Service Manual

MODEL: KM09HEDI
KM12HEDI
KM18HEDI

GREE ELECTRIC APPLIANCES INC.OF ZHUHAI

Table of Contents

Summary and Features 1

1.Safety Precautions 2

2. Specifications 3

2.1 Unit Specifications 3
2.2 Noise Criteria Curve Tables for Both Models 5

3. Construction Views 6

4. Refrigerant System Diagram 7

5. Schematic Diagram 8

5.1 Electrical Data 8
5.2 Electrical Wiring 8
5.3 Printed Circuit Board 9

6. Function and Control 10

6.1 Remote Control Operations 10
6.2 Description of Each Control Operation 14

7. Installation Manual 16

7.1 Seleection of Installation Location 16
7.2 There are 2 Styles of Installation 16
7.3 Cautions for Installation where air 16
7.4 Refrigerant piping 17
7.5 Boring a wall hole and installing wall embedded pipe 17
7.6 Drain piping 17
7.8 Connecting the refrigerant pipe 19
7.9 Caution on piping handling 19
7.10 Checking for gas leakage 20
7.11 Attaching the connection pipe 20
7.12 Connecting the drain hose 20

8. Exploded Views and Parts List 22

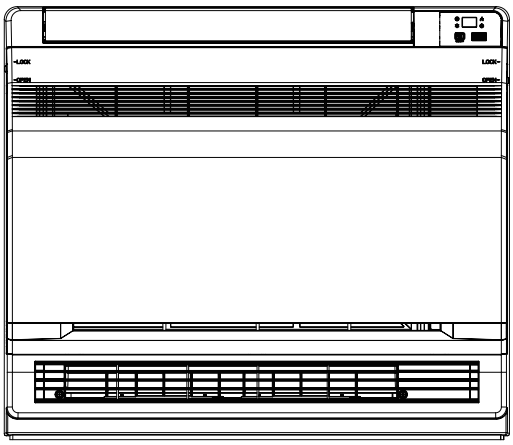
9. Troubleshooting 26

9.1 Precautions before Performing Inspection or Repair 26
9.2 Confirmation 26
9.3 Flashing LED of Indoor/Outdoor Unit and Primary Judgement 26
9.4 How to Check Simply The Main Part 27

10. Removal Procedure 35

Summary and Features

Indoor Unit



Remote Controller

YAA1FB1F

1.Safety Precautions

Installing, starting up, and servicing air conditioner can be hazardous due to system pressure, electrical components, and equipment location, etc.
Only trained, qualified installers and service personnel are allowed to install, start-up, and service this equipment.
Untrained personnel can perform basic maintenance functions such as cleaning coils. All other operations should be performed by trained service personnel.
When handling the equipment, observe precautions in the manual and on tags, stickers, and labels attached to the equipment. Follow all safety codes. Wear safety glasses and work gloves. Keep quenching cloth and fire extinguisher nearby when brazing.
Read the instructions thoroughly and follow all warnings or cautions in literature and attached to the unit. Consult local building codes and current editions of national as well as local electrical codes.
Recognize the following safety information:

Warning Incorrect handling could result in personal injury or death.

Caution Incorrect handling may result in minor injury, or damage to product or property.

Warning

All electric work must be performed by a licensed technician according to local regulations and the instructions given in this manual.

●Before installing, modifying, or servicing system, main electrical disconnect switch must be in the OFF position. There may be more than 1 disconnect switch. Lock out and tag switch with a suitable warning label.
●Never supply power to the unit unless all wiring and tubing are completed, reconnected and checked.
●This system adopts highly dangerous electrical voltage. Incorrect connection or inadequate grounding can cause personal injury or death. Stick to the wiring diagram and all the instructions when wiring.
●Have the unit adequately grounded in accordance with local electrical codes.
●Have all wiring connected tightly. Loose connection may lead to overheating and a possible fire hazard.

All installation or repair work shall be performed by your dealer or a specialized subcontractor as there is the risk of fire, electric shock, explosion or injury.

●Make sure the outdoor unit is installed on a stable, level surface with no accumulation of snow, leaves, or trash beside.
●Make sure the ceiling/wall is strong enough to bear the weight of the unit.
●Make sure the noise of the outdoor unit does not disturb neighbors.
●Follow all the installation instructions to minimize the risk of damage from earthquakes, typhoons or strong winds.
●Avoid contact between refrigerant and fire as it generates poisonous gas.
●Apply specified refrigerant only. Never have it mixed with any other refrigerant. Never have air remain in the refrigerant line as it may lead to rupture and other hazards.
●Make sure no refrigerant gas is leaking out when installation is completed.
●Should there be refrigerant leakage, the density of refrigerant in the air shall in no way exceed its limited value, or it may lead to explosion.
●Keep your fingers and clothing away from any moving parts.
●Clear the site after installation. Make sure no foreign objects are left in the unit.
●Always ensure effective grounding for the unit.

Caution

●Never install the unit in a place where a combustible gas might leak, or it may lead to fire or explosion.
●Make a proper provision against noise when the unit is installed at a telecommunication center or hospital.
●Provide an electric leak breaker when it is installed in a watery place.
●Never wash the unit with water.
●Handle unit transportation with care. The unit should not be carried by only one person if it is more than 20kg.
●Never touch the heat exchanger fins with bare hands.
●Never touch the compressor or refrigerant piping without wearing glove.
●Do not have the unit operate without air filter.
●Should any emergency occur, stop the unit and disconnect the power immediately.
●Properly insulate any tubing running inside the room to prevent the water from damaging the wall.

2. Specifications

2.1 Unit Specifications

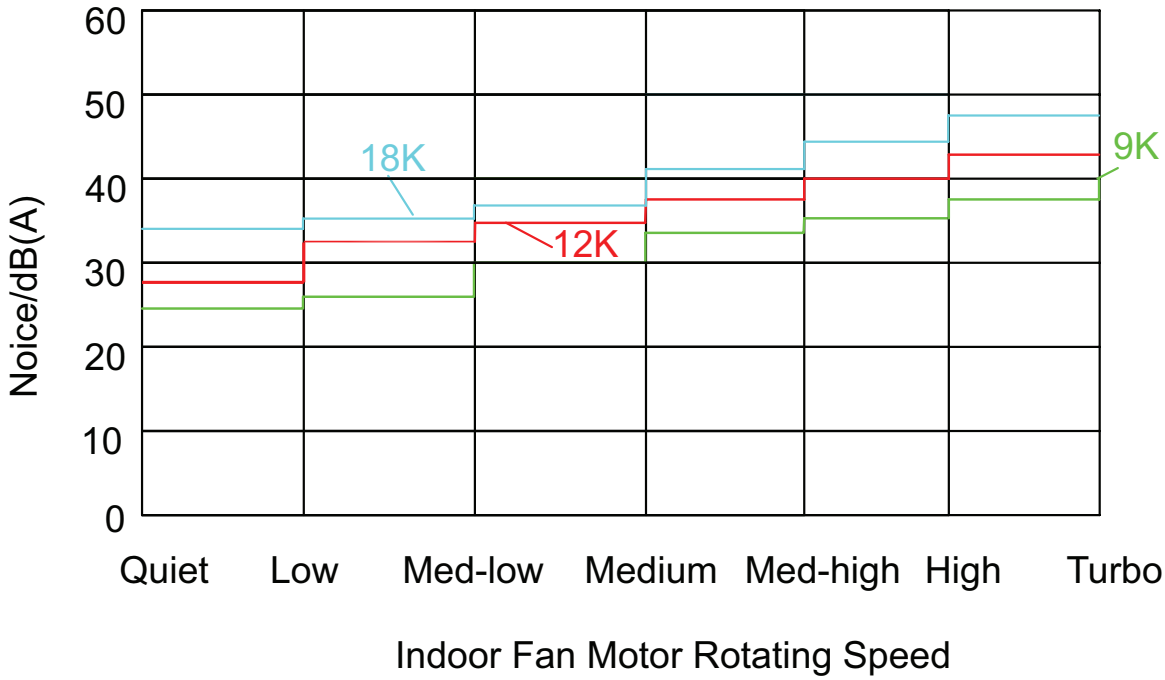
Model.			KM09HEDI	KM12HEDI
Product.Code			CV010N00900	CV010N01000
Power.Supply	Rated.Voltage	V ～	208/230	208/230
	Rated.Frequency	Hz	60	60
	Phases		1	1
Power.Supply.Mode			Outdoor	Outdoor
Cooling.Capacity.		Btu/h	9000	12000
Heating.Capacity.		Btu/h	9500	13000
Air.Flow.Volume(SH/H/MH/M/ML/L/SL)		m^3/h	500/430/410/370/330/280/250	600/520/480/440/400/360/280
Dehumidifying.Volume		L/h	0.8	1.4
Application.Area		m^2	12-18	15-22
Indoor..Unit.	Fan.Type		Centrifugal	Centrifugal
	Diameter.Length(DXL).	mm	Φ80X370	Φ80X370
	Fan.Motor.Cooling.Speed.(SH/H/MH/M/ML/L/SL)	r/min	650/560/530/480/430/370/320	750/650/600/550/500/450/350
	Fan.Motor.Heating.Speed.(SH/H/MH/M/ML/L/SL)	r/min	650/560/530/480/430/370/320	750/650/600/550/500/450/350
	Output.of.Fan.Motor	W	30	30
	Fan.Motor.RLA	A	/	/
	Evaporator.Form.		Aluminum.Fin-copper.Tube	Aluminum.Fin-copper.Tube
	Pipe.Diameter	mm	Φ6.35	Φ6.35
	Row-fin.Gap	mm	2-1.2	2-1.2
	Coil.Length.(LXDXW)..	mm	511X24X396	511X24X396
	Swing.Motor.Model		MP24EB	MP24EB
	Output.of.Swing.Motor.	W	1.5	1.5
	Fuse.	A	3.15	3.15
	Sound.Pressure.Level.(SH/H/MH/M/ML/L/SL)	dB.(A).	40/38/36/33/30/26/25	43/40/38/37/35/32/27
	Sound.Power.Level(SH/H/MH/M/ML/L/SL)	dB.(A).	50/48/46/43/40/36/35	53/50/48/47/45/42/37
	Dimension.(WXHXD).	mm	700X600X215	700X600X215
	Dimension.of.Carton.Box.(L/W/H)	mm	785X680X280	785X680X280
	Dimension.of.Package.(L/W/H)	mm	788X695X283	788X695X283
	Net.Weight..	kg	15	15
	Gross.Weight	kg	18	18
Connection. Pipe	Length	m	7.5	7.5
	Outer.Diameter.Liquid.Pipe	mm	Φ6	Φ6
	Outer.Diameter.Gas.Pipe	mm	Φ9.52	Φ9.52

The.above.data.is.subject.to.change.without.notice..Please.refer.to.the.nameplate.of.the.unit.

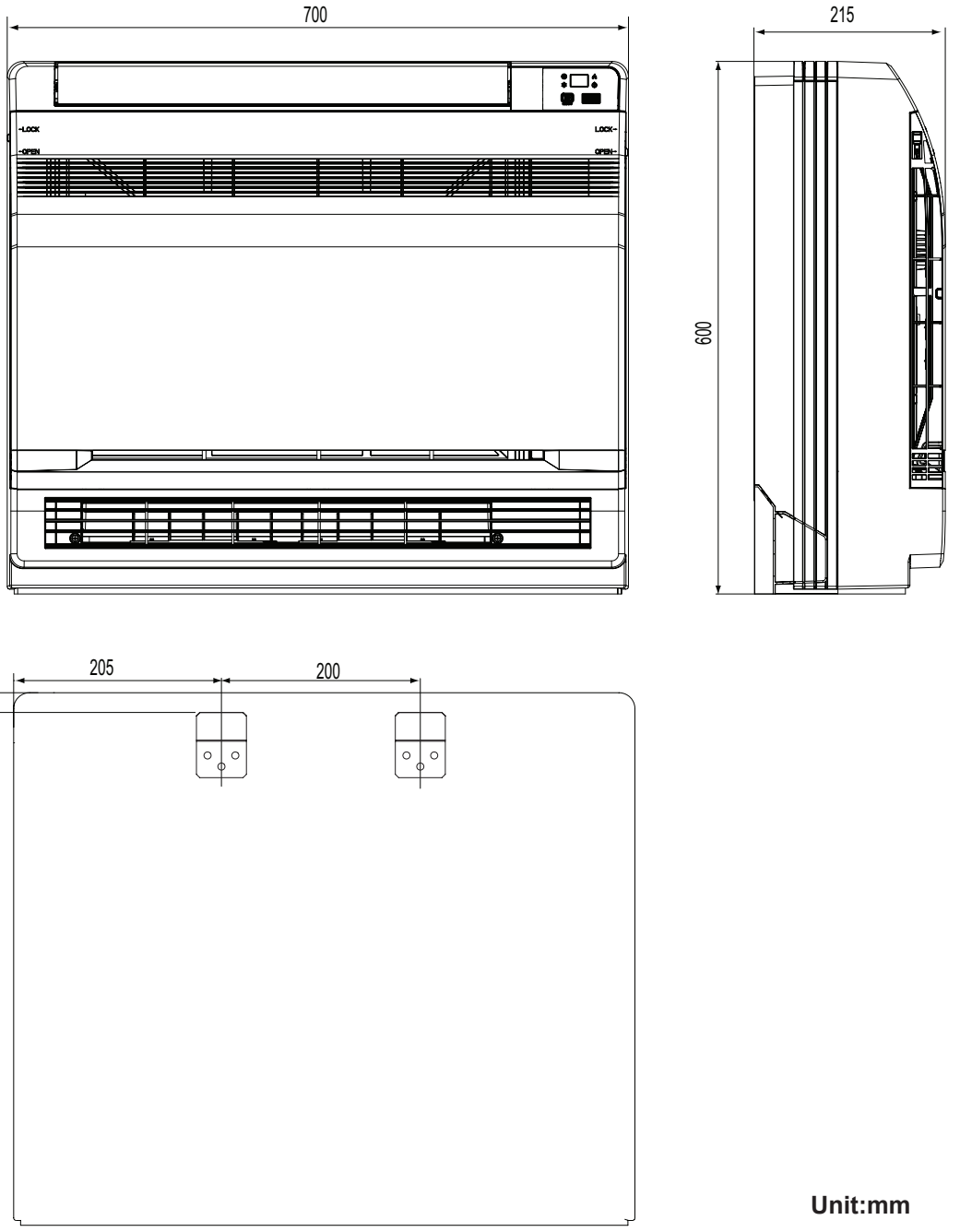
Model.			KM18HEDI
Product.Code			CV010N01100
Power.Supply	Rated.Voltage	V ～	208/230
	Rated.Frequency	Hz	60
	Phases		1
Power.Supply.Mode			Outdoor
Cooling.Capacity.		Btu/h	18000
Heating.Capacity.		Btu/h	19800
Air.Flow.Volume(SH/H/MH/M/ML/L/SL)		m^3/h	650/620/550/500/450/410/320
Dehumidifying.Volume		L/h	1.8
Application.Area		m^2	23-34
Indoor..Unit.	Fan.Type		Centrifugal
	Diameter.Length(DXL).	mm	Φ80X370
	Fan.Motor.Cooling.Speed.(SH/H/MH/M/ML/L/SL).	r/min	840/800/720/650/580/530/410
	Fan.Motor.Heating.Speed(SH/H/MH/M/ML/L/SL)	r/min	900/840/760/690/620/570/450
	Output.of.Fan.Motor	W	30
	Fan.Motor.RLA	A	/
	Evaporator.Form.		Aluminum.Fin-copper.Tube
	Pipe.Diameter	mm	Φ6.35
	Row-fin.Gap	mm	2-1.2
	Coil.Length.(LXDXW)..	mm	511X24X396
	Swing.Motor.Model		MP24EB
	Output.of.Swing.Motor.	W	1.5
	Fuse.	A	3.15
	Sound.Pressure.Level.(SH/H/MH/M/ML/L/SL)	dB.(A).	48/46/44/41/37/35/33
	Sound.Power.Level.(SH/H/MH/M/ML/L/SL)	dB.(A).	58/56/54/51/47/45/43
	Dimension.(WXHXD).	mm	700X600X215
	Dimension.of.Carton.Box.(L/W/H)	mm	785X680X280
	Dimension.of.Package.(L/W/H)	mm	788X695X283
	Net.Weight..	kg	15
	Gross.Weight	kg	18
Connection. Pipe	Length	m	7.5
	Outer.Diameter.Liquid.Pipe	mm	Φ6
	Outer.Diameter.Gas.Pipe	mm	Φ12

The.above.data.is.subject.to.change.without.notice..Please.refer.to.the.nameplate.of.the.unit.

2.2 Noise Criteria Curve Tables for Both Models

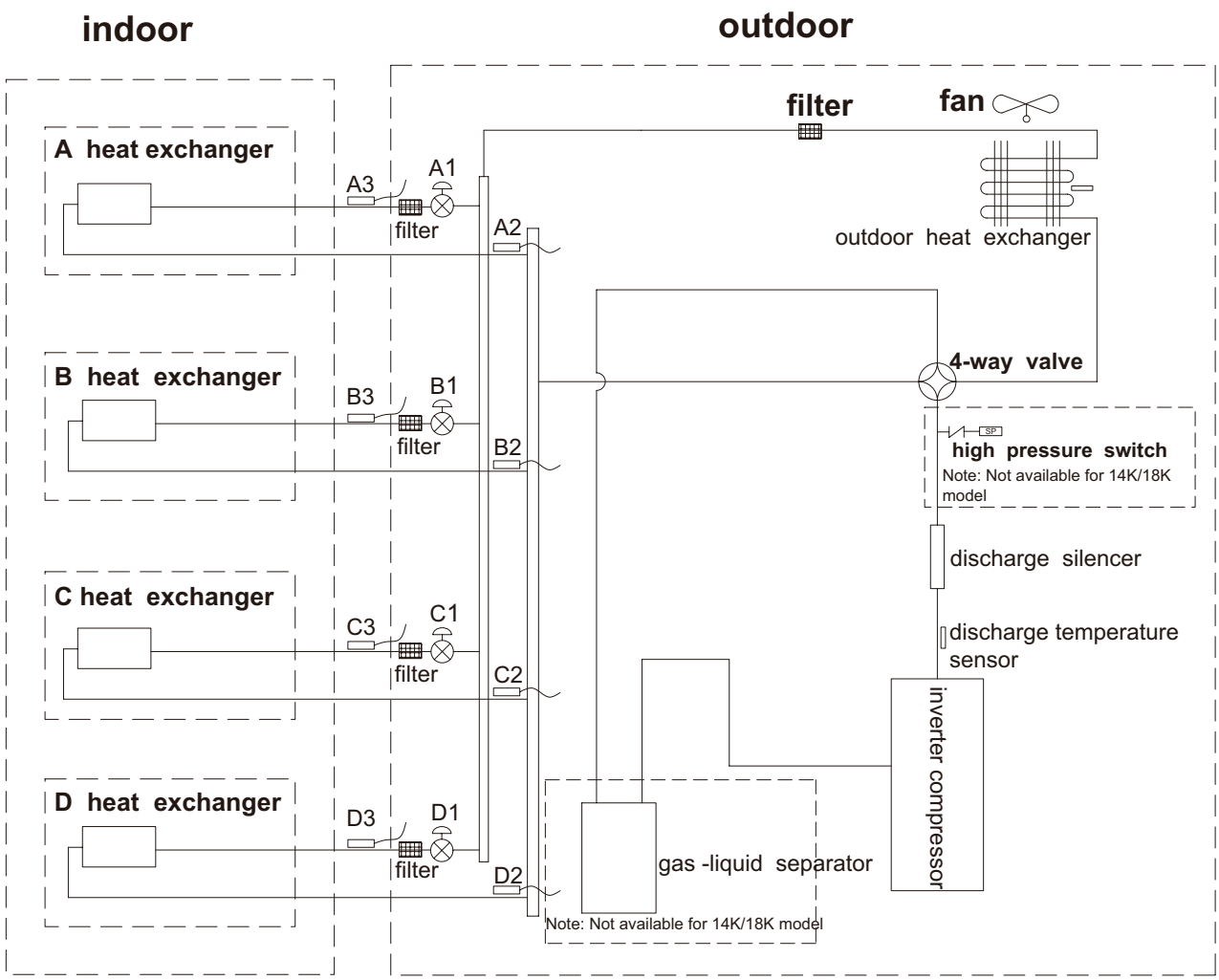


3. Construction Views



Unit:mm

4. Refrigerant System Diagram



A1:A-unit electronic expansion valve B1:B-unit electronic expansion valve
C1:C-unit electronic expansion valve D1:D-unit electronic expansion valve
A2:A-unit gas pipe temperature sensor B2:B-unit gas pipe temperature sensor
C2:C-unit gas pipe temperature sensor D2:D-unit gas pipe temperature sensor
A3:A-unit liquid pipe temperature sensor B3:B-unit liquid pipe temperature sensor
C3:C-unit liquid pipe temperature sensor D3:D-unit liquid pipe temperature sensor

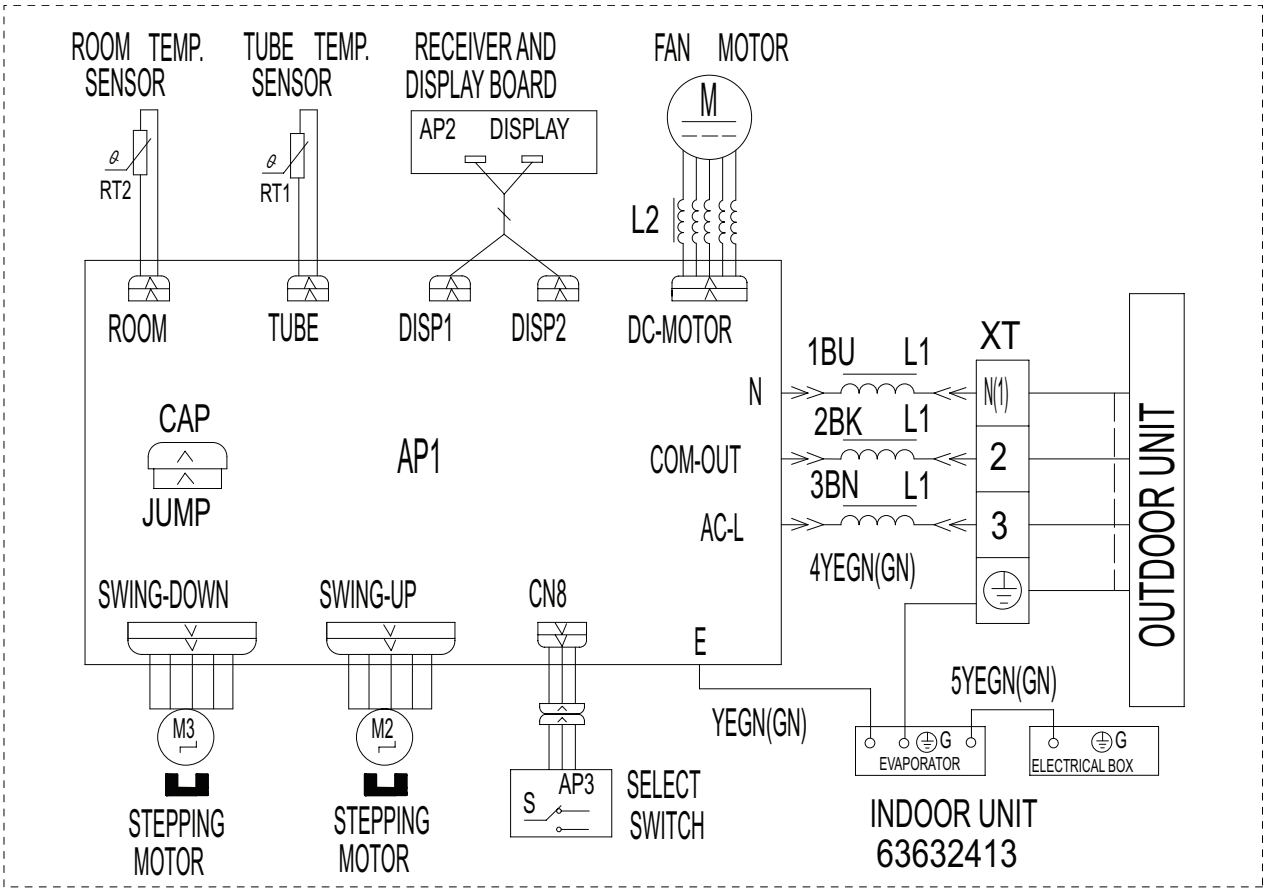
5. Schematic Diagram

5.1 Electrical Data

Meaning of marks

Symbol	Color symbol	Symbol	Color symbol
BU	BLUE	**BN**	BROWN
YE	YELLOW	**BK**	BLACK
RD	RED	**YEGN**	YELLOW GREEN
VT	VIOLET	**WH**	WHITE
OG	ORANGE	⏚	PROTECTIVE EARTH

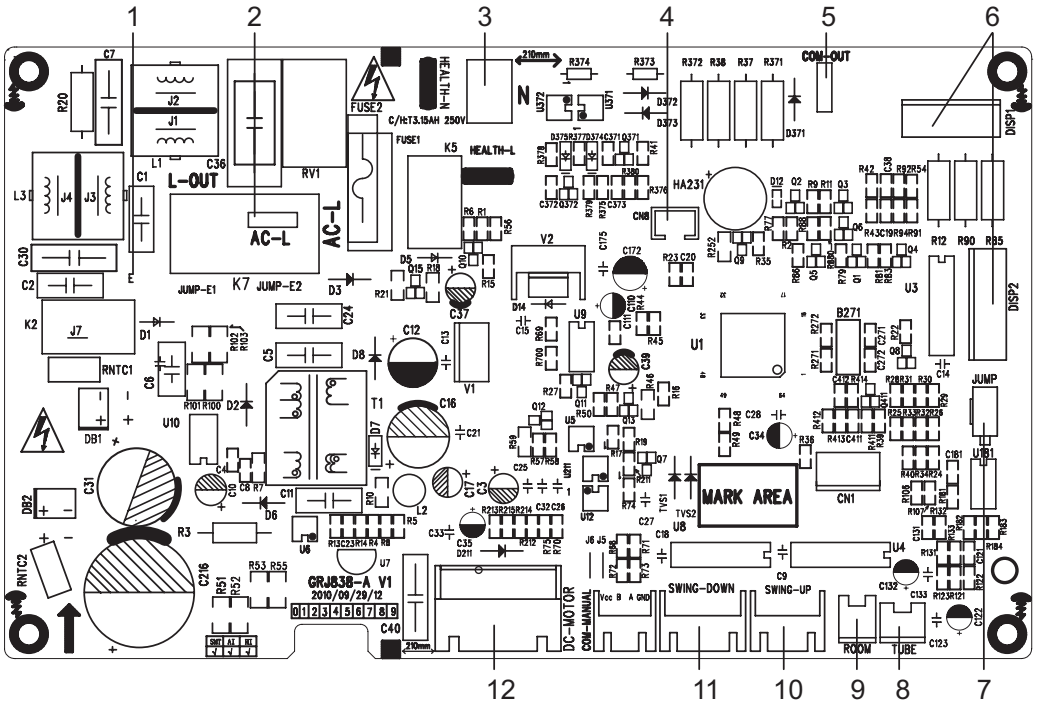
5.2 Electrical Wiring



These circuit diagrams are subject to change without notice, please refer to the one supplied with the unit.

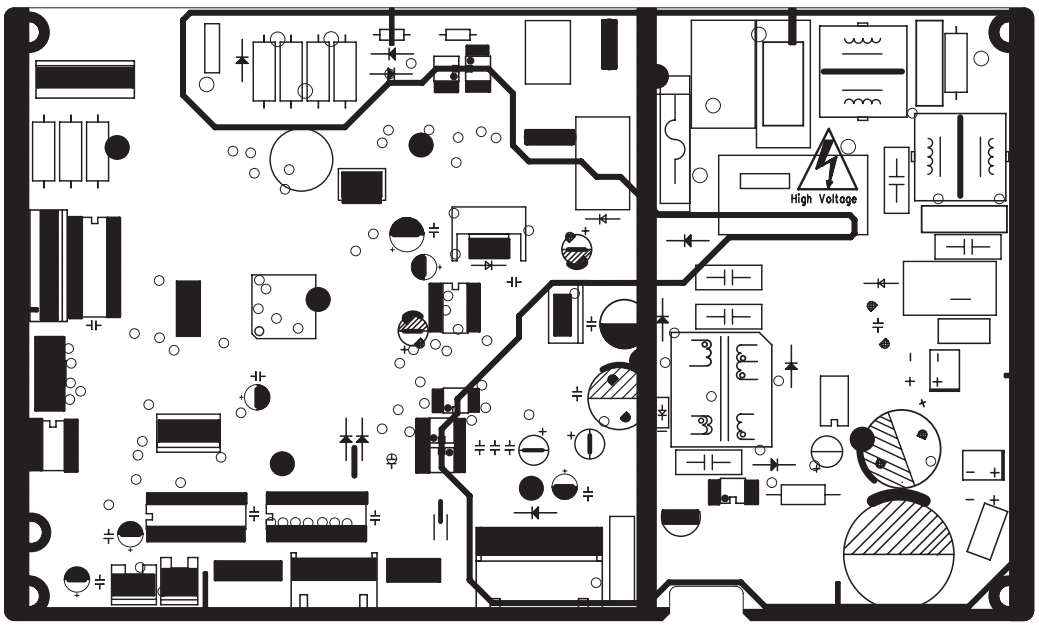
5.3 Printed Circuit Board

●TOP VIEW



1	Connect earthing wire	2	Live wire input	3	Neutral wire input	4	Terminal used for controlling lower swing	5	Communication interface for indoor and outdoor units
6	Terminal of display interface	7	Needle block of jumper cap	8	Indoor tube temperature sensor	9	Indoor ambient temperature sensor	10	Terminal of upper swing
11	Terminal of lower swing	12	Terminal of DC motor						

●BOTTOM VIEW



6. Function and Control

6.1 Remote Control Operations

1 ON/OFF

Press it to start or stop operation.

2 - : Press it to decrease temperature setting.

3 + : Press it to increase temperature setting.

4 MODE

Press it to select operation mode (AUTO/COOL/DRY/FAN/HEAT).

5 FAN

Press it to set fan speed.

6 SWING

Press it set swing angle.

7 I FEEL

8 /

Press it to set HEALTH or AIR function.

9 SLEEP

10 TEMP

11 QUIET

Pressitto set QUIET function.

12 CLOCK

Press it set clock.

13 T-ON|T-OFF

Press it to setauto-off/auto-on timer.

14 TURBO

15 LIGHT

Press it to turn on/off the light.

16 X-FAN

1 ON/OFF :

Press this button to turn on the unit. Press this button again to turn off the unit.

2 —:

Press this button to decrease set temperature. Holding it down above 2 seconds rapidly decreases set temperature.
In AUTO mode, set temperature is not adjustable.

3 + :

Press this button to increase set temperat ure.Holding it down above 2 seconds rapidly increases set temperature.
In AUTO mode, set temperature is not adjustable.

4 MODE :

Each time you press this button,a mode is selected in a sequence that goes from AUTO,COOL,DRY, FAN,and HEAT*, as the following:

AUTO ▶ COOL ▶ DRY ▶ FAN ▶HEAT*

*Note:Only for models with heatingf unction.

After energization, AUTO mode is defaulted. In AUTO mode, the set temperature will not be displayed on the LED of the indoor, and the unit will automatically select the suitable operation mode in accordance with the room temperature to make indoor room comfortable.

5 FAN :

This button is used for setting Fan Speed in the sequence that goes from AUTO, , , , to , then back to Auto.

Low speed

Low-Medium speed

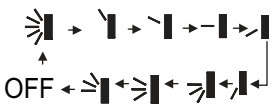
Medium speed

Medium-High speed

High speed

6 SWING:

Press this button to set up &down swing angle, which circularly changes as below:



This remote controller is universal . If any command , or is sent out, the unit will carry out the command as

indicates the guide louver swings as:

7 I FEEL:

Press this button to turn on I FEEL function. The unit automatically adjust temperature according to the sensed temperature. Press this button again to cancel I FEEL function.

8 /

Press this button to achieve the on and off of healthy and scavenging functionsin operation status.Press this button for the first time to start scavenging function;LCD displays"". Press the button for the second time to start healthy and scavenging functions simultaneously;LCD displays"" and "" .Press this button for the third time to quit healthy and scavenging functions simultaneously .Press the button for the fourth time to start healthyfunction;LCD display"".Press this button again to repeat the operation above.

9 SLEEP :

- Press this button,can select Sleep1(1),Sleep2(2),Sleep3(3)and cancel the Sleep,circulate between these,after electrified,Sleep Cancel is defaulted.
- Sleep 1 is Sleep mode 1, in Cool,Drying modes:sleep status after run for one hour,the main unit setting temperature will increase 1℃,setting temperature in creased 2℃,the unit will run at this setting temperature;In Heat mode: sleep status after run for one hour, the setting temperature will decrease 1℃,2 hours,setting temperature will decrease 2℃,then the unit will run at this setting temperature.

- Sleep 2 is sleep mode 2, that is air condi tioner will run according to the prese tting a group of sleep tempera ture curve.
- Sleep 3- the sleep curve setting under Sleep mode by DIY:

(1)Under Sleep 3 mode,press"Turbo"button for along time,remote control enters into user individuation sleep setting status, at this time,the time of remote control will display"1 hour",the settingt emperature "88" will display the correspon ding temperature of last setting sleep curve and blink (The first entering will display according to the initial curve setting value of original factory);

(2) Adjust "+" and "-" button, could change the corresponding setting temperature,after adjusted,press "Trubo"button for confirmation;

(3) At this time, 1 hour will be automatically increased at the timer postion on the remote control, (that are "2 hours " or "3 hours " or "8 hours "), the place of setting temperature "88" will display the corresponding temperature of last setting sleep curve and blink;

(4)Repeat the above step(2)～(3)operation,until 8 hours temperature setting finished, sleep curve setting finished, at this time,the remote control will resume the original timer display;temperature display will resume to original setting temperature.

Sleep3- the sleep curve setting under SLEEP mode by DIY could be inquired:

- The user could accord to sleep curve setting method to inquire the presetting sleep curve, enter into user individuation sleep setting status, but donot change the temperature, press "Turbo" button directly for confirmation.

Note:In the above presetting or enquiry procedure,if continuously within10s,there is no button pressed,the sleep curve setting within10s,there is nobutton pressed,the sleep curve setting status will beautomatically quit and resume to display the original displaying.In the presetting or enquiry procedure,press "ON/OFF" button,"Mode" button,"Timer" button or"Sleep" button,the sleep curve setting or enquiry status will quit similarty.

10 TEMP:

Press this button,could select displaying the indoor setting temperature or indoor ambient temperature.When the indoor unit firstly power on it will display the setting temperature,if the tem perature's displaying status is changed from other status to" ",displays the ambient temperature, 5s later or within 5s,it receives other remote control signal that will return to display the setting temperature. if the users haven't set up the temperature displaying status,that will display the setting temperature.

11 QUIET:

Press this button,the Quiet status is under the Auto Quiet mode (display" "and "Auto"signal) and Quiet mode (display " " singal) and Quiet OFF (there is no signal of " " displayed), after powered on, the Quiet OFF is defaulted.

Note: the Quiet function cannot be set up in Fan and Dry mode;Under the Quiet mode(Display" "signal), the fan speed is not available.

12 CLOCK:

Press CLOCK button, blinking . Within 5 seconds,pressing +or - button adjusts the present time.Holding down either button above 2 seconds increases or decreases the time by 1 minute every 0.5 second and then by 10 minutes every 0.5 second. During blinking after setting, press CLOCK button again to confirm the setting,and then will be constantly displayed.

13 T-ON|T-OFF:

Press T-ON button to initiate the auto-ON timer. To cancel the auto-timer program, simply press this button again.After press of this button, disappears and "ON "blinks.00:00 is displayed for ON time setting.Within 5 seconds,press + or - button to adjust the time value.Every press of either button changes the time setting by 1 minute.Holding down either button rapidly changes the time setting by 1 minute and then 10 minutes.Within 5 Seconds after setting,press TIMER ON button to confirm.Press T-OFF button to initiate the auto-off timer. To cancel the auto-timer program, simply press the button again.TIMER OFF setting is the same as TIMER ON.

14 TURBO:

Press this button to activate / deactivate the Turbo function which enables the unit to reach the preset temperature in the shortest time.In COOL mode,the unit will blow strong cooling air at super high fan speed. In HEAT mode, the unit will blow strong heating air at super high fan speed.

15 LIGHT:

Press LIGHT button to turn on the display's light and press this button again to turn off the display's light. If the light is turned on , is displayed. If the light is turned off, disappears.

16 X-FAN:

Pressing X-FAN button in COOL or DRY mode,the icon is displayed and the indoor fan will continue operation for 10 minutes in order to dry the indoor unit even though you have turned off the unit.

After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO,FAN or HEAT mode.

17 Combination of "+" and "-" buttons: About lock

Press "+ " and "-" buttons simultaneously to lock or unlock the keypad. If the remote controller is locked, is displayed. In this case,pressing any button, blinks three times.

18 Combination of" MODE " and " - " buttons: About switch between Fahrenheit and centigrade At unit OFF, press "MODE" and " - " buttons simultaneously to switch between ℃ and ℉.

19 Combination of "TEMP" and "CLOCK" buttons: About Energy-saving Function Press “TEMP” and “CLOCK” simultaneously in COOL mode to start energy-saving function.Nixie tube on the remote controller displays “SE”. Repeat the operation to quit the function.

20 Combination of "TEMP" and "CLOCK" buttons: About 8℃Heating Function Press “TEMP” and “CLOCK” simultaneously in HEAT mode to start 8℃Heating Function Nixie tube on the remote controller displays“$” and a selected temperature of “ 8℃” (46℉if Fahrenheit is adopted).Repeat the operation to quit the function.

21 About Back-lighting Function

The unit lights for 4s when energizing for the first time, and 3s for later press.

Replacement of Batteries

1.Remove the battery cover plate from the rear of the remote controller. (As shown in the figure)

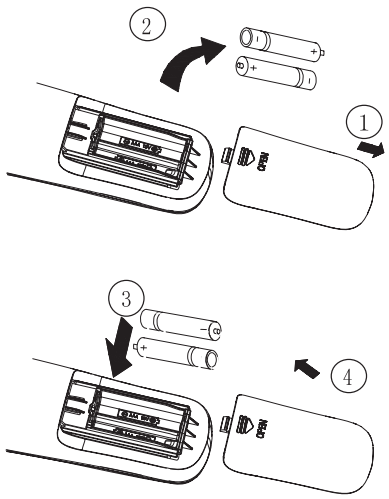
2.Take out the old batteries.

3.Insert two new AAA 1.5V dry batteries, and pay attention to the polarity.

4. Reinstall the battery coverplate.

★ Notes:

- When replacing the batteries, do not use old or different types of batteries, other wise, it may cause malfunction.
- If the remote controller will not be used for a long time, please remove batteries to prevent batteries from leaking.
- The operation should be performed in its receiving range.
- It should be kept 1m away from the TV set or stereo sound sets.
- If the remote controller does not operate normally, please take the batteries out and reinsert them after 30 seconds.If it still can't operate properly, replace the batteries.



Sketch map for replacing batteries

6.2 Description of Each Control Operation

1. Cooling mode

(1) Under this mode, the fan and the up swing will operate at setting status. The temperature setting range is 16~30ºC.

(2) The unit is stopped because of malfunction of outdoor unit or protection. The indoor unit keeps original operation status and the error code is displayed.

(3) Indoor unit is stopped due to mode shock.

2. Drying mode

(1) Under this mode, the fan operates at low speed and the swing operates at setting status. The temperature setting range is 16~30ºC.

(2) The unit is stopped because of malfunction of outdoor unit or protection. The indoor unit keeps original operation status and the error code is displayed.

3. Heating mode

(1) Under this mode, the temperature setting range is 16~30ºC.

(2) Working condition and process for heating

When the unit is turned on under heating mode, the indoor unit turns to cold air prevention status. When the unit is turned off and the indoor unit has been started up before, the indoor unit blows the residual heat.

(3) Protection function: When the compressor is stopped due to malfunction under heating mode, the indoor unit blows the residual heat.

(4) Blow residual heat

When the unit stops operation as it reaches the temperature point, indoor unit will continue to run for 60s. The fan speed cant be switched during blowing residual heat period. The upper horizontal louver will turn to the defaulted position in cooling. When the unit operates under heating mode or auto heating mode, compressor will be turned on and the corresponding electric expansion valve is more than 65 and the unit stops operation during the operation status of indoor unit. The upper horizontal louver will turn to the defaulted position in heating mode. The indoor unit operates at low speed for 10s and then the unit stops operation.

(5) Defrosting, oil-returning

As it received the signal of defrosting and oil-returning from outdoor unit, the upper horizontal louver will turn to the minimum angle in cooling. 10s later, the in door fan stop operation. During defrosting and oil-returning process and they are quitted within 5mins, all malfunctions for indoor tube temperature sensor wont be detected.

4. Working process for AUTO mode (Mode judgment will be performed every 30s)

Under AUTO mode, standard cooling Tpreset=25ºC (77ºF), standard heating Tpreset=20ºC (68ºF), and standard fan Tpreset= 25ºC (77ºF).

(1) When Tamb≥26ºC (79ºF), the unit operation in cooling mode;

(2) Heating pump unit: When Tamb≤19ºC (66ºF), the unit operates in heating mode;

(3) Cooling only unit: Tamb≤19ºC (66ºF), the unit operates in fanmode;

(4) When 19ºC<Tindoor amb.<26ºC, if it turns to auto mode as the unit is turned on for the first time the unit will operates at auto fan mode. If it switch to auto mode from other modes, the unit will keep previous operation mode (when it turns to dry mode, the unit operates at auto fan mode).

(5) Protection function

Protection function is the same as that in cooling or heating mode.

5. Fan mode

Under fan mode, only indoor fan and swing operates. When it operates at auto fan speed, it will operate according to auto fan speed condition in cooling.

6. Mode shock

If the mode shock is 1 which is received by indoor unit from outdoor unit, the loads of indoor unit (indoor unit, auxiliary heating,swing) stop operation and the error code is displayed. The mode sent to outdoor unit is still remote control receiving mode. The unit will be turned off during mode shock.

If timer ON is reached, and the mode shock is 1 which is received by indoor unit from outdoor unit, the loads of indoor unit (indoor unit,auxiliary heating, swing) stop operation and the error code is displayed. The mode sent to outdoor unit is still remote control receiving mode.

7. Other control

7.1 Buzzer

Upon energization or availably operating the unit or remote controller, the buzzer will give out a beep.

7.2 Auto button

If this button is pressed, the unit will operate in AUTO mode and indoor fan will operate at auto speed; meanwhile, the swing motor operates. Press this button again to turn off the unit.

7.3 8 ºC heating function

Under heating mode, press TEMP+CLOCK buttons simultaneously. Under this mode, “cold air prevention protection” will be shielded.

7.4 I FEEL function

When I FEEL command is received, the controller will operate according to the ambient temperature sent by the remote controller (For defrosting and cold blow prevention, the unit operates according to the ambient temperature sensed by the air conditioner). The remote controller will send ambient temperature data to the controller every 10min. When the data has not been received after 11 mins,the unit will operate according to the temperature sensed by the air conditioner. If I FEEL function is not selected, the ambient temperature will be that sensed by the air conditioner. I FEEL function will not to be memorized.

7.5 Timer function

General timer and clock timer functions are compatible by equipping remote controller with different functions.

General Timer

Timer ON can be set at unit OFF. If selected ON time is reached, the unit will start to operate according to previous setting status. Time setting range is 0.5-24hr in 30-minute increments.

Timer OFF can be set at unit ON. If selected OFF time is reached, the unit will stop operation. Time setting range is 0.5-24hr in 30-minute increments.

7.6 Sleep function

This mode is only valid in cooling and heating modes. The unit will select proper sleep curve to operate according to different set temperature.

7.7 Switchover function for defrosting mode

If H1 isnt displayed on remote controller under OFF status, the unit will turn to “defrosting mode 1” after the unit is turn on by remote controller. After indoor unit receives remote control signal, it will send “defrosting mode 1” to outdoor unit. If H2 is displayed on remote controller under OFF status, the unit will turn to “defrosting mode 2” after the unit is turn on by remote controller. After indoor unit receives remote control signal, it will send “defrosting mode 2” to outdoor unit.

Under OFF status, press MODE and AUXILIARY button simultaneously on remote controller to switch “defrosting mode 1” and “defrosting mode 2”.

7.8 Compulsory defrosting function

When the unit is turned on in heating by remote controller and the set temperature is 16℃, press “+,-,+,-,+,-”continuously within 5s, the indoor unit turns to compulsory defrosting setting and it will send compulsory defrosting mode to outdoor unit.

When indoor unit received the compulsory defrosting signal from outdoor unit, the indoor unit will quit from the compulsory defrosting setting and it will cancel to send compulsory defrosting mode to outdoor unit.

7.9 Refrigerant recovery function

Turn to Freon recovery mode: After the unit is energized for 5min, and the unit is turned on at 16ºC under cooling mode, press light button on remote controller for 3 times successively within 3s to turn to Freon recovery mode. Fo is displayed and it will send Freon recovery mode to outdoor unit.

Quit from Freon recovery mode:After it turns to Freon mode, if it receives any signal from remote controller or it turns to Freon recovery mode for 25 mins, it will quit from Freon recovery mode.

Turn to the action for Freon recovery mode: indoor unit will be turned on in cooling mode. The fan speed is super-high fan speed and the set temperature is 16℃. The horizontal louver will turn to the minimum operation angle.

Quit the action for Freon recovery mode: The indoor fan operates at the previous set status by remote controller.

7.10 Pilot run function

When the set temperature is 30℃ under cooling mode, press “+,-,+,-,+,-”continuously within 3s, the indoor unit turns to pilot run setting mode and it will send pilot run mode to outdoor unit.

Pilot run mode: it operates under cooling mode and “dd” is displayed.

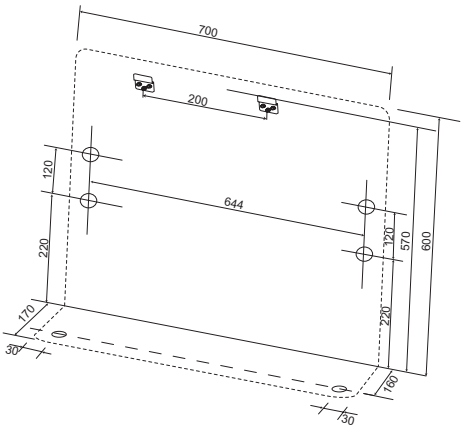
Quit the pilot run mode and indoor unit cancels “dd” display. If it receives “wrong wire connection of malfunction of expansion valve” from outdoor unit, “dn” will be displayed.

7. Installation Manual

7.1 Seleection of Installation Location

- Such a place where cool air can be distributed throughout the room.
- Such a place where condensation water is easily drained out.
- Such a place that can handle the weight of indoor unit.
- Such a place which has easy access for maintenance.
- The appliance shall not be installed in the laundry.

Location for securing the installation panel.



7.2 There are 2 Styles of Installation

- CEILING TYPE
- FLOOR TYPE

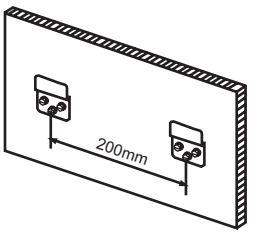
Each type is similar to the other as follows;

Indoor unit

The indoor unit should be sited in a place where:

1) the restrictions on installation specified in the indoor unit installation drawings are met.
2) both air intake and exhaust have clear paths met.
3) the unit is not in the path of direct sunlight.
4) the unit is away from the source of heat or steam.
5) there is no source of machine oil vapour (this may shorten indoor unit life).
6) cool(warm) air is circulated throughout the room.
7) the unit is away from electronic ignition type fluorwscent lamps (inverter or rapid stert type) as they may shorten the remote controller range.
8) the unit is at least 1 metre away from any television or radio set(unit may cause interference with the picture or sound).

Schematic drawing of hooks:

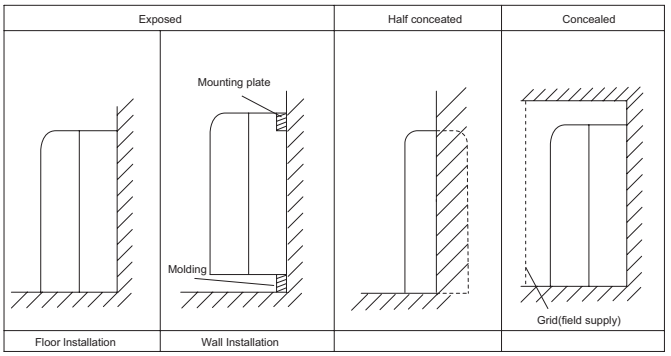


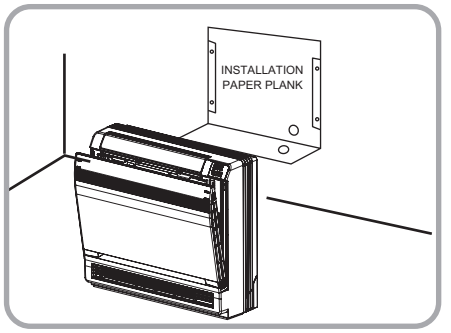
7.3 Cautions for Installation where air Conditoner Troubleis Liable Tooccur

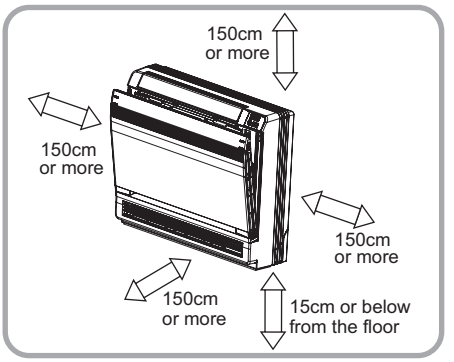
- Where there is irregular electrical supply.
- Where it is acid base area.
- Where there is too much of oil area.

Indoor Unit Installation Drawings

The indoor unit may be mounted in any of the three styles shown here.



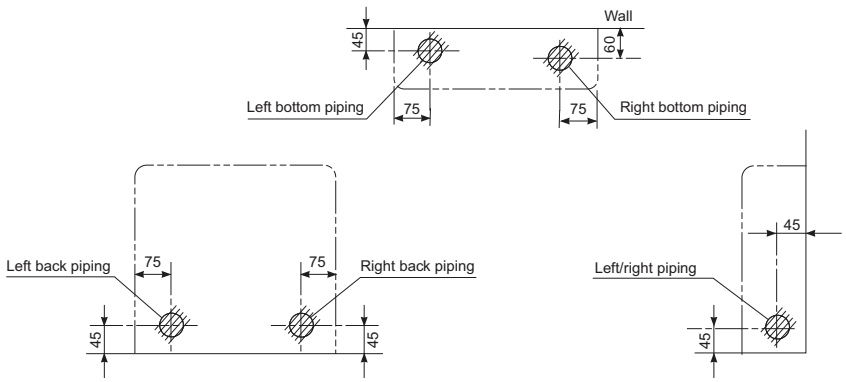




7.4 Refrigerant piping

1)Drill a hole (55mm in diameter) in the spot indicated by the ⊘ symbol in the illustration as below .
2)The location of the hole is different depending on which side of the pipe is taken out .
3)For piping ,see Connecting the refrigerant pipe ,under Indoor Unit Installation(1).
4)Allow space around the pipe for a easier indoor unit pipe connection.

Unit:mm



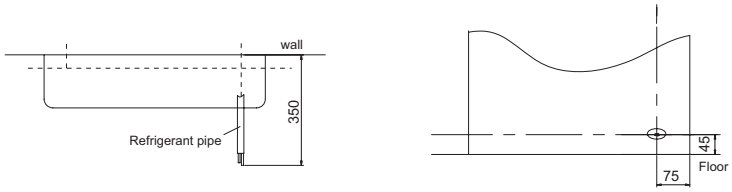
CAUTION

Min.allowable length

- The suggested shortest pipe length is 2.5m,in order to avoid noise from the outdoor unit and vibration.

(Mechanical noise and vibration may occur depending on how the unit is installed and the environment in which it is used.)

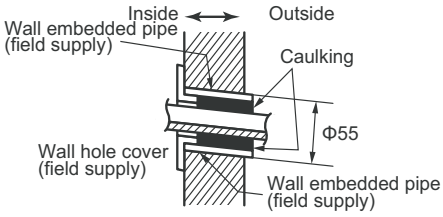
- See the installation manual for the outdoor unit for the maximum pipe length.



7.5 Boring a wall hole and installing wall embedded pipe

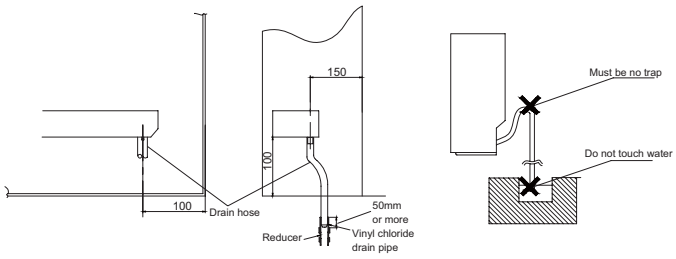
- For walls containing metal frame or metal board ,be sure to use a wall embedded pipe and wall cover in the feed-through hole to prevent water leakage.
- Be sure to caulk the gaps around the pipes with caulking material to prevent water leakage.

1)Bore a feed-through hole of 55mm in the wall so it has a down slope toward the outside.
2)Insert a wall pipe into the hole.
3)Insert a wall cover into wall pipe .
4)After completing refrigerant piping, wiring, and drain piping, caulk pipe hole gap with putty.



7.6 Drain piping

1)Use commercial regid polyvinyl chloride pipe general VP 20 pipe, outer diameter 26mm, inner diameter 20mm for the drain pipe.
2)The drain hose (outer diameter 18mm at connecting end, 220mm long)is supplied with the indoor unit. Prepare the drain pipe picture below position.
3)The drain pipe should be inclined downward so that water will flow smoothly without any accumulation.(Should not be trap.)
4)Insert the drain hose to this depth so it won't be pulled out of the drain pipe.
5)Insulate the indoor drain pipe with 10mm or more of insulation material to prevent condensation.
6)Remove the air filters and pour some water into the drain pan to check the water flows smoothly.



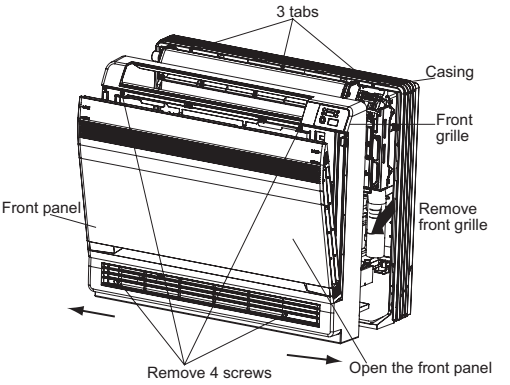
7.7 nstalling indoor unit

1.Preparation

●Open the front panel, remove the 4 screws and dismount the front grille while pulling it forward.

●Follow the arrows to disengage the clasps on the front case to remove it.

●Follow the procedure below when removing the slit portions.



■For Moldings

●Remove the pillars. (Remove the slit portions on the bottom frame using nippers.)

■For Side Piping

●Remove the pillars.

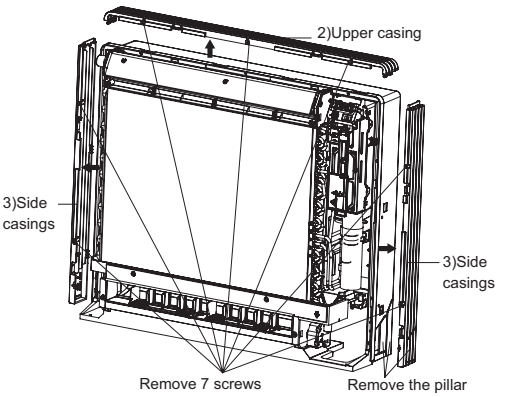
1)Remove the 7screws.

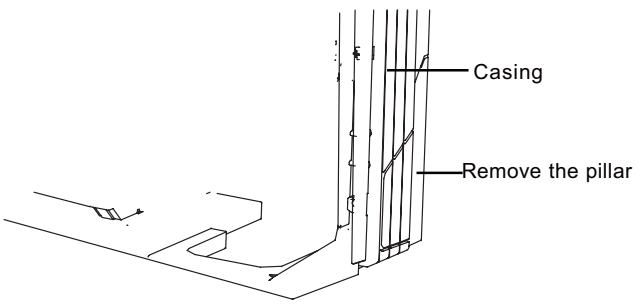
2)Remove the upper casing (2 tabs).

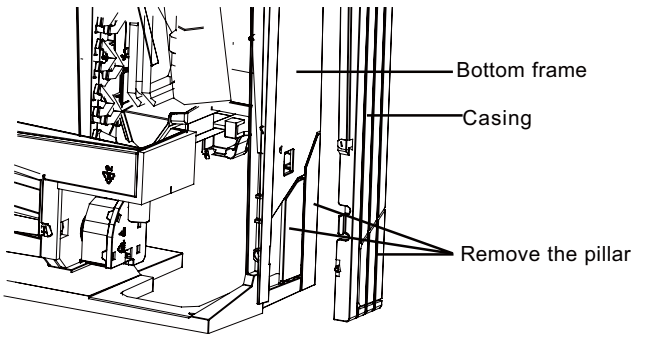
3)Remove the left and right casings (2 tabs on eachside).

4)Remove the slit portions on the bottom frame and casings using nippers .

5)Return by following the steps in reverse order(3>2>1).







2.Installation

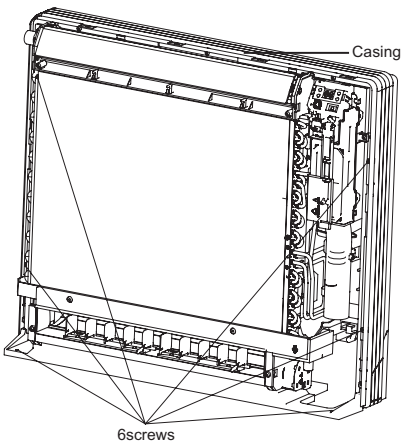
●Secure using 6 screws for floor installations.(Do not forget to secure to the rear wall.)

●For wall installations, secure the mounting plate using 5 screws and the indoor unit using 4 screws.The mounting plate should be installed on a wall which can support the weight of the indoor unit.

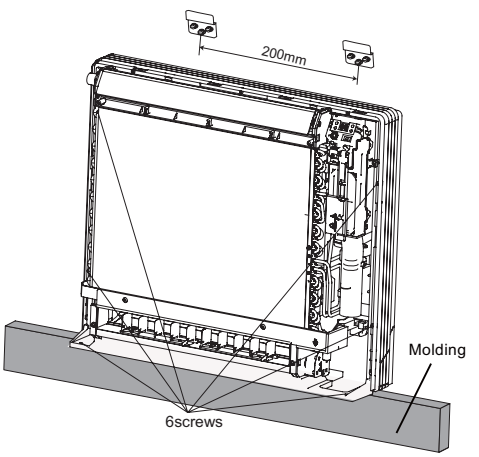
1) Temporarily secure the mounting plate to the wall, make sure that the panel is completely level, and mark the boring points on the wall.

2) Secure the mounting plate to the wall with screws.

Floor Installation



Wall Installation



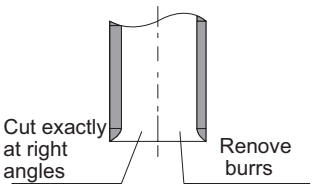
3) Once refrigerant piping and drain piping connections are complete, fill in the gap of the through hole with putty. A gap can lead to condensation on the refrigerant pipe, and drain pipe, and the entry of insects into the pipes.
4) Attach the front panel and front grille in their original positions once all connections are complete.

3.Flaring the pipe end

1)Cut the pipe end with a pipe cutter.
2)Remove burrs with the cut surface facing downward so that the chips do not enter the pipe.
3)Fit the flare nut on the pipe.
4)Flare the pipe.
5)Check that the flaring is properly made.

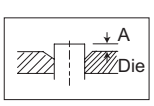
CAUTION

1) DO not use mineral oil on flared part.
2) Prevent mineral oil from getting into the system as this would reduce the lifetime of the units.
3) Never use piping which had been used for previous installations. Only use parts which are delivered with the unit.
4) Do never install a drier to this R410A unit in order to guarantee its lifetime.
5) The drying material may dissolve and damage the system.
6) Incomplete flaring may cause refrigerant gas leakage.

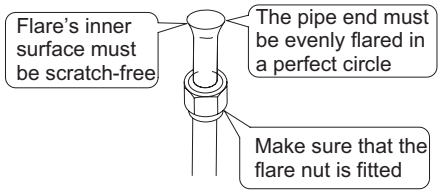


Flaring

Set exactly at the position shown below

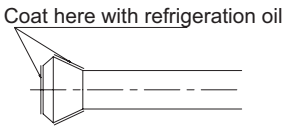


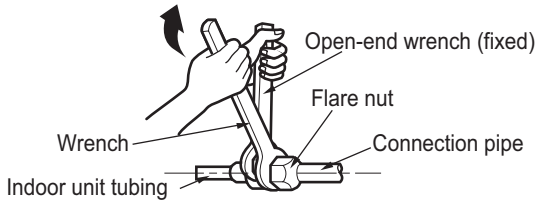
	Flare tool for R410A	Conventional flare tool	
	Clutch-type	Clutch-type (Rigid-type)	Wing-nut type (Imperial-type)
A	0-0.5mm	1.0-1.5mm	1.5-2.0mm



7.8 Connecting the refrigerant pipe

1)Use torque wrenches when tightening the flare nuts to prevent damage to the flare nuts and gas leaks.



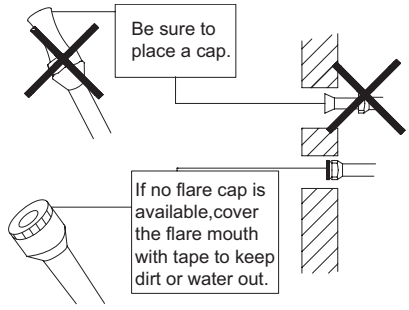


2)Align the centres of both flares and tighten the flares and tighten the flare nuts 3 or 4 turns by hand.
Then tighten them fully with the torque wrenches.
3)To prevent gas leakage, apply refrigeration oil on both inner and outer surfaces in the flare. (Use refrigeration oil for R410A.)

Flare nut tightening torque		
Gas side		Liquid side
09K/12K	18K	09K/12K/18K
3/8 inch	1/2 inch	1/4 inch
31-35 N.m	50-55 N.m	15-20 N.m

7.9 Caution on piping handling

1)Protect the open end of the pipe against dust and moisture.
2)All pipe bends should be as gentle as possible. Use a pipe bender for bending.
(Bending radius should be 30 to 40mm or larger.)



1. Selection of copper and heat insulation materials

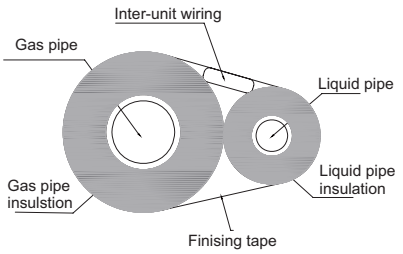
When using commercial copper pipes and fittings, observe the following:

1)Insulation material: Polyethylene foam

Heat transfer rate:0.041 to 0.052W/mK(0.035 to 0.045kca/(mh^{O}C

Refrigerant gas pipes surface temperature reaches 110 max.

Choose heat insulation materials that will withstand this temperature.



2)Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below.

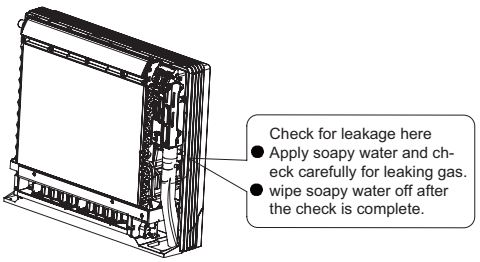
Gas side		Liquid side	Gas pipe thermal insulation		Liquid pipe thermal insulation
09K/12K	18K		09K	18K	
O.D. 9.55mm	O.D. 12.7mm	O.D. 6.4mm	I.D. 12-15mm	I.D. 14-16mm	I.D. 8-10mm
Thickness 0.8mm			Thickness 10mm Min.		

3)Use separate thermal insulation pipes for gas and liquid refrigerant pipes.

7.10 Checking for gas leakage

1)Check for leakage of gas after air purging

2)See the sections on air purges and gas leak checks in the installation manual for the outdoor unit.



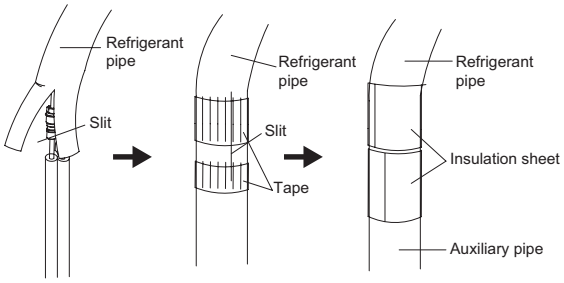
7.11 Attaching the connection pipe

●Attach the pipe after checking for gas leakage, described above.

1)Cut the insulated portion of the on-site piping, matching it up with the connecting portion.

2)Secure the slit on the refrigerant piping side with the butt joint on the auxiliary piping using the tape, making sure there are no gaps.

3)Wrap the slit and butt joint with the included insulation sheet, making sure there are no gaps.



CAUTION

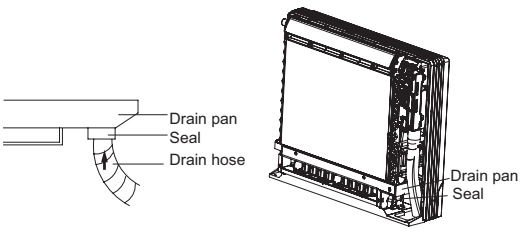
1)Insulate the joint of the pipes securely. Incomplete insulation may lead to water leakage.

2)Push the pipe inside so it does not place undue force on the front grille.

7.12 Connecting the drain hose

Insert the supplied C drain hose into the socket of the drain pan.

Fully insert the drain hose until it adheres to a seat of the socket.



10.Wiring

With a Multi indoor unit, install as described in the installation manual supplied with the Multi outdoor unit.

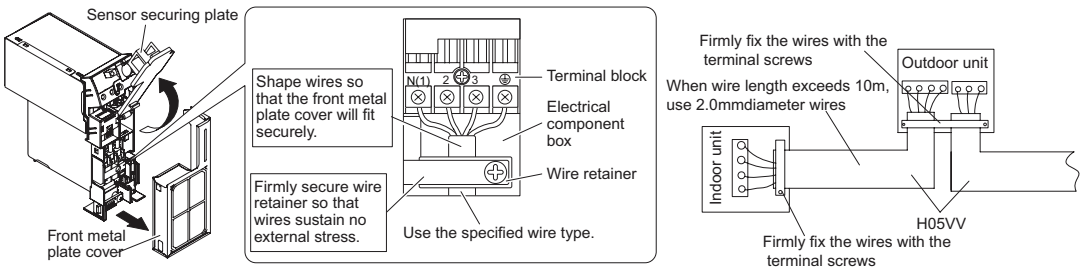
●Live the sensor securing plate, remove the front metal plate cover, and connect the branch wiring to the terminal block.

1)Strip wire ends (15mm)

2)Mach wire colours with terminal numbers on indoor and outdoor units terminal blocks and firmly screw wires to the corresponding terminals.

3)Connect the earth wires to the corresponding terminals.

4)Pull wires to make sure that they are securely latches up, then retain wires with wire retainer.
5)In case of connecting to an adapter system, Run the remote controller cable and attach the S21. (Refer to 11. When connecting go an system.)

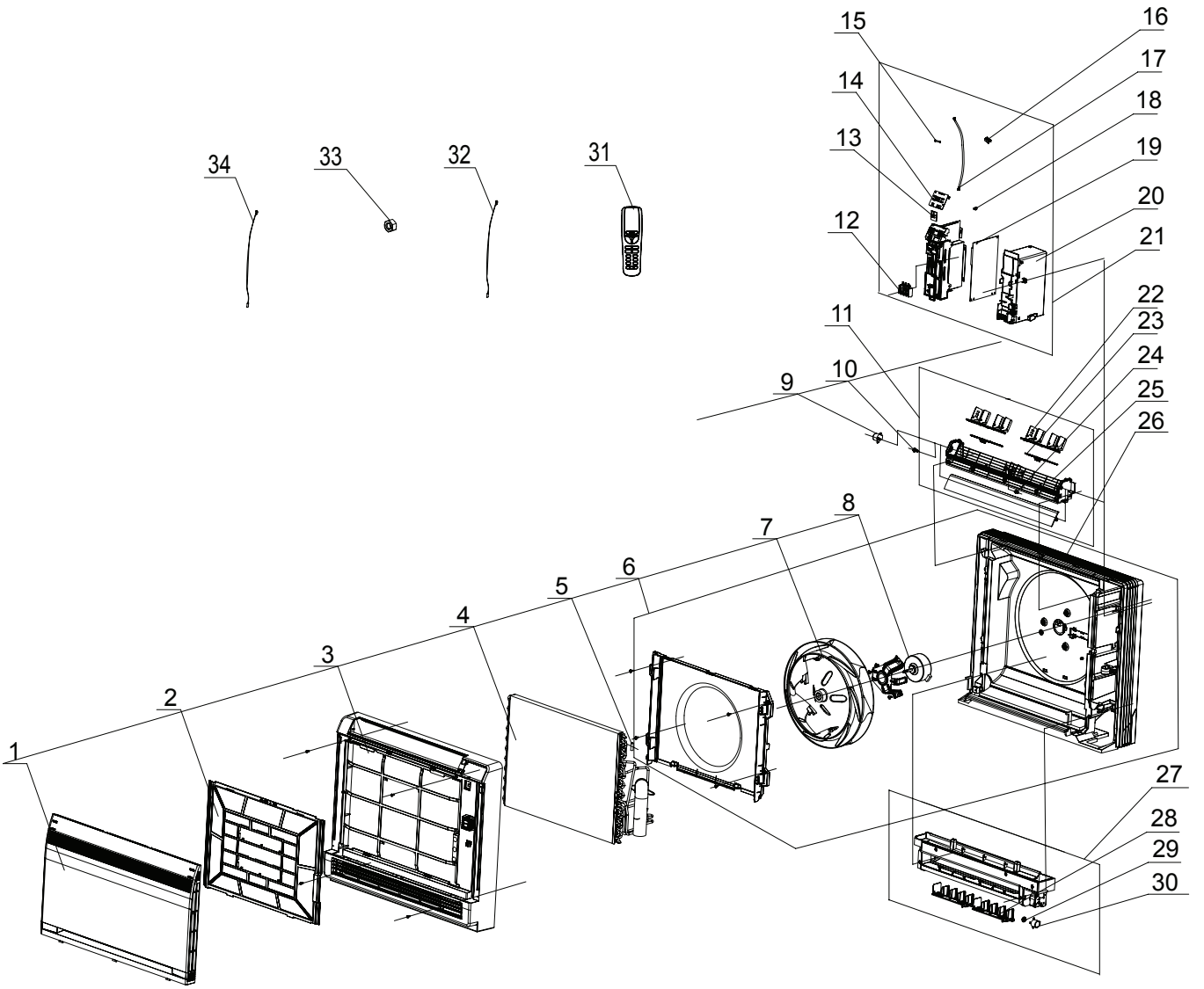


CAUTION

1)Do not use tapped wires, stranded wires, extensioncords, or starburst connections, as they may cause overheating, electrical shock, or fire.
2)Do not use locally purchased electrical parts inside the product. (Do not branch the power for the drain pump, etc, from the terminal block.) Doing so may cause electric shock or fire.)

8. Exploded Views and Parts List

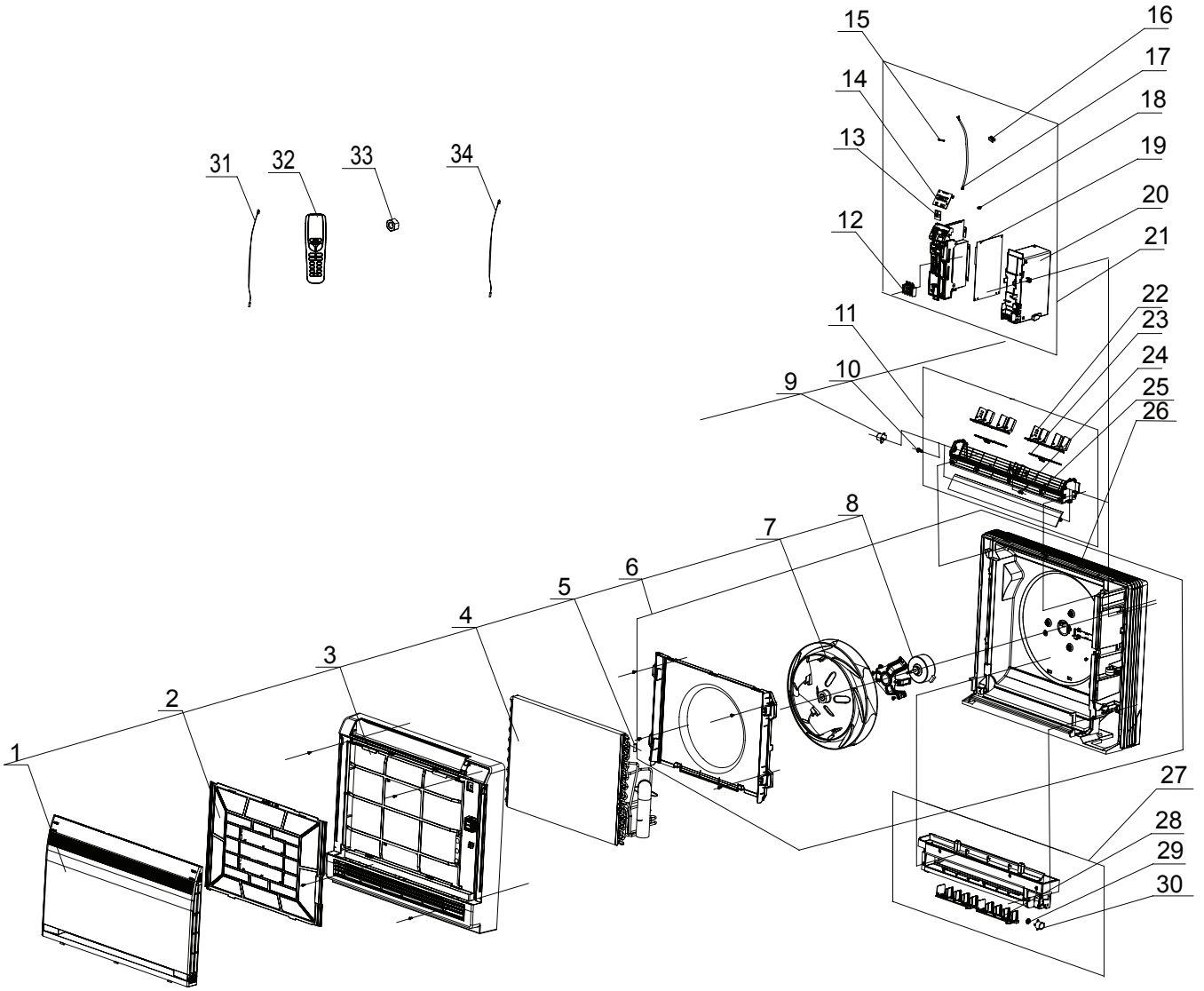
Models:KM09HEDI KM12HEDI



NO.	Description	Part Code		Qty
		KM09HEDI	KM12HEDI	
	Product Code	CV010N00900	CV010N01000	
1	Front Panel Assy	20012756	20012756	1
2	Filter Sub-Assy	11122119	11122119	1
3	Front Case Assy	20012601	20012601	1
4	Evaporator Assy	01002634	01002626	1
5	Temp Sensor Sleeving	05212423	05212423	1
6	Rear Case assy	22202462	22202462	1
7	Centrifugal Fan	10312005	10312005	1
8	Fan Motor	15012123	15012123	1
9	Step Motor	1521210101	1521210805	1
10	Crank	73012005	73012005	1
11	Swing Assy	10102042	10102042	1
12	Terminal Board	42011233	42011233	1
13	Switch Board	30112007	30112007	1
14	Display Board	30568131	30568131	1
15	Fuse	46010055	46010055	1
16	Radiator	49010252	49010252	1
17	Signal Wire	4003004202	4003004202	1
18	Jumper	4202300101	4202300102	1
19	Main Board	30138613	30138613	1
20	Electric Box	20112116	20112116	1
21	Electric Box Assy	2020262201	2020262101	1
22	Air Louver (upper)	10512143	10512143	2
23	Swing Lever	10582096	10582096	2
24	Shaft of Guide Louver	10542020	10542020	2
25	Rear Grill	01472024	01472024	1
26	Rear Case assy	22202462	22202462	1
27	Water Tray Assy	20182141	20182141	1
28	Air Louver (lower)	10512144	10512144	2
29	Axis (lower step motor)	10542034	10542034	1
30	Step Motor	10542034	1521210101	1
31	Remote Controller	30510135	30510135	1
32	Ambient Temperature Sensor	390000453	390000453	1
33	Pipe Connection Nut Accessories	06320020	06320020	1
34	Tube Sensor	390000591	390000591	1

The data above are subject to change without notice.

Model:KM18HEDI



NO.	Description	Part Code	Qty
		KM18HEDI	
	Product Code	CV010N01100	
1	Front Panel Assy	20012756	1
2	Filter Sub-Assy	11122119	1
3	Front Case Assy	20012601	1
4	Evaporator Assy	01002608	1
5	Temp Sensor Sleeving	05212423	1
6	Rear Case assy	22202462	1
7	Centrifugal Fan	10312005	1
8	Fan Motor	15012123	1
9	Step Motor	1521210805	1
10	Crank	73012005	1
11	Swing Assy	10102042	1
12	Terminal Board	42011233	1
13	Switch Board	30112007	1
14	Display Board	30568131	1
15	Fuse	46010055	1
16	Radiator	49010252	1
17	Signal Wire	4003004202	1
18	Jumper	4202300103	1
19	Main Board	30138613	1
20	Electric Box	20112116	1
21	Electric Box Assy	2020242301	1
22	Air Louver (upper)	10512143	2
23	Swing Lever	10582096	2
24	Shaft of Guide Louver	10542020	2
25	Rear Grill	01472024	1
26	Rear Case assy	22202462	1
27	Water Tray Assy	20182141	1
28	Air Louver (lower)	10512144	2
29	Axis (lower step motor)	10542034	1
30	Step Motor	1521210101	1
31	Tube Sensor	390000591	1
32	Remote Controller	30510135	1
33	Pipe Connection Nut Accessories	06320020	1
37	Ambient Temperature Sensor	390000453	1

The data above are subject to change without notice.

9. Troubleshooting

9.1 Precautions before Performing Inspection or Repair

Be cautious during installation and maintenance. Do operation following the regulations to avoid electric shock and casualty or even death due to drop from high altitude.

* Static maintenance is the maintenance during de-energization of the air conditioner. For static maintenance, make sure that the unit is de-energized and the plug is disconnected.

* Dynamic maintenance is the maintenance during energization of the unit. Before dynamic maintenance, check the electricity and ensure that there is ground wire on the site. Check if there is electricity on the housing and connection copper pipe of the air conditioner with voltage tester. After ensure insulation place and the safety, the maintenance can be performed.Take sufficient care to avoid directly touching any of the circuit parts without first turning off the power.

At times such as when the circuit board is to be replaced, place the circuit board assembly in a vertical position.

Normally,diagnose troubles according to the trouble diagnosis procedure as described below.(Refer to the check points in servicing written on the wiring diagrams attached to the indoor/outdoor units.)

NO.	Troubleshooting procedure
1	Confirmation
2	Judgement by Flashing LED of Indoor/Outdoor Unit
3	How to Check simply the main part

9.2 Confirmation

(1)Confirmation of Power Supply

Confirm that the power breaker operates(ON) normally;

(2)Confirmation of Power Voltage

Confirm that power voltage is AC 220-230-240 ±10%. If power voltage is not in this range, the unit may not operate normally.

9.3 Flashing LED of Indoor/Outdoor Unit and Primary Judgement

Malfunction, st atus display table					
Malfunction name	Malfunction type	Dual-8	Display of indicator		
			Operation indicator	Cooling indicator	Heating indicator
Communication malfunction	Hardware malfunction	E6	Blink 6 times		
Malfunction protection of jumper cap	Hardware malfunction	C5	Blink 15 times		
Without feedback of indoor unit's motor	Hardware malfunction	H6	Blink 11 times	Blink once	
Indoor ambient temperature sensor is open/short-circuited	Hardware malfunction	F1		Blink twice	
Indoor evaporator sensor is open/short-circuited	Hardware malfunction	F2			

9.4 How to Check Simply The Main Part

(1) Troubleshooting for malfunction of temperature sensor

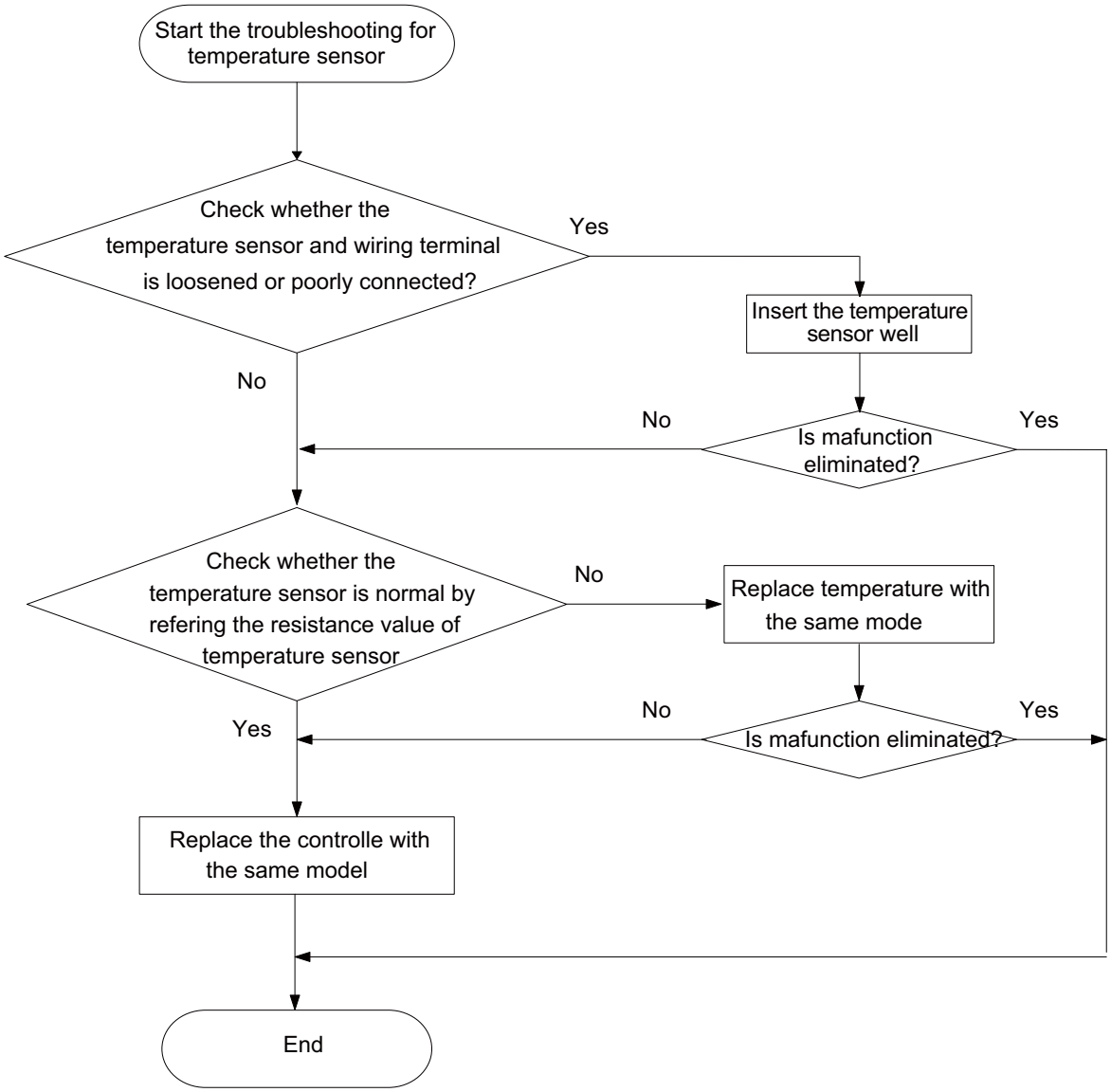
main check point:

●Whether the temperature sensor is broken or damaged;

●Whether the temperature sensor terminal is loosened or not connected;

●Whether the mainboard is damged;

Check flow chart:



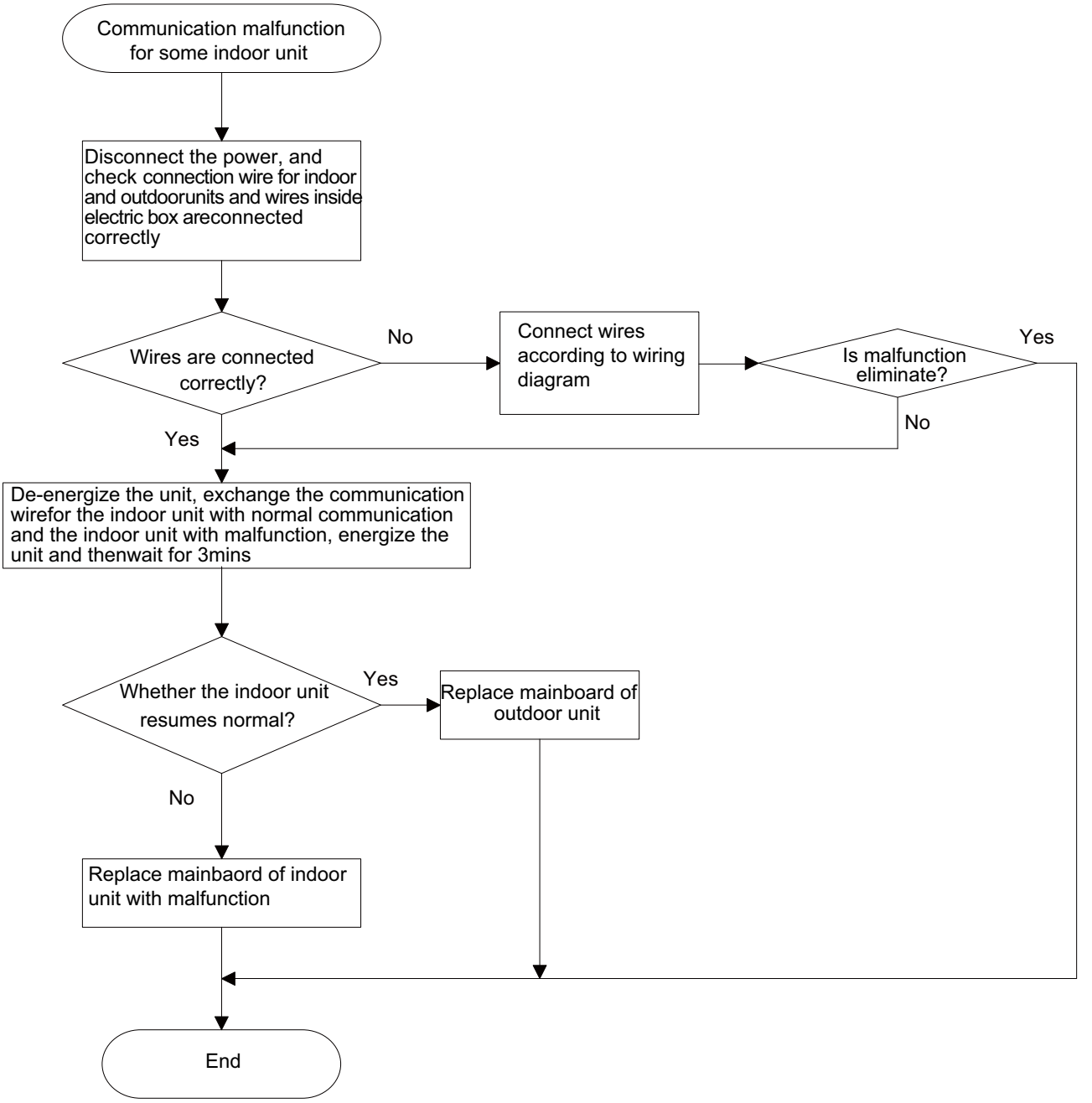
(2) Troubleshooting for communiction malfunction

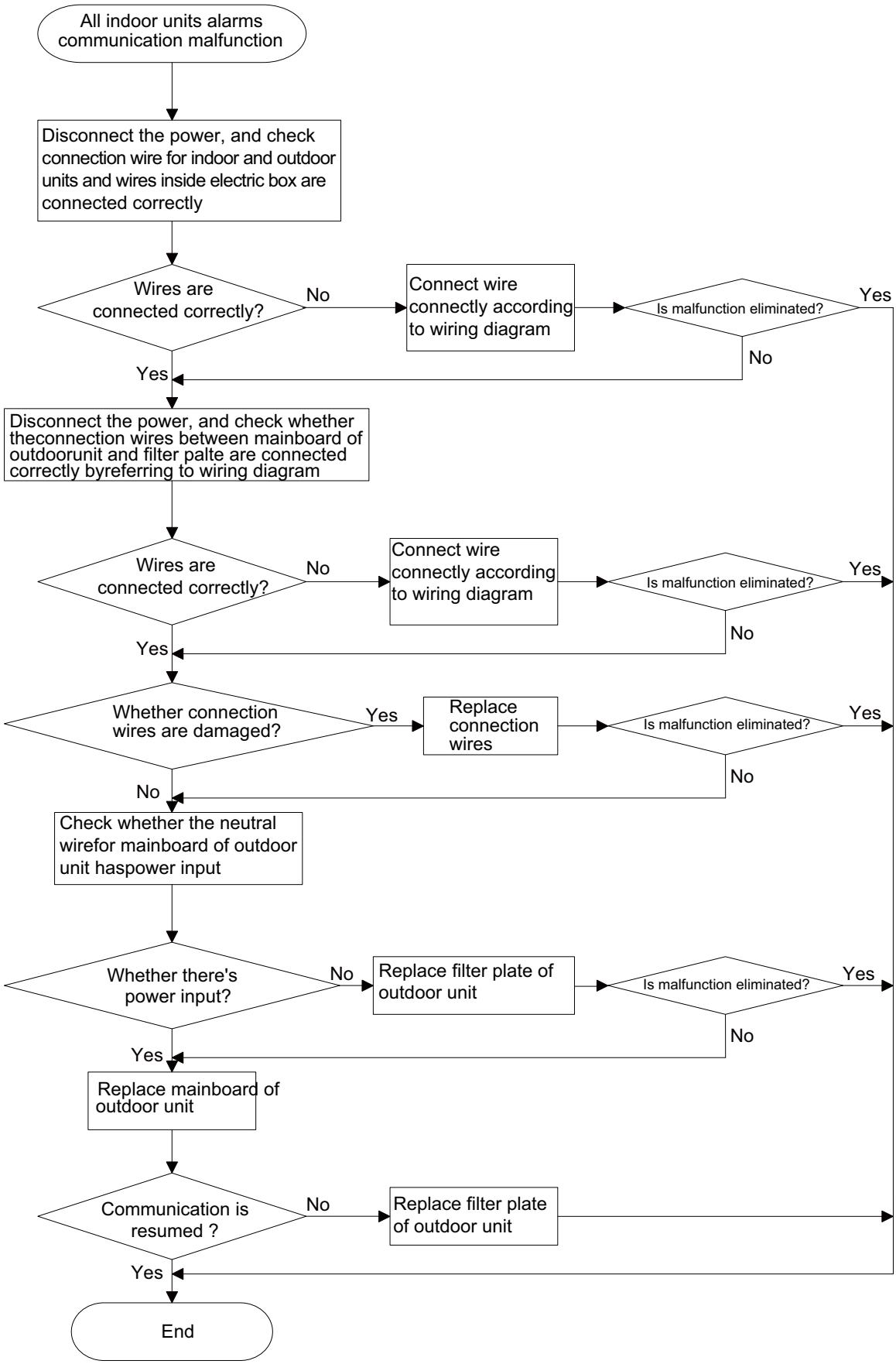
Main check point:

●Check whether the connection wire for indoor and outdoor units and the wires inside the indoor unit is connected well;

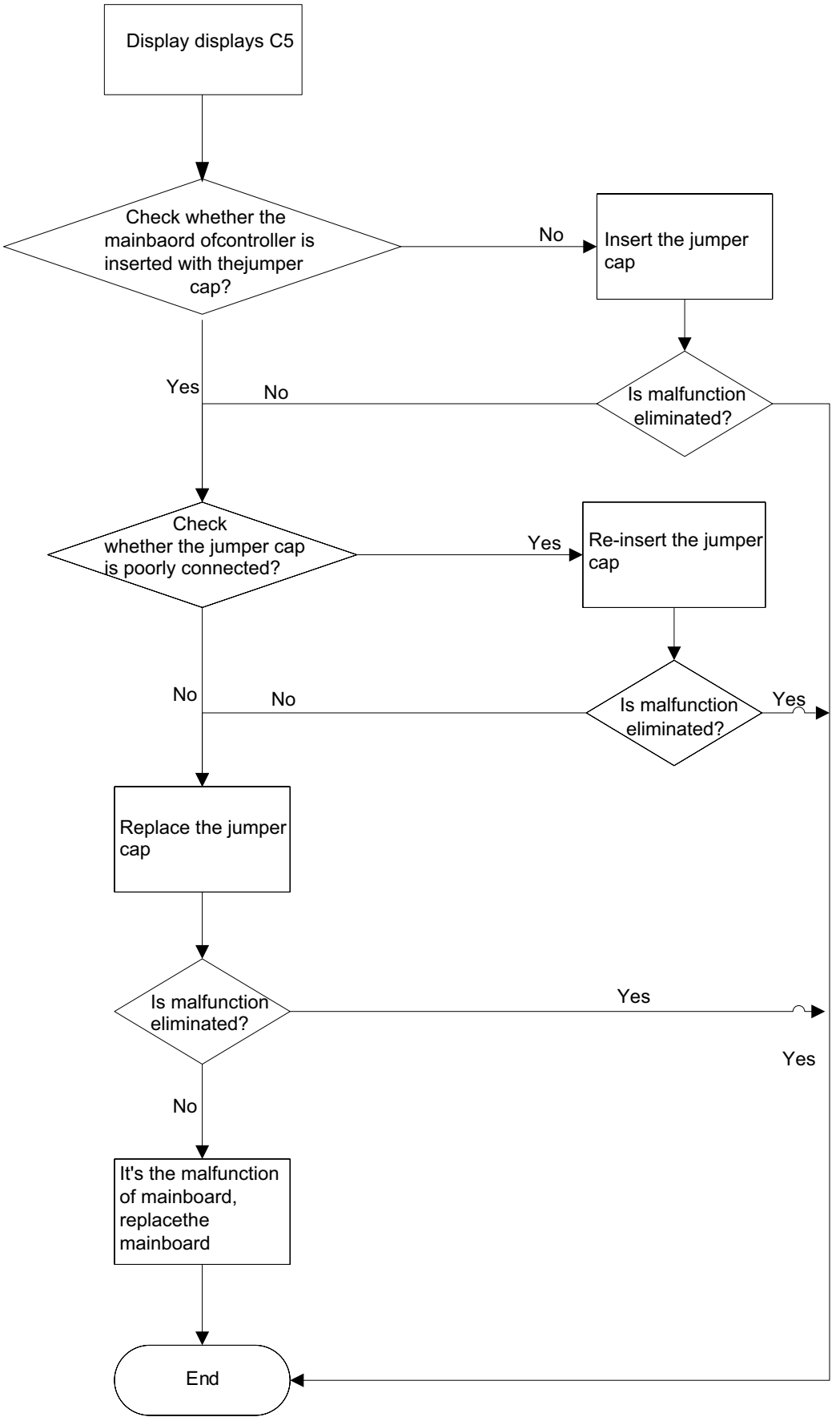
●Check whether the mainboards of indoor unit or outdoor unit are damaged;

Check flow chart:

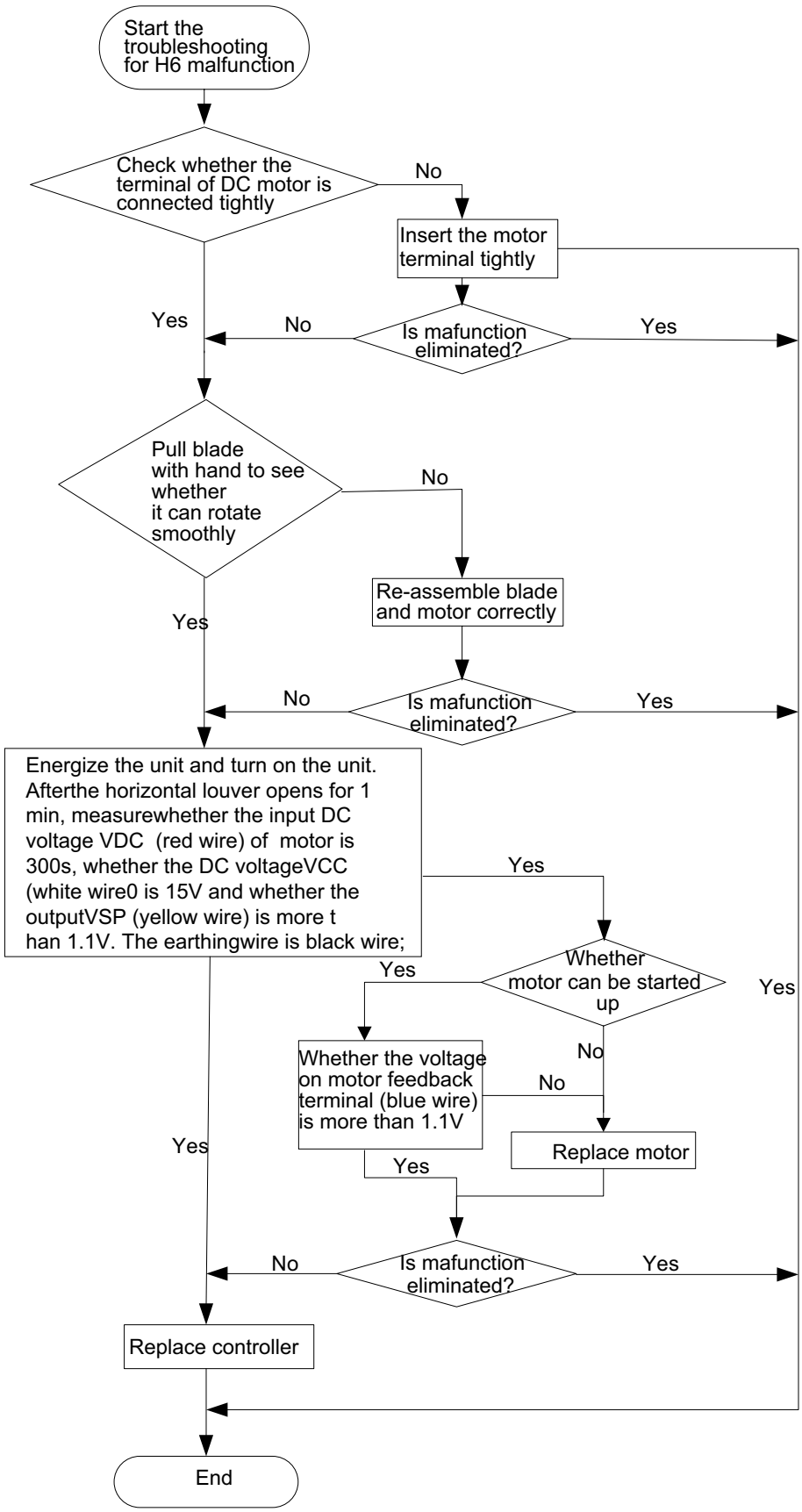



All indoor units alarms communication malfunction
Disconnect the power, and check connection wire for indoor and outdoor units and wires inside electric box are connected correctly
Wires are connected correctly?
No
Connect wire connectly according to wiring diagram
Is malfunction eliminated?
Yes
No
Yes
Disconnect the power, and check whether theconnection wires between mainboard of outdoorunit and filter palte are connected correctly byreferring to wiring diagram
Wires are connected correctly?
No
Connect wire connectly according to wiring diagram
Is malfunction eliminated?
Yes
No
Yes
Whether connection wires are damaged?
Yes
Replace connection wires
Is malfunction eliminated?
Yes
No
No
Check whether the neutral wirefor mainboard of outdoor unit haspower input
Whether there's power input?
No
Replace filter plate of outdoor unit
Is malfunction eliminated?
Yes
No
Yes
Replace mainboard of outdoor unit
Communication is resumed ?
No
Replace filter plate of outdoor unit
Yes
End

(3) Troubleshooting for C5 malfunction



(4)Troubleshooting for H6 malfunction



Appendix

Appendix 1: Resistance Table of Ambient Temperature Sensor for Indoor and Outdoor Units(15K)									
Temp.（℃）	Resistance(kΩ)		Temp.（℃）	Resistance(kΩ)		Temp.（℃）	Resistance(kΩ)		Temp.（℃）	Resistance(kΩ)
-19	138.1		20	18.75		59	3.848		98	1.071
-18	128.6		21	17.93		60	3.711		99	1.039
-17	121.6		22	17.14		61	3.579		100	1.009
-16	115		23	16.39		62	3.454		101	0.98
-15	108.7		24	15.68		63	3.333		102	0.952
-14	102.9		25	15		64	3.217		103	0.925
-13	97.4		26	14.36		65	3.105		104	0.898
-12	92.22		27	13.74		66	2.998		105	0.873
-11	87.35		28	13.16		67	2.896		106	0.848
-10	82.75		29	12.6		68	2.797		107	0.825
-9	78.43		30	12.07		69	2.702		108	0.802
-8	74.35		31	11.57		70	2.611		109	0.779
-7	70.5		32	11.09		71	2.523		110	0.758
-6	66.88		33	10.63		72	2.439		111	0.737
-5	63.46		34	10.2		73	2.358		112	0.717
-4	60.23		35	9.779		74	2.28		113	0.697
-3	57.18		36	9.382		75	2.206		114	0.678
-2	54.31		37	9.003		76	2.133		115	0.66
-1	51.59		38	8.642		77	2.064		116	0.642
0	49.02		39	8.297		78	1.997		117	0.625
1	46.6		40	7.967		79	1.933		118	0.608
2	44.31		41	7.653		80	1.871		119	0.592
3	42.14		42	7.352		81	1.811		120	0.577
4	40.09		43	7.065		82	1.754		121	0.561
5	38.15		44	6.791		83	1.699		122	0.547
6	36.32		45	6.529		84	1.645		123	0.532
7	34.58		46	6.278		85	1.594		124	0.519
8	32.94		47	6.038		86	1.544		125	0.505
9	31.38		48	5.809		87	1.497		126	0.492
10	29.9		49	5.589		88	1.451		127	0.48
11	28.51		50	5.379		89	1.408		128	0.467
12	27.18		51	5.197		90	1.363		129	0.456
13	25.92		52	4.986		91	1.322		130	0.444
14	24.73		53	4.802		92	1.282		131	0.433
15	23.6		54	4.625		93	1.244		132	0.422
16	22.53		55	4.456		94	1.207		133	0.412
17	21.51		56	4.294		95	1.171		134	0.401
18	20.54		57	4.139		96	1.136		135	0.391
19	19.63		58	3.99		97	1.103		136	0.382

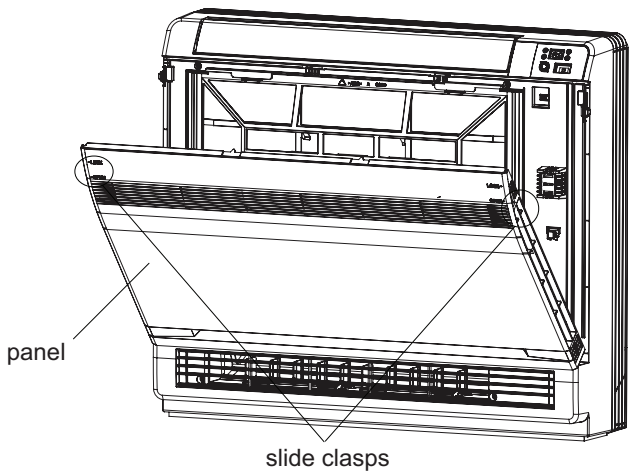
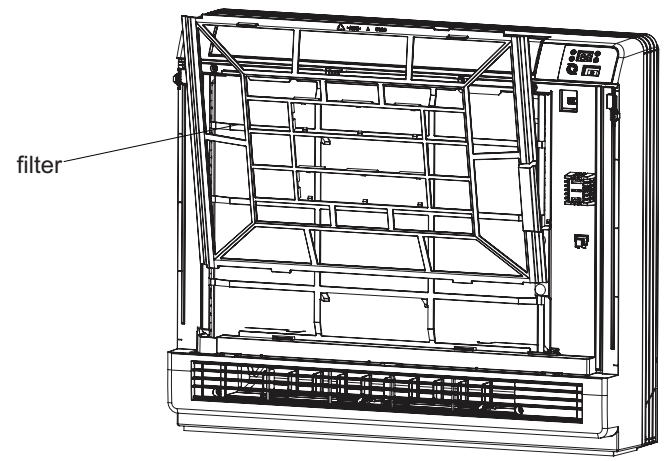
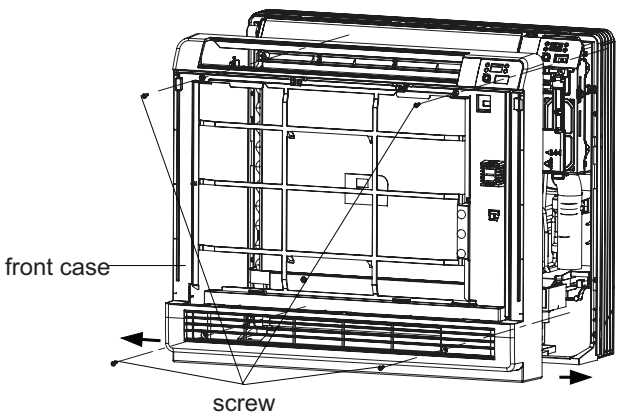
Appendix 2: Resistance Table of Outdoor and Indoor Tube Temperature Sensors(20K)									
Temp. （℃）	Resistance(kΩ)		Temp. （℃）	Resistance(kΩ)		Temp. （℃）	Resistance(kΩ)		Temp. （℃）	Resistance(kΩ)
-19	181.4		20	25.01		59	5.13		98	1.427
-18	171.4		21	23.9		60	4.948		99	1.386
-17	162.1		22	22.85		61	4.773		100	1.346
-16	153.3		23	21.85		62	4.605		101	1.307
-15	145		24	20.9		63	4.443		102	1.269
-14	137.2		25	20		64	4.289		103	1.233
-13	129.9		26	19.14		65	4.14		104	1.198
-12	123		27	18.13		66	3.998		105	1.164
-11	116.5		28	17.55		67	3.861		106	1.131
-10	110.3		29	16.8		68	3.729		107	1.099
-9	104.6		30	16.1		69	3.603		108	1.069
-8	99.13		31	15.43		70	3.481		109	1.039
-7	94		32	14.79		71	3.364		110	1.01
-6	89.17		33	14.18		72	3.252		111	0.983
-5	84.61		34	13.59		73	3.144		112	0.956
-4	80.31		35	13.04		74	3.04		113	0.93
-3	76.24		36	12.51		75	2.94		114	0.904
-2	72.41		37	12		76	2.844		115	0.88
-1	68.79		38	11.52		77	2.752		116	0.856
0	65.37		39	11.06		78	2.663		117	0.833
1	62.13		40	10.62		79	2.577		118	0.811
2	59.08		41	10.2		80	2.495		119	0.77
3	56.19		42	9.803		81	2.415		120	0.769
4	53.46		43	9.42		82	2.339		121	0.746
5	50.87		44	9.054		83	2.265		122	0.729
6	48.42		45	8.705		84	2.194		123	0.71
7	46.11		46	8.37		85	2.125		124	0.692
8	43.92		47	8.051		86	2.059		125	0.674
9	41.84		48	7.745		87	1.996		126	0.658
10	39.87		49	7.453		88	1.934		127	0.64
11	38.01		50	7.173		89	1.875		128	0.623
12	36.24		51	6.905		90	1.818		129	0.607
13	34.57		52	6.648		91	1.736		130	0.592
14	32.98		53	6.403		92	1.71		131	0.577
15	31.47		54	6.167		93	1.658		132	0.563
16	30.04		55	5.942		94	1.609		133	0.549
17	28.68		56	5.726		95	1.561		134	0.535
18	27.39		57	5.519		96	1.515		135	0.521
19	26.17		58	5.32		97	1.47		136	0.509

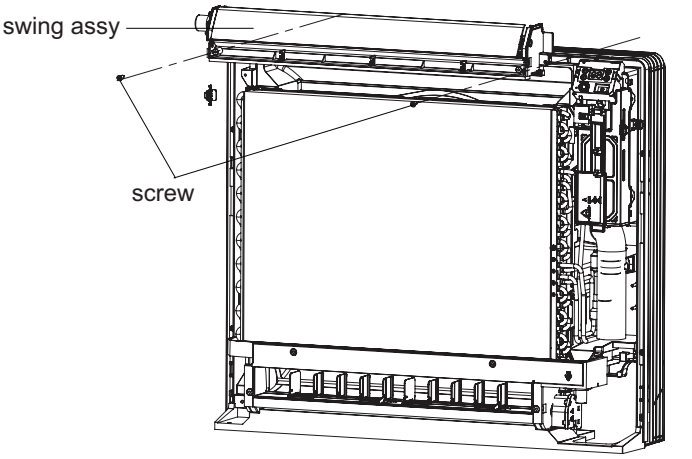
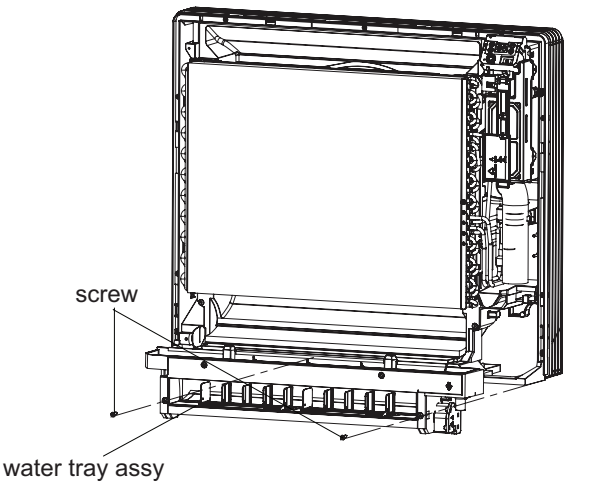
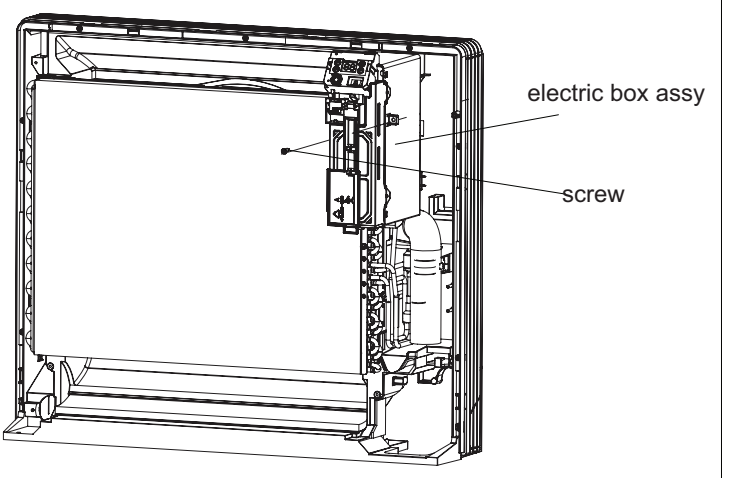
Appendix 3: Resistance Table of Outdoor Discharge Temperature Sensor(50K)									
Temp. （℃）	Resistance(kΩ)		Temp.（℃）	Resistance(kΩ)		Temp. （℃）	Resistance(kΩ)		Temp.（℃）	Resistance(kΩ)
-29	853.5		10	98		49	18.34		88	4.754
-28	799.8		11	93.42		50	17.65		89	4.609
-27	750		12	89.07		51	16.99		90	4.469
-26	703.8		13	84.95		52	16.36		91	4.334
-25	660.8		14	81.05		53	15.75		92	4.204
-24	620.8		15	77.35		54	15.17		93	4.079
-23	580.6		16	73.83		55	14.62		94	3.958
-22	548.9		17	70.5		56	14.09		95	3.841
-21	516.6		18	67.34		57	13.58		96	3.728
-20	486.5		19	64.33		58	13.09		97	3.619
-19	458.3		20	61.48		59	12.62		98	3.514
-18	432		21	58.77		60	12.17		99	3.413
-17	407.4		22	56.19		61	11.74		100	3.315
-16	384.5		23	53.74		62	11.32		101	3.22
-15	362.9		24	51.41		63	10.93		102	3.129
-14	342.8		25	49.19		64	10.54		103	3.04
-13	323.9		26	47.08		65	10.18		104	2.955
-12	306.2		27	45.07		66	9.827		105	2.872
-11	289.6		28	43.16		67	9.489		106	2.792
-10	274		29	41.34		68	9.165		107	2.715
-9	259.3		30	39.61		69	8.854		108	2.64
-8	245.6		31	37.96		70	8.555		109	2.568
-7	232.6		32	36.38		71	8.268		110	2.498
-6	220.5		33	34.88		72	7.991		111	2.431
-5	209		34	33.45		73	7.726		112	2.365
-4	198.3		35	32.09		74	7.47		113	2.302
-3	199.1		36	30.79		75	7.224		114	2.241
-2	178.5		37	29.54		76	6.998		115	2.182
-1	169.5		38	28.36		77	6.761		116	2.124
0	161		39	27.23		78	6.542		117	2.069
1	153		40	26.15		79	6.331		118	2.015
2	145.4		41	25.11		80	6.129		119	1.963
3	138.3		42	24.13		81	5.933		120	1.912
4	131.5		43	23.19		82	5.746		121	1.863
5	125.1		44	22.29		83	5.565		122	1.816
6	119.1		45	21.43		84	5.39		123	1.77
7	113.4		46	20.6		85	5.222		124	1.725
8	108		47	19.81		86	5.06		125	1.682
9	102.8		48	19.06		87	4.904		126	1.64

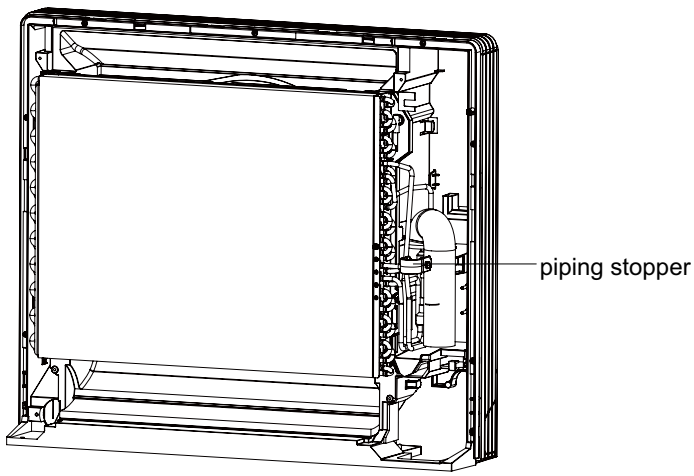
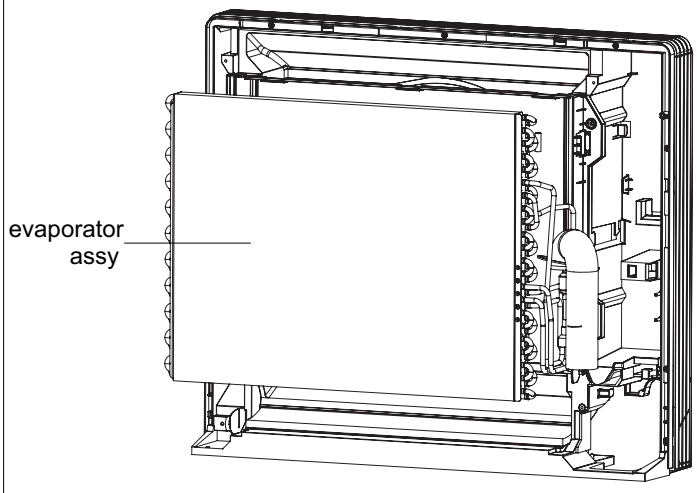
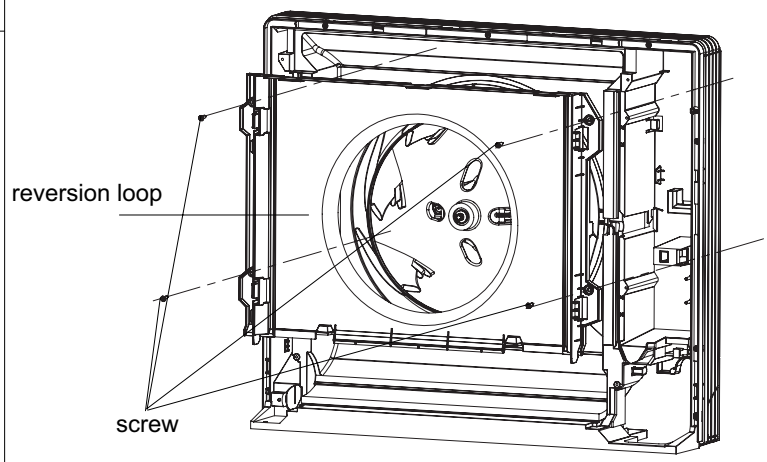
Note: The information above is for reference only.

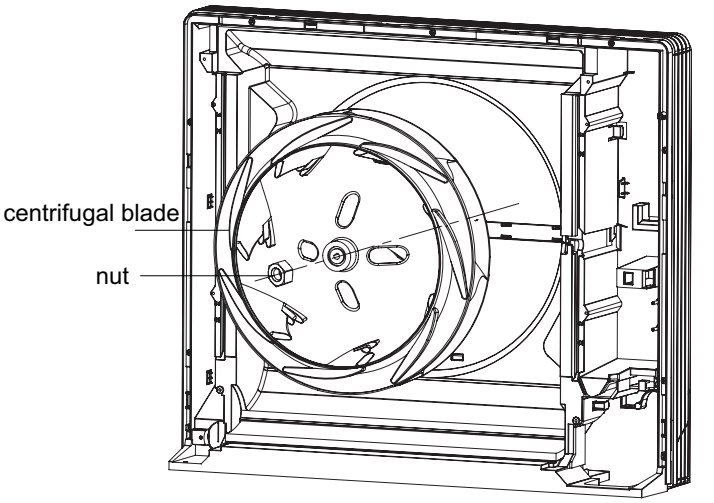
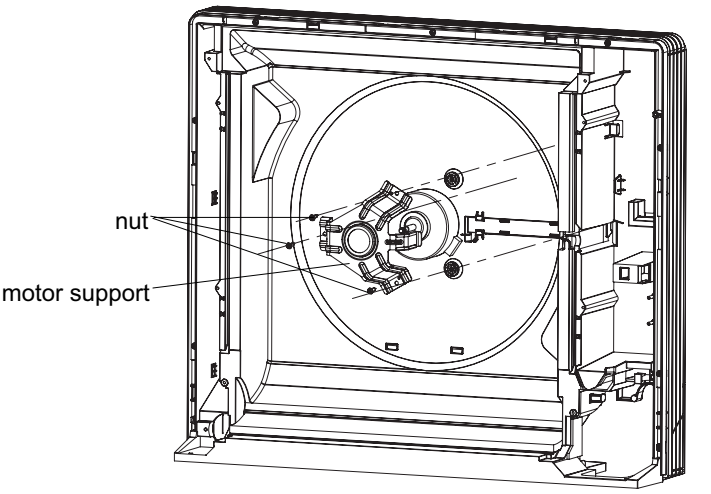
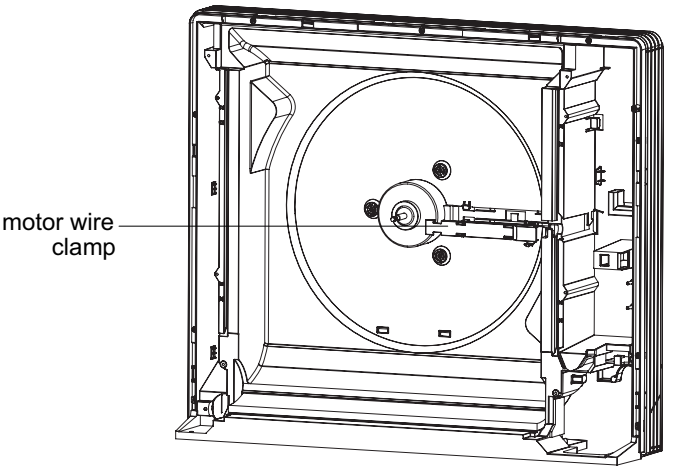
10. Removal Procedure

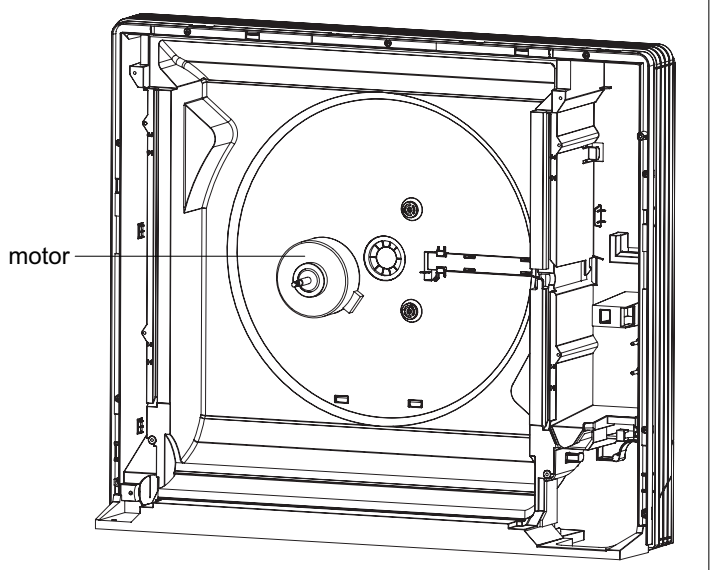
Warning **Be sure to wait for a minimum of 10 minutes after turning off all power supplies before disassembly.**

Steps	Procedure	
1.Remove panel		
	Pull the slide clasps at both sides of panel, pull the panel outwards, lift up the panel and then remove the panel.	
2.Remove filter		
	Loosen the clasp on the upper side of filter, pull the panel outwards to remove it.	
3.Remove front case		
	Remove the 4 screws fixing front case; Disengage the clasps on both sides (Follow the arrows); pull the front case outwards, and then remove the front case.	

Steps	Procedure
4.Remove swing assy	
Remove 2 screws fixing swing assy, pull out the connection wires with electric box, and then pull the swing assy outwards to remove it.	
5.Remove water tray assy	
Remove 2 screws fixing water tray, and then pull the water tray outwards to remove it.	
6.Remove electric box assy	
Remove one screw fixing electric box assy,pull out all connection wire, and then pull the electric box assy outwards to remove it.	

Steps	Procedure
7.Remove piping stopper	
Loosen clasps between piping stopper and bottom case, and then pull the piping stopper outwards to remove it.	
8.Remove evaporator	
Loosen the clasps between evaporator and bottom case and then pull the evaporator outwards to remove it.	
9.Remove reversion loop	
Remove 4 screws on reversion loop, and then remove the reversion loop.	

Steps	Procedure
10.Remove centrifugal blade	
	Remove nuts on centrifugal blade, and then pull the centrifugal blade outwards to remove it.
	
11.Remove motor support	
	Remove screws fixing motor support, and then remove the motor support.
	
12.Remove motor wire clamp	
	Loosen clasps between motor wire clamp and bottom case, and then pull the motor wire clamp to remove it.
	

Steps	Procedure
13. Remove motor	
Remove the motor.	

GREE ELECTRIC APPLIANCES,INC.OF ZHUHAI

Add:Jinji west Rd.Qianshan Zhuhai Guangdong China