot with the charging mouth of valve A(Figure 10).
- 3.Loose the union nut B of outdoor unit slightly.
- 4.Open the valve of refrigerant pot,charge the refrigerant about 10-15 seconds,then close it completely.
- 5.Wait until the sound of air flowing in union nut B was decreased obviously,then tighten the union nut B.
- 6.Remove the charging hose from the charging mouth of valve A,then push the needle valve of charging mouth with the tool like hexagon spanner to outlet the remain refrigerant from the pipe,until no sound of air flowing be heard,then tighten the valve cap of charging mouth.
- 7.Open the valve core of check valve B and A of outdoor unit completely,then tighten the valve core cap of check valve.



【Air leakage check】

After the pipeline connection is done,use a leakage inspection device or soap suds to carefully check if there is any leakage at the joints.This is an imporant step to ensure the quality of installation.Once a leakage is detected,proper treatment should be taken immediately.

【Connection of power cable】

1.Remove the drawer of the outdoor unit.

2.**Non-quick coupler:**connect the indoor power and control wires with the matched outdoor wires in accordance with the electric schematic diagram and make sure that the connection is firmly done(Figure 11).

Quick coupler:directly connect quick cable couplers with indoor and outdoor quick cable couplers after disassembly of the outdoor unit connecting box cover (Figure 12).

3.Use a press plate to fix the wires firmly,and re-install the drawer.

Figure 11

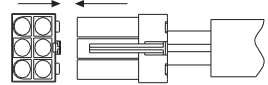
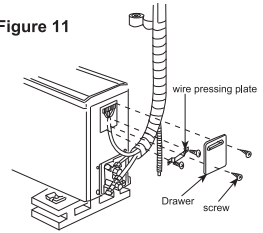


Figure 12

Note:Do not connect the wires in a wrong way,otherwise electric malfunctions will be caused and even damages to the units will occur.The appliance shall be installed in accordance with national wiring regulation.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.The plug shall be accessible after installing the appliance.If the model have not plug that a switch which have a contact separation of at least 3 mm in all poles shall be added in fixed wiring.

【Finishing touches】

- Use thermal tube to wrap the joints and wrap the tube tightly with ethylene tapes.
- Fix the wrapped pipelines on the exterior wall with clamps.
- Fill in the gaps left over by the pipeline hole and wall hole to prevent rain-water from entering.

【Test running】

- Connect to the power source,check if the function selection keys on the remote controller are working properly.
- Check if the room temperature adjustments and timer settings are working properly.
- Check if the drain is smooth.
- Check if there is any abnormal noise or vibration during operation.
- Check if there is leakage of refrigerant.

【Is the unit installed correctly?】

■ Suitable Installation Position

- Isn't there anything which prevents ventilation or obstructs operation in front of the indoor unit ?
Do not install the unit following place .
 - Inflammable gases may leak .
 - Oil splashes a lot .
 - In case where the unit is used in such places as poisonous or sultry gases are generated or seaside district exposed to sea breezes corrosion may cause malfunction . Consult with your distributor .
 - Air conditioner body and remote controller must be 1 m or more away from a TV or a radio .
- Drain the dehumidified water from the indoor unit to a place which drains well .

■ Pay attention to operation noise

- When installing the unit , choose a place which can stand the weight of the unit well and does not increase the operation noise or vibration . Especially where there is a possibility that vibration be transmitted to the house , fix the unit by inserting attached vibration -proof pads between the unit and fittings .

- Choose the place where hot air and operation noise from the outlet of the outdoor unit do not annoy the neighborhood .
- Things left near the outlet and inlet of the outdoor unit cause malfunction or increased operation noise . Do not leave obstacles near the outlet and inlet .
- If irregular sound is heard during operation , consult with your distributor .

■ Inspection and Maintenance

- According to the service conditions and operating environment , the inside of the air conditioner will become dirty after several seasons (3 to 5years) of service , resulting in decreased operating performance .Inspection and maintenance are recommended in addition to usual cleaning (The air conditioner can be used for a longer period and without anxiety .)
- As to inspection and maintenance , consult your dealer or any one of business offices of dealing companies .(Service charge is required in this case .)
- We recommend to perform inspection and maintenance during an off seasons.

【Self Diagnosis Functions】

Our company provides the thoughtful services for customer,air conditioners had been installed self diagnosis system to display the information for the units.

Self check information	Self-check code of luminotron	Explanation	Digital self-check code	Explanation
Hint to defrosting	Flicker 1 time/1s	Display when starting up	dF	1. The state of defrosting is displayed by using the defrosting pictures on VFD and LCD. 2. For those who have no defrosting pictures, it is expressed by "double 8"digitals and in English letter "dF"
Hint to defense against cold wind	Flicker 1 time/3s	Display when starting up		The fan motor picture doesn't rotate or stop to indicate the defense against cold wind.
Failure of room temperature sensor	Flicker 2 times/4s	Display when starting up	E2	Display when starting up/closing
Failure of coiled pipe sensor	Flicker 3 times/5s	Display when starting up	E3	Display when starting up/closing
Abnormality of outdoor air-conditioning	Flicker 4 times/6s	Display when starting up and closing	E4	Display when closing
Feed of machine without wind	Flicker 5 times/7s	PG electric machine, display when closing	E5	Display when closing
Failure of internal blower fan	Flicker 5 times/7s	Taped electric machine, display when closing	E5	Display when closing
Zero crossing signal without current	Flicker 6 times/8s	PG electric machine, display when closing	E6	Display when closing
External feedback failure	Flicker 7 times/9s	Display when closing	E7	Display when closing
Overheating protection	Flicker 8 times/10s	Display when closing	E8	Display when closing
Water pump failure	Flicker 9 times/11s	Display when closing	E9	Display when closing
Continuous running			--	

Note: Above self check information is commonly applicable in our most air conditioners, but some are special, you can refer to the User's Manual for information or contact the dealer or authorized maintenance people for help.

