

5. Troubleshooting

Troubleshooting procedures	
1	• Check the items to check first time.
2	• Check the self-diagnostic mode and action method.
3	• Check in detail the troubled parts according to the sequence of "trouble shooting by the phenomena".

5-1 The items to be checked first time

- 1) Is proper the power voltage ?
The power voltage shall be of 198V-264V 50Hz.
- 2) Is the cable connected correctly between the indoor and outdoor unit?
The indoor and outdoor units shall be connected with 8wires including the grounding.
Check whether the wires of indoor and outdoor units are connected with the correct wire no. and terminal board no.
- 3) The phenomena in the following table is not related to the fault of air conditioner.

No	Phenomena	Description
1	- Heating operation The compressor does not operated even though the set temperature is set higher than the indoor temperature. - Cooling operation The compressor does not operated even though the set temperature is set lower than the indoor temperature.	- The operation of compressor is delayed for 3minutes for the protection of compressor when it is off and on again. - The compressor operates normally after 3 minutes even the Initial power is on.
2	- Fan speed is not adjusted during the auto, dry, turbo and long operation.	- The fan speed is automatically adjusted during the auto, dry, turbo and long operation.
3	- The temperature is not adjusted during the auto, dry, turbo and long and fan operation.	- The set temperature is automatically set during the auto, dry and long operation. - The wind blow operation is the mode to circulate the indoor air.
4	- The compressor repeats the stop and start with the interval of several minutes during dry.	- At the dry operation, the set temperature and the indoor temperature are compared to adjust the compressor start/stop time in order to dehumidify.
5	- During the heating operation, the lamp "on deice" is on at the control panel and the compressor operates.	- The deice operation is being performed in order to melt the frost by outdoor unit and its maximum time is 9 minutes.
6	- During the heating, the outdoor unit fan motor repeats start/stop or even the compressor repeats the start and stop.	- It is the function to prevent the overheating of the indoor evaporator, where the temperature of indoor unit heat exchanger reaches 52°C, the normal operation is done.
7	- During the heating, the compressor and outdoor unit fan motor operate but indoor unit fan motor does not operate.	- This is the function to prevent the cooling air incoming to the indoor, where the temperature of indoor evaporator reaches 27°C, the indoor fan motor operates.

5-2 Display of the result of self-diagnostic and check items on the control panel

No.	Power lamp	Temperature display	Cause	Counter measure
1	Flickering (1Hz)	E1	- Indoor temperature sensor open - Indoor temperature sensor short	- Check short/open of PCB parts - Replacement of temperature sensor
2	Flickering (1Hz)	E2	- Shutter motor defect - Shutter sensor defect - Connector wire contact bad	- Replacement of shutter motor - Replacement of shutter sensor - Replacement of connector wire
3	Flickering (1Hz)	E5	- Indoor evaporator sensor open - Indoor evaporator sensor short	- Check short/open of PCB parts - Replacement of temperature sensor
4	Flickering (1Hz)	E6	- Indoor condensor sensor open - Indoor condensor sensor short - Connector wire contact bad	- Check short/open of PCB parts - Replacement of sensor - Replacement of connector wire

"E1" AND "E2" ARE DISPLAYED ON THE TEMPERATURE DISPLAY ONLY WHEN THE OPERATION STOPS.

5-3 Trouble shooting by phenomena

5-3-1 When it is not Power on.(When it is not display)

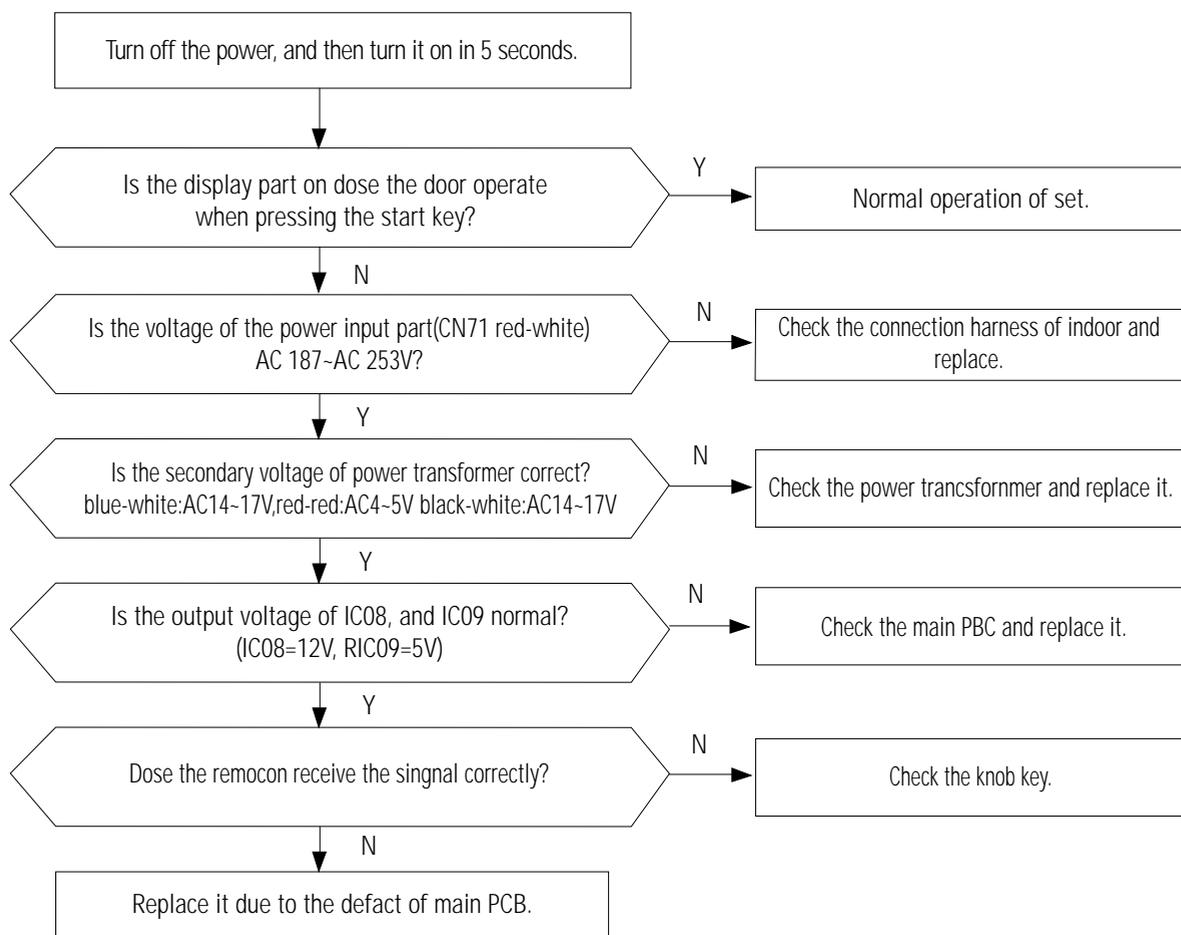
1) Trouble cause

- ① When the power voltage is out the operating range or the power cable contact is bad.
- ② The transformer is defect or it's connection is bad.
- ③ The fuse of main PCB is broken or the PCB with a defect.
- ④ The panel PCB has it's defect.
 - The knob switch with a poor assembly, V.F-display defect.

2) Check items

- ① Is the power voltage normal?(AC198V~AC264V)
- ② Is the contact of power cable good?
- ③ Is the power fuse(F701, F702) AND PCB fuse(F101)not disconnected?
- ④ Is the contact of connector at primary and secondary side of power transformer?
- ⑤ Is the output voltage of IC08(KA7812) normal?(DC 11.5~DC 12.5V)
- ⑥ Is the output voltage of IC09(KA7805) normal?(DC 4.5~DC 5.5V)
- ⑦ Is the connection of harness(wire connector-control)of main PCB panel good?

3) Sequence of check



5-3-2 When the left and right adjusting plate Does not Operate

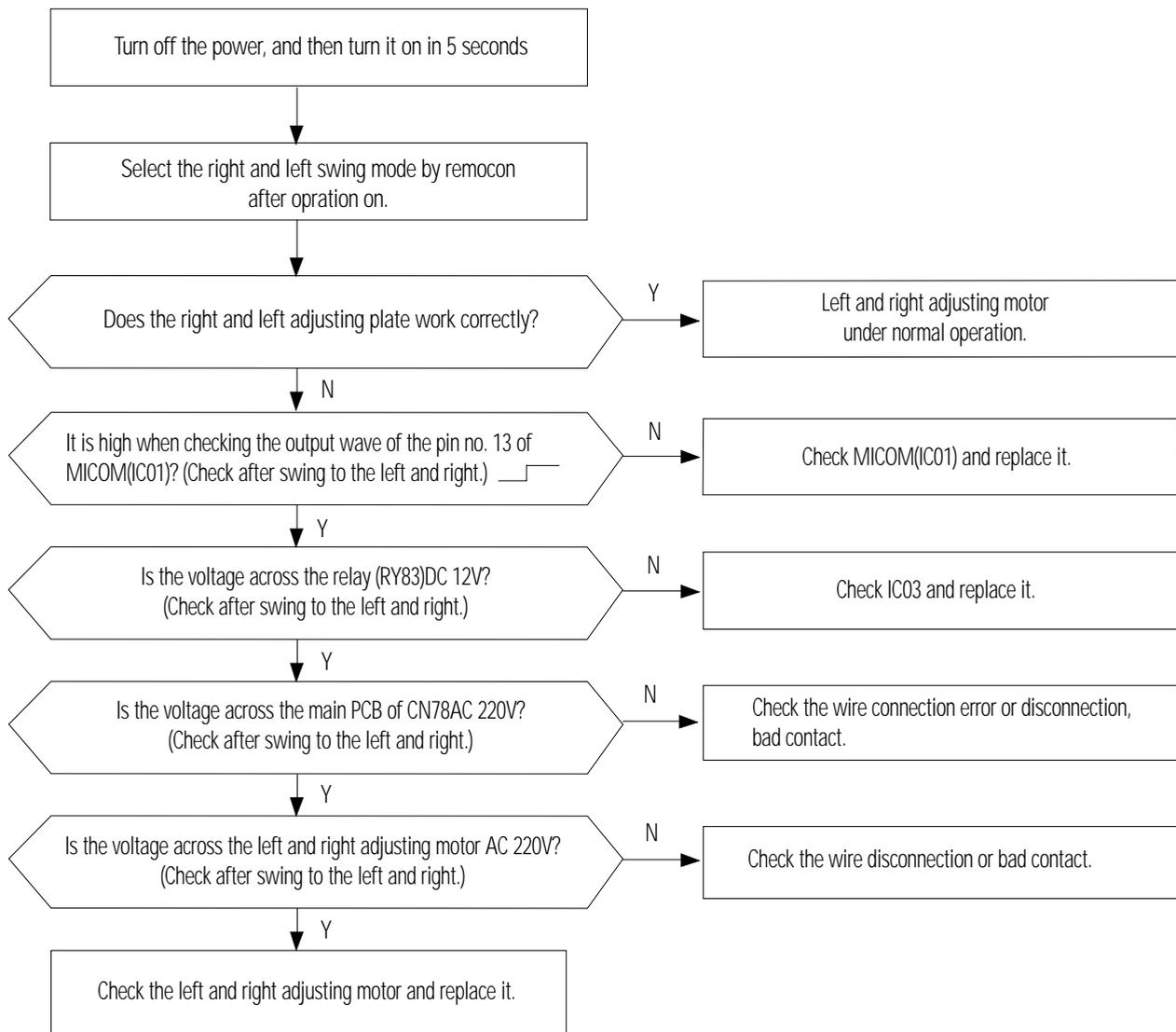
1) Trouble cause

Disconnection, wrong connection or bad contact of connected wire to the left and right adjusting motor.
 Left and right adjusting motor defect.
 Main PCB defect(RY83,IC03, MICOM)

2) Check items

Is the wire connecting the main PCB to the left and right adjusting motor good?

3) Sequence of check



5-3-3 When the remocn does not Operate

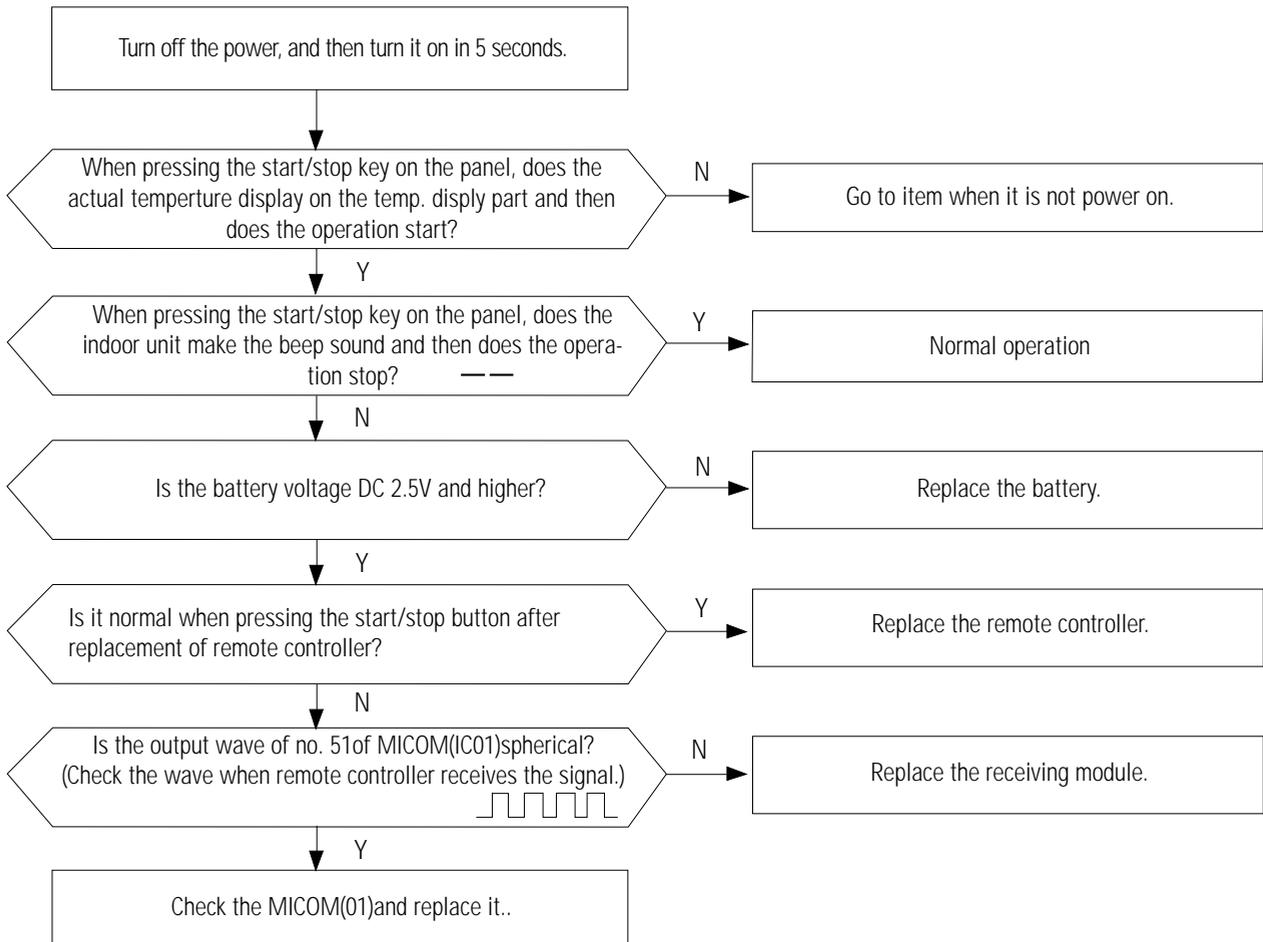
1) Trouble case

- ① When the voltage of the battery for remote-controller is low.
- ② The receiving mode of panel PCB remote-controller is bad.

2) Check items

- ① The beep sounds when the set receives the signal of remote-controller.

3) Check sequence



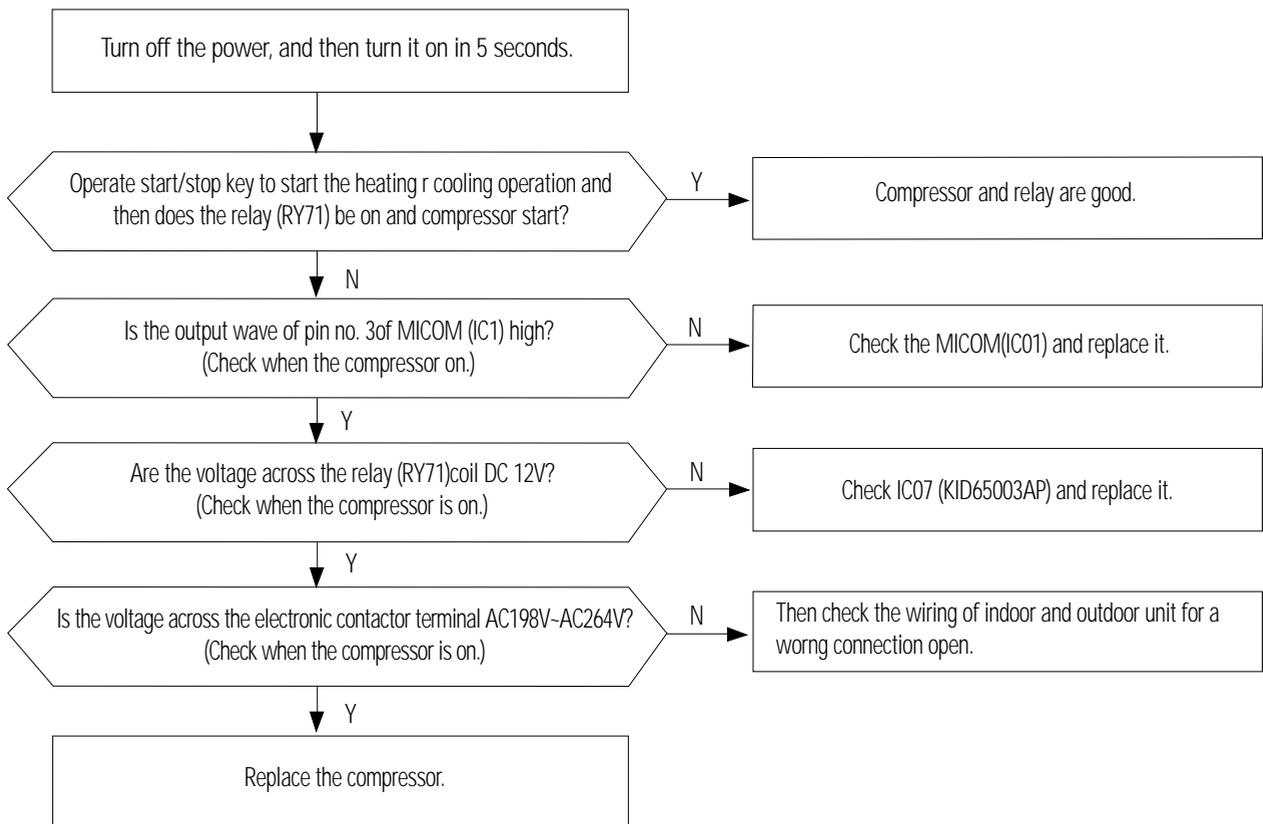
5-3-4 When the compressor Does not Operate

1) Trouble cause

- ① When the power voltage is out of the operating range or power cable contact is bad.
- ② Wrong connection or bad contact of wire. (indoor to outdoor)
- ③ Main PCB defect(RY71, IC02, MICOM)

2) Check items

- ① Is the power voltage normal?(AC198V~AC264V)
- ② Check the wiring of the outdoor and indoor unite for a wrong connection or poor contact.
- ③ Is the compressor waiting for 3 minutes?
- ④ Is the set temperature not set iower than the current temperature during the cooling operation?
- ⑤ Is the set temperature not set iower than the current temperature during the cooling operation?



5-3-5 When the up and down swing motor does not operate

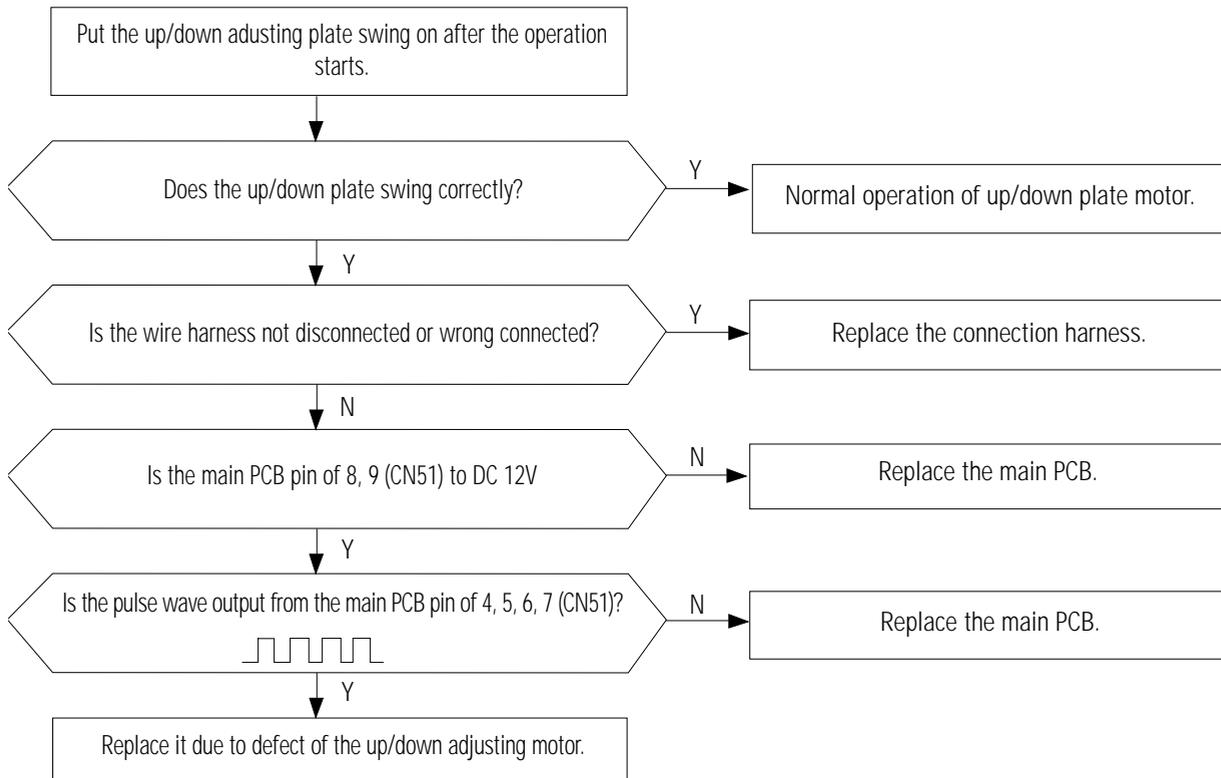
1) Trouble cause

- ① The disconnection, the wrong connection or the bad contact of the up/down swing motor connection wire harness.
- ② Defect by the structural interference.
- ③ Defect of the stepping motor.
- ④ Main PCB defect.

2) Check items

- ① Is the connection of wire harness for the up and down swing motor good?
- ② Is the normal out wave made during the motor operation at the main PCB?

3) Sequence of check



5-3-6 When the indoor fan motor does not operate

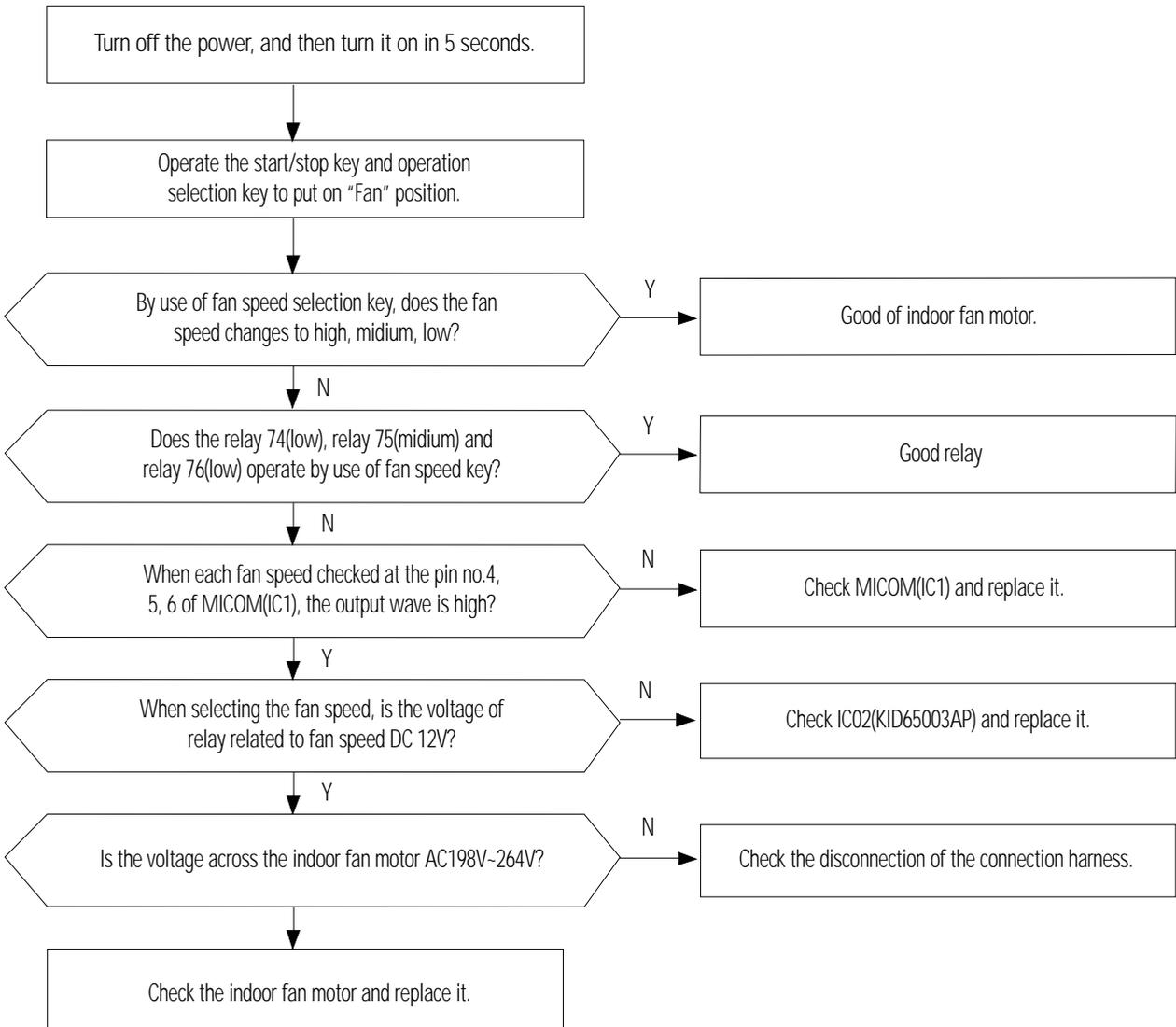
1) Trouble cause

- ① When the power voltage is out of the operating range or bad contact of power cable.
- ② The motor starting condenser has malfunction in defect of contact.
- ③ Disconnection or short of motor.
- ④ Disconnection or bad contact of connection wire harness.
- ⑤ Main PCB defect: Relay(RY74~RY76) defect.

2) Check items

- ① Is the power voltage correct?(AC198V~AC264V)
- ② Is the wire harness connection of motor good?
- ③ Is the contact of starting condenser terminal of fan motor good?
- ④ Is the resistance of relay coil 720Ω

3) Sequence of check



5-3-7 When the auto shutter does not operate("E2" error mode)

1) Trouble cause

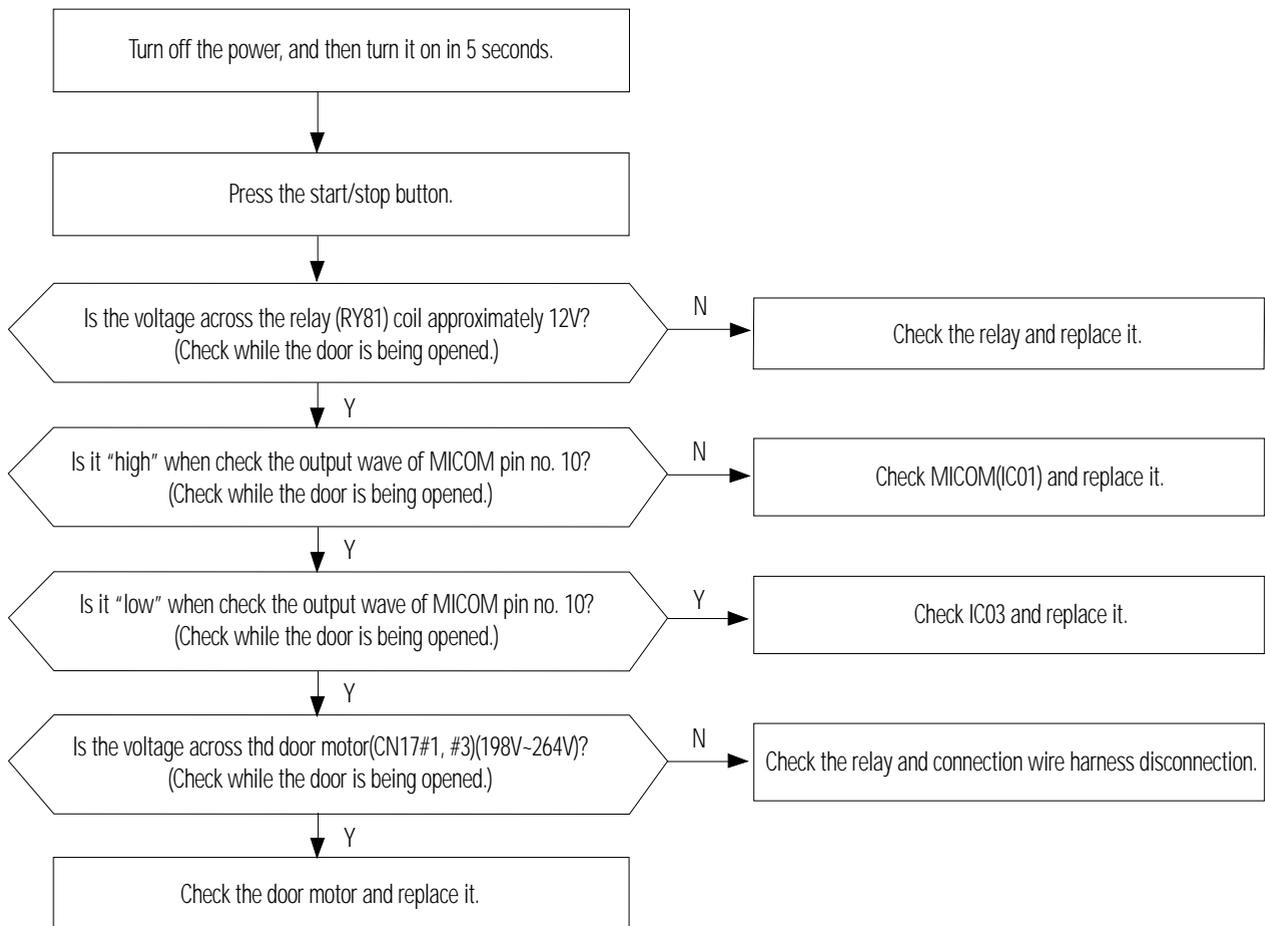
- ① Disconnection of the motor harness wire or bad contact.
- ② Disconnection or bad contact of sensor PCB connection harness.
- ③ Sensor PCB defect.
- ④ Main PCB defect: CN02, RY79, RY80 defect.
- ⑤ Defect by the structural interference.
- ⑥ Main PCB defect.

2) Check items

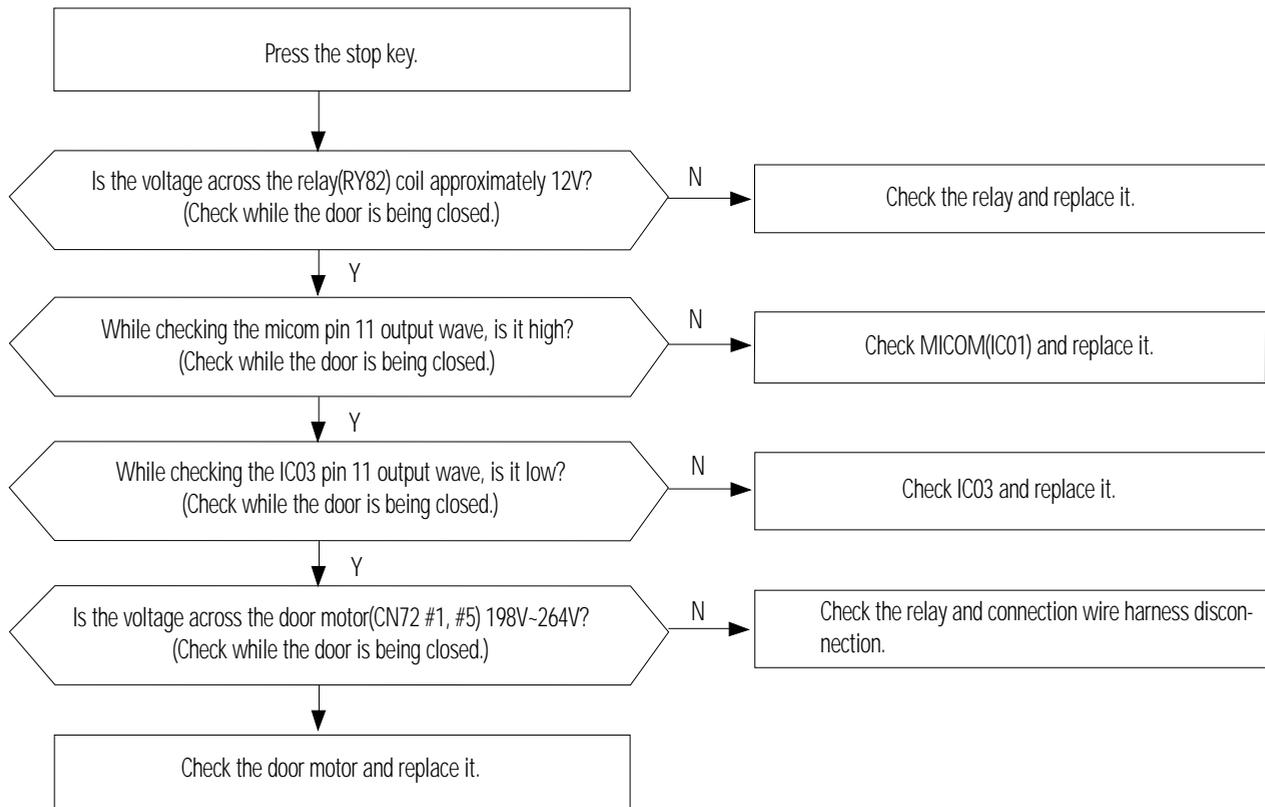
- ① Is the power voltage normal?(AC198V~AC264V)
- ② Is the shutter motor connector(CN77) good?
- ③ Is the sensor PCB connection harness good?
- ④ Is the resistance of relay RY78, RY80 400Ω?

3) Sequence of check

- ① In operating(Opening the door)



② In operating stop[(closing the door)



- The door motor is operated by the start/stop key only and when the start/stop signal is given, the function of opening or closing door is detected by the photo sensor installed at the shutter PCB.
- If the door open is not operate in 20 seconds after input of start/stop key, “E2” error mode occurs.