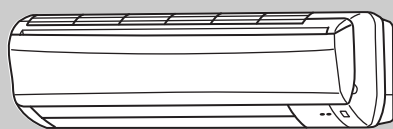


# SERVICE MANUAL

## Wireless type Models

**MSZ-A09YV** - [E1] (WH)

**MSZ-A12YV** - [E1] (WH)



Indication of model name

MSZ-A09YV - [E1]

MSZ-A12YV - [E1]



## CONTENTS

|                                     |    |
|-------------------------------------|----|
| 1. PART NAMES AND FUNCTIONS.....    | 2  |
| 2. SPECIFICATION.....               | 4  |
| 3. NOISE CRITERIA CURVES.....       | 5  |
| 4. OUTLINES AND DIMENSIONS .....    | 6  |
| 5. WIRING DIAGRAM .....             | 7  |
| 6. REFRIGERANT SYSTEM DIAGRAM ..... | 7  |
| 7. SERVICE FUNCTIONS .....          | 8  |
| 8. TROUBLESHOOTING.....             | 10 |
| 9. DISASSEMBLY INSTRUCTIONS .....   | 19 |
| 10. PARTS LIST.....                 | 21 |
| 11. OPTIONAL PARTS.....             | 23 |

**NOTE:**

This service manual describes technical data of the indoor units.

•Refer to the service manual OB328 when MSZ-A09YV-[E1] or MSZ-A12YV-[E1] is connected with MUZ-A09YV-[E1], MUZ-A12YV-[E1], MUZ-A09YVH-[E1] or MUZ-A12YVH-[E1].

•Refer to the service manual OB319 when MSZ-A09YV-[E1] or MSZ-A12YV-[E1] is connected with MXZ-A18WV-[E1], MXZ-A26WV-[E1] or MXZ-A32WV-[E1] as multi system units.



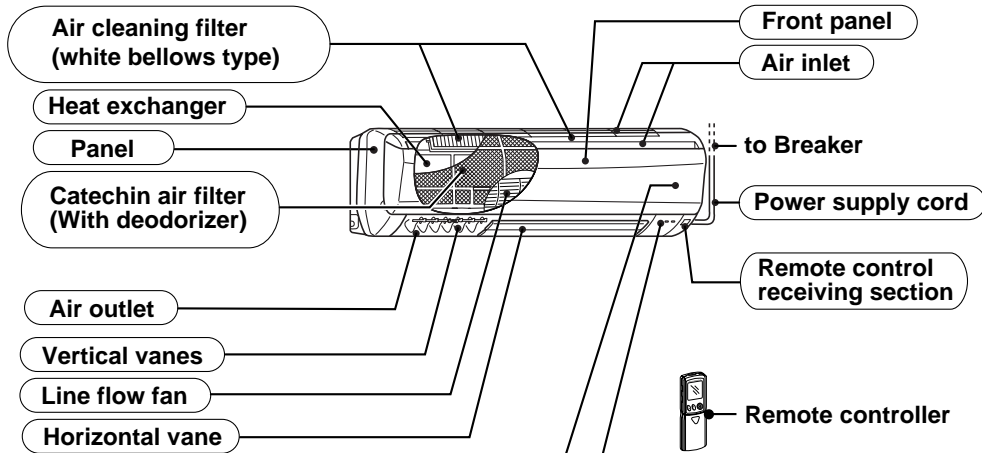
# 1

# PART NAMES AND FUNCTIONS

## INDOOR UNIT

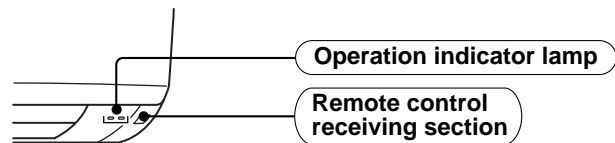
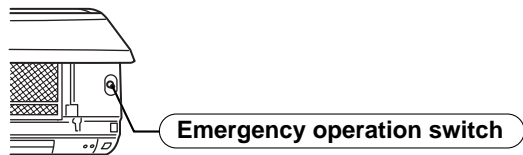
MSZ-A09YV - [E1]

MSZ-A12YV - [E1]



Operation section  
(When the front panel is opened)

Display section

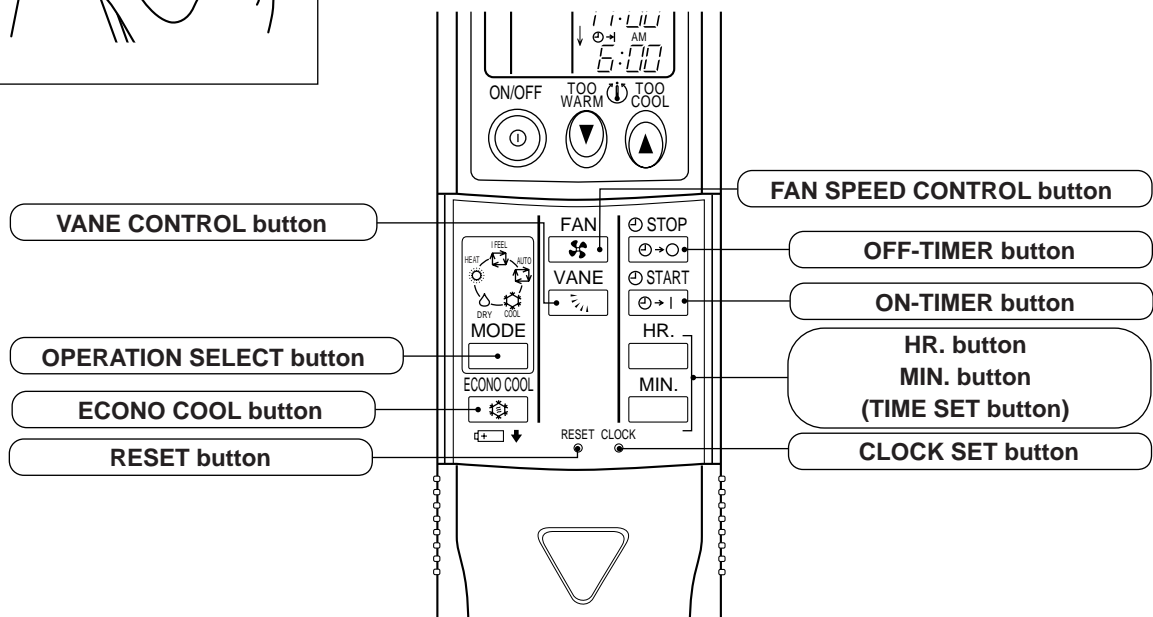
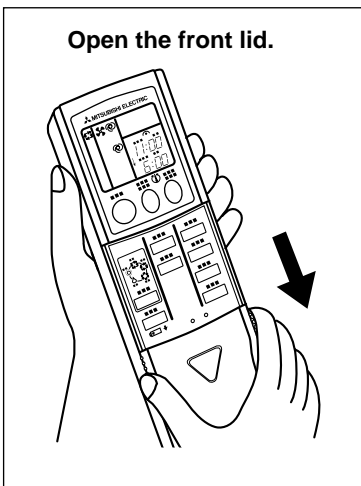
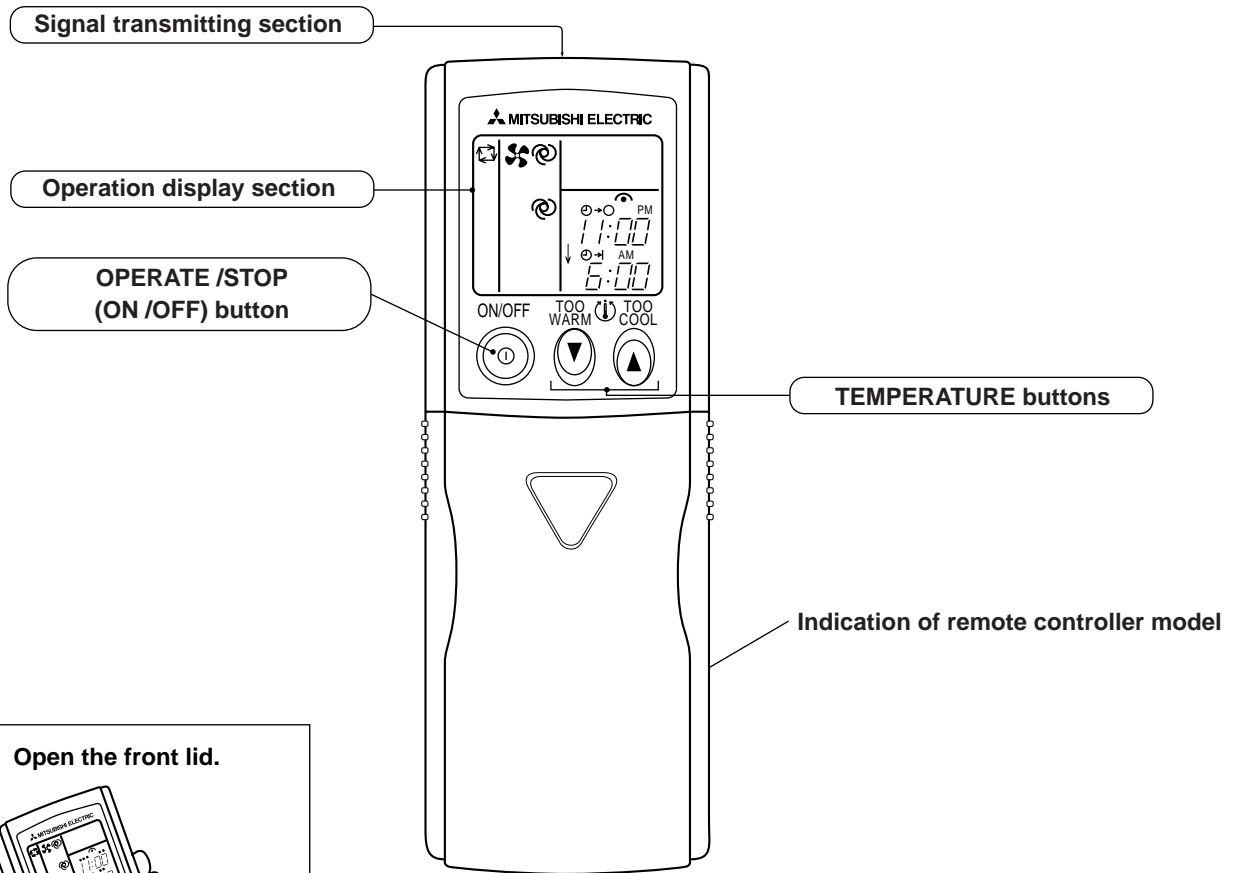


## ACCESSORIES

### INDOOR UNIT

|   |   | MSZ-A09YV - [E1]<br>MSZ-A12YV - [E1] |
|---|---|--------------------------------------|
| ① | Installation plate                            | 1                                    |
| ② | Installation plate fixing screw 4 × 25 mm     | 5                                    |
| ③ | Remote controller holder                      | 1                                    |
| ④ | Fixing screw for ③ 3.5 × 1.6 mm (Black)       | 2                                    |
| ⑤ | Battery (AAA) for remote controller           | 2                                    |
| ⑥ | Wireless remote controller                    | 1                                    |
| ⑦ | Felt tape (Used for left or left-rear piping) | 1                                    |

MSZ-A09YV -E1  
 MSZ-A12YV -E1



| Indoor model    |                              |                   | MSZ-A09YV - <span style="border: 1px solid black; padding: 0 2px;">E1</span> |                 | MSZ-A12YV - <span style="border: 1px solid black; padding: 0 2px;">E1</span> |                 |
|-----------------|------------------------------|-------------------|--|-----------------|--|-----------------|
| Function        |                              |                   | Cooling  | Heating         | Cooling  | Heating         |
| Power supply    |                              |                   | Single phase<br>230V,50Hz  |                 | Single phase<br>230V,50Hz  |                 |
| Capacity        | Air flow(High/Med.*/Low*)    | m <sup>3</sup> /h | 504/360*/222*  | 564/402*/246*   | 630/462*/288*  | 642/474*/312*   |
| Electrical data | Power outlet                 | A                 | 10   |                 | 10   |                 |
|                 | Running current *1           | A                 | 0.17   |                 | 0.19   |                 |
|                 | Power input Rated frequency  | W                 | 35   |                 | 40   |                 |
|                 | Auxiliary heater             | A(kW)             | —  |                 | —  |                 |
|                 | Power factor *1              | %                 | 88   | 94              | 95   | 94              |
|                 | Fan motor current *1         | A                 | 0.17   |                 | 0.19   |                 |
| Fan motor       | Model                        |                   | RC4V19-LA  |                 | RC4V19-KA  |                 |
|                 | Winding resistance(at20°C)   | Ω                 | WHT-BLK 413<br>BLK-RED 334   |                 | WHT-BLK 316<br>BLK-RED 299   |                 |
|                 | Dimensions W×H×D             | mm                | 815×278×244  |                 | 815×278×244  |                 |
|                 | Weight                       | kg                | 9  |                 | 10   |                 |
| Special remarks | Air direction                |                   | 5  |                 | 5  |                 |
|                 | Sound level(High/Med.*/Low*) | dB(A)             | 37/29*/21*   | 38/30*/21*      | 39/31*/22*   | 38/30*/22*      |
|                 | Fan speed(High/Med.*/Low*)   | rpm               | 1,010/770*/540*  | 1,110/840*/580* | 1,030/800*/570*  | 1,050/820*/600* |
|                 | Fan speed regulator          |                   | 3  |                 | 3  |                 |
|                 | Thermistor RT11(at25°C)      | kΩ                | 10   |                 | 10   |                 |
|                 | Thermistor RT12(at25°C)      | kΩ                | 10   |                 | 10   |                 |
|                 | Thermistor RT13(at25°C)      | kΩ                | 10   |                 | 10   |                 |
|                 | Remote controller model      |                   | KG04A  |                 | KG04A  |                 |

NOTE : Test conditions are based on ISO 5151

Cooling : Indoor DB27°C WB19°C

Outdoor DB35°C WB 24°C

Heating : Indoor DB 20°C WB15°C

Outdoor DB 7°C WB 6°C

Refrigerant piping length (one way): 5m

\* Reference value

\*1 Measured under rated operating frequency.

### Specifications and rating conditions of main electric parts

#### INDOOR UNIT

| Item                          | Model   | MSZ-A09YV - <span style="border: 1px solid black; padding: 0 2px;">E1</span> MSZ-A12YV - <span style="border: 1px solid black; padding: 0 2px;">E1</span> |
|-------------------------------|---------|---|
| Indoor fan capacitor          | (C11)   | 1.5μF 440V  |
| Fuse                          | (F11)   | 250V 3.15A  |
| Thermal fuse                  | (F12)   | 93°C 5A 250V  |
| Vane motor                    | (MV)    | MSBPC20 12V 250Ω  |
| Varistor                      | (NR11)  | ERZV10D471  |
| Solid state relay             | (SR141) | S201DH1Y  |
| Terminal block                | (TB)    | 5P  |
| Contactors                    | (52C)   | JM1aN-ZTMP-DC12V  |
| Indoor fan motor thermal fuse |         | 136°C ±3°C 2A   |

# 3

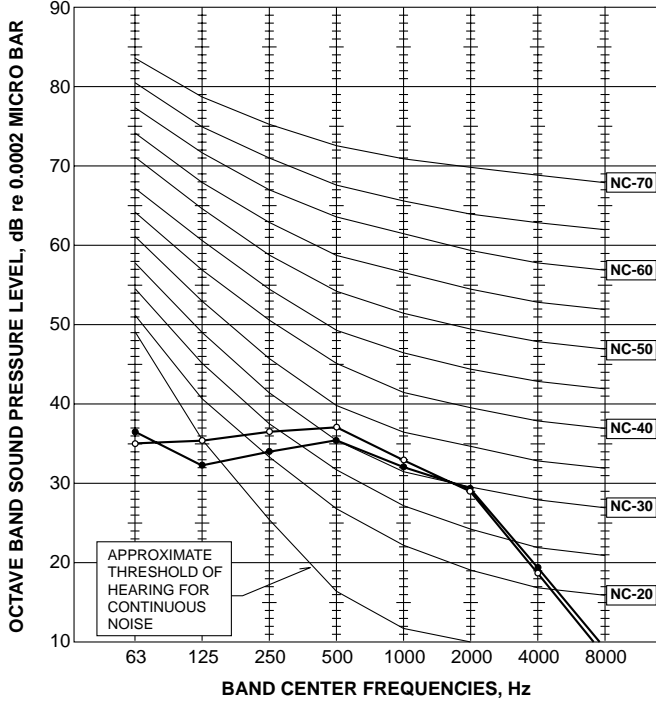
# NOISE CRITERIA CURVES

## MSZ-A09YV -[E1]

| FAN SPEED | FUNCTION | SPL(dB(A)) | LINE |
|-----------|----------|------------|------|
| High      | COOLING  | 37         | ●—●  |
|           | HEATING  | 38         | ○—○  |

Test conditions,

Cooling : Dry-bulb temperature 27°C Wet-bulb temperature 19°C  
 Heating : Dry-bulb temperature 20°C Wet-bulb temperature 15°C

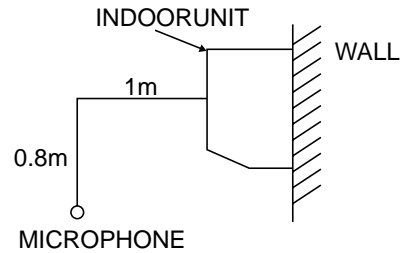
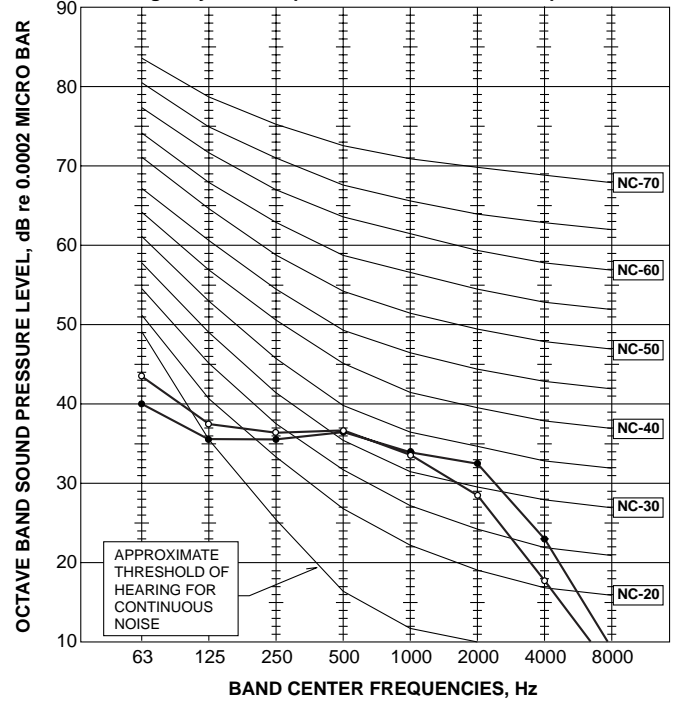


## MSZ-A12YV -[E1]

| FAN SPEED | FUNCTION | SPL(dB(A)) | LINE |
|-----------|----------|------------|------|
| High      | COOLING  | 39         | ●—●  |
|           | HEATING  | 38         | ○—○  |

Test conditions,

Cooling : Dry-bulb temperature 27°C Wet-bulb temperature 19°C  
 Heating : Dry-bulb temperature 20°C Wet-bulb temperature 15°C



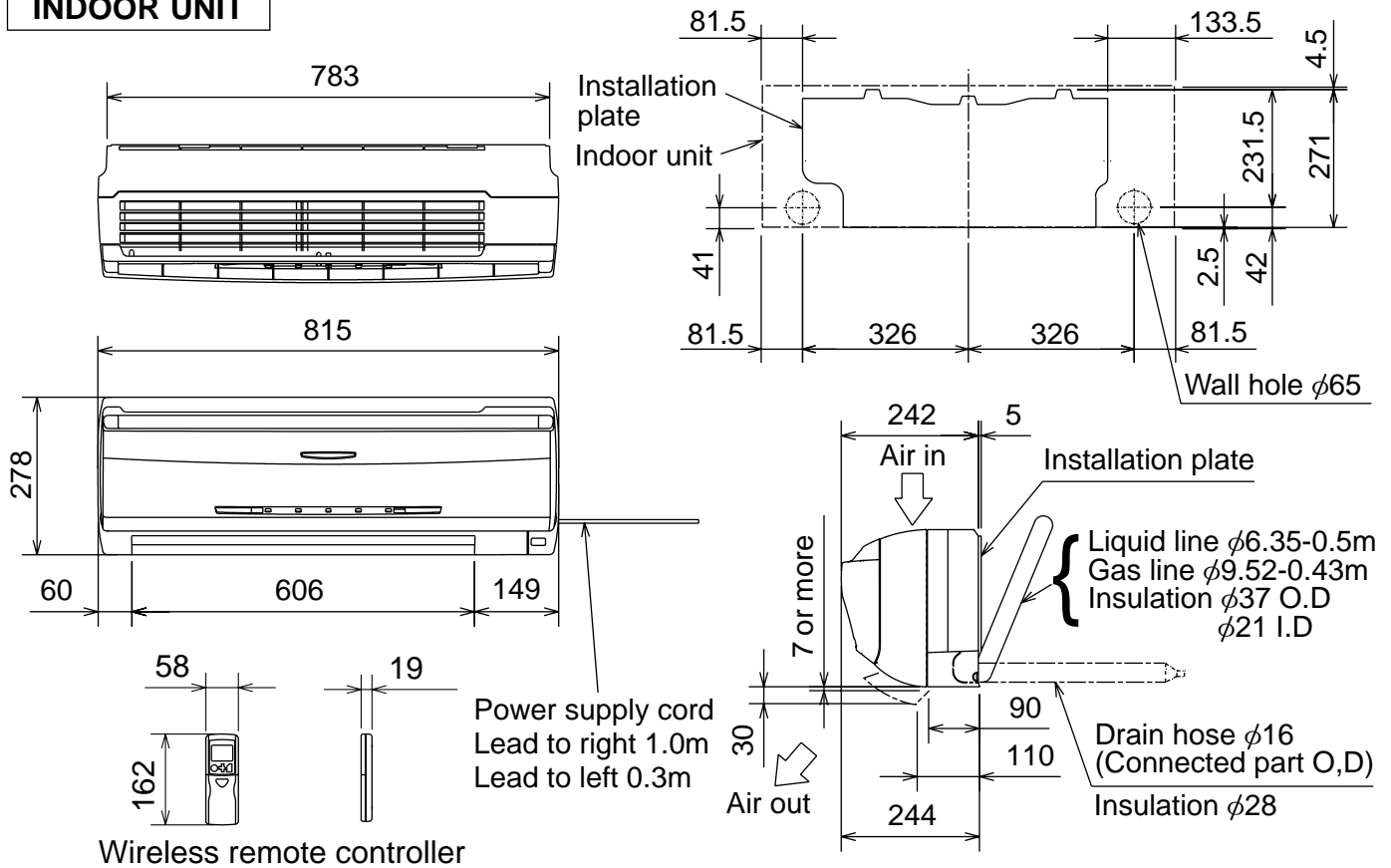
# 4

# OUTLINES AND DIMENSIONS

MSZ-A09YV -E1

Unit : mm

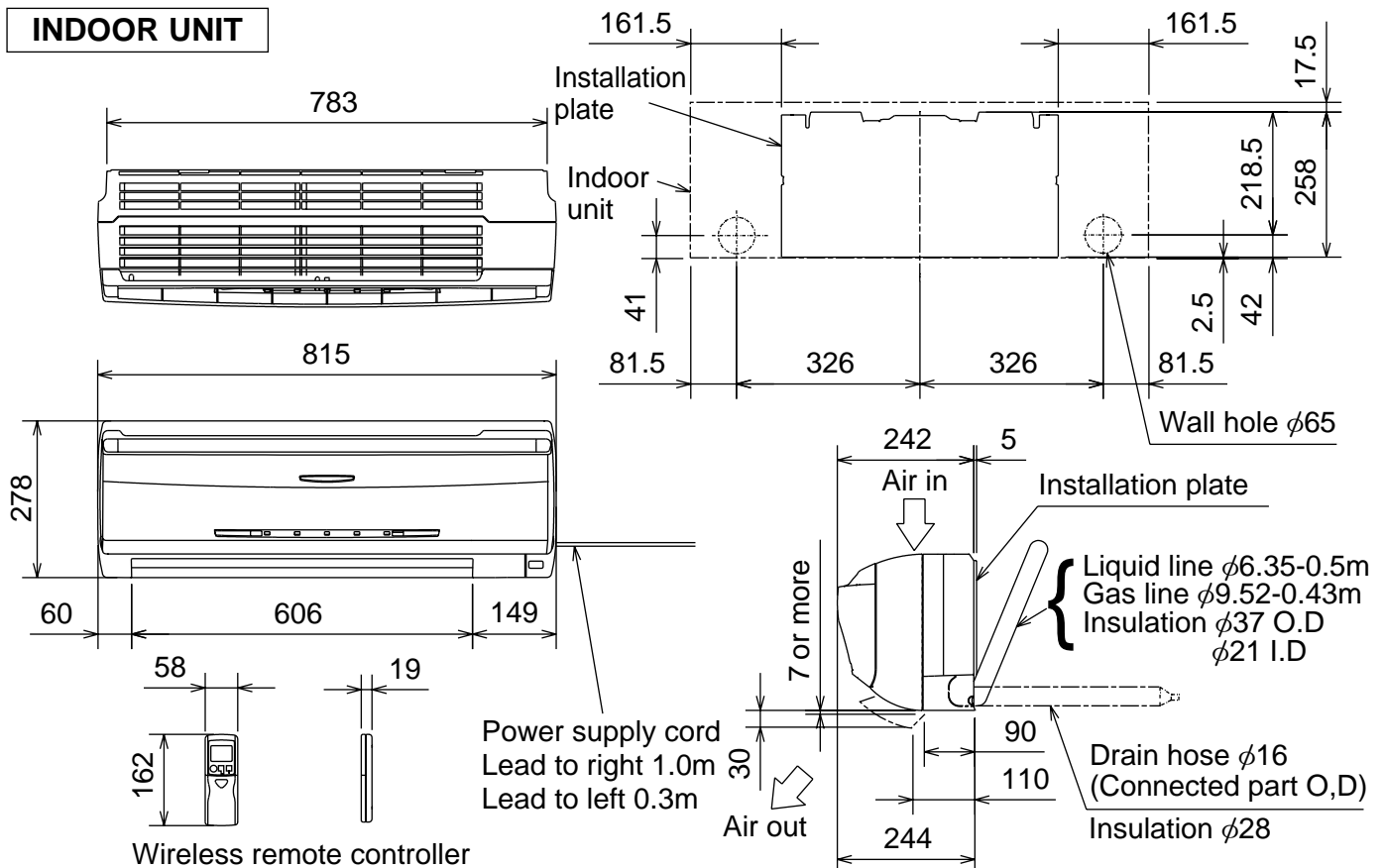
## INDOOR UNIT



MSZ-A12YV -E1

Unit : mm

## INDOOR UNIT



# 5

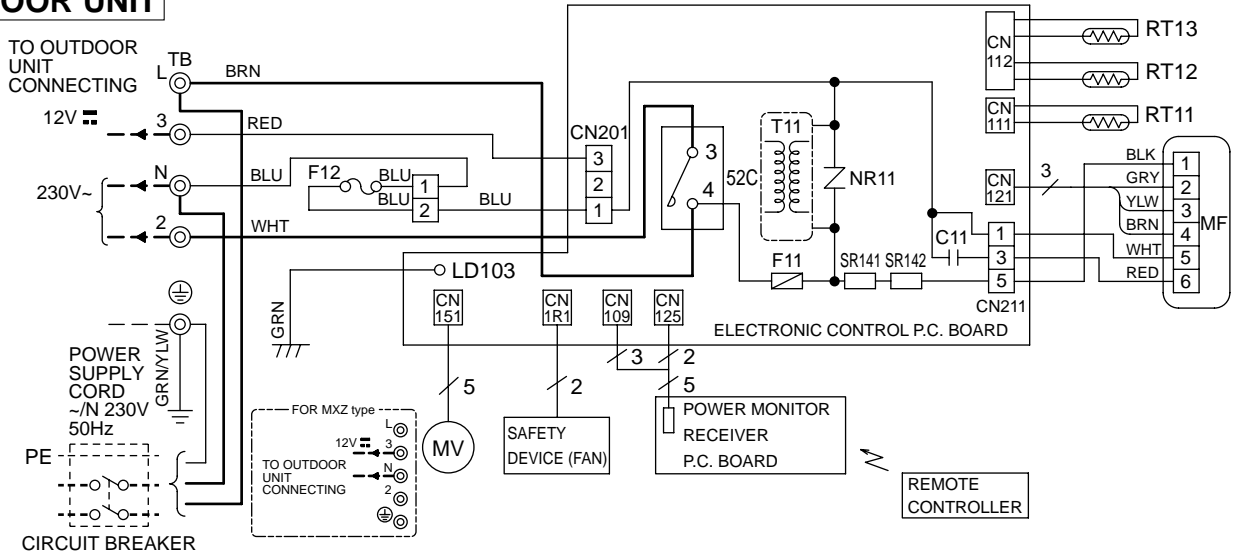
# WIRING DIAGRAM

MSZ-A09YV -[E1]

MSZ-A12YV -[E1]

## MODELS WIRING DIAGRAM

### INDOOR UNIT



| SYMBOL | NAME                          | SYMBOL | NAME                          | SYMBOL | NAME              |
|--------|-------------------------------|--------|-------------------------------|--------|-------------------|
| C11    | INDOOR FAN CAPACITOR          | NR11   | VARIATOR                      | SR142  | SOLID STATE RELAY |
| F11    | FUSE (3.15A)                  | RT11   | ROOM TEMPERATURE THERMISTOR   | T11    | TRANSFORMER       |
| F12    | THERMAL FUSE (93°C)           | RT12   | INDOOR COIL THERMISTOR (MAIN) | TB     | TERMINAL BLOCK    |
| MF     | INDOOR FAN MOTOR (INNER FUSE) | RT13   | INDOOR COIL THERMISTOR (SUB)  | 52C    | CONTACTOR         |
| MV     | VANE MOTOR                    | SR141  | SOLID STATE RELAY             |        |                   |

NOTE: 1. About the outdoor side electric wiring refer to the outdoor unit electric wiring diagram for servicing.  
 2. Use copper conductors only. (For field wiring)  
 3. Symbols below indicate.  
 ○: Terminal block, □: Connector

# 6

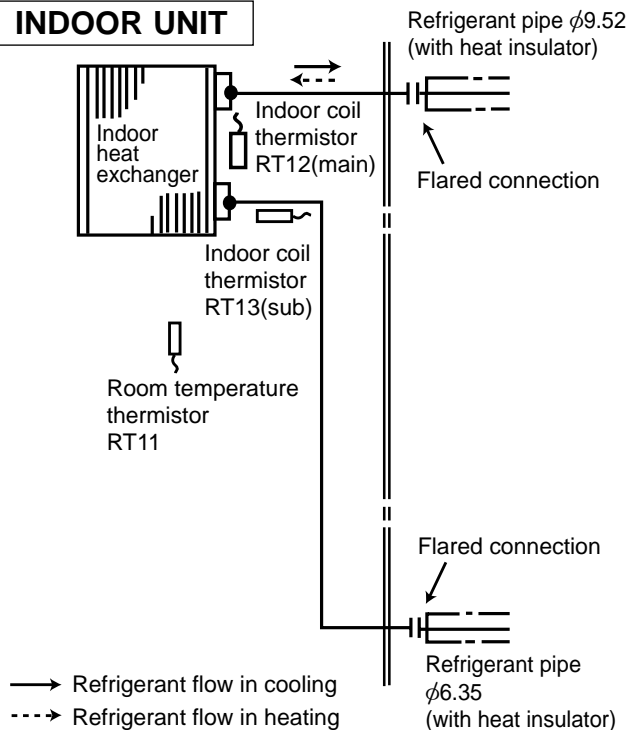
# REFRIGERANT SYSTEM DIAGRAM

MSZ-A09YV -[E1]

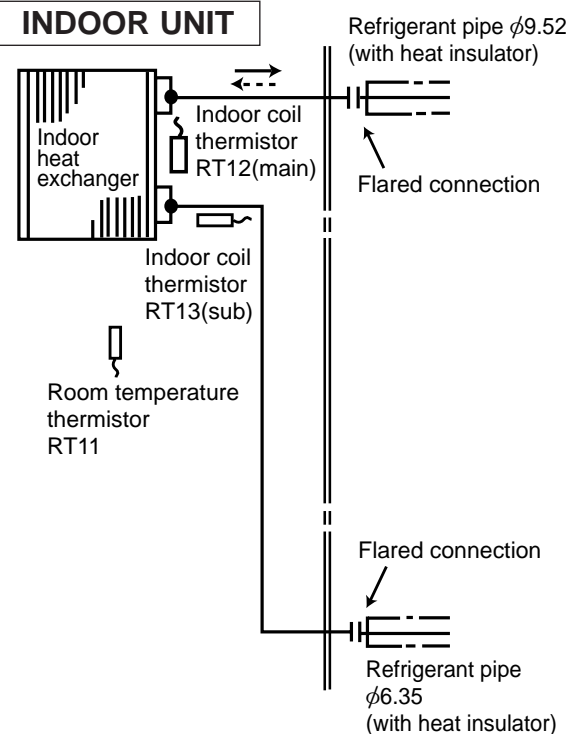
MSZ-A12YV -[E1]

Unit:mm

### INDOOR UNIT



### INDOOR UNIT



MSZ-A09YV -[E1]

MSZ-A12YV -[E1]

**7-1. TIMER SHORT MODE**

For service, set time can be shortened by short circuit of JPG and JPS the electronic control P.C. board.

The time will be shortened as follows. (Refer to page 18.)

Set time : 1-minute → 1-second

Set time : 3-minute → 3-second (It takes 3 minutes for the compressor to start operation. However, the starting time is shortened by short circuit of JPG and JPS.)

**7-2. P.C. BOARD MODIFICATION FOR INDIVIDUAL OPERATION**

A maximum of 4 indoor units with wireless remote controllers can be used in a room.

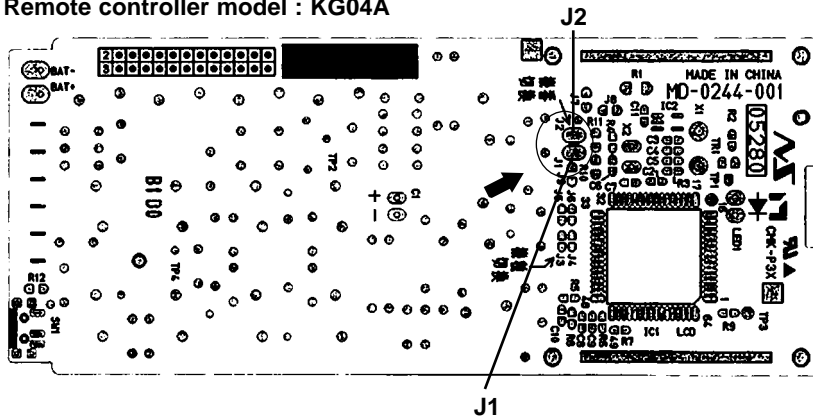
In this case, to operate each indoor unit individually by each remote controller, P.C. boards of remote controller must be modified according to the number of the indoor unit.

**How to modify the remote controller P.C. board**

Remove batteries before modification.

The board has a print as shown below :

Remote controller model : KG04A



**NOTE :** For remodelling, take out the batteries and press the OPERATE/STOP(ON/OFF) button twice or 3 times at first.

After finish remodelling, put back the batteries then press the RESET button.

The P.C. board has the print "J1" and "J2". Solder "J1" and "J2" according to the number of indoor unit as shown in Table 1.

After modification, press the RESET button.

**Table 1**

|            | 1 unit operation | 2 units operation | 3 units operation | 4 units operation     |
|------------|------------------|-------------------|-------------------|-----------------------|
| No. 1 unit | No modification  | Same as at left   | Same as at left   | Same as at left       |
| No. 2 unit | —                | Solder J1         | Same as at left   | Same as at left       |
| No. 3 unit | —                | —                 | Solder J2         | Same as at left       |
| No. 4 unit | —                | —                 | —                 | Solder both J1 and J2 |

**How to set the remote controller exclusively for particular indoor unit.**

After you turn the breaker ON, the first remote controller that sends the signal to the indoor unit will be regarded as the remote controller for the indoor unit.

The indoor unit will only accepts the signal from the remote controller that has been assigned to the indoor unit once they are set.

The setting will be cancelled if the breaker has turned off, or the power supply has shut down.

Please conduct the above setting once again after the power has restored.

**7-3. AUTO RESTART FUNCTION**

When the indoor unit is controlled with the remote controller, the operation mode, the set temperature, and the fan speed are memorized by the indoor electronic control P.C. board. The "AUTO RESTART FUNCTION" sets to work the moment power has restored after power failure. Then, the unit will restart automatically.

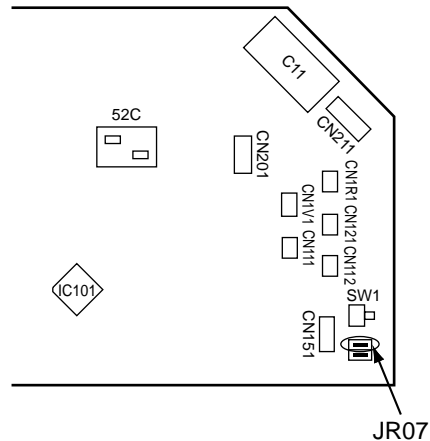
However if the unit is operated in "I FEEL CONTROL" mode before power failure,

the operation is not memorized. In "I FEEL CONTROL" mode, the operation is decided by the initial room temperature.



## How to release “AUTO RESTART FUNCTION”

- ① Turn off the main power for the unit.
- ② Pull out the indoor electronic control P.C. board and the power monitor receiver P.C.board. (Refer to page 19.)
- ③ Solder the Jumper wire to the JR07 on the indoor electronic control P.C.board. (Refer to page 18.)



### Operation

- ① If the main power (230V AC) has been cut, the operation settings remain.
- ② After the power is restored, the unit restarts automatically according to the memory. (However, it takes at least 3 minutes for the compressor to start running.)

### NOTE:

- The operation settings are memorized when 10 seconds have passed after the indoor unit was operated with the remote controller.
- If main power is turned OFF or a power failure occurs while AUTO START/STOP timer is active, the timer setting is cancelled.
- If the unit has been off with the remote controller before power failure, the auto restart function does not work as the power button of the remote controller is off.
- To prevent breaker off due to the rush of starting current, systematize other home appliance not to turn on at the same time.
- When some air conditioners are connected to the same supply system, if they are operated before power failure, the starting current of all the compressors may flow simultaneously at restart. Therefore, the special counter-measures are required to prevent the main voltage-drop or the rush of the starting current by adding to the system that allows the units to start one by one.

MSZ-A09YV -[E1]

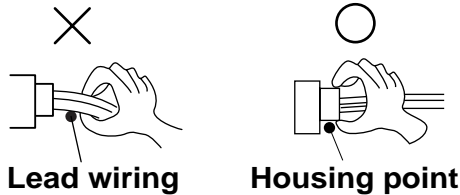
MSZ-A12YV -[E1]

**8-1. Cautions on troubleshooting****1. Before troubleshooting, check the following:**

- 1) Check the power supply voltage.
- 2) Check the indoor/outdoor connecting wire for mis-wiring.

**2. Take care the following during servicing.**

- 1) Before servicing the air conditioner, be sure to first turn off the remote controller to stop the main unit, and then after confirming the horizontal vane is closed, turn off the breaker and / or disconnect the power plug.
- 2) Be sure to turn OFF the power supply before removing the front panel, the cabinet, the top panel, and the electronic control P.C. board.
- 3) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.
- 4) When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.

**3. Troubleshooting procedure**

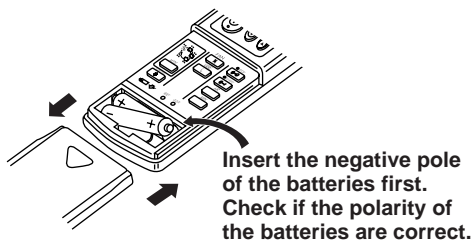
- 1) First, check if the OPERATION INDICATOR lamp on the indoor unit is flashing on and off to indicate an abnormality. To make sure, check how many times the abnormality indication is flashing on and off before starting service work.
- 2) Before servicing check that the connector and terminal are connected properly.
- 3) If the electronic control P.C. board is supposed to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.
- 4) When troubleshooting, refer to the flow chart on page 12 and the check table on page 13.

**4. How to replace batteries**

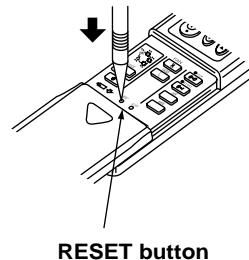
Weak batteries may cause the remote controller malfunction.

In this case, replace the batteries to operate the remote controller normally.

- ① Remove the front lid and insert batteries. Then reattach the front lid.



- ② Press the RESET button with tip end of ball point pen or the like, and then use the remote controller.



**NOTE :** 1. If the RESET button is not pressed, the remote controller may not operate correctly.

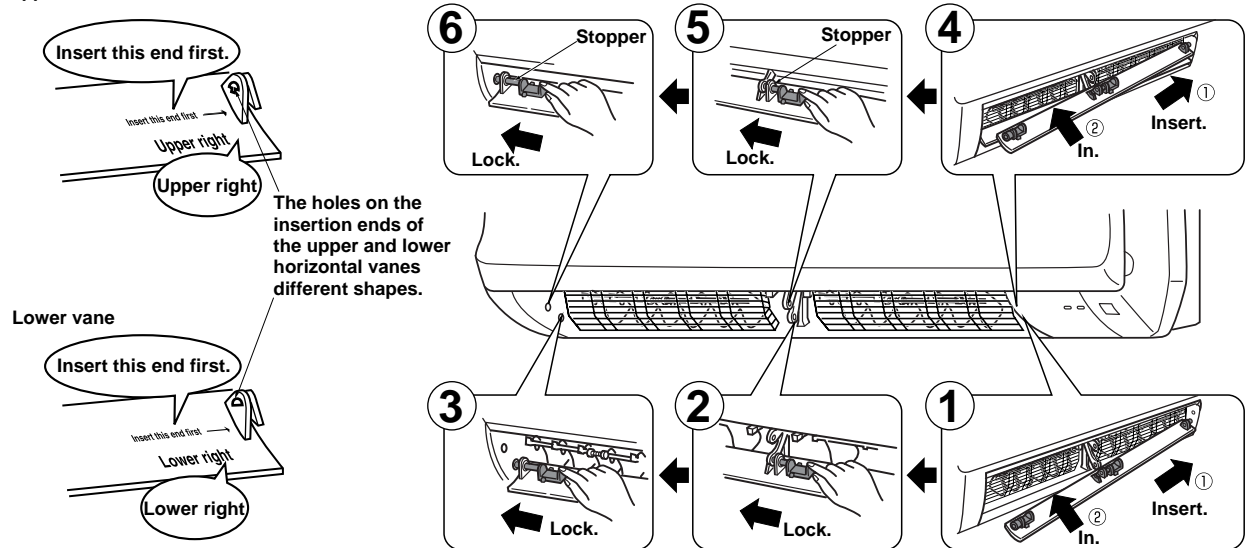
2. This remote controller has a circuit to automatically reset the microcomputer when batteries are replaced. This function is equipped to prevent the microcomputer from malfunctioning due to the voltage drop caused by the battery replacement.

## 5. How to install the horizontal vanes

If horizontal vanes are not installed correctly, both of the operation indicator lamps will flash.  
In this case, install the horizontal vanes correctly by following the procedures ① to ⑥.

**NOTE:** Before installation of the horizontal vanes, disconnect the power supply plug and/ or turn off the breaker.

Upper vane

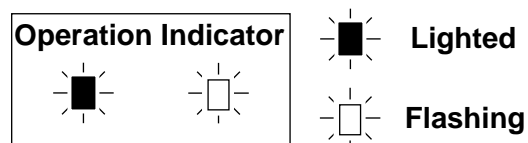


In procedures ②,③,⑤, and ⑥, lock the stoppers until they click into place.

### INFORMATION FOR MULTI SYSTEM AIR CONDITIONER OUTDOOR UNIT : MXZ series

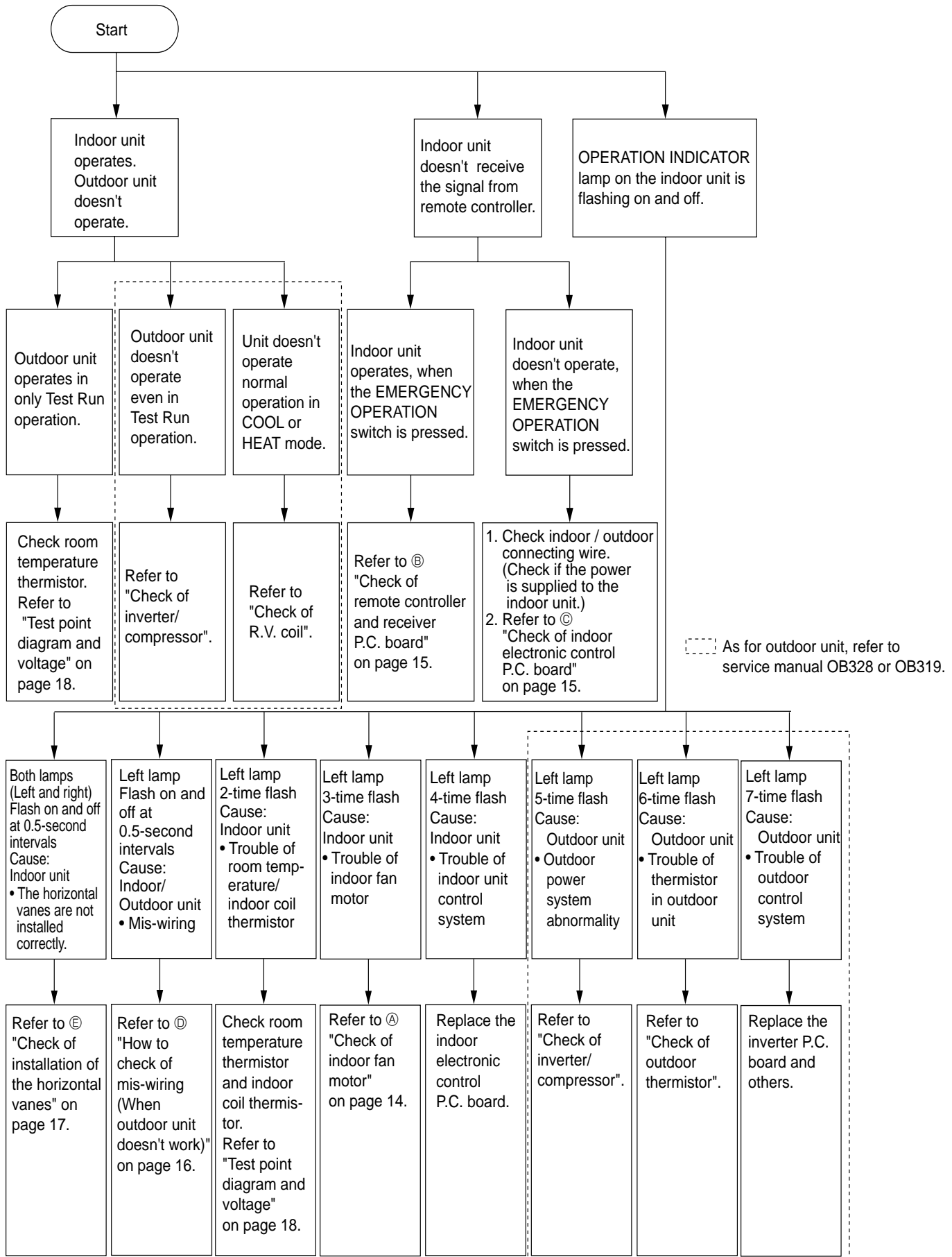
Multi system air conditioner can connect two or more indoor units with one outdoor unit.

- Unit won't operate in case the total capacity of indoor units exceeds the capacity of outdoor units. Do not connect indoor units beyond the outdoor unit capacity.  
Operation indicator lamp flashes as shown in the figure below.
- When you try to operate two or more indoor units with one outdoor unit simultaneously, one for the cooling and the other for heating, the operation mode of the indoor unit that operates earlier is selected. The other indoor units will start the operation later cannot operate, indicating as shown in the figure below. In this case, please set all the indoor units to the same operation mode.



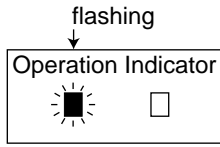
- When indoor units starts the operation while the defrosting of outdoor unit is being done, it takes a few minutes (max. 10 minutes) to blow out the warm air.
- In the heating operation, though indoor unit that does not operate may get warm or the sound of refrigerant flowing may be heard, they are not malfunction. The reason is that the refrigerant continuously flows into it.

## 8-2. Instruction of troubleshooting



### 1. Troubleshooting check table

- The following indication applies regardless of shape of the indicator.



- Flashing of the OPERATION INDICATOR lamp (on the left or both) indicates possible abnormalities.
- The OPERATION INDICATOR lamp (on the left) is lighting during normal operation.

**NOTE :** Before taking measures, make sure that the symptom reappears for accurate troubleshooting.  
Self check table

| No. | Abnormal point                    | Operation indicator lamp  | Symptom   | Detection method   | Check point  |
|-----|-----------------------------------|---|---|--|--|
| 1   | Attachment of the horizontal vane | Both lamps flash at the same time.<br>0.5-second ON<br>●○●○●○●○<br>0.5-second OFF                     | Indoor unit and outdoor unit do not operate.  | When the electricity is not conducted to the safety device (FAN) of the horizontal vane.   | • Refer to ⑥ "Check of installation of the horizontal vanes" on page 17.   |
|     | Mis-Wiring                        | Left lamp flashes.<br>0.5-second ON<br>●○●○●○●○<br>0.5-second OFF                                     | Outdoor unit does not operate.  | 3 minutes after power supply turns ON, when serial signal is not received.   | • Refer to ⑥ "How to check mis-wiring " on page 16.  |
| ※2  | Indoor coil thermistor            | Left lamp flashes.<br>2-time flash<br>●○●○●○●○●○●○<br>2.5-second OFF                                  | Outdoor unit does not operate.  | Detect Indoor coil/room temperature thermistor short or open circuit every 8 seconds during operation.   | • Refer to the characteristics of indoor coil thermistor, sub indoor coil thermistor, and room temperature thermistor on page 18.                      |
|     | Room temperature thermistor       |   |   |  |  |
| ※3  | Indoor fan motor                  | Left lamp flashes.<br>3-time flash<br>●○●○●○●○●○●○●○<br>2.5-second OFF                                | Indoor fan repeats 12 seconds ON and 3 minutes OFF. When the indoor fan breaks, the fan keeps stopping. | When rotational frequency feedback signal is not emit during 12-second indoor fan operation.   | • Refer to ④ "Check of indoor fan motor" on page 14.   |
| 4   | Indoor control system             | Left lamp flashes.<br>4-time flash<br>●○●○●○●○●○●○●○●○<br>2.5-second OFF                              | Outdoor unit does not operate.  | When it cannot properly read data in the nonvolatile memory of indoor electronic control P.C. board.   | • Replace the indoor electronic control P.C. board.  |
| 5   | Outdoor power system              | Left lamp flashes.<br>5-time flash<br>●○●○●○●○●○●○●○●○●○<br>2.5-second OFF                            | Outdoor unit does not operate.  | When compressor has stopped due to over current protection or start-up failure protection 3 times in a row within 5 seconds after start-up.  | • Refer to "Check of inverter/compressor". Refer to service manual OB328 or OB319.   |
| 6   | Outdoor thermistors               | Left lamp flashes.<br>6-time flash<br>●○●○●○●○●○●○●○●○●○<br>2.5-second OFF                            | Outdoor unit does not operate.  | <Thermistor short> Thermistors are abnormal when they short after compressor start-up.<br><Thermistor open> Thermistors are abnormal when they open after compressor start-up. However, discharge temperature thermistor is abnormal when open circuit is detected more than 10 minutes after compressor start-up. | • Shortage of refrigerant<br>• Replace the outdoor control P.C. board. Refer to "Check of outdoor thermistor". Refer to service manual OB328 or OB319. |
| 7   | Outdoor control system            | Left lamp flashes.<br>7-time flash<br>●○●○●○●○●○●○●○●○●○●○<br>2.5-second OFF                          | Outdoor unit does not operate.  | When it cannot properly read data in the nonvolatile memory of outdoor electronic control P.C. board.  | • Replace the outdoor electronic control P.C. board or inverter P.C. board. Refer to service manual OB328 or OB319.                                    |
| 8   | MXZ type Operation mode setting   | Both lamp<br>Operation Indicator<br>●○●○●○●○●○●○●○●○●○<br>2.5-second OFF<br>●: Lighted<br>●: Flashing | Outdoor unit operates but indoor unit does not operate.   | When the operation mode of each indoor unit is differently set to COOL(includes DRY) and HEAT at same time, the operation mode of indoor unit that has operated at first has the priority.   | • Unify the operation mode. Refer to service manual OB319.   |

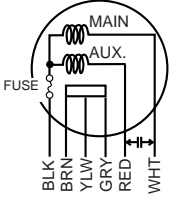
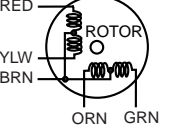
**NOTE :** ※ When the indoor unit has started operation and the above detection method has detected an abnormality (the first detection after the power ON), the indoor electronic control P.C. board turns OFF the 52C and the indoor fan motor with the OPERATION INDICATOR lamp lighting.

When the 52C and the indoor fan motor are turned ON again 3 minutes later and the same abnormality is detected (a second detection of the above abnormality after the power ON), the indoor electronic control P.C. board turns OFF the 52C and the indoor fan motor with the OPERATION INDICATOR lamp flashing.

However, the first detection is cleared in case the power is turned OFF after the first detection.

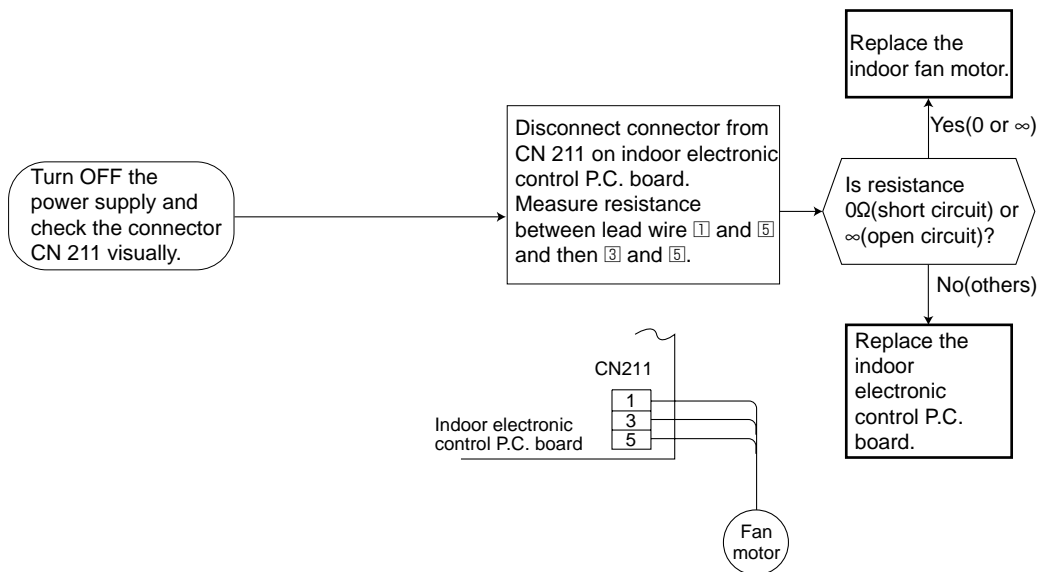
## 2. Trouble criterion of main parts

### MSZ-A09YV -[E1] MSZ-A12YV -[E1]

| Part name                                      | Check method and criterion  | Figure                |          |          |                    |               |                       |  |  |                       |           |               |                       |   |
|--|---|-----------------------|----------|----------|--------------------|---------------|-----------------------|--|--|-----------------------|-----------|---------------|-----------------------|---|
| Room temperature thermistor(RT11)              | Measure the resistance with a tester. (Part temperature 10°C ~ 30°C)  | /                     |          |          |                    |               |                       |  |  |                       |           |               |                       |   |
| Indoor coil thermistor (RT12(MAIN), RT13(SUB)) |   |                       |          |          |                    |               |                       |  |  |                       |           |               |                       |   |
| Indoor fan motor(MF)                           | Measure the resistance between the terminals with a tester. (Part temperature 10°C ~ 30°C) <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th></th> <th>Normal</th> <th>Abnormal</th> </tr> </thead> <tbody> <tr> <td>Color of lead wire</td> <td></td> <td></td> </tr> <tr> <td>WHT – BLK</td> <td>303 Ω ~ 329 Ω</td> <td>Open or short-circuit</td> </tr> <tr> <td>BLK – RED</td> <td>287 Ω ~ 311 Ω</td> <td>Open or short-circuit</td> </tr> </tbody> </table> |                       | Normal   | Abnormal | Color of lead wire |               |                       | WHT – BLK  | 303 Ω ~ 329 Ω                                      | Open or short-circuit | BLK – RED | 287 Ω ~ 311 Ω | Open or short-circuit |  |
|  |   | Normal                | Abnormal |          |                    |               |                       |  |  |                       |           |               |                       |   |
| Color of lead wire                             |   |                       |          |          |                    |               |                       |  |  |                       |           |               |                       |   |
| WHT – BLK                                      | 303 Ω ~ 329 Ω   | Open or short-circuit |          |          |                    |               |                       |  |  |                       |           |               |                       |   |
| BLK – RED                                      | 287 Ω ~ 311 Ω   | Open or short-circuit |          |          |                    |               |                       |  |  |                       |           |               |                       |   |
| INNER FUSE<br>136± 3°C CUT OFF                 | Measure the voltage power ON. <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Color of lead wire</th> <th>Normal</th> <th>Abnormal</th> </tr> </thead> <tbody> <tr> <td>BRN – YLW</td> <td>4.5 ~ 5.5V</td> <td rowspan="2">Remain 0V or 5V</td> </tr> <tr> <td>YLW – GRY</td> <td>(When fan revolved one time)<br/>0V→5V→0V (Approx.)</td> </tr> </tbody> </table>   | Color of lead wire    | Normal   | Abnormal | BRN – YLW          | 4.5 ~ 5.5V    | Remain 0V or 5V       | YLW – GRY  | (When fan revolved one time)<br>0V→5V→0V (Approx.) |                       |           |               |                       |   |
| Color of lead wire                             | Normal  | Abnormal              |          |          |                    |               |                       |  |  |                       |           |               |                       |   |
| BRN – YLW                                      | 4.5 ~ 5.5V  | Remain 0V or 5V       |          |          |                    |               |                       |  |  |                       |           |               |                       |   |
| YLW – GRY                                      | (When fan revolved one time)<br>0V→5V→0V (Approx.)  |                       |          |          |                    |               |                       |  |  |                       |           |               |                       |   |
| Vane motor(MV)                                 | Measure the resistance between the terminals with a tester. (Part temperature 10°C ~ 30°C) <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Color of lead wire</th> <th>Normal</th> <th>Abnormal</th> </tr> </thead> <tbody> <tr> <td>BRN-other one</td> <td>240 Ω ~ 260 Ω</td> <td>Open or short-circuit</td> </tr> </tbody> </table>  | Color of lead wire    | Normal   | Abnormal | BRN-other one      | 240 Ω ~ 260 Ω | Open or short-circuit |  |  |                       |           |               |                       |   |
| Color of lead wire                             | Normal  | Abnormal              |          |          |                    |               |                       |  |  |                       |           |               |                       |   |
| BRN-other one                                  | 240 Ω ~ 260 Ω   | Open or short-circuit |          |          |                    |               |                       |  |  |                       |           |               |                       |   |

When OPERATION INDICATOR lamp flashes 3-time.  
Indoor fan does not operate.

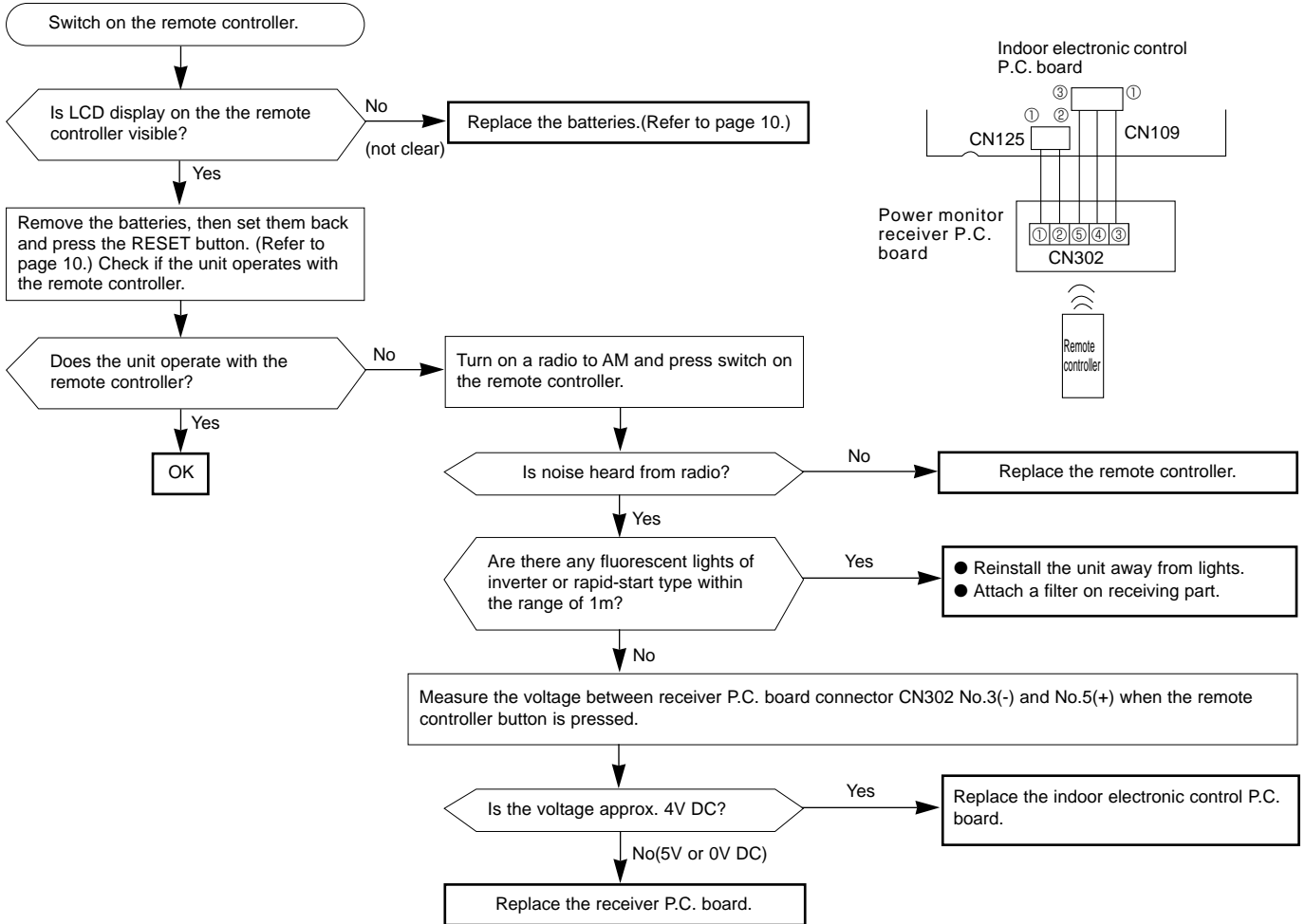
#### Ⓐ Check of indoor fan motor



Indoor unit operates by pressing the EMERGENCY OPERATION switch, but does not operate with the remote controller.

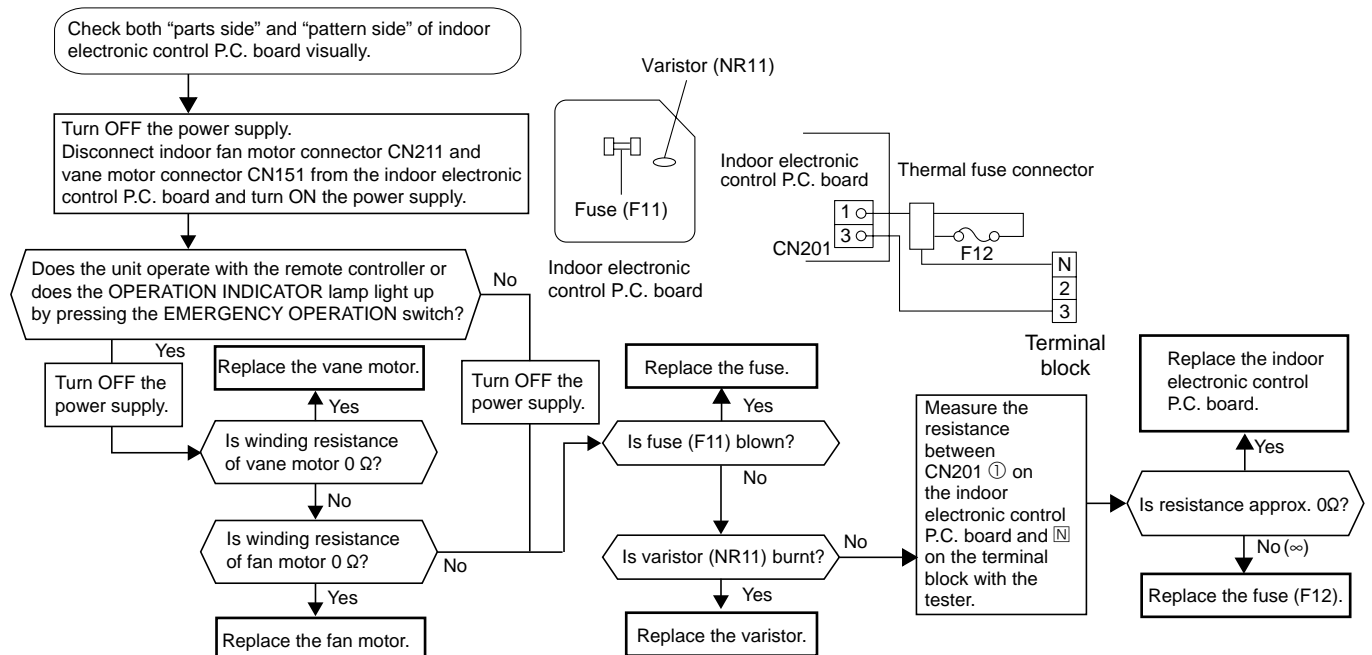
### Ⓑ Check of remote controller and receiver P.C. board

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



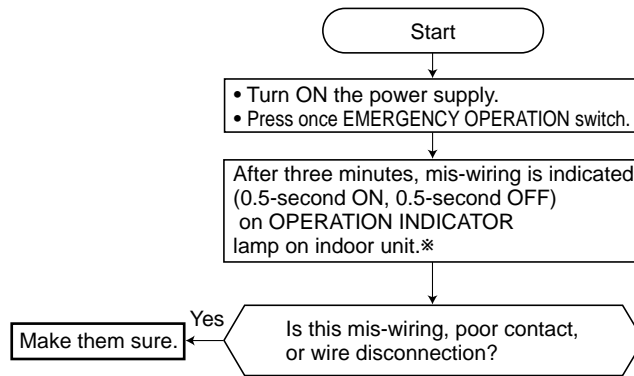
The unit doesn't operate with the remote controller. Also, the OPERATION INDICATOR lamp doesn't light up by pressing the EMERGENCY OPERATION switch.

### Ⓒ Check of indoor electronic control P.C. board

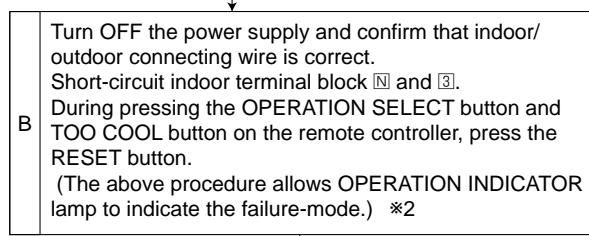


When OPERATION INDICATOR lamp flashes ON and OFF in every 0.5-second or flashes once.  
Outdoor unit doesn't operate.

**④ How to check mis-wiring**

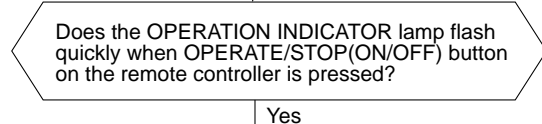
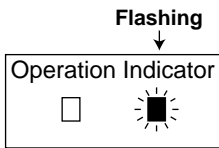


\* Short circuit of JPG and JPS on the indoor electronic control P.C. board enables self-check to be displayed in 3 seconds.

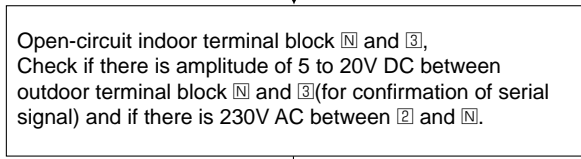


\*2 Mis-wiring may damage indoor electronic control P.C. board during the operation in the left. Be sure to confirm the wiring is correct before the operation starts.

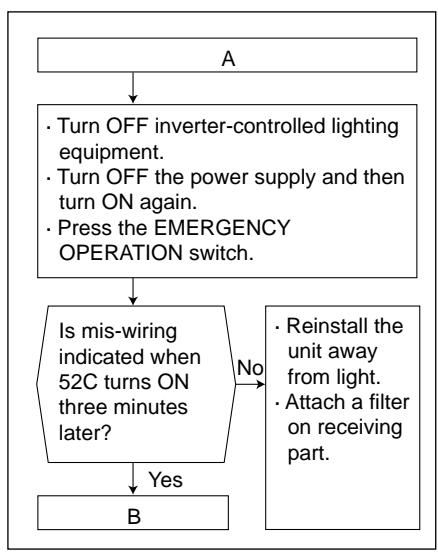
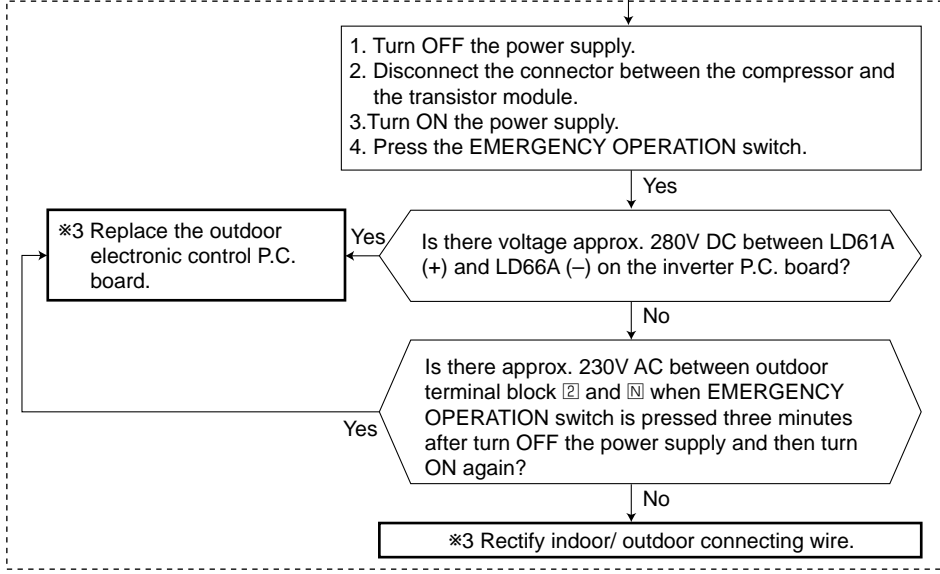
•The following indication applies regardless of shape of the indicator.



\*3 Replace the indoor electronic control P.C. board.



\*3 Be sure to release the failure-mode recall function after checking.  
Procedure of release of failure-mode  
① Press the EMERGENCY OPERATION switch.  
② Turn OFF the power supply and then turn ON again.  
③ Press the RESET button on the remote controller.

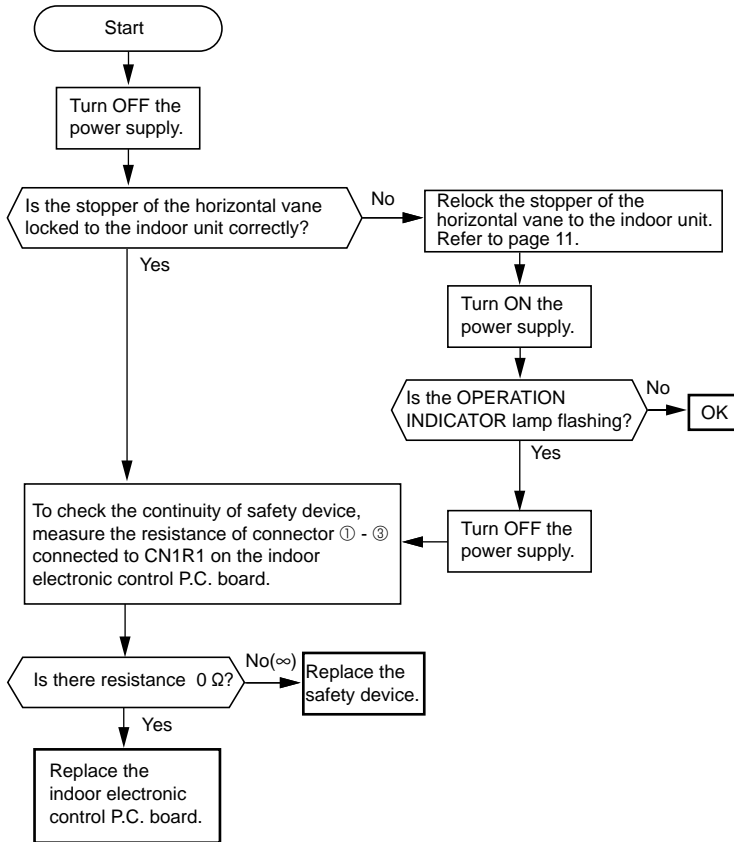


As for outdoor unit, refer to service manual OB328 or OB319.

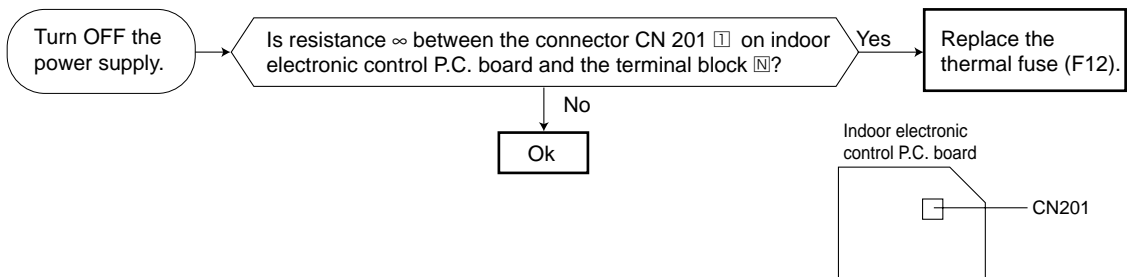


When both OPERATION INDICATOR lamps flash 1-time.  
Indoor unit and outdoor unit don't operate.

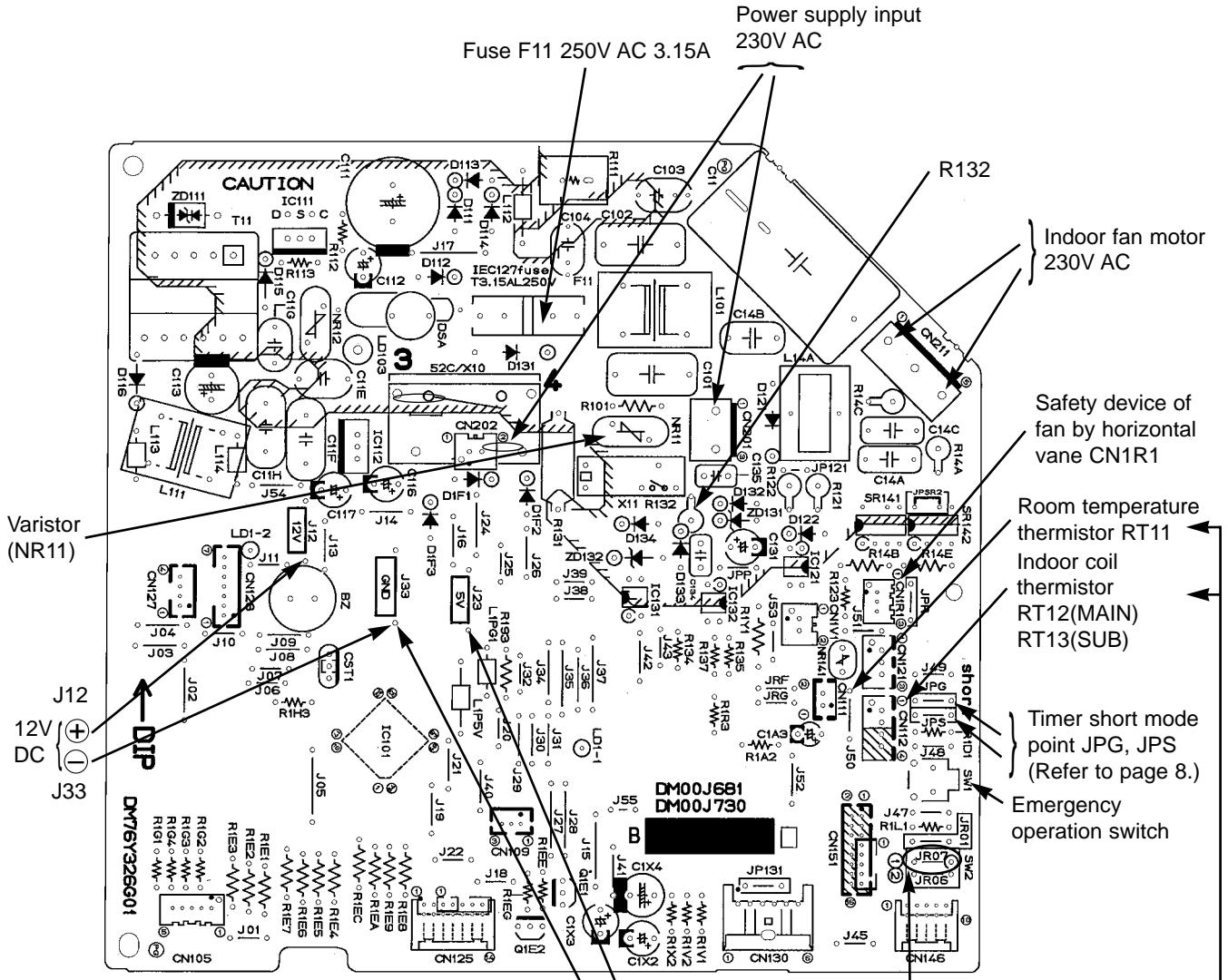
**E Check of installation of the horizontal vanes**



**F Check of thermal fuse**



**TEST POINT DIAGRAM AND VOLTAGE**  
**MSZ-A09YV -E1 MSZ-A12YV -E1**  
**Indoor electronic control P.C. board**



Power supply input  
230V AC

Fuse F11 250V AC 3.15A

Indoor fan motor  
230V AC

Safety device of fan by horizontal vane CN1R1

Room temperature thermistor RT11  
Indoor coil thermistor RT12(MAIN) RT13(SUB)

Timer short mode point JPG, JPS (Refer to page 8.)

Emergency operation switch

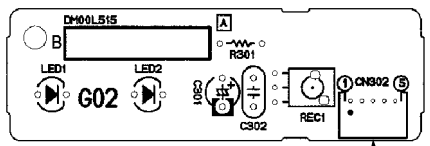
Varistor (NR11)

12V DC  
J12  
J33

Power monitor receiver P.C. board

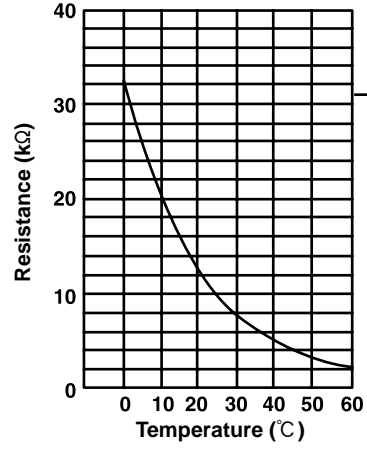
J33 + J23  
5V DC

Release of Auto restart function  
Solder the Jumper wire to the JR07.  
(Refer to page 9.)



CN302

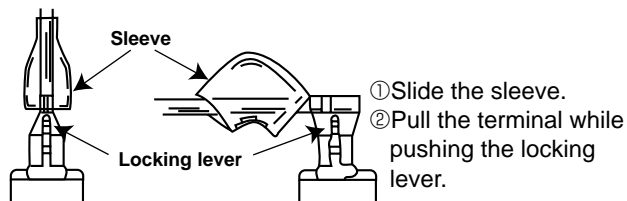
Indoor coil thermistor [RT12 (MAIN), RT13 (SUB)]  
Room temperature thermistor (RT11)



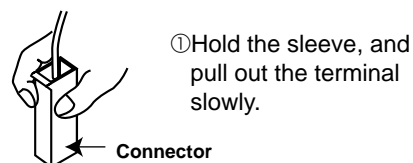
## &lt;"Terminal with lock mechanism" Detaching points&gt;

In case of terminal with lock mechanism, detach the terminal as shown below.  
There are two types ( Refer to (1) and (2)) of the terminal with lock mechanism.  
The terminal with no lock mechanism can be removed by pulling it out.  
Check the shape of the terminal and work.

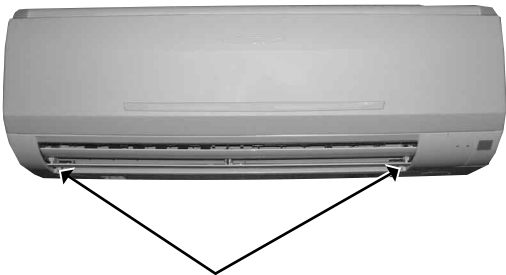
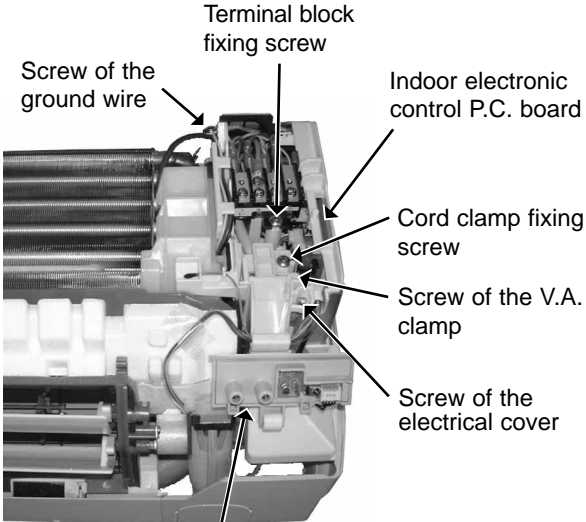
(1) Slide the sleeve and check if there is a locking lever or not.



(2) The terminal with this connector is a terminal with lock mechanism



### 9-1. MSZ-A09YV -E1 MSZ-A12YV -E1 INDOOR UNIT

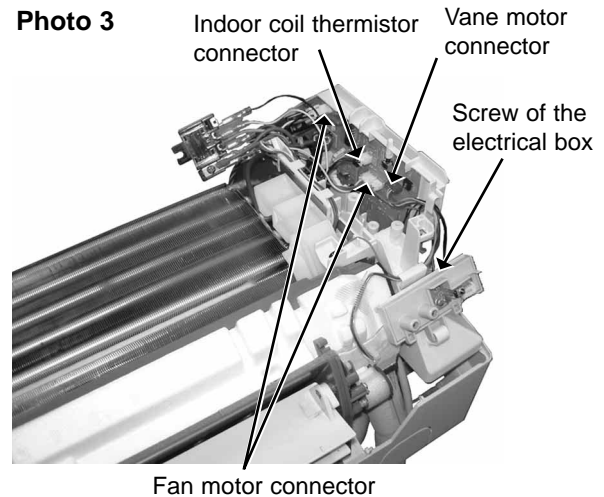
| OPERATING PROCEDURE  | PHOTOS   |
|--|--|
| <p><b>1. Removing the panel</b></p> <p>(1) Remove the screw caps of the panel.<br/>Remove the screws.</p> <p>(2) Pull the panel down to your side slightly and unhook the catches at the top.</p>  | <p><b>Photo 1</b></p>  <p>Screws of the panel</p>  |
| <p><b>2. Removing the electronic control P.C. board and the power monitor receiver P.C. board</b></p> <p><b>NOTE :</b> In case of removing only indoor electronic control P.C. board work (3) is not necessary.</p> <p>(1) Remove the panel. (Refer to 1.)</p> <p>(2) Remove the power monitor receiver P.C. board holder from the bottom of electrical box.</p> <p>(3) Open the power monitor receiver P.C. board holder and remove the power monitor receiver P.C. board.</p> <p>(4) Remove the screw of the electrical cover and the electrical cover.</p> <p>(5) Remove the screw of the V.A. clamp and the V.A. clamp.</p> <p>(6) Remove the screw of the cord clamp and the cord clamp.</p> <p>(7) Remove the screw of the terminal block.</p> <p>(8) Remove the screw of the ground wire.</p> <p>(9) Pull out indoor electronic control P.C. board slightly.</p> <p>(10) Disconnect all (except CN109, CN125) the connectors on the electronic control P.C. board.</p> <p>(11) Remove the electronic control P.C. board.</p> <p>(12) Disconnect the connector of power monitor receiver P.C. board (CN109, CN125) on the electronic control P.C. board.</p> | <p><b>Photo 2</b></p>  <p>Terminal block fixing screw</p> <p>Screw of the ground wire</p> <p>Indoor electronic control P.C. board</p> <p>Cord clamp fixing screw</p> <p>Screw of the V.A. clamp</p> <p>Screw of the electrical cover</p> <p>Power monitor receiver P.C. board holder</p> |

## OPERATING PROCEDURE

### 3. Removing the electrical box

- (1) Remove the panel. (Refer to 1.)
- (2) Remove the electrical cover. (Refer to 2.)
- (3) Remove the V.A. clamp. (Refer to 2.)
- (4) Remove the cord clamp. (Refer to 2.)
- (5) Remove the terminal block. (Refer to 2.)
- (6) Remove the screw of ground wire. (Refer to 2.)
- (7) Disconnect the connector of the indoor coil thermistor (CN112), the fan motor connector (CN211 and CN121), the vane motor connector (CN151) and the connector of the safety device (CN1R1) on the electronic control P.C. board.
- (8) Remove the fan motor lead wire and indoor coil thermistor from the bottom of electrical box.
- (9) Remove the lead wire of vane motor and safety device from the bottom of electrical box.
- (10) Remove the screw fixing the electrical box, remove the electrical box.

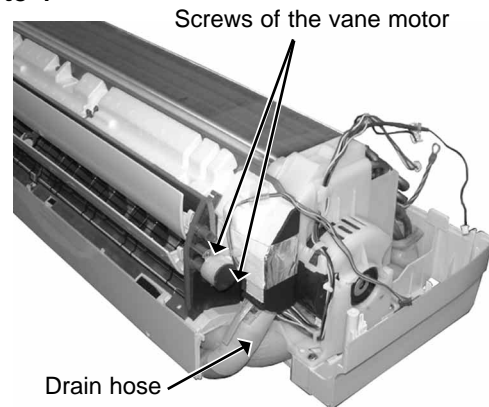
Photo 3



### 4. Removing the nozzle assembly and the vane motor

- (1) Remove the panel. (Refer to 1.)
- (2) Remove the electrical box. (Refer to 3.)
- (3) Pull out the drain hose from the nozzle assembly, remove the nozzle assembly.
- (4) Remove the screws of the vane motor, disconnect the vane motor connector.
- (5) Remove the vane motor.

Photo 4



### 5. Removing the indoor fan motor and the line flow fan

- (1) Remove the panel. (Refer to 1.)
- (2) Remove the electrical box. (Refer to 3.)
- (3) Pull out the drain hose from the nozzle assembly, remove the nozzle assembly. (Refer to 4.)
- (4) Remove the screw of the lead cover and the lead cover.
- (5) Remove the lead wire of the fan motor.
- (6) Release the hooks of the motor band and open it slightly.
- (7) Loosen the hexagon socket set screw of the line flow fan.
- (8) Remove the screws fixing the motor bed, remove the fan motor with motor band and the motor bed.
- (9) Remove the screws fixing the left side of the heat exchanger.
- (10) Lift the left side of the heat exchanger.
- (11) Remove the line flow fan.

Photo 5

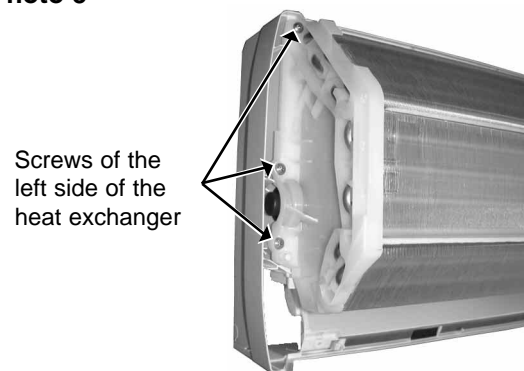


Photo 6

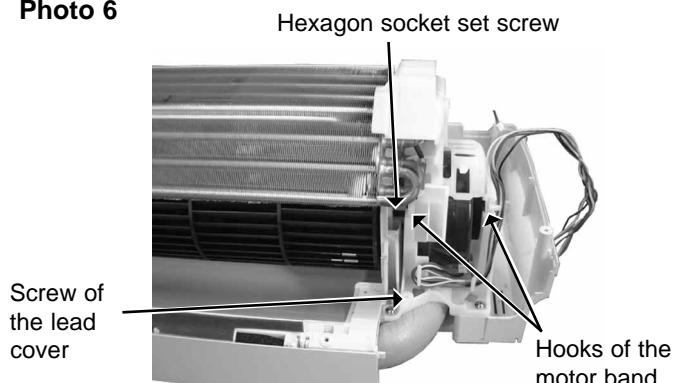
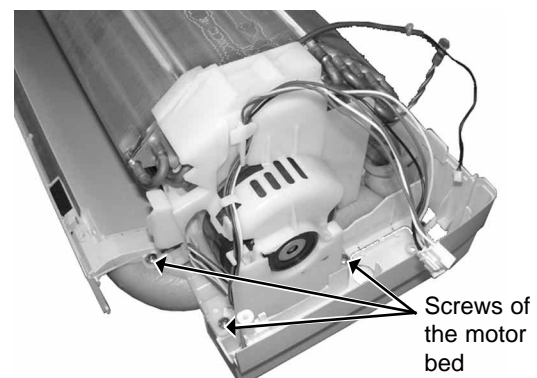


Photo 7



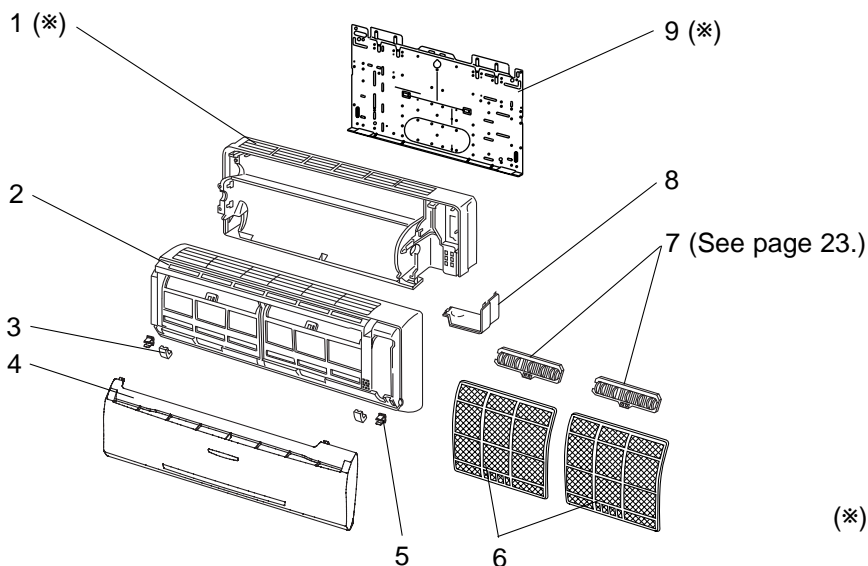
# 10

# PARTS LIST

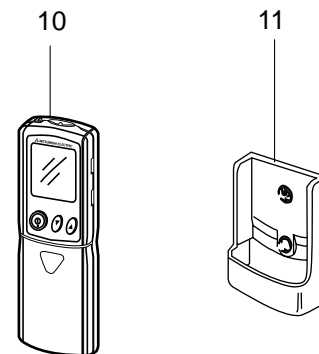
MSZ-A09YV -<sup>[E1]</sup> (WH)

MSZ-A12YV -<sup>[E1]</sup> (WH)

## 10-1. INDOOR UNIT STRUCTURAL PARTS



## 10-2. ACCESSORY AND REMOTE CONTROLLER



(\*) These figures show about MSZ-A12YV.

## 10-1. INDOOR UNIT STRUCTURAL PARTS

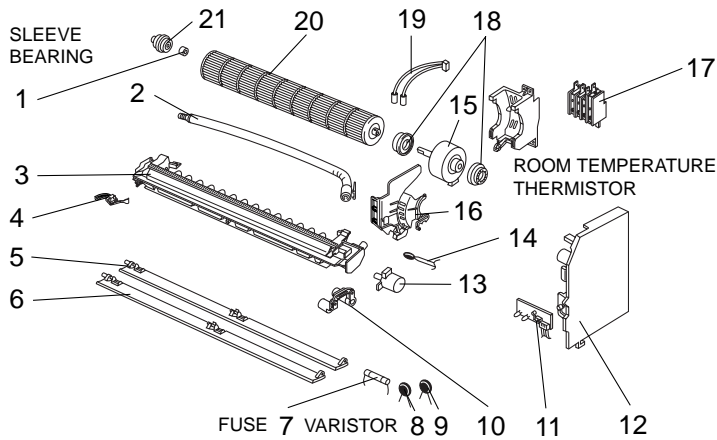
| No. | Part No.    | Part name           | Symbol in Wiring Diagram | Q'ty/unit                        |                                  | Remarks            |
|-----|-------------|---------------------|--------------------------|----------------------------------|----------------------------------|--------------------|
|     |             |                     |                          | MSZ-A09YV - <sup>[E1]</sup> (WH) | MSZ-A12YV - <sup>[E1]</sup> (WH) |                    |
| 1   | E02 749 234 | BOX (WH)            |                          | 1                                |                                  |                    |
|     | E02 751 234 | BOX (WH)            |                          |                                  | 1                                |                    |
| 2   | E02 838 000 | PANEL ASSEMBLY (WH) |                          | 1                                | 1                                | Including No.3,4,5 |
| 3   | E02 749 067 | SCREW CAP           |                          | 2                                | 2                                | 2PCS/SET           |
| 4   | E02 838 010 | FRONT PANEL (WH)    |                          | 1                                | 1                                |                    |
| 5   | E02 408 142 | CATCH               |                          | 2                                | 2                                | 2PCS/SET           |
| 6   | E02 763 100 | CATECHIN AIR FILTER |                          | 2                                |                                  |                    |
|     | E02 764 100 | CATECHIN AIR FILTER |                          |                                  | 2                                |                    |
| 7   | —————       | AIR CLEANING FILTER |                          | 2                                | 2                                | MAC-1300FT         |
| 8   | E02 749 975 | CORNER BOX (RIGHT)  |                          | 1                                | 1                                |                    |
| 9   | E02 408 970 | INSTALLATION PLATE  |                          | 1                                |                                  |                    |
|     | E02 751 970 | INSTALLATION PLATE  |                          |                                  | 1                                |                    |

## 10-2. ACCESSORY AND REMOTE CONTROLLER

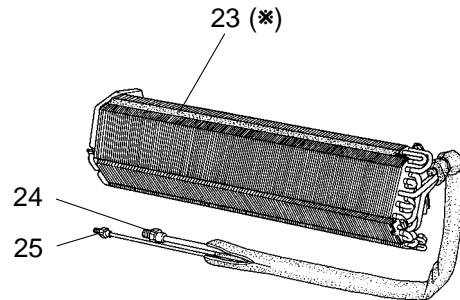
|    |             |                          |  |   |   |       |
|----|-------------|--------------------------|--|---|---|-------|
| 10 | E02 838 426 | REMOTE CONTROLLER        |  | 1 | 1 | KG04A |
| 11 | E02 527 083 | REMOTE CONTROLLER HOLDER |  | 1 | 1 |       |

**MSZ-A09YV -E1 (WH)**  
**MSZ-A12YV -E1 (WH)**

**10-3. INDOOR UNIT ELECTRICAL PARTS AND FUNCTIONAL PARTS**



**10-4. INDOOR UNIT HEAT EXCHANGER**



(\* This figure shows about MSZ-A12YV.

**10-3. INDOOR UNIT ELECTRICAL PARTS AND FUNCTIONAL PARTS**

Part number that is circled is not shown in the illustration.

| No. | Part No.    | Part name                         | Symbol in Wiring Diagram | Q'ty/unit         |                   | Remarks      |
|-----|-------------|-----------------------------------|--------------------------|-------------------|-------------------|--------------|
|     |             |                                   |                          | MSZ-A09YV-E1 (WH) | MSZ-A12YV-E1 (WH) |              |
| 1   | E02 001 504 | SLEEVE BEARING                    |                          | 1                 | 1                 |              |
| 2   | E02 661 702 | DRAIN HOSE                        |                          | 1                 | 1                 |              |
| 3   | E02 838 235 | NOZZLE ASSEMBLY (WH)              |                          | 1                 | 1                 |              |
| 4   | E02 815 316 | SAFETY DEVICE                     |                          | 1                 | 1                 |              |
| 5   | E02 838 040 | VANE UPPER                        |                          | 1                 | 1                 |              |
| 6   | E02 838 041 | VANE LOWER                        |                          | 1                 | 1                 |              |
| 7   | E02 127 382 | FUSE                              | F11                      | 1                 | 1                 | 3.15A        |
| 8   | E02 829 385 | VARISTOR                          | NR11                     | 1                 | 1                 |              |
| 9   | E02 749 385 | VARISTOR                          | NR12                     | 1                 | 1                 |              |
| 10  | E02 763 034 | VANE CRANK SET                    |                          | 1                 | 1                 |              |
| 11  | E02 815 468 | POWER MONITOR RECEIVER P.C. BOARD |                          | 1                 | 1                 |              |
| 12  | E02 838 452 | ELECTRONIC CONTROL P.C. BOARD     |                          | 1                 |                   | AUTO RESTART |
|     | E02 839 452 | ELECTRONIC CONTROL P.C. BOARD     |                          |                   | 1                 | AUTO RESTART |
| 13  | E02 749 303 | VANE MOTOR                        | MV                       | 1                 | 1                 |              |
| 14  | E02 151 308 | ROOM TEMPERATURE THERMISTOR       | RT11                     | 1                 | 1                 |              |
| 15  | E02 749 300 | INDOOR FAN MOTOR                  | MF                       | 1                 |                   | RC4V19-□□    |
|     | E02 751 300 | INDOOR FAN MOTOR                  | MF                       |                   | 1                 | RC4V19-□□    |
| 16  | E02 749 333 | MOTOR BAND                        |                          | 1                 | 1                 |              |
| 17  | E02 679 375 | TERMINAL BLOCK                    | TB                       | 1                 | 1                 |              |
| 18  | E02 665 505 | FAN MOTOR RUBBER MOUNT            |                          | 2                 |                   | 2PCS/SET     |
|     | E02 151 505 | FAN MOTOR RUBBER MOUNT            |                          |                   | 2                 | 2PCS/SET     |
| 19  | E02 838 307 | INDOOR COIL THERMISTOR            | RT12, RT13               | 1                 | 1                 |              |
| 20  | E02 749 302 | LINE FLOW FAN                     |                          | 1                 | 1                 |              |
| 21  | E02 408 509 | BEARING MOUNT                     |                          | 1                 |                   |              |
|     | E02 751 509 | BEARING MOUNT                     |                          |                   | 1                 |              |
| ②   | E02 408 381 | THERMAL FUSE                      | F12                      | 1                 | 1                 | 93℃          |

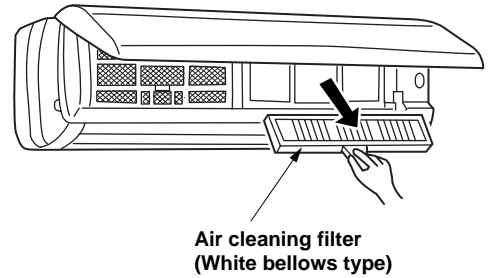
**10-4. INDOOR UNIT HEAT EXCHANGER**

|    |             |                       |  |   |   |       |
|----|-------------|-----------------------|--|---|---|-------|
| 23 | E02 749 620 | INDOOR HEAT EXCHANGER |  | 1 |   |       |
|    | E02 839 620 | INDOOR HEAT EXCHANGER |  |   | 1 |       |
| 24 | E02 815 666 | UNION (GAS)           |  |   | 1 | φ9.52 |
|    | E02 151 666 | UNION (GAS)           |  | 1 |   | φ9.52 |
| 25 | E02 151 667 | UNION (LIQUID)        |  | 1 | 1 | φ6.35 |

## 10-5. AIR CLEANING FILTER

- AIR CLEANING FILTER removes fine dust of 0.01 micron from air by means of static electricity.
- Normal life of AIR CLEANING FILTER is 4 months. However, when it becomes dirty, replace it as soon as possible.
- Clogged AIR CLEANING FILTER may reduce the air conditioner capacity or cause frost on the air outlet.
- DO NOT reuse AIR CLEANING FILTER even if it is washed.
- DO NOT remove or attach AIR CLEANING FILTER during unit operation.

| Model  | Part No.   |
|--|------------|
| MSZ-A09YV - <span style="border: 1px solid black; padding: 0 2px;">E1</span><br>MSZ-A12YV - <span style="border: 1px solid black; padding: 0 2px;">E1</span> | MAC-1300FT |



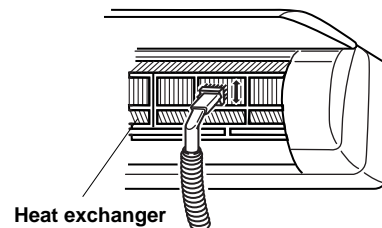
## 11

## OPTIONAL PARTS

### QUICK CLEAN KIT

- You can sweep the surface of heat exchanger if you install the special-made brush to your vacuum cleaner.

| Model  | Part No.    |  |
|--|-------------|--|
| MSZ-A09YV - <span style="border: 1px solid black; padding: 0 2px;">E1</span><br>MSZ-A12YV - <span style="border: 1px solid black; padding: 0 2px;">E1</span> | MAC-093SS-E |  |





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