

40MBAA Air Handler Unit Ductless System Sizes 24 to 48

Service Manual

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SAFETY CONSIDERATIONS

Installing, starting up, and servicing air-conditioning equipment can be hazardous due to unit pressures, electrical components, and equipment location (roofs, elevated structures, etc.).

Only trained, qualified installers and service mechanics should install, start-up, and service this equipment.

Untrained personnel can perform basic maintenance functions such as coil cleaning. All other operations should be performed by trained service personnel **only**.

When working on the equipment, observe the precautions in the literature and on tags, stickers, and labels attached to the equipment.

Follow all safety codes. Wear safety glasses and work gloves. Keep a quenching cloth and fire extinguisher nearby when brazing. Use care in handling, rigging, and setting bulky equipment.

Read this manual thoroughly and follow all the warnings or cautions included in the literature and attached to the unit. Consult local building codes and the National Electrical Code (NEC) for special requirements.

Recognize safety information. This is the safety-alert symbol .

When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury. Understand these signal words: **DANGER**, **WARNING**, and **CAUTION**.

These words are used with the safety-alert symbol. **DANGER** identifies the most serious of hazards which will result in severe personal injury or death. **WARNING** signifies hazards which could result in personal injury or death. **CAUTION** is used to identify unsafe practices which may result in minor personal injury or product and property damage. **NOTE** is used to highlight suggestions which will result in enhanced installation, reliability, or operation.



WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Before installing, modifying, or servicing the unit, the 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.



WARNING

EXPLOSION HAZARD

Failure to follow this warning could result in death, serious personal injury, and/or property damage.

Never use air or gases containing oxygen for leak testing or operating refrigerant compressors. Pressurized mixtures of air or gases containing oxygen can lead to an explosion.



CAUTION

EQUIPMENT DAMAGE HAZARD

Failure to follow this caution may result in equipment damage or improper operation.

Do not bury more than 36 in. (914 mm) of refrigerant pipe in the ground. If any section of pipe is buried, there must be a 6 in. (152 mm) vertical rise to the valve connections on the outdoor units. If more than the recommended length is buried, refrigerant may migrate to the cooler buried section during the extended periods of unit shutdown. This causes refrigerant slugging and could possibly damage the compressor at start-up.

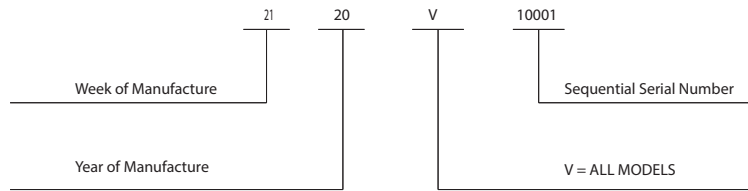
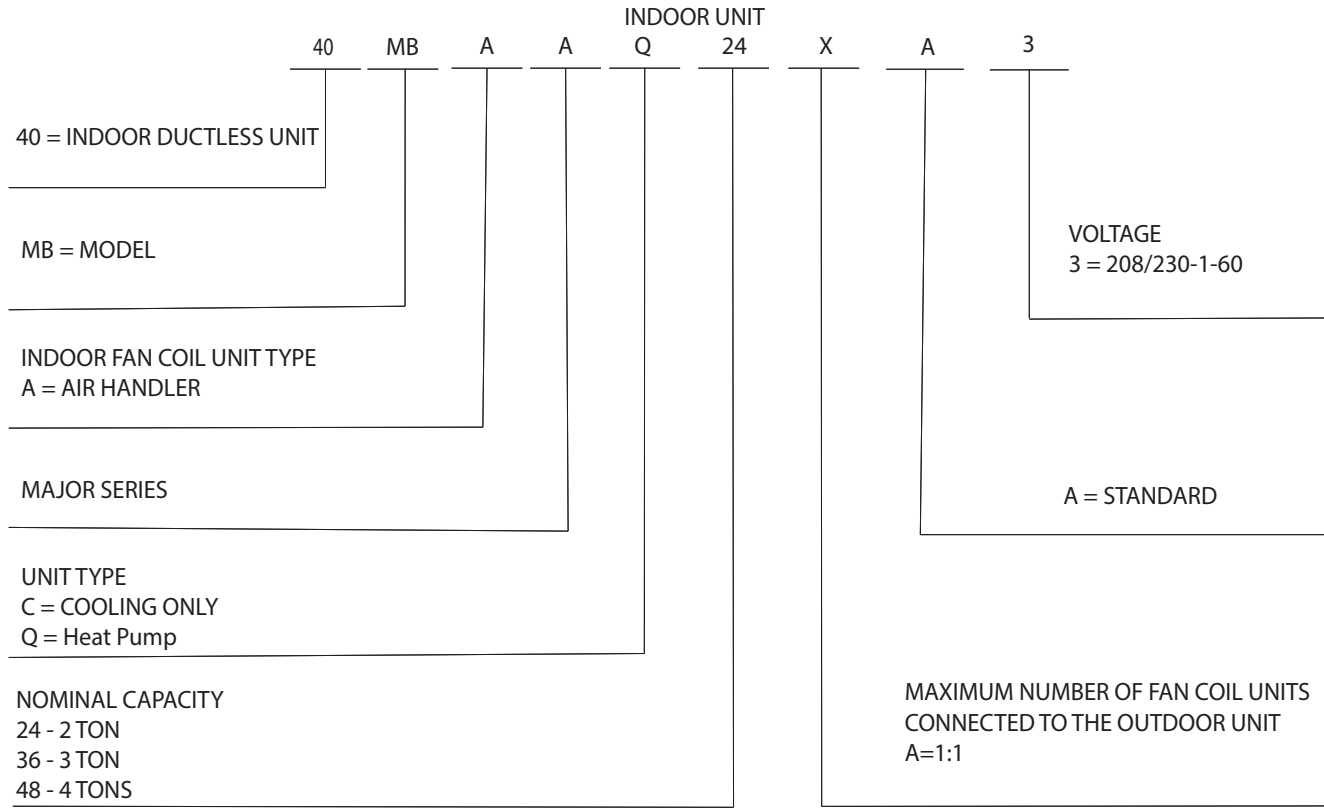
INTRODUCTION

This service manual provides the necessary information to service, repair, and maintain the indoor units. This manual contains "APPENDICES" on page 50 with data required to troubleshoot. Use the "TABLE OF CONTENTS" on page 1 to locate a desired topic.

MODEL NUMBER NOMENCLATURE

Table 1 — Unit Sizes

KBTUH	V-PH-HZ	ID MODEL NO.
24	208/230-1-60	40MBAAQ24XA3
36		40MBAAQ36XA3
48		40MBAAQ48XA3



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.



SPECIFICATIONS

Table 2 — Specifications

SYSTEM	SIZE		24K	36K	48K	
		Indoor Model		40MBAAQ24XA3	40MBAAQ36XA3	40MBAAQ48XA3
Electrical	Voltage, Phase, Cycle		V/Ph/Hz	208/230-1-60		
	Power Supply		Indoor unit powered from outdoor unit			
	MCA		A.	6.0	6.0	6.0
	MOCP			15.0	15.0	15.0
Controls*	Wireless Remote Control (°F/°C Convertible)		Standard	Standard	Standard	
Operating Range	Cooling Indoor DB Min - Max	°F (°C)	62~90 (17~32)	62~90 (17~32)	62~90 (17~32)	
Piping	Pipe Connection Size - Liquid	in (mm)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	
	Pipe Connection Size - Suction	in (mm)	5/8" (16)	5/8" (16)	5/8" (16)	
Indoor Coil	Face Area (sq. ft.)	Sq. Ft.	1.69	1.69	1.69	
	No. Rows		2	4	4	
	Circuits		4	8	8	
Indoor	Unit Width	in (mm)	51.18 (1,300)	51.18 (1,300)	51.18 (1,300)	
	Unit Height	in (mm)	24.61 (625)	24.61 (625)	24.61 (625)	
	Unit Depth	in (mm)	22.44 (570)	22.44 (570)	22.44 (570)	
	Net Weight	lbs (kg)	141.09 (64)	144.84 (65.7)	144.84 (65.7)	
	Fan speed number		3	3	3	
	Airflow (lowest to highest)	CFM	588/765/882	824/1000/1176	1176/1294/1412	
	Sound Pressure (lowest to highest)	dB(A)	43/40.4/37.2	46.5/43/37.9	53.9/51.9/50	
	Moisture removal	Pint/h (L/h)	3.16pint/hour	7.67pint/hour	11.98 pint/hour	
Field Drain Pipe Size O.D.	in (mm)	3/4 inch	3/4 inch	3/4 inch		

Performance may vary based on the compatible outdoor units. See the respective pages on the outdoor unit's product data for performance data.

*To be used only to set airflow in accordance with the installation manual.

DIMENSIONS

Table 3 — Dimensions

UNIT SIZE		24K	36K	48K
Height	in (mm)	48.82 (1,240)	48.82 (1,240)	48.82 (1,240)
Width	in (mm)	19.61 (498)	19.61 (498)	19.61 (498)
Depth	in (mm)	20.98 (533)	20.98 (533)	20.98 (533)
Operating Weight	lbs (kg)	141.09 (64)	144.84 (65.7)	144.84 (65.7)
Shipping Weight	lbs (kg)	156.09 (70.8)	160.27 (72.7)	159.83(72.5)
Shipping Height	in (mm)	24.61 (625)	24.61 (625)	24.61 (625)
Shipping Width	in (mm)	51.18 (1,300)	51.18 (1,300)	51.18 (1,300)
Shipping Depth	in (mm)	22.44 (570)	22.44 (570)	22.44 (570)

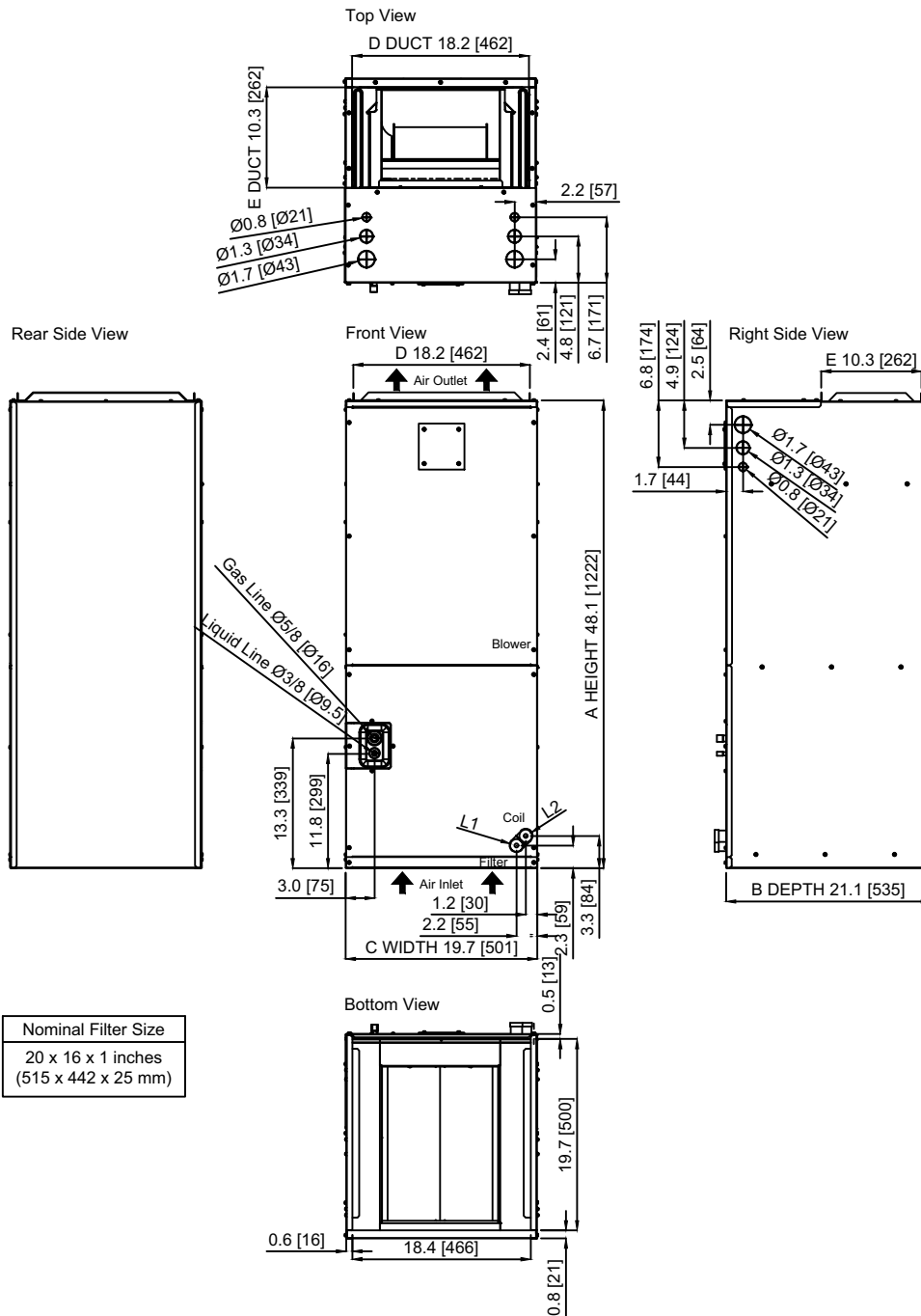


Fig. 1 — Dimensions

PART NAMES

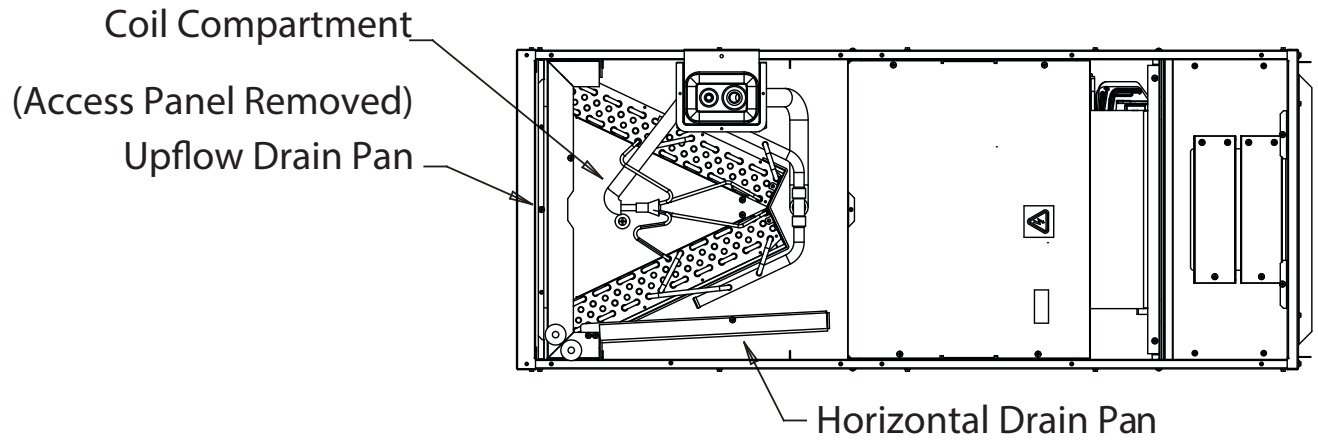


Fig. 2 —Part Names

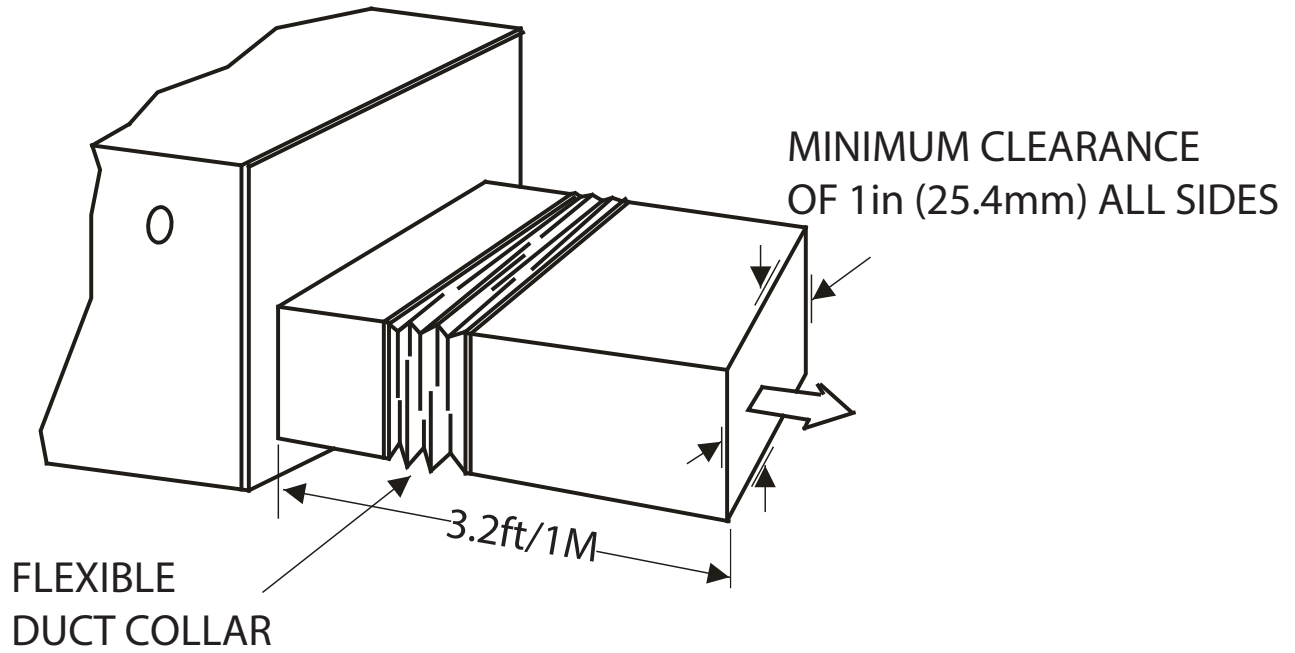


Fig. 3 — Service Section

CONNECTORS

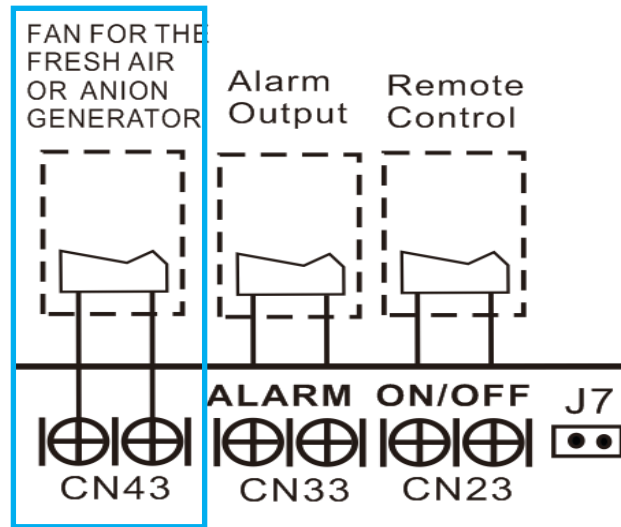


Fig. 4 — Connectors

For the new motor terminal port (also for the Anion generator) CN43:

1. When the indoor blower is running, CN 43 will be powered on with line voltage (208 or 230). Use this connection to power a relay for controlling a separate circuit for outdoor air fan or other peripheral.
2. When the unit enters force cooling mode or capacity testing mode, CN43 powers off.

CONNECTORS (CONT.)

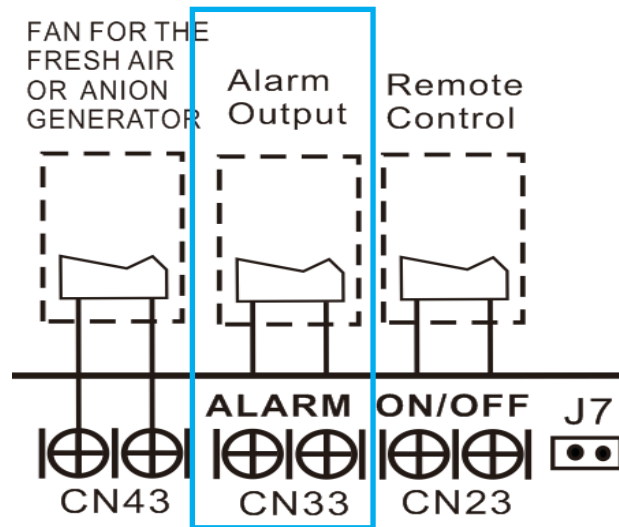


Fig. 5 — Connectors

For ALARM terminal port CN33:

- When there is an alarm on the unit, the CN33 dry contacts close. May be used to control a pilot relay for an external alarm device.

CONNECTORS (CONT.)

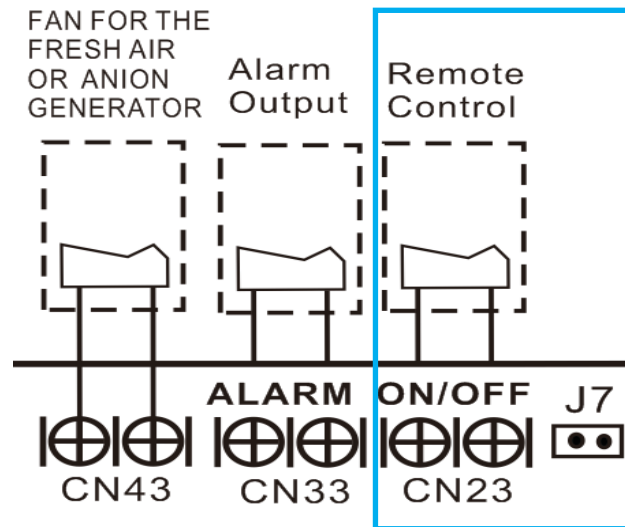


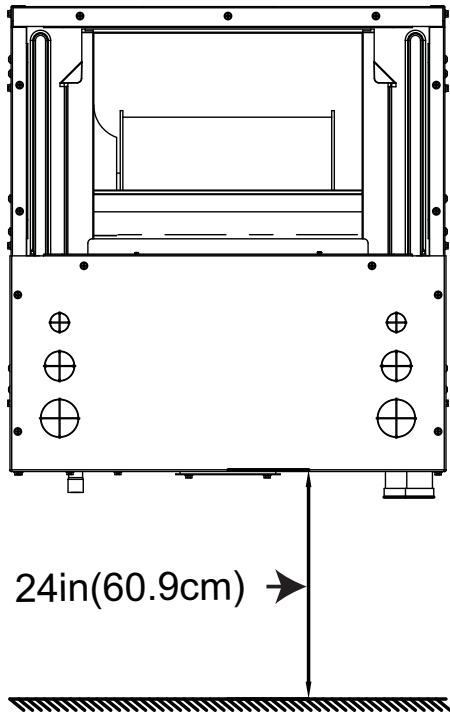
Fig. 6 — Connectors

For remote control (ON-OFF) terminal port CN23 and short connector of J7

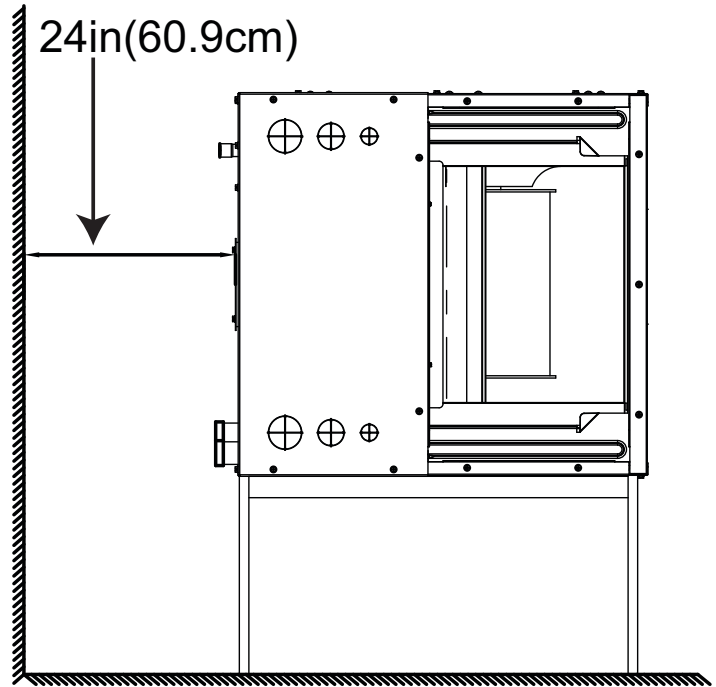
1. Remove the J7 short connector when using the **ON-OFF** function;
2. When the remote switch is off (OPEN); the system is off and the display displays "CP";
3. When the remote switch is on (CLOSE); the system is on;
4. When the remote switch is closed or opened, the system responds to the command within 2 seconds.

CLEARANCES

Allow a minimum of 24in (60.9 cm) clearance from the access panels.



Vertical Upflow Installations



Horizontal Installations

Fig. 7 — Clearances

ELECTRICAL DATA

Table 4 — Electrical Data

HIGH WALL UNIT SIZE	INDOOR FAN				MAX FUSE CB AMP
	V-PH-HZ	FLA	HP	W	
24K	208/230-1-60	5	0.20	120	Refer to outdoor unit installation instructions – Indoor unit powered by the outdoor unit
36K		5	0.42	250	
48K		5	0.65	400	

LEGEND
FLA - Full Load Amps

WIRING


All wires must be sized per NEC (National Electrical Code) or CEC (Canadian Electrical Code) and local codes. Use the Electrical Data table MCA (minimum circuit amps) and MOCP (maximum over current protection) to correctly size the wires and the disconnect fuse or breakers respectively.

Recommended Connection Method for Power and Communication Wiring:


The main power is supplied to the outdoor unit. The field supplied 14/3 stranded wire, with ground, has a 600 volt insulation rating and the power/communication wiring from the outdoor unit to indoor unit consists of four (4) wires and provides the power for the indoor unit.

Two wires are line voltage AC power, one is communication wiring (S) and the other is a ground wire. Wiring between the indoor and outdoor unit is polarity sensitive. The use of BX wire is NOT recommended.

If installed in a high Electromagnetic field (EMF) area and communication issues exists, a 14/2 stranded shielded wire can be used to replace L2 and (S) between the outdoor unit and indoor unit landing the shield onto ground in the outdoor unit only.


CAUTION

EQUIPMENT DAMAGE HAZARD
Failure to follow this caution may result in equipment damage or improper operation.
Wires should be sized based on NEC and local codes.


CAUTION

EQUIPMENT DAMAGE HAZARD
Failure to follow this caution may result in equipment damage or improper operation.
Be sure to comply with local codes while running wire from the indoor unit to the outdoor unit.
Every wire must be connected firmly. Loose wiring may cause the terminal to overheat or result in unit malfunction. A fire hazard may also exist. Ensure all wiring is tightly connected. No wire should touch the refrigerant tubing, compressor or any moving parts.
Disconnecting means must be provided and shall be located within sight and readily accessible from the unit. Connecting cable with conduit shall be routed through the hole in the conduit panel.

CONNECTION DIAGRAMS

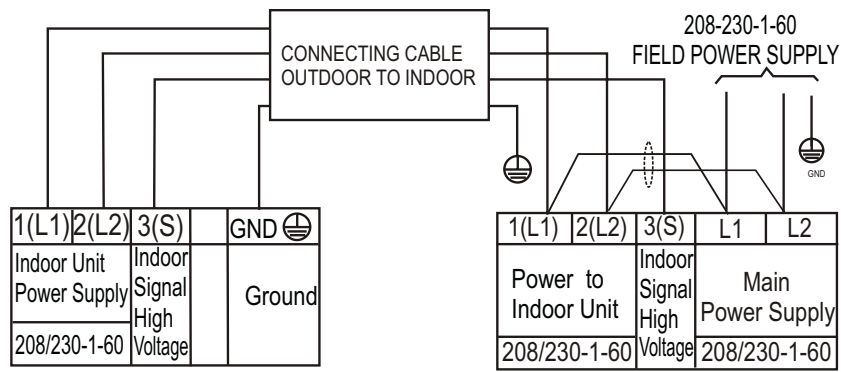


Fig. 8 — Size 24K Indoor Unit

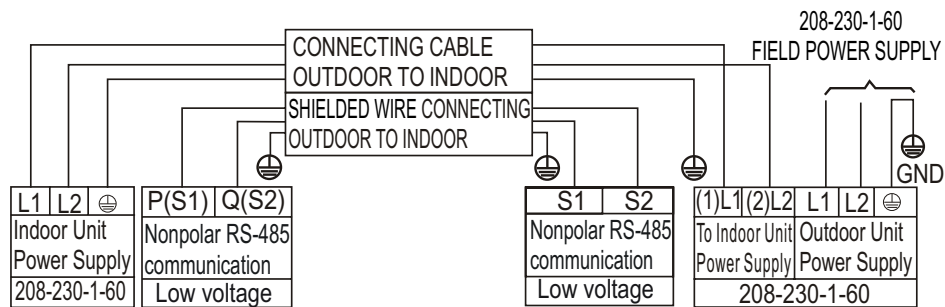


Fig. 9 — Size 36K- 48K Indoor Unit

NOTES:

1. **DO NOT** use a thermostat wire for any connection between the indoor and outdoor units.
2. All connections between the indoor and outdoor units must adhere to the connections shown in figures 8 - 9. The connections are polarity sensitive and **improper wiring results in a fault code**.

WIRING DIAGRAMS

Size 24K

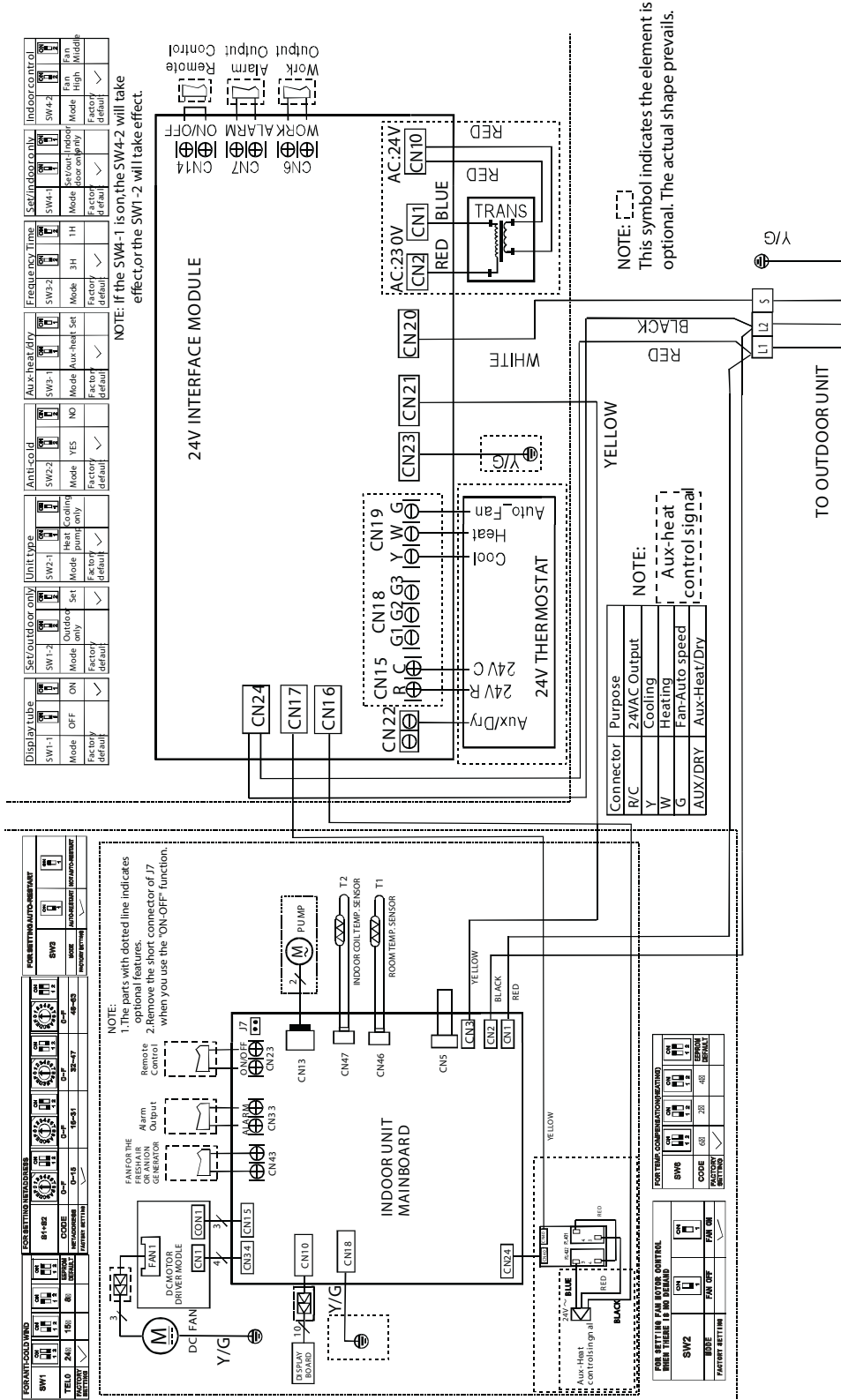


Fig. 10 — Wiring Diagram Size 24K

WIRING DIAGRAMS (CONT)

Table 5 — Wiring Diagram Size 24K-48K

CODE	INDOOR UNIT MAINBOARD CONNECTION
CN1	input: 230VAC High voltage
CN2	input: 230VAC High voltage
CN3	communication: 230VAC High voltage (24K only)
CN5	output: 0-5VDC water level switch connection
CN10	output: 12VDC display board connection
CN13	output: 220V AC for the pump
CN15	output: 220V AC for the fan
CN16	RS485 Communication to 24 volt interface 0-10VDC 36-48K only
CN18	output: 0V connection to the ground
CN23	output: 12VDC for the remote controller
CN24	output: 12VDC for the heater control board
CN33	output: 0V for the alarm
CN34	output: 15V DC for the driver board (danger)
CN43	output: 220VAC for the fresh air fan
CN46	input: 5V DC for the T1 sensor
CN47	input: 5V DC for the T2 sensor

Table 6 — Wiring Diagram Size 24K-48K

CODE	24 VOLT INTERFACE CONNECTION
CN1	input: 230VAC High voltage
CN2	input: 230VAC High voltage
CN6	output: 0V for the work
CN7	output: 0V for the alarm
CN8	RS485 Communication to Indoor Unit 0 - 10 VDC 36-48K only
CN9-2	RS485 Communication to Outdoor Unit 0-10 VDC 36-48K only
CN10	input: 24V for the 24V interface board
CN14	output: 12VDC for the remote controller
CN15	output: 24VAC for the 24V thermostat
CN16	output: 24VAC for the heater control
CN17	output: 25VAC for the heater control
CN18	input: 24VAC for the fan control
CN19	input: 24VAC for the mode control
CN20	communication: 230VAC High voltage "S" outdoor 24K only
CN21	communication: 230VAC High voltage "S" Indoor 24K only
CN22	input:24VAC for the AUX
CN23	output: 0V connection to the ground
CN24	input: 230VAC High voltage

WIRING DIAGRAMS (CONT)

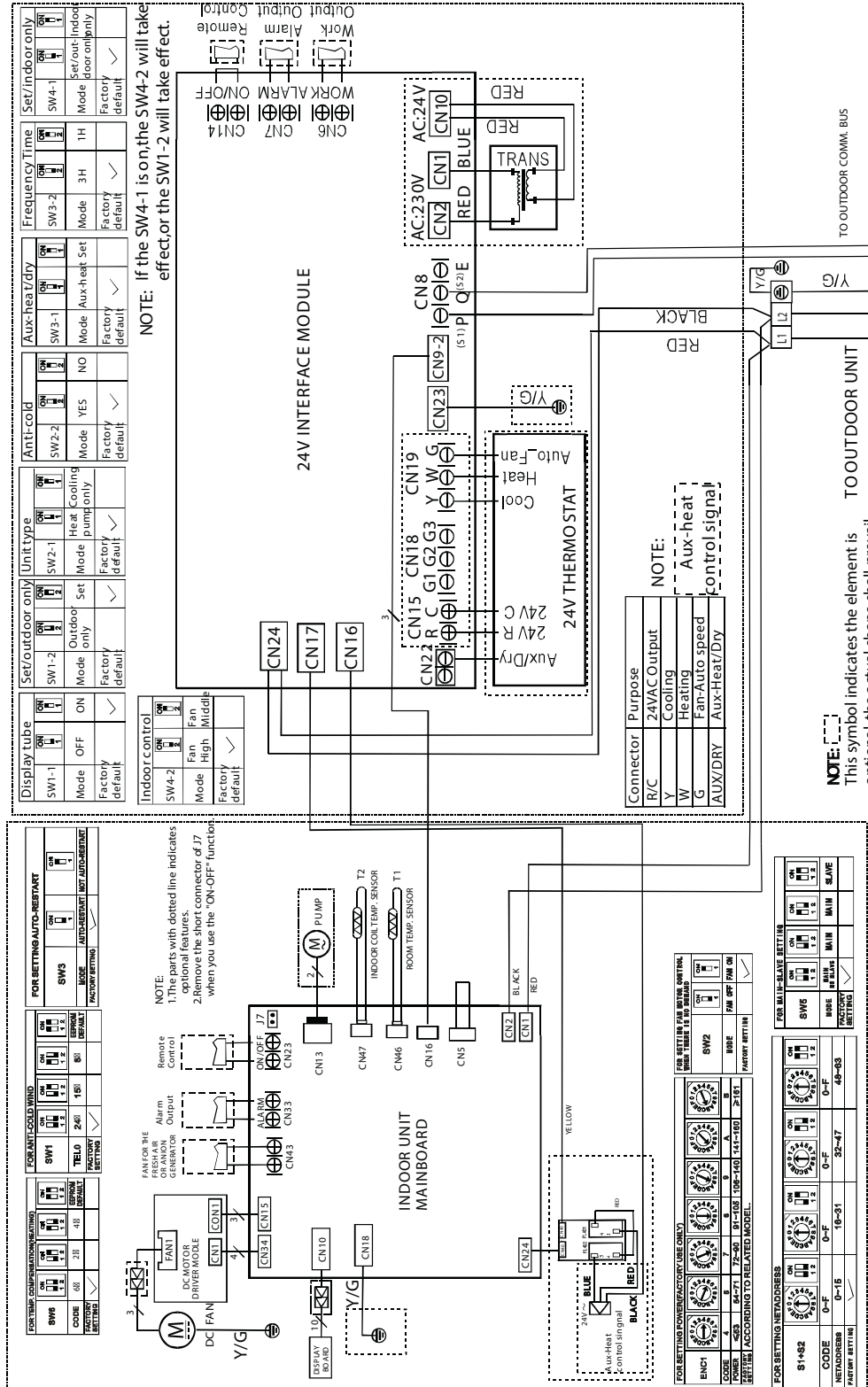


Fig. 11 — Wiring Diagram Sizes 36K - 48K

FAN AND MOTOR SPECIFICATIONS

Table 7 — Fan and Motor Specifications

DUCTED SIZE		24K	36K	48K
		(208/230 V)	(208/230 V)	(208/230 V)
INDOOR FAN	Material	Metal	Metal	Metal
	Type	LX-282*245*12.7-49J-B	LX-282*245*12.7-49J-B	LX-282*245*12.7-49J-B
	Diameter	inch 11.1	11.1	11.1
	Height	inch 9.65	9.65	9.65
INDOOR FAN MOTOR	Model	ZKFN-600-10-1	ZKFN-600-10-1	ZKFN-600-10-1
	Volts	V 208/230	208/230	208/230
	Type	DC	DC	DC
	Phase	3	3	3
	FLA	5	5	5
	Insulation class	B	B	B
	Safe class	IP20	IP20	IP20
	Input	W 150	320	500
	Output	W 120	250	400
	Range of current	Amps 1.2±10%	2.4±10%	3.54±10%
	Rated current	Amps 1.2	2.4	3.54
	Capacitor	µF NA	NA	NA
	Rated HP	HP 0.20	0.42	0.65
	Rated Power High/Medium/Low	W 148/107/75	315/191/138	487/394/315
	Speed High/Medium/Low	rev/min 720/640/550	900/800/700	1050/980/910
	Rated RPM	rev/min 720	900	1050
Max. input	W 325	483	610	

Airflow Specifications

Table 8 — Airflow Specifications

SYSTEM SIZE		24K	36K	48K
		(208/230V)	(208/230V)	(208/230V)
Indoor (CFM)	High	882	1,176	1412,
	Medium	765	1,000	1,294
	Low	588	824	1,176

REFRIGERATION CYCLE DIAGRAM

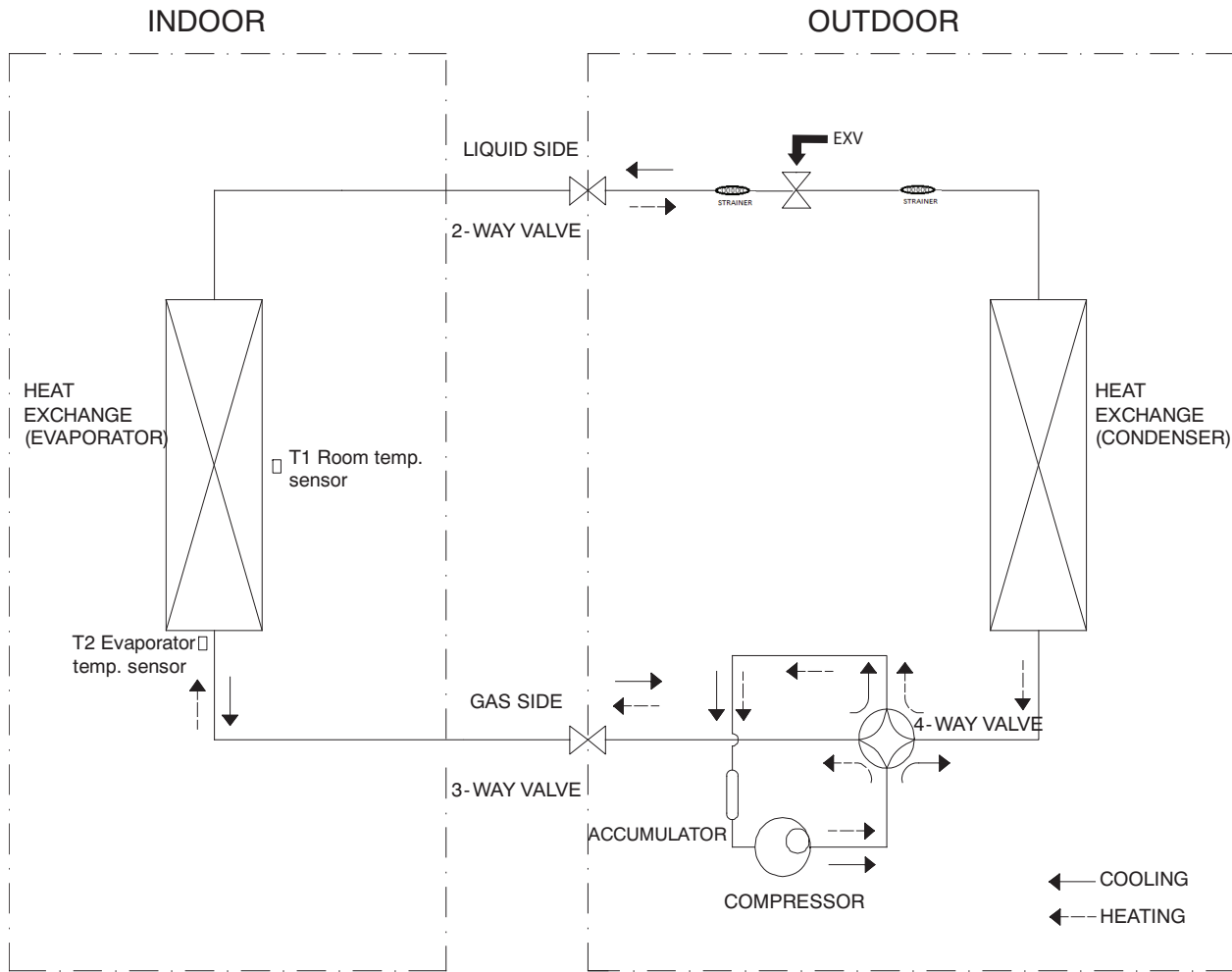


Fig. 12 — Heat Pumps

REFRIGERANT LINES

General refrigerant line sizing

1. The outdoor units are shipped with a full charge of R410A refrigerant. All charges, line sizing, and capacities are based on runs of 25 ft. (7.6 m). For runs over 25 ft. (7.6 m), consult the product data.
2. Minimum refrigerant line length between the indoor and outdoor units is 10 ft. (3 m).
3. Refrigerant lines should not be buried in the ground. If it is necessary to bury the lines, not more than 36 in. (914 mm) should be buried. Provide a minimum 6 in. (152 mm) vertical rise to the service valves to prevent refrigerant migration.
4. Both lines must be insulated. Use a minimum of ½ in. (12.7 mm) thick insulation. Closed-cell insulation is recommended in all long-line applications.
5. Special consideration should be given to isolating interconnecting tubing from the building structure. Isolate the tubing so that vibration or noise is not transmitted into the structure.
6. For piping runs greater than 25 ft. (7.6 m), add refrigerant up to the allowable length as specified in the product data.

Refrigerant Coil Specifications

Table 9 — Refrigerant Coil Specifications

UNIT SIZE		24	36	48	
AIR HANDLER INDOOR COIL	NUMBER OF ROWS	2	4	4	
	Tube pitch (a) x row pitch (b)	in	0.83x0.53	0.83x0.53	0.83x0.53
		mm	21x13.37	21x13.37	21x13.37
	Fin Spacing	FPI	20	20	20
		mm	1.3	1.3	1.3
	Fin type	Louvered	Louvered	Louvered	
	Fin Material	Hydrophilic Aluminum	Hydrophilic Aluminum	Hydrophilic Aluminum	
	Tube outside dia.	inch	0.276	0.276	0.276
		mm	7	7	7
	Nominal Tube Wall	mm (inch)	0.00945 (0.24)	0.00945 (0.24)	0.00945 (0.24)
	Tube Enhancement	(Yes/ No)	Yes	Yes	Yes
	Tube Material		Copper	Copper	Copper
	Coil length x height x width	inch	16.34x14.88x2.10	16.34x14.88x2.10	16.34x14.88x2.10
		mm	415x378x53.48	415x378x53.48	415x378x53.48
	Face area	ft ²	1.69	1.69	1.69
	Number of circuits		4	8	8
	Metering Device		EXV in outdoor unit		
	High Burst Pressure	Psi (MPa)	609.2(4.2)	609.2 (4.2)	609.2 (4.2)
	Low Burst Pressure	Psi (MPa)	217.6 (1.5)	217.6 (1.5)	217.6 (1.5)
	Design (high/low) Burst Pressure	Psi	550/340	550/340	550/340
Gas Pipe (size – connection type)	In (mm)	5/8" (15.9)	5/8" (15.9)	5/8" (15.9)	
Liquid Pipe (size – connection type)	In (mm)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	

TROUBLESHOOTING

⚠ WARNING

Be sure to turn off all power supplies or disconnect all wires to avoid electric shock. While checking indoor/outdoor PCB, please equip oneself with anti-static gloves or wrist strap to avoid damage to the board.

⚠ WARNING

Electricity remains in capacitors even when the power supply is off. Ensure the capacitors are fully discharged before troubleshooting.

Test the voltage between P and N on back of the main PCB with a multimeter. If the voltage is lower than 36V, the capacitors are fully discharged.

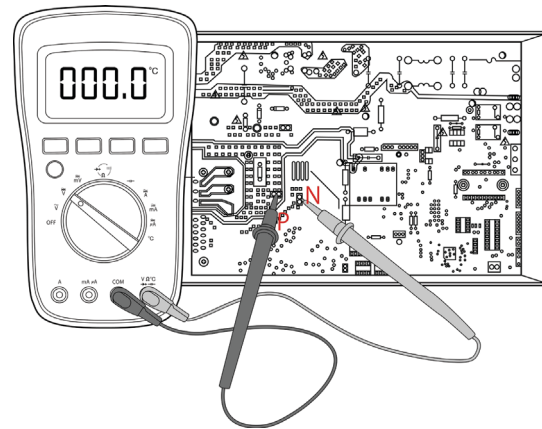


Fig. 13 — Voltage P and N

NOTE: Figure 13 is for reference only. The actual appearance may differ.

Error Display (Indoor Unit)

When the indoor unit encounters a recognized error, the operation lamp flashes in a corresponding series, the timer lamp may turn on or begin flashing, and an error code appears (see Table 10).

Table 10 — Error Display

OPERATION LAMP	TIMER LAMP	DISPLAY	ERROR INFORMATION	SOLUTION
1 time	OFF	E0	Indoor unit EEPROM parameter error	Page 23
2 times	OFF	E1	Indoor / outdoor unit communication error	Page 24
4 times	OFF	E3	The indoor fan speed is operating outside of the normal range	Page 27
5 times	OFF	E4	Indoor room temperature sensor T1 is in open circuit or has short circuited	Page 29
6 times	OFF	E5	Evaporator coil temperature sensor T2 is in open circuit or has short circuited	Page 29
7 times	OFF	EC	Refrigerant Leakage Detection (for some models)	Page 31
8 times	OFF	EE	Water-level alarm malfunction	Page 30
9 times	OFF	E8	Communication error between master and slave unit (for twins system)	Page 33
10 times	OFF	E9	Another indoor unit malfunction (for twins system)	--
11 times	OFF	Ed	Outdoor unit malfunction	Page 32
1 times	ON	F0	Current overload protection	Page 34
2 times	ON	F1	Outdoor room temperature sensor T4 is in open circuit or has short circuited	Page 29
3 times	ON	F2	Condenser coil temperature sensor T3 is in open circuit or has short circuited	Page 29
4 times	ON	F3	Compressor discharge temperature sensor TP is in open circuit or has short circuited	Page 29
5 times	ON	F4	Outdoor unit EEPROM parameter error	Page 23
6 times	ON	F5	The outdoor fan speed is operating outside of the normal range (for some models)	Page 27
7 times	ON	F6	Evaporator coil outlet temperature sensor T2B is in open circuit or has short circuited (for free-match indoor units)	Page 29
11 times	ON	f a	Communication error between indoor two chips (for some models)	Page 35
1 times	FLASH	P0	IPM malfunction or IGBT over-strong current protection	Page 36
2 times	FLASH	P1	Over voltage or over low voltage protection	Page 37
3 times	FLASH	P2	Top temperature protection of compressor	Page 38
5 times	FLASH	P4	Inverter compressor drive error	Page 36
6 times	FLASH	P5/--	Indoor units mode conflict (match with multi outdoor unit)	Page 47
7 times	FLASH	P6	Low pressure protection (for some models)	Page 39
8 times	FLASH	P7	IGBT temperature sensor TH is in open circuit or has short circuited (for some models)	Page 29

For other errors: The display board may display a garbled code or a code undefined by the service manual. Ensure the code is not a temperature reading.

Error Display (For Some Outdoor Units)

Table 11 — Error Display

DISPLAY	MALFUNCTION OR PROTECTION	SOLUTION
E0/F4	Outdoor unit EEPROM parameter error (for some units)	Page 23
E1	Indoor / outdoor unit communication error	Page 24
XYE	For XYE Communication	Page 26
E3/F5	The outdoor fan speed is operating outside of the normal range	Page 27
E4/E5/F1/F2/F3/ F6/P7	Condenser coil temperature sensor T3 is in an open circuit or has short circuited. Compressor discharge temperature sensor TP is in an open circuit or has short circuited.	Page 29
EE	Water-Level Alarm Malfunction	Page 30
EC	Refrigerant Leakage Detection	Page 31
ED	Outdoor unit malfunction	Page 32
E8	Communication Error Between Master and Slave Unit (for Twins System)	Page 33
F0	Overload Current Protection	Page 34
FA	Communication Error Between Indoor Two Chips	Page 35
P0/P4	IPM Malfunction and Inverter Compressor Drive Error	Page 36
P1	Over voltage or over low voltage protection	Page 37
P2	Top Temperature Protection of Compressor	Page 38
P6/J6	Low Pressure Protection	Page 39
J0	Evaporator high temperature protection	Page 40
J1	Condenser high temperature protection	Page 41
J2	High discharge temperature protection	Page 42
J3	PFC module protection	Page 43
J4	Communication error between outdoor main chip and compressor driven chip	Page 44
J5	High pressure protection	Page 45
J8	AC power input voltage protection	Page 46

Outdoor Unit Point Check Function (36 and 48 only)

- A check switch is included on the outdoor PCB.
- Push SW1 to check the unit's status while running. The digital display shows the codes listed in Table 12 each time SW1 is pressed.

Table 12 — Outdoor Unit Point Check

NUMBER OF PRESSES	DISPLAY	REMARK		
00	Normal display	Displays the running frequency, running state, or malfunction code		
01	Indoor unit capacity demand code	Actual data*HP*10 If the capacity demand code is higher than 99, the digital display tube displays the single digit and tens digit. (For example, the digital display tube displays "5.0", which means the capacity demand is 15. The digital display tube displays "60", it means the capacity demand is 6.0).		
02	Amendatory capacity demand code			
03	The frequency after the capacity requirement transfer			
04	The frequency after the frequency limit			
05	The frequency of sending to 341 chip			
06	Indoor unit evaporator temperature	If the temperature is lower than 0 degree, the digital display tube displays "0". If the temp. is higher than 70 degrees, the digital display tube displays "70".		
07	Condenser pipe temp.(T3)	If the temp. is lower than -9 degrees, the digital display tube displays "-9". If the temperature is higher than 70 degrees, the digital display tube displays "70". If the indoor unit is not connected, the digital display tube displays: "--"		
08	Outdoor ambient temp.(T4)			
09	Compressor discharge temp. (T5)	The display value is between 13~129 degrees. If the temperature is lower than 13 degrees, the digital display tube displays "13". If the temperature is higher than 99 degrees, the digital display tube displays a single digit and tens digit. (For example, the digital display tube displays "0.5", it means the compressor discharge temperature. is 105 degrees. The digital display tube displays "1.6", it means the compressor discharge temperature. is 116 degrees.		
10	AD value of current	The display value is a hex number.		
11	AD value of voltage	For example, the digital display tube displays "Cd", it means AD value is 205.		
12	Indoor unit running mode code	Standby:0, Fan only 1,Cooling:2, Heating:3, Forced Cooling:4, Drying:6, Self Clean:8, Forced Defrosting:10		
13	Outdoor unit running mode code	Standby:0, Fan only 1,Cooling:2, Heating:3, Forced Cooling:4, Drying:6, Self Clean:8, Forced Defrosting:10		
14	EXV open angle	Actual data 4. If the value is higher than 99, the digital display tube displays a single digit and tens digit. For example, the digital display tube displays "2.0", it means the EXV open angle is 120x4=480p.		
15	Frequency limit symbol	Bit7	Frequency limit caused by IGBT radiator	The display value is a hexadecimal number. For example, the digital display shows 2A, then Bit5=1, Bit3=1, and Bit1=1. This means that a frequency limit may be caused by T4, T3, or the current.
		Bit6	Frequency limit caused by PFC	
		Bit5	Frequency limit caused by T4.	
		Bit4	Frequency limit caused by T2.	
		Bit3	Frequency limit caused by T3.	
		Bit2	Frequency limit caused by T5.	
		Bit1	Frequency limit caused by current	
		Bit0	Frequency limit caused by voltage	
16	Outdoor unit fan motor state	Off: 0, Turbo:1 High speed:2, Med speed: 3, Low speed: 4, Breeze:5, Super breeze: 6 other speed:7		
17	IGBT radiator temperature	The display value is between 30~120 degrees. If the temperature is lower than 30 degrees, the digital display tube displays "30". If the temperature is higher than 99 degrees, the digital display tube displays a single digit and a tens digit. (For example, the digital display tube displays "0.5", it means the IGBT radiator temperature is 105 degrees. The digital display tube displays "1.6", it means the IGBT radiator temperature is 116 degrees.		
18	Indoor unit number	The indoor unit can communicate with outdoor unit well. General:1, Twins:2		
19	Evaporator pipe temp. T2 of 1# indoor unit	If the temperature is lower than 0 degree, the digital display tube displays "0". If the temperature is higher than 70 degrees, the digital display tube displays "70". If the indoor unit is not connected, the digital display tube displays: "--"		
20	Evaporator pipe temp. T2 of 2# indoor unit			
21	Evaporator pipe temp. T2 of 3# indoor unit			
22	1# Indoor unit capacity demand code	Actual data*HP*10 If the capacity demand code is higher than 99, the digital display tube displays a single digit and tens digit. (For example, the digital display tube displays "5.0", it means the capacity demand is 15. the digital display tube show "60", it means the capacity demand is 6.0). If the indoor unit is not connected, the digital display tube displays: "--"		
23	2# Indoor unit capacity demand code			
24	3# Indoor unit capacity demand code			
25	Room temp. T1 of 1# indoor unit	If the temperature is lower than 0 degree, the digital display tube displays "0". If the temperature is higher than 70 degree, the digital display tube displays "70". If the indoor unit is not connected, the digital display tube displays: "--"		
26	Room temp. T1 of 2# indoor unit			
27	Average room temp. T1			
28	Reason of stop			
29	Evaporator pipe temp. T2B of 1# indoor unit	If the temperature is lower than 0 degree, the digital display tube displays "0". If the temperature is higher than 70 degree, the digital display tube displays "70". If the indoor unit is not connected, the digital display tube displays: "--"		
30	Evaporator pipe temp. T2B of 2# indoor unit			

Quick Maintenance by Error Code

If you do not have the time to test which specific parts are faulty, you can directly change the required parts according to the error code. You can locate the parts to replace by error code in Table 13.

Table 13 — Quick Maintenance by Error Code

PART REQUIRING PAYMENT	ERROR CODE									
	E0	E1	E3	E4	E5	EC	EE	F0	F1	F2
Indoor PCB	√	√	√	√	√	√	√	x	x	x
Outdoor PCB	x	√	x	x	x	x	x	√	√	√
Indoor fan motor	x	x	√	x	x	x	x	x	x	x
Outdoor fan motor	x	x	x	x	x	x	x	√	x	x
T1 sensor	x	x	x	√	x	x	x	x	x	x
T2 Sensor	x	x	x	x	√	√	x	x	x	x
T3 Sensor	x	x	x	x	x	x	x	x	x	√
T4 Sensor	x	x	x	x	x	x	x	x	√	x
TP Sensor	x	x	x	x	x	x	x	x	x	x
IGBT Sensor	x	x	x	x	x	x	x	x	x	x
Additional refrigerant	x	x	x	x	x	√	x	√	x	x
Capacitor of compressor	x	x	x	x	x	x	x	x	x	x
Compressor	x	x	x	x	x	x	x	√	x	x
IPM board	x	x	x	x	x	x	x	x	x	x
Capacitor of fan motor	x	x	x	x	x	x	x	x	x	x
Outdoor fan	x	x	x	x	x	x	x	x	x	x
Display board	x	x	x	x	x	x	√	x	x	x
Reactor or inductance	x	x	x	x	x	x	x	√	x	x
Bridge rectifier	x	x	x	x	x	x	x	x	x	x
Water-level switch	x	x	x	x	x	x	√	x	x	x
Water pump	x	x	x	x	x	x	√	x	x	x

Table 14 — Quick Maintenance by Error Code

PART REQUIRING REPLACEMENT	ERROR CODE								
	F2	F3	F4	F5	F6	P0/P4	P1	P6/J6	P7
Indoor PCB	x	x	x	x	x	x	x	x	x
Outdoor PCB	√	√	√	√	x	√	√	√	√
Indoor fan motor	x	x	x	x	x	x	x	x	x
Outdoor fan motor	x	x	x	√	x	√	x	x	x
T1 sensor	x	x	x	x	x	x	x	x	x
T2 Sensor	x	x	x	x	x	x	x	x	x
T3 Sensor	√	x	x	x	x	x	x	x	x
T4 Sensor	x	x	x	x	x	x	x	x	x
TP Sensor	x	√	x	x	x	√	x	x	x
IGBT Sensor	x	x	x	x	x	x	x	x	√
Additional refrigerant	x	x	x	x	x	x	x	x	x
Capacitor of compressor	x	x	x	x	x	x	x	x	x
Compressor	x	x	x	x	x	√	√	x	x
IPM board	x	x	x	x	x	√	√	x	x
Capacitor of fan motor	x	x	x	x	x	x	x	x	x
Outdoor fan	x	x	x	x	x	x	x	x	x
Display board	x	x	x	x	x	x	x	x	x
Reactor or inductance	x	x	x	x	x	√	√	x	x
Bridge rectifier	x	x	x	x	x	√	√	x	x
Pressure protector	x	x	x	x	x	x	x	√	x
T2B Sensor	x	x	x	x	√	x	x	x	x

Table 15 — Quick Maintenance by Error Code

PART REQUIRING REPLACEMENT	ERROR CODE							
	J0	J1	J2	J3	J4	J5	J8	P2
Indoor PCB	x	x	x	x	x	x	x	x
Outdoor PCB	√	√	√	√	√	√	√	√
Indoor fan motor	x	x	x	x	x	x	x	x
Outdoor fan motor	√	x	x	√	x	x	x	x
T1 sensor	x	x	x	x	x	x	x	x
T2 Sensor	√	x	x	x	x	x	x	x
T3 Sensor	x	√	x	x	x	x	x	x
T4 Sensor	x	x	x	x	x	x	x	x
TP Sensor	x	x	√	x	x	x	x	x
IGBT Sensor	x	x	x	x	x	x	x	x
Additional refrigerant	x	√	√	x	x	x	x	x
Capacitor of compressor	x	x	x	x	x	x	x	x
Compressor	x	√	x	√	x	x	x	x
IPM board	x	√	x	√	x	x	√	x
Fan Motor Capacitor	x	x	x	x	x	x	x	x
Outdoor fan	x	x	x	x	x	x	x	x
Display board	x	x	x	x	x	x	x	x
Reactor or inductance	x	x	x	x	x	x	√	x
Bridge rectifier	x	x	x	x	x	x	√	x
Pressure protector	x	x	x	x	x	√	x	x
Compressor driven chip	x	x	x	x	√	x	x	x
Overload protector	x	x	x	x	x	x	x	√

NOTE: For certain models, the outdoor PCB can not be removed separately. In this case, the outdoor electric control box should be replaced as a whole.

DIAGNOSIS AND SOLUTION

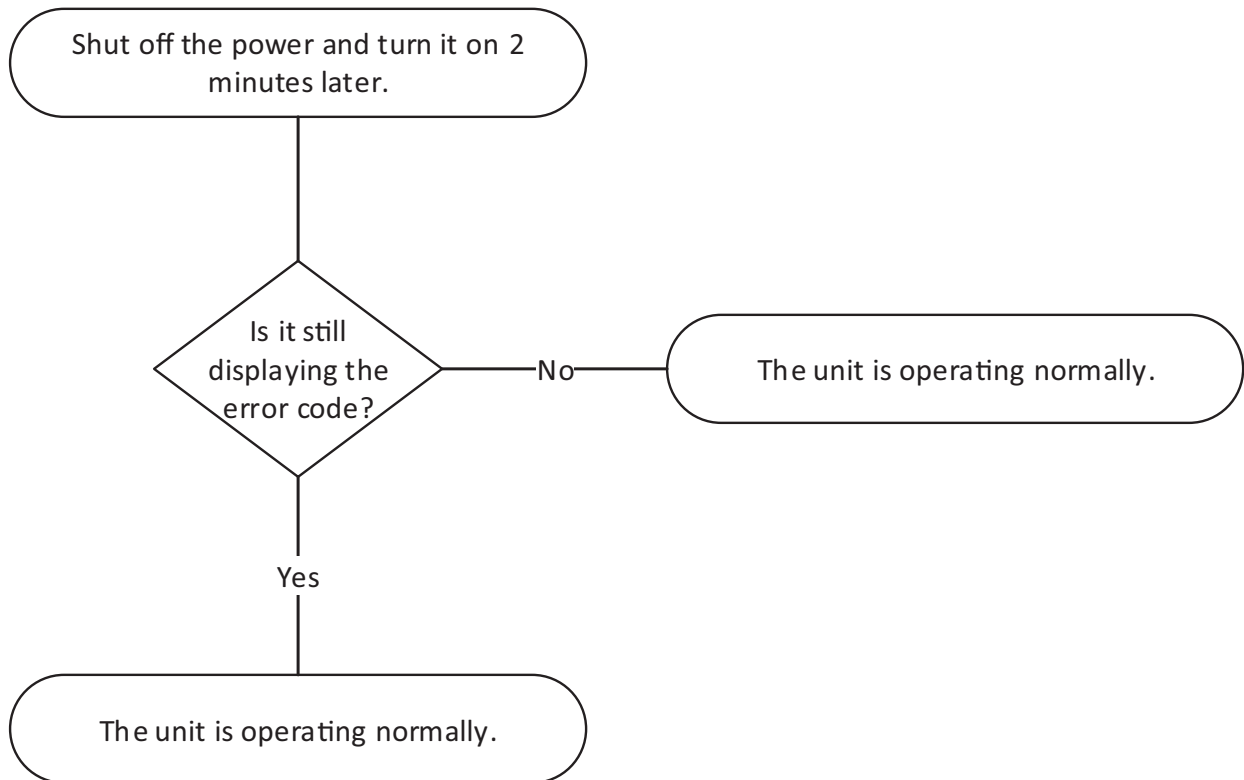
E0 / F4 (EEPROM Parameter Error Diagnosis and Solution)

Description: Indoor or outdoor PCB main chip does not receive feedback from the EEPROM chip.

Recommended parts to prepare:

- Indoor PCB
- Outdoor PCB

Troubleshooting and repair:



DIAGNOSIS AND SOLUTION (CONT.)

E1 (Indoor and Outdoor Unit Communication Error Diagnosis and Solution)

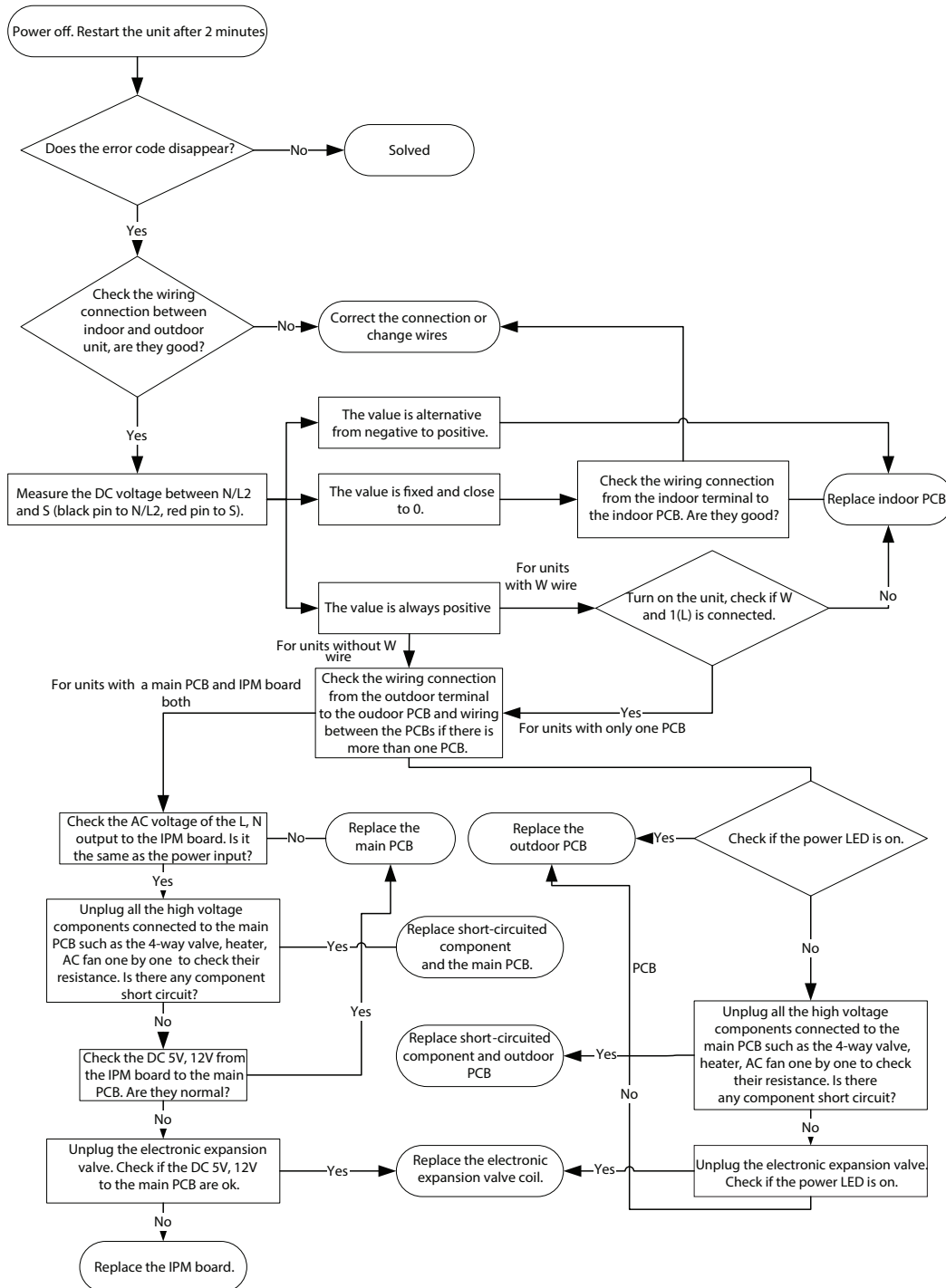
Description: Indoor unit can not communicate with the outdoor unit.

Recommended parts to prepare:

- Indoor PCB
- Outdoor PCB
- Reactor

Troubleshooting and Repair:

For S communication:



NOTE: For certain models, the outdoor PCB could not be removed separately. In this case, the outdoor electric control box should be replaced as a whole.

DIAGNOSIS AND SOLUTION (CONT.)

- Use a multimeter to test the DC voltage between 2 port (or S or L2 port) and 3 port (or N or S port) of the outdoor unit.
- The red pin of the multimeter connects with the 2 port (or S or L2 port) while the black pin is for 3 port (or N or S port).
- When the AC is normal running, the voltage is moving alternately as positive values and negative values.
- If the outdoor unit malfunctions, the voltage has always been the positive value.
- If the indoor unit malfunctions, the voltage maintains a certain value.

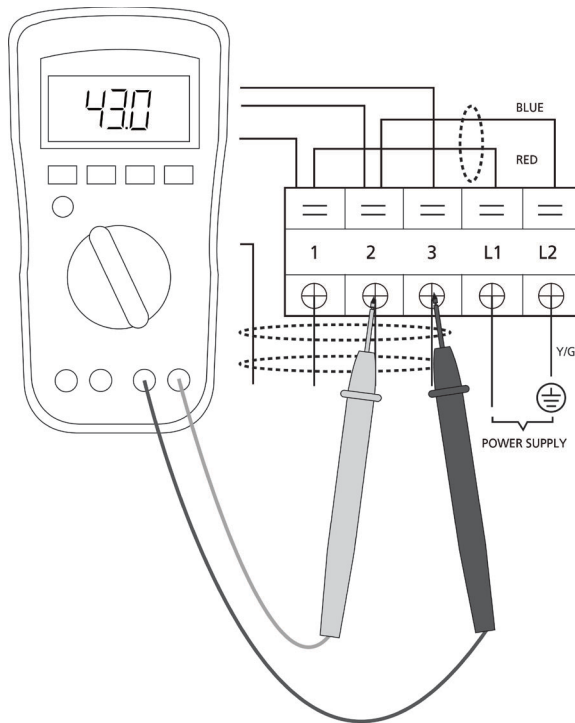


Fig. 14 — Multimeter Test

- Use a multimeter to test the reactor resistance which does not connect with the capacitor.
- The normal value should be around zero ohm. Otherwise, the reactor may malfunction.

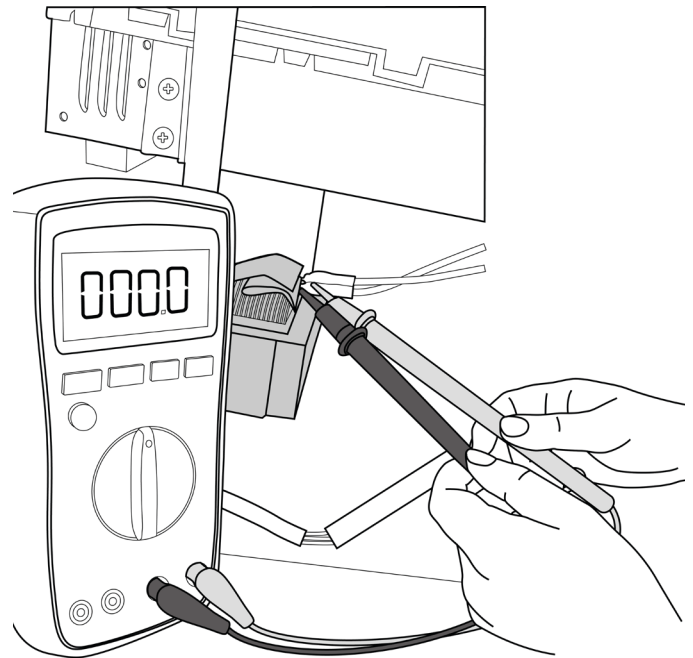


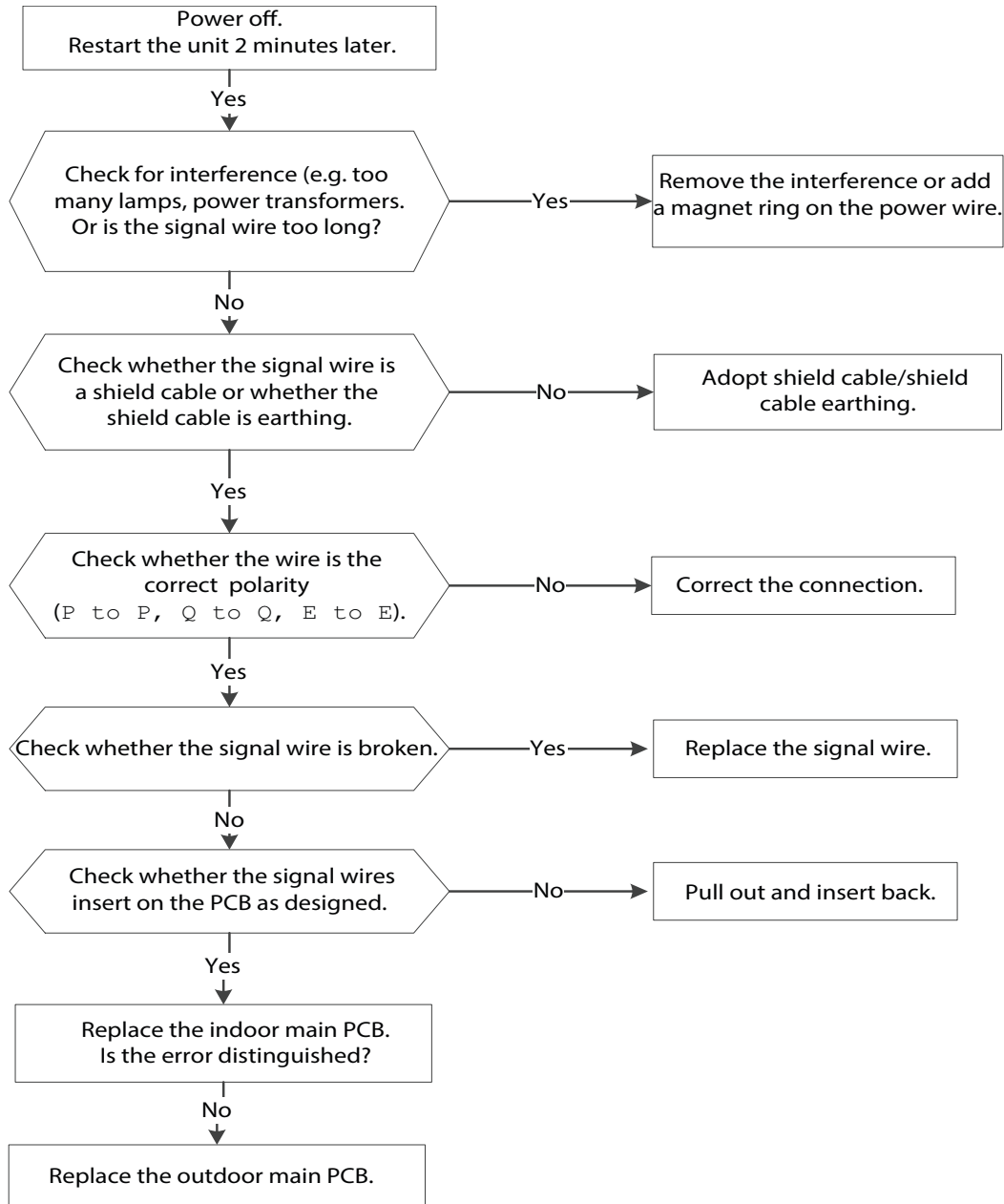
Fig. 15 — Multimeter Test

NOTE: The picture and the value are only for reference, actual condition and specific value may vary.

DIAGNOSIS AND SOLUTION (CONT.)

For XYE communication:

Troubleshooting and Repair:



DIAGNOSIS AND SOLUTION (CONT.)

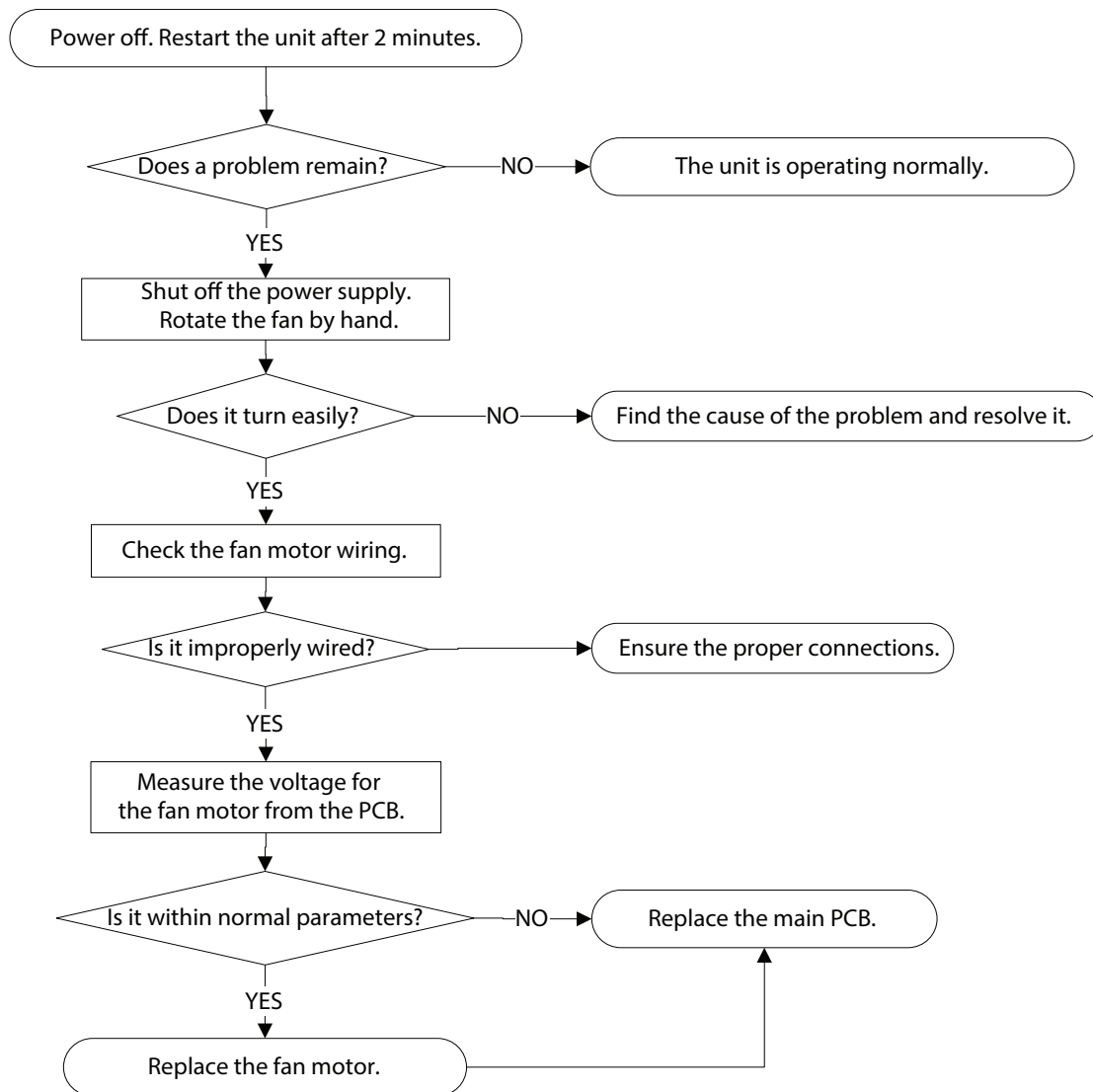
E3 / F5 (Fan speed is Operating Outside of Normal Range Diagnosis and Solution)

Description: When the indoor /outdoor fan speed keeps too low or too high for a certain time, the unit stops and the LED displays the failure.

Recommended parts to repair:

- Connection wires
- Fan assembly
- Fan motor
- PCB

Troubleshooting and Repair:



Index:

7. Indoor DC Fan Motor (control chip is on PCB)

Release the UVW connector. Measure the resistance of U-V, U-W, V-W. If the resistance is not equal to each other, the fan motor must be faulty and needs to be replaced. Otherwise the PCB is faulty and needs to be replaced.

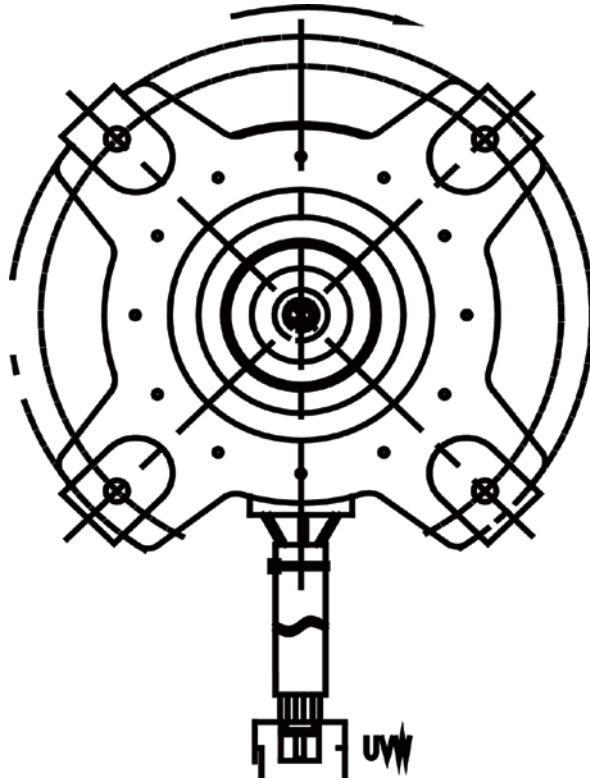


Fig. 16 — UVW Connector

DIAGNOSIS AND SOLUTION (CONT.)

E4/E5/F1/F2/F3/F6/P7 (Open Circuit or Short Circuit of Temperature Sensor Diagnosis and Solution)

Description: If the sampling voltage is lower than 0.06V or higher than 4.94V, the LED displays the failure.

Recommended parts to prepare:

- Connection wires
- Sensors
- PCB

Troubleshooting and Repair:

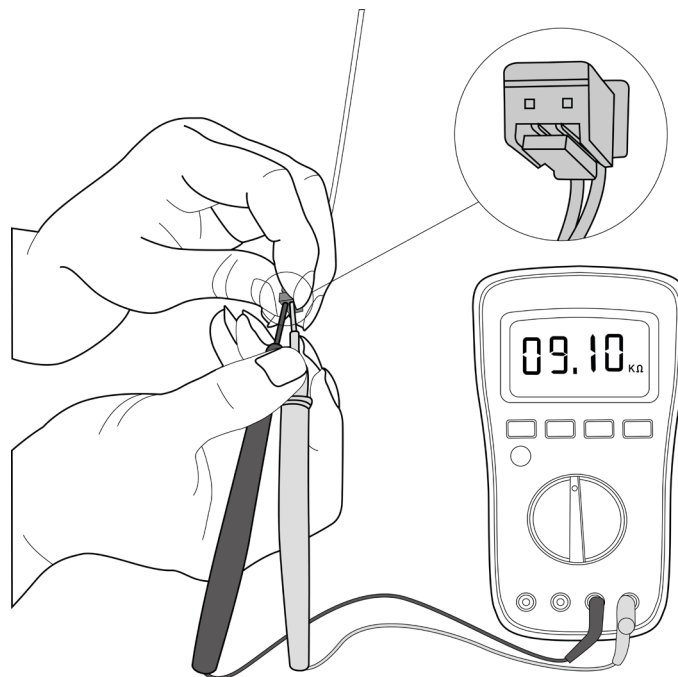
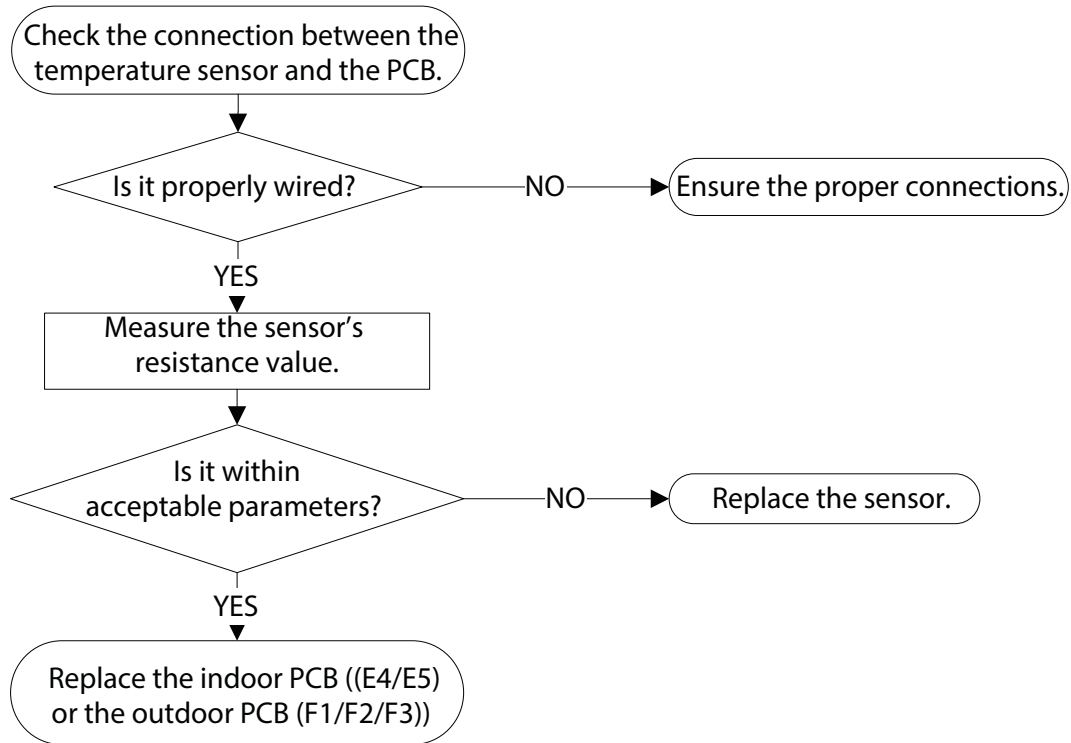


Fig. 17 — Test

NOTE: For certain models, the outdoor PCB could not be removed separately. In this case, the outdoor electric control box should be replaced as a whole. Figure 17 and the value are for reference only. The actual appearance and value may vary.

DIAGNOSIS AND SOLUTION (CONT.)

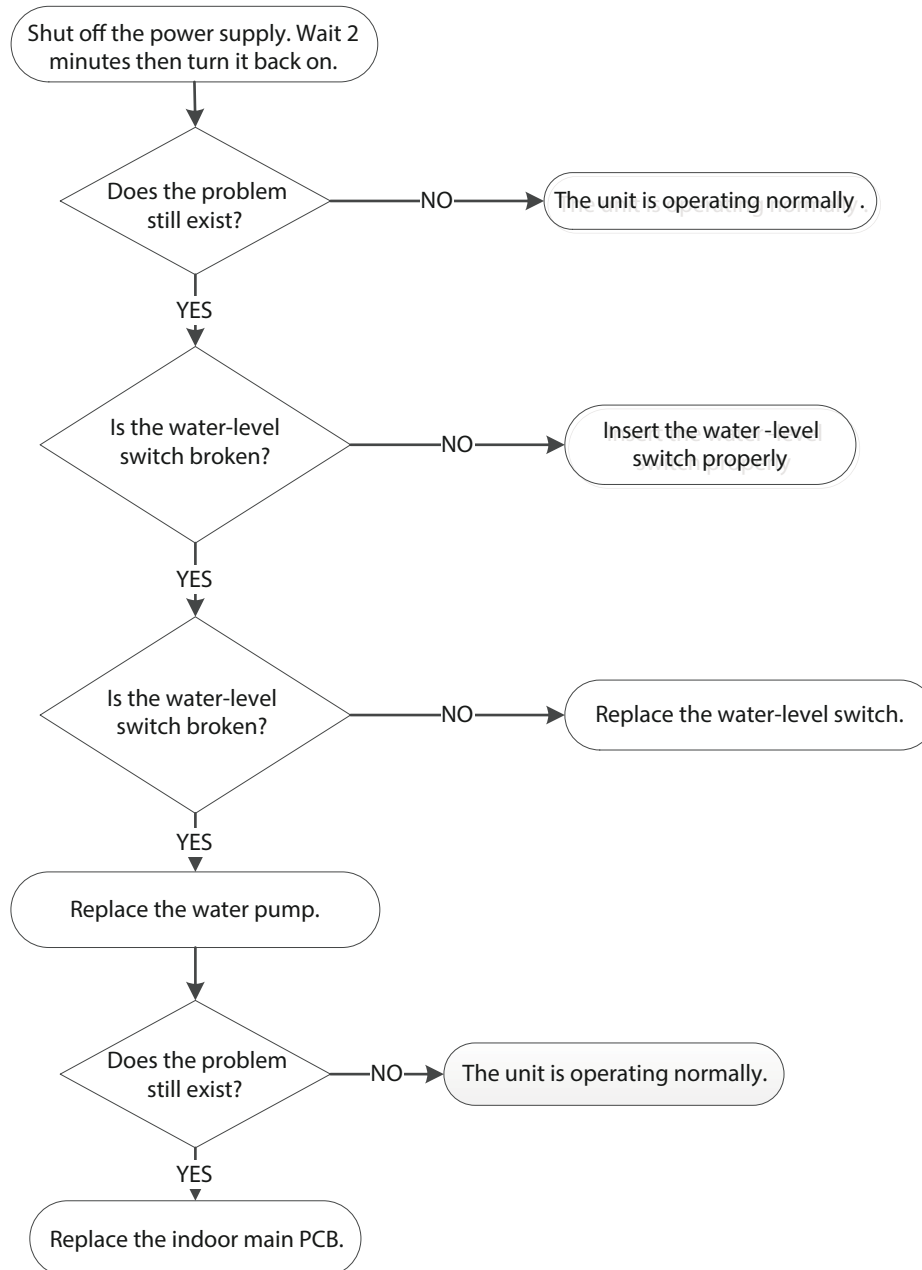
EE (Water-Level Alarm Malfunction Diagnosis and Solution)

Description: If the sampling voltage is not 5V, the LED displays the failure code.

Recommended parts to prepare:

- Connection wires
- Water-level switch
- Water pump
- Indoor PCB

Troubleshooting and Repair:



DIAGNOSIS AND SOLUTION (CONT.)

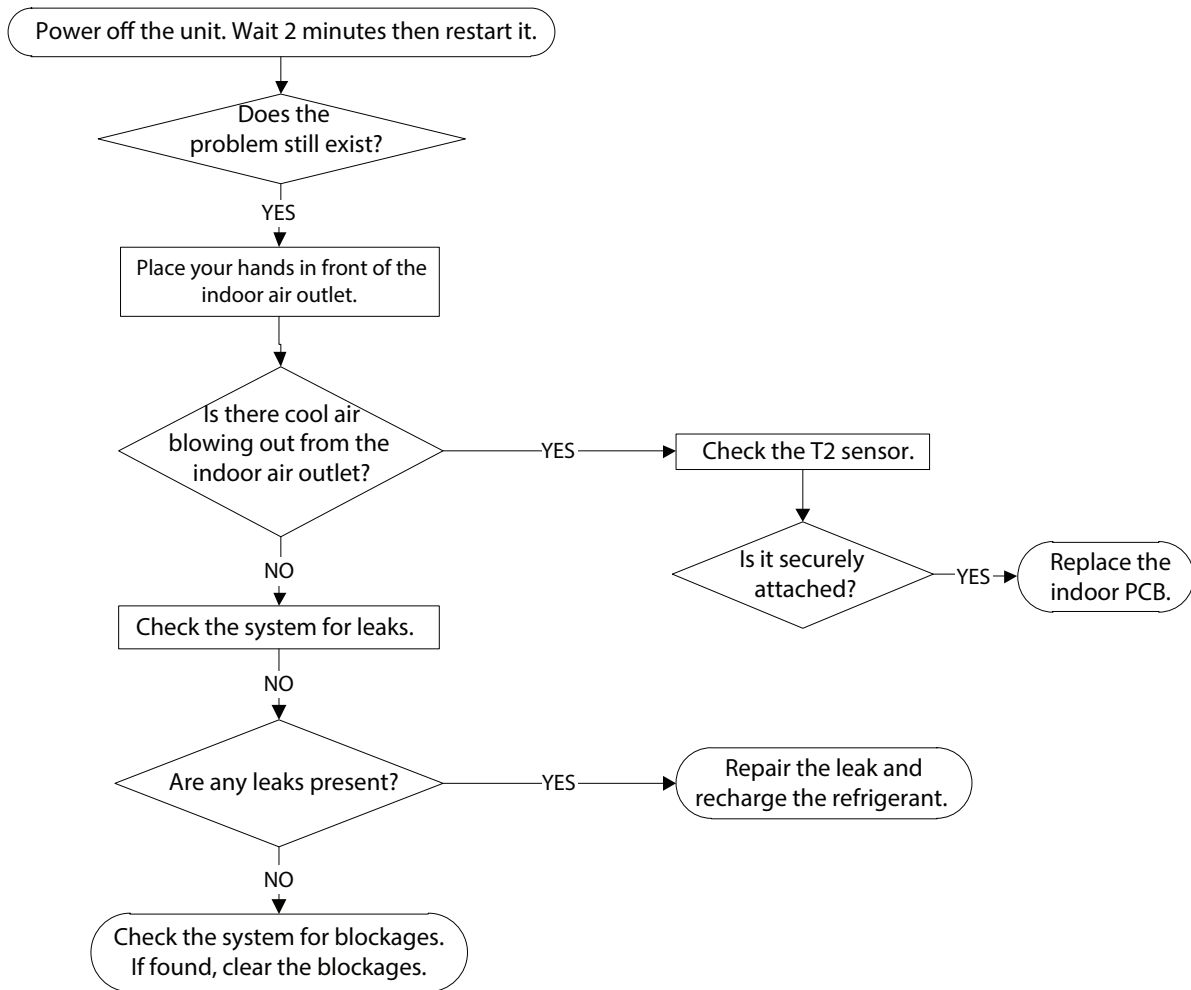
EC (Refrigerant Leakage Detection Diagnosis and Solution)

Description: Ensure the compressor's evaporator coil temperature (T2) starts running as Tcool. Initially 5 minutes after the compressor starts up, if $T2 < T_{cool} 1.8^{\circ}\text{F} (-1^{\circ}\text{C})$ does not stabilize for 4 seconds and the compressor running frequency exceeds 50Hz however it does not maintain for 3 minutes, and this occurs 3 times, the display area displays "EC" and the AC turns off.

Recommended parts to prepare:

- T2 sensor
- Indoor PCB
- Additional refrigerant

Troubleshooting and Repair:



DIAGNOSIS AND SOLUTION (CONT.)

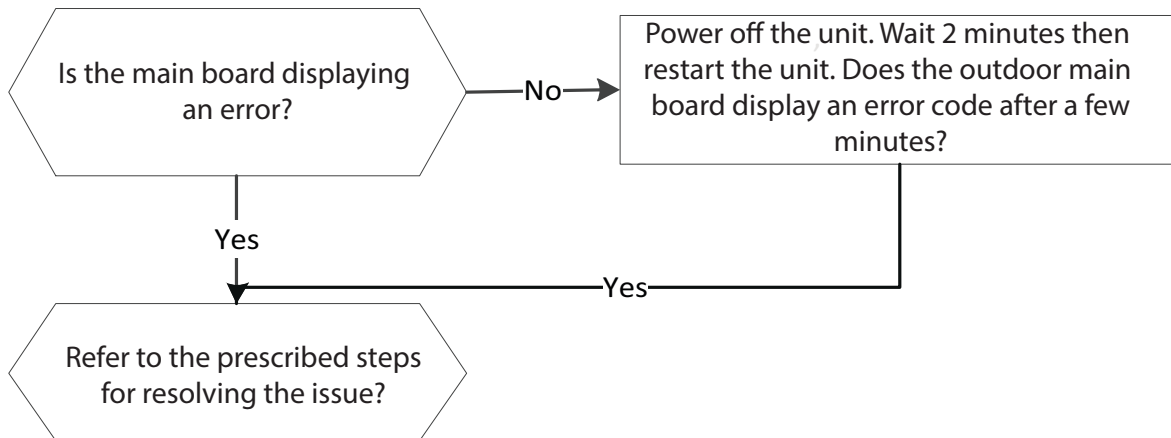
ED (Outdoor unit malfunction Diagnosis and Solution)

Description: The indoor unit detects that the outdoor unit has failed.

Recommended parts to prepare:

- Outdoor unit

Troubleshooting and Repair:



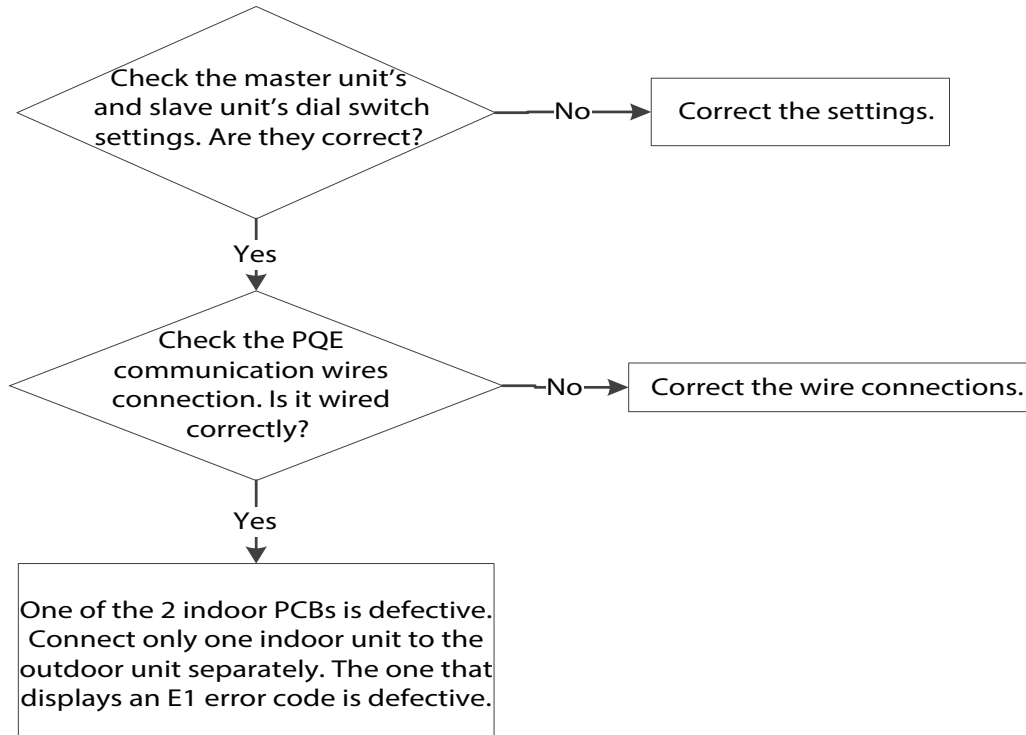
DIAGNOSIS AND SOLUTION (CONT.)

E8 (Communication Error Between Master and Slave Unit (for Twins System) Diagnosis and Solution)

Description: When set in twins system, master unit and slave unit cannot be recognized normally.

Recommended parts to prepare:

- Connection wires
- Indoor PCB



DIAGNOSIS AND SOLUTION (CONT.)

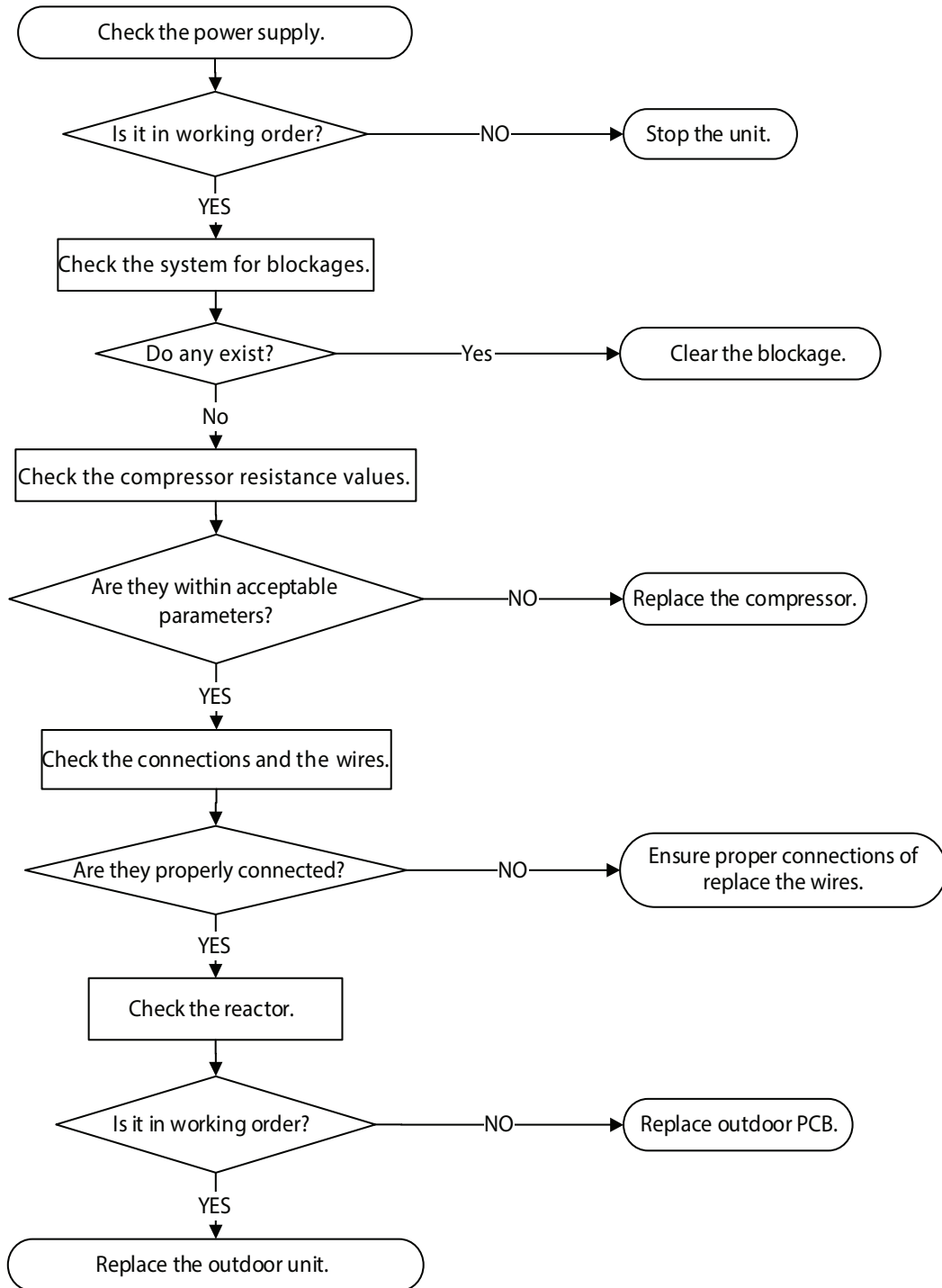
F0 (Overload Current Protection Diagnosis and Solution)

Description: An abnormal current rise is detected by checking the specified current detection circuit.

Recommended parts to prepare:

- Outdoor PCB
- Connection wires
- Compressor
- Reactor

Troubleshooting and repair:



NOTE: For certain models, the outdoor PCB can not be removed separately. In this case, the outdoor electric control box should be replaced as a whole.

DIAGNOSIS AND SOLUTION (CONT.)

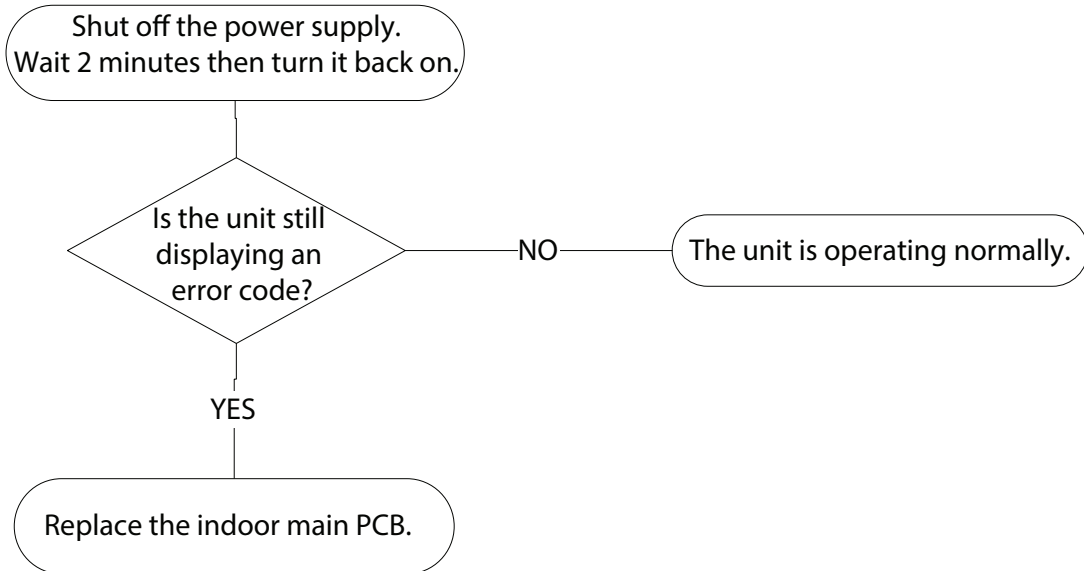
FA (Communication Error Between Indoor Two Chips Diagnosis and Solution)

Description: The indoor PCB main chip does not receive feedback from another chip.

Recommended parts to prepare:

- Indoor PCB

Troubleshooting and Repair:



DIAGNOSIS AND SOLUTION (CONT.)

P0/P4 (IPM Malfunction) and (Inverter Compressor Drive Error Diagnosis and Solution)

Description: P0: When the IPM sends an abnormal voltage signal to the compressor drive chip, the LED displays the failure code and the AC turns off.

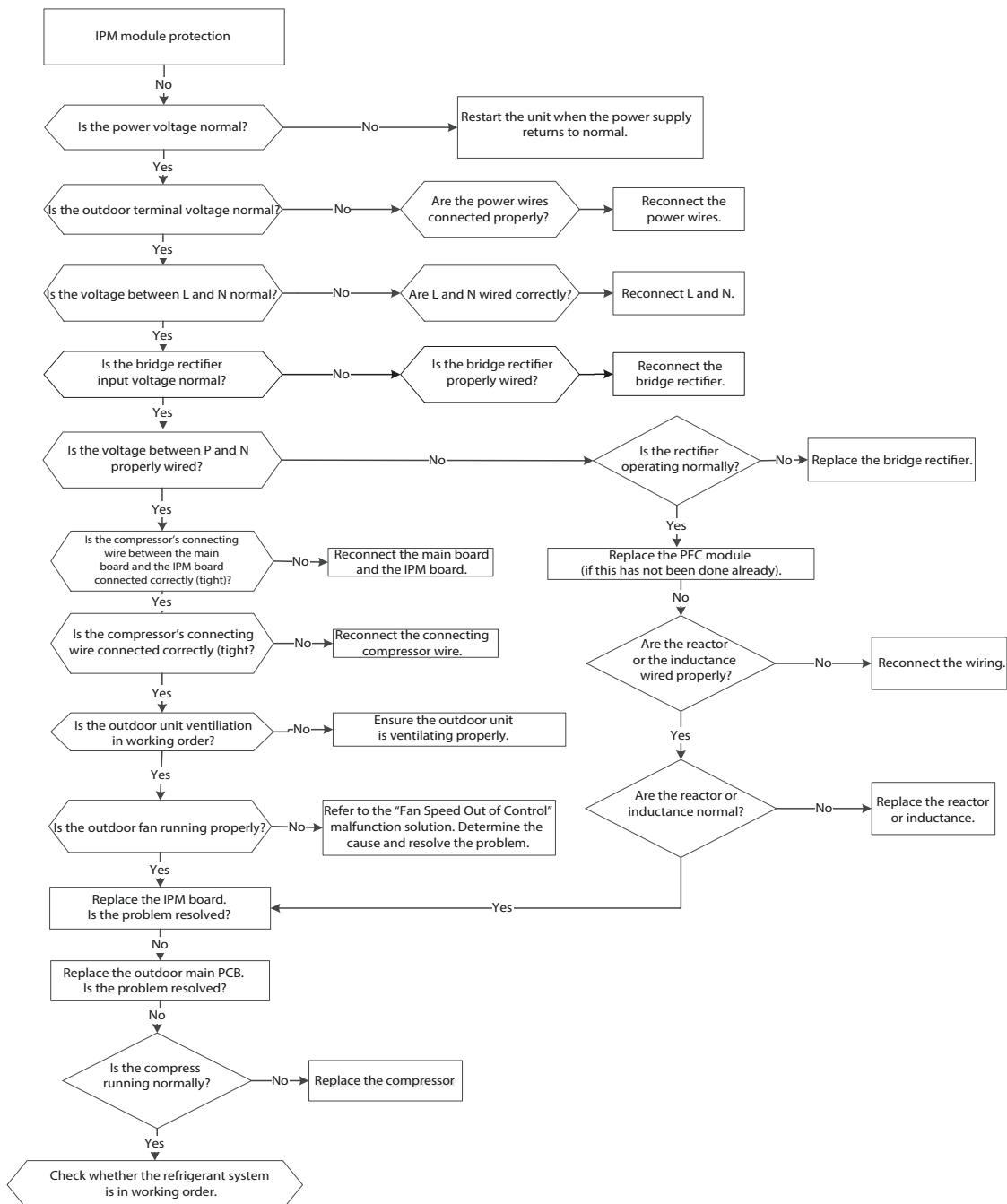
P4: The driven chip cannot detect the compressor's right rotor position.

Recommended parts to prepare:

- Connection wires
- IPM module board
- Outdoor fan assembly
- Compressor
- Outdoor PCB

Troubleshooting and Repair:

Test the resistance between every two ports of U, V, W of IPM and P, N. If any test 0 or close, the IPM is defective. Otherwise, follow the flowchart.



DIAGNOSIS AND SOLUTION (CONT.)

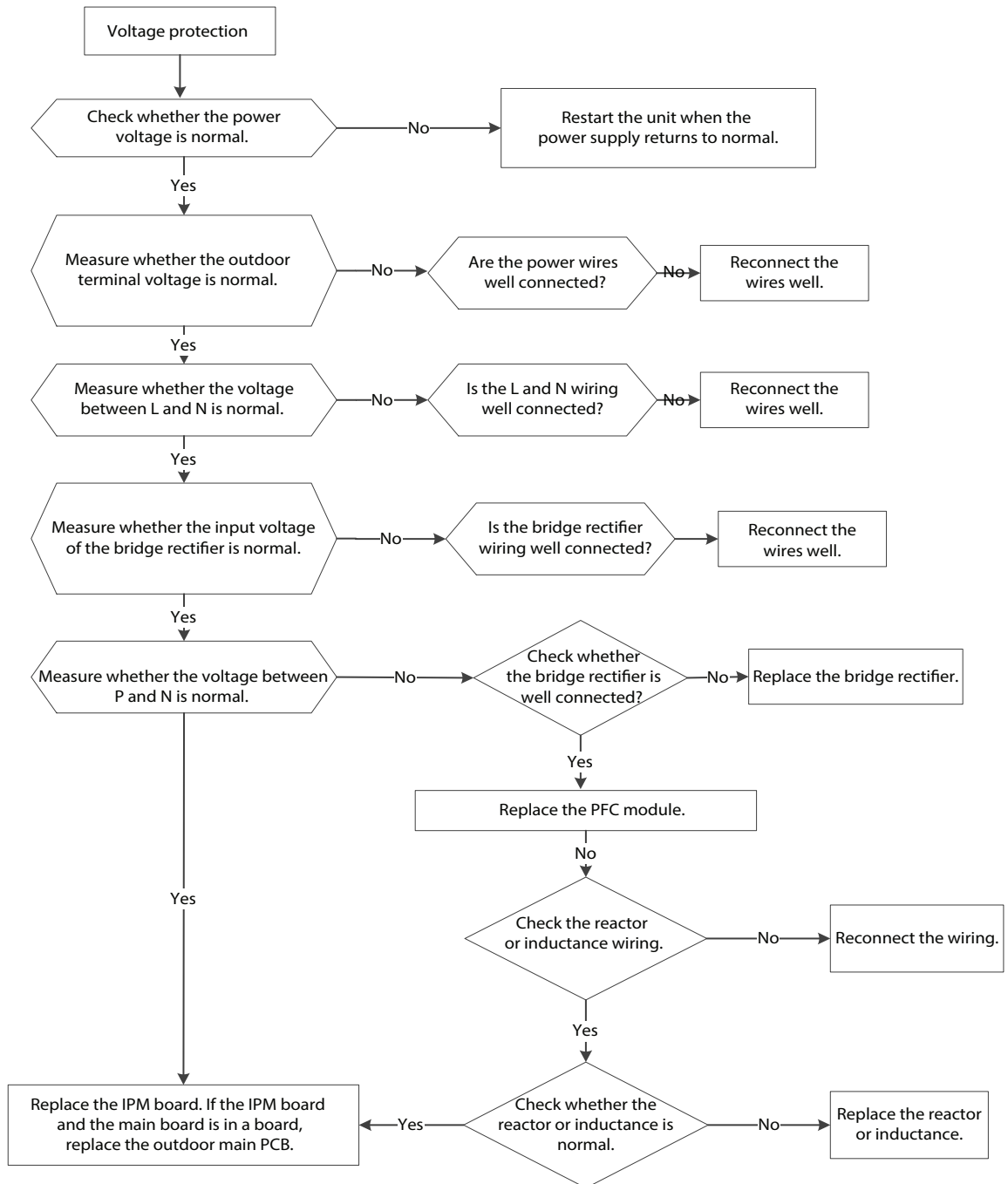
P1 (Over Voltage or Too Low Voltage Protection Diagnosis and Solution)

Description: Abnormal increases or decreases in voltage are detected by checking the specified voltage detection circuit.

Recommended parts to prepare:

- Power supply wires
- IPM module board
- Outdoor PCB
- Bridge rectifier
- PFC circuit or reactor

Troubleshooting and Repair:



NOTE: For certain models, the outdoor PCB could not be removed separately. In this case, the outdoor electric control box should be replaced as a whole.

DIAGNOSIS AND SOLUTION (CONT.)

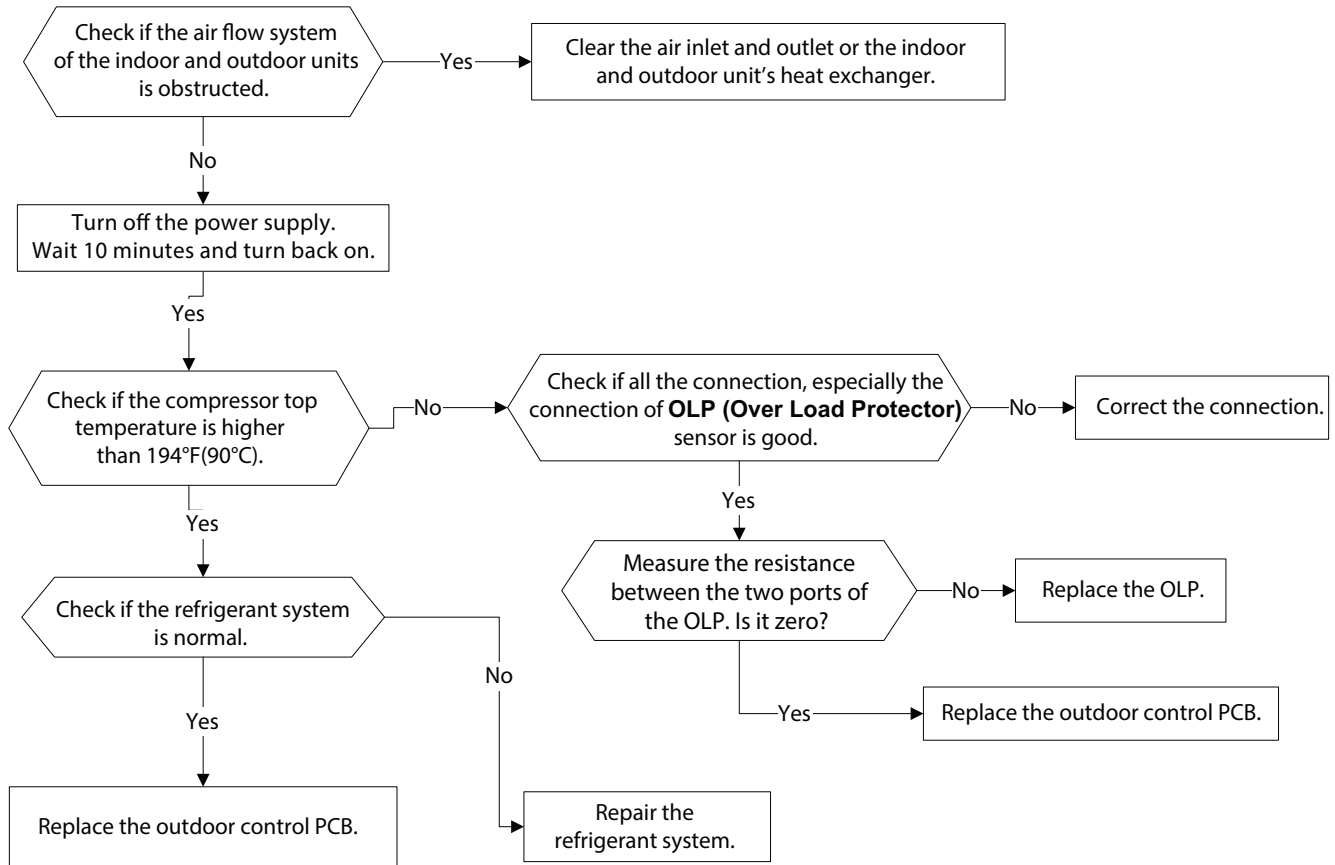
P2 (Top Temperature Protection of Compressor Diagnosis and Solution)

Description: If the sampling voltage is not 5V, the LED displays the failure.

Recommended parts to prepare:

- Connection wires
- Overload protector
- Outdoor PCB

Troubleshooting and Repair:



NOTE: For certain models, the outdoor PCB can not be removed separately. In this case, the outdoor electric control box should be replaced as a whole.

DIAGNOSIS AND SOLUTION (CONT.)

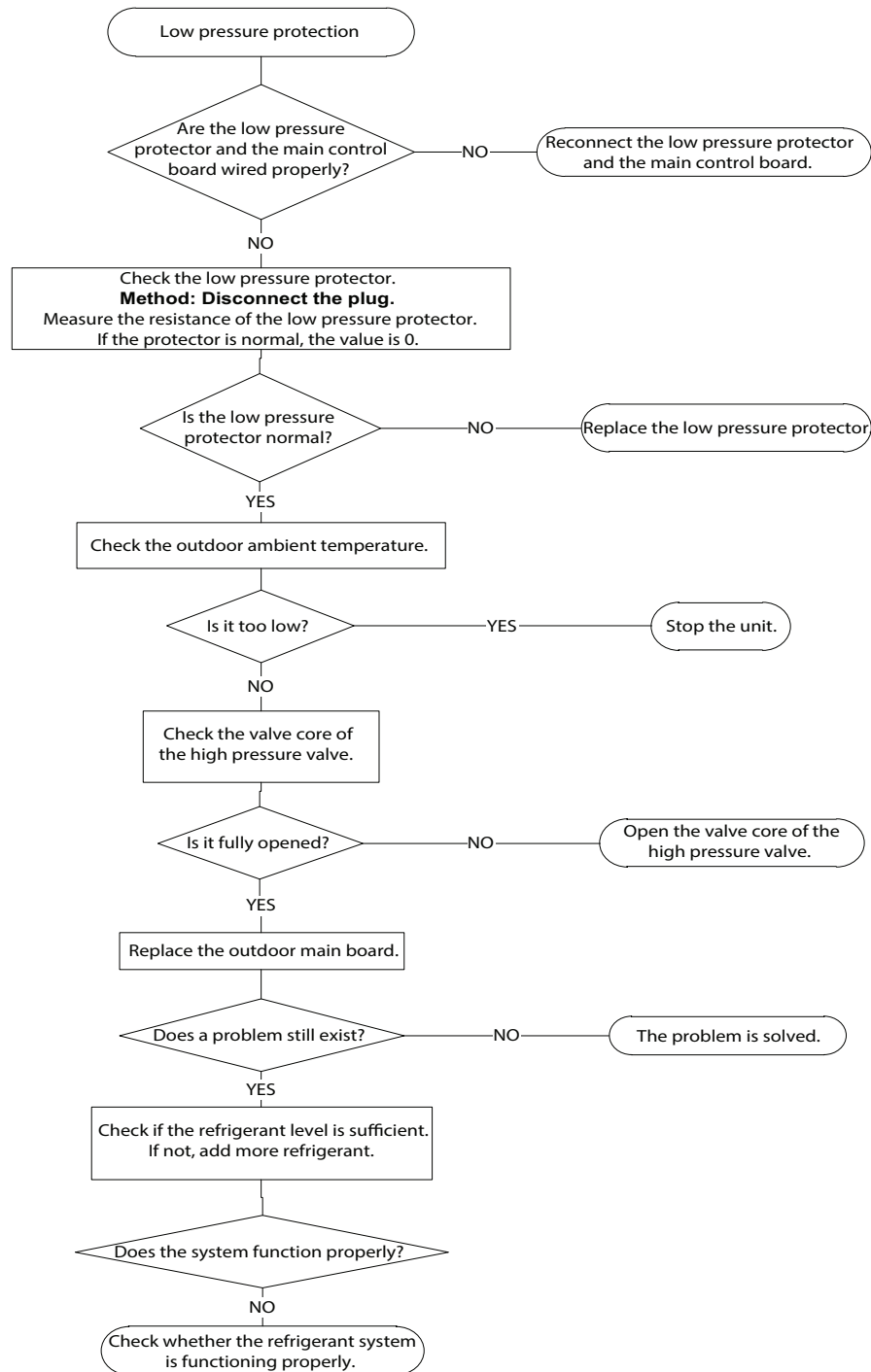
P6/J6 (Low Pressure Protection)

Description: If the sampling voltage is not 5V, the LED displays a failure code.

Recommended parts to prepare:

- Wiring mistake
- Overload protector
- System blockages
- Outdoor PCB

Troubleshooting and Repair:



DIAGNOSIS AND SOLUTION (CONT.)

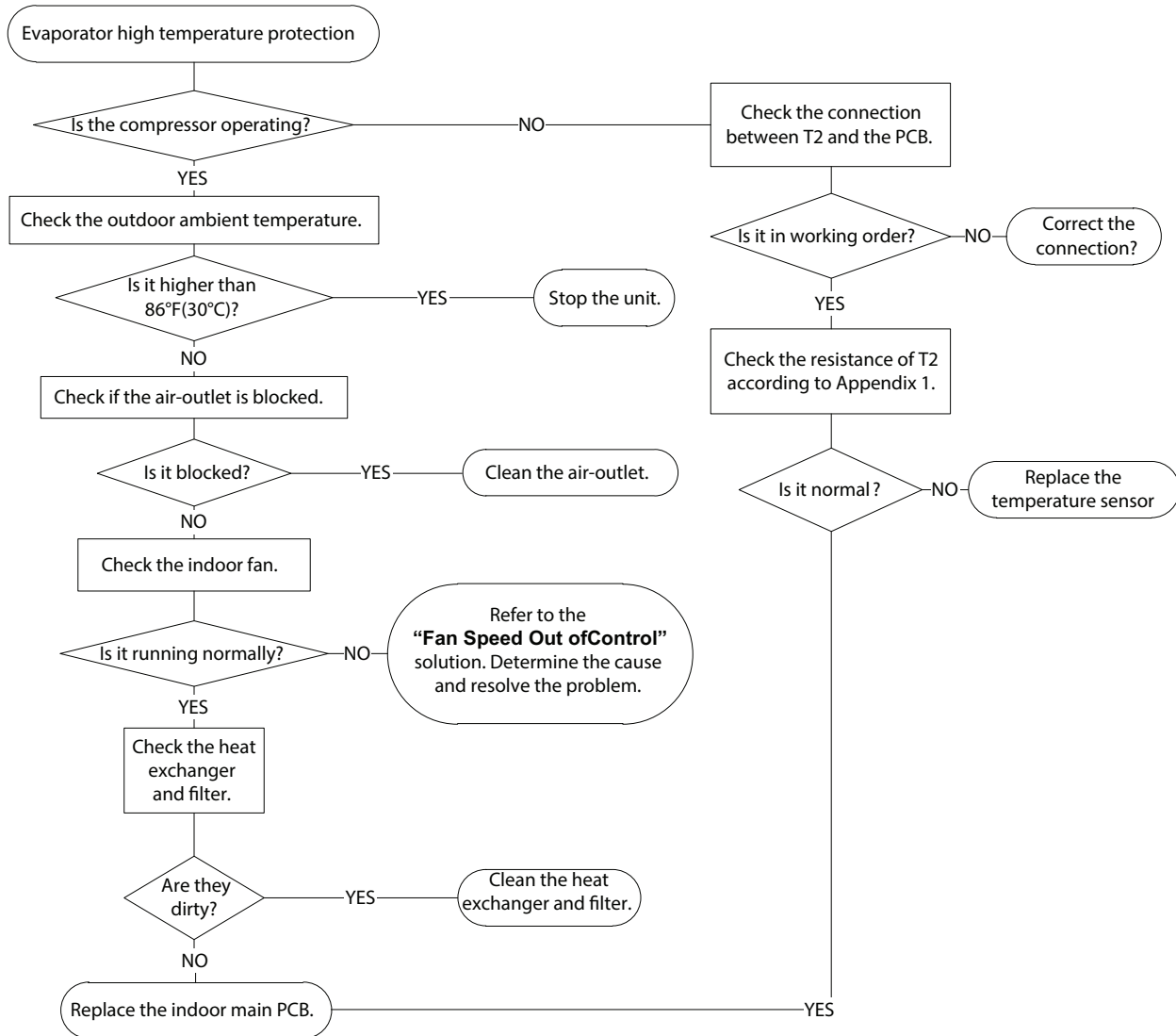
J0 (Evaporator High Temperature Protection)

Description: When the evaporator coil temperature is higher than 140°F 60°C, the unit stops. It starts again only when the evaporator coil temperature is less than a certain value.

Recommended parts to prepare:

- Wiring mistakes
- Overload protector
- System blockages
- Outdoor PCB

Troubleshooting and Repair:



DIAGNOSIS AND SOLUTION (CONT.)

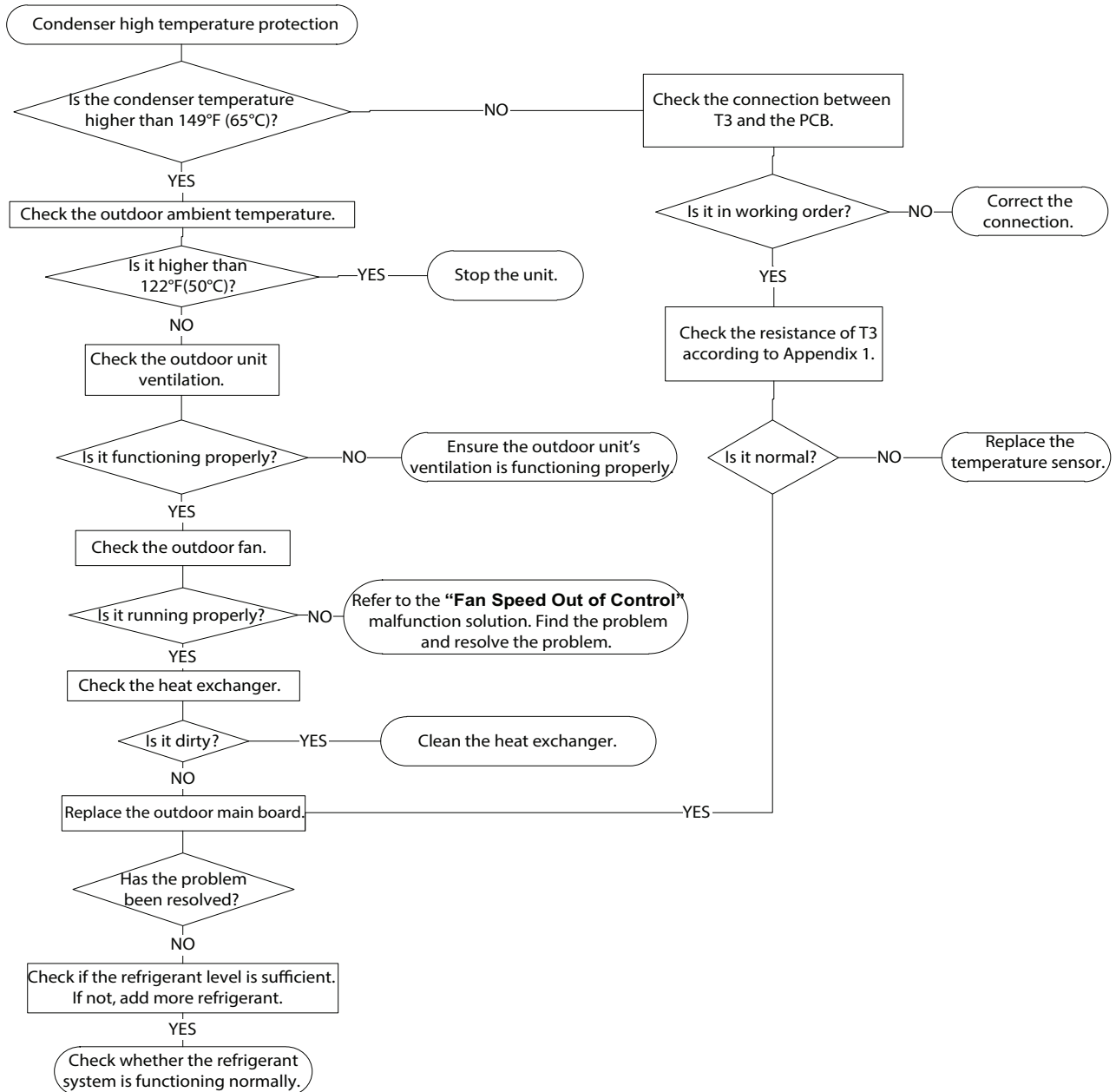
J1 (Condenser High Temperature Protection)

Description: When the outdoor pipe temperature is more than $TP3+5^{\circ}C$, the unit stops. It starts again only when the outdoor pipe temperature is less than $TP3-3^{\circ}C$.

Recommended parts to prepare:

- Condenser temperature sensor
- System leak or blockages

Troubleshooting and Repair:



DIAGNOSIS AND SOLUTION (CONT.)

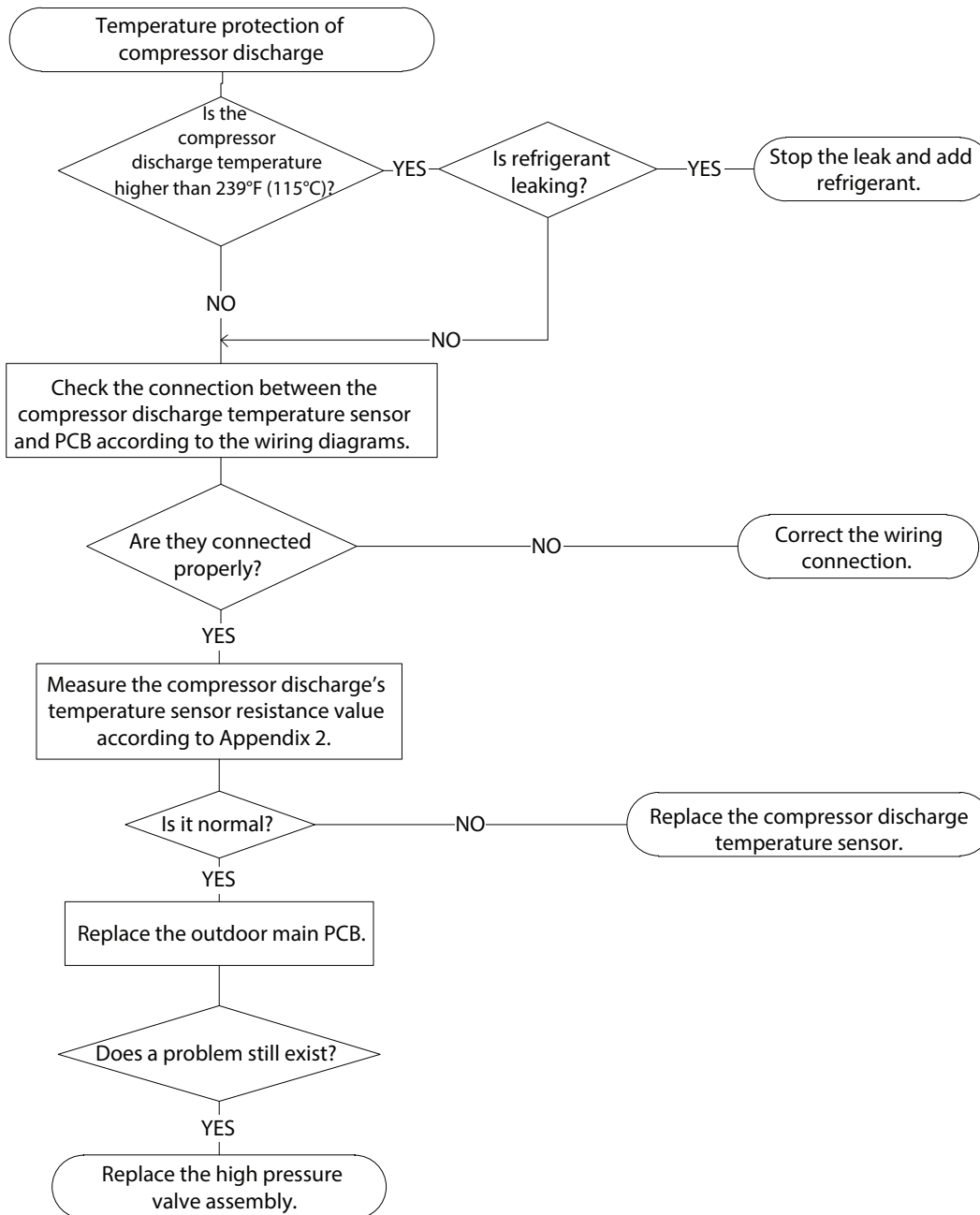
J2 (High Discharge Temperature Protection)

Description: When the compressor discharge temperature (T5) is more than 239°F (115°C) for 10 seconds, the compressor stops and does not restart until T5 is lower than 194°F (90°C).

Recommended parts to prepare:

- Refrigerant
- Wiring
- Discharge temperature sensor
- Outdoor PCB

Troubleshooting and Repair:



DIAGNOSIS AND SOLUTION (CONT.)

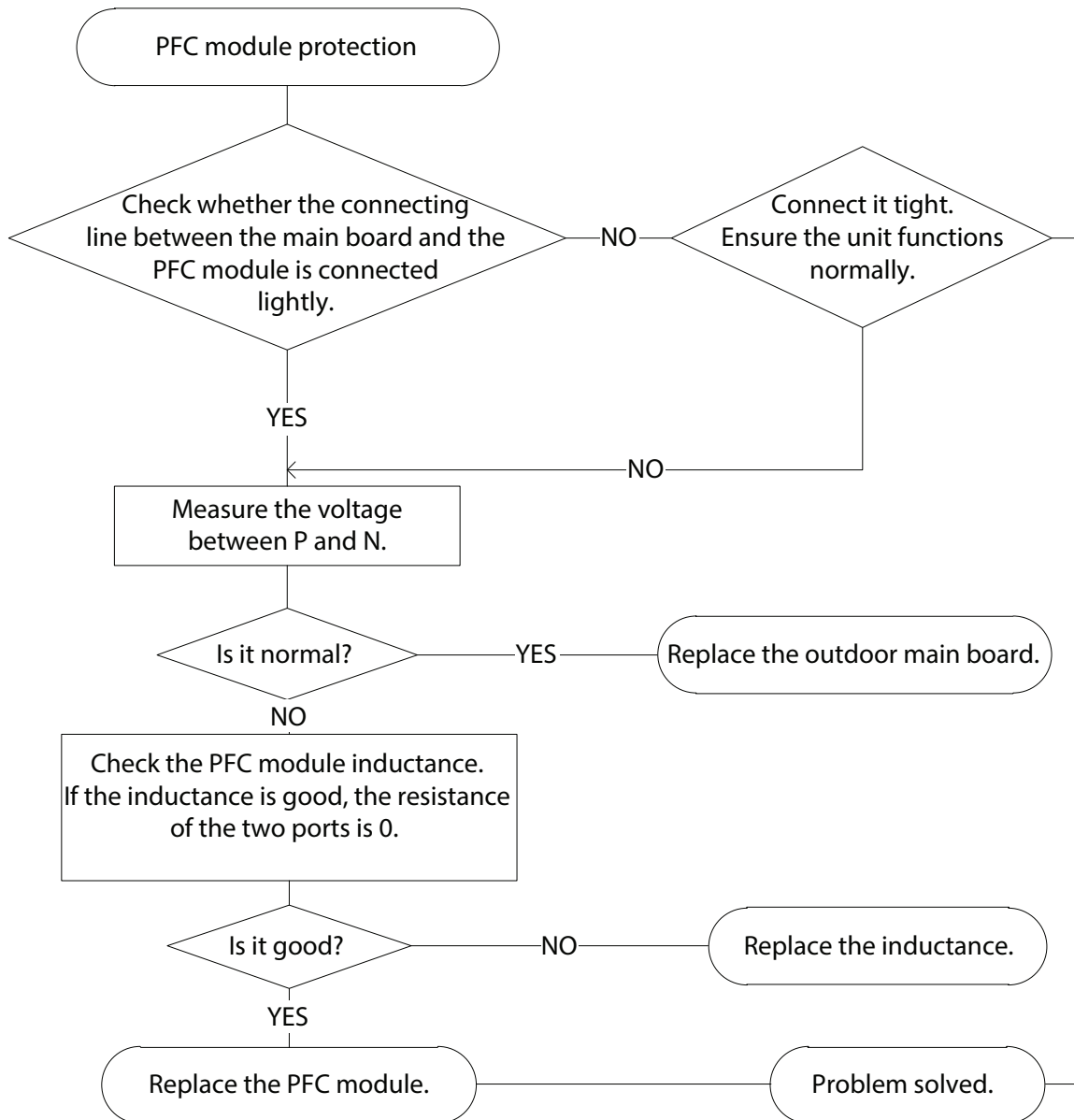
J3 (Module Protection)

Description: When the voltage signal that the IPM sends to the compressor drive chip is abnormal, the LED displays “J3” and AC turns off.

Recommended parts to prepare:

- Wiring
- IPM board
- Outdoor fan assembly
- Compressor
- Outdoor PCB

Troubleshooting and Repair:



DIAGNOSIS AND SOLUTION (CONT.)

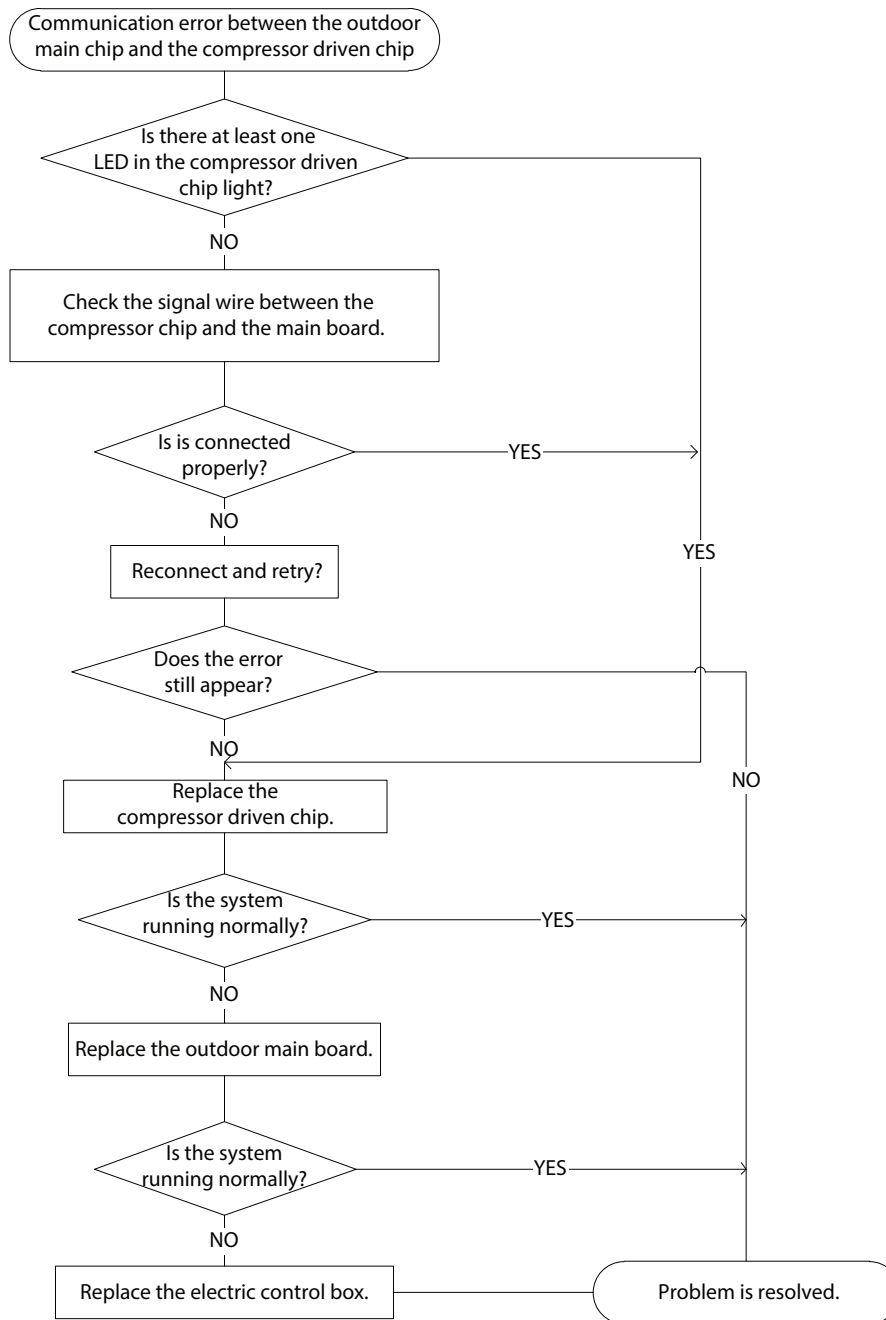
J4 (Communication Error Between Outdoor Main Chip and Compressor Driven Chip)

Description: The main PCB has not received feedback from the driven chip for 1 minute or the feedback data is wrong. The driven chip has not received feedback from the main PCB for 1 minute or the feedback data is wrong. The failure code disappears after the compressor stops or the communication runs efficiently.

Recommended parts to prepare:

- Outdoor PCB
- Compressor driven chip
- Signal wire

Troubleshooting and Repair:



DIAGNOSIS AND SOLUTION (CONT.)

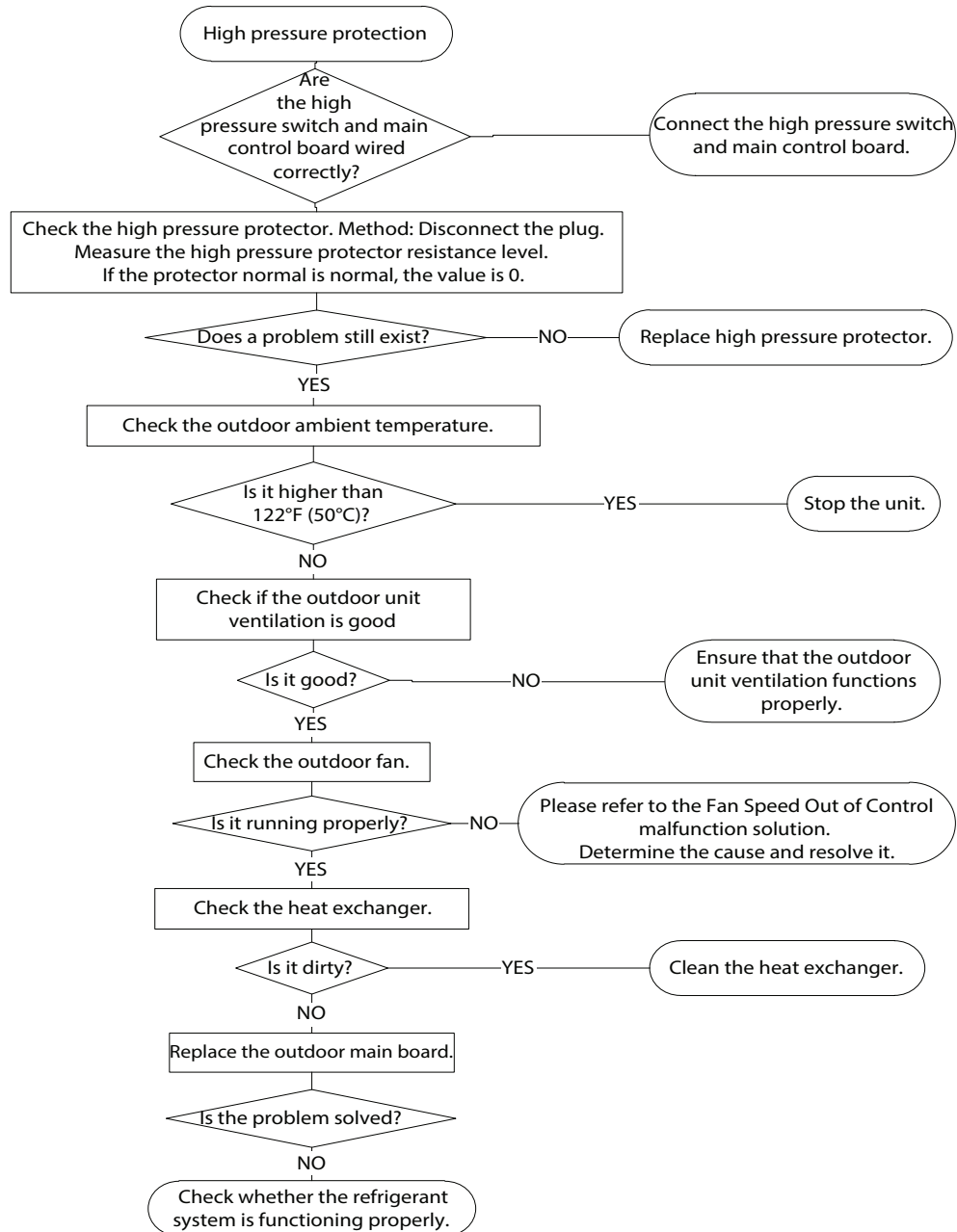
J5 (High Pressure Protection)

Description: If the sampling voltage is not 5V, the LED displays a failure code.

Recommended parts to prepare:

- Wiring
- Overload protector
- Outdoor PCB

Troubleshooting and Repair:



DIAGNOSIS AND SOLUTION (CONT.)

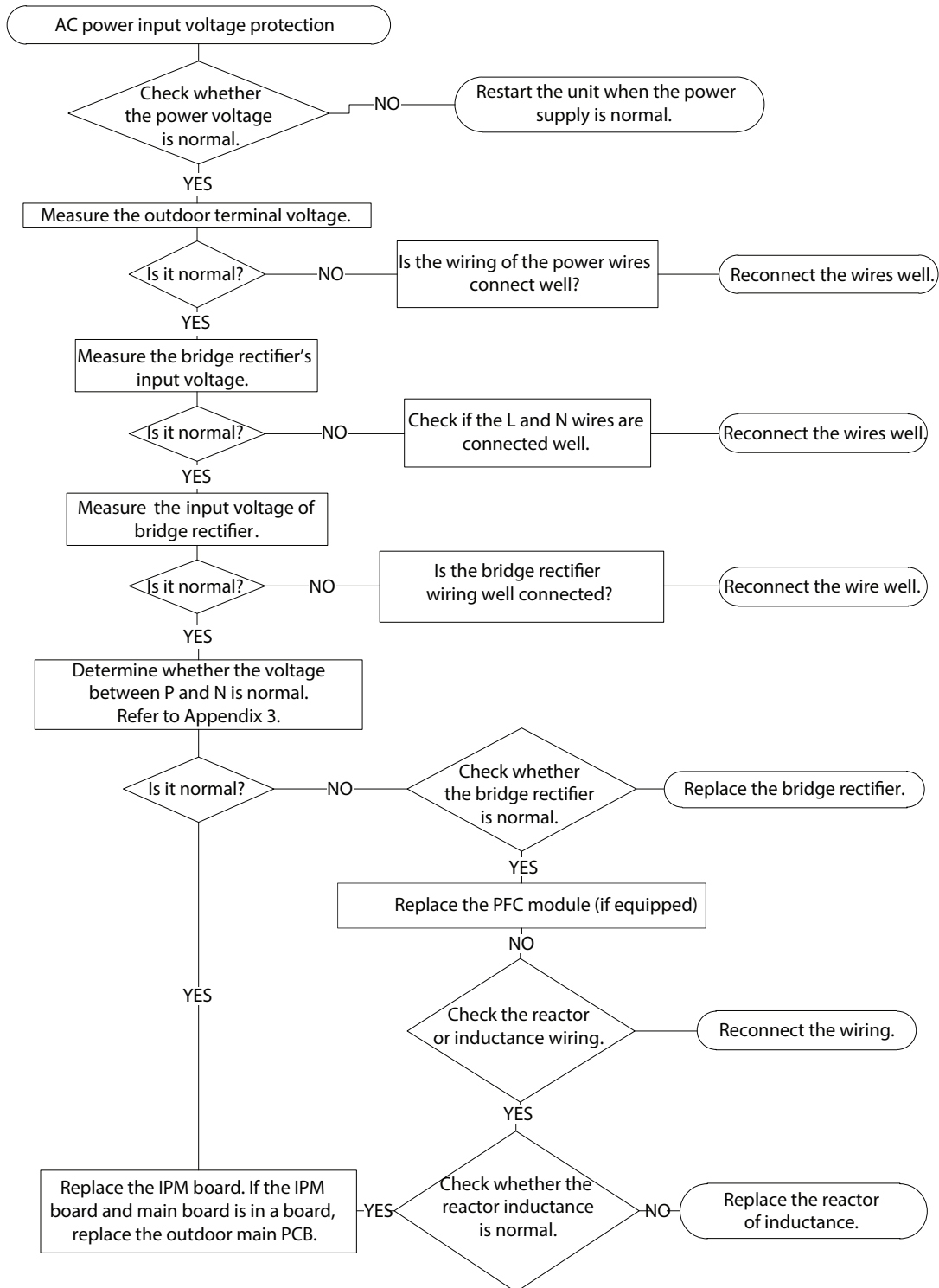
J8 (AC Power Input Voltage Protection)

Description: An abnormal voltage rise or drop is detected by checking the specified voltage detection circuit.

Recommended parts to prepare:

- Wiring
- Bridge rectifier
- IPM board

Troubleshooting and Repair



DIAGNOSIS AND SOLUTION (CONT.)

P5 (Indoor Units Mode Conflict (Match with a Multi Outdoor Unit))

Description: The indoor units cannot work in the **COOLING** and **HEATING** modes at the same time. The **HEATING** mode has the priority.

Suppose indoor unit (A) is working in the **COOLING** mode or the **FAN** mode and the indoor unit (B) is set to the **HEATING** mode. The indoor unit (A) turns off and indoor unit (B) keeps running in the **HEATING** mode.

Suppose indoor unit (A) is working in the **HEATING** mode, and indoor unit (B) is set to **COOLING** mode or the **FAN** mode, then indoor unit (B) changes to **STANDBY** and indoor unit (A) remains in the current mode.

	COOLING MODE	HEATING MODE	FAN	OFF
COOLING MODE	No	Yes	No	No
HEATING MODE	Yes	No	Yes	No
FAN	No	Yes	No	No
OFF	No	No	No	No

NOTE:

No: No mode conflict

Yes: Mode conflict

DIAGNOSIS AND SOLUTION (CONT.)

Temperature Sensor Check



WARNING

Turn off all power supplies or disconnect all wires to avoid electric shock. Operate after compressor and coil have returned to normal temperature in case of injury.

1. Disconnect the temperature sensor from the PCB.
2. Measure the sensor's resistance value using a multi-meter.
3. Check the corresponding temperature sensor resistance value.

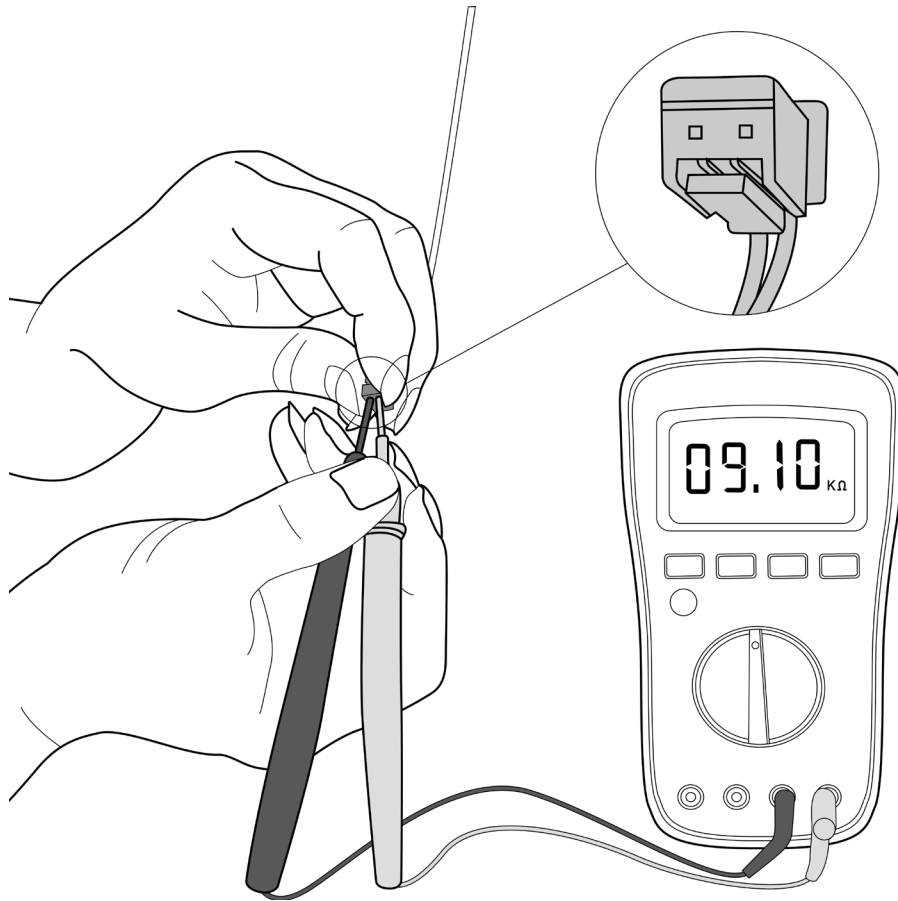


Fig. 18 — Temperature Sensor Check

NOTE: Figure 18 is for reference only. The actual condition and specific value may vary according to temperature.

Compressor Check

1. Disconnect the compressor power cord from the outdoor PCB.
2. Measure the resistance value of each winding using a multi-meter.
3. Check the resistance value of each winding using Table 19.

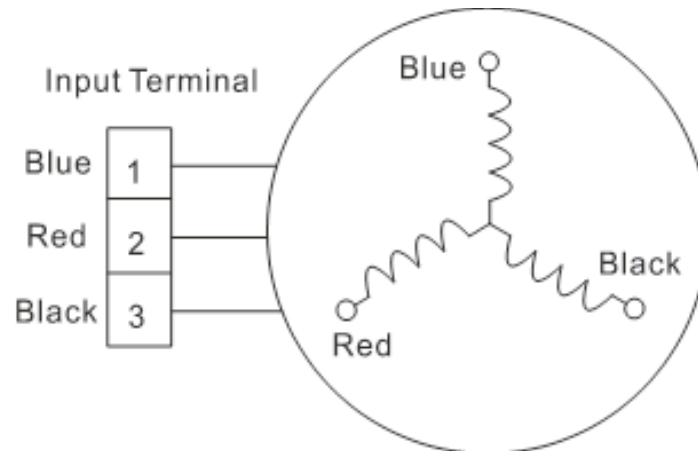


Fig. 19 — Input Terminal (typical)

APPENDICES

Appendix 1

Table 16 — Temperature Sensor Resistance Value Table for T1, T2, T3, T4 (°C--K)

°C	°F	K OHM	°C	°F	K OHM	°C	°F	K OHM	°C	°F	K OHM
-20	-4	115.266	20	68	12.6431	60	140	2.35774	100	212	0.62973
-19	-2	108.146	21	70	12.0561	61	142	2.27249	101	214	0.61148
-18	0	101.517	22	72	11.5	62	144	2.19073	102	216	0.59386
-17	1	96.3423	23	73	10.9731	63	145	2.11241	103	217	0.57683
-16	3	89.5865	24	75	10.4736	64	147	2.03732	104	219	0.56038
-15	5	84.219	25	77	10	65	149	1.96532	105	221	0.54448
-14	7	79.311	26	79	9.55074	66	151	1.89627	106	223	0.52912
-13	9	74.536	27	81	9.12445	67	153	1.83003	107	225	0.51426
-12	10	70.1698	28	82	8.71983	68	154	1.76647	108	226	0.49989
-11	12	66.0898	29	84	8.33566	69	156	1.70547	109	228	0.486
-10	14	62.2756	30	86	7.97078	70	158	1.64691	110	230	0.47256
-9	16	58.7079	31	88	7.62411	71	160	1.59068	111	232	0.45957
-8	18	56.3694	32	90	7.29464	72	162	1.53668	112	234	0.44699
-7	19	52.2438	33	91	6.98142	73	163	1.48481	113	235	0.43482
-6	21	49.3161	34	93	6.68355	74	165	1.43498	114	237	0.42304
-5	23	46.5725	35	95	6.40021	75	167	1.38703	115	239	0.41164
-4	25	44	36	97	6.13059	76	169	1.34105	116	241	0.4006
-3	27	41.5878	37	99	5.87359	77	171	1.29078	117	243	0.38991
-2	28	39.8239	38	100	5.62961	78	172	1.25423	118	244	0.37956
-1	30	37.1988	39	102	5.39689	79	174	1.2133	119	246	0.36954
0	32	35.2024	40	104	5.17519	80	176	1.17393	120	248	0.35982
1	34	33.3269	41	106	4.96392	81	178	1.13604	121	250	0.35042
2	36	31.5635	42	108	4.76253	82	180	1.09958	122	252	0.3413
3	37	29.9058	43	109	4.5705	83	181	1.06448	123	253	0.33246
4	39	28.3459	44	111	4.38736	84	183	1.03069	124	255	0.3239
5	41	26.8778	45	113	4.21263	85	185	0.99815	125	257	0.31559
6	43	25.4954	46	115	4.04589	86	187	0.96681	126	259	0.30754
7	45	24.1932	47	117	3.88673	87	189	0.93662	127	261	0.29974
8	46	22.5662	48	118	3.73476	88	190	0.90753	128	262	0.29216
9	48	21.8094	49	120	3.58962	89	192	0.8795	129	264	0.28482
10	50	20.7184	50	122	3.45097	90	194	0.85248	130	266	0.2777
11	52	19.6891	51	124	3.31847	91	196	0.82643	131	268	0.27078
12	54	18.7177	52	126	3.19183	92	198	0.80132	132	270	0.26408
13	55	17.8005	53	127	3.07075	93	199	0.77709	133	271	0.25757
14	57	16.9341	54	129	2.95896	94	201	0.75373	134	273	0.25125
15	59	16.1156	55	131	2.84421	95	203	0.73119	135	275	0.24512
16	61	15.3418	56	133	2.73823	96	205	0.70944	136	277	0.23916
17	63	14.6181	57	135	2.63682	97	207	0.68844	137	279	0.23338
18	64	13.918	58	136	2.53973	98	208	0.66818	138	280	0.22776
19	66	13.2631	59	138	2.44677	99	210	0.64862	139	282	0.22231

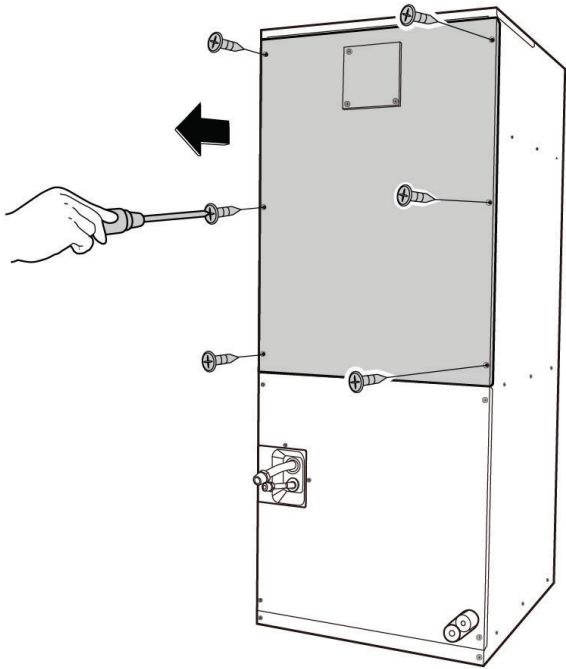
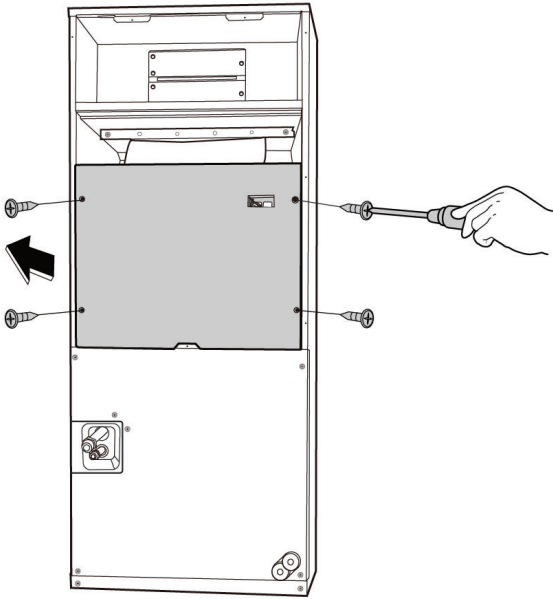
Appendix 2

Table 17 — Temperature Sensor Resistance Value Table for T5 (TP) (°C--K)

° C	° F	K OHM	° C	° F	K OHM	° C	° F	K OHM	° C	° F	K OHM
-20	-4	542.7	20	68	68.66	60	140	13.59	100	212	3.702
-19	-2	511.9	21	70	65.62	61	142	13.11	101	214	3.595
-18	0	483	22	72	62.73	62	144	12.65	102	216	3.492
-17	1	455.9	23	73	59.98	63	145	12.21	103	217	3.392
-16	3	430.5	24	75	57.37	64	147	11.79	104	219	3.296
-15	5	406.7	25	77	54.89	65	149	11.38	105	221	3.203
-14	7	384.3	26	79	52.53	66	151	10.99	106	223	3.113
-13	9	363.3	27	81	50.28	67	153	10.61	107	225	3.025
-12	10	343.6	28	82	48.14	68	154	10.25	108	226	2.941
-11	12	325.1	29	84	46.11	69	156	9.902	109	228	2.86
-10	14	307.7	30	86	44.17	70	158	9.569	110	230	2.781
-9	16	291.3	31	88	42.33	71	160	9.248	111	232	2.704
-8	18	275.9	32	90	40.57	72	162	8.94	112	234	2.63
-7	19	261.4	33	91	38.89	73	163	8.643	113	235	2.559
-6	21	247.8	34	93	37.3	74	165	8.358	114	237	2.489
-5	23	234.9	35	95	35.78	75	167	8.084	115	239	2.422
-4	25	222.8	36	97	34.32	76	169	7.82	116	241	2.357
-3	27	211.4	37	99	32.94	77	171	7.566	117	243	2.294
-2	28	200.7	38	100	31.62	78	172	7.321	118	244	2.233
-1	30	190.5	39	102	30.36	79	174	7.086	119	246	2.174
0	32	180.9	40	104	29.15	80	176	6.859	120	248	2.117
1	34	171.9	41	106	28	81	178	6.641	121	250	2.061
2	36	163.3	42	108	26.9	82	180	6.43	122	252	2.007
3	37	155.2	43	109	25.86	83	181	6.228	123	253	1.955
4	39	147.6	44	111	24.85	84	183	6.033	124	255	1.905
5	41	140.4	45	113	23.89	85	185	5.844	125	257	1.856
6	43	133.5	46	115	22.89	86	187	5.663	126	259	1.808
7	45	127.1	47	117	22.1	87	189	5.488	127	261	1.762
8	46	121	48	118	21.26	88	190	5.32	128	262	1.717
9	48	115.2	49	120	20.46	89	192	5.157	129	264	1.674
10	50	109.8	50	122	19.69	90	194	5	130	266	1.632
11	52	104.6	51	124	18.96	91	196	4.849			
12	54	99.69	52	126	18.26	92	198	4.703			
13	55	95.05	53	127	17.58	93	199	4.562			
14	57	90.66	54	129	16.94	94	201	4.426			
15	59	86.49	55	131	16.32	95	203	4.294			
16	61	82.54	56	133	15.73	96	205	4.167			
17	63	78.79	57	135	15.16	97	207	4.045			
18	64	75.24	58	136	14.62	98	208	3.927			
19	66	71.86	59	138	14.09	99	210	3.812			

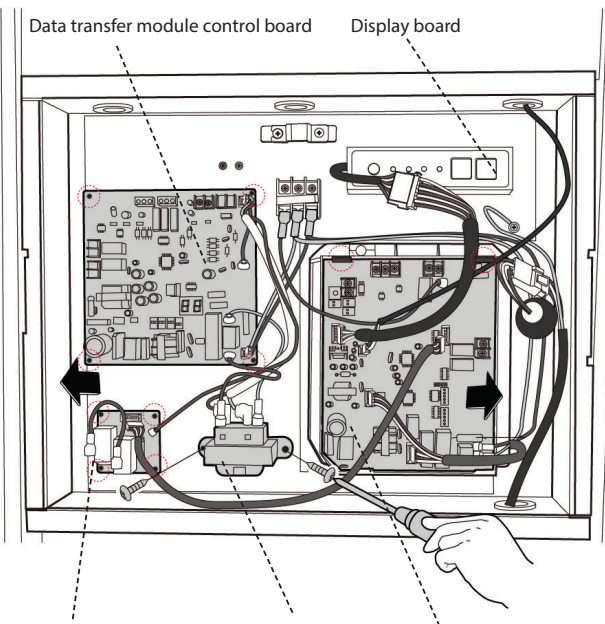
DISASSEMBLY INSTRUCTIONS

Electrical Parts (Anti-static gloves must be worn)

PROCEDURES	ILLUSTRATION
<p>1. Remove the upside board screws (6) and then remove the upside plate.</p>	 <p>The illustration shows a hand using a screwdriver to remove screws from the top panel of a control box. A black arrow points to the left, indicating the direction of the screws being removed. The top panel is shaded gray, and the screws are shown being pulled out from the top edge of the panel.</p>
<p>2. Remove the electrical control box cover screws (4) and then remove the cover.</p>	 <p>The illustration shows a hand using a screwdriver to remove screws from the electrical control box cover. A black arrow points to the left, indicating the direction of the screws being removed. The cover is shaded gray, and the screws are shown being pulled out from the top edge of the cover.</p>

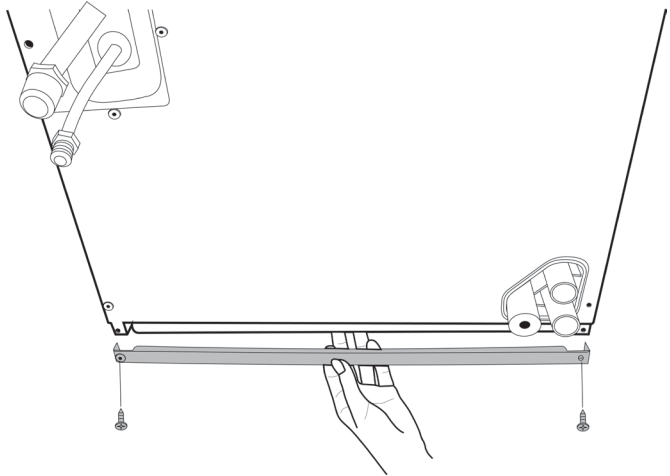
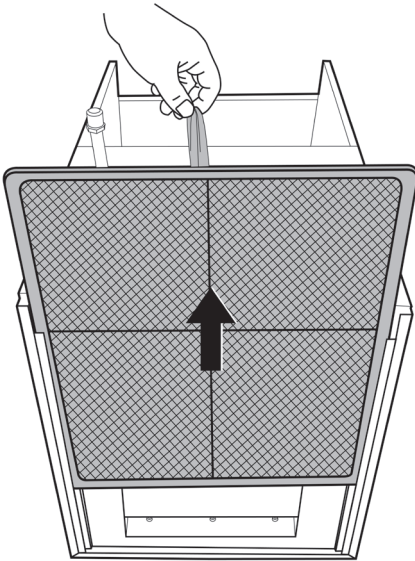
DISASSEMBLY INSTRUCTIONS (CONT.)

Electrical Parts

PROCEDURES	ILLUSTRATION
<ol style="list-style-type: none">3. Unfasten the main control board hooks (2) to remove it.4. Release the data transfer module control board hooks (4) to remove it.5. Unfasten the auxiliary electric heater control board hooks (4) to remove it.6. Release the screws (2) and remove the transformer.	 <p>The illustration shows the interior of an electrical control panel with several components labeled. At the top left is the 'Data transfer module control board', and at the top right is the 'Display board'. At the bottom left is the 'Auxiliary electric heater control board', at the bottom center is the 'Transformer', and at the bottom right is the 'Main control board'. A hand is shown using a screwdriver to remove a screw from the transformer. Dashed lines connect the labels to their respective components. Two black arrows point to the left and right sides of the main control board, indicating the direction to unfasten it.</p>

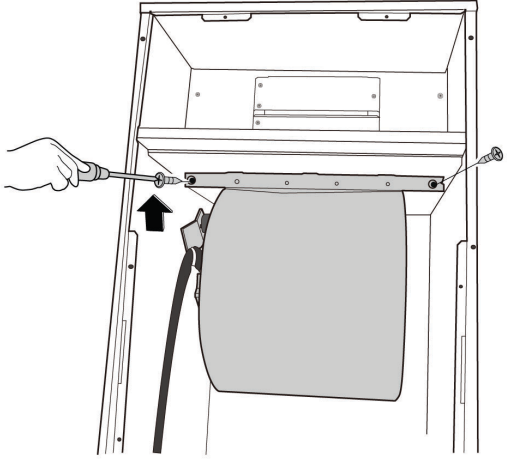
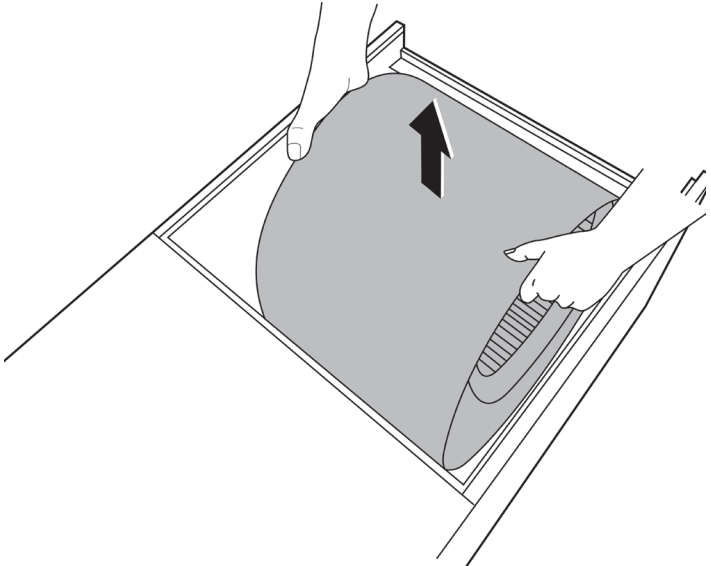
DISASSEMBLY INSTRUCTIONS (CONT.)

Filter

PROCEDURES	ILLUSTRATION
<p>1. Remove the supporting bar's screws (2).</p>	 A line drawing showing a hand reaching up to unscrew a horizontal bar. The bar is supported by two vertical screws. To the left, a mechanical assembly with a hose is visible. The bar is part of a larger structure, possibly a filter housing.
<p>2. Remove the filter.</p>	 A line drawing of a trapezoidal filter with a mesh surface. A hand is shown at the top edge, pulling the filter upwards. A large black arrow points upwards from the center of the filter, indicating the direction of removal.

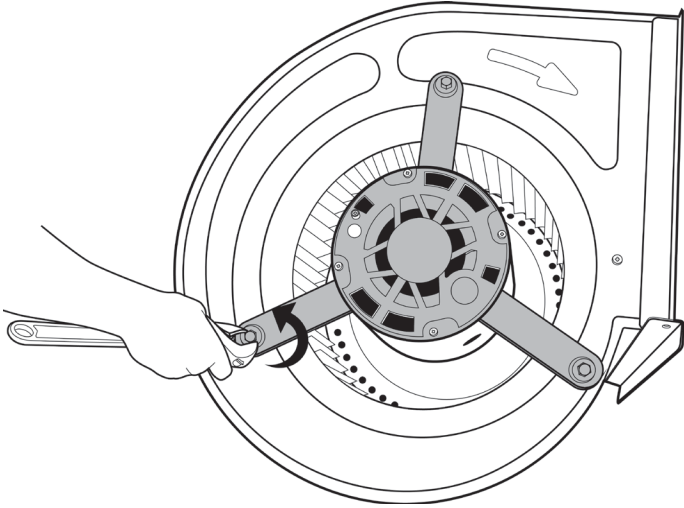
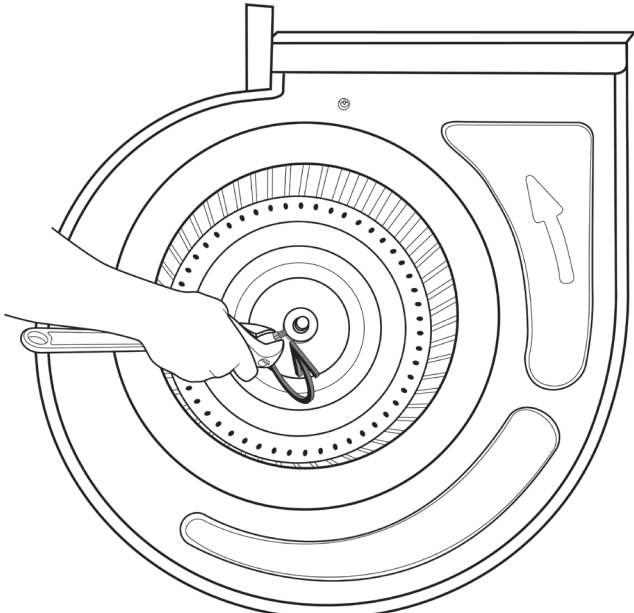
DISASSEMBLY INSTRUCTIONS (CONT.)

Fan Motor and Fan

PROCEDURES	ILLUSTRATION
<p>1. Remove the fan assembly's screws (2).</p>	 A line drawing showing a hand using a screwdriver to remove screws from a fan assembly. The fan assembly is mounted on a metal frame. An arrow points to the screws being removed.
<p>2. Remove the fan assembly.</p>	 A line drawing showing a hand lifting the fan assembly out of the frame. The fan assembly is shown being lifted upwards, as indicated by an arrow.

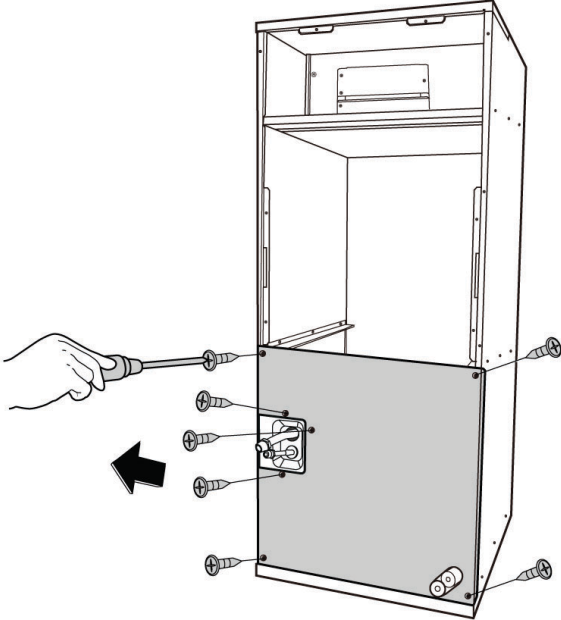
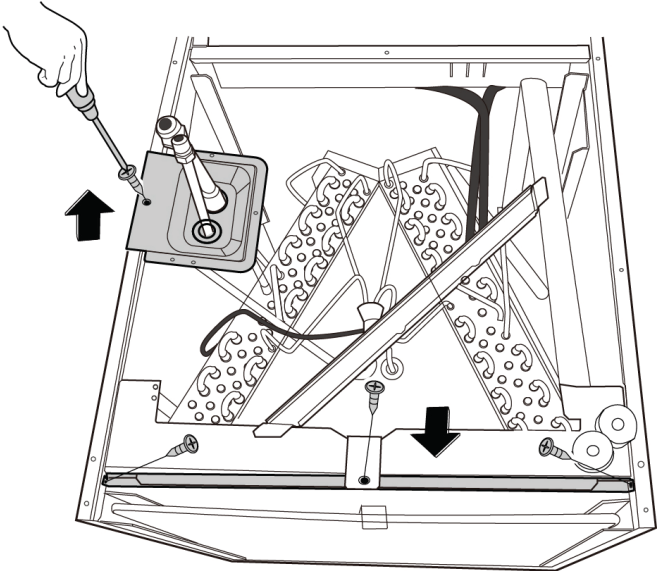
DISASSEMBLY INSTRUCTIONS (CONT.)

Fan Motor and Fan

PROCEDURES	ILLUSTRATION
<p>3. Release the nuts (3) securing the fan motor and then remove the fan.</p>	 A line drawing showing a hand using a screwdriver to turn a nut on one of the three mounting arms of a fan motor. The fan motor is mounted on a circular panel with a central fan grille. An arrow on the panel points to the right.
<p>4. Remove the nut (1) securing the fan and then remove the fan.</p>	 A line drawing showing a hand using a screwdriver to turn a nut on the central hub of the fan. The fan is mounted on a circular panel with a central fan grille. An arrow on the panel points to the right.

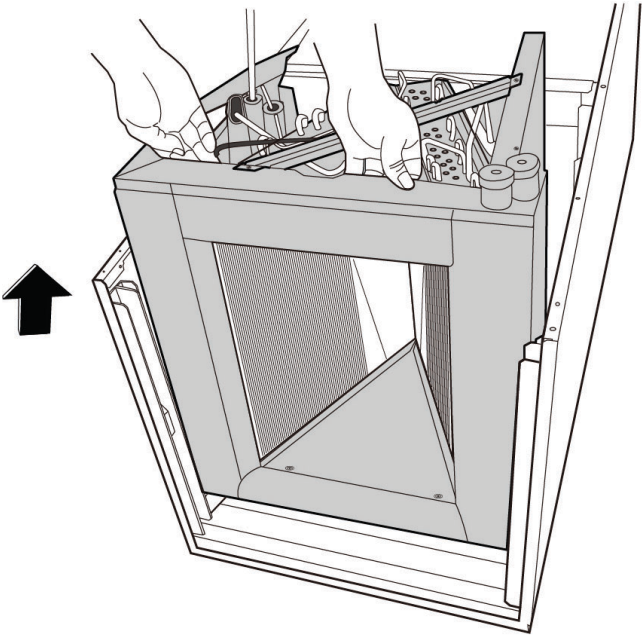
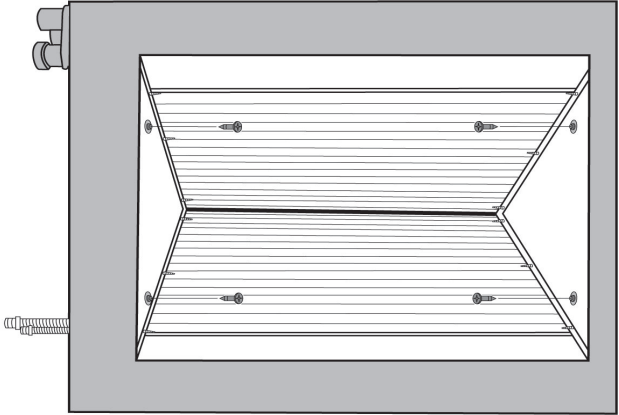
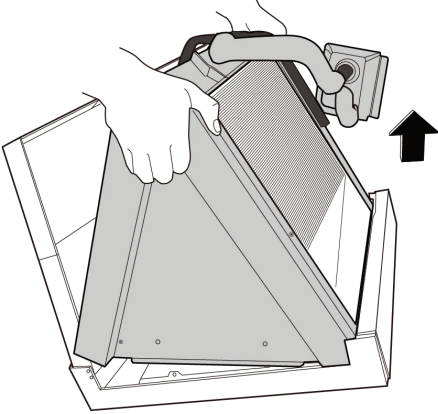
DISASSEMBLY INSTRUCTIONS (CONT.)

Evaporator

PROCEDURES	ILLUSTRATION
<p>1. Remove the side plate screws (7).</p>	 <p>The illustration shows a hand using a screwdriver to remove screws from a side plate. A large black arrow points to the left, indicating the direction of removal. Several screws are shown being removed from the side plate, which is attached to the side of the refrigerator unit.</p>
<p>2. Remove the pipe clamp board screw (1) and the rear support board screws (3).</p>	 <p>The illustration shows a hand using a screwdriver to remove screws from the rear support board. A large black arrow points upwards, indicating the direction of removal. The rear support board is shown being lifted away from the refrigerator unit, revealing the internal evaporator coils and other components.</p>

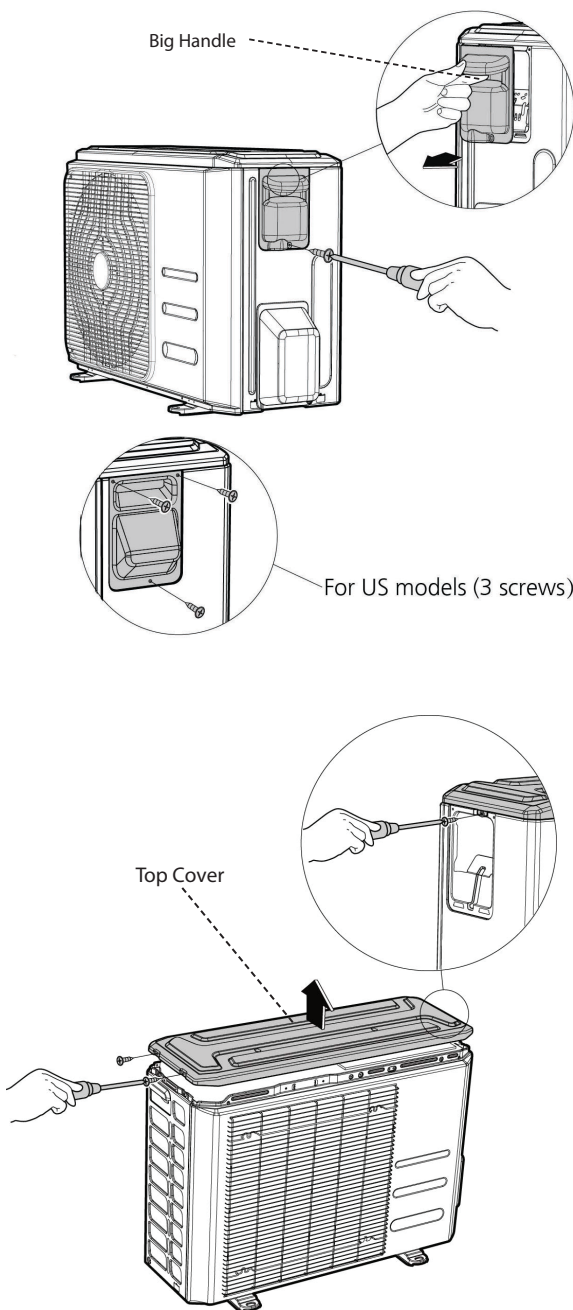
DISASSEMBLY INSTRUCTIONS (CONT.)

Evaporator

PROCEDURES	ILLUSTRATION
<p>3. Take out the evaporator (with the water collector assembly).</p>	 <p>The illustration shows a hand pulling the evaporator assembly out of the refrigerator compartment. The assembly consists of a metal frame with a mesh evaporator coil and a water collector tray. A black arrow points upwards, indicating the direction of removal.</p>
<p>4. Remove the water collector assembly screws (4).</p>	 <p>The illustration shows the water collector assembly, which is a rectangular metal tray with a mesh evaporator coil. Four screws are shown being removed from the tray. A screwdriver is shown inserted into one of the screw holes.</p>
<p>5. Release the evaporator and the water collector assembly.</p>	 <p>The illustration shows a hand releasing the evaporator and water collector assembly. The assembly is shown being lifted out of the refrigerator compartment. A black arrow points upwards, indicating the direction of removal.</p>

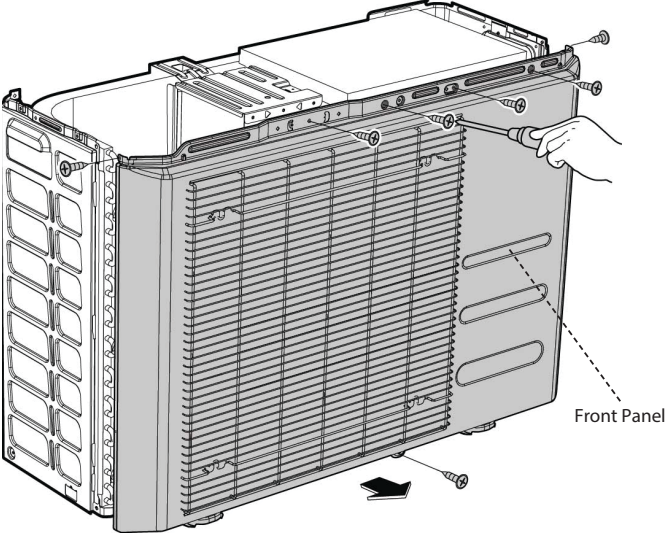
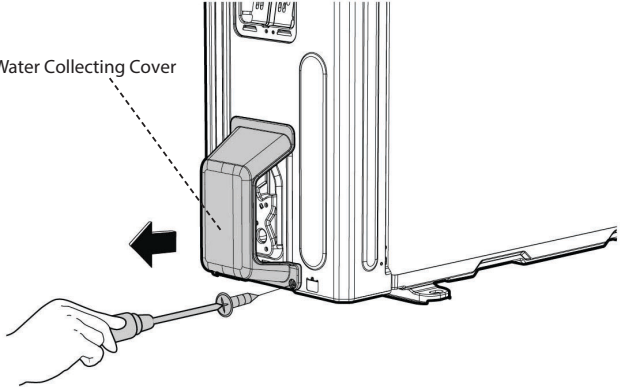
DISASSEMBLY INSTRUCTIONS (CONT.)

Panel Plate

PROCEDURES	ILLUSTRATION
<ol style="list-style-type: none">1. Turn off the air conditioner and the power breaker.2. Remove the big handle screws and then remove the big handle.3. Remove the top cover screws and then remove the top cover.	 <p>The illustration section contains three diagrams. The top diagram shows a hand using a screwdriver to remove a screw from the 'Big Handle' of the air conditioner's panel plate. A circular inset provides a magnified view of the handle being pulled away. The middle diagram shows the panel plate with three screws being removed from the top cover area, with a circular inset showing the screws being taken out. The bottom diagram shows a hand using a screwdriver to remove a screw from the 'Top Cover' of the air conditioner. A circular inset shows the top cover being lifted off the unit.</p>

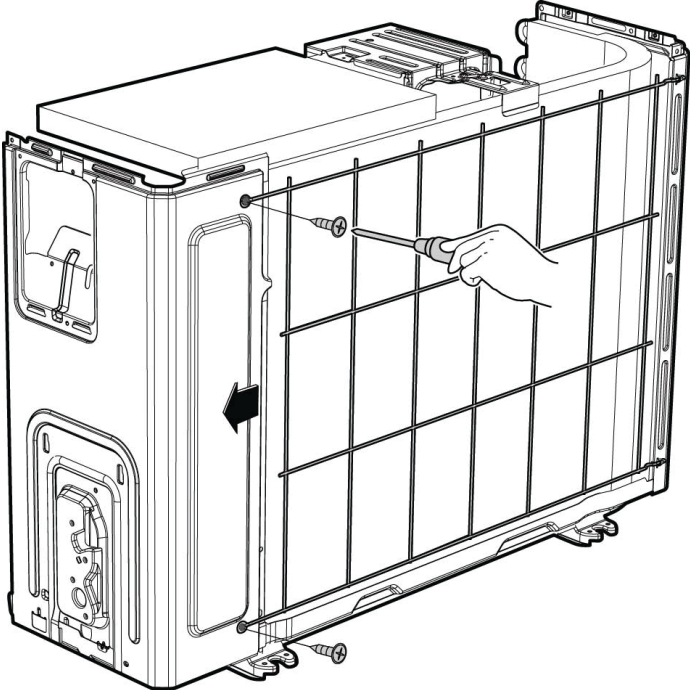
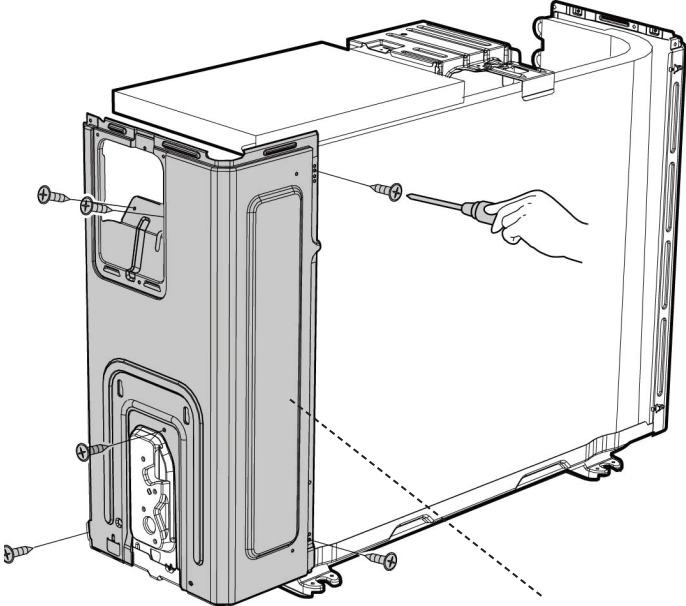
DISASSEMBLY INSTRUCTIONS (CONT.)

Panel Plate

PROCEDURES	ILLUSTRATION
<p>4. Remove the front panel screws (7) and then remove the front panel.</p>	 <p>The illustration shows a hand using a screwdriver to remove screws from the front panel of a device. The front panel is labeled "Front Panel" with a dashed line. A screw is shown being removed from the top edge of the panel. An arrow points to the location of the screw being removed.</p>
<p>5. Remove the water collecting cover screw (1).</p>	 <p>The illustration shows a hand using a screwdriver to remove a screw from the water collecting cover of a device. The water collecting cover is labeled "Water Collecting Cover" with a dashed line. An arrow points to the location of the screw being removed.</p>

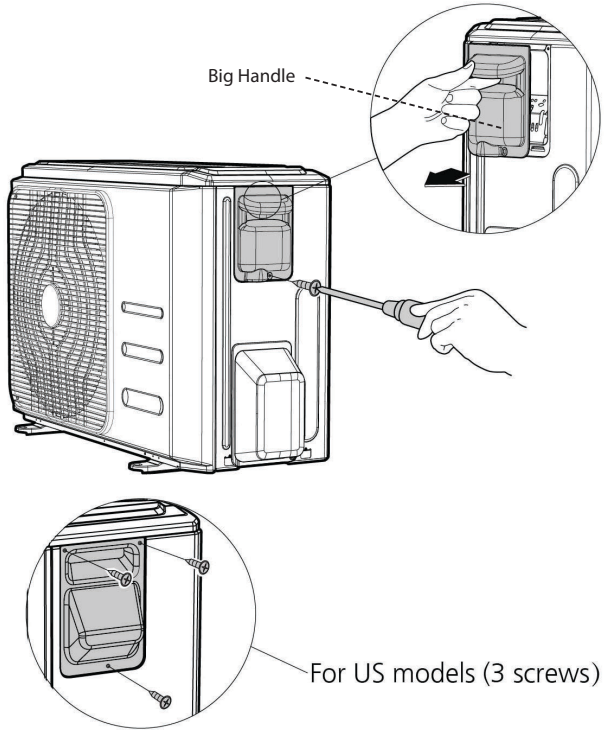
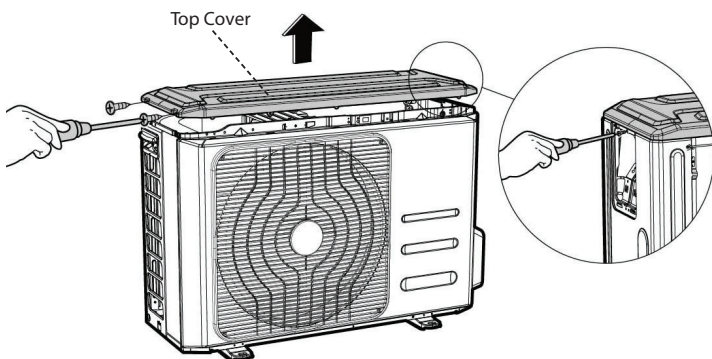
DISASSEMBLY INSTRUCTIONS (CONT.)

Panel Plate

PROCEDURES	ILLUSTRATION
<p>6. Remove the rear net screws (2) and then remove the rear net.</p>	
<p>7. Remove the right panel screws and then remove the right panel.</p>	 <p data-bbox="1312 1629 1414 1654">Right Panel</p>

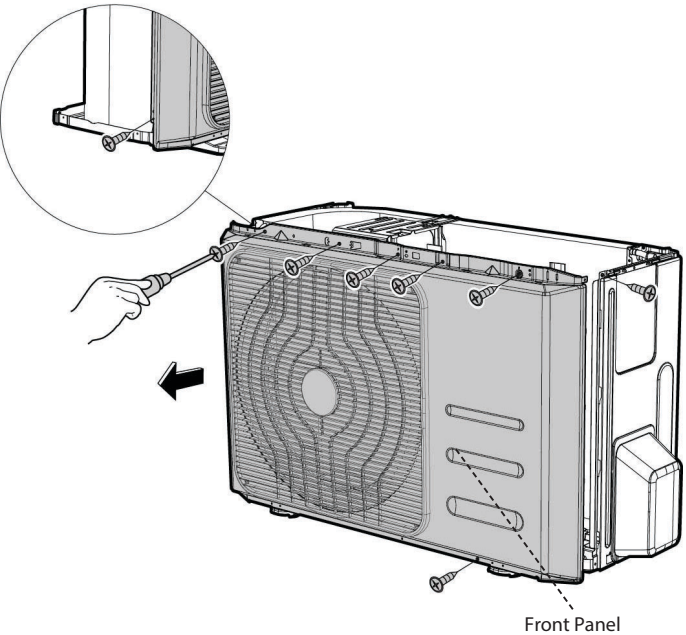
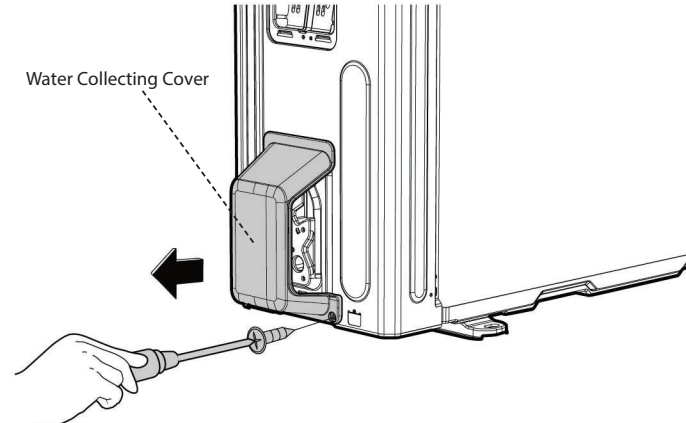
DISASSEMBLY INSTRUCTIONS (CONT.)

Panel Plate

PROCEDURES	ILLUSTRATION
<ol style="list-style-type: none"><li data-bbox="123 646 623 674">1. Turn off the air conditioner and the power breaker.<li data-bbox="123 676 669 724">2. Remove the big handle screws and then remove the big handle.	 <p>The illustration shows the air conditioner unit with the big handle being removed. A hand is shown using a screwdriver to remove the screws from the handle. A circular inset shows a close-up of the handle being pulled away from the panel plate. Another circular inset shows the panel plate with three screws being removed from the top cover area, labeled 'For US models (3 screws)'. The label 'Big Handle' points to the handle being removed.</p>
<ol style="list-style-type: none"><li data-bbox="123 1308 691 1377">3. Remove the top cover screws (3) and then remove the top cover. One of the screws is located underneath the big handle.	 <p>The illustration shows the air conditioner unit with the top cover being removed. A hand is shown using a screwdriver to remove the screws from the top cover. A circular inset shows a close-up of the top cover being lifted away from the panel plate. The label 'Top Cover' points to the top cover being removed.</p>

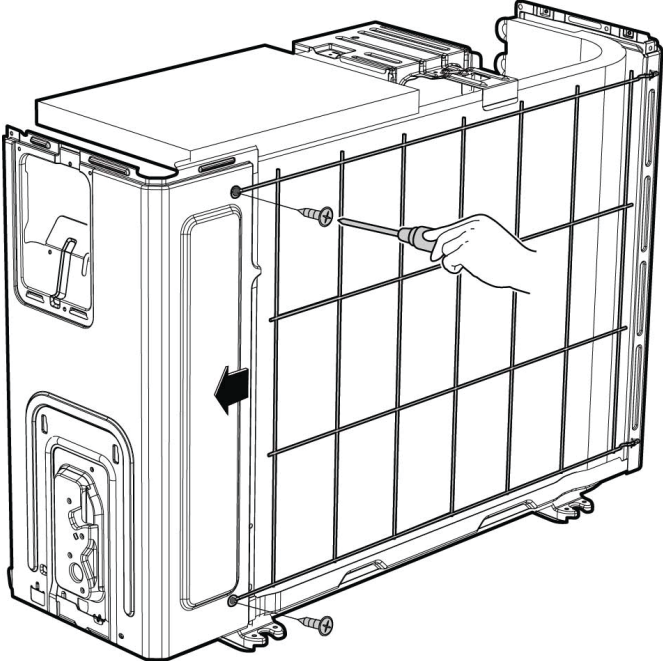
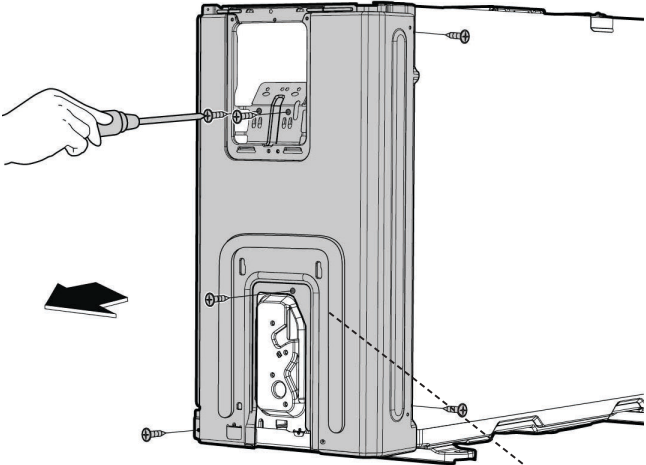
DISASSEMBLY INSTRUCTIONS (CONT.)

Panel Plate

PROCEDURES	ILLUSTRATION
<p>4. Remove the front panel screws (8) and then remove the front panel.</p>	 <p>Front Panel</p>
<p>5. Remove the screw (1) from the water collecting cover then remove the water collecting cover.</p>	 <p>Water Collecting Cover</p>

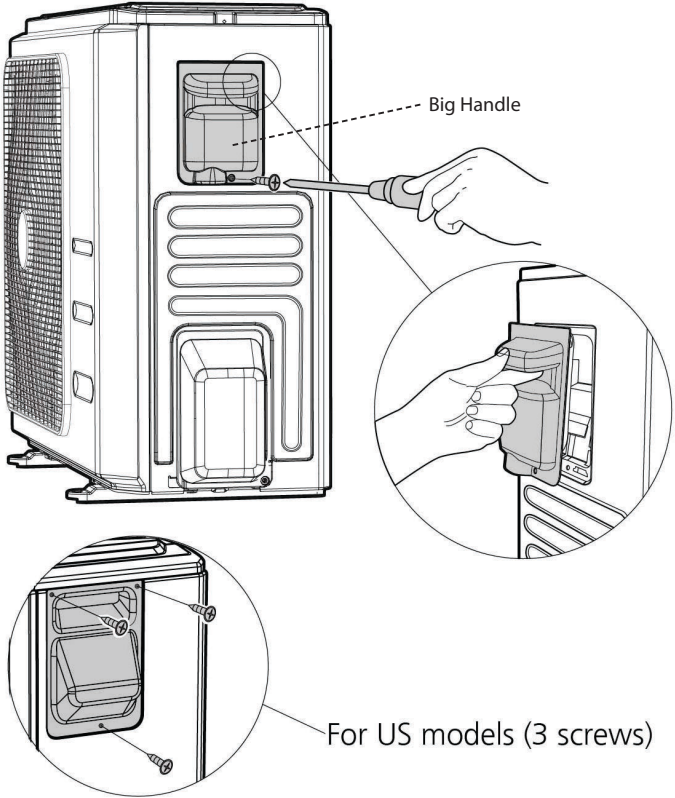
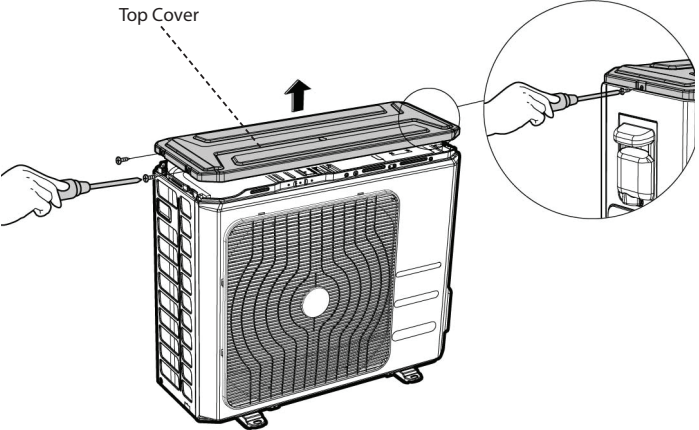
DISASSEMBLY INSTRUCTIONS (CONT.)

Panel Plate

PROCEDURES	ILLUSTRATION
<p>6. Remove the rear net screws (2) and then remove the rear net.</p>	 <p>The illustration shows a hand using a screwdriver to remove screws from the rear net of a panel plate. The panel plate is shown in a perspective view, with the rear net being a grid-like structure. A black arrow points to the left, indicating the direction of removal.</p>
<p>7. Remove the right panel screws (5) and then remove the right panel.</p>	 <p>The illustration shows a hand using a screwdriver to remove screws from the right panel of a panel plate. The panel plate is shown in a perspective view, with the right panel being a vertical rectangular section. A black arrow points to the left, indicating the direction of removal. The right panel is shown being pulled away from the main panel plate. A label "Right Panel" is located at the bottom right of the illustration.</p>

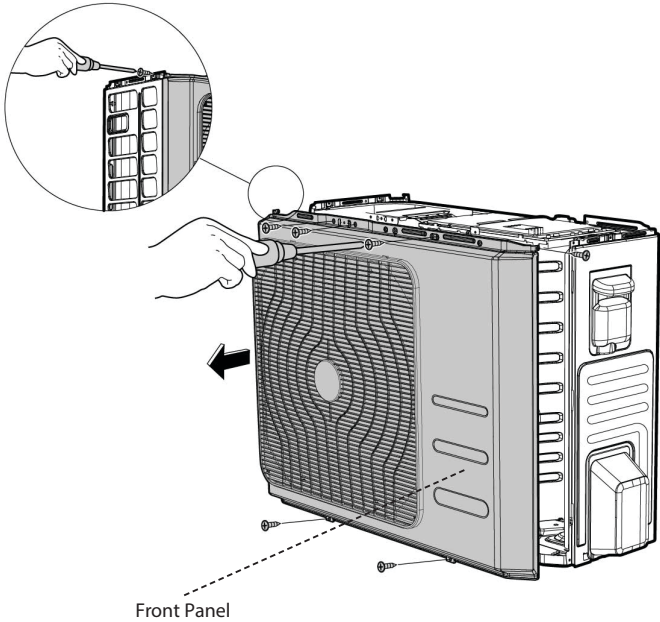
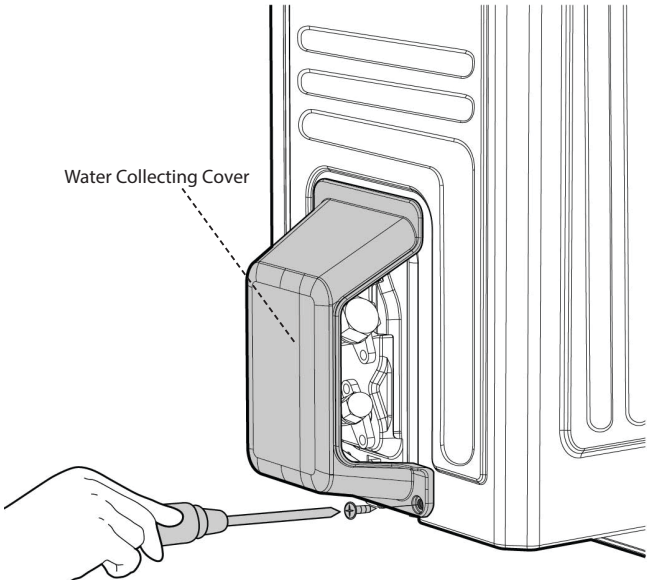
DISASSEMBLY INSTRUCTIONS (CONT.)

Panel Plate

PROCEDURES	ILLUSTRATION
<ol style="list-style-type: none"><li data-bbox="185 678 686 703">1. Turn off the air conditioner and the power breaker.<li data-bbox="185 707 732 753">2. Remove the big handle screws and then remove the big handle.	 <p data-bbox="1247 436 1341 457">Big Handle</p> <p data-bbox="1149 1058 1474 1087">For US models (3 screws)</p>
<ol style="list-style-type: none"><li data-bbox="185 1430 753 1476">3. Remove the top cover screws (3) and then remove the top cover. One of the screws is located under the big handle.	 <p data-bbox="927 1272 1011 1293">Top Cover</p>

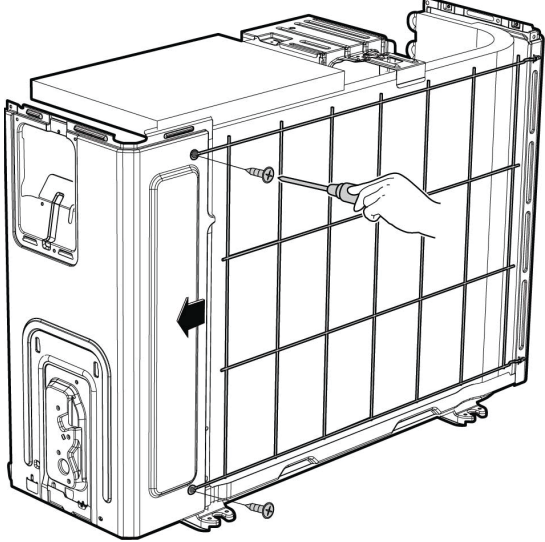
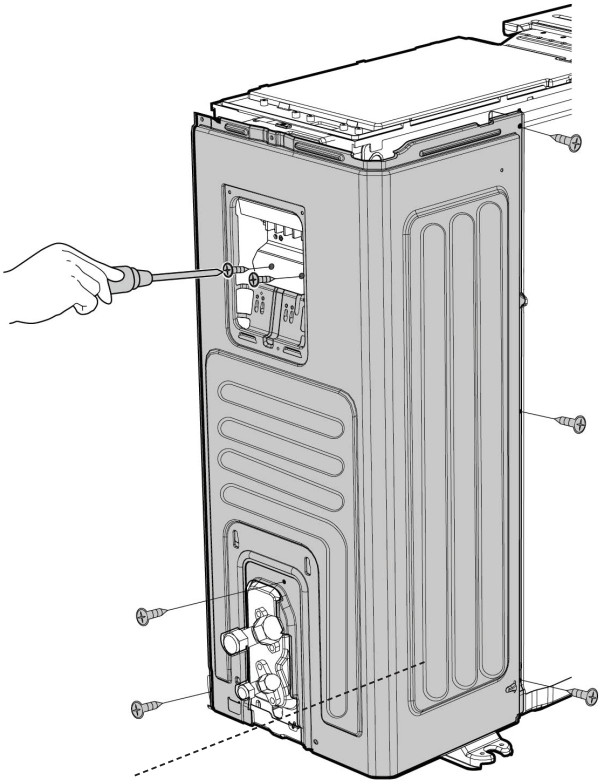
DISASSEMBLY INSTRUCTIONS (CONT.)

Panel Plate

PROCEDURES	ILLUSTRATION
<p>4. Remove the front panel screws (7) and then remove the front panel.</p>	 <p>The illustration shows a hand using a screwdriver to remove screws from the front panel of the device. A circular inset provides a magnified view of the screw being removed. A dashed line points to the front panel, which is labeled "Front Panel".</p>
<p>5. Remove the water collecting cover screw (1) and then remove the water collecting cover.</p>	 <p>The illustration shows a hand using a screwdriver to remove a screw from the water collecting cover. A dashed line points to the cover, which is labeled "Water Collecting Cover".</p>

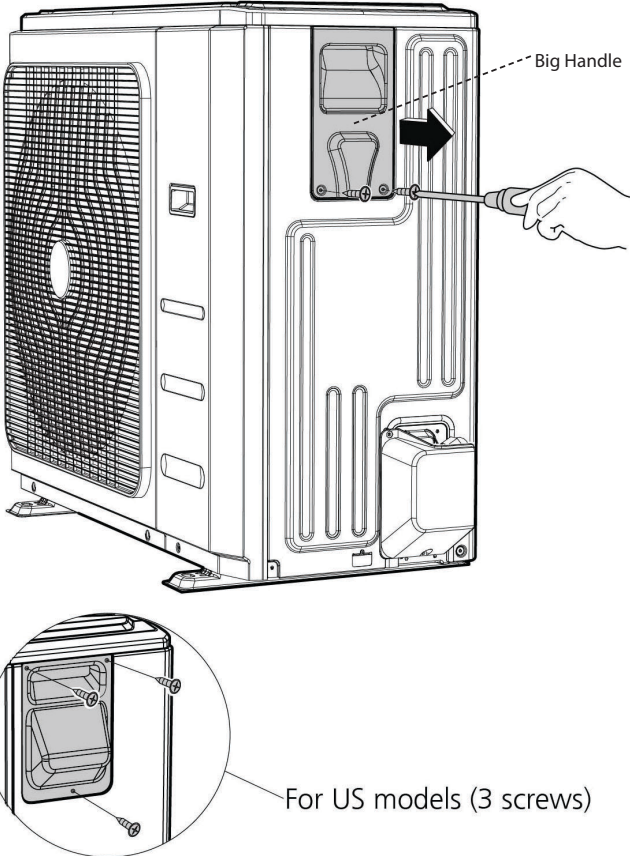
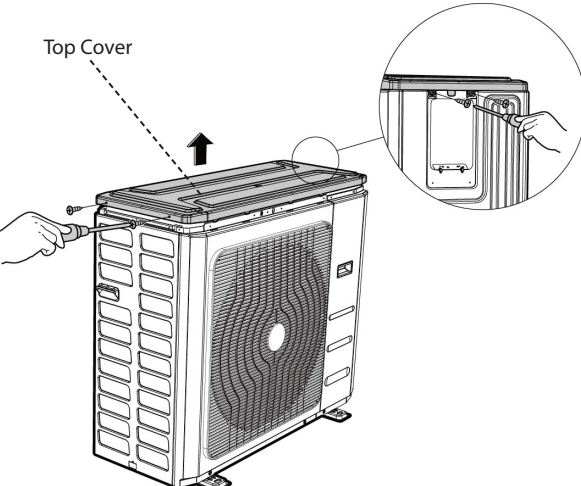
DISASSEMBLY INSTRUCTIONS (CONT.)

Panel Plate (Cont.)

PROCEDURES	ILLUSTRATION
<p>6. Remove the rear net screws (2) and then remove the rear net.</p>	 <p>The illustration shows a side view of a rectangular unit with a wire mesh (rear net) attached to its back. A hand is shown using a screwdriver to remove screws from the mesh. A black arrow points to the left, indicating the direction to pull the net away from the unit.</p>
<p>7. Remove the right panel screws (7) and then remove the right panel.</p>	 <p>The illustration shows a front view of the unit with the right panel partially detached. A hand is shown using a screwdriver to remove screws from the panel. A dashed line points to the panel with the label "Right Panel".</p>

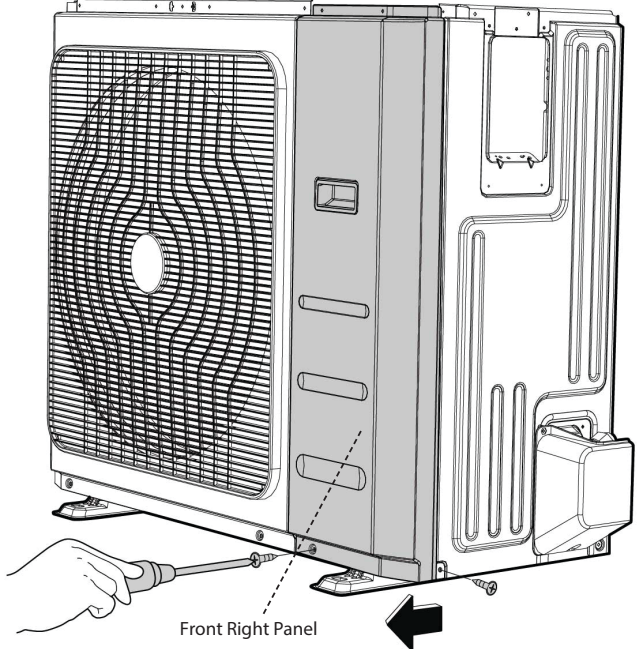
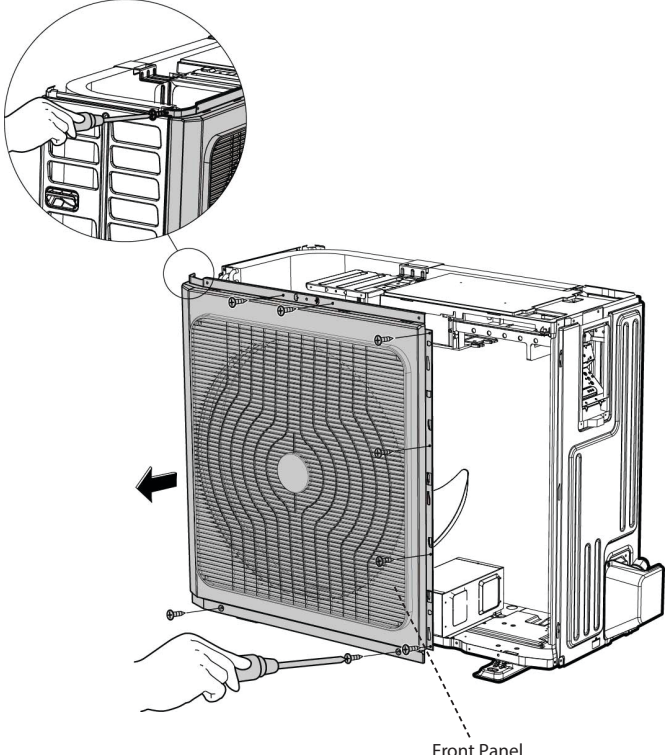
DISASSEMBLY INSTRUCTIONS (CONT.)

Panel Plate

PROCEDURES	ILLUSTRATION
<ol style="list-style-type: none">1. Turn off the air conditioner and the power breaker.2. Remove the big handle screws (2) and then remove the big handle.	 <p>Big Handle</p> <p>For US models (3 screws)</p>
<ol style="list-style-type: none">3. Remove the top cover screws (4) and then remove the top cover. Two of the screws are located under the big handle.	 <p>Top Cover</p>

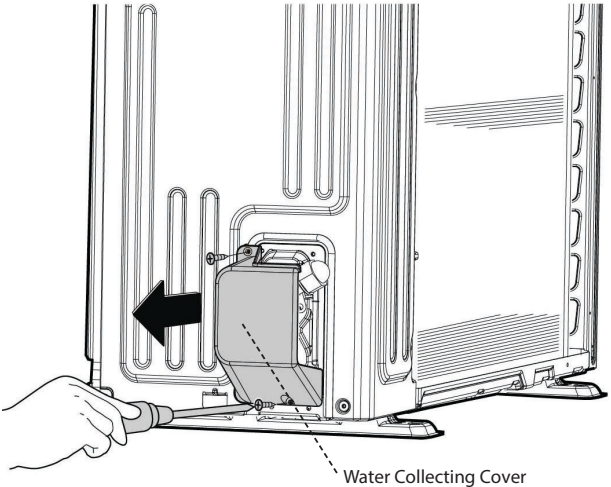
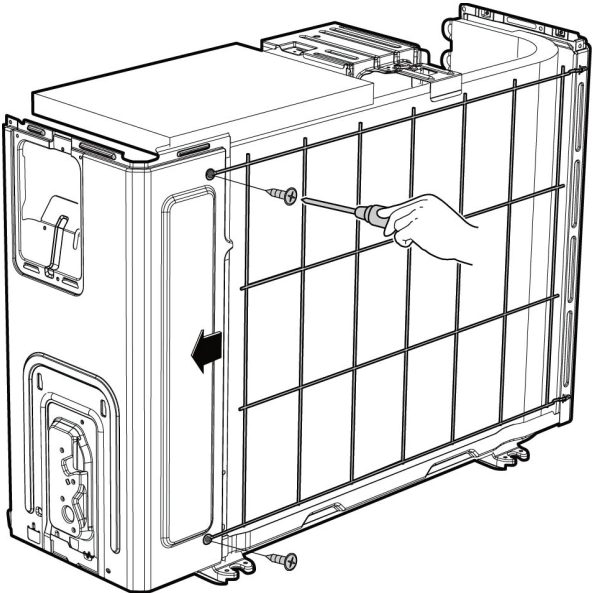
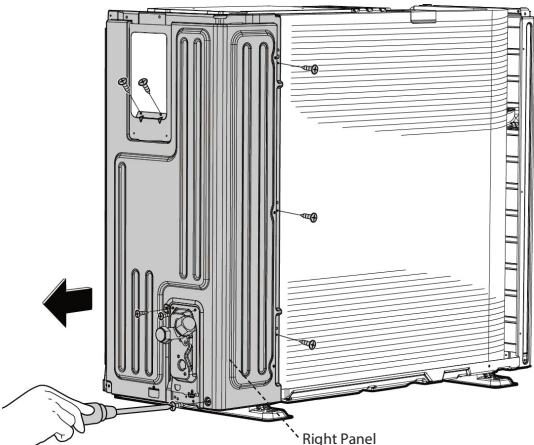
DISASSEMBLY INSTRUCTIONS (CONT.)

Panel Plate

PROCEDURES	ILLUSTRATION
<p>4. Remove the front panel screws (2) and then remove the front right panel screws.</p>	 <p>Front Right Panel</p>
<p>5. Remove the front panel screws (9) and then remove the front panel.</p>	 <p>Front Panel</p>

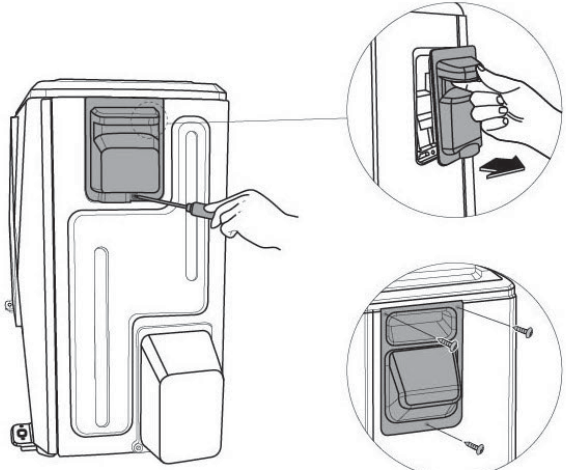
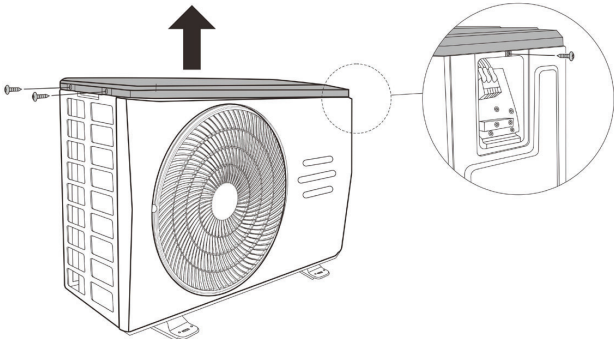
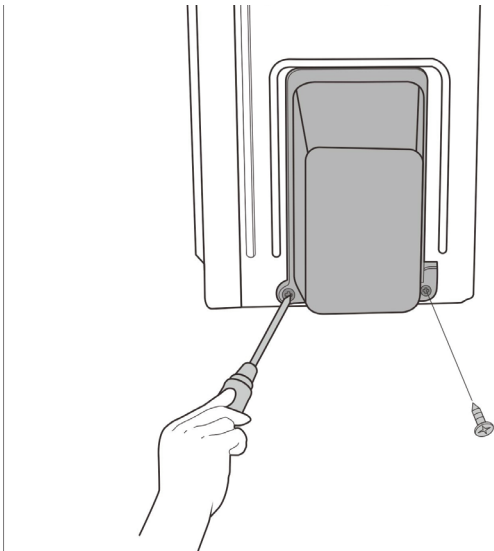
DISASSEMBLY INSTRUCTIONS (CONT.)

Panel Plate

PROCEDURES	ILLUSTRATION
<p>6. Remove the water collecting cover screws (2) and then remove the water collecting cover</p>	 <p>Water Collecting Cover</p>
<p>7. Remove the rear net screws (2) and then remove the rear net.</p>	
<p>8. Remove the right panel screws (8) and then remove the right panel.</p>	 <p>Right Panel</p>

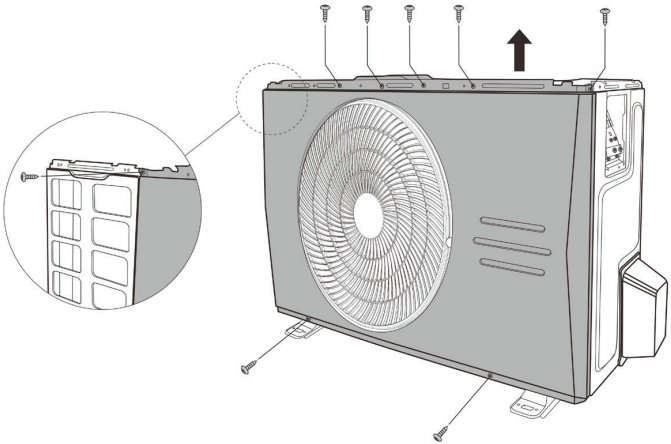
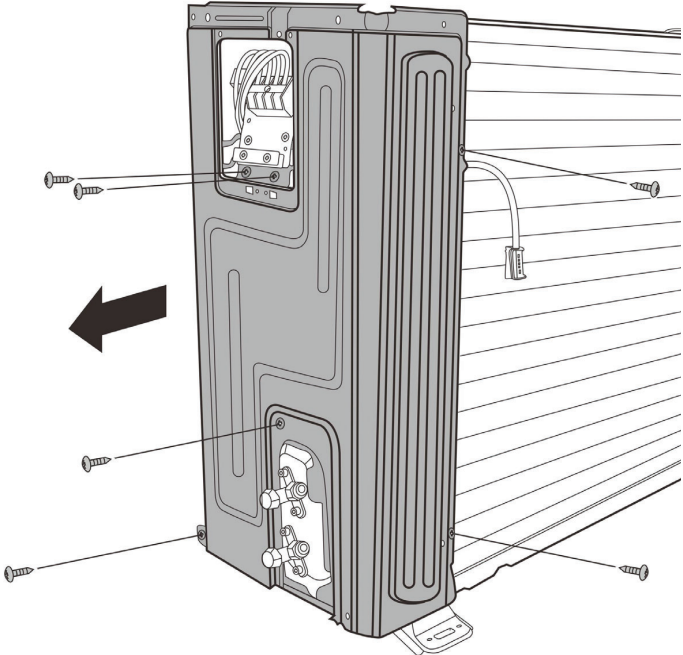
DISASSEMBLY INSTRUCTIONS (CONT.)

Panel Plate

PROCEDURES	ILLUSTRATION
<ol style="list-style-type: none">1. Turn off the air conditioner and the power breaker.2. Remove the big handle screw and then remove the big handle.	 <p>For US models (3 screws)</p>
<ol style="list-style-type: none">3. Remove the top cover screws (3) and then remove the top cover. One of the screws is located under the big handle.	
<ol style="list-style-type: none">4. Remove the water collecting cover screws (2) and then remove the water collecting cover.	

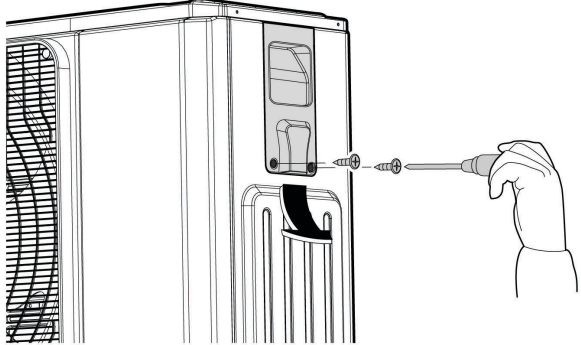
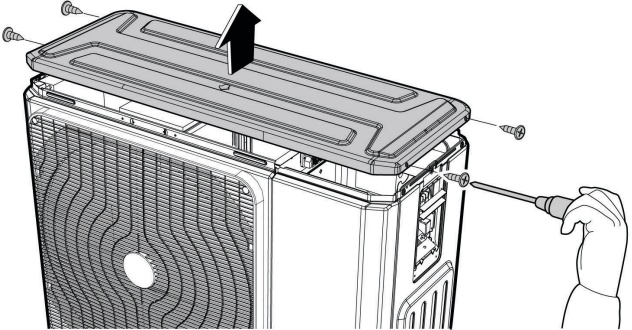
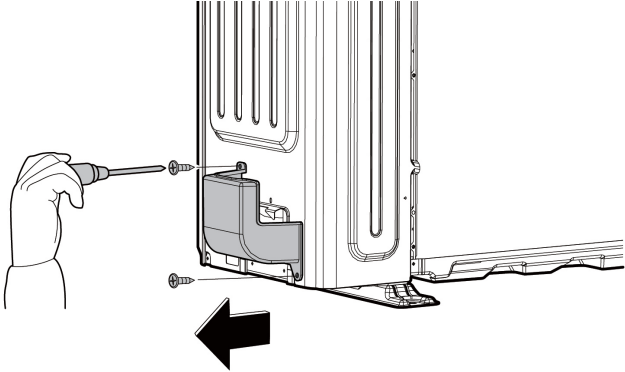
DISASSEMBLY INSTRUCTIONS (CONT.)

Panel Plate

PROCEDURES	ILLUSTRATION
<p>5. Remove the front panel screws (6) and then remove the front panel (6 screws - on/off models) (8 screws - inverter models).</p>	 An illustration of the front of the air conditioning unit. Five screws are shown being removed from the top edge of the front panel. A large black arrow points upwards from the top edge. A circular inset on the left shows a close-up of the front panel with six screws being removed from its top edge.
<p>6. Remove the right panel screws (6) and then remove the right panel.</p>	 An illustration of the right side of the air conditioning unit. Six screws are shown being removed from the right panel. A large black arrow points to the left, indicating the direction of panel removal. The unit is shown mounted on a wall with horizontal siding.

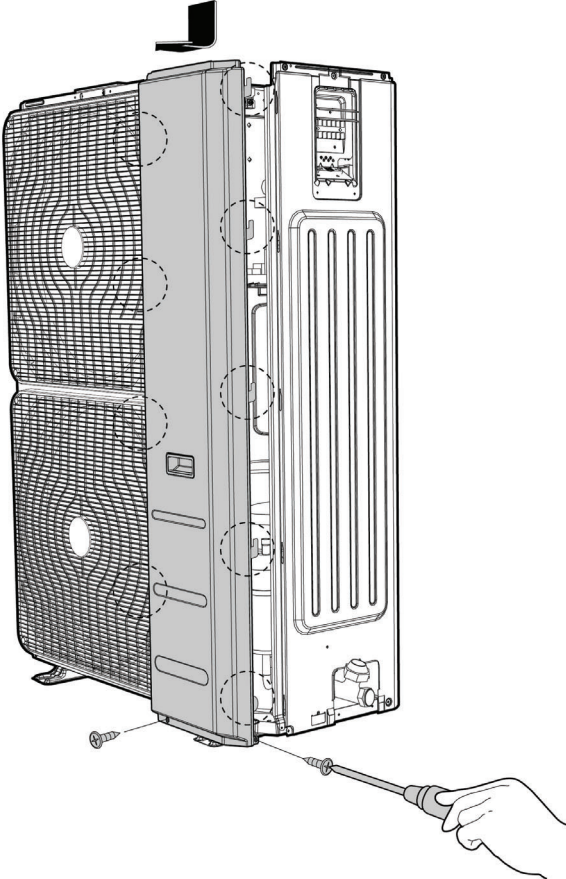
DISASSEMBLY INSTRUCTIONS (CONT)

Panel Plate

PROCEDURES	ILLUSTRATION
<ol style="list-style-type: none">1. Turn off the air conditioner and the power breaker.2. Remove the big handle screws and then remove the big handle.	
<ol style="list-style-type: none">3. Remove the top cover screws (4) and then remove the top cover. Two of the screws are located underneath the big handle.	
<ol style="list-style-type: none">4. Remove the water collecting cover screws (2) and then remove the water collecting cover.	

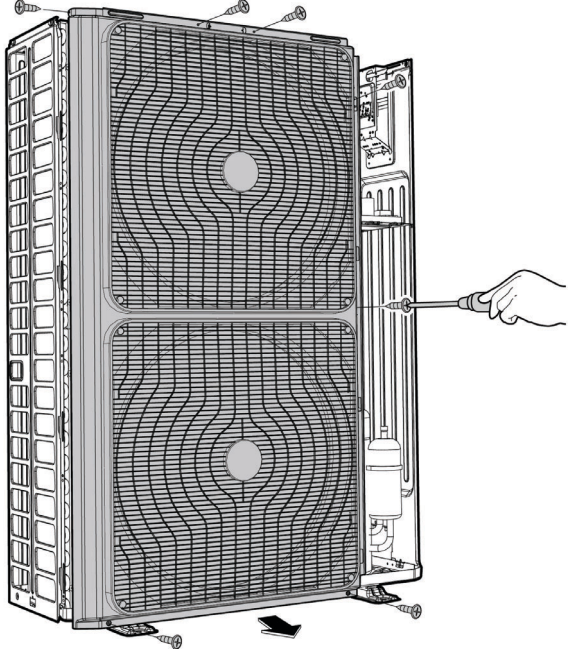
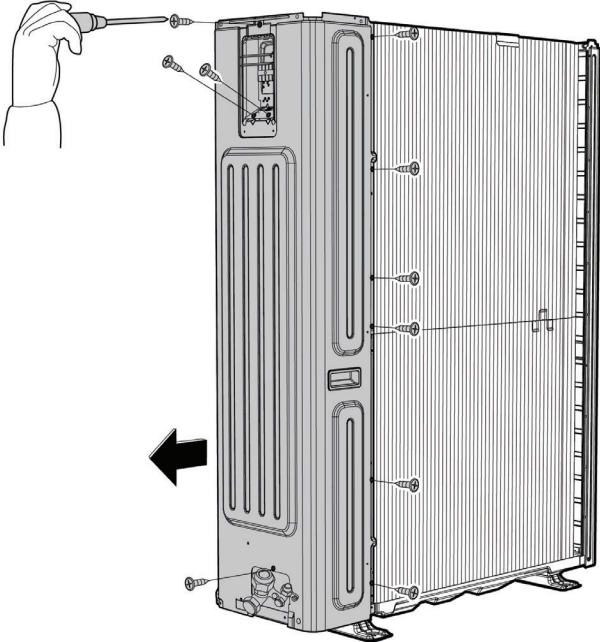
DISASSEMBLY INSTRUCTIONS (CONT)

Panel Plate

PROCEDURES	ILLUSTRATION
<p>5. Remove the front right panel screws (2) and then remove the front panel.</p>	

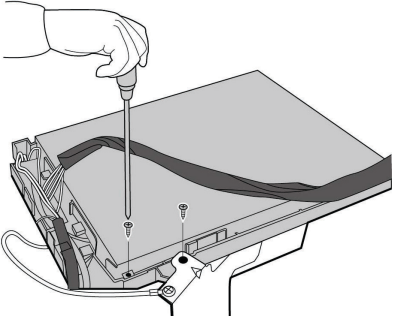
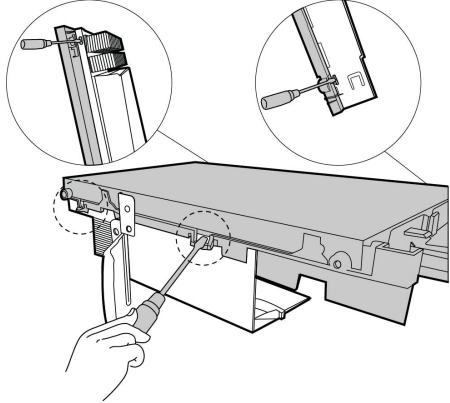
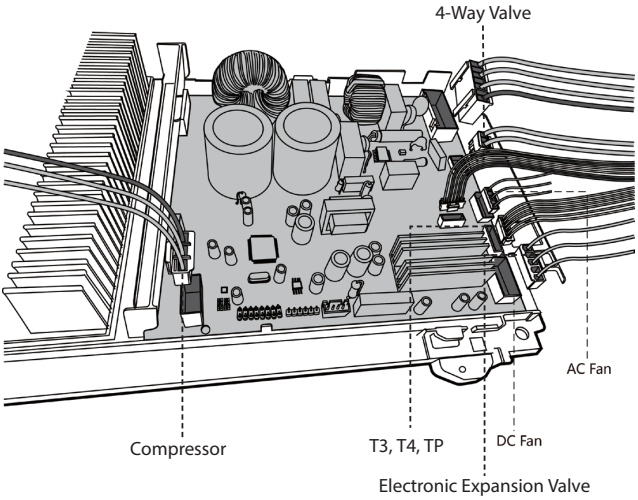
DISASSEMBLY INSTRUCTIONS (CONT)

Panel Plate

PROCEDURES	ILLUSTRATION
<p>1. Remove the front right panel screws (7) and then remove the front panel.</p>	 <p>The illustration shows a hand using a screwdriver to remove screws from the right side of the front panel. The front panel is partially detached, and a black arrow points downwards from the bottom of the panel, indicating its removal direction.</p>
<p>2. Remove the right panel screws (10) and remove the right panel.</p>	 <p>The illustration shows a hand using a screwdriver to remove screws from the right side of the unit. A large black arrow points to the left, indicating the removal direction of the right panel.</p>

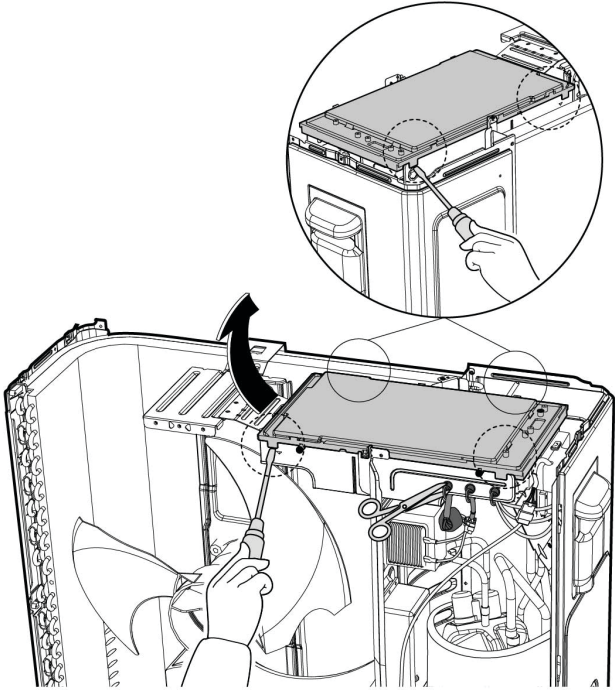
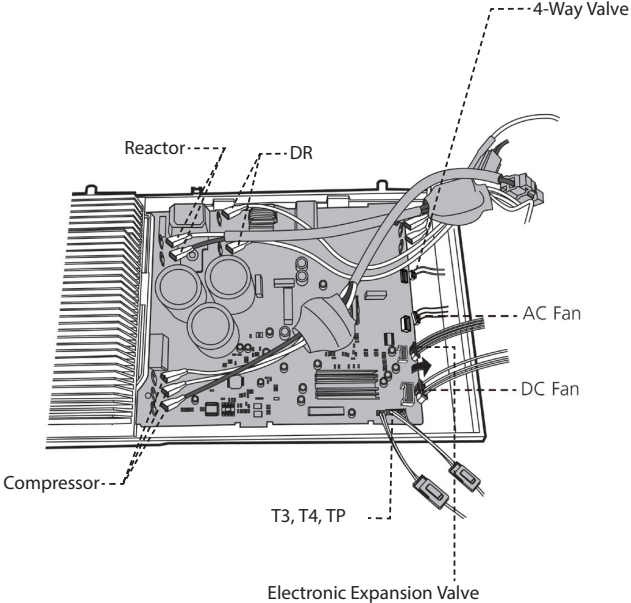
DISASSEMBLY INSTRUCTIONS (CONT)

PCB Board 1

PROCEDURES	ILLUSTRATION
<p>1. Remove the top cover screws (2).</p>	
<p>2. Unfasten the hooks (4) and then open the electronic box cover.</p>	
<p>3. Disconnect the fan motor connector from the electronic control board. 4. Remove the compressor connector. 5. Remove the two blue wires connected to the four-way valve. 6. Remove the connectors of the condenser coil temperature sensor (T3), outdoor ambient temperature sensor (T4) and the discharge temperature sensor (TP). 7. Disconnect the electronic expansion valve wire. 8. Remove the electronic control board.</p>	

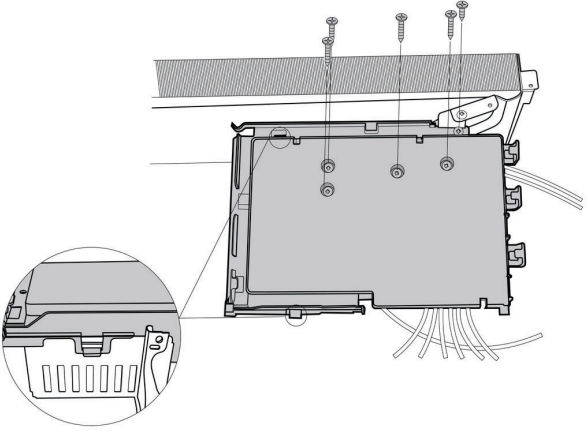
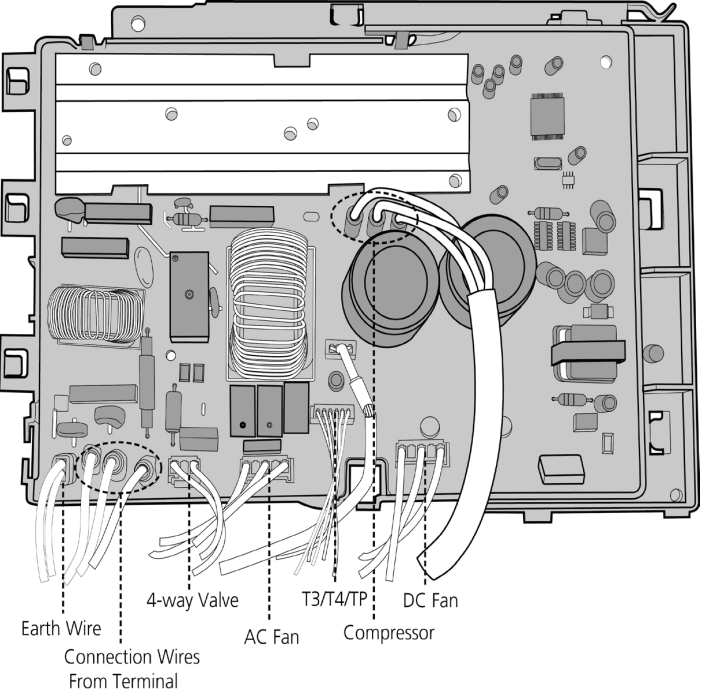
DISASSEMBLY INSTRUCTIONS (CONT)

PCB Board 2

PROCEDURES	ILLUSTRATION
<p>1. Unfasten the hooks (4) and then open the electronic control box cover.</p>	
<p>2. Disconnect the fan motor connector from the electronic control board. 3. Remove the compressor connector. 4. Pull out the two blue wires connected to the four-way valve. 5. Remove the connectors of the condenser coil temperature sensor (3), outdoor ambient temperature sensor (T4) and the discharge temperature sensor (TP). 6. Disconnect the electronic expansion valve wire. 7. Remove the electronic control board.</p>	

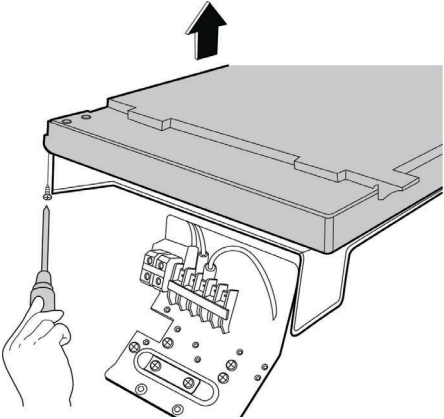
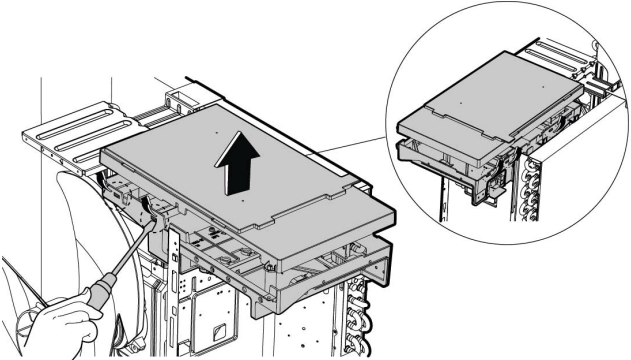
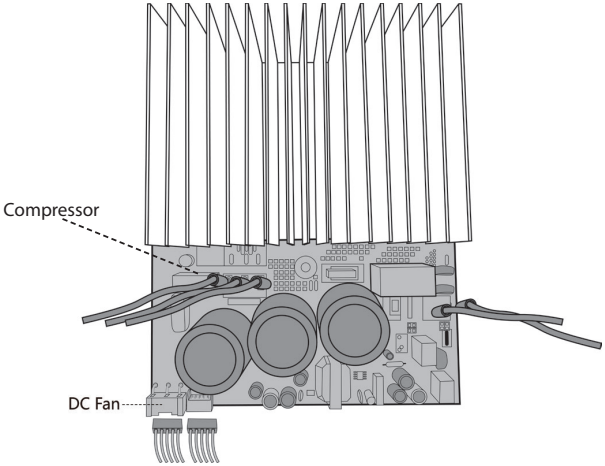
DISASSEMBLY INSTRUCTIONS (CONT)

PCB Board 3

PROCEDURES	ILLUSTRATION
<p>1. Remove the screws (5) and unfasten the hooks (2) and then open the electronic box cover.</p>	
<p>2. Disconnect the fan motor connector from the electronic control board.</p> <p>3. Remove the compressor connector.</p> <p>4. Remove the two blue wires from the four-way valve.</p> <p>5. Remove the connectors of the condenser coil temperature sensor (T3), outdoor ambient temperature sensor (T4), and the discharge temperature sensor (TP).</p> <p>6. Disconnect the electronic expansion valve wire.</p> <p>7. Remove the DR connector and the reactor.</p> <p>8. Remove the electronic control board.</p>	

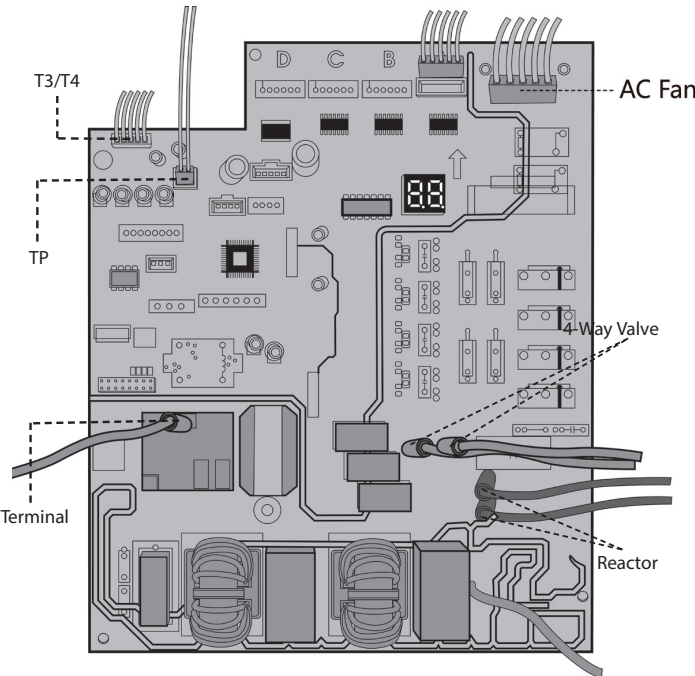
DISASSEMBLY INSTRUCTIONS (CONT)

PCB Board 4

PROCEDURES	ILLUSTRATION
<p>1. Remove the top cover screw (1).</p>	
<p>2. Unfasten the hooks (5) and then open the electronic control box cover.</p>	
<p>3. Disconnect the fan motor connector from the IPM board. 4. Remove the compressor connector.</p>	

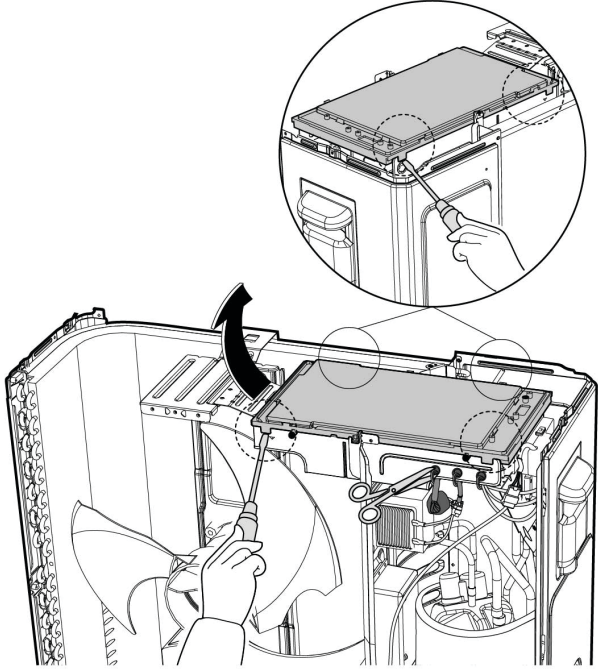
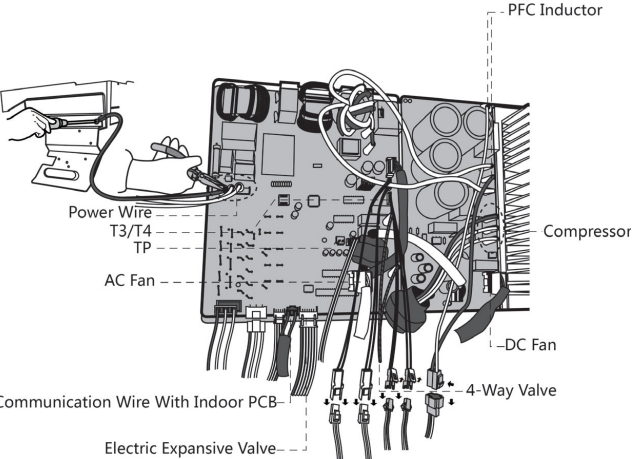
DISASSEMBLY INSTRUCTIONS (CONT)

PCB Board 4 (CONT)

PROCEDURES	ILLUSTRATION
<ol style="list-style-type: none">5. Remove the wire connected to the terminal.6. Remove the connectors of the condenser coil temperature sensor (T3), outdoor ambient temperature sensor (T4) and the discharge temperature sensor (TP).7. Disconnect the electronic expansion valve wire.8. Remove the four-way valve connector.9. Remove the reactor connector.10. Remove the electronic control box.	

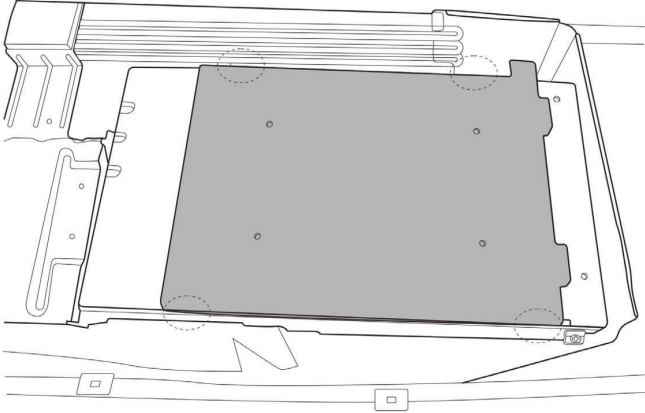
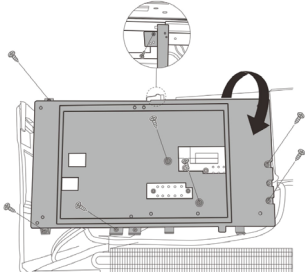
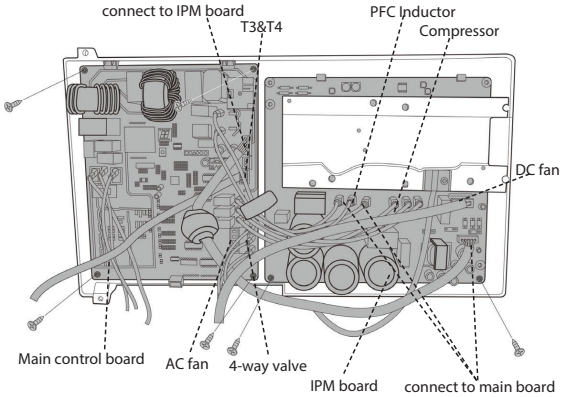
DISASSEMBLY INSTRUCTIONS (CONT)

PCB Board 5

PROCEDURES	ILLUSTRATION
<ol style="list-style-type: none"> 1. Unfasten the hooks (4) and then open the electronic control box. 	
<ol style="list-style-type: none"> 2. Disconnect the outdoor DC fan connector from the electronic control board. 3. Remove the compressor connector. 4. Remove the two blue wires from the four-way valve. 5. Remove the connectors of the condenser coil temperature (T3), outdoor ambient temperature sensor (T4) and the discharge temperature sensor (TP). 6. Disconnect the electronic expansion valve wire. 7. Disconnect the communication wire indoor PCB. 8. Disconnect the PFC inductor. 9. Remove the electronic control box. 	

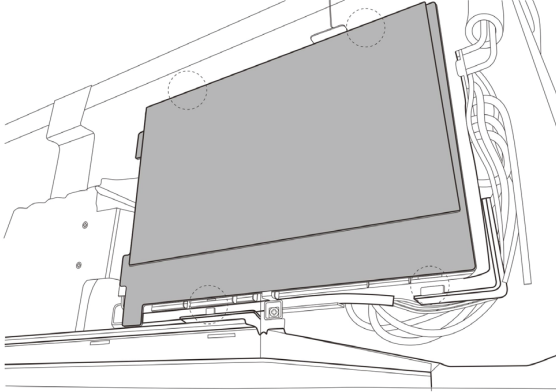
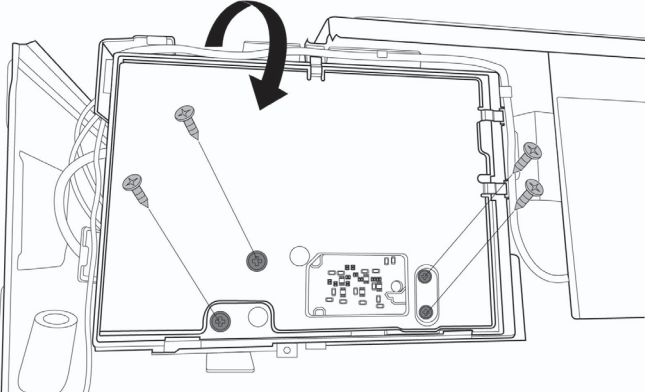
DISASSEMBLY INSTRUCTIONS (CONT)

PCB Board 6

PROCEDURES	ILLUSTRATION
<p>1. Unfasten the hooks (4) and then open the electronic control box.</p>	
<p>2. Remove the screws (8) on the electronic control board and then turn over the electronic control board.</p>	
<p>3. Remove the two blue wires connected with the four-way valve.</p> <p>4. Remove the connectors of the condenser coil temperature sensor (T3), outdoor ambient temperature sensor (T4) and the discharge temperature sensor (TP).</p> <p>5. Disconnect the electronic expansion valve wire.</p> <p>6. Remove the screws (4) and unfasten the hooks (3). Next, remove the main control board.</p> <p>7. Disconnect the connector for the outdoor DC fan from the IPM board.</p> <p>8. Remove the compressor connector.</p> <p>9. Remove the PFC inductor connector.</p> <p>10. Remove the connectors (3) between the IPM board and the main control board.</p> <p>11. Remove the screws (2) and unfasten the hooks (4) to release the IPM board.</p>	

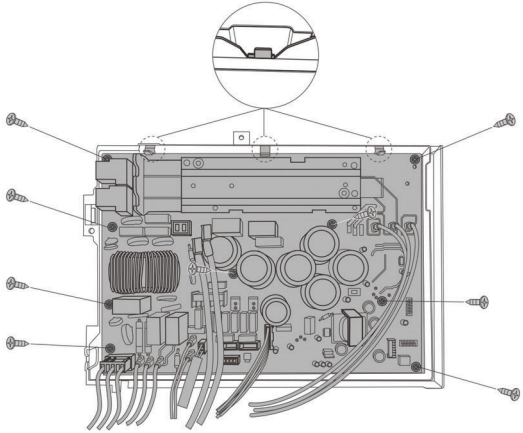
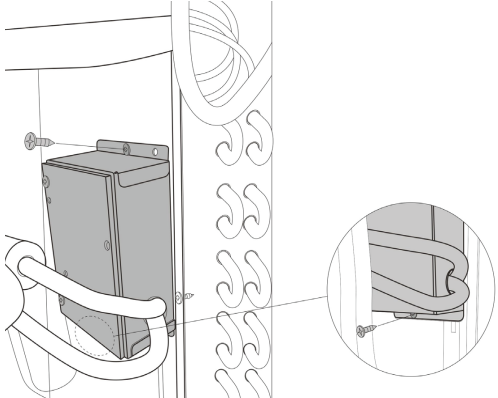
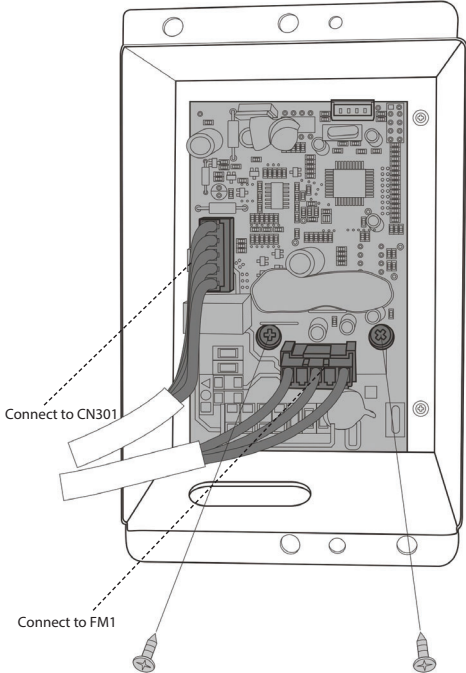
DISASSEMBLY INSTRUCTIONS (CONT)

PCB Board 7

PROCEDURES	ILLUSTRATION
<p>1. Unfasten the hooks (4) and then open the electronic control box cover.</p>	 <p>The illustration shows the back of the electronic control box. Four hooks are visible, which are used to secure the cover. The cover is shown being lifted away from the unit, with dashed lines indicating the original positions of the hooks.</p>
<p>2. Remove the screws (4) from the electronic control board and then turn over the electronic control board.</p>	 <p>The illustration shows the back of the unit with the cover removed. The electronic control board is visible, secured by four screws. A curved arrow indicates that the board should be turned over. The board is shown being lifted out of the unit.</p>

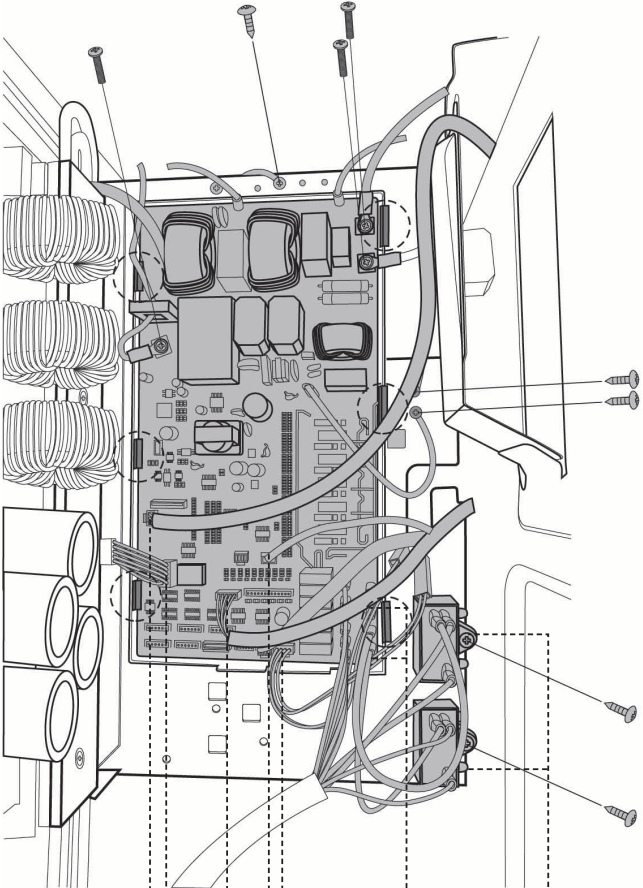
DISASSEMBLY INSTRUCTIONS (CONT)

PCB Board 7

PROCEDURES	ILLUSTRATION
<p>3. Remove the connectors.</p> <p>4. Remove the screws (9) and unfasten the hooks (3). Next, remove the electronic control board.</p>	 <p>The illustration shows the PCB board assembly with various components labeled. A circular callout at the top shows a close-up of a hook. Several screws are indicated by lines pointing to their locations on the board.</p>
<p>5. Remove the screws (2) and then remove the electronic control box subassembly on the partition board assembly.</p>	 <p>The illustration shows the electronic control box subassembly being removed from the partition board assembly. A circular callout shows a close-up of a screw being removed from the subassembly.</p>
<p>6. Remove the screws (2) and the connectors (2) and then remove the inverter control board.</p>	 <p>The illustration shows the inverter control board being removed from the PCB board assembly. Two screws are indicated by lines pointing to their locations. Two connectors are also indicated by lines pointing to their locations. Labels 'Connect to CN301' and 'Connect to FM1' are shown with dashed lines pointing to the respective connectors.</p>

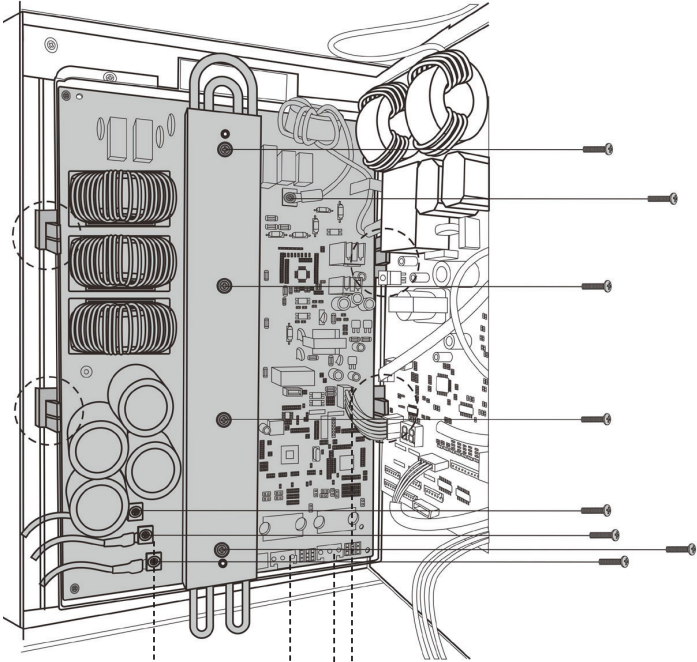
DISASSEMBLY INSTRUCTIONS (CONT)

PCB Board 8

PROCEDURES	ILLUSTRATION
<ol style="list-style-type: none">1. Remove the screws (2) to disconnect the supply wires.2. Remove the screws (3) to disconnect the ground wires.3. Disconnect the wires connected to the main control board.4. Disconnect the wires between the main control board and the IPM module board.5. Remove the screws (4) and unfasten the hooks (6) and then remove the main control board.6. Remove the screw (1) to remove the fan motor capacitor (1 screw for each capacitor).	 <p>connect to indoor unit T3&T4 TP AC Fan motors Fan motor capacitors</p> <p>connect to IPM low and high pressure switch</p>

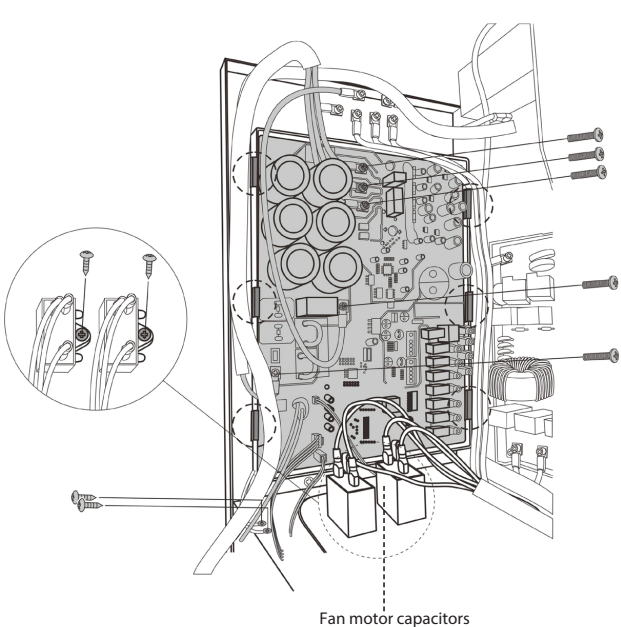
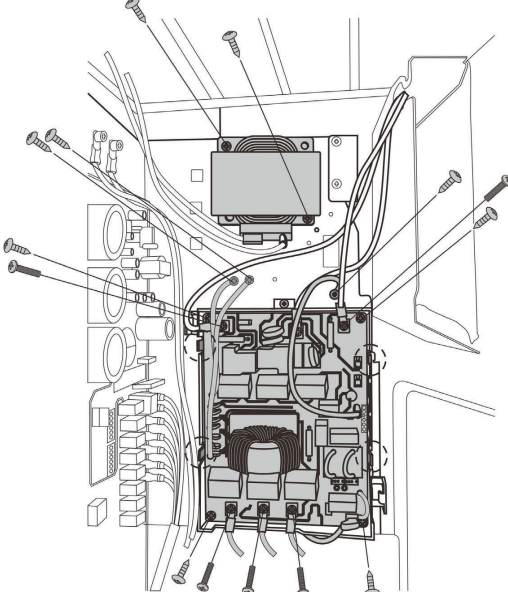
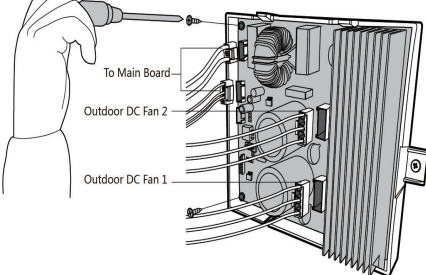
DISASSEMBLY INSTRUCTIONS (CONT)

PCB Board 8 (CONT)

PROCEDURES	ILLUSTRATION
<p>7. Remove the screws (2) to disconnect the power supply wires.</p> <p>8. Remove the screws (3) to disconnect the wires connected to the compressor.</p> <p>9. Remove the screws (3) to remove the radiator.</p> <p>10. Disconnect the wires between the IPM module board and the main control board.</p> <p>11. Remove the screws (4) and unfasten the hooks (4) and then remove the IPM module board.</p>	 <p>Compressor</p> <p>DC Fan motors connect to the main control board</p>

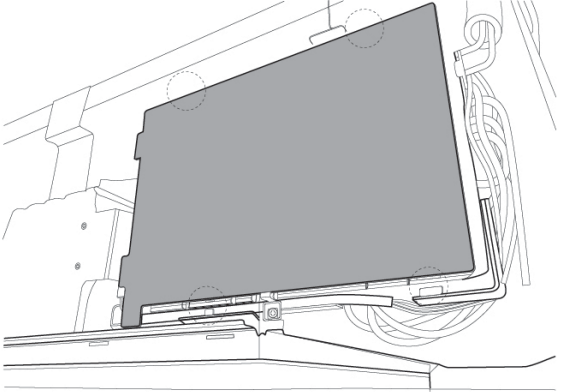
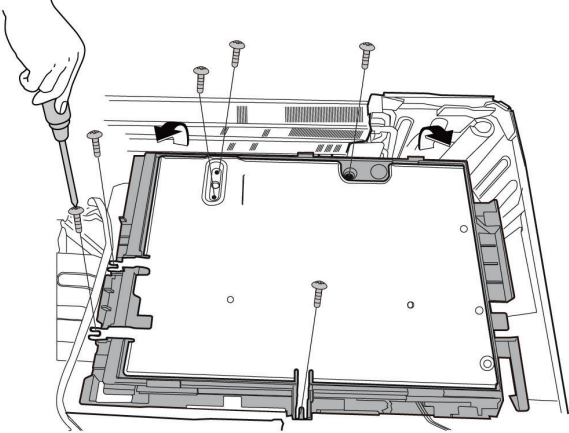
DISASSEMBLY INSTRUCTIONS (CONT)

PCB Board 9

PROCEDURES	ILLUSTRATION
<ol style="list-style-type: none"> 1. Remove the screws (3) to disconnect the wires connected to the compressor. 2. Remove the screws (2) to disconnect the power supply wires. 3. Disconnect the wires connected to the main control board. 4. Remove the screws (4) and unfasten the hooks (6) and then remove the main control board. 5. Remove the fan capacitor screw and then remove the fan capacitor (one screw for each capacitor). 	 <p style="text-align: center;">Fan motor capacitors</p>
<ol style="list-style-type: none"> 6. Remove the screws (3) to disconnect the power supply wires. 7. Remove the screws (3) to disconnect the ground wires. 8. Disconnect the wires connected to the main control board. 9. Remove the screws (4) and unfasten the hooks (4) to remove the filter board. 10. Remove the reactor screws (2) and remove it. 	
<ol style="list-style-type: none"> 11. Disconnect the wires connected to the main control board. 12. Remove the screws (2) and then remove the DC motor driver board. 	 <p style="text-align: center;">(for some models)</p>

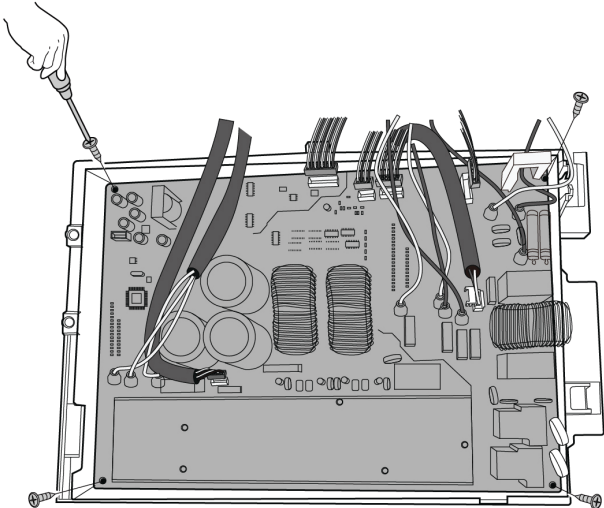
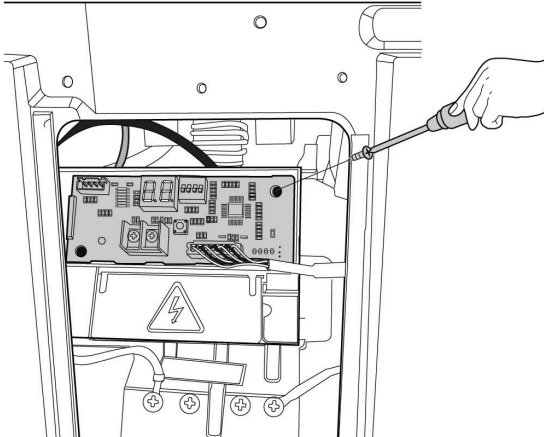
DISASSEMBLY INSTRUCTIONS (CONT)

PCB Board 10

PROCEDURES	ILLUSTRATION
<p>1. Unfasten the hooks (4) and then open the electronic control box cover.</p>	 <p>The illustration shows a perspective view of the electronic control box cover being detached from the main unit. The cover is a dark grey rectangular panel. Four dashed circles indicate the locations of hooks (4) that are being unfastened. The main unit is shown in a light grey line drawing style, with various components and wiring visible.</p>
<p>2. Remove the screws (6) on the electronic control board and then turn over the electronic control board.</p>	 <p>The illustration shows a top-down view of the electronic control board. A hand is using a screwdriver to remove screws (6) from the board. The board is a rectangular printed circuit board with various components and connectors. The screws are being removed from the top edge of the board. The board is shown in a light grey line drawing style, with various components and connectors visible.</p>

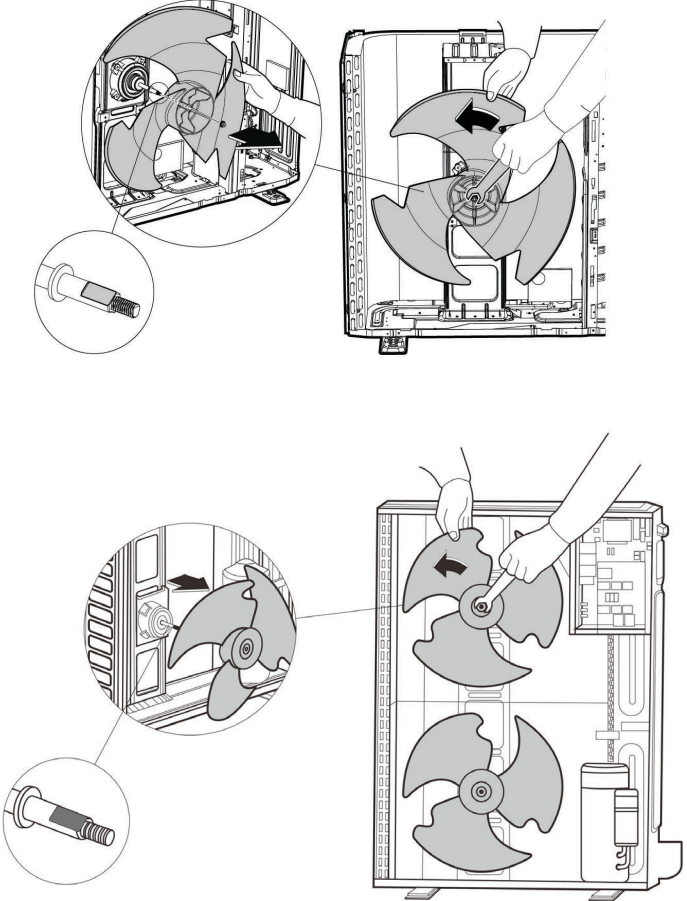
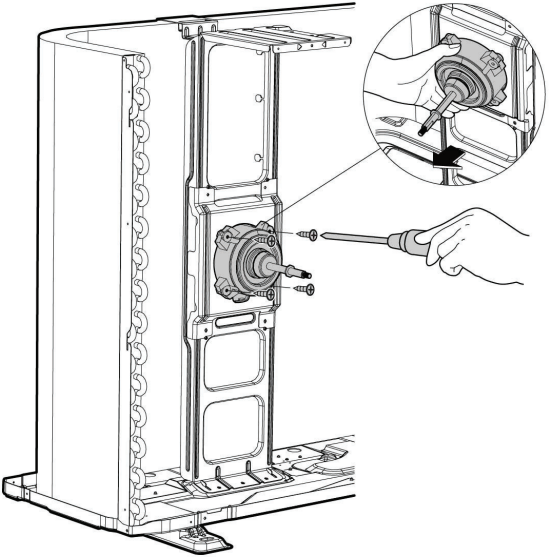
DISASSEMBLY INSTRUCTIONS (CONT)

PCB Board 10 (CONT)

PROCEDURES	ILLUSTRATION
<p>3. Pull out the connectors.</p> <p>4. Remove the screws (4) and then remove the electronic control board.</p>	 A line drawing showing the back of a control panel. A hand is using a screwdriver to remove a screw from the top-left corner of the electronic control board. The board is populated with various components including capacitors, resistors, and connectors. Several thick black cables are connected to the board.
<p>5. Remove the connector. Remove one screw and then remove the key board assembly on the terminal board.</p>	 A line drawing showing a close-up of the terminal board area. A hand is using a screwdriver to remove a screw from the right side of the terminal board. The terminal board has several screw terminals and a warning symbol (a lightning bolt in a triangle). Below the terminal board, there are three circular components, possibly fuses or relays.

DISASSEMBLY INSTRUCTIONS (CONT)

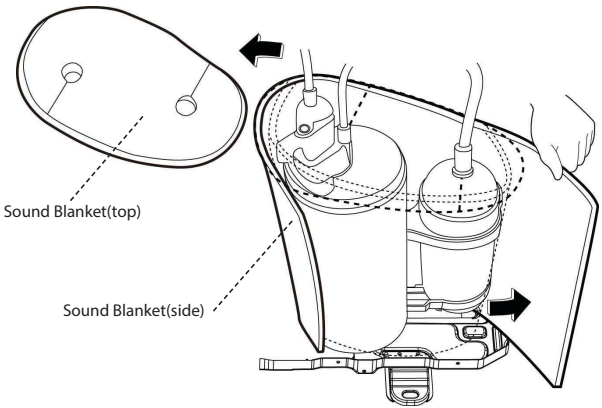
Fan Assembly

PROCEDURES	ILLUSTRATION
<ol style="list-style-type: none"><li data-bbox="121 741 602 768">1. Remove the nut securing the fan with a spanner.<li data-bbox="121 770 315 798">2. Remove the fan.	
<ol style="list-style-type: none"><li data-bbox="121 1598 589 1625">3. Remove the screws (4) securing the fan motor.<li data-bbox="121 1627 375 1654">4. Remove the fan motor.	

DISASSEMBLY INSTRUCTIONS (CONT)

Sound Blanket

NOTE: Remove the panel plate before disassembling the sound blanket.

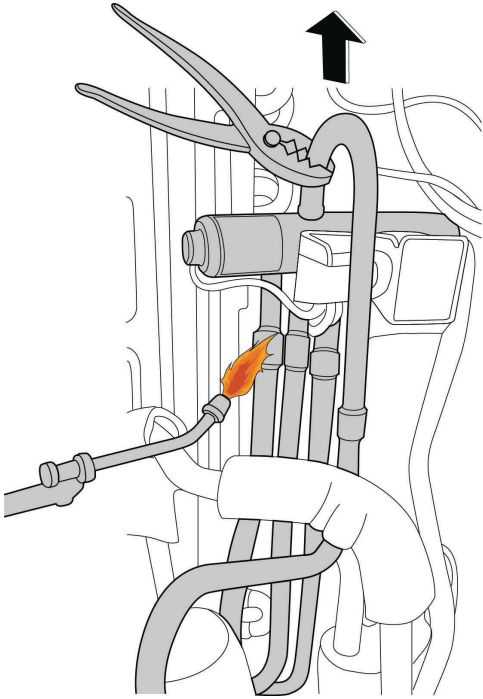
PROCEDURES	ILLUSTRATION
<p>1. Remove the sound blanket (side and top).</p>	 <p>The illustration shows a side view of the unit with two cylindrical components. A hand is shown pulling a rectangular sound blanket away from the side of the unit. An inset shows the top of the unit with a sound blanket being lifted. Labels with dashed lines point to the top and side blankets. Arrows indicate the direction of removal.</p>

Four-way Valve (For Heat Pump Models)

⚠ WARNING

EVACUATE THE SYSTEM
Evacuate the system and confirm that there is no refrigerant remaining in the system before removing the four-way valve and the compressor.

NOTE: Remove the panel plate and the four-way valve connection before disassembling the sound blanket.

PROCEDURES	ILLUSTRATION
<p>1. Heat up the brazed parts and then detach the four-way valve and the pipe. 2. Remove the four-way valve assembly with pliers.</p>	 <p>The illustration shows a close-up of the four-way valve assembly. A hand is using pliers to pull the valve away from the unit. A flame is shown heating the brazed connection. An arrow points upwards, indicating the direction of removal.</p>

DISASSEMBLY INSTRUCTIONS (CONT)

Compressor

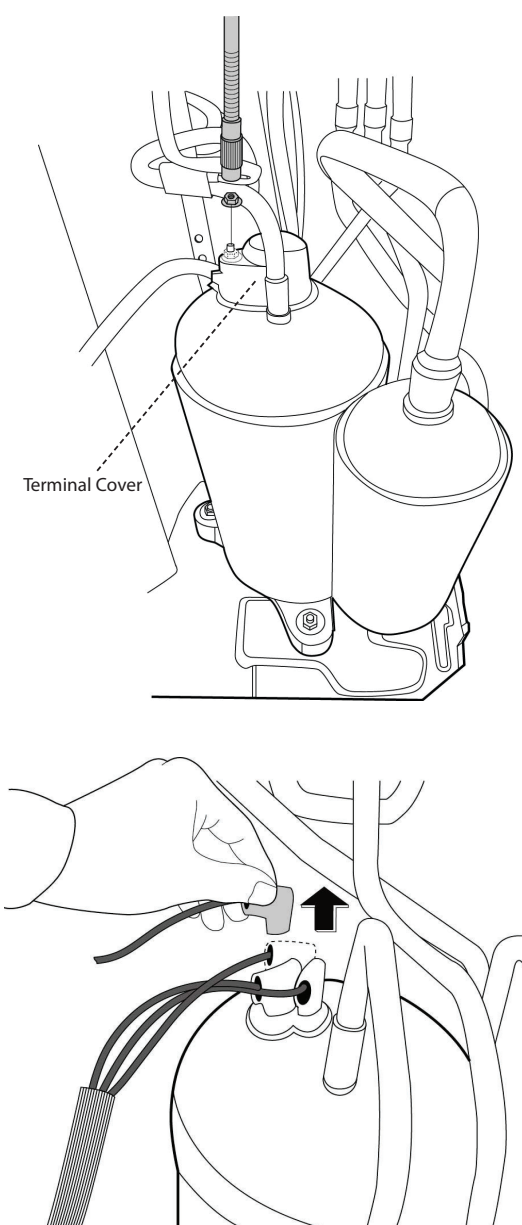


WARNING

EVACUATE THE SYSTEM

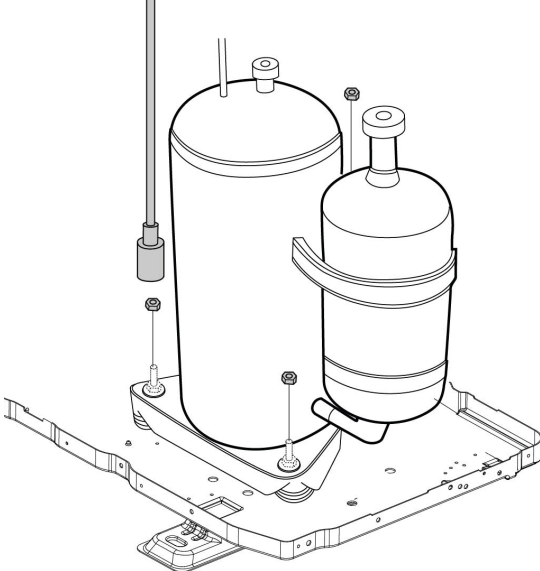
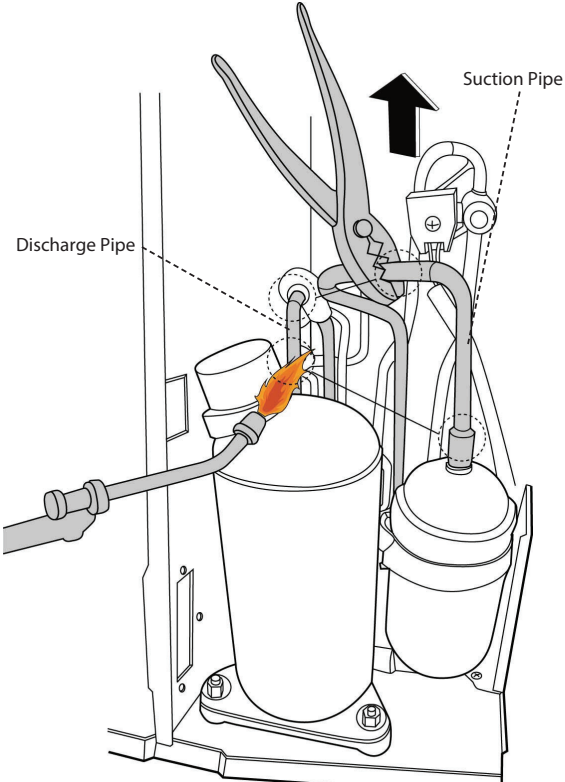
Evacuate the system and confirm that there is no refrigerant remaining in the system before removing the four-way valve and the compressor.

NOTE: Remove the panel plate and the compressor connection to the PCB before disassembling the sound blanket.

PROCEDURES	ILLUSTRATION
<ol style="list-style-type: none">1. Remove the terminal cover flange nut and then remove the terminal cover.2. Disconnect the connectors.	 <p>The top illustration shows a compressor with a terminal cover. A dashed line points to the terminal cover, which is labeled 'Terminal Cover'. The bottom illustration shows a hand lifting the terminal cover away from the compressor, with an arrow pointing upwards to indicate the direction of movement.</p>

DISASSEMBLY INSTRUCTIONS (CONT)

Compressor

PROCEDURES	ILLUSTRATION
<p>3. Remove the hex nuts and washers securing the compressor.</p>	 <p>The illustration shows a compressor unit mounted on a base pan assembly. A vertical bolt with a hex nut and washer is being removed from the top of the compressor. Another bolt is shown being removed from the side of the compressor. The base pan assembly is shown with several mounting points and a control panel on the right side.</p>
<p>4. Heat up the brazed parts and then remove the discharge pipe and the suction pipe. 5. Lift the compressor from the base pan assembly with pliers.</p>	 <p>The illustration shows a compressor unit mounted on a base pan assembly. A torch is applied to a brazed joint on the discharge pipe. A pair of pliers is used to lift the compressor unit from the base pan assembly. The suction pipe is also shown. Labels include 'Discharge Pipe' and 'Suction Pipe' with arrows pointing to the respective pipes. An upward arrow indicates the direction of lifting.</p>

