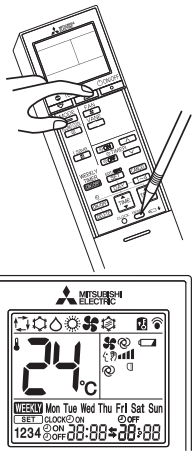
10-2. FAILURE MODE RECALL FUNCTION

Outline of the function
This air conditioner can memorize the abnormal condition which has occurred once.
Even though LED indication listed on the troubleshooting check table (10-4.) disappears, the memorized failure details can be recalled.

1. Flow chart of failure mode recall function for the indoor/outdoor unit



Operational procedure

The cause of abnormality cannot be found because the abnormality does not recur.

Setting up the failure mode recall function

Turn ON the power supply.
<Preparation of the remote controller>
① While pressing both OPERATION SELECT button and TEMP ⊕ button on the remote controller at the same time, press RESET button.
② First, release RESET button.
Hold down the other 2 buttons for another 3 seconds. Make sure that the indicators on the LCD screen shown in the right figure are all displayed. Then release the buttons.

Press STOP/OPERATE (OFF/ON) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit. ※1

※1 Regardless of normal or abnormal condition, a short beep is emitted once the signal is received.

Does the left lamp of OPERATION INDICATOR lamp on the indoor unit blink at the interval of 0.5 seconds?
Blinks: Either indoor or outdoor unit is abnormal. Beep is emitted at the same timing as the blinking of the left lamp of OPERATION INDICATOR lamp. ※2

No (OFF) → Indoor unit is normal.
But the outdoor unit might be abnormal because there are some abnormalities that cannot be recalled with this way.
Check if outdoor unit is abnormal according to the detailed outdoor unit failure mode recall function.

NOTE: It takes up to 1 minute to indicate the outdoor unit abnormality. Even if the OPERATION INDICATOR lamp is not lighting, keep checking at least 1 minute or longer.

Yes (Blinks)

Judgment of indoor/outdoor abnormality

Before blinking, does the left lamp of OPERATION INDICATOR lamp stay ON for 3 seconds?
When it stays ON for 3 seconds (without beep): The outdoor unit is abnormal.

Yes → The outdoor unit is abnormal.
Check the blinking pattern, and identify the abnormal point by referring to the outdoor unit failure mode table. (Refer to outdoor unit service manual.)
Make sure to check at least 2 consecutive blinking cycles. ※3

No → The indoor unit is abnormal.
Check the blinking pattern, and identify the abnormal point by referring to the indoor unit failure mode table. (Refer to 10-2.2)
Make sure to check at least 2 consecutive blinking cycles. ※2

Releasing the failure mode recall function

Release the failure mode recall function by the following procedures.
Turn OFF the power supply and turn it ON again.
Press RESET button of the remote controller.

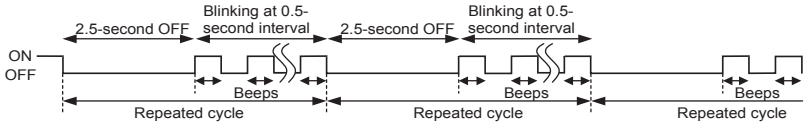
Repair the failure parts.

Deleting the memorized abnormal condition

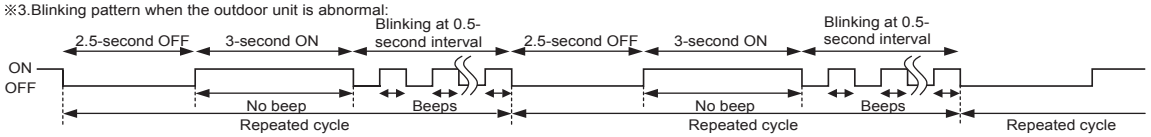
① After repairing the unit, recall the failure mode again according to "Setting up the failure mode recall function" mentioned above.
② Press STOP/OPERATE (OFF/ON) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit.
③ Press EMERGENCY OPERATION switch so that the memorized abnormal condition is deleted. ※4
④ Release the failure mode recall function according to "Releasing the failure mode recall function" mentioned above.

NOTE: 1. Make sure to release the failure mode recall function after it is set up, otherwise the unit cannot operate properly.
2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

※2. Blinking pattern when the indoor unit is abnormal:



※3.Blinking pattern when the outdoor unit is abnormal:



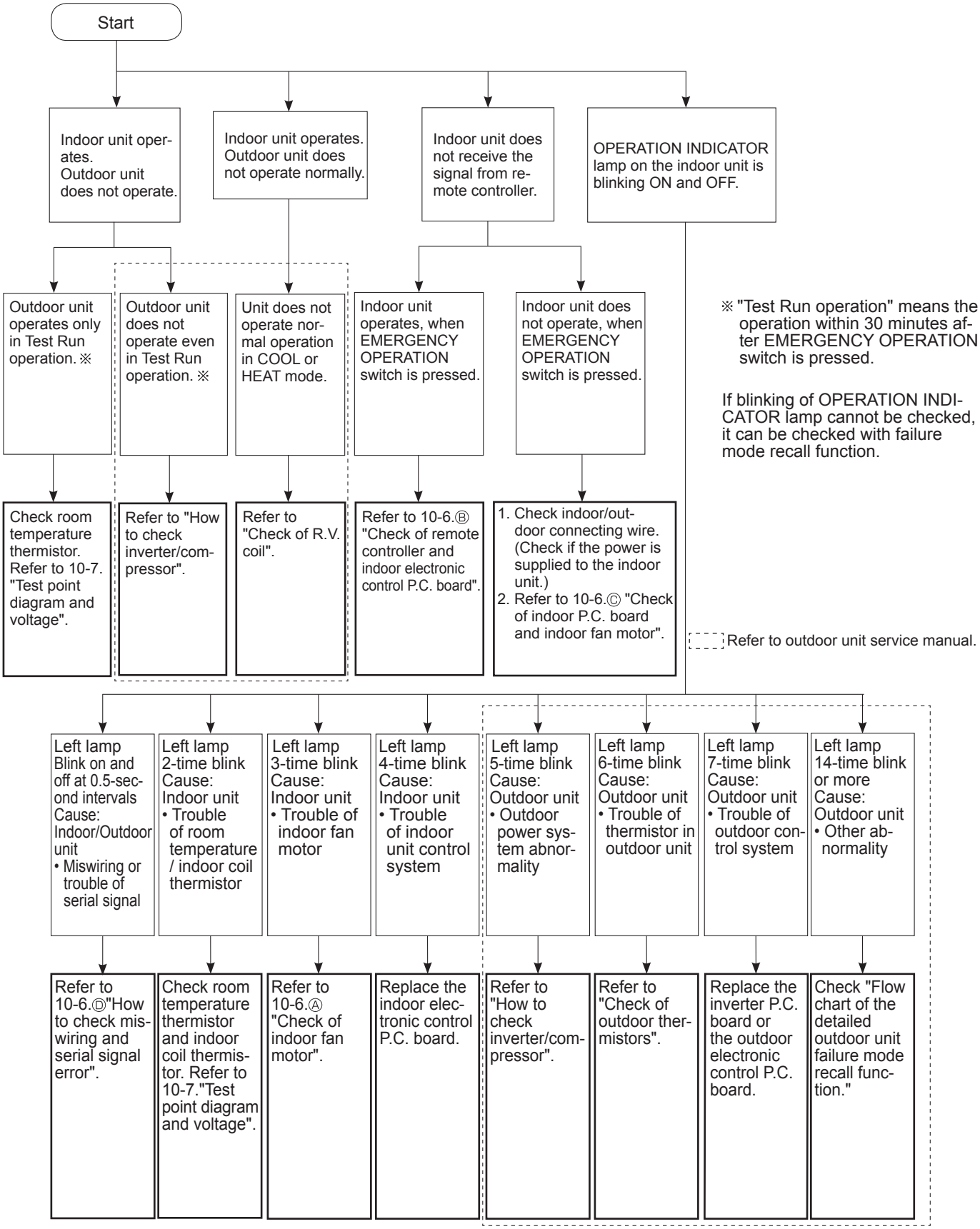
※4 The information regarding whether the connected outdoor unit is a low-standby-power model or a non-low-standby-power model will also be initialized. (Default= compatible with a low-standby-power model)

2. Table of indoor unit failure mode recall function

The left lamp of OPERATION INDICATOR lamp	Abnormal point (Failure mode)	Condition	Remedy
Not lit	Normal	—	—
1-time blink every 0.5-second	Room temperature thermistor	The room temperature thermistor short or open circuit is detected every 8 seconds during operation.	Refer to the characteristics of the room temperature thermistor (10-7.).
2-time blink 2.5-second OFF	Indoor coil thermistor	The indoor coil thermistor short or open circuit is detected every 8 seconds during operation.	Refer to the characteristics of the main indoor coil thermistor, the sub indoor coil thermistor (10-7.).
3-time blink 2.5-second OFF	Serial signal	The serial signal from outdoor unit is not received for a maximum of 6 minutes.	Refer to 10-6.Ⓓ "How to check miswiring and serial signal error".
11-time blink 2.5-second OFF	Indoor fan motor	The rotational frequency feedback signal is not emitted for the 12 seconds after the indoor fan motor is operated.	Refer to 10-6.Ⓐ "Check of indoor fan motor".
12-time blink 2.5-second OFF	Indoor control system	It cannot properly read data in the nonvolatile memory of the indoor electronic control P.C. board.	Replace the indoor electronic control P.C. board.

NOTE: Blinking patterns of this mode differ from the ones of TROUBLESHOOTING CHECK TABLE (10-4.).

10-3. INSTRUCTION OF TROUBLESHOOTING



10-4. TROUBLESHOOTING CHECK TABLE

Before taking measures, make sure that the symptom reappears for accurate troubleshooting.
When the indoor unit has started operation and detected an abnormality of the following condition (the first detection after the power ON), the indoor fan motor turns OFF and OPERATION INDICATOR lamp blinks.

OPERATION INDICATOR

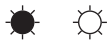
☼ ○

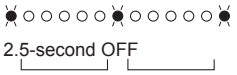
● Lit
☼ Blinking
○ Not lit

No.	Abnormal point	Operation indicator lamp	Symptom	Condition	Remedy
1	Miswiring or serial signal	Left lamp blinks. 0.5-second ON ●○●○●○●○ 0.5-second OFF	Indoor unit and outdoor unit do not operate.	The serial signal from the outdoor unit is not received for 6 minutes. The indoor unit is connected to a low-standby-power model after once connected to a non-low-standby-power model.	• Refer to 10-6. Ⓓ "How to check miswiring and serial signal error". • Refer to **NOTE**.
2	Indoor coil thermistor Room temperature thermistor	Left lamp blinks. 2-time blink ●○●○○○○○●○●○○ 2.5-second OFF		The indoor coil or the room temperature thermistor is short or open circuit.	• Refer to the characteristics of indoor coil thermistor, and the room temperature thermistor (10-7.).
3	Indoor fan motor	Left lamp blinks. 3-time blink ●○●○●○○○○○●○●○●○○○○ 2.5-second OFF		The rotational frequency feedback signal is not emitted during the indoor fan operation.	• Refer to 10-6. Ⓐ "Check of indoor fan motor".
4	Indoor control system	Left lamp blinks. 4-time blink ●○●○●○●○○○○○○●○●○●○● 2.5-second OFF		It cannot properly read data in the nonvolatile memory of the indoor electronic control P.C. board.	• Replace the indoor electronic control P.C. board.
5	Outdoor power system	Left lamp blinks. 5-time blink ●○●○●○●○●○○○○○●○●○ 2.5-second OFF		It consecutively occurs 3 times that the compressor stops for overcurrent protection or start-up failure protection within 1 minute after start-up.	• Refer to "How to check of inverter/compressor". Refer to outdoor unit service manual • Check the stop valve.
6	Outdoor thermistors	Left lamp blinks. 6-time blink ●○●○●○●○●○●○○○○○●○ 2.5-second OFF		The outdoor thermistors short or open circuit during the compressor operation.	• Refer to "Check of outdoor thermistor". Refer to outdoor unit service manual.
7	Outdoor control system	Left lamp blinks. 7-time blink ●○●○●○●○●○●○●○○○○○● 2.5-second OFF		It cannot properly read data in the nonvolatile memory of the inverter P.C. board or the outdoor electronic control P.C. board.	• Replace the inverter P.C. board or the outdoor electronic control P.C. board. Refer to outdoor unit service manual.
8	Other abnormality	Left lamp blinks. 14-time blink or more ●○●○●○●○●○●○●○●○●○●○●○●○ ○●○●○●○○○○○○● 2.5-second OFF		An abnormality other than above mentioned is detected.	• Check the stop valve. • Check the 4-way valve. • Confirm the abnormality in detail using the failure mode recall function for outdoor unit.
9	Outdoor control system	Left lamp lights up ●	Outdoor unit does not operate	It cannot properly read data in the nonvolatile memory of the inverter P.C. board or the outdoor electronic control P.C. board.	• Check the blinking pattern of the LED on the inverter P.C. board or the outdoor electronic control P.C. board.

NOTE: The indoor unit may have been connected to a non-low-standby-power model outdoor unit. To use a low-standby-power model, clear the error history by referring to “Deleting the memorized abnormal condition” described in 10-2.1. When the error history is being cleared, the connection information also will be initialized. The indoor unit will be compatible with a low-standby-power model after initialization. If the operation indicator lamp continues to blink as shown in No.1 after the procedure, refer to 10-6. Ⓓ “How to check miswiring and serial error”.

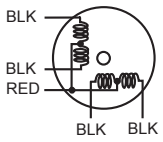
OPERATION INDICATOR



No.	Abnormal point	Operation indicator lamp	Symptom	Condition	Remedy
1	**MXZ type** Operation mode setting	Left lamp lights and lower lamp blinks.  	Outdoor unit operates but indoor unit does not operate.	The operation mode of the each indoor unit is differently set to COOL (includes DRY) and HEAT at the same time, the operation mode of the indoor unit that has operated at first has the priority.	• Unify the operation mode. Refer to outdoor unit service manual.

10-5. TROUBLE CRITERION OF MAIN PARTS

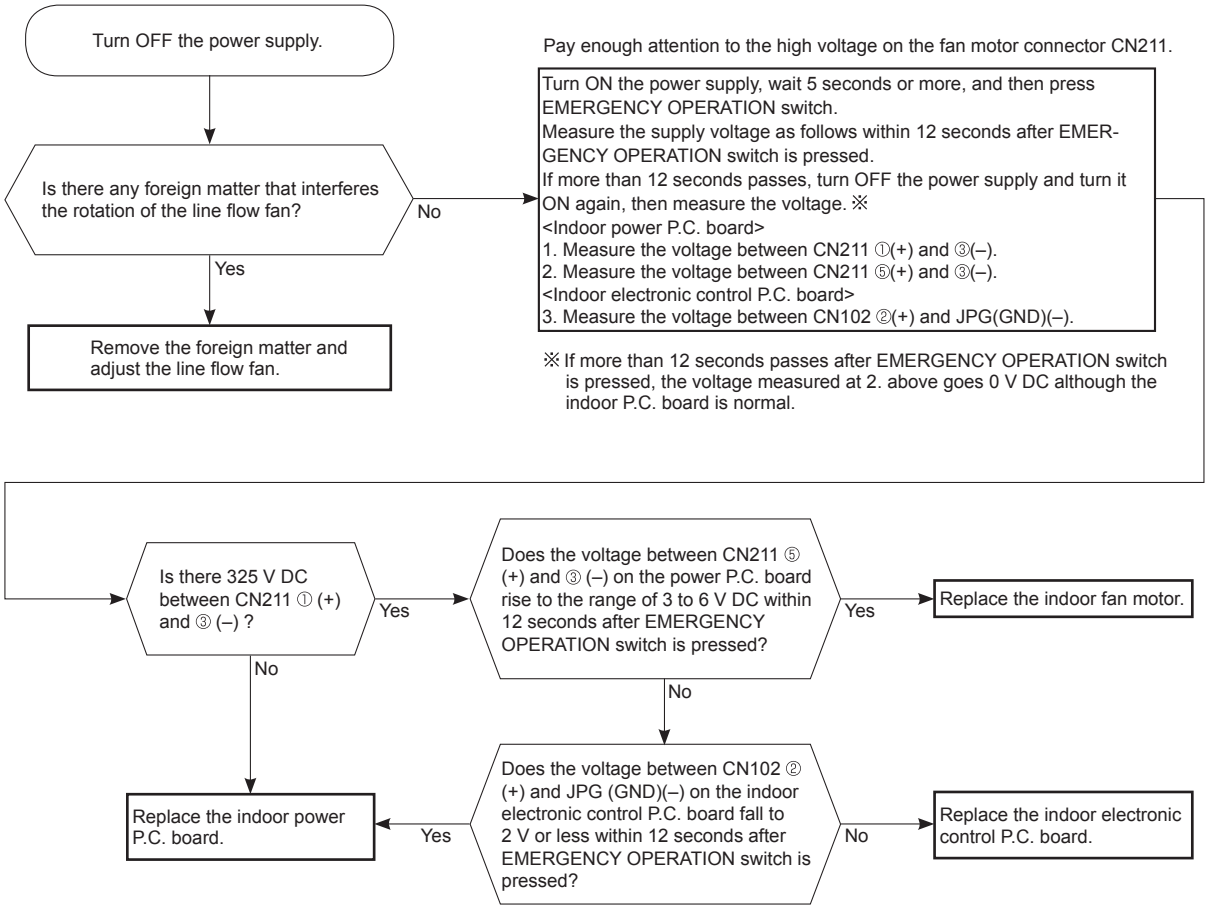
MSZ-EF18VGW MSZ-EF22VGW MSZ-EF25VGW MSZ-EF35VGW MSZ-EF42VGW MSZ-EF50VGW
MSZ-EF18VGB MSZ-EF22VGB MSZ-EF25VGB MSZ-EF35VGB MSZ-EF42VGB MSZ-EF50VGB
MSZ-EF18VGS MSZ-EF22VGS MSZ-EF25VGS MSZ-EF35VGS MSZ-EF42VGS MSZ-EF50VGS

Part name	Check method and criterion	Figure
Room temperature thermistor (RT11) Indoor coil thermistor (RT12, RT13)	Measure the resistance with a tester. Refer to 10-7. "Test point diagram and voltage", "Indoor electronic control P.C. board", for the chart of thermistor.	
Indoor fan motor (MF)	Check 10-6.Ⓐ "Check of indoor fan motor".	
Vane motor (MV)	Measure the resistance between the terminals with a tester. (Temperature: 10 - 30°C) Color of the lead wire: RED - BLK Normal: 232 - 268 Ω	

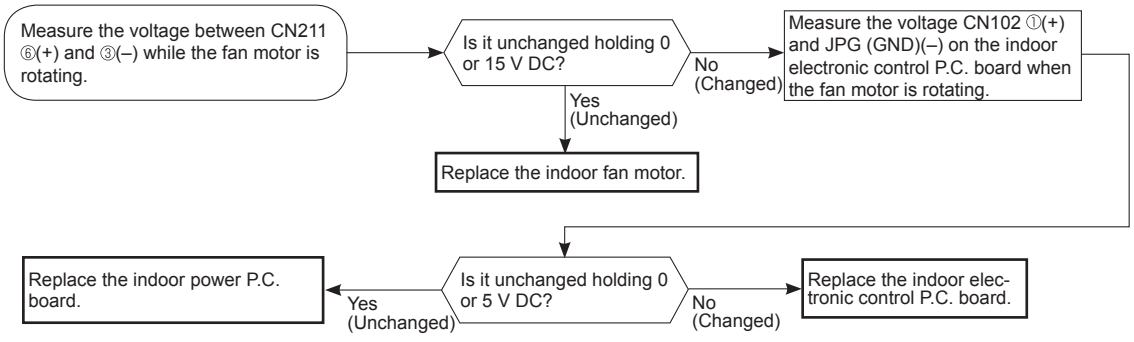
10-6. TROUBLESHOOTING FLOW

Ⓐ Check of indoor fan motor

The indoor fan motor error has occurred, and the indoor fan does not operate.

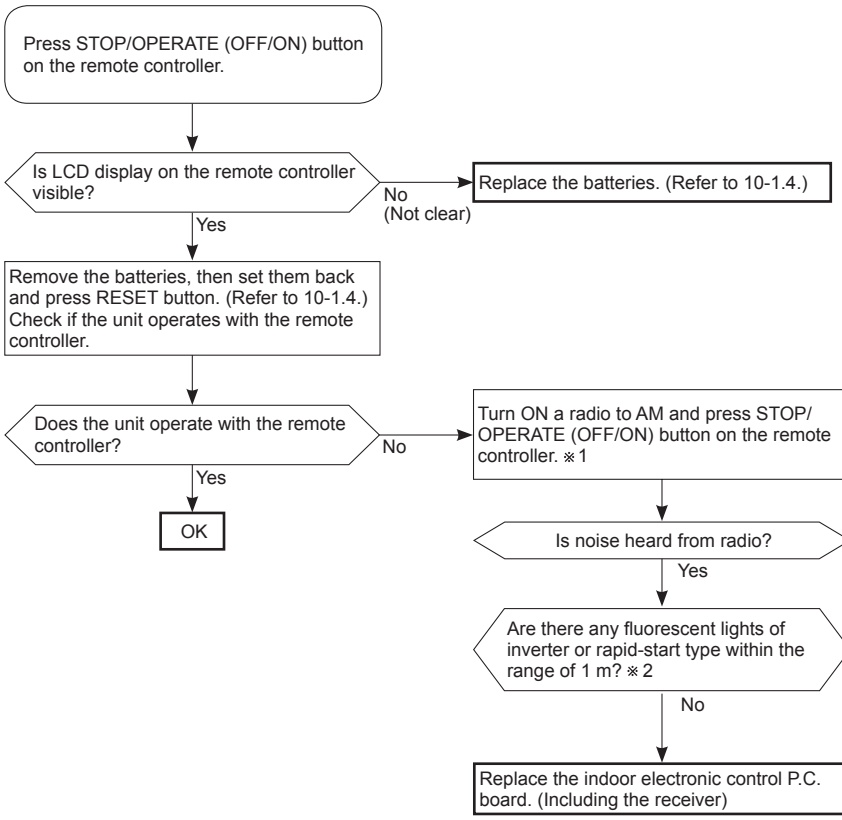


The indoor fan motor error has occurred, and the indoor fan repeats "12-second ON and 30-second OFF" 3 times, and then stops.



Ⓑ Check of remote controller and indoor electronic control P.C. board

※Check if the remote controller is exclusive for this air conditioner.



※1 Look at the image of the signal transmitting section of the remote controller through the monitor of a digital camera or a camera phone. It is normal if the LED of the signal transmitting section lights up when the STOP/ OPERATE (OFF/ON) button on the remote controller is pressed. However, it may be difficult to see the illuminated LED of the signal transmitting section with a smartphone camera.

※2 If the inverter fluorescent light is turned on when the room is cool, the unit may have difficulty receiving the signal from the remote controller or may not be able to operate with it; if the inverter fluorescent light is turned on when the room is warm, the unit may be able to operate with the remote controller.

Ⓒ Check of indoor P.C. board and indoor fan motor

Turn OFF the power supply.
Remove indoor fan motor connector CN211 from indoor power P.C. board and vane motor connector CN151 from the indoor electronic control P.C. board and turn ON the power supply.

Does the unit operate with the remote controller?
Does OPERATION INDICATOR lamp light up by pressing EMERGENCY OPERATION switch?

Yes → Measure the resistance of indoor fan motor.
Refer to 10-5.
→ Short circuit:
Replace the indoor fan motor.

Yes → Measure the resistance of the vane motor coil.
Refer to 10-5.
→ Short circuit:
Replace the vane motor and the indoor electronic control P.C. board.

No

Turn OFF the power supply.
Check both “parts side” and “pattern side” of the indoor power P.C. board visually.

Be sure to check both the fuse and the varistor in any case.

Is the varistor (NR11) burnt and the fuse (F11) blown?
Yes → Replace the varistor (NR11) and fuse (F11). ※3
No

Is the fuse (F11) blown only?
Yes
No

Measure the resistance between CN211 ①(+) and ③(-) of indoor fan motor connector. ※1, ※2

Is the resistance 1MΩ or more?
No → Replace the fuse (F11) and the indoor fan motor. ※3
Yes → Replace the fuse (F11). ※3

※1. The fan motor connector's ① lead wire is red, whereas ③ is black.
※2. Connect "+" of the tester to fan motor connector's ① lead wire, and “-” to ③ lead wire, otherwise the resistance cannot be measured properly.
※3. Please replace the fuse after removing the indoor power P.C. board from the electrical box.

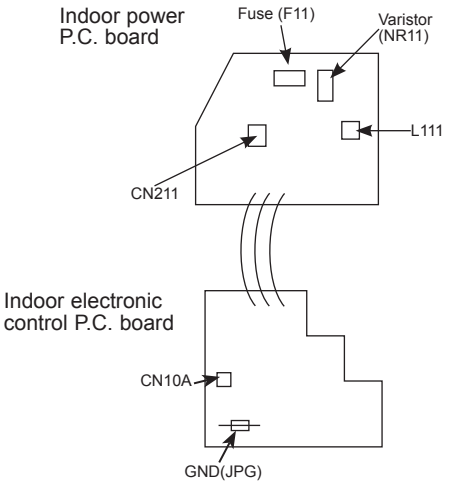
Measure the resistance of reactor (L111) on the indoor power P.C. board.

Is the resistance of reactor (L111) approximately 2.2 Ω ?
No → Replace the indoor power P.C. board and the indoor fan motor.
Yes

Is the approximately 5 V DC between 5 V (+) and JPG (GND) (-) of the indoor electronic control P.C. board?
Is there approximately 9 V to 13 V DC between 12 V (+) and JPG (GND) (-) of the indoor electronic control P.C. board?
Yes → Replace the indoor fan motor.
No

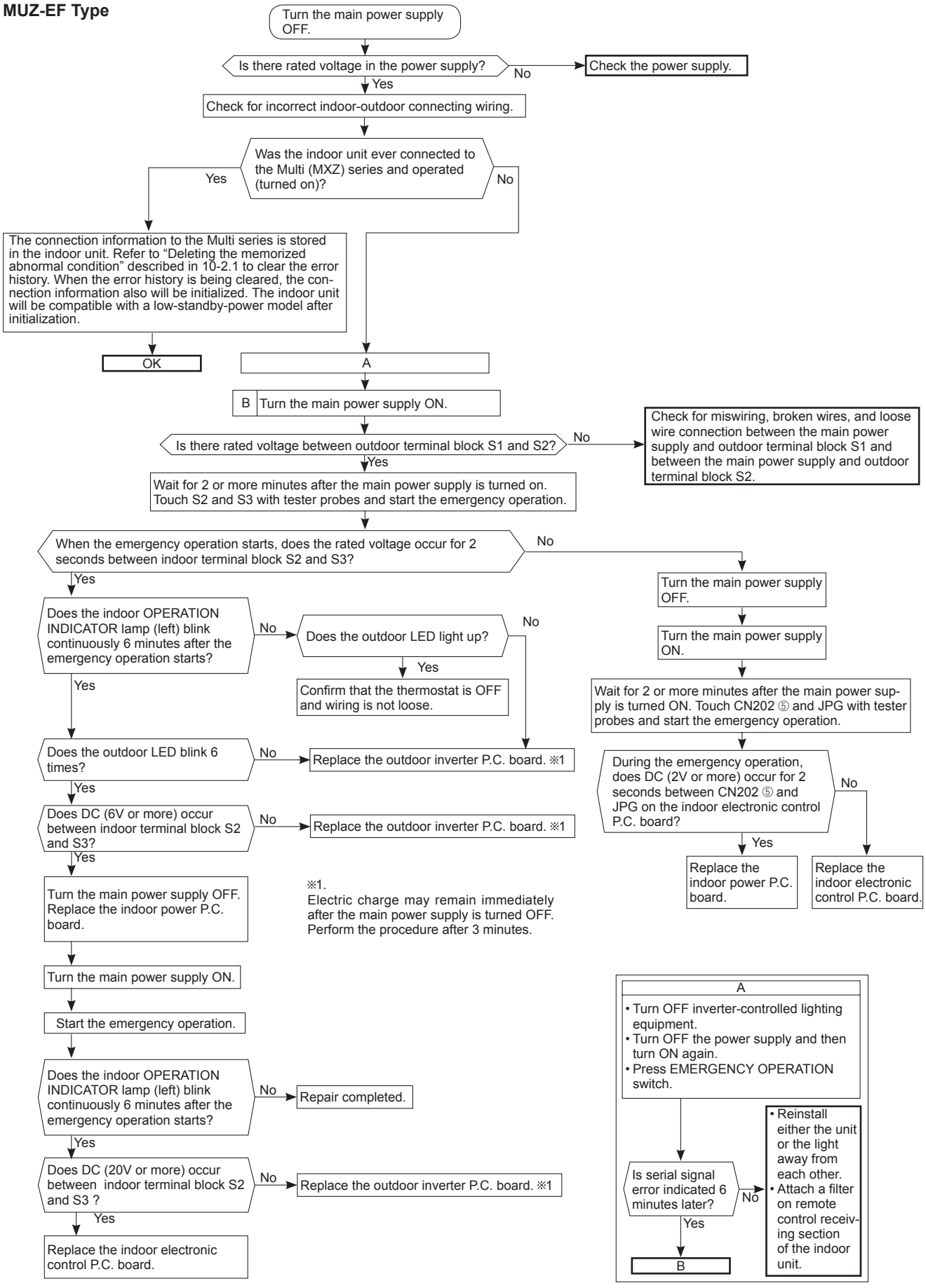
Are connector CN10A on the indoor electronic control P.C. board or lead wires disconnected?
Yes → Connect the connector or repair disconnection.
No

Replace the indoor electronic control P.C. board.

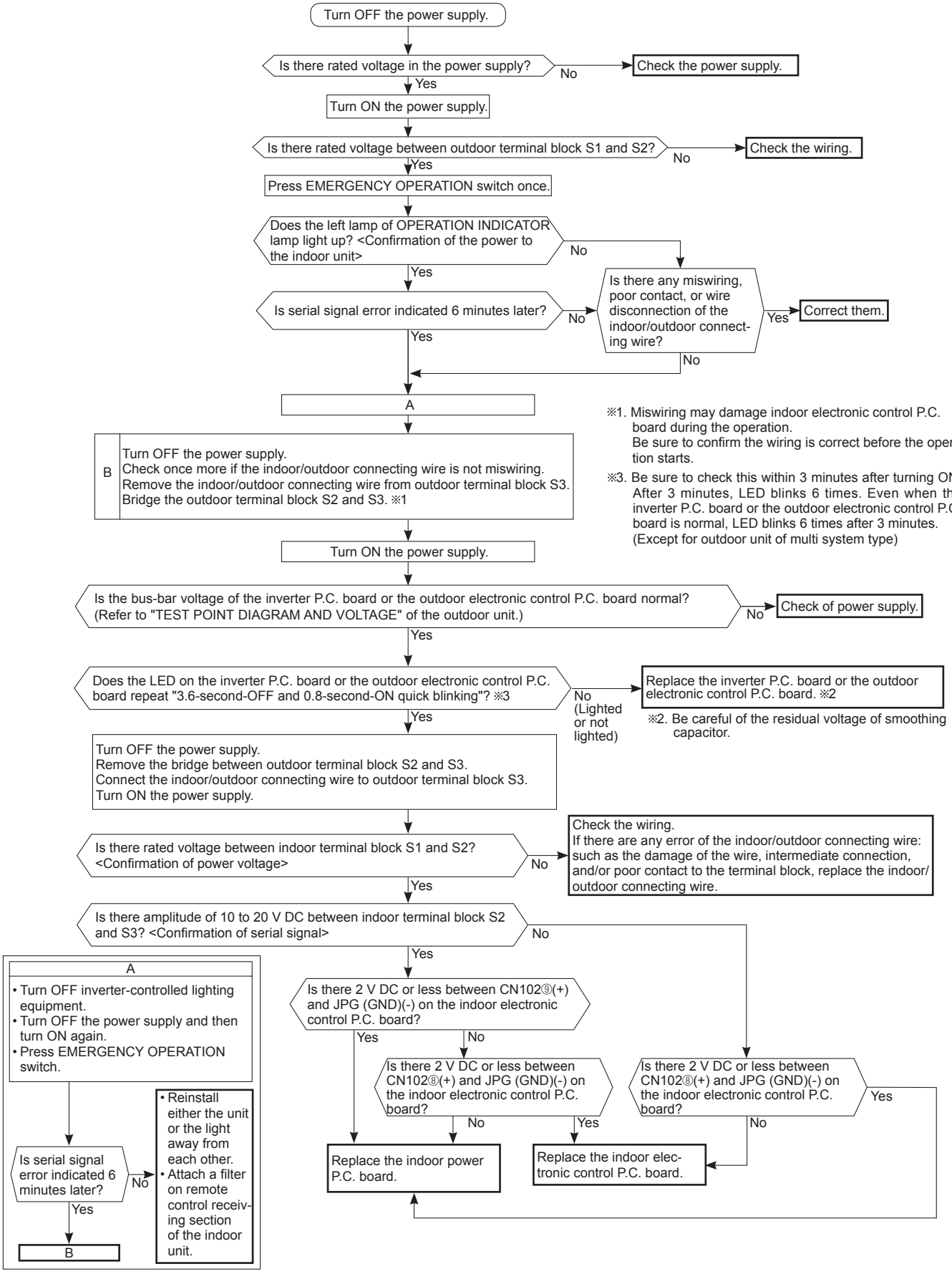


Ⓓ How to check miswiring and serial signal error

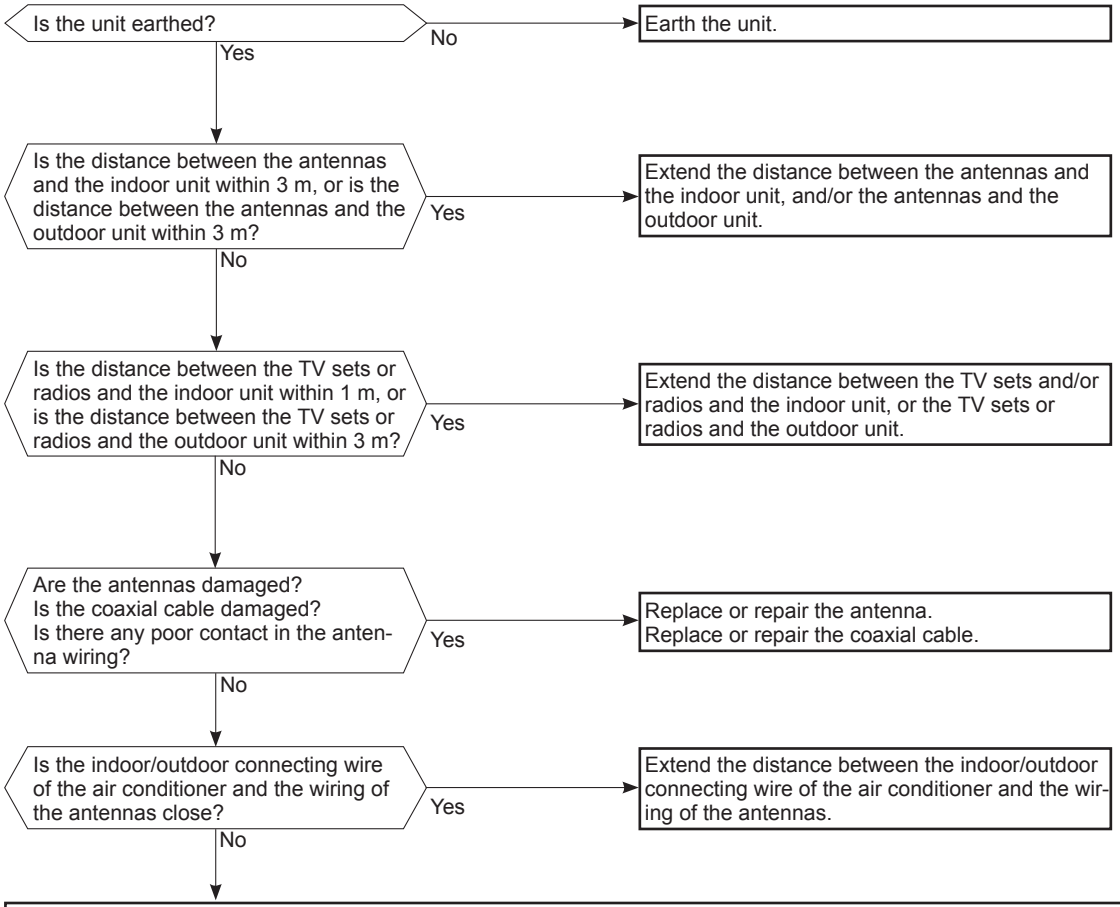
MUZ-EF Type



MXZ Type


Turn OFF the power supply.
Is there rated voltage in the power supply?
No
Check the power supply.
Yes
Turn ON the power supply.
Is there rated voltage between outdoor terminal block S1 and S2?
No
Check the wiring.
Yes
Press EMERGENCY OPERATION switch once.
Does the left lamp of OPERATION INDICATOR lamp light up? <Confirmation of the power to the indoor unit>
No
Yes
Is serial signal error indicated 6 minutes later?
No
Is there any miswiring, poor contact, or wire disconnection of the indoor/outdoor connecting wire?
Yes
Correct them.
Yes
No
A
B
Turn OFF the power supply.
Check once more if the indoor/outdoor connecting wire is not miswiring.
Remove the indoor/outdoor connecting wire from outdoor terminal block S3.
Bridge the outdoor terminal block S2 and S3. ※1
Turn ON the power supply.
※1. Miswiring may damage indoor electronic control P.C. board during the operation.
Be sure to confirm the wiring is correct before the operation starts.
※3. Be sure to check this within 3 minutes after turning ON. After 3 minutes, LED blinks 6 times. Even when the inverter P.C. board or the outdoor electronic control P.C. board is normal, LED blinks 6 times after 3 minutes. (Except for outdoor unit of multi system type)
Is the bus-bar voltage of the inverter P.C. board or the outdoor electronic control P.C. board normal? (Refer to "TEST POINT DIAGRAM AND VOLTAGE" of the outdoor unit.)
No
Check of power supply.
Yes
Does the LED on the inverter P.C. board or the outdoor electronic control P.C. board repeat "3.6-second-OFF and 0.8-second-ON quick blinking"? ※3
No (Lighted or not lighted)
Replace the inverter P.C. board or the outdoor electronic control P.C. board. ※2
※2. Be careful of the residual voltage of smoothing capacitor.
Yes
Turn OFF the power supply.
Remove the bridge between outdoor terminal block S2 and S3.
Connect the indoor/outdoor connecting wire to outdoor terminal block S3.
Turn ON the power supply.
Is there rated voltage between indoor terminal block S1 and S2? <Confirmation of power voltage>
No
Check the wiring.
If there are any error of the indoor/outdoor connecting wire: such as the damage of the wire, intermediate connection, and/or poor contact to the terminal block, replace the indoor/outdoor connecting wire.
Yes
Is there amplitude of 10 to 20 V DC between indoor terminal block S2 and S3? <Confirmation of serial signal>
No
Yes
A
• Turn OFF inverter-controlled lighting equipment.
• Turn OFF the power supply and then turn ON again.
• Press EMERGENCY OPERATION switch.
Is serial signal error indicated 6 minutes later?
No
• Reinstall either the unit or the light away from each other.
• Attach a filter on remote control receiving section of the indoor unit.
Yes
B
Is there 2 V DC or less between CN102⑨(+) and JPG (GND)(-) on the indoor electronic control P.C. board?
Yes
No
Is there 2 V DC or less between CN102⑧(+) and JPG (GND)(-) on the indoor electronic control P.C. board?
No
Yes
Replace the indoor power P.C. board.
Is there 2 V DC or less between CN102⑧(+) and JPG (GND)(-) on the indoor electronic control P.C. board?
Yes
No
Replace the indoor electronic control P.C. board.

Ⓔ Electromagnetic noise enters into TV sets or radios



Even if all of the above conditions are fulfilled, the electromagnetic noise may enter, depending on the electric field strength or the installation condition (combination of specific conditions such as antennas or wiring).
Check the following before asking for service.

1. Devices affected by the electromagnetic noise
   TV sets, radios (FM/AM broadcast, shortwave)
2. Channel, frequency, broadcast station affected by the electromagnetic noise
3. Channel, frequency, broadcast station unaffected by the electromagnetic noise
4. Layout of:
   indoor/outdoor unit of the air conditioner, indoor/outdoor wiring, earth wire, antennas, wiring from antennas, receiver
5. Electric field intensity of the broadcast station affected by the electromagnetic noise
6. Presence or absence of amplifier such as booster
7. Operation condition of air conditioner when the electromagnetic noise enters in
   1) Turn OFF the power supply once, and then turn ON the power supply. In this situation, check for the electromagnetic noise.
   2) Within 3 minutes after turning ON the power supply, press STOP/OPERATE (OFF/ON) button on the remote controller for power ON, and check for the electromagnetic noise.
   3) After a short time (3 minutes later after turning ON), the outdoor unit starts running. During operation, check for the electromagnetic noise.
   4) Press STOP/OPERATE (OFF/ON) button on the remote controller for power OFF, when the outdoor unit stops but the indoor/outdoor communication still runs on. In this situation, check for the electromagnetic noise.

MSZ-EF18VGW MSZ-EF22VGW MSZ-EF25VGW MSZ-EF35VGW MSZ-EF42VGW MSZ-EF50VGW
MSZ-EF18VGB MSZ-EF22VGB MSZ-EF25VGB MSZ-EF35VGB MSZ-EF42VGB MSZ-EF50VGB
MSZ-EF18VGS MSZ-EF22VGS MSZ-EF25VGS MSZ-EF35VGS MSZ-EF42VGS MSZ-EF50VGS