



SERVICE MANUAL

AFLEX-C-12-110

AFLEX-C-12

AFLEX-C-18

AFLEX-C-24

AFLEX-C-36

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1.Range & Conditions

Operating Range

Operating Modes	Temperature	Indoor Temperature	Outdoor Temperature
Cooling	Max.	32°C DB/27°C WB	43°C DB/26°C WB
	Min.	21°C DB/15°C WB	21°C DB
Heating	Max.	27°C DB	24°C DB/18°C WB
	Min.	20°C DB	-5°C DB/-6°C WB

Operating Conditions

	Rated Operating Conditions	
	Indoor Temperature	Outdoor Temperature
Cooling	27°C DB/19°C WB	35°C DB/24°C WB
Tubing Length (m)	3	
	Max. Operating Value	
	Indoor Temperature	Outdoor Temperature
Cooling	32°C DB/23°C WB	43°C DB
Tubing Length (m)	3	

DB: Dry-bulb temperature
WB: Wet-bulb temperature

2. Control Specifications

2.1 Sleep mode

When the sleep mode is set by remote, the set temperature will increase 1°C after running 1 hour in Cooling or Dehumidifying mode; the set temperature will decrease 1°C after running 1 hour in heating mode. (Note: Display set temperature is unaltered) When the air conditioner runs in sleep mode, the Max. indoor fan speed is set at medium level. Note: The fan speed is set to be at low level, but the fan speed will turn into medium level when in freeze-prevention mode.

2.2 Operation for dryness enzyme-prevention (Optional)

When the unit is turned off in cooling mode, the indoor unit will continue run in low fan speed for about 3 minutes to remove the partial moisture in the room.

2.3 Cool-airflow-prevention while heating

Avoid cool airflow: At the beginning of heating mode, if the temperature of indoor pipe coil is lower than the prescribed value, and compressor stops or running time less than the prescribed time (If exceeding the prescribed time, the unit will exist cool-airflow-prevention.), the unit is in cool-airflow-prevention condition, then louver blades can not swing and indoor fan motor stops. The PAUSE indicator lights during cool-airflow-prevention period.

2.4 Delay-starting protection for the compressor

Compress will restart working 3 minutes later the turn-off of compressor or power-off to keep the pressure balance of the cooling system.

2.5 Freeze-prevention

To prevent indoor heat exchanger freezing in cool and dry operation.

When $Trc \leq 3^{\circ}\text{C}$, the unit will enter freeze-prevention operation. If indoor fan speed is at low or breeze level, it will turn to medium speed automatically; if indoor fan speed is at medium speed, it will turn to high speed; The air conditioner will exit Freeze-prevention operation when $Trc > 10^{\circ}\text{C}$, indoor fan motor runs at the set fan speed. Compressor will stop running when it runs at least 10 minutes and $Trc \leq 0^{\circ}\text{C}$. If the off-time of compressor is for more than 6 minutes or $Trc \geq 10^{\circ}\text{C}$, and the compressor stops running for more than 3 minutes. Compressor and outdoor fan motor will restart working. The air conditioner will exit Freeze-prevention operation, and indoor fan motor is running at the set speed.

2.6 UVC function (optional)

Press the UVC bottom on remote controller to start or stop UVC sterilize function.

Note:

1. This appliance contains a UVC lamp.
2. Unintended use of the appliance or damage to the housing may result in the escape of dangerous UVC radiation. UVC radiation may, even in small doses, cause harm to the eyes and skin.
3. Appliances that are obviously damaged must not be operated. Prior to cleaning or other maintenance, the appliance must be disconnected from the supply mains.

2.7 Failure code display and protection

Code 11: room temperature Code 12: indoor coil pipe temperature

Code 13: outdoor coil pipe temperature(Not available)

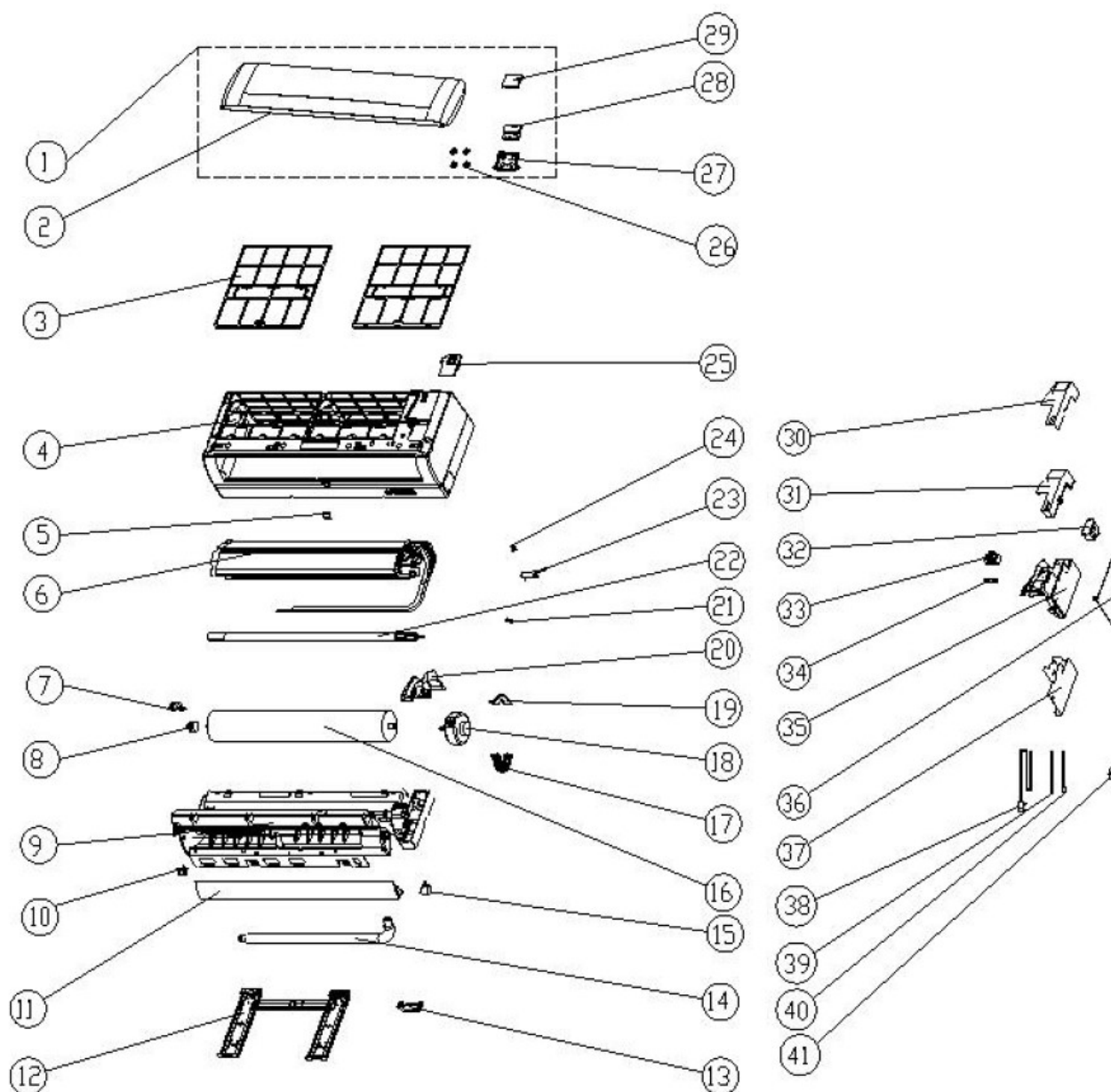
B. Code 14: abnormal information

Error code	Troubleshooting	Solution
F1	Indoor ambient temp sensor short/open	Measuring the sensor resistance value ,if the resistance is infinity or zero,it should be replaced by a new one.
F2	Indoor mid-pipe temp sensor short/open	
F3	Outdoor mid-pipe temp sensor short/open	
F4	Air conditioner indoor fan malfunction	Check the connection of the fan and the Indoor main board, including the fan line and feedback line.
F6	Indoor EE failed	Re-burn EE parameters or replace a new one.
P1	Outdoor overload protection	Indoor power supply live wire does not pass through the current coil;Also,the screen will display when the unit running in high load.
P2	Heating overload protection	It is normal phenomenon when the unit running in high load.
P3	Anti-freezing protection	

If the problem is not solved,please contact the professional person or supplier.

3. Exploded view

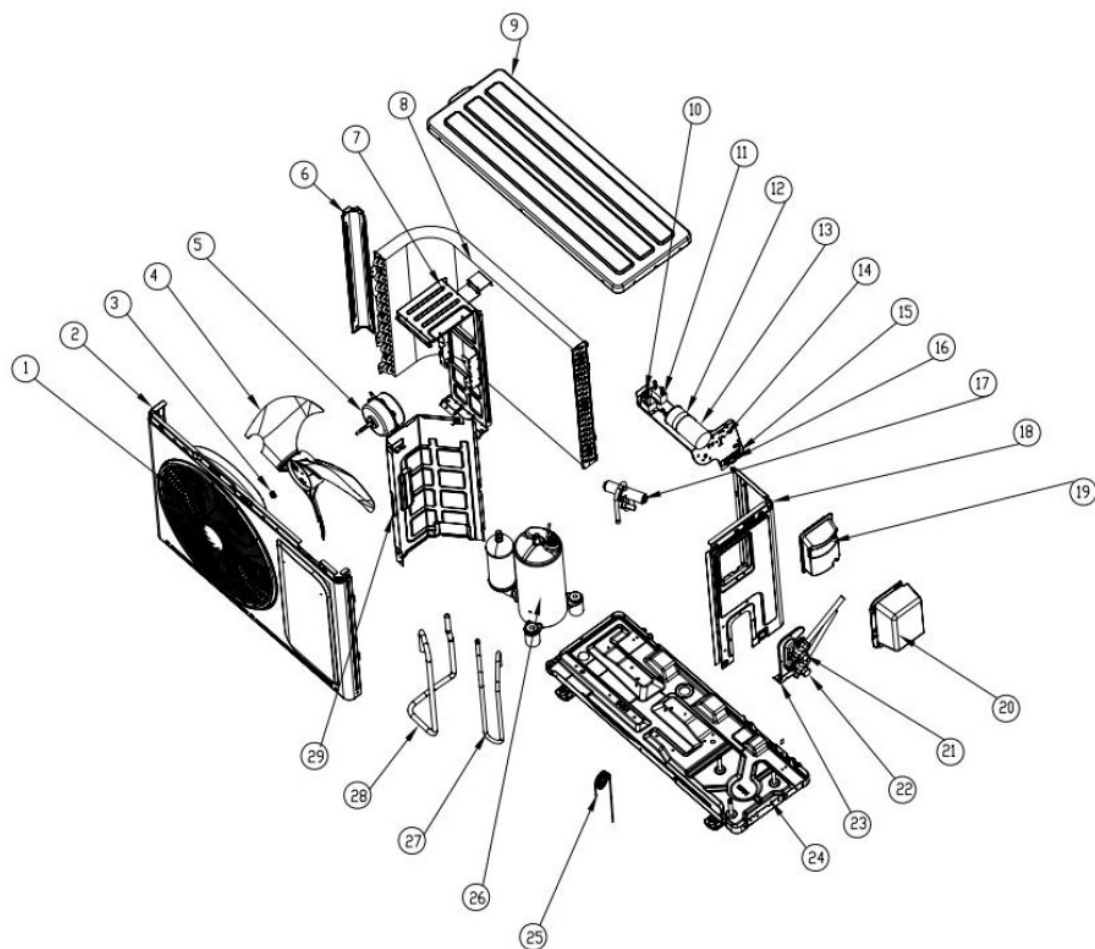
3.1 Exploded view for indoor unit



NO.	Materials Description	NO.	Materials Description
1	Front panel sub-assembly	22	electric heating tube
2	Front panel	23	Positive and negative ion generate
3	Air filter	24	Sensor bracket
4	Medium frame sub-assembly	25	Electric control board
5	Screw cover	26	Spring
6	Evaporator sub-assembly	27	Display box
7	pressure plate	28	Display P.C.B assembly
8	Bearing	29	WIFI sub-assembly
9	Bottom frame sub-assembly	30	Electric control box board(metal)
10	Stepping motor	31	Cover of electric control box
11	Blade	32	Transformer
12	Wall-Mounting frame	33	Terminal board
13	Pipe pressure plate	34	Wire pressure plate
14	Drainage pipe sub-assembly	35	Electric control box
15	Stepping motor	36	P.C.B assembly
16	Cross-flow fan	37	Electric control box(metal shell)
17	Motor Bracket (bottom)	38	Power line
18	Fan motor	39	Room temperature sensor
19	Motor Bracket (top)	40	Pipe temperature sensor
20	Motor cover	41	Negative ion generator
21	Negative ion generator		

NOTE:Actual product may be different from above graphics,please refer to actual products.

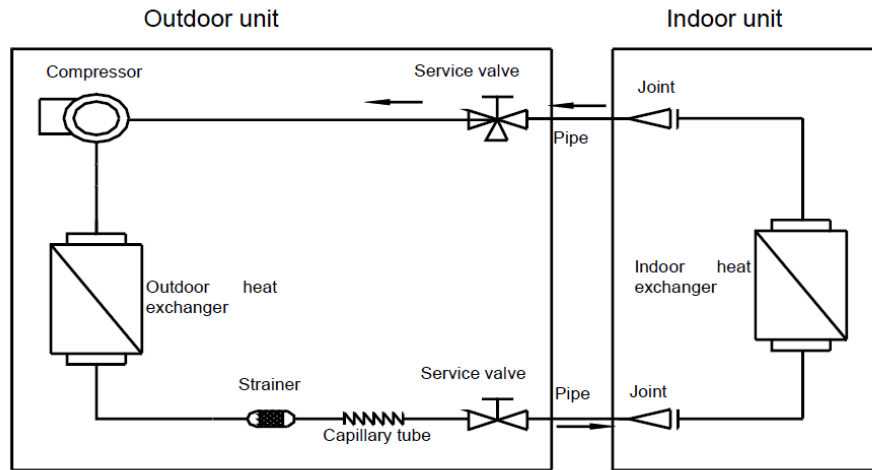
3.2 Exploded view for outdoor unit



NO	Materials Description
1	The front net cover
2	The front panel
3	Nut assembly
4	Axial flow fan
5	Fan motor
6	Corner mounting plate
7	The motor bracket
8	Condenser assembly
9	Cover board
10	membrane capacitor(compressor)
11	A.C contractor
12	capacitor clip
13	membrane capacitor(fan motor)
14	electric control installation plate
15	Wire clamp
16	Clamp plate on wire
17	4-way reversing valve (heating model)
18	Right side panel
19	Handle assembly
20	Valve cover
21	1/2 Shut-off valve
22	1/4 Shut-off valve
23	Valve mounting plate
24	Floor assembly
25	Capillary Components
26	Compressor
27	Suction piping
28	Gas exhaust piping
29	Soundproof board

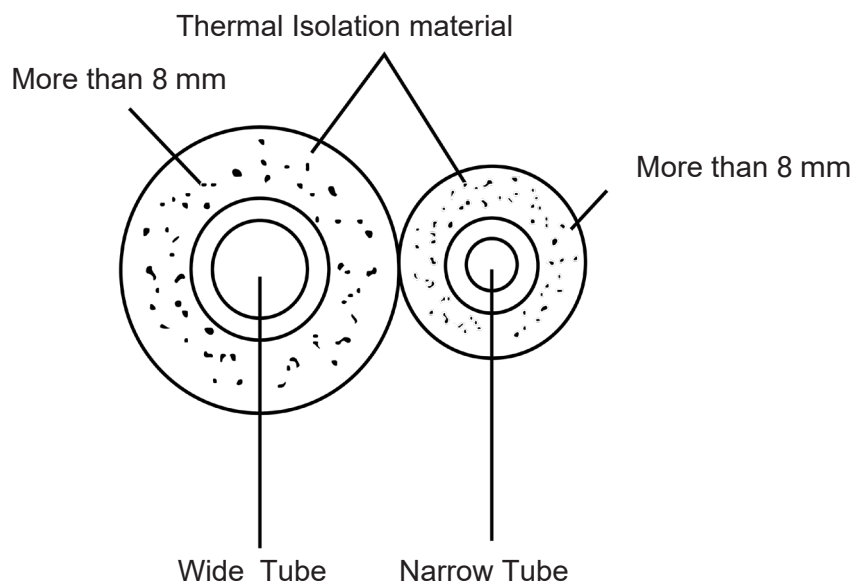
NOTE: Actual product may be different from above graphics,please refer to actual products.

4. Refrigerant Flow Diagram



Thermal insulating of refrigerant pipeline

To prevent heat loss and condensed water from dropping on the floor, the wide and narrow tube of air conditioner should be wrapped with thermal insulating materials. For using capillary tube, and the tubes are in low temperature, the thickness of thermal insulating materials shall be more than 8mm.



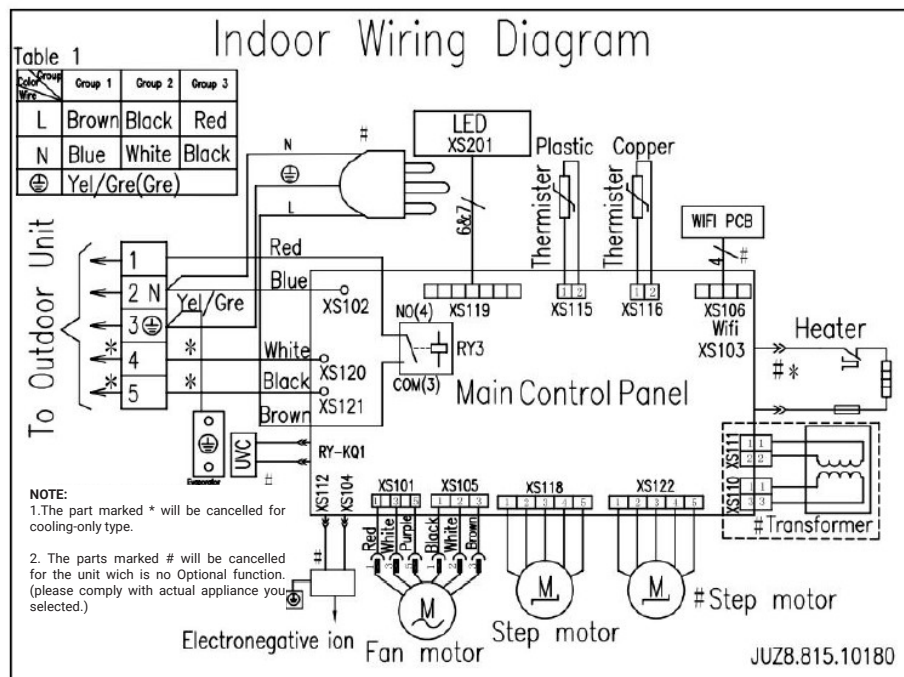
5. Circuit Diagram

5.1 Electrical wiring diagram for indoor unit

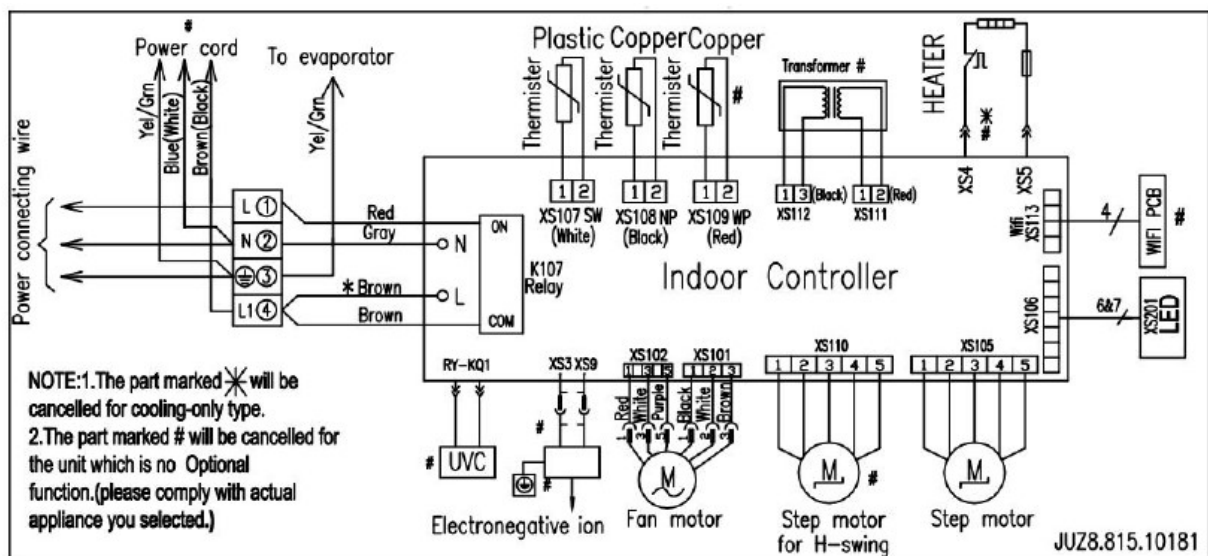
WARNING

To avoid electrical shock hazard, be sure to disconnect power before checking, servicing and/or cleaning any electrical parts.

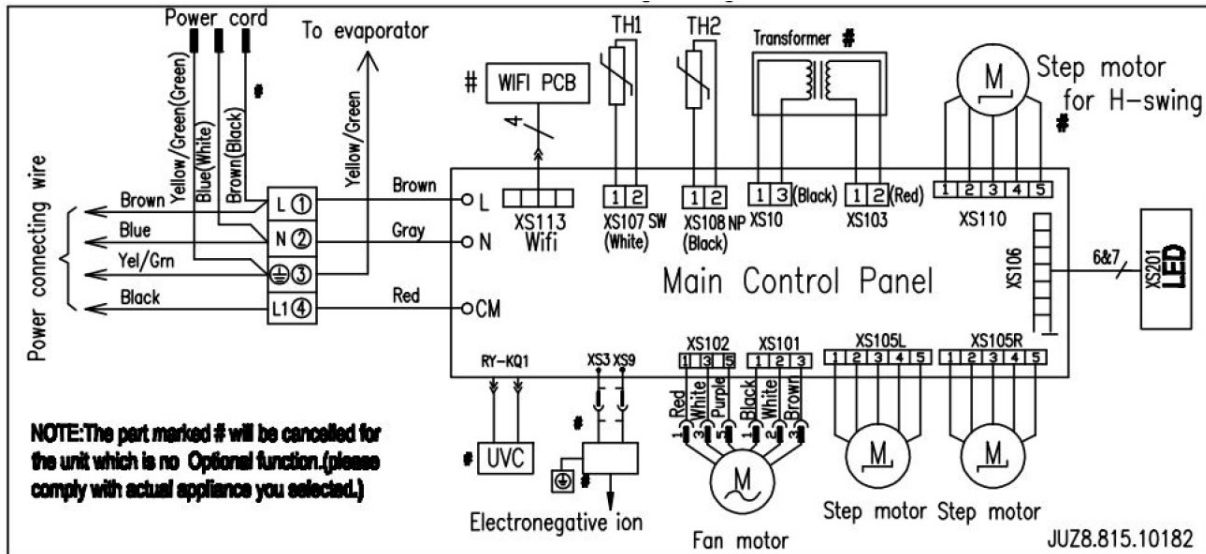
9K,12K,18K:



24K:



36K:

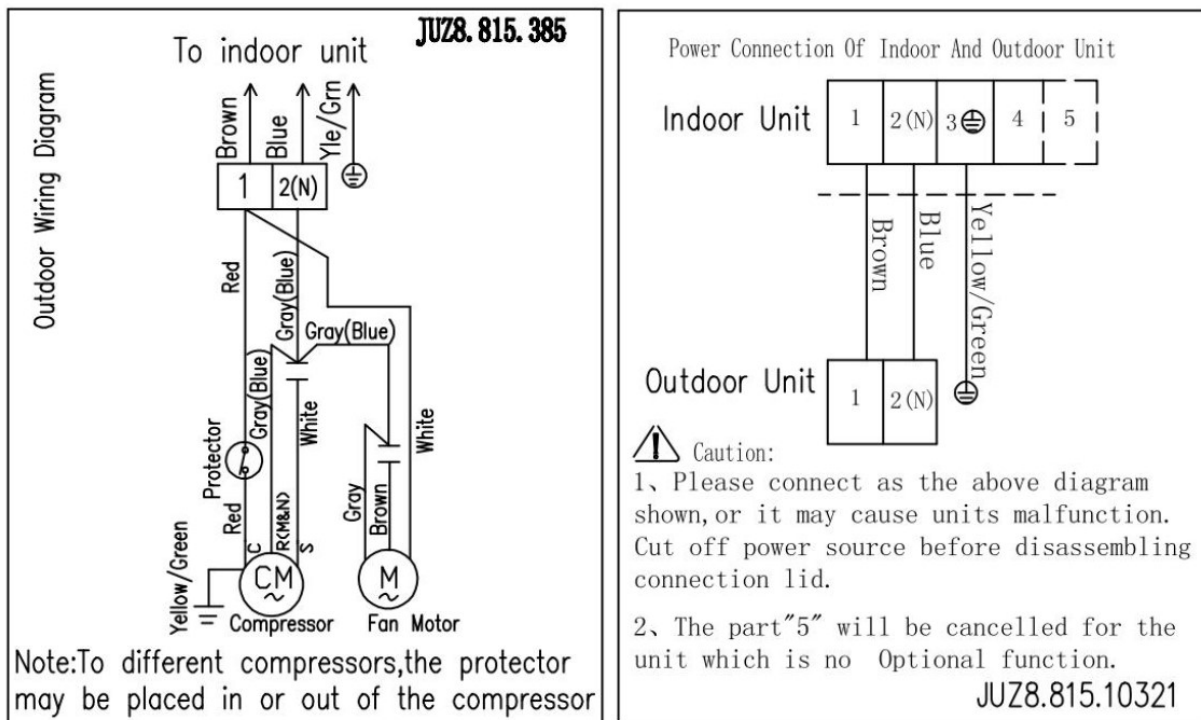


5.2 Electrical wiring diagram for outdoor unit

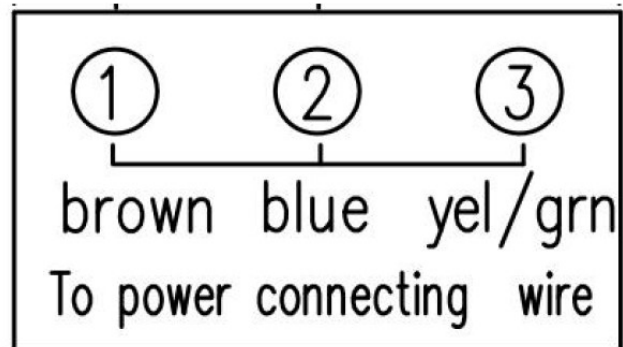
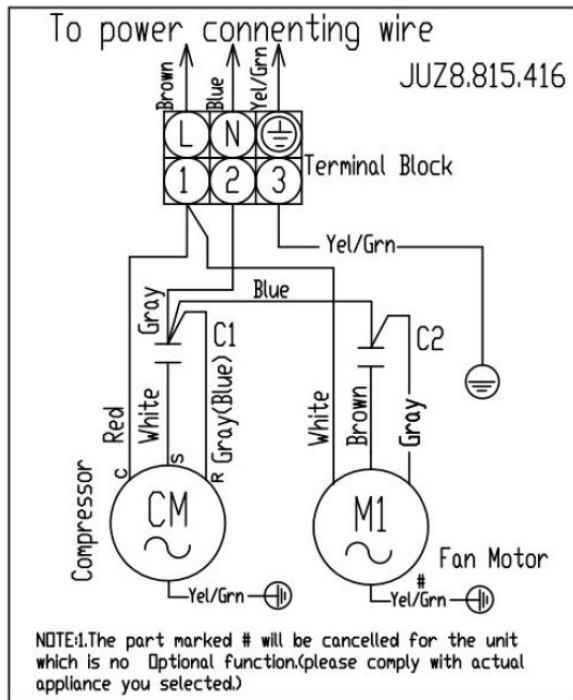
WARNING

To avoid electrical shock hazard, be sure to disconnect power before checking, servicing and/or cleaning any electrical parts.

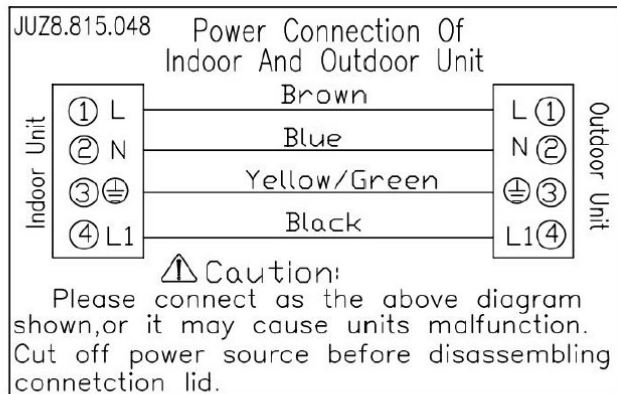
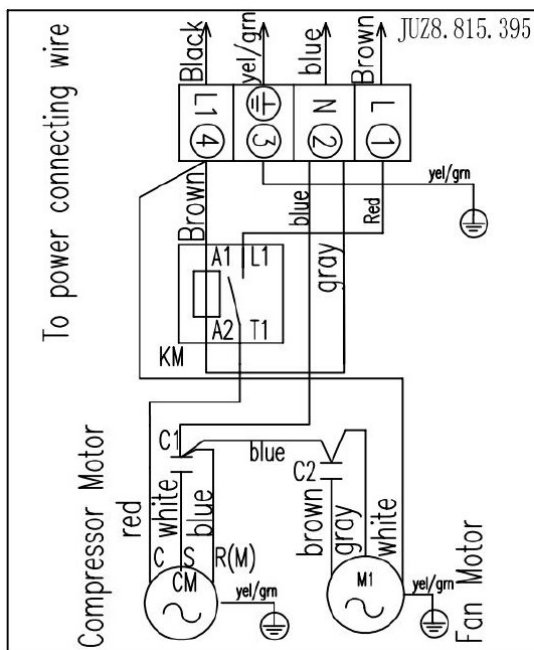
9K,12K,18K:



24k:



36k:



6. Troubleshooting

6.1 Check before troubleshooting

WARNING

**High-voltage will result in electric shock or death.
Always cut off the power before checking and maintaining.**

6.1.1 Check power line

To check whether the power line is connected correctly to the terminal No 1 which is on the terminal block of the indoor unit.

6.1.2 Check unit wiring

To check whether the inter-unit wires are connected correctly.

6.1.3 Check power supply

To check whether the power supply is in the specified range.

6.1.4 Check connector and lead wire of indoor and outdoor units.

To check whether the insulating cover of the lead wire is damaged.

To check whether the lead wire and the connector are connected well

To check wires.

6.2 The air conditioner does not work

6.2.1 Leakage protector is open or fuse is burnt.

A. Setting leakage protector to "ON", it opens immediately (can not reset).

There is possibility of ground fault.

Check insulation resistance (The insulation resistance shall be more than 2MΩ).

B...Leakage protector is **OFF**.

Disconnect unit wires from terminal block of outdoor unit. And measure insulation resistance of outdoor unit.

No

Poor insulation performance

Measure the insulation resistance of the electric parts of outdoor unit.

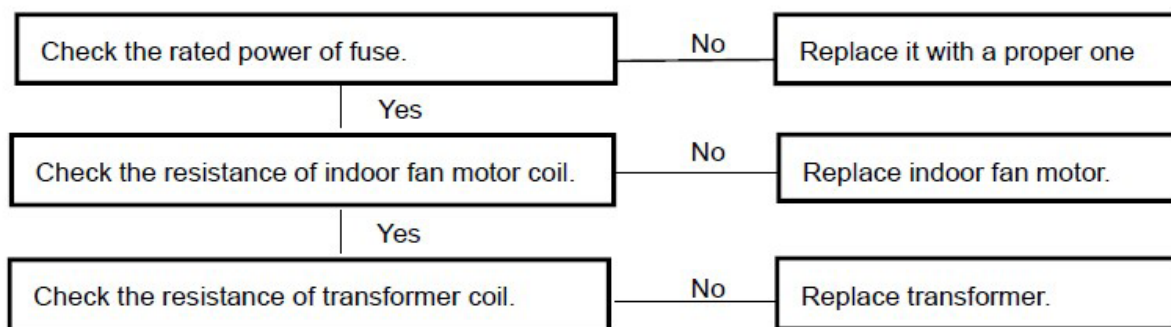
Disconnect unit wires from terminal block of indoor unit. Unplug the unit and measure the insulation resistance of indoor unit.

No

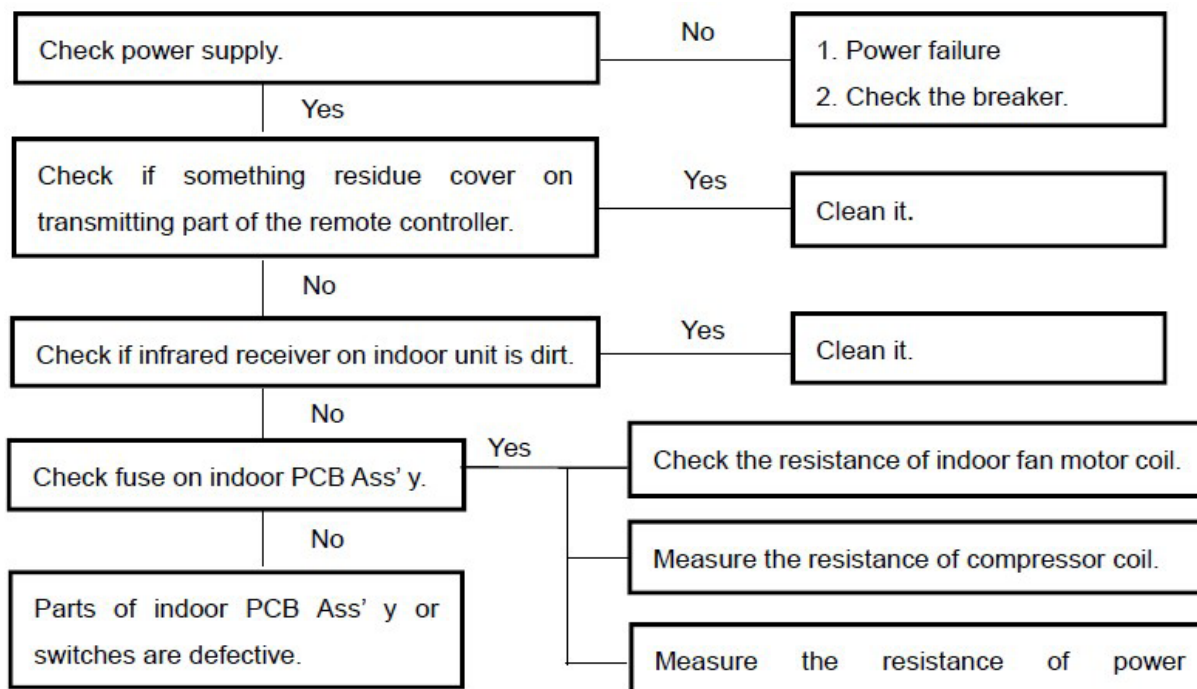
Poor insulation performance

Measure the insulation resistance of the electric parts of outdoor unit.

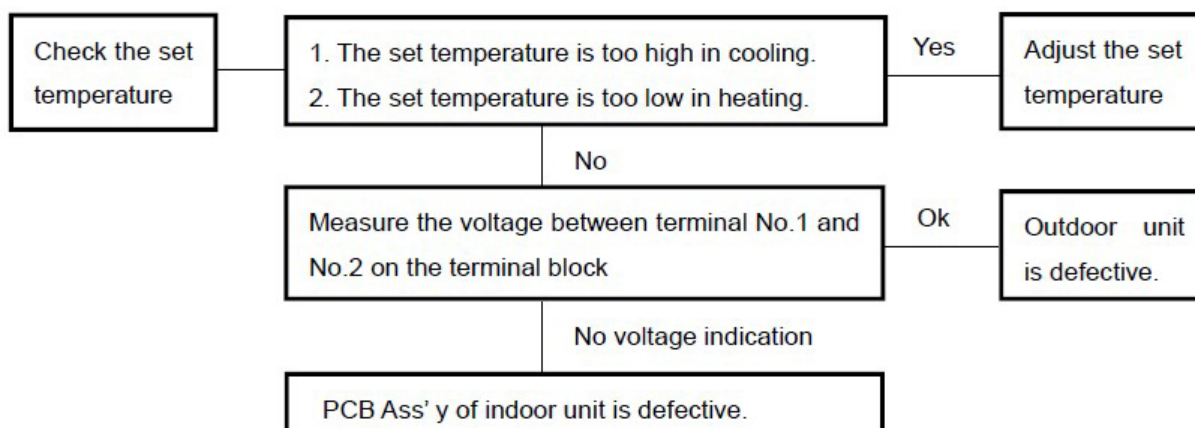
C. The fuse is open in several minutes after turning air conditioner on.



6.2.2 The indoor and outdoor units do not work



6.2.3 Only outdoor unit does not work

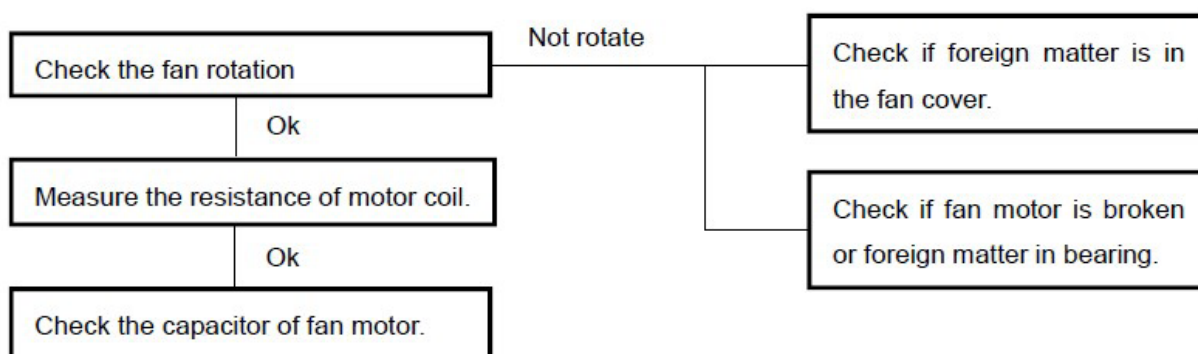


6.2.4 Indoor unit does not work.

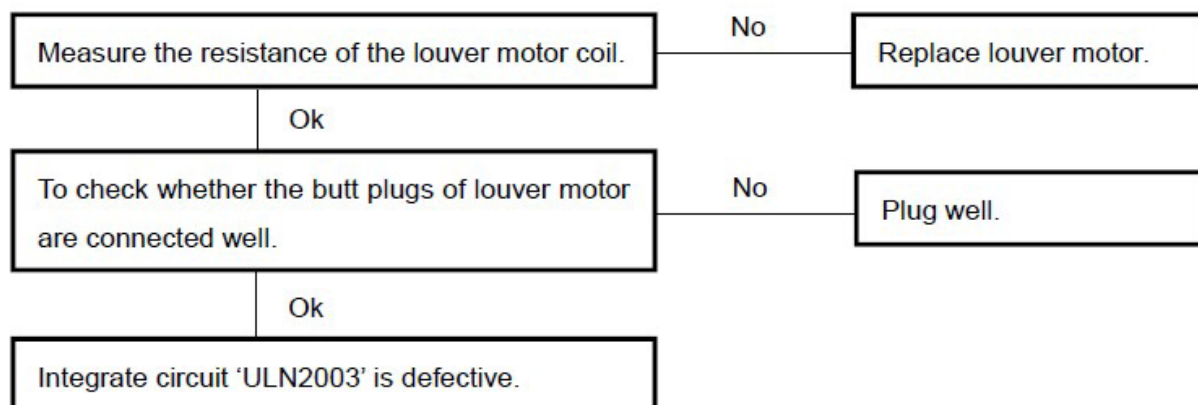
Indoor PCB Ass'y is defective.

6.3 Some parts of the air conditioner do not work

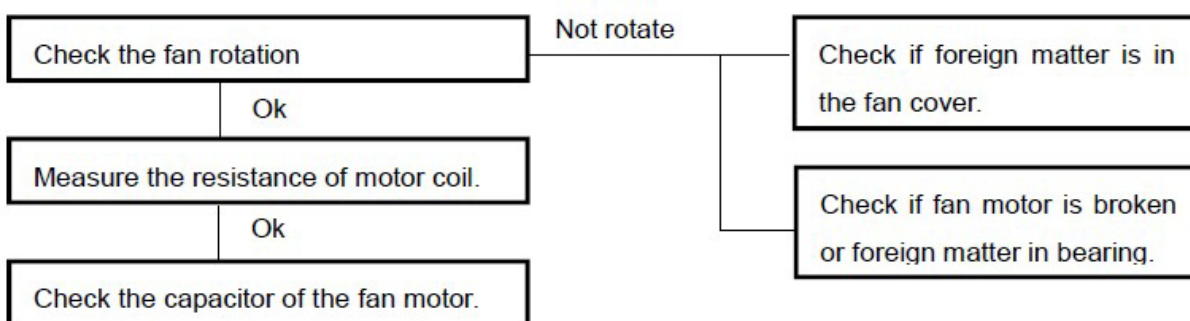
6.3.1 Only indoor fan does not work.



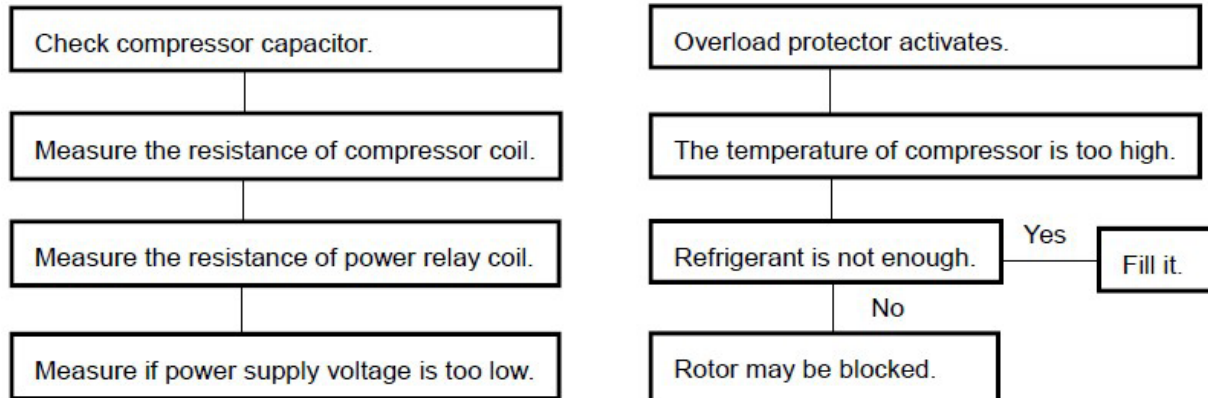
6.3.2 Only louver motor does not run



6.3.3 Only outdoor fan motor does not run

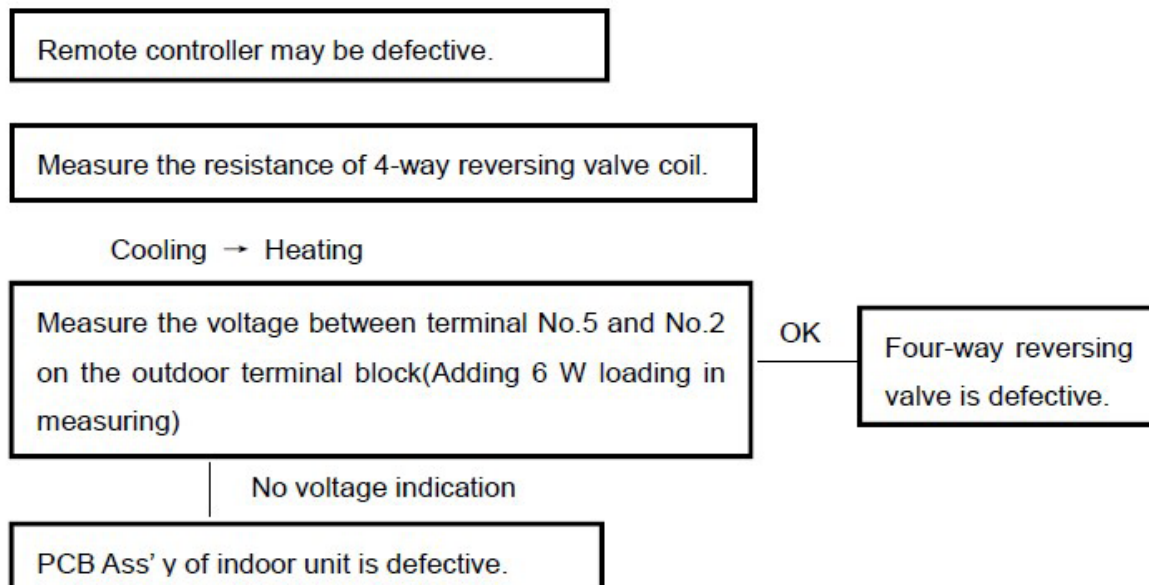


6.3.4 Compressor does not run

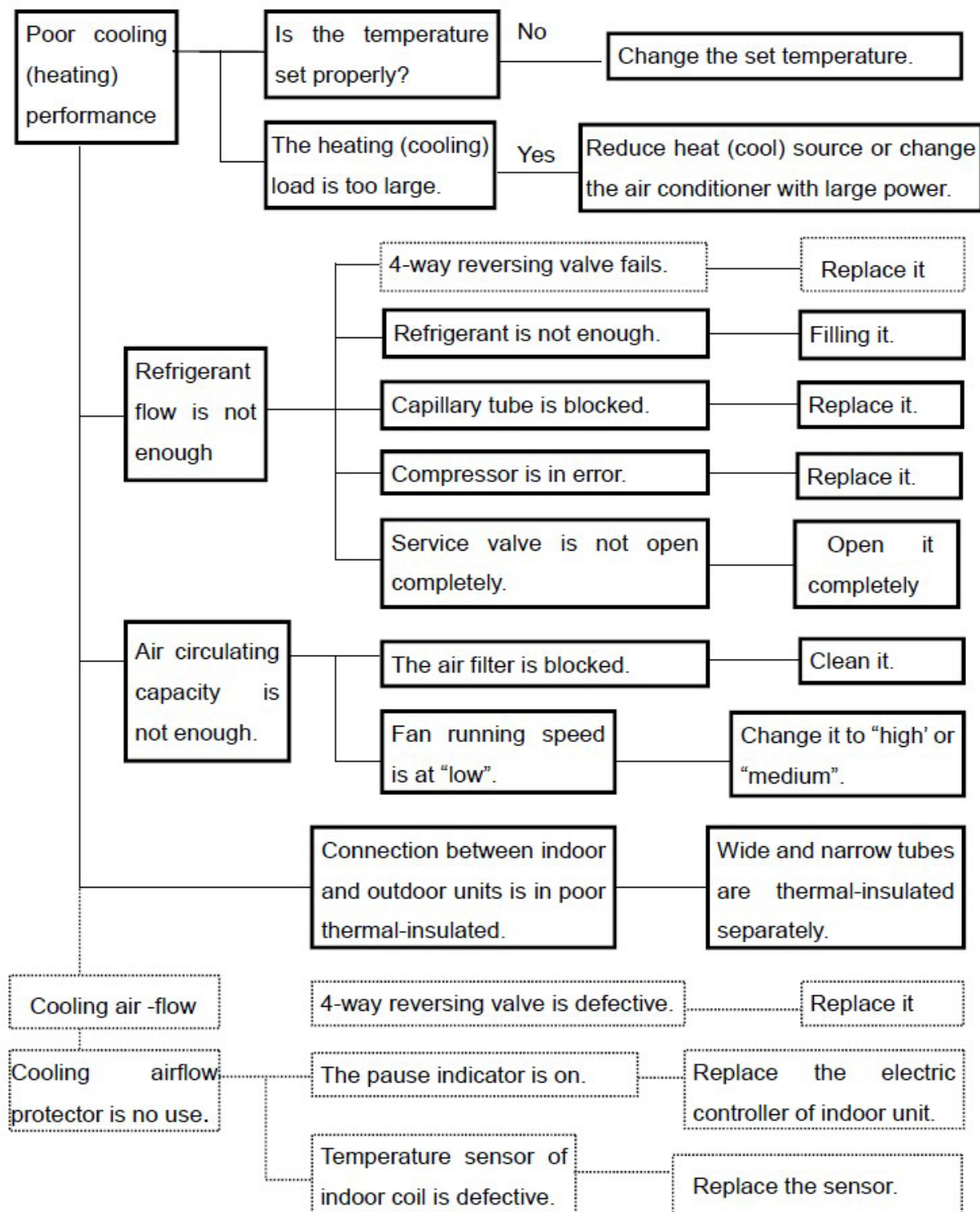


6.4 Air conditioner operates, but abnormalities are observed

6.4.1 Poor shifting between cooling and heating. (Inapplicable for cooling-only type)



6.4.2 Poor cooling or heating phenomena



NOTE: " " Inapplicable for cooling-only type.

6.4.3 Over cooling or heating.

Check the set temperature.

7. Checking Electrical Components

7.1 Measure insulation resistance

The insulation is in good condition if the resistance exceeds 2 MΩ.

7.1.1 Power supply wires

Clamp the ground pins of the power plug with the lead clip of the insulation resistance tester and measure the resistance by placing a probe on either of the power wires. (Fig. 1)

Then measure the resistance between the ground wire and the other power wire. (Fig. 1)

7.1.2 Indoor unit

Clamp an aluminum plate fin or copper tube with the lead clip of the insulation resistance tester and measure the resistance by placing a probe on each terminal screw on the terminal plate. (Fig. 2)

Note that the ground line terminal should be skipped for the check.

7.1.3 Outdoor unit

Clamp a metallic part of the unit with the lead clip of the insulation resistance tester and measure the resistance by placing a probe on each terminal screw where power supply lines are connected on the terminal plate. (Fig. 2)

Fig. 1

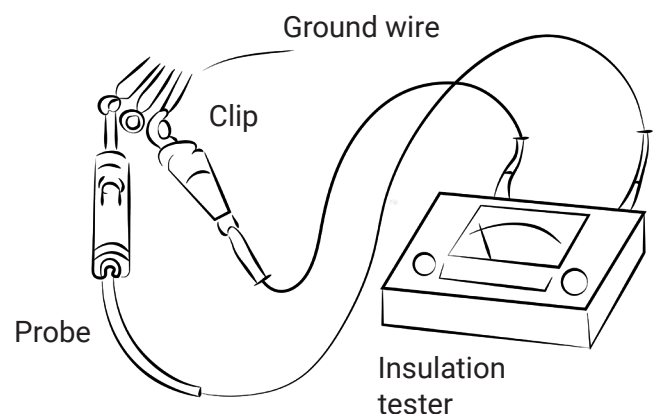
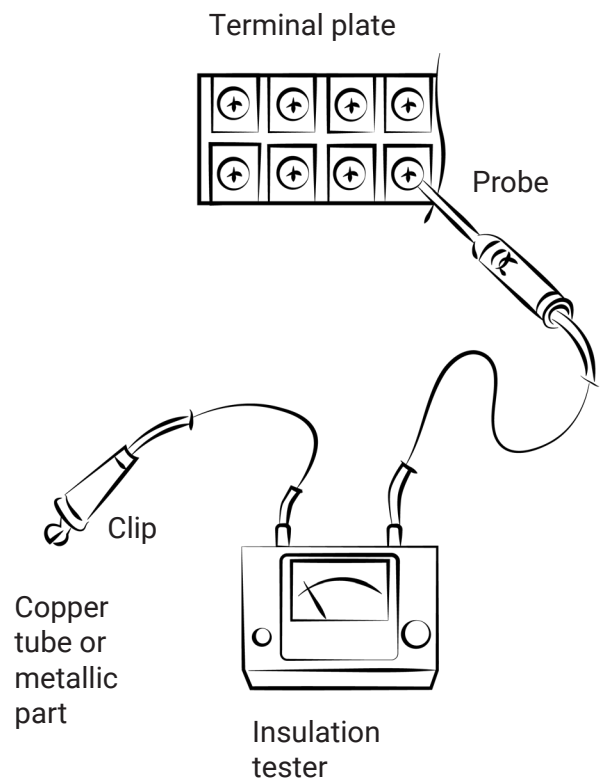


Fig. 2



NOTE: Refer to electric wiring diagram. If the probe can't enter the poles because the hole is too narrow then use a probe with a thinner pin.

7.1.4 Measurement of Insulation Resistance for Electrical Parts

Disconnect the lead wires of the desired electric part from terminal plate. Capacitor, etc.

Similarly disconnect the connector. Then measure the insulation resistance. (Fig. 3 and 4)

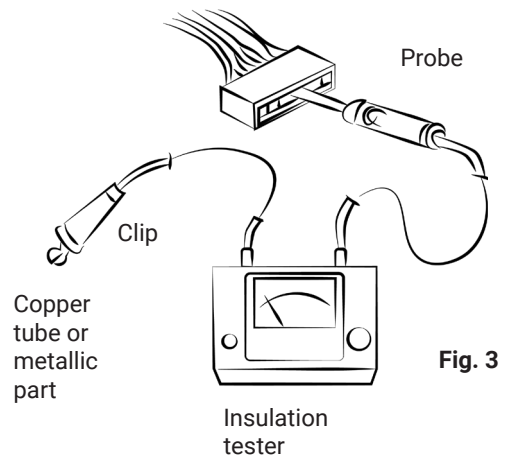


Fig. 3

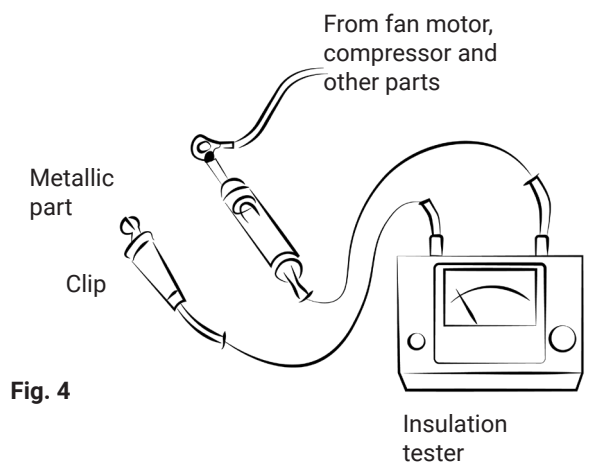


Fig. 4

7.2 Checking continuity of fuse on PCB ass'y

Remove the PCB ass'y from the electrical component box. Then pull out the fuse from the PCB ass'y. (Fig. 5)

Check for continuity using a multimeter as shown in Fig. 6

7.3 Checking motor capacitor

Remove the lead wires from the capacitor terminals, and then place a probe on the capacitor terminals as shown in Fig. 7. Observe the deflection of the pointer setting the resistance measuring range of the multimeter to the maximum value.

The capacitor is "good" if the pointer bounces to a great extent and then gradually returns to its original position.

The range of deflection and deflection time differ according to the capacity of the capacitor.

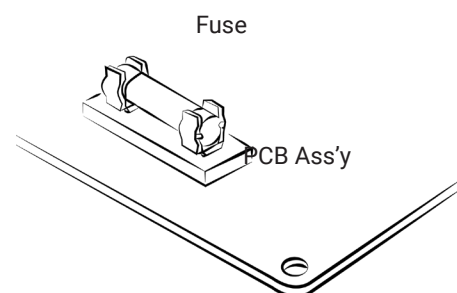


Fig. 5

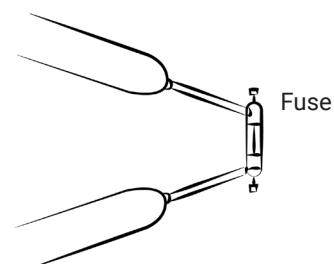


Fig. 6