MITSUBISHI ELECTRIC

SPLIT-TYPE AIR CONDITIONERS

INDOOR UNIT

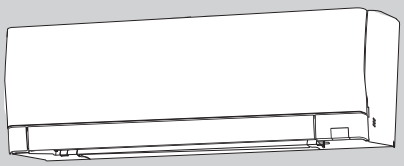
No. OBH932

SERVICE MANUAL

Models

MSZ-AY25VG - ET1
MSZ-AY35VG - ET1
MSZ-AY42VG - ET1
MSZ-AY50VG - ET1
MSZ-AY25VGK - E1, SC1, ET1, ER1
MSZ-AY35VGK - E1, SC1, ET1, ER1
MSZ-AY42VGK - E1, SC1, ET1, ER1
MSZ-AY50VGK - E1, SC1, ET1, ER1
MSZ-AY25VGKP - E1, SC1, ET1, ER1
MSZ-AY35VGKP - E1, SC1, ET1, ER1
MSZ-AY42VGKP - E1, SC1, ET1, ER1
MSZ-AY50VGKP - E1, SC1, ET1, ER1

Outdoor unit service manual
MUZ-AY·VG/VGH Series (OBH931)
MXZ-F·VF/VFH Series (OBH790)



CONTENTS

Use the specified refrigerant only

Never use any refrigerant other than that specified.

Doing so may cause a burst, an explosion, or fire when the unit is being used, serviced, or disposed of.
Correct refrigerant is specified in the manuals and on the spec labels provided with our products.
We will not be held responsible for mechanical failure, system malfunction, unit breakdown or accidents caused by failure to follow the instructions.

<Preparation before the repair service>

- Prepare the proper tools.
- Prepare the proper protectors.
- Provide adequate ventilation.
- After stopping the operation of the air conditioner, turn off the power-supply breaker and pull the power plug.
- Discharge the capacitor before the work involving the electric parts.

<Precautions during the repair service>

- Do not perform the work involving the electric parts with wet hands.
- Do not pour water into the electric parts.
- Do not touch the refrigerant.
- Do not touch the hot or cold areas in the refrigeration cycle.
- When the repair or the inspection of the circuit needs to be done without turning off the power, exercise great caution not to touch the live parts.

⚠ WARNING

- **When the refrigeration circuit has a leak, do not execute pump down with the compressor.**
- **When pumping down the refrigerant, stop the compressor before disconnecting the refrigerant pipes. The compressor may burst if air etc. get into it.**
- **When opening or closing the valve below freezing temperatures, refrigerant may spurt out from the gap between the valve stem and the valve body, resulting in injuries.**

1 TECHNICAL CHANGES

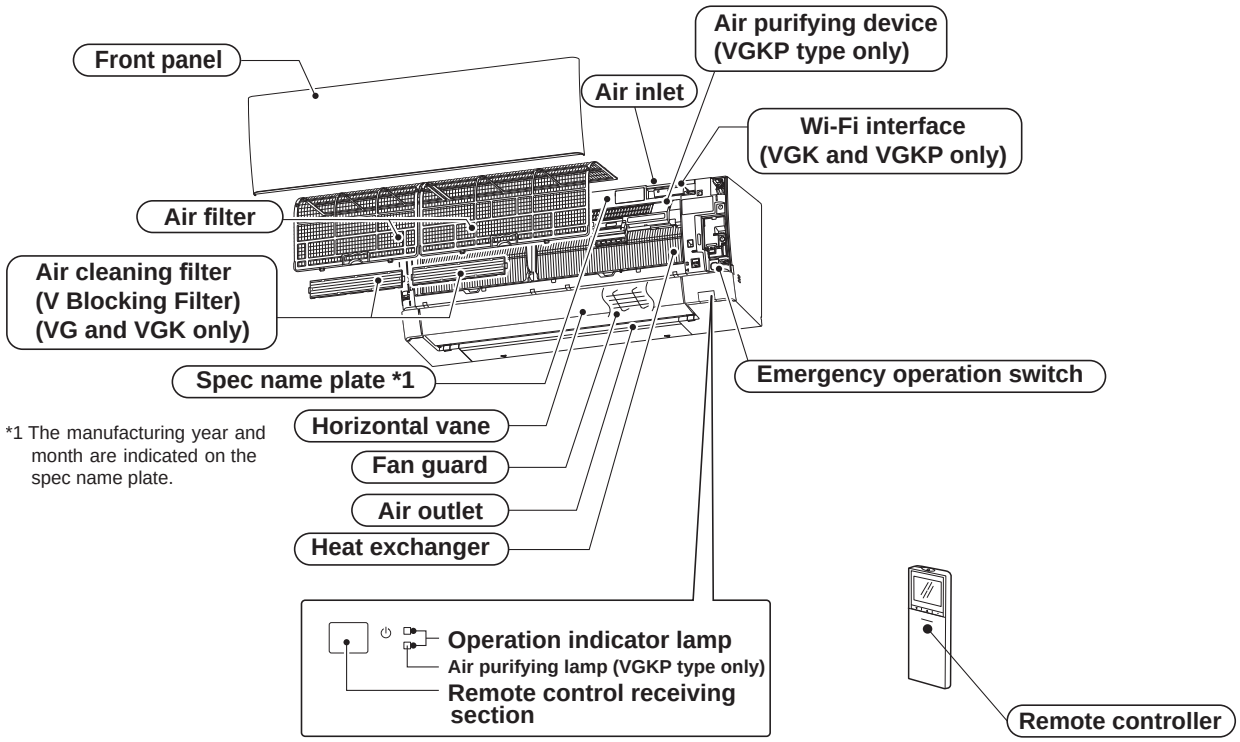
These models are compatible with the outdoor units with low standby power control.
Connecting these models to the **MUZ-AY·VG/VGH** series outdoor units enables the low standby power control.

These models may be connected to the **MUZ-AY·VG/VGH** series after once connected to the **MXZ** series and operated, for example because of relocation. In that case, the **MUZ-AY·VG/VGH** series outdoor units will not operate without taking a step. Follow the procedure “Deleting the memorized abnormal condition” described in 10-2.1.

MSZ-AY25VG - ET1
MSZ-AY35VG - ET1
MSZ-AY42VG - ET1
MSZ-AY50VG - ET1
MSZ-AY25VGK - E1, SC1, ET1, ER1
MSZ-AY35VGK - E1, SC1, ET1, ER1
MSZ-AY42VGK - E1, SC1, ET1, ER1
MSZ-AY50VGK - E1, SC1, ET1, ER1
MSZ-AY25VGKP - E1, SC1, ET1, ER1
MSZ-AY35VGKP - E1, SC1, ET1, ER1
MSZ-AY42VGKP - E1, SC1, ET1, ER1
MSZ-AY50VGKP - E1, SC1, ET1, ER1
1. New model

2 PART NAMES AND FUNCTIONS

MSZ-AY25VG MSZ-AY35VG MSZ-AY42VG MSZ-AY50VG
MSZ-AY25VGK MSZ-AY35VGK MSZ-AY42VGK MSZ-AY50VGK
MSZ-AY25VGKP MSZ-AY35VGKP MSZ-AY42VGKP MSZ-AY50VGKP



ACCESSORIES

Model		MSZ-AY25VG MSZ-AY25VGK MSZ-AY25VGKP	MSZ-AY35VG MSZ-AY35VGK MSZ-AY35VGK	MSZ-AY42VG MSZ-AY42VGK PMSZ-AY42VGK	MSZ-AY50VG MSZ-AY50VGK PMSZ-AY50VGKP
(1)	Installation plate	1			
(2)	Installation plate fixing screw 4 × 25 mm	5			
(3)	Wireless remote controller	1			
(4)	Felt tape (For left or left-rear piping)	1			
(5)	Battery (AAA) for remote controller	2			
(6)	Air cleaning filter	2 (**VG** and **VGK** only)			

3 SPECIFICATION

Indoor model					MSZ-AY25VG MSZ-AY25VGK MSZ-AY25VGKP	MSZ-AY35VG MSZ-AY35VGK MSZ-AY35VGKP	MSZ-AY42VG MSZ-AY42VGK MSZ-AY42VGKP	MSZ-AY50VG MSZ-AY50VGK MSZ-AY50VGKP
Power supply					Single phase 230 V, 50 Hz			
Electrical data	Power input *1		Cooling	W	19			24
			Heating		26		32	
	Running current *1		Cooling	A	0.18			0.24
			Heating		0.26		0.32	
Fan motor	Model				RC0J30CV			
	Current *1		Cooling	A	0.18			0.24
			Heating		0.26		0.32	
Dimensions W × H × D				mm	798 × 299 × 245			
Weight				kg	**VG, VGK**: 10.5 **VGKP**: 11			
Special remarks	Air direction				5			
	Airflow	Cooling	Super High	m^3/h	630	666	630	702
			High		468		504	546
			Med.		378		420	450
			Low		300		342	384
			Silent		216		270	312
		Heating	Super High	m^3/h	708		774	
			High		480		516	546
			Med.		396		420	438
			Low		300		318	342
			Silent		240		264	288
	Sound level	Cooling	Super High	dB(A)	42			44
			High		36		38	40
			Med.		30		34	36
			Low		24		29	33
			Silent		18		21	28
		Heating	Super High	dB(A)	45			48
			High		39	38	40	43
			Med.		34	31	35	38
			Low		24		29	33
			Silent		18		21	28
	Fan speed	Cooling	Super High	rpm	940	980	940	1,020
			High		760		800	850
			Med.		650		700	740
			Low		560		610	660
			Silent		450		520	570
		Heating	Super High	rpm	1,030		1,100	
			High		770		810	850
			Med.		670		700	720
			Low		560		580	610
			Silent		480		510	540
	Fan speed regulator				5			
Remote controller model					**VG**: SH22Q **VGK -** E1, ET1, ER1: SH22Q **VGK -** SC1: SH22S **VGKP -** E1, ET1, ER1: SH22R **VGKP -** SC1: SH22T			

NOTE: Test conditions are based on ISO 5151.

Cooling: Indoor Dry-bulb temperature 27°C Wet-bulb temperature 19°C
Outdoor Dry-bulb temperature 35°C Wet-bulb temperature 24°C
Heating: Indoor Dry-bulb temperature 20°C Wet-bulb temperature 15°C
Outdoor Dry-bulb temperature 7°C Wet-bulb temperature 6°C

*1 Measured under rated operating frequency.

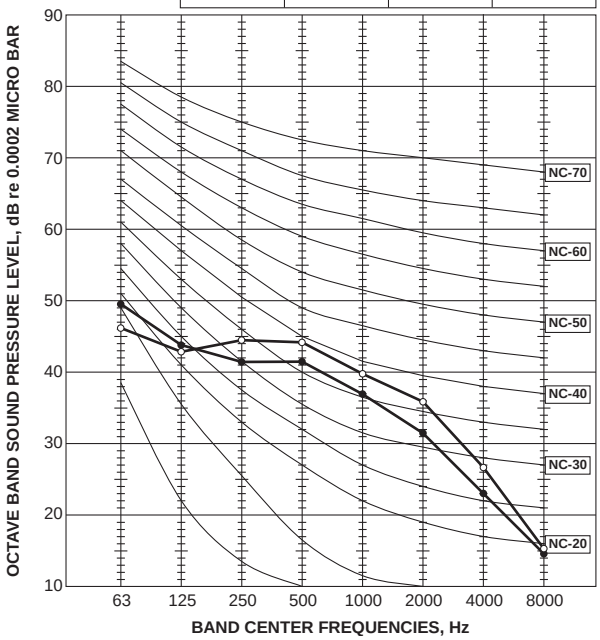
Specifications and rated conditions of main electric parts

Fuse	(F11)	T3.15AL250V
Horizontal vane motor	(MV1, MV2)	12 V DC
Vertical Vane motor	(MV3)	12 V DC
Varistor	(NR11)	470 V
Terminal block	(TB)	3P

4 NOISE CRITERIA CURVES

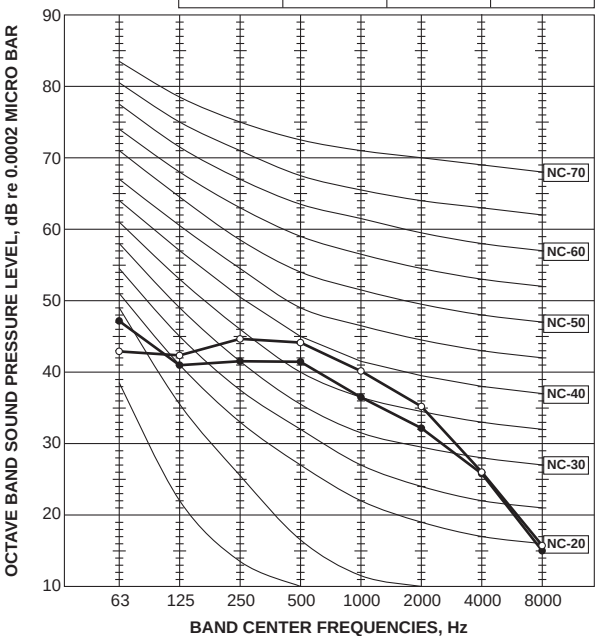
MSZ-AY25VG
MSZ-AY25VGK
MSZ-AY25VGKP

FAN SPEED	FUNCTION	SPL(dB(A))	LINE
Super High	COOLING	42	●—●
	HEATING	45	○—○



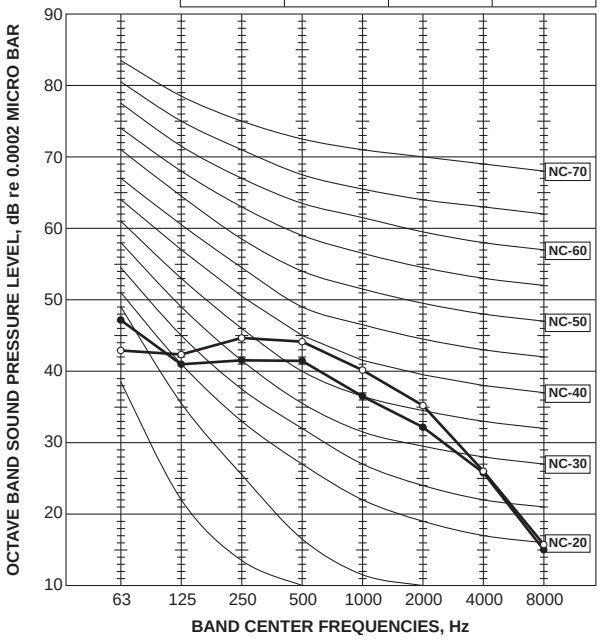
MSZ-AY35VG
MSZ-AY35VGK
MSZ-AY35VGKP

FAN SPEED	FUNCTION	SPL(dB(A))	LINE
Super High	COOLING	42	●—●
	HEATING	45	○—○



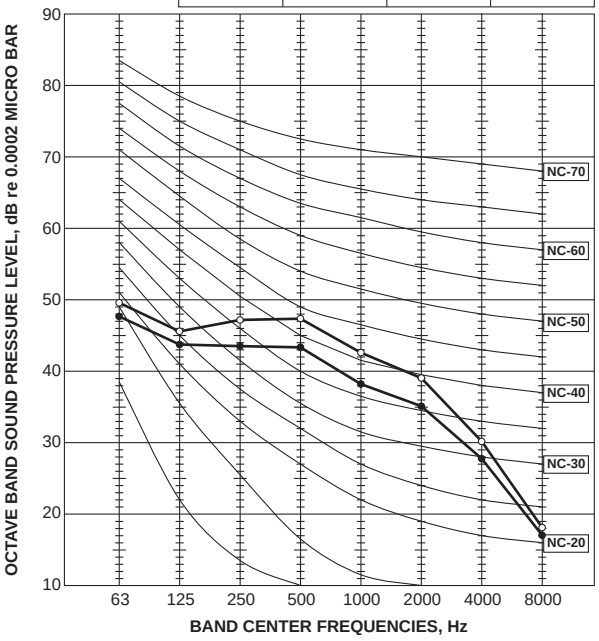
MSZ-AY42VG
MSZ-AY42VGK
MSZ-AY42VGKP

FAN SPEED	FUNCTION	SPL(dB(A))	LINE
Super High	COOLING	42	●—●
	HEATING	45	○—○



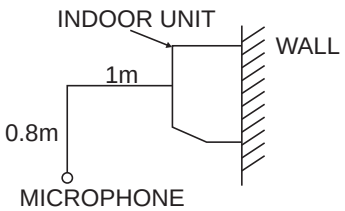
MSZ-AY50VG
MSZ-AY50VGK
MSZ-AY50VGKP

FAN SPEED	FUNCTION	SPL(dB(A))	LINE
Super High	COOLING	44	●—●
	HEATING	48	○—○



Test conditions

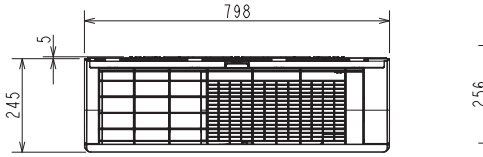
Cooling: Dry-bulb temperature 27°C
Wet-bulb temperature 19°C
Heating: Dry-bulb temperature 20°C

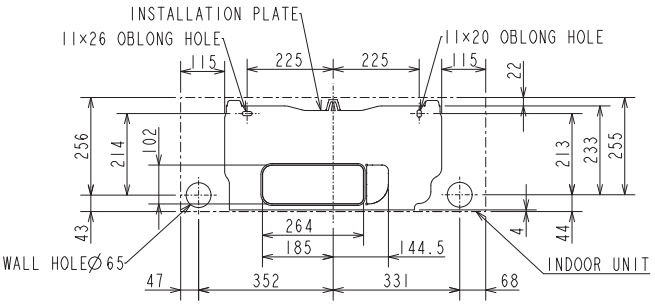


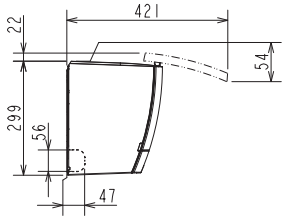
5 OUTLINES AND DIMENSIONS

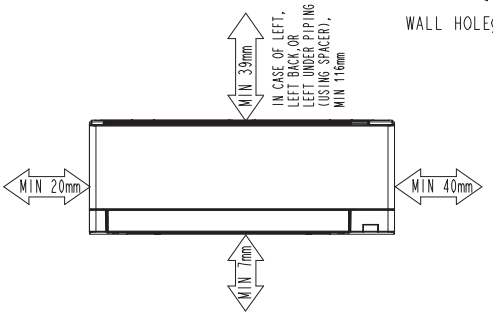
MSZ-AY25VG MSZ-AY35VG MSZ-AY42VG MSZ-AY50VG
MSZ-AY25VGK MSZ-AY35VGK MSZ-AY42VGK MSZ-AY50VGK
MSZ-AY25VGKP MSZ-AY35VGKP MSZ-AY42VGKP MSZ-AY50VGKP

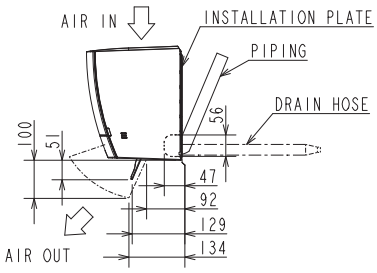
Unit: mm

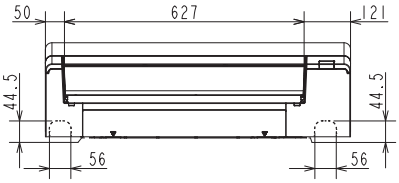


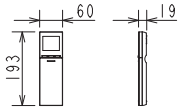












E1, ET1, ER1

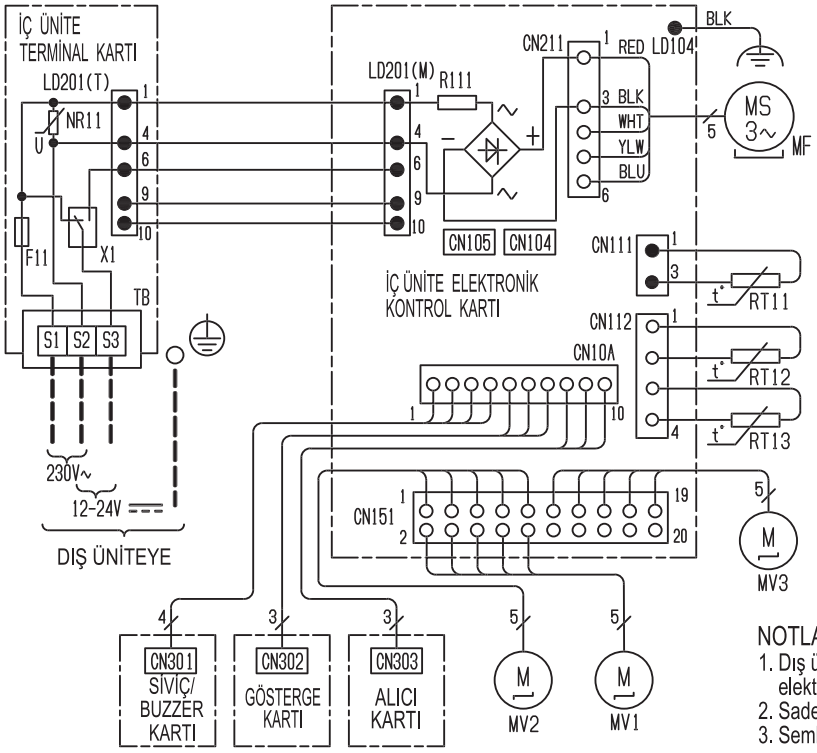
Piping	Insulation	ø37 O.D
	Liquid line	ø6.35 - 0.39m (Flared connection ø6.35)
	Gas line	ø9.52 - 0.34m (Flared connection ø9.52)
Drain hose		Insulation ø29 Connected part ø16 O.D

SC1

Piping	Insulation	ø37 O.D
	Liquid line	ø6.35 - 0.57m (Flared connection ø6.35)
	Gas line	ø9.52 - 0.52m (Flared connection ø9.52)
Drain hose		Insulation ø29 Connected part ø16 O.D

6 WIRING DIAGRAM

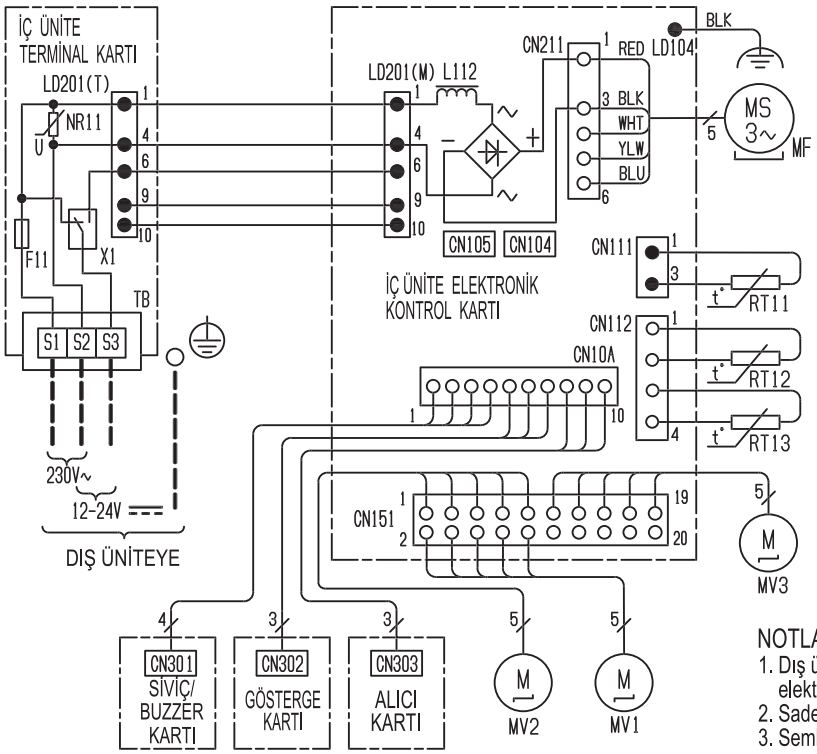
MSZ-AY25VG- ET1 MSZ-AY35VG- ET1 MSZ-AY42VG- ET1



SEMBOL	PARÇA ADI
F11	SİGORTA (T3.15AL250V)
MF	FAN MOTORU
MV1	KANAT MOTORU (YATAY ÜST)
MV2	KANAT MOTORU (YATAY ALT)
MV3	KANAT MOTORU (DİKEY)
NR11	VARİSTÖR
R111	RESİSTÖR
RT11	ODA SICAKLIK TERMİSTÖRÜ
RT12	BORU SICAKLIK TERMİSTÖRÜ (ANA)
RT13	BORU SICAKLIK TERMİSTÖRÜ (YARDIMCI)
TB	TERMİNAL BLOĞU
X1	RÖLE

NOTLAR :
1. Dış ünite elektronik kablolaması için dış ünite elektronik kablo devre şemasını referans alınız.
2. Sadece bakır besleme kablosu kullanın
3. Sembolleri gösterir ☐☐☐☐ : Terminal bloğu ⊡⊡⊡⊡ : Konektör

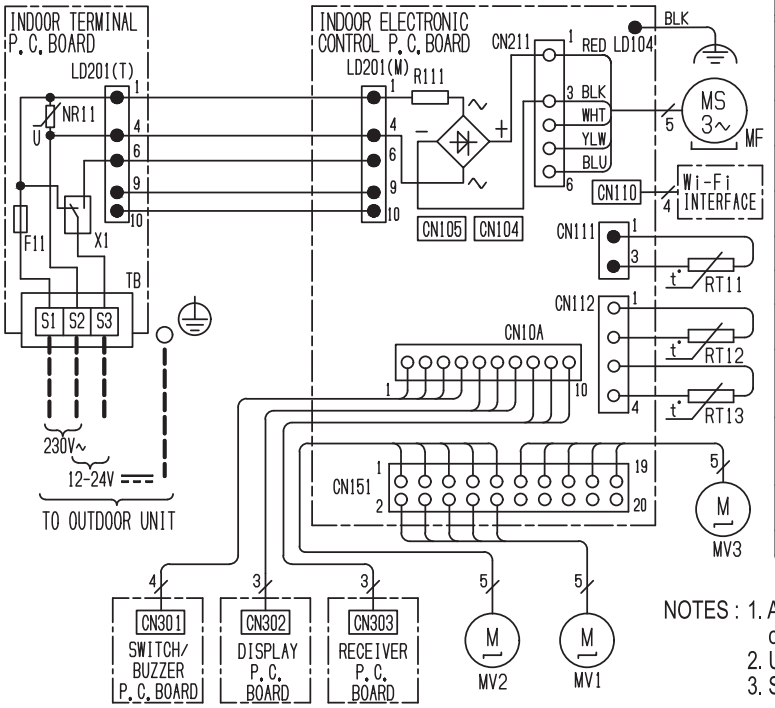
MSZ-AY50VG- ET1



SEMBOL	PARÇA ADI
F11	SİGORTA (T3.15AL250V)
MF	FAN MOTORU
MV1	KANAT MOTORU (YATAY ÜST)
MV2	KANAT MOTORU (YATAY ALT)
MV3	KANAT MOTORU (DİKEY)
NR11	VARİSTÖR
L112	REAKTÖR
RT11	ODA SICAKLIK TERMİSTÖRÜ
RT12	BORU SICAKLIK TERMİSTÖRÜ (ANA)
RT13	BORU SICAKLIK TERMİSTÖRÜ (YARDIMCI)
TB	TERMİNAL BLOĞU
X1	RÖLE

NOTLAR :
1. Dış ünite elektronik kablolaması için dış ünite elektronik kablo devre şemasını referans alınız.
2. Sadece bakır besleme kablosu kullanın
3. Sembolleri gösterir ☐☐☐☐ : Terminal bloğu ⊡⊡⊡⊡ : Konektör

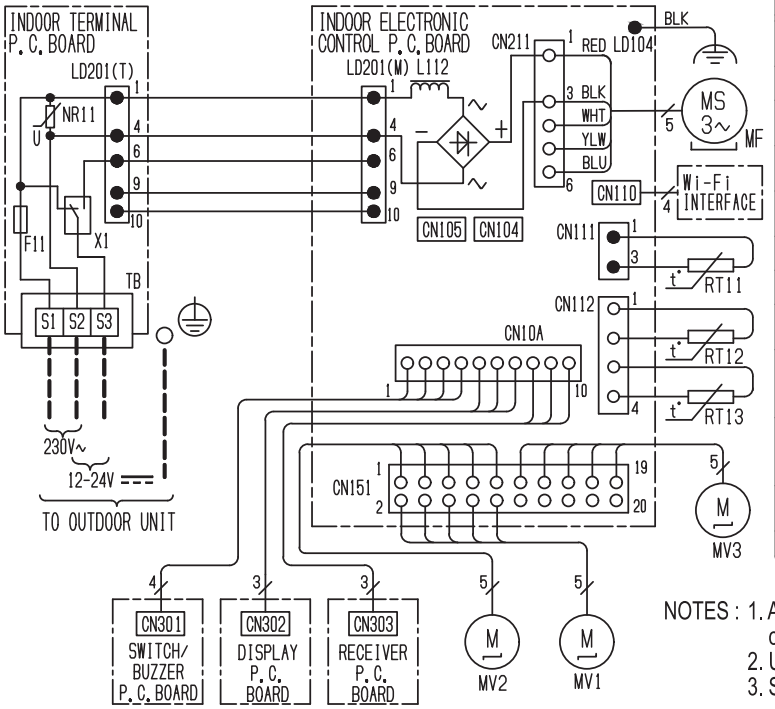
MSZ-AY25VGK - E1, SC1, ER1 MSZ-AY35VGK - E1, SC1, ER1 MSZ-AY42VGK - E1, SC1, ER1



SYMBOL	NAME
F11	FUSE (T3. 15AL250V)
MF	FAN MOTOR
MV1	VANE MOTOR (HORIZONTAL UPPER)
MV2	VANE MOTOR (HORIZONTAL LOWER)
MV3	VANE MOTOR (VERTICAL)
NR11	VARISTOR
R111	RESISTOR
RT11	ROOM TEMP. THERMISTOR
RT12	COIL TEMP. THERMISTOR (MAIN)
RT13	COIL TEMP. THERMISTOR (SUB)
TB	TERMINAL BLOCK
X1	RELAY

NOTES : 1. About the outdoor side electronic wiring refer to the outdoor unit electronic wiring diagram for servicing.
2. Use copper supply wires.
3. Symbols indicate. ⊏⊐⊏⊐ : Terminal block ⊙⊙⊙⊙ : Connector

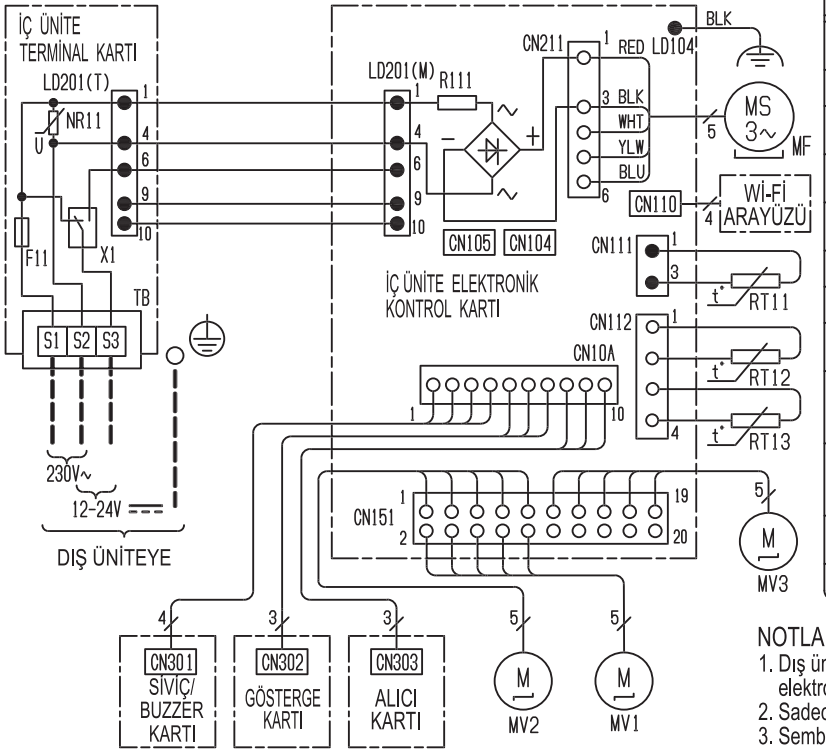
MSZ-AY50VGK - E1, SC1, ER1



SYMBOL	NAME
F11	FUSE (T3. 15AL250V)
MF	FAN MOTOR
MV1	VANE MOTOR (HORIZONTAL UPPER)
MV2	VANE MOTOR (HORIZONTAL LOWER)
MV3	VANE MOTOR (VERTICAL)
NR11	VARISTOR
L112	REACTOR
RT11	ROOM TEMP. THERMISTOR
RT12	COIL TEMP. THERMISTOR (MAIN)
RT13	COIL TEMP. THERMISTOR (SUB)
TB	TERMINAL BLOCK
X1	RELAY

NOTES : 1. About the outdoor side electronic wiring refer to the outdoor unit electronic wiring diagram for servicing.
2. Use copper supply wires.
3. Symbols indicate. ⊏⊐⊏⊐ : Terminal block ⊙⊙⊙⊙ : Connector

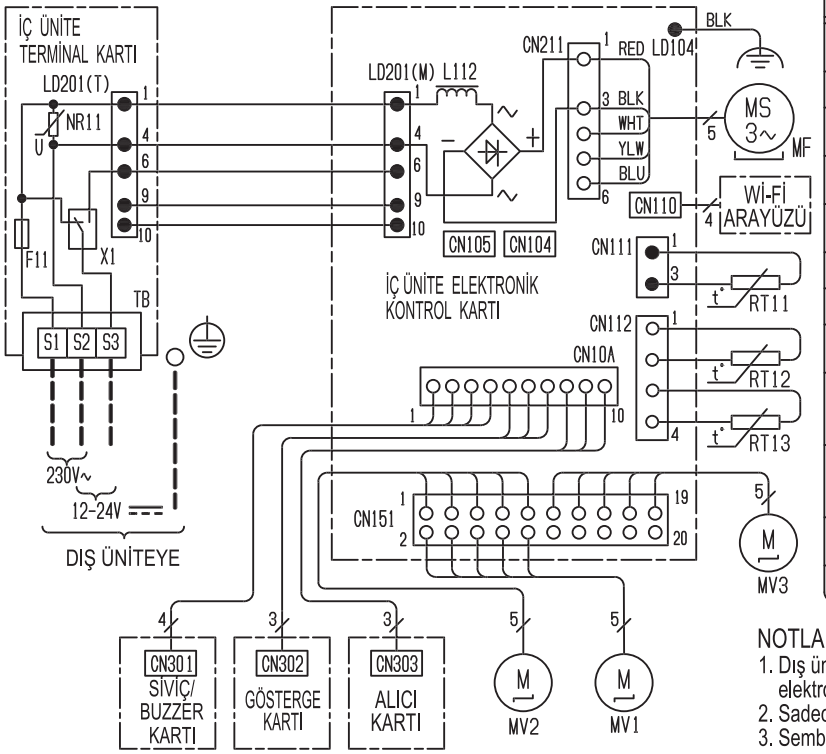
MSZ-AY25VGK - ET1 MSZ-AY35VGK - ET1 MSZ-AY42VGK - ET1



SEMBOL	PARÇA ADI
F11	SİGORTA (T3.15AL250V)
MF	FAN MOTORU
MV1	KANAT MOTORU (YATAY ÜST)
MV2	KANAT MOTORU (YATAY ALT)
MV3	KANAT MOTORU (DİKEY)
NR11	VARİSTÖR
R111	RESİSTÖR
RT11	ODA SICAKLIK TERMİSTÖRÜ
RT12	BORU SICAKLIK TERMİSTÖRÜ (ANA)
RT13	BORU SICAKLIK TERMİSTÖRÜ (YARDIMCI)
TB	TERMİNAL BLOĞU
X1	RÖLE

NOTLAR :
1. Dış ünite elektronik kablolaması için dış ünite elektronik kablo devre şemasını referans alınız.
2. Sadece bakır besleme kablosu kullanın
3. Sembolleri gösterir ☐☐☐☐ : Terminal bloğu ⊡⊡⊡⊡ : Konektör

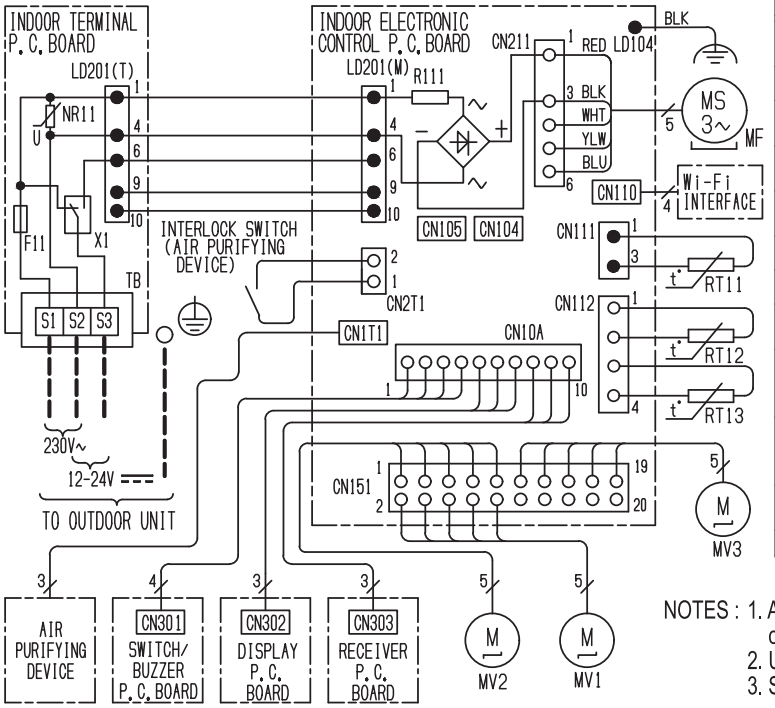
MSZ-AY50VGK - ET1



SEMBOL	PARÇA ADI
F11	SİGORTA (T3.15AL250V)
MF	FAN MOTORU
MV1	KANAT MOTORU (YATAY ÜST)
MV2	KANAT MOTORU (YATAY ALT)
MV3	KANAT MOTORU (DİKEY)
NR11	VARİSTÖR
L112	REAKTÖR
RT11	ODA SICAKLIK TERMİSTÖRÜ
RT12	BORU SICAKLIK TERMİSTÖRÜ (ANA)
RT13	BORU SICAKLIK TERMİSTÖRÜ (YARDIMCI)
TB	TERMİNAL BLOĞU
X1	RÖLE

NOTLAR :
1. Dış ünite elektronik kablolaması için dış ünite elektronik kablo devre şemasını referans alınız.
2. Sadece bakır besleme kablosu kullanın
3. Sembolleri gösterir ☐☐☐☐ : Terminal bloğu ⊡⊡⊡⊡ : Konektör

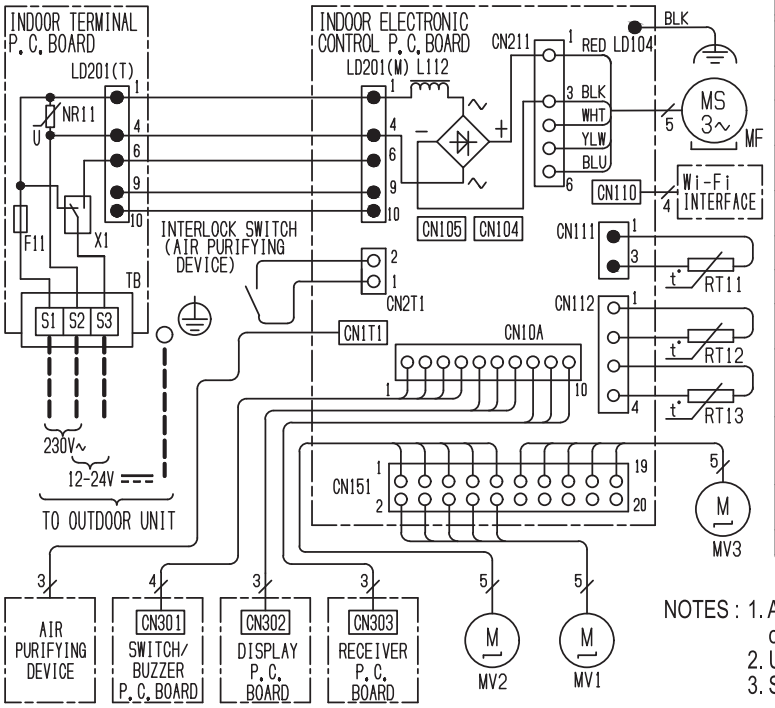
MSZ-AY25VGKP- E1, SC1, ER1 MSZ-AY35VGKP- E1, SC1, ER1 MSZ-AY42VGKP- E1, SC1, ER1



SYMBOL	NAME
F11	FUSE (T3. 15AL250V)
MF	FAN MOTOR
MV1	VANE MOTOR (HORIZONTAL UPPER)
MV2	VANE MOTOR (HORIZONTAL LOWER)
MV3	VANE MOTOR (VERTICAL)
NR11	VARISTOR
R111	RESISTOR
RT11	ROOM TEMP. THERMISTOR
RT12	COIL TEMP. THERMISTOR (MAIN)
RT13	COIL TEMP. THERMISTOR (SUB)
TB	TERMINAL BLOCK
X1	RELAY

NOTES : 1. About the outdoor side electronic wiring refer to the outdoor unit electronic wiring diagram for servicing.
2. Use copper supply wires.
3. Symbols indicate. : Terminal block : Connector

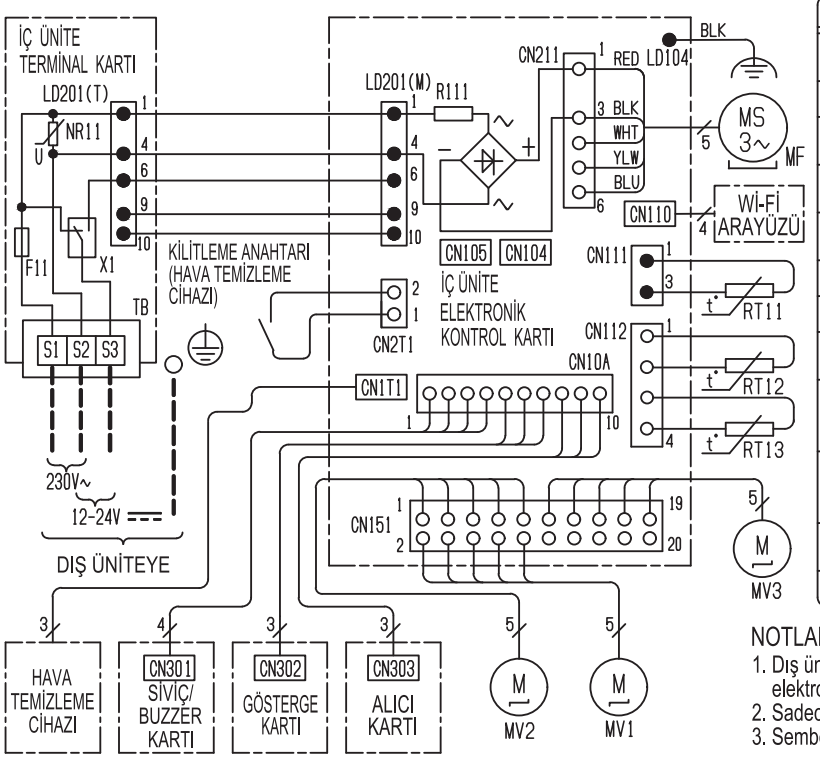
MSZ-AY50VGKP- E1, SC1, ER1



SYMBOL	NAME
F11	FUSE (T3. 15AL250V)
MF	FAN MOTOR
MV1	VANE MOTOR (HORIZONTAL UPPER)
MV2	VANE MOTOR (HORIZONTAL LOWER)
MV3	VANE MOTOR (VERTICAL)
NR11	VARISTOR
L112	REACTOR
RT11	ROOM TEMP. THERMISTOR
RT12	COIL TEMP. THERMISTOR (MAIN)
RT13	COIL TEMP. THERMISTOR (SUB)
TB	TERMINAL BLOCK
X1	RELAY

NOTES : 1. About the outdoor side electronic wiring refer to the outdoor unit electronic wiring diagram for servicing.
2. Use copper supply wires.
3. Symbols indicate. : Terminal block : Connector

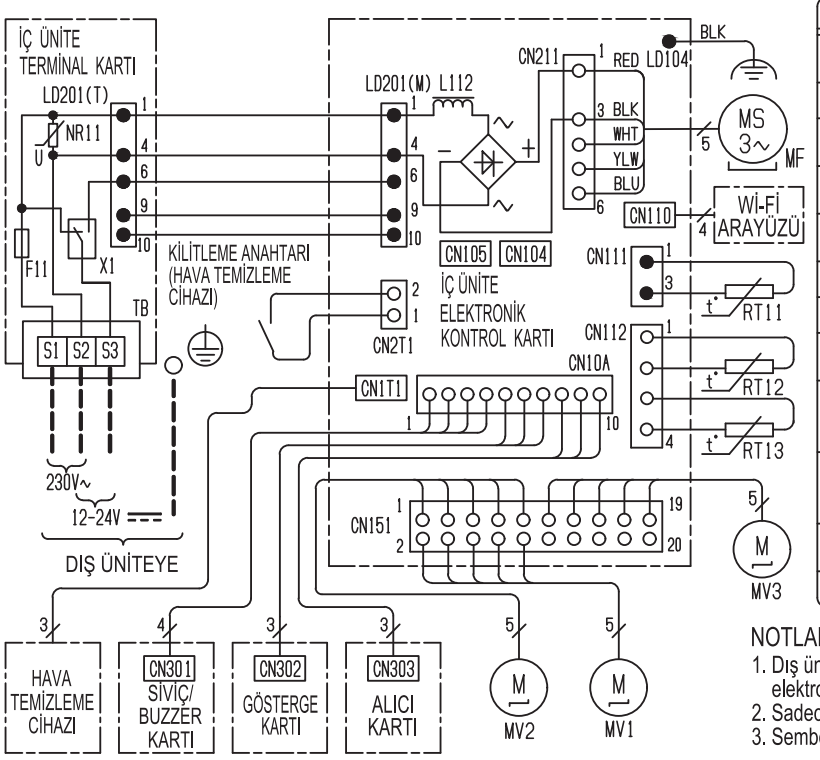
MSZ-AY25VGKP-ET1 MSZ-AY35VGKP-ET1 MSZ-AY42VGKP-ET1



SEMBOL	PARÇA ADI
F11	SİGORTA (T3.15AL250V)
MF	FAN MOTORU
MV1	KANAT MOTORU (YATAY ÜST)
MV2	KANAT MOTORU (YATAY ALT)
MV3	KANAT MOTORU (DİKEY)
NR11	VARİSTÖR
R111	RESİSTÖR
RT11	ODA SICAKLIK TERMİSTÖRÜ
RT12	BORU SICAKLIK TERMİSTÖRÜ (ANA)
RT13	BORU SICAKLIK TERMİSTÖRÜ (YARDIMCI)
TB	TERMİNAL BLOĞU
X1	RÖLE

NOTLAR :
1. Dış ünite elektronik kablolaması için dış ünite elektronik kablo devre şemasını referans alınız.
2. Sadece bakır besleme kablosu kullanın
3. Sembolleri gösterir ☐☐☐☐ : Terminal bloğu ○○○○ : Konektör

MSZ-AY50VGKP-ET1



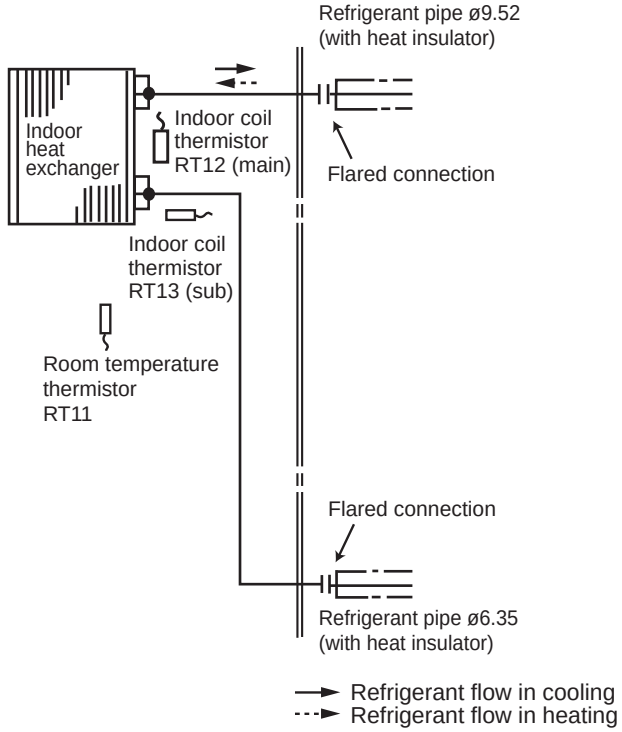
SEMBOL	PARÇA ADI
F11	SİGORTA (T3.15AL250V)
MF	FAN MOTORU
MV1	KANAT MOTORU (YATAY ÜST)
MV2	KANAT MOTORU (YATAY ALT)
MV3	KANAT MOTORU (DİKEY)
NR11	VARİSTÖR
L112	REAKTÖR
RT11	ODA SICAKLIK TERMİSTÖRÜ
RT12	BORU SICAKLIK TERMİSTÖRÜ (ANA)
RT13	BORU SICAKLIK TERMİSTÖRÜ (YARDIMCI)
TB	TERMİNAL BLOĞU
X1	RÖLE

NOTLAR :
1. Dış ünite elektronik kablolaması için dış ünite elektronik kablo devre şemasını referans alınız.
2. Sadece bakır besleme kablosu kullanın
3. Sembolleri gösterir ☐☐☐☐ : Terminal bloğu ○○○○ : Konektör

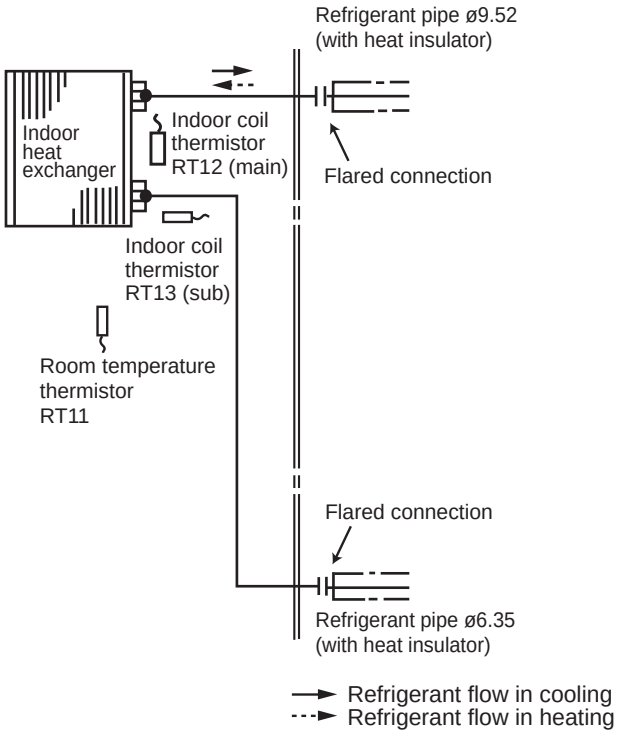
7 REFRIGERANT SYSTEM DIAGRAM

MSZ-AY25VG MSZ-AY35VG
MSZ-AY25VGK MSZ-AY35VGK
MSZ-AY25VGKP MSZ-AY35VGKP

Unit: mm



MSZ-AY42VG MSZ-AY50VG
MSZ-AY42VGK MSZ-AY50VGK
MSZ-AY42VGKP MSZ-AY50VGKP



8 SERVICE FUNCTIONS

MSZ-AY25VG MSZ-AY35VG MSZ-AY42VG MSZ-AY50VG
MSZ-AY25VGK MSZ-AY35VGK MSZ-AY42VGK MSZ-AY50VGK
MSZ-AY25VGKP MSZ-AY35VGKP MSZ-AY42VGKP MSZ-AY50VGKP

8-1. TIMER SHORT MODE

For service, the following set time can be shortened by bridging the timer short mode point on the electronic control P.C. board.
(Refer to 10-7.)

- The set time for the ON/OFF timer can be reduced to 1 second for each minute.
- After the breaker is turned on, the time for starting the compressor, which normally takes 3 minutes, can be reduced to 1 minute. Restarting the compressor, which takes 3 minutes, cannot be reduced.

8-2. HOW TO SET REMOTE CONTROLLER EXCLUSIVELY FOR A PARTICULAR INDOOR UNIT

A maximum of 4 indoor units with wireless remote controllers can be used in a room.
To operate the indoor units individually with each remote controller, assign a number to each remote controller according to the number of the indoor unit.

This setting can be set only when all the following conditions are met:

- The remote controller is powered OFF.
- Weekly timer is not set.
- Weekly timer is not being edited.

(1) Hold down [1~4] button on the remote controller for 2 seconds to enter the pairing mode.
(2) Press [1~4] button again and assign a number to each remote controller.
Each press of [1~4] button advances the number in the following order: 1 → 2 → 3 → 4.
(3) Press [EDIT/SEND SET] button to complete the pairing setting.

After you turn the breaker ON, the remote controller that first sends a signal to an indoor unit will be regarded as the remote controller for the indoor unit.
Once they are set, the indoor unit will only receive the signal from the assigned remote controller afterwards.

8-3. AUTO RESTART FUNCTION

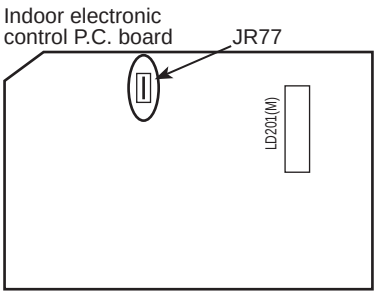
When the indoor unit is controlled with the remote controller, the operation mode, the set temperature, and the fan speed are memorized by the indoor electronic control P.C. board. “AUTO RESTART FUNCTION” automatically starts operation in the same mode just before the shutoff of the main power.

Operation

① If the main power 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.)

How to disable “AUTO RESTART FUNCTION”

① Turn off the main power for the unit.
② Cut the jumper wire to JR77 on the indoor electronic control P.C. board.
(Refer to 10-7.)

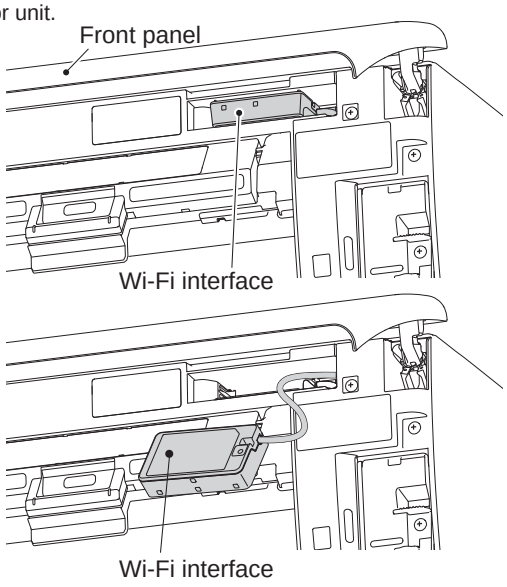


NOTE:

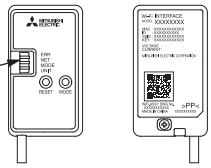
- The operation settings are memorized when 10 seconds have passed after the indoor unit was operated with the remote controller.
- If main power is turned OFF or a power failure occurs while AUTO START/STOP timer is active, the timer setting is cancelled.
- If the unit has been off with the remote controller 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.

8-4. Wi-Fi INTERFACE SETTING UP

This Wi-Fi interface, communicates the status information and controls the commands from the MELCloud by connecting to the indoor unit.



1. Wi-Fi interface introduction



NET LED
It shows the network state.
(Refer to 8-4.3-3. **NET LED**.)

2. Setting up

Set up a connection between the Wi-Fi interface and the router.

NOTE:

Setup is possible only after operating the air conditioner using the wireless remote controller.

For MELCloud User Manual, please go to the website below.
www.melcloud.com/Support

3. Selecting a mode

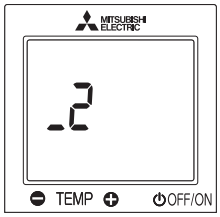
The Wi-Fi interface has to be paired with the router in order for communication between the indoor unit and MELCloud to begin. There are 2 methods of pairing the Wi-Fi interface with the router:

- WPS-PUSH mode
- Access Point mode

The mode to be set depends on whether your router has the WPS button.
Use the pairing mode most suitable for your system.
Follow the instructions below to set the pairing mode with Remote controller.
Set up the Wi-Fi interface and the router again when the router has been replaced.

To reset connection and set up the Wi-Fi interface and the router again

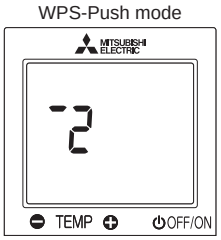
(1) Hold down the Temperature ⊖ for 5 seconds.
(2) Select "_ 2" by pressing Temperature ⊕ and ⊖.
(3) Point the remote controller toward the indoor unit and press the ⏻OFF/ON.
(4) The indoor unit beeps 3 times when resetting is complete.



3-1. Setting up in WPS-PUSH mode

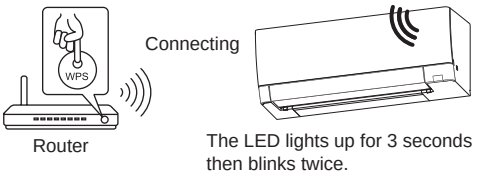
To enter the mode

(1) Hold down the Temperature ⊕ for 5 seconds.
(2) Select "¯ 2" by pressing Temperature ⊕ and ⊖ as shown on the right.
(3) Point the remote controller toward the indoor unit and press the ⏻OFF/ON.



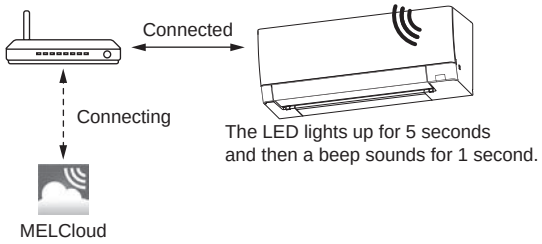
3-1.1. Connect the router to the air conditioner.

Make sure that the LED indication is as shown below.
Push WPS button of the router within 2 minutes after the mode selection has completed.
The WPS-PUSH mode will return to initial state if WPS button is not pressed for 2 minutes.



The LED lights up for 3 seconds then blinks twice.
A beep sounds as the LED blinks.
This series of actions is repeated.

3-1-2. LED will be as shown below when connection between the router and Wi-Fi interface is completed and connection to MELCloud starts.



The LED lights up for 5 seconds and then a beep sounds for 1 second.

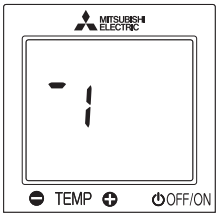
NOTE:

If the indication LED does not change or blinks 5 times, connection fails. Please reset connection and setup the Wi-Fi interface and the router again.
Main causes that WPS failed are as follows.
Communication distance (from the Wi-Fi interface to router), router settings (encryption, authentication, limit of connections, etc.)

3-2. Setting up in Access Point mode

Complete the setting up in the Access Point mode within 10 minutes.

Access Point mode

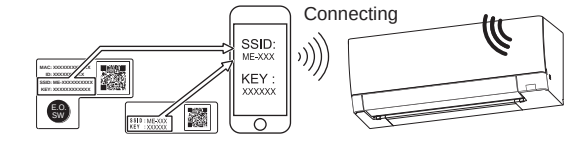


To enter the mode

(1) Hold down the Temperature ⊕ for 5 seconds.
(2) Select "‾ 1" by pressing Temperature ⊕ and ⊖ as shown on the right.
(3) Point the remote controller toward the indoor unit unit and press the ⏻OFF/ON .

3-2.1. Connect your smartphone to the air conditioner.

Make sure that the LED indication is as shown below. On the Wi-Fi Setting Screen on your smartphone, select SSID and enter KEY, which are printed on the information label.



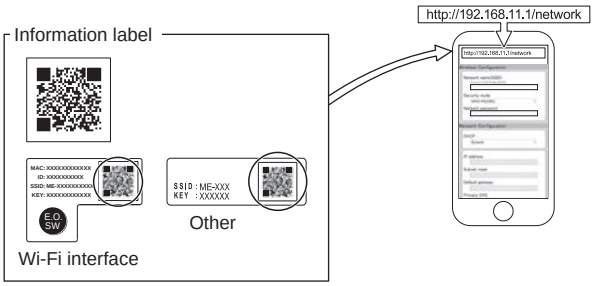
The LED lights up for 3 seconds then blinks once.
A beep sounds as the LED blinks.
This series of actions is repeated.

NOTE:

- Check Wi-Fi setting of your smartphone if SSID does not appear on it.
- Enter KEY again if SSID appears on your smartphone, but it cannot connect to the Wi-Fi interface.
- The LED indication does not change or blinks 5 times if connection fails. In that case, reset connection and set up the Wi-Fi interface and the router again.

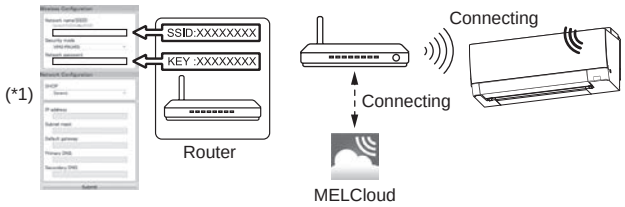
3-2.2. Access URL (http://192.168.11.1/network) by any of the following methods to display the setting screen.

(1) Scan the matrix barcode below.
(2) Scan the matrix barcode on the information label.
(3) Type the URL (http://192.168.11.1/network) in the web browser.



3-2.3. Register the information of the router on the air conditioner.

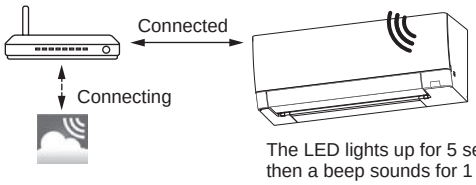
In the displayed window, select Dynamic in DHCP (*1) and enter the information of router, then tap the Submit button.



NOTE:

- If you want to use Static, select Static in DHCP (*1) and enter the information of router and network, then tap the Submit button.

3-2.4. LED indication will be as shown below when connection between the router and Wi-Fi interface is completed and connection to MELCloud starts.



The LED lights up for 5 seconds and then a beep sounds for 1 second.

NOTE:

It may take several minutes to show the indication above.
The LED indication does not change or blinks 5 times if connection fails.
In that case, reset connection and set up the Wi-Fi interface and the router again.

3-3. NET LED

NET LED blinking indicates that the Wi-Fi interface is communicating with the router.

3-4. When it doesn't connect well

Check the following, and pair the Wi-Fi interface and the router according to Selecting a mode.

- Make sure that the communication distance is not too far between the Wi-Fi interface and the router.
- Make sure that the router uses WPA2-AES encryption.
- Make sure that the number of connected devices to the router does not exceed the limit.
- Make sure that DHCP is enabled, or check IP address setting of the Wi-Fi interface.
- Check DNS settings of the router, or check DNS address of the Wi-Fi interface.
- Check if the router is connected to Internet.
- Set up the Wi-Fi interface after operating the air conditioner using the wirelessremote controller at least once.

If the connection fails even after checking the above, set up the Wi-Fi interface and the router again by the following method.

- Hold down the Temperature ⊖ for 5 seconds.
- Select "_ 2" by pressing Temperature ⊕ and ⊖ .
- Point the remote controller toward the indoor unit and press the ⏻OFF/ON ○ .
- The indoor unit beeps 3 times when resetting is complete.

[About trademarks]

- WPS is the connection via Wi-Fi Protected Setup.
- "Wi-Fi®", "Wi-Fi Protected Setup™", "WPA2™" are trademarks or registered trademarks of the Wi-Fi Alliance.

For Declaration of Conformity and MELCloud User Manual, please go to the website below.
www.melcloud.com/Support
After accessing the address above, select "United Kingdom" to view support details.

The Wi-Fi interface uses Open Source Software.
To view the Open Source software licence(s), please go to the following website whilst connected to the Wi-Fi interface during the Access Point mode.
http://192.168.11.1/license

NOTE:

- Ensure that the router supports the WPA2-AES encryption setting before starting the Wi-Fi interface setup.
- The End user should read and accept the terms and conditions of the Wi-Fi service before using this Wi-Fi interface.
- To complete connection of this Wi-Fi interface to the Wi-Fi service, the router may be required.
- This Wi-Fi interface will not commence transmission of any operational data from the system until the End user registers and accepts the terms and conditions of the Wi-Fi service.
- This Wi-Fi interface should not be installed and connected to any Mitsubishi Electric system which is to provide application critical cooling or heating.
- At the time of relocation or disposal, reset the Wi-Fi interface to the factory default.

For the latest information regarding MELCloud from Mitsubishi Electric Corporation, please visit https://www.melcloud.com.

8-5. CHANGING THE CORRECTION VALUE OF THE ROOM TEMPERATURE (THE INLET TEMPERATURE)

The correction value of the room temperature can be adjusted in the range of 2 to 5 °C with the remote controller.

Normally, the temperature at the room temperature sensor might become higher than that around feet because warm air tends to accumulate around an indoor unit during heating operation.
Thus, if you correct the room temperature to the temperature about 2 °C lower than that detected by the room temperature sensor, the air conditioner capacity during heating operation increases, which suppresses a decrease in the temperature around feet.
The optimal correction values of the room temperature, however, might differ depending on the installation environments such as installation height of the indoor unit or the ceiling height, so adjust the correction value of the room temperature in the range of 2 to 5 °C with the remote controller.

NOTE 1: The room will be warmer if you set the correction value of the room temperature to 5°C.

1. How to change the correction value of the room temperature

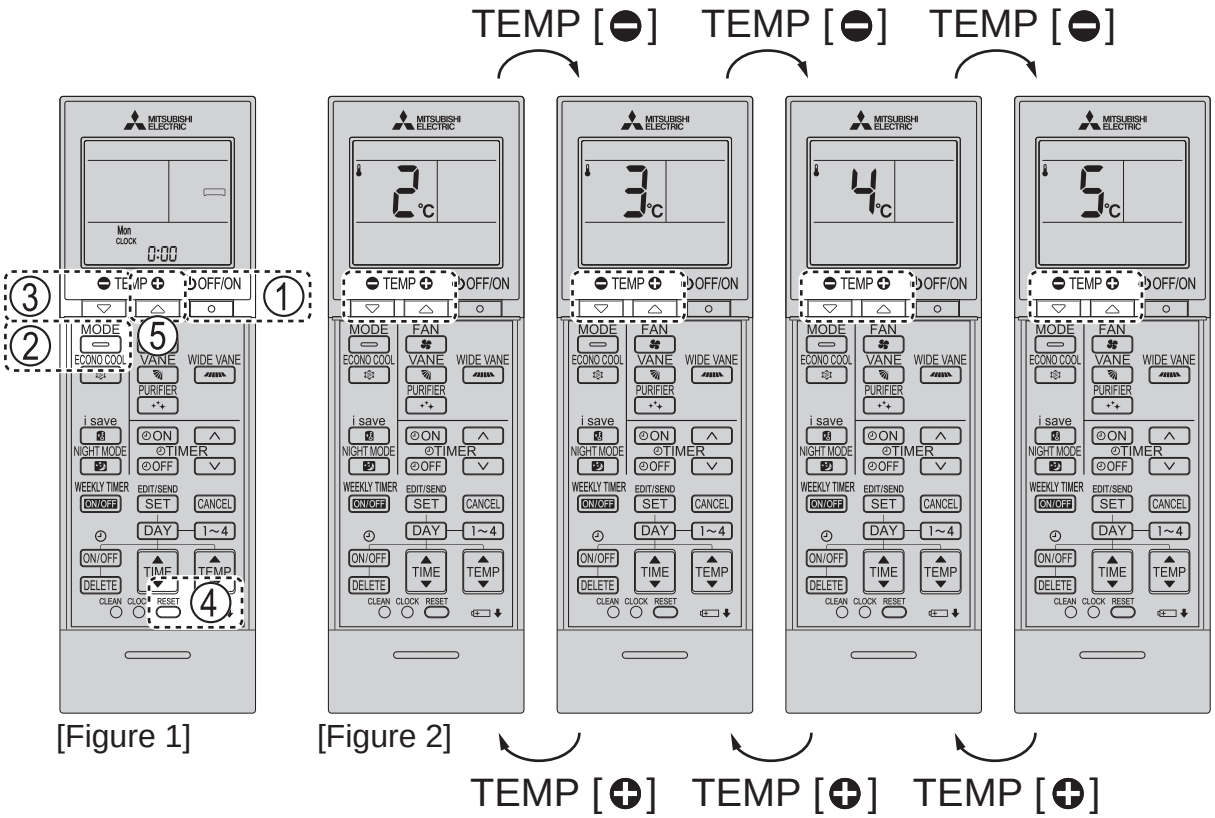
(1) Press [① OFF/ON] button on the remote controller to turn the indoor unit off. (Figure 1)

(2) Point the remote controller at the indoor unit.
While you hold down [② MODE] and [③ TEMP ⊖] at the same time, press [④ RESET], and keep holding [② MODE] and [③ TEMP ⊖] to indicate the correction value of the room temperature that was set the last time with the remote controller (Figure 2 shows 2°C at factory setting).

NOTE 2: Point the remote controller at the indoor unit while working in the procedure (3) and (4) like the procedure (2).

(3) Press [③ TEMP ⊖] or [⑤ TEMP ⊕] to change the correction value of the room temperature.

(4) Set the correction value of the room temperature to the desired value, and then press [① OFF/ON] button on the remote controller to turn the indoor unit off. (Figure 1)



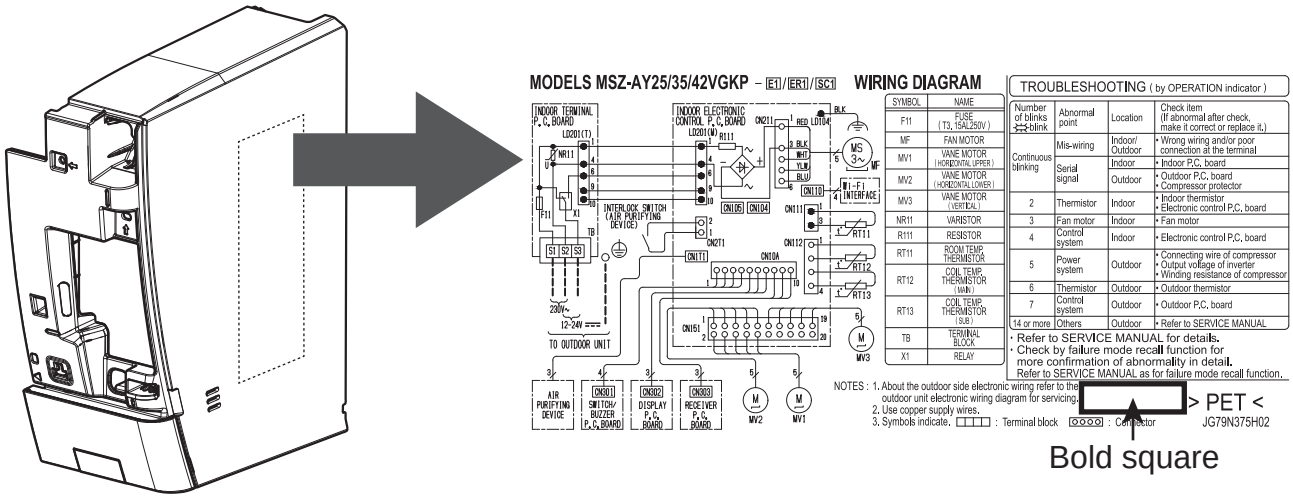
[Figure 1] [Figure 2]

2. Writing the correction value of the room temperature on the wiring diagram

After setting the correction value of the room temperature (the inlet air temperature), follow 11. DISASSEMBLY INSTRUCTIONS to disassemble the indoor unit, and then write the correction value (any of 3, 4, or 5) on the wiring diagram with a ballpoint pen, etc.
(e.g. The numerical value is described in the bold square.) (Figure 3)

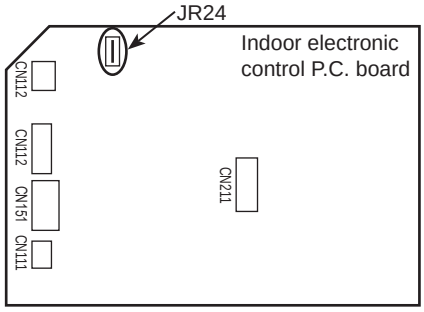
If the indoor electronic control P.C. board is replaced in servicing, the correction value is reset. The numerical value (any of 3, 4, or 5) described on the wiring diagram will be needed when a service man sets the correction value again after replacing the P.C. board.

NOTE 3: The instruction for setting the correction value again is attached to the indoor electronic control P.C. board of the service part as well.



[Figure 3]

If you cut the jumper wire JR24 (Refer to 10-7.), a correction value of the room temperature during heating operation turns to 0°C regardless of the correction commands from the remote controller. (Figure 4)



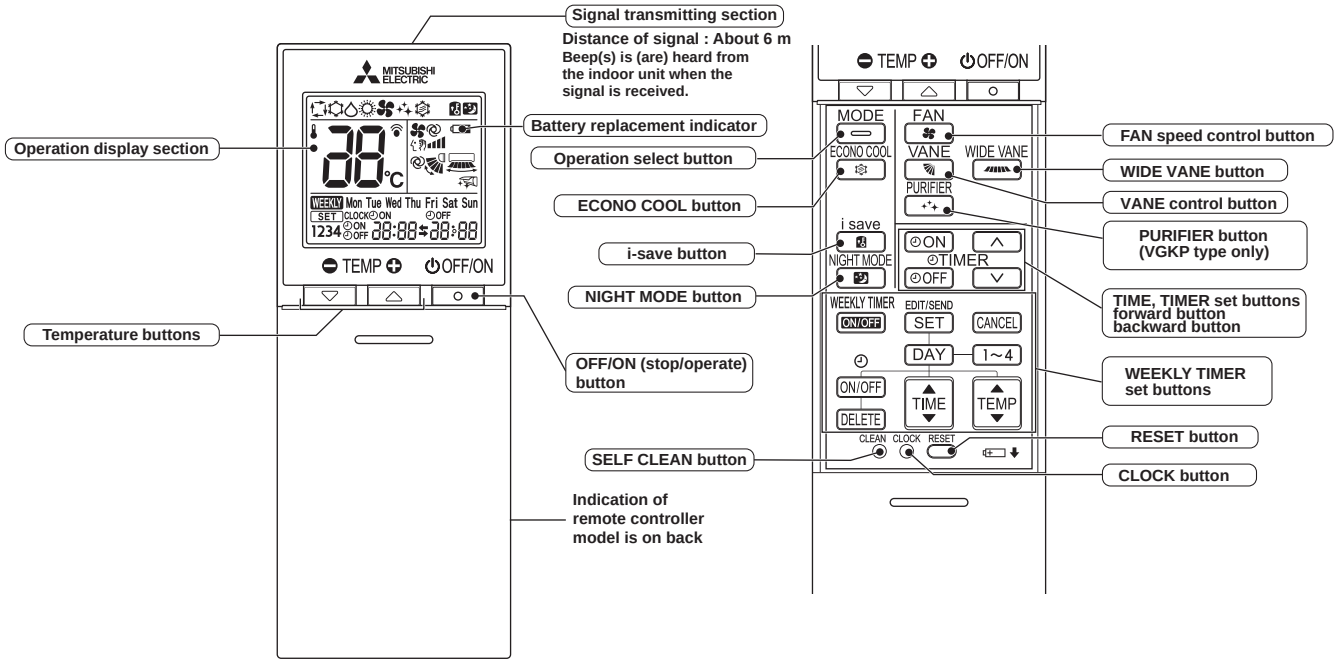
[Figure 4]

9 MICROPROCESSOR CONTROL

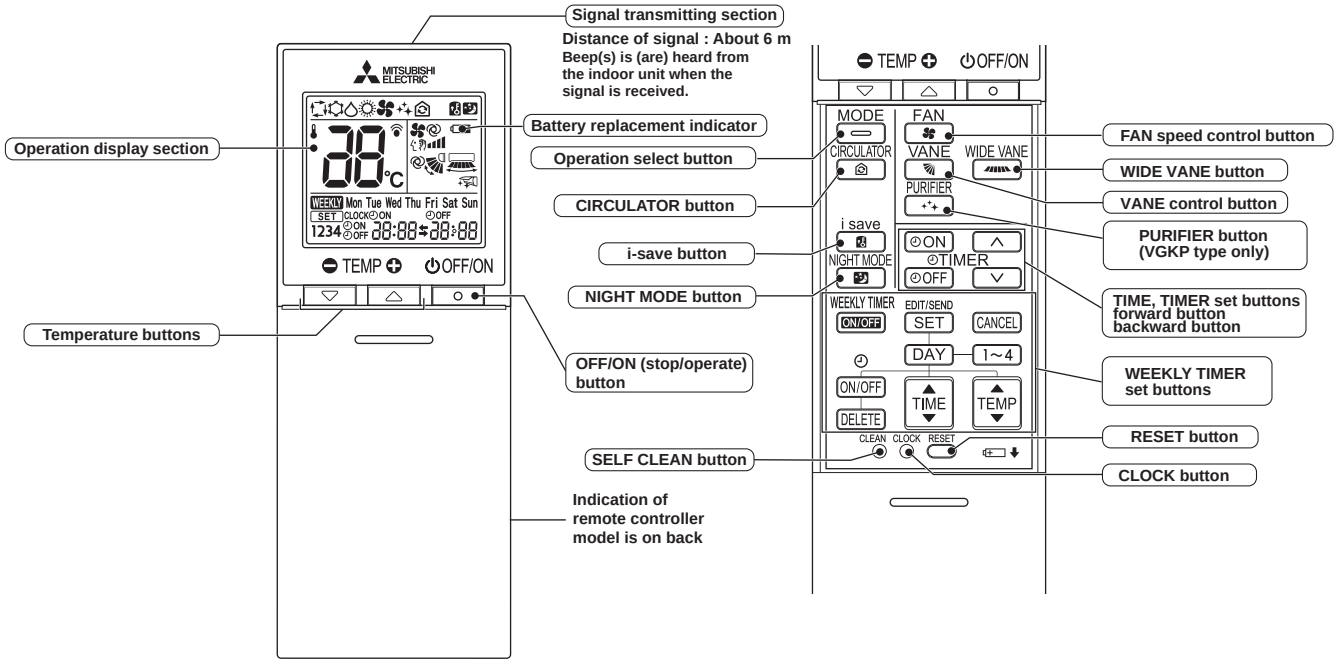
MSZ-AY25VG MSZ-AY35VG MSZ-AY42VG MSZ-AY50VG
MSZ-AY25VGK MSZ-AY35VGK MSZ-AY42VGK MSZ-AY50VGK
MSZ-AY25VGKP MSZ-AY35VGKP MSZ-AY42VGKP MSZ-AY50VGKP

WIRELESS REMOTE CONTROLLER

MSZ-AY25VG - ET1 **MSZ-AY25VGK -** E1, ET1, ER1 **MSZ-AY25VGKP -** E1, ET1, ER1
MSZ-AY35VG - ET1 **MSZ-AY35VGK -** E1, ET1, ER1 **MSZ-AY35VGKP -** E1, ET1, ER1
MSZ-AY42VG - ET1 **MSZ-AY42VGK -** E1, ET1, ER1 **MSZ-AY42VGKP -** E1, ET1, ER1
MSZ-AY50VG - ET1 **MSZ-AY50VGK -** E1, ET1, ER1 **MSZ-AY50VGKP -** E1, ET1, ER1



MSZ-AY25VGK - SC1 **MSZ-AY35VGK -** SC1 **MSZ-AY42VGK -** SC1 **MSZ-AY50VGK -** SC1
MSZ-AY25VGKP - SC1 **MSZ-AY35VGKP -** SC1 **MSZ-AY42VGKP -** SC1 **MSZ-AY50VGKP -** SC1



NOTE: Last setting will be stored after the unit is turned OFF with the remote controller. Indoor unit receives the signal of the remote controller with beeps.

INDOOR UNIT DISPLAY SECTION

Operation Indicator lamp

The operation indicator at the right side of the indoor unit indicates the operation state.

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

Indication	Operation state	Room temperature
☀ ☀	The unit is operating to reach the set temperature **(VG, VGK only)**	About 2°C or more away from set temperature
☀ ○	The room temperature is approaching the set temperature **(VG, VGK only)**	About 1 to 2°C from set temperature
○ ☀	Lower lamp lights during clean operation. Refer to 9-13.	—
☀ ☼	Standby mode (Only during multi system operation)	—

☀ Lit
☼ Blinking
○ Not lit

9-1. COOL (☼) OPERATION

(1) Press OFF/ON (stop/operate) button.
OPERATION INDICATOR lamp of the indoor unit turns on with a beep tone.
(2) Select COOL mode with Operation select button.
(3) Press Temperature buttonsTEMP ⊖ or ⊕ button to select the desired temperature. The setting range is 16 - 31°C.

1. Coil frost prevention

The compressor operational frequency is controlled by the temperature of the indoor heat exchanger to prevent the coil from frosting.
When the temperature of indoor heat exchanger becomes too low, the coil frost prevention mode works.
The indoor fan operates at the set speed and the compressor stops. This mode continues until the temperature of indoor heat exchanger rises.

2. Low outside temperature operation

When the outside temperature is lower, low outside temperature operation starts, and the outdoor fan slows or stops.

3. Indoor fan speed control

When the thermostat turns OFF, the indoor fan operates very Low to reduce power consumption.
When the room temperature rises and the thermostat is ON, the indoor fan operates according to the settings on the remote controller.

9-2. DRY (△) OPERATION

(1) Press OFF/ON (stop/operate) button.
OPERATION INDICATOR lamp of the indoor unit turns on with a beep tone.
(2) Select DRY mode with Operation select button.
(3) The set temperature is determined from the initial room temperature.

1. Coil frost prevention

Coil frost prevention works the same way as that in COOL mode. (9-1.1.)

2. Low outside temperature operation

Low outside temperature operation works the same way as that in COOL mode. (9-1.2.)

3. Indoor fan speed control

Indoor fan speed control works the same way as that in COOL mode. (9-1.3.)

9-3. FAN (✿) OPERATION

(1) OPERATION INDICATOR lamp of the indoor unit turns on with a beep tone.
(2) Select FAN mode with Operation select button.
(3) Select the desired fan speed. When AUTO, it becomes Low.
Only indoor fan operates.
Outdoor unit does not operate.

9-4. HEAT (☼) OPERATION

(1) Press OFF/ON (stop/operate) button.
OPERATION INDICATOR lamp of the indoor unit turns on with a beep tone.
(2) Select HEAT mode with Operation select button.
(3) Press Temperature buttonsTEMP ⊖ or ⊕ button to select the desired temperature. The setting range is 10 - 31°C.

1. Cold air prevention control

When the compressor is not operating or is starting, and the temperature of indoor heat exchanger and/or the room temperature is low or when defrosting is being done, the indoor fan will stop or rotate in Very Low speed.

2. High pressure protection

The compressor operational frequency is controlled by the temperature of the indoor heat exchanger to prevent the condensing pressure from increasing excessively.
When the temperature of indoor heat exchanger becomes too high, the high pressure protection works.
The indoor fan operates following the cold air prevention control. This mode continues until the temperature of indoor heat exchanger falls.

3. Defrosting

Defrosting starts when the temperature of outdoor heat exchanger becomes too low.
The compressor stops once, the indoor/outdoor fans stop, the 4-way valve reverses, and the compressor re-starts.
This mode continues until the temperature of outdoor heat exchanger rises or the fixed time passes.

9-5. AUTO CHANGE OVER ··· AUTO MODE OPERATION

Once desired temperature is set, unit operation is switched automatically between COOL and HEAT operation.

Mode selection

(1) Initial mode

When unit starts the operation with AUTO operation from OFF:

- If the room temperature is higher than the set temperature, operation starts in COOL mode.
- If the room temperature is equal to or lower than the set temperature, operation starts in HEAT mode.

(2) Mode change

COOL mode changes to HEAT mode when about 15 minutes have passed with the room temperature 1°C below the set temperature.
HEAT mode changes to COOL mode when about 15 minutes have passed with the room temperature 1°C above the set temperature.

NOTE 1

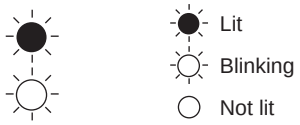
If 2 or more indoor units are operating in multi system, there might be a case that the indoor unit, which is operating in ▭ (AUTO), cannot change over to the other operating mode (COOL ↔ HEAT) and becomes a state of standby.
Refer to **NOTE 2 "FOR MULTI SYSTEM AIR CONDITIONER"**.

NOTE 2
FOR MULTI SYSTEM AIR CONDITIONER
OUTDOOR UNIT: MXZ series

Multi system air conditioner can connect 2 or more indoor units with 1 outdoor unit.

- When you try to operate 2 or more indoor units with 1 outdoor unit simultaneously, one for the cooling and the others for heating, the operation mode of the indoor unit that operates first is selected. Other indoor units cannot operate, and operation indicator lamp blinks as shown in the figure below. In this case, please set all the indoor units to the same operation mode.

OPERATION INDICATOR



- When indoor unit 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 is not operating, it may get warm or the sound of refrigerant flow may be heard. It is not malfunction. The reason is that the refrigerant continuously flows into it.

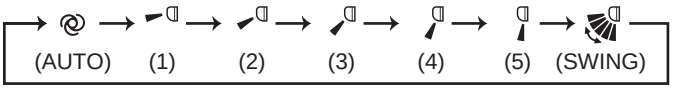
9-6. AUTO VANE OPERATION

1. Horizontal vane

(1) Vane motor drive

These models are equipped with a stepping motor for the horizontal vane. The rotating direction, speed, and angle of the motor are controlled by pulse signals (approximately 12 V) transmitted from indoor microprocessor.

(2) The horizontal vane angle and mode change as follows by pressing Up-down airflow control button.



(3) Positioning

To confirm the standard position, the vane moves until it touches the vane stopper. Then the vane is set to the selected angle.

Confirming of standard position is performed in the following cases:

(a) When the operation starts or finishes (including timer operation).

(b) When the test run starts.

(c) When standby mode (only during multi system operation) starts or finishes.

(4) VANE AUTO (@) mode

In VANE AUTO mode, the microprocessor automatically determines the vane angle to make the optimum room temperature distribution.

In COOL and DRY operation
Vane angle is fixed to Horizontal position.

In HEAT operation
Vane angle is fixed to Angle 4.

(5) STOP (operation OFF) and ON TIMER standby

In the following cases, the horizontal vane returns to the closed position.

(a) When OFF/ON (stop/operate) button is pressed (POWER OFF).

(b) When the operation is stopped by the emergency operation.

(c) When ON TIMER is ON standby.

(6) Dew prevention

During COOL or DRY operation with the vane angle at Angle 5 when the compressor cumulative operation time exceeds 1 hour, the vane angle automatically changes to Angle 4 for dew prevention.

(7) SWING (🌀) mode

By selecting SWING mode with Up-down airflow control button, the horizontal vanes swing vertically.

When COOL, DRY or FAN mode is selected, only the upper vane swings.

(8) Cold air prevention in HEAT operation

The horizontal vane position is set to upward.

NOTE: When 2 or more indoor units are operated with multi outdoor unit, even if any indoor unit turns thermostat off, this control does not work in the indoor unit.

(9) ECONO COOL (🍃) operation (ECONOmical operation)

When ECONO COOL button is pressed in COOL mode, set temperature is automatically set 2°C higher by the microprocessor. (However, the temperature on the LCD screen on the remote controller is not changed.)

Also the horizontal vane swings in various cycle.

SWING operation makes you feel cooler than set temperature. So, even though the set temperature is higher, the air conditioner can keep comfort. As a result, energy can be saved.

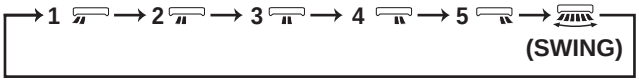
To cancel this operation, select a different mode or press one of the following buttons in ECONO COOL operation: ECONO COOL, or Up-down airflow control button.

2. Vertical vane

(1) Vane motor drive

These models are equipped with a stepping motor for the vertical vane. The rotating direction, speed, and angle of the motor are controlled by pulse signals (approximately 12 V) transmitted from microprocessor.

(2) The vertical vane angle and mode change as follows by pressing Left-right airflow control button.



(3) Positioning

To confirm the standard position, the vane moves until it touches the vane stopper. Then the vane is set to the selected angle.

Confirmation of standard position is performed in the following cases:

(a) OFF/ON (stop/operate) button is pressed (POWER ON).

(4) SWING ( ) MODE

By selecting SWING mode with Left-right airflow control button, the vertical vane swings horizontally. The remote controller displays " ". Swing mode is cancelled when Left-right airflow control button is pressed once again.

9-7. TIMER OPERATION

1. How to set the time

(1) Check that the current time is set correctly.

NOTE: Timer operation will not work without setting the current time. Initially "0:00" blinks at the current time display of TIME MONITOR, so set the current time correctly with CLOCK button.

How to set the current time

(a) Press the CLOCK button.

(b) Press the TIME SET buttons (and) to set the current time.

- Each time FORWARD button ( ) is pressed, the set time increases by 1 minute, and each time BACKWARD button ( ) is pressed, the set time decreases by 1 minute.
- Pressing those buttons longer, the set time increases/decreases by 10 minutes.

(c) Press the CLOCK button.

(2) Press OFF/ON (stop/operate) button to start the air conditioner.

(3) Set the time of timer.

ON timer setting

(a) Press ON TIMER button( ) during operation.

(b) Set the time of the timer using TIME SET buttons (and). *

OFF timer setting

(a) Press OFF TIMER button ( ) during operation.

(b) Set the time of the timer using TIME SET buttons (and). *

* Each time FORWARD button ( ) is pressed, the set time increases by 10 minutes: each time BACKWARD button ( ) is pressed, the set time decreases by 10 minutes.

2. To release the timer

To release ON timer, press ON TIMER button ( ).

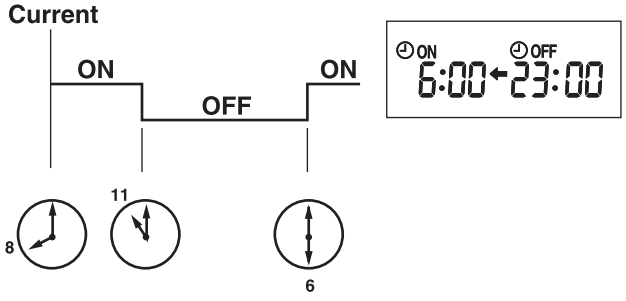
To release OFF timer, press OFF TIMER button( ).

TIMER is cancelled and the display of set time disappears.

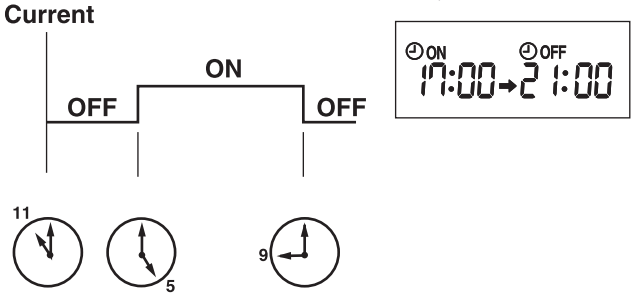
PROGRAM TIMER

- OFF timer and ON timer can be used in combination. The set time that is reached first will operate first.
- "⬅" and "➡" display shows the order of OFF timer and ON timer operation.

(Example 1) The current time is 8:00 PM.
The unit turns off at 11:00 PM, and on at 6:00 AM.



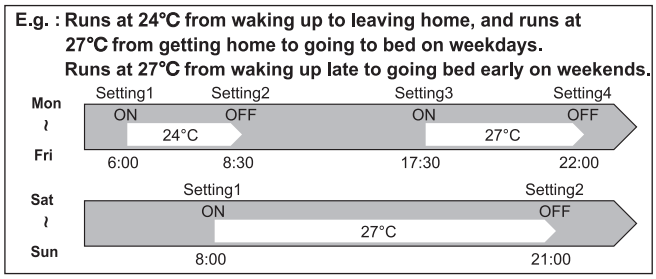
(Example 2) The current time is 11:00 AM.
The unit turns on at 5:00 PM, and off at 9:00 PM.



NOTE: If the main power is turned OFF or a power failure occurs while ON/OFF timer is active, the timer setting is cancelled. As these models are equipped with an auto restart function, the air conditioner starts operating with timer cancelled when power is restored.

9-8. WEEKLY TIMER OPERATION

- A maximum of 4 ON or OFF timers can be set for individual days of the week.
- A maximum of 28 ON or OFF timers can be set for a week.



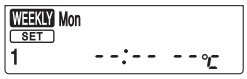
NOTE:

- The simple ON/OFF timer setting is available while the weekly timer is on. In this case, the ON/OFF timer has priority over the weekly timer; the weekly timer operation will start again after the simple ON/OFF timer is complete.

1. How to set the weekly timer

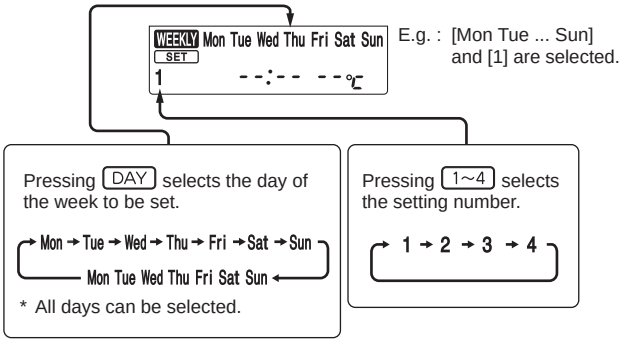
* Make sure that the current time and day are set correctly.

(1) Press EDIT/SEND SET button to enter the weekly timer setting mode.

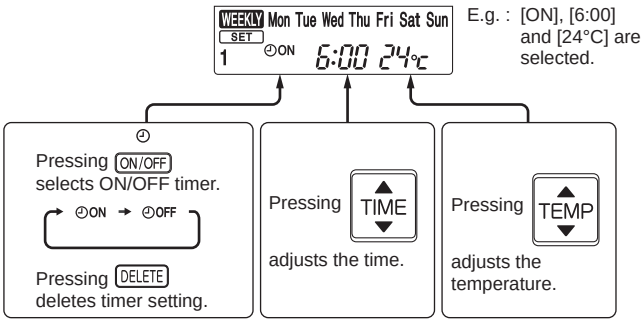


* SET blinks.

(2) Press DAY and 1~4 buttons to select setting day and number.



(3) Press ON/OFF, TIME, and TEMP buttons to set ON/OFF, time, and temperature.



* Hold down the button to change the time quickly.
* The temperature can be set between 16°C and 31°C at cool operation.
* The temperature can be set between 10°C and 31°C at heat operation.

Press DAY and 1~4 buttons to continue setting the timer for other days and/or numbers.

(4) Press EDIT/SEND SET button to complete and transmit the weekly timer setting.

* SET which was blinking goes out, and the current time will be displayed.

NOTE:

- Press EDIT/SEND SET button to transmit the setting information of weekly timer to the indoor unit. Point the remote controller toward the indoor unit for 3 seconds.
- When setting the timer for more than one day of the week or one number, EDIT/SEND SET button does not have to be pressed per each setting. Press EDIT/SEND SET button once after all the settings are complete. All the weekly timer settings will be saved.
- Press EDIT/SEND SET button to enter the weekly timer setting mode, and press and hold DELETE button for 5 seconds to erase all weekly timer settings. Point the remote controller toward the indoor unit.

(5) Press WEEKLY TIMER ON/OFF button to turn the weekly timer ON. (WEEKLY lights.)

- When the weekly timer is ON, the day of the week whose timer setting is complete, will light.

Press WEEKLY TIMER ON/OFF button again to turn the weekly timer OFF. (WEEKLY goes out.)

NOTE:

The saved settings will not be cleared when the weekly timer is turned OFF.

2. Checking weekly timer setting

(1) Press EDIT/SEND SET button to enter the weekly timer setting mode.

*SET blinks.

(2) Press DAY or 1~4 buttons to view the setting of the particular day or number.

(3) Press CANCEL button to exit the weekly timer setting.

NOTE:

When all days of the week are selected to view the settings and a different setting is included among them, --:-- --℃ will be displayed.

9-9. NIGHT MODE (🌙) OPERATION

NIGHT MODE changes the brightness of the operation indicator, disables the beep sound and limits the noise level of the outdoor unit.

(1) Press NIGHT MODE button during operation to activate NIGHT MODE (🌙).

- The operation indicator lamp dims.
- The beep sound will be disabled except that emitted when the operation is started or stopped.
- Noise level of the outdoor unit will be lower than that mentioned in SPECIFICATIONS. (Except the connection to **MXZ**.)

(2) Press NIGHT MODE button to cancel NIGHT MODE (🌙).

NOTE:

- Noise level of the outdoor unit may not change after startup of the unit, during the protection operation, or depending on other operating conditions.
- The fan speed of the indoor unit will not change.
- The operation indicator lamp will be hard to be seen in a bright room.
- Noise level of the outdoor unit will not decrease during Multi system operation.

9-10. i-save (i-save) OPERATION

1. How to set i-save operation

(1) Press OFF/ON (stop/operate) button.
(2) Select COOL, HEAT or ECONO COOL mode.
(3) Press i-save button.
(4) Set the temperature, fan speed, and airflow direction for i-save operation.

NOTE:

- i-save operation cannot be selected during DRY or AUTO mode operation.
- The setting range of HEAT mode i-save operation is 10 - 31°C.
- 2 groups of setting can be saved. (One for COOL/ECONO COOL, one for HEAT)

2. How to cancel operation

- Press i-save button again.
- i-save operation can also be cancelled by pressing Operation select button to change the operation mode.

The preferred setting can be saved for the next time with a single press of i-save button.

9-11. OPERATION LOCK

This function locks operation mode only. Other functions, such as OFF/ON, temperature setting, or airflow direction adjustment, are available.

(1) Hold down MODE button and VANE button simultaneously for 2 seconds while the unit is not operating to enable OPERATION LOCK.
The icon for the locked operation mode blinks.
(2) Hold down MODE button and VANE button simultaneously for 2 seconds again while the unit is not operating to disable OPERATION LOCK.

- The icon for the locked operation mode blinks when MODE button and VANE button are held down to enable or disable OPERATION LOCK or MODE button is pressed during operation while OPERATION LOCK is enabled.
- AIR PURIFYING operation is not available when OPERATION LOCK is enabled in a mode other than FAN mode.

9-12. AIR PURIFYING (✨) OPERATION (MSZ-AY·VGKP)

In the AIR PURIFYING operation, the indoor unit built-in device reduces airborne fungi, viruses, mold, and allergens.

(1) Press PURIFIER button to start AIR PURIFYING operation.
  - AIR PURIFYING lamp turns on. (Display section)
(2) Press PURIFIER button again to cancel AIR PURIFYING operation.
  - AIR PURIFYING lamp turns off. (Display section)

NOTE:

- Never touch the air purifying device during operation. Although the air purifying device is safety-conscious design, touching this device could be the cause of trouble as this device discharge high voltage electricity.
- A “hissing” sound may be heard during the air purifying operation. This sound is produced when plasma is being discharged. This is not a malfunction.
- AIR PURIFYING lamp does not turn on if the front panel is not closed completely.

9-13. SELF CLEAN ( ) OPERATION

- When SELF CLEAN operation is set, it performs for 25 minutes when unit is stopped after COOL/DRY operation.
  SELF CLEAN operation performs when: COOL/DRY is operated more than 3 minutes.
- The fan is stopped for the first 3 minutes. Then, the horizontal vane is set to higher than angle 1 and the fan is operated for 25 minutes.

9-14. EMERGENCY/TEST OPERATION

In the case of test run operation or the emergency operation, use the emergency operation switch on the right side of the indoor unit. The emergency operation is available when the remote controller is missing or has failed, or the batteries in the remote controller are running down. The unit will start and OPERATION INDICATOR lamp will light up.

The first 30 minutes of operation is the test run operation. This operation is for servicing. The indoor fan runs at High speed and the temperature control does not work.

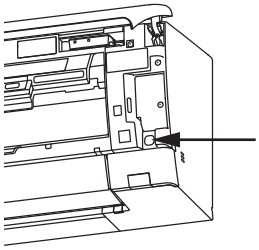
After 30 minutes of test run operation, the system shifts to EMERGENCY COOL/HEAT MODE with a set temperature of 24°C. The fan speed shifts to Med.

The coil frost prevention works even in the test run or the emergency operation.

In the test run or the emergency operation, the horizontal vane operates in VANE AUTO (㉾) mode.

The emergency operation continues until the emergency operation switch is pressed once or twice or the unit receives any signal from the remote controller. In the latter case, normal operation will start.

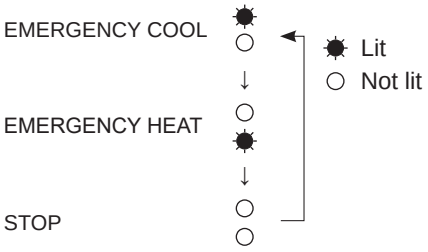
NOTE: Do not press the emergency operation switch during normal operation.



Operation mode	COOL/HEAT
Set temperature	24°C
Fan speed	Med.
Horizontal vane	Auto

The operation mode is indicated by the Operation Indicator lamp as following

Operation Indicator lamp



9-15. 3-MINUTE TIME DELAY OPERATION

When the system turns OFF, compressor will not restart for 3 minutes as 3-minute time delay function operates to protect compressor from overload.

10 TROUBLESHOOTING

MSZ-AY25VG MSZ-AY35VG MSZ-AY42VG MSZ-AY50VG
MSZ-AY25VGK MSZ-AY35VGK MSZ-AY42VGK MSZ-AY50VGK
MSZ-AY25VGKP MSZ-AY35VGKP MSZ-AY42VGKP MSZ-AY50VGKP

10-1. CAUTIONS ON TROUBLESHOOTING

1. Before troubleshooting, check the following

1) Check the power supply voltage.
2) Check the indoor/outdoor connecting wire for miswiring.

2. Take care of the following during servicing

1) Before servicing the air conditioner, be sure to turn OFF the main unit first with the remote controller, and 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 P.C. board.
3) When removing the 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 connector housing. DO NOT pull the lead wires.

<Incorrect> <Correct>

Lead wiring **Connector housing**

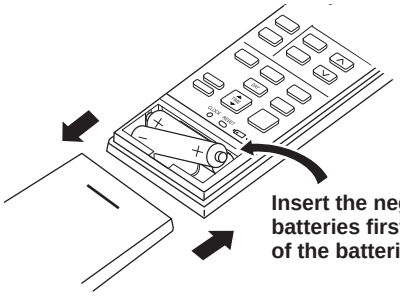
3. Troubleshooting procedure

1) Check if the OPERATION INDICATOR lamp on the indoor unit is blinking ON and OFF to indicate an abnormality. To make sure, check how many times the OPERATION INDICATOR lamp is blinking ON and OFF before starting service work.
2) Before servicing, verify that all connectors and terminals are connected properly.
3) When the electronic control P.C. board seems to be defective, check for disconnection of the copper foil pattern and burnt or discolored components.
4) When troubleshooting, refer to 10-2, 10-3 and 10-4.

4. How to replace batteries

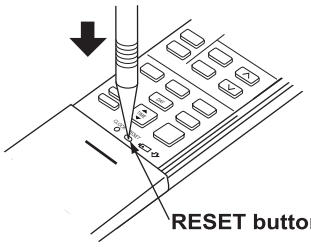
Weak batteries may cause the remote controller malfunction.
In this case, replace the batteries to operate the remote controller normally.

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



Insert the negative pole of the batteries first. Check if the polarity of the batteries is correct.

② Press RESET button with a fine-tipped object, and then use the remote controller.



RESET button

NOTE: 1. If 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.
3. Do not use the leaking batteries.

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.

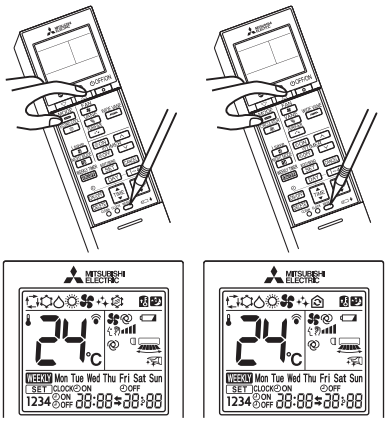
1. Flow chart of failure mode recall function for the indoor/outdoor unit

NOTE: The indoor unit does not operate by smartphone, refer to 10-3.2. “Check of Wi-Fi interface”.

Operational procedure

MSZ-AY25/35/42/50VG/VGK/VGKP

- E1, ET1, ER1 - SC1



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 OFF/ON (stop/operate) 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.

Judgment of indoor/outdoor abnormality

Does the upper lamp of OPERAION 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 upper lamp on the indoor unit. *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)

Before blinking, does the upper lamp on the indoor unit 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 table of outdoor unit failure mode recall function. (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 table of indoor unit failure mode recall function. (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.

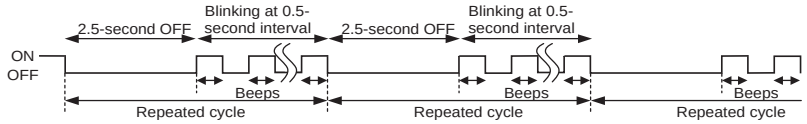
Repair the failure parts.

Deleting the memorized abnormal condition

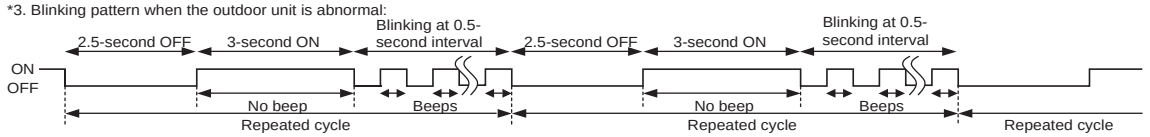
① After repairing the unit, recall the failure mode again according to “Setting up the failure mode recall function” mentioned above.
② Press OFF/ON (stop/operate) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit.
③ Press the 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:



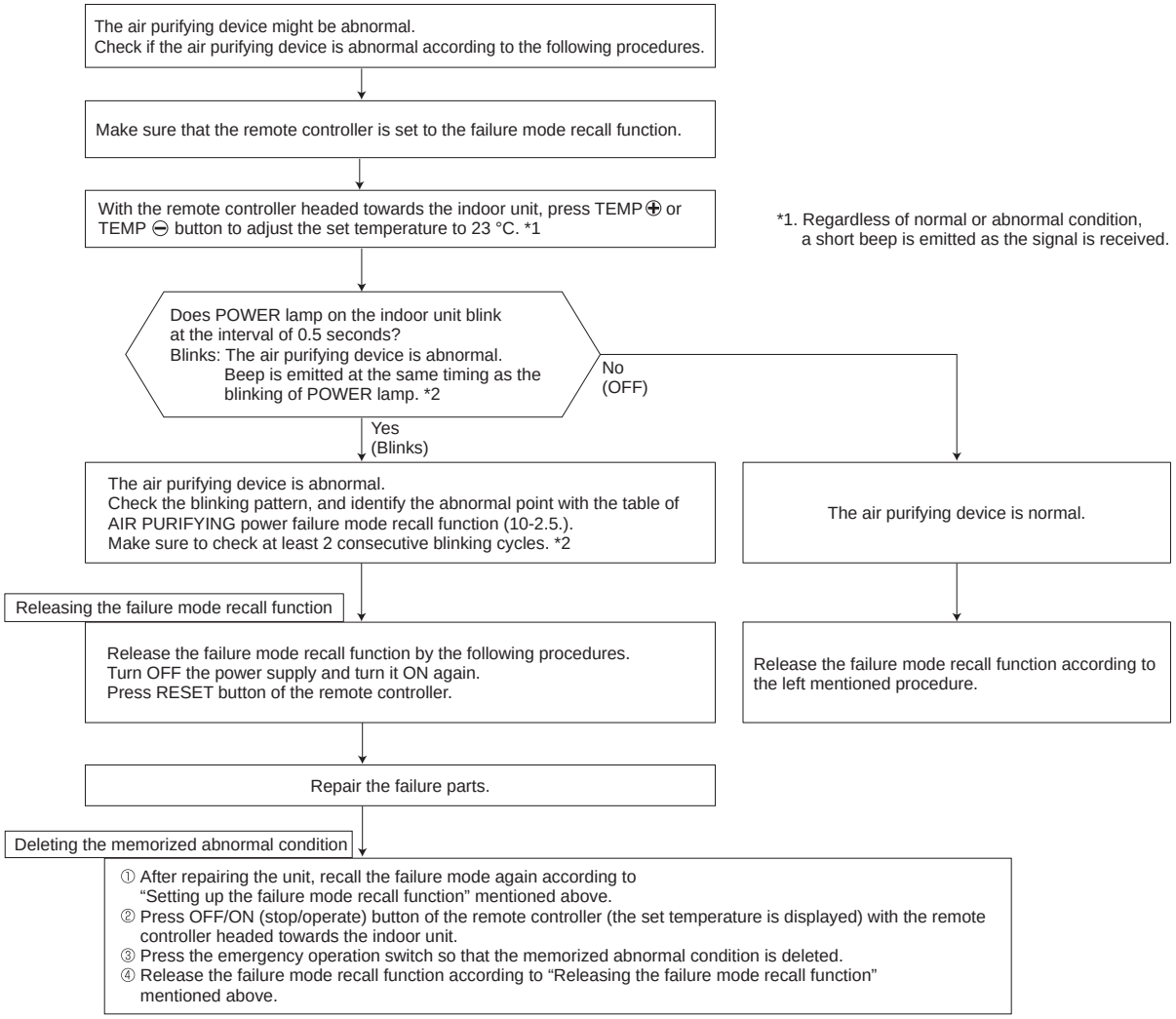
*3. Blinking pattern when the outdoor unit is abnormal:



*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)

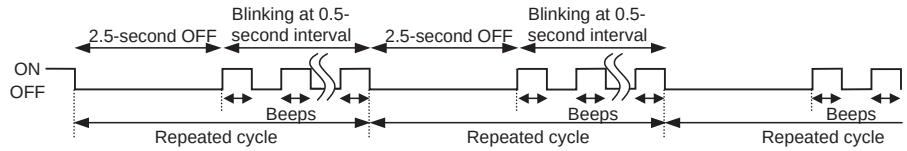
2. Flow chart of AIR PURIFYING power failure mode recall function (MSZ-AY•VGKP)

Operational procedure



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

*2. Blinking pattern when the air purifying device is abnormal:



3. AIR PURIFYING power operation check

AIR PURIFYING power operation goes ON when PURIFIER button on the remote controller is pressed with any set temperature displayed during failure mode recall function.
Check the operation display section of the remote controller to confirm that AIR PURIFYING power operation is activated.
While AIR PURIFYING lamp stays OFF, it means normal.
Blinking AIR PURIFYING lamp means abnormal, the AIR PURIFYING power operation is not conducted.

AIR PURIFYING lamp	Remedy
Continuously blinking	Follow "Check of AIR PURIFYING power" to identify the error. (Refer to 10-6.Ⓔ.)
2-time blink	AIR PURIFYING power control circuit on the indoor electronic control P.C. board is out of order. (Refer to 10-6.Ⓔ.)

NOTE: Perform the above mentioned check with the front panel closed. The interlock switch (Air purifying device) works by opening front panel and the AIR PURIFYING power is cut.

4. Table of indoor unit failure mode recall function

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

The upper 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 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.

5. Table of indoor unit failure mode recall function (When recalled at a set temperature of 23°C)
Table of AIR PURIFYING power failure mode recall function

POWER lamp	Abnormal point (Failure mode)	Condition	Remedy
1-time blink	AIR PURIFYING power control	When AIR PURIFYING power cannot be turned OFF even if the AIR PURIFYING operation is turned OFF with the remote controller.	Refer to 10-6. Ⓔ “Check of AIR PURIFYING power”.
2-time blink	Electrode (Spark discharge)	When the voltage between CN1T1 ③(+) and ②(GND) on the electronic P.C. board falls below 1.3V (spark discharge judgment voltage).	
3-time blink	Electrode (Abnormal electric discharge error 1)	When the voltage between CN1T1 ③(+) and ②(GND) on the electronic P.C. board falls by 1.2V below the normal voltage value (2.5V).	
4-time blink	Electrode (Abnormal electric discharge error 2)	When the voltage between CN1T1 ③(+) and ②(GND) on the electronic P.C. board falls significantly. (0.4V / 0.5ms)	
5-time blink	AIR PURIFYING power	When the voltage between CN1T1 ③(+) and ②(GND) on the electronic P.C. board rises above 3V.	

NOTE1 : Blinking patterns of this mode differ from the ones of TROUBLESHOOTING CHECK TABLE (10-4.).

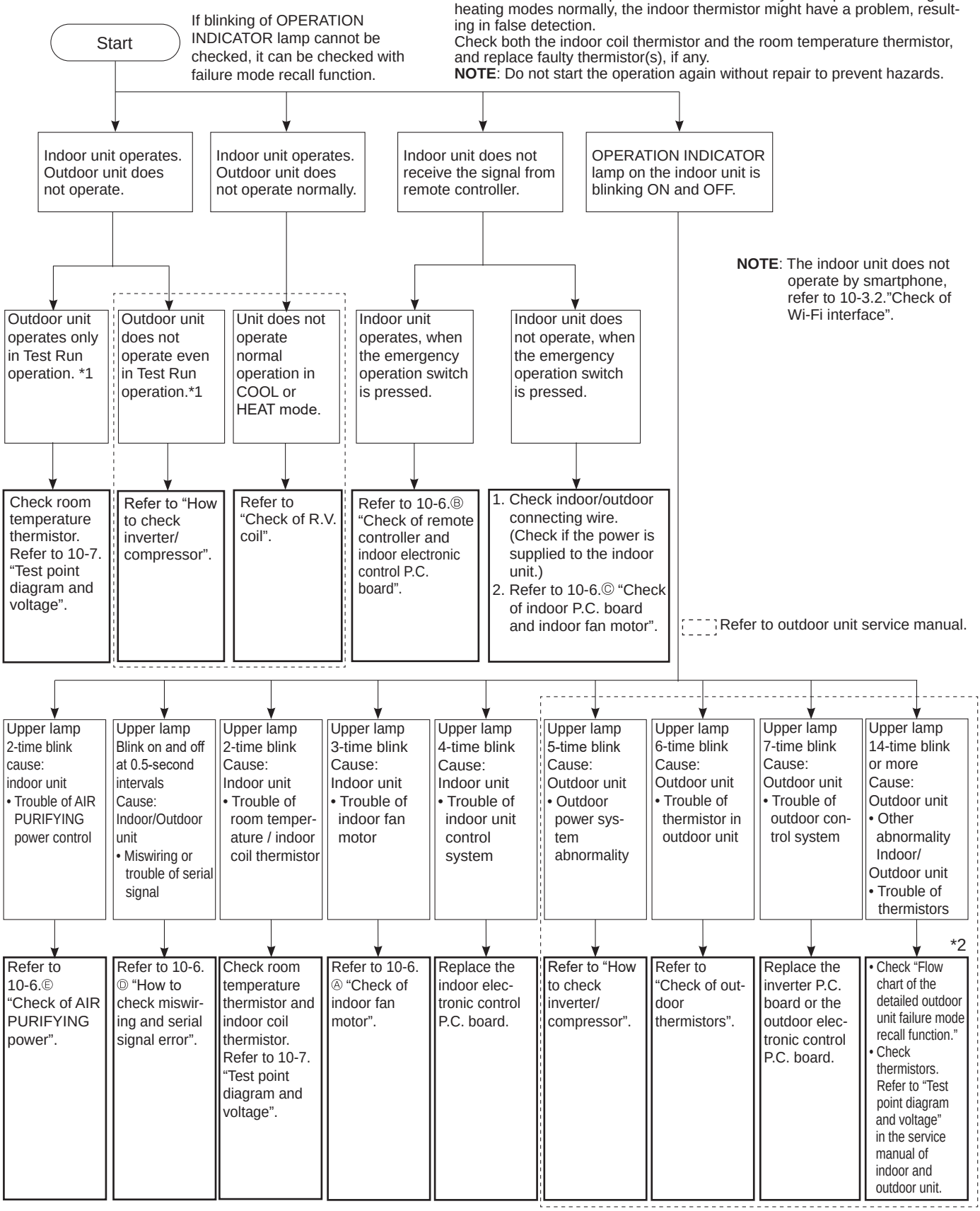
NOTE2 : As soon as an abnormality is detected, AIR PURIFYING power goes OFF, therefore measuring instrument which records the voltage wave is required in order to perform the above mentioned voltage measurement.

10-3. INSTRUCTION OF TROUBLESHOOTING

1. Check of the unit.

*1 "Test Run operation" means the operation within 30 minutes after the emergency operation switch is pressed.

*2 There is possibility that diesel explosion may occur due to the air mixed in the refrigerant circuit.
First, ensure that there are no leakage points on the valves, flare connections, etc. that allow the air to flow into the refrigerant circuit, or no blockage points (e.g. clogged or closed valves) in the refrigerant circuit that cause an increase in pressure.
If there is no abnormal point like above and the system operates cooling and heating modes normally, the indoor thermistor might have a problem, resulting in false detection.
Check both the indoor coil thermistor and the room temperature thermistor, and replace faulty thermistor(s), if any.
NOTE: Do not start the operation again without repair to prevent hazards.



2. Check of Wi-Fi interface

Follow the procedure below if the air conditioner cannot be monitored or controlled with a device such as a smartphone.

Did the LED indication blink 10 times after you selected the setting of the Wi-Fi interface and the router?

Yes →
There is a problem in a communication between the air conditioner and the Wi-Fi interface.
- Operate the air conditioner with the remote controller once.
- If the situation does not improve, replace the Wi-Fi interface.
- If the situation does not improve even after you replace the Wi-Fi interface, replace the indoor P.C.board.

* After replacing the indoor P.C. board, perform a test run once, and then set up the Wi-Fi communication. (Refer to 8-4. Wi-Fi INTERFACE SETTING UP.)
Incomplete connection between the indoor unit and the outdoor unit causes an error on the pairing mode.

No ↓

Has the setting up in WPS-PUSH mode or in Access Point mode been completed?

No →
Refer to the OPERATING INSTRUCTIONS and set up a connection between the Wi-Fi interface and the router.

Yes ↓

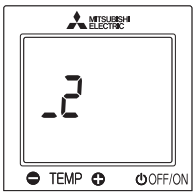
Did the LED indication and the buzzer operate properly after you set up a connection between the Wi-Fi interface and the router?

No →
There is a problem in a communication between the air conditioner and the router.
- Make sure that the communication distance is not too far between the air conditioner and the router.
- Make sure that the router is compatible with WPA2-AES encryption.
- Make sure that the SSID consists of the combination of alphabets and numbers.
- If the problem persists even after you check above, follow the instructions of [A], and then set up a connection between the Wi-Fi interface and the router again.

Yes ↓

[A] To reset connection and set up the Wi-Fi interface and the router again

(1) Hold down the Temperature ⊖ for 5 seconds.
(2) Select "_ 2" by pressing Temperature ⊕ and ⊖.
(3) Point the remote controller toward the indoor unit and press the ⏻OFF/ON.
(4) The indoor unit beeps 3 times when resetting is complete.



Is the air conditioner registered with the MELCloud application?

No →
There is a problem in a communication between the air conditioner and the MELCloud.
- Make sure that the number of the connected devices to the router does not exceed the limit.
- Make sure that DHCP setting is enabled.
- Make sure that DNS setting of the router and DNS address of the Wi-Fi interface are correct.
- Make sure that the router is connected to the internet.
- Make sure that the communication is not limited with security of the router.
- If the problem persist even after you check above, follow the instructions of [A], and then set up a connection between the Wi-Fi interface and the router again.

Yes ↓

If the situation does not improve after you review above →
Refer to the OPERATING INSTRUCTIONS or MELCloud support page.
https://www.mitsubishielectric.com/ldg/ibim/
https://www.melcloud.com/Support

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	Upper 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	Upper 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	Upper 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	Upper 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	Upper lamp blinks. 5-time blink 2.5-second OFF		It consecutively occurs 3 times that the compressor stops for overcurrent protection or startup failure protection within 1 minute after startup.	• Refer to "How to check of inverter/compressor". Refer to outdoor unit service manual • Check the stop valve.
6	Outdoor thermistors	Upper 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	Upper 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 *2 on 10-3	Upper lamp blinks. 14-time blink or more 2.5-second OFF		An abnormality other than the above is detected. An abnormality of the indoor thermistors, the defrost thermistor or ambient temperature thermistor is detected.	• Check the stop valve. • Check the 4-way valve. • Check the abnormality in detail using the failure mode recall function for outdoor unit. • Refer to TEST POINT DIAGRAM AND VOLTAGE" on the service manual of indoor and outdoor unit for the characteristics of the thermistors. (Do not start the operation again without repair to prevent hazards.)
9	Outdoor control system	Upper 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.

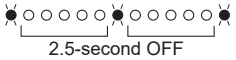
NOTE: The indoor unit may have been connected to a non-low-standby-power model outdoor unit. To use a low-standby-power model, clear the error history by referring to "Deleting the memorized abnormal condition" described in 10-2.1. When the error history is being cleared, the connection information also 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

Lit

Blinking

Not lit

No.	Abnormal point	Operation indicator lamp	Symptom	Condition	Remedy
1	**MXZ type** Operation mode setting	Upper 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.

OPERATION INDICATOR

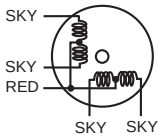
Lit

Blinking

Not lit

No.	Abnormal point	Operation indicator lamp	Symptom	Condition	Remedy
1	AIR PURIFYING power control	AIR PURIFYING lamp blinks. 	Indoor unit and outdoor unit do not operate.	When AIR PURIFYING power cannot be turned OFF even if the AIR PURIFYING operation is turned OFF by remote controller.	• Refer to 10-6.Ⓔ “Check of AIR PURIFYING power”.

10-5. TROUBLESHOOTING CRITERION OF MAIN PARTS

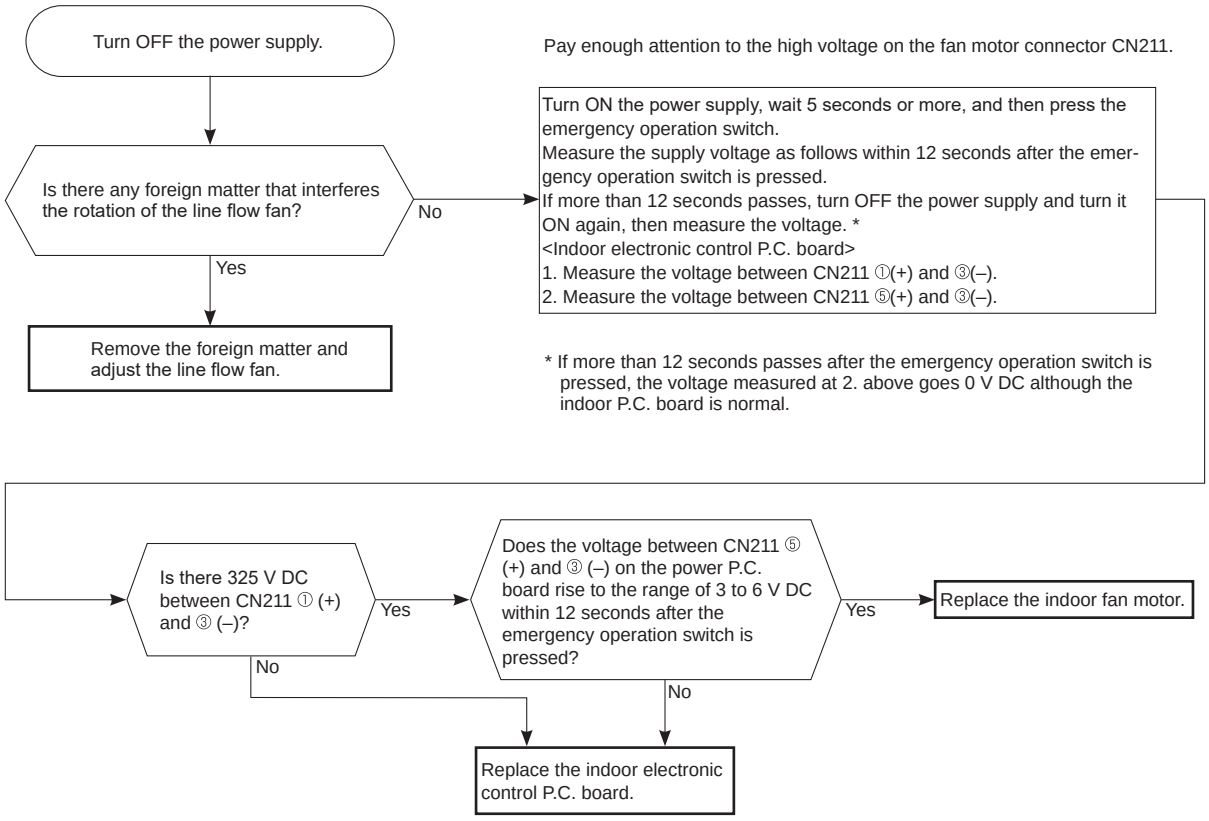
Part name	Check method and criterion	Figure
Room temperature thermistor (RT11) Indoor coil thermistor (RT12, RT13)	Measure the resistance with a multimeter. Refer to 10-7. “Test point diagram and voltage”, “Indoor electronic control P.C. board”, for the chart of thermistor.	
Indoor fan motor (MF)	Check 10-6.Ⓐ “Check of indoor fan motor”.	
Vane motor (MV1) (Horizontal Upper)	Measure the resistance between the terminals with a multimeter. (Temperature: 10 to 30°C) Color of the lead wire: Normal RED - SKY*: 262 - 328 Ω	
Vane motor (MV2) (Horizontal Lower)	Measure the resistance between the terminals with a multimeter. (Temperature: 10 to 30°C) Color of the lead wire: Normal RED - SKY*: 257 - 333 Ω	
Vane motor (MV3) (Vertical)	Measure the resistance between the terminals with a multimeter. (Temperature: 10 to 30°C) Color of the lead wire: Normal RED - SKY*: 219 - 273 Ω	
AIR PURIFYING power	Check 10-6.Ⓔ.	

*SKY = SKY BLUE

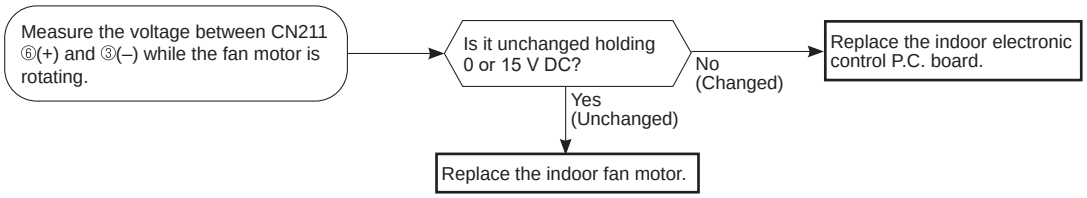
10-6. TROUBLESHOOTING FLOW

Ⓐ Check of indoor fan motor

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

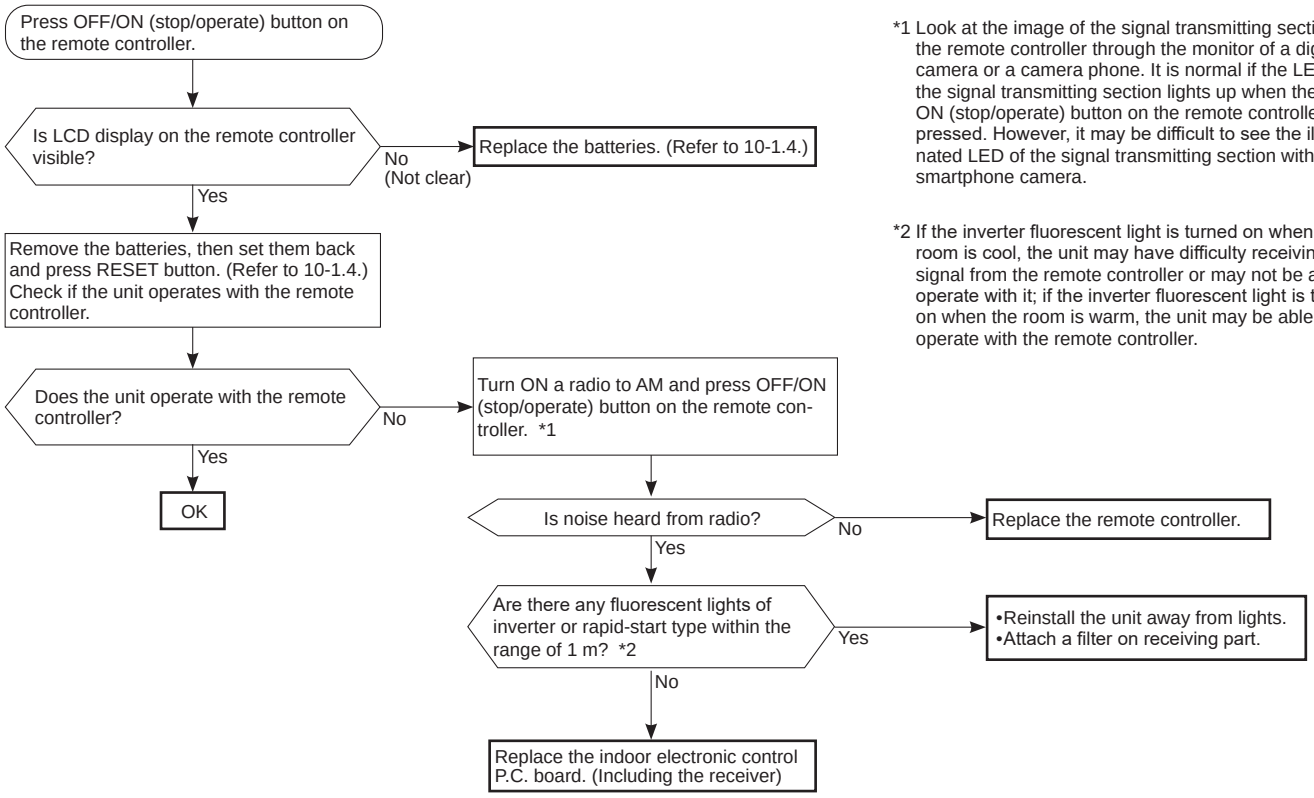


The indoor fan motor error has occurred, and the indoor fan repeats “12-second ON and 30-second OFF” 3 times, and then stops.



Ⓑ 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 OFF/ON (stop/operate) 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 the indoor fan motor connector CN211 and the 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 the emergency operation switch?

Yes → Measure the resistance between CN211 ③ and ④ of the indoor fan motor connector.
→ 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.

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

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

Is the fuse (F11) blown only?
Yes
No

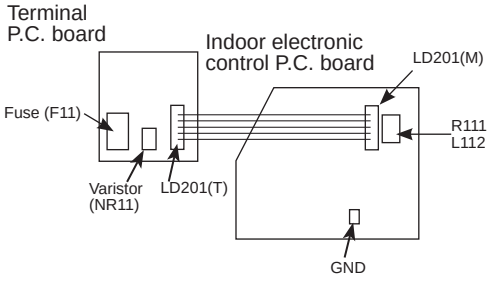
Measure the resistance between CN211 ①(+) and ③(-) of indoor fan motor connector. *1, *2

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 multimeter 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.

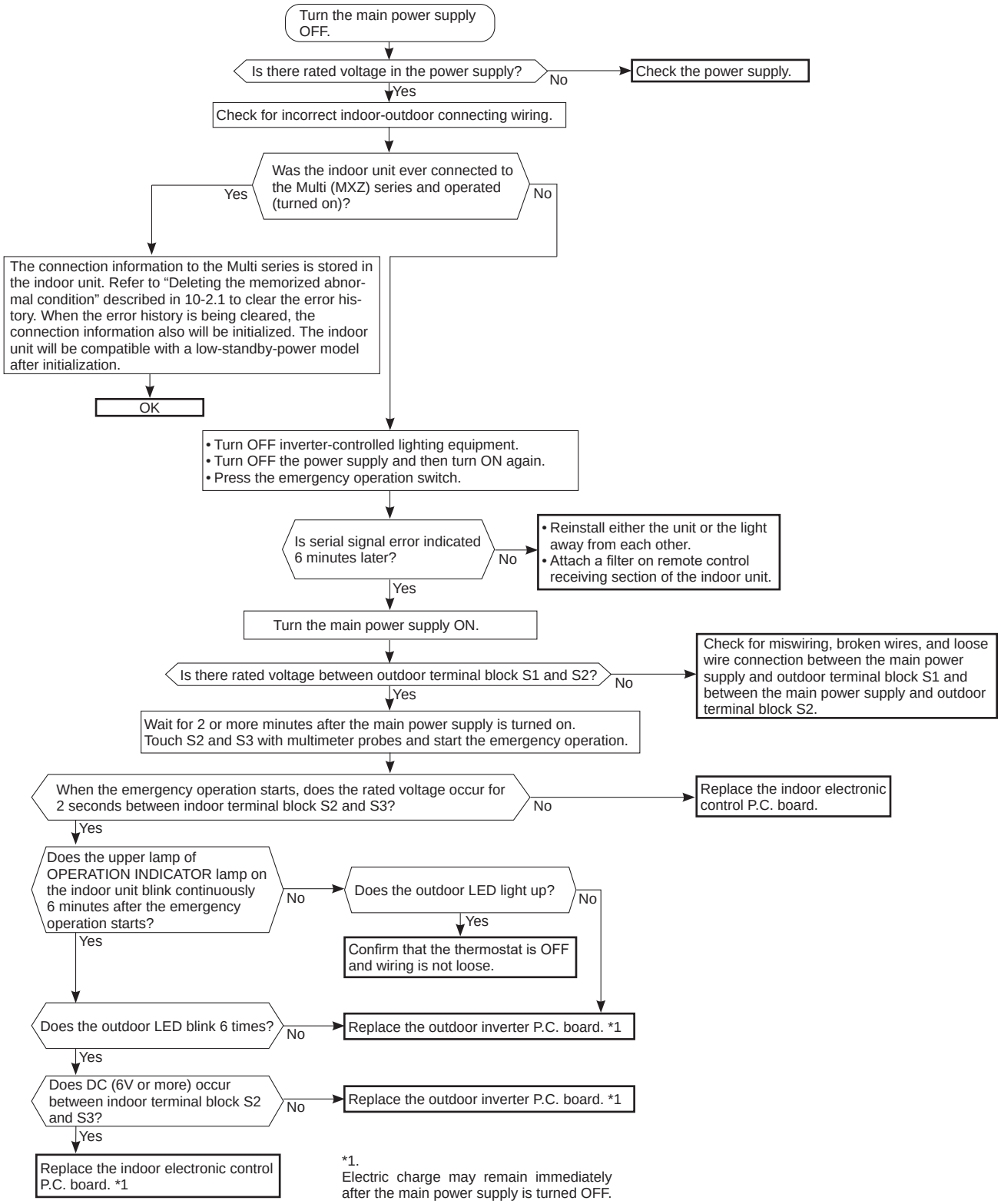
Measure the resistance of resistor (R111) (**MSZ-AY25/35/42VG/VGK/VGKP**)/ reactor (L112) (**MSZ-AY50VG/VGK/VGKP**) on the indoor power P.C. board.

Is the resistance of resistor (R111) (**MSZ-AY25/35/42VG/VGK/VGKP**) approximately 3.9Ω/ reactor (L112) (**MSZ-AY50VG/VGK/VGKP**) approximately 4.3Ω?
No → Replace the indoor electronic control P.C. board and the indoor fan motor.
Yes → Replace the indoor electronic control P.C. board.



Ⓓ How to check miswiring and serial signal error

MUZ Type



*1.
Electric charge may remain immediately after the main power supply is turned OFF. Perform the procedure after 3 minutes.

MXZ Type

LED indication for communication status

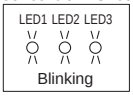
Communication status is indicated by the LED.

Unit status
Blinking: normal communication
Lit: abnormal communication or not connected

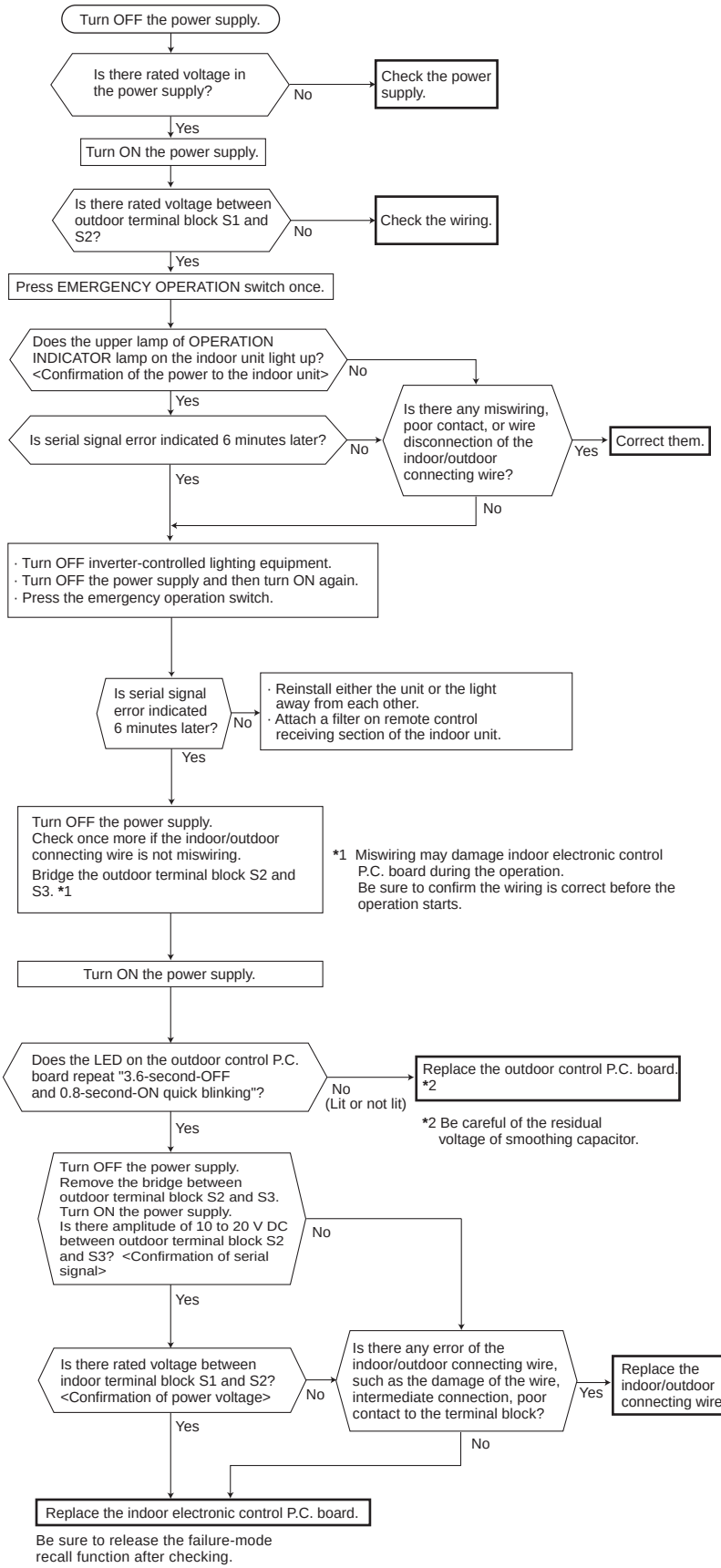
Pattern 1 and 2 is repeatedly displayed alternately. Each pattern is displayed for 10 seconds.

NOTE: "Lit" in the table below does not indicate abnormal communication.

Outdoor control P.C. board



Pattern	LED 1	LED 2	LED 3
1	Unit A status	Unit B status	Lit
2	Unit C status	Unit D status	Not lit
3	Unit E status	———	Blinking



Ⓔ Check of AIR PURIFYING power

After performing the check, make sure to release the failure mode recall function.

Turn ON the power supply.

High voltage (approximately 5.8kV) is generated during AIR PURIFYING power operation.
Pay careful attention and never touch the air purifying device and the high-voltage lead part.

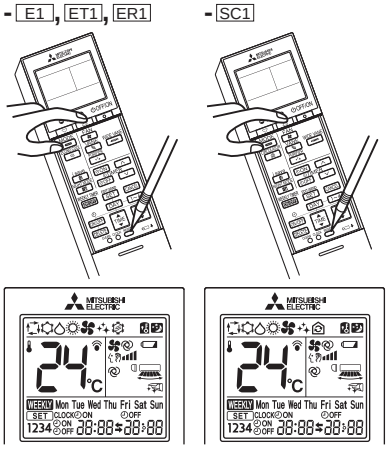
Does AIR PURIFYING lamp blink 2-time with unit stopping?

Yes → Replace the indoor electronic control P.C. board.

No

MSZ-AY25/35/42/50VGKP

- E1, ET1, ER1 -SC1



Make sure that the front panel is firmly closed.

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 two 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.
③ Press OFF/ON (stop/operate) button.
(the set temperature is displayed)
And press PURIFIER button once with the remote controller
④ headed towards the indoor unit.*1
AIR PURIFYING operation is selected.
The AIR PURIFYING power operation check mode is set.
(Refer to 10-2.5.)

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

Does AIR PURIFYING lamp stay OFF, or continuously blink?

OFF → AIR PURIFYING power supply is normal.
Working of the interlock switch (Air purifying device) due to uncomplete close of the front panel could cause 2-time blink.

Continuously blinking.

*2 Turn AIR PURIFYING power OFF and ON again.
(For turning OFF AIR PURIFYING power, refer to 10-2.3.)
(If it goes normal without turning OFF and ON, AIR PURIFYING lamp does not go OFF.)

Remove the air purifying device, firmly close the front panel, and then perform AIR PURIFYING power operation check (*2). Does AIR PURIFYING lamp stay OFF, or continuously blink?

OFF → Abnormal discharge may occur due to much dirt on the air purifying device, clean it.
After cleaning, make sure to attach the air purifying device since it is completely dry.
If AIR PURIFYING power operation check is performed with the air purifying device wet, protection gets active and AIR PURIFYING lamp blinks continuously as well.

Continuously blinking.

Turn OFF the power supply, and check the interlock switch (Air purifying device). Is it firmly fixed?

No → Firmly fix the interlock switch (Air purifying device).

Yes

Work and Not-work the interlock switch (Air purifying device) using something like a screw driver, and measure the resistance between CN1R1 ① and ② on the indoor electronic control P.C. board. Does the interlock switch (Air purifying device) function?

No → Replace the interlock switch (Air purifying device).

Yes

Keep the interlock switch (Air purifying device) Not-work (close) using something like a screw driver.
Turn ON the power supply. Is the voltage between CN1T1 ① (+) and ②(GND) on the electronic control P.C. board) 0V with the unit stopping? (Refer to 10-7.)

No → Replace the indoor electronic control P.C. board.
12.5 V DC is generated.

Yes

Set the AIR PURIFYING power failure mode recall function. (Refer to 10-2.2)

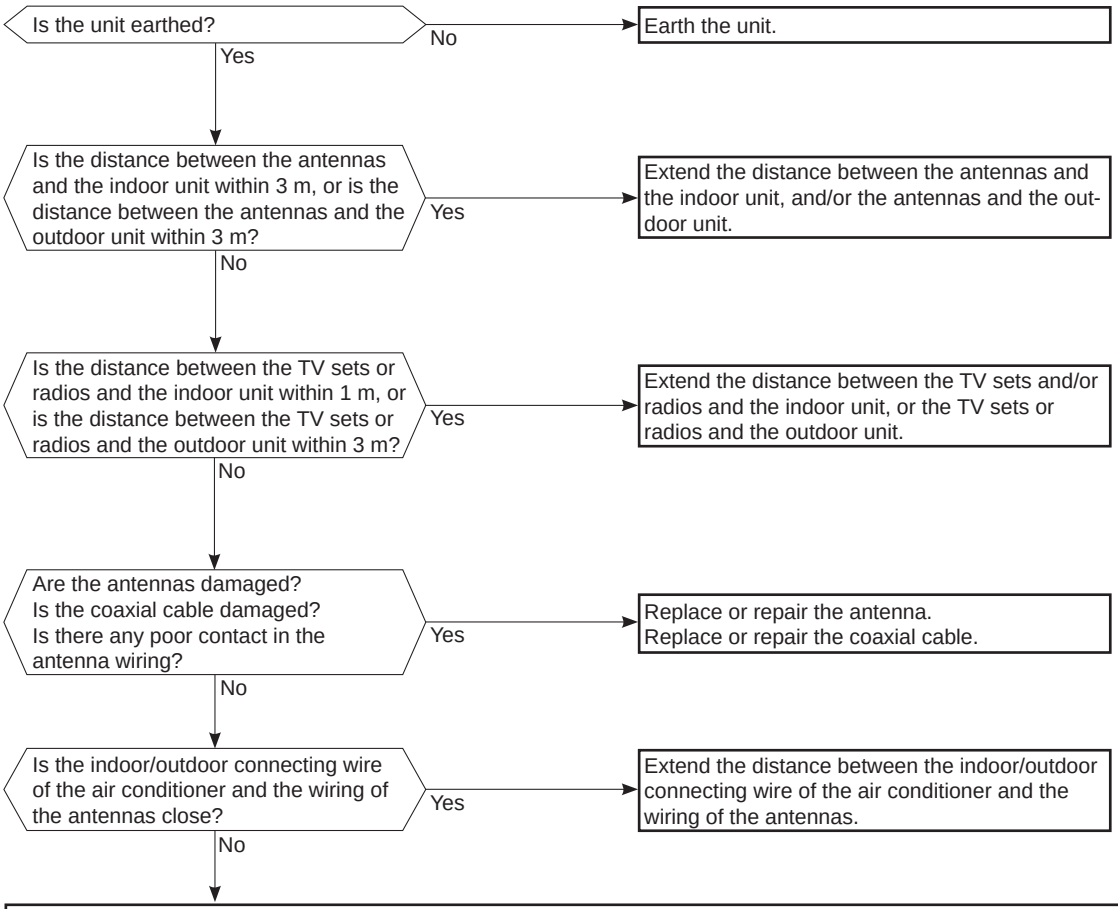
When AIR PURIFYING power turns ON by pressing PURIFIER button once, is there 12.5 V DC between CN1T1 ①(+) and ②(GND)?

No → Replace the indoor electronic control P.C. board, after check of the wiring of CN1T1 on the indoor electronic control P.C. board.

Yes

Replace the air purifying device.

Ⓕ Electromagnetic noise enters into TV sets or radios



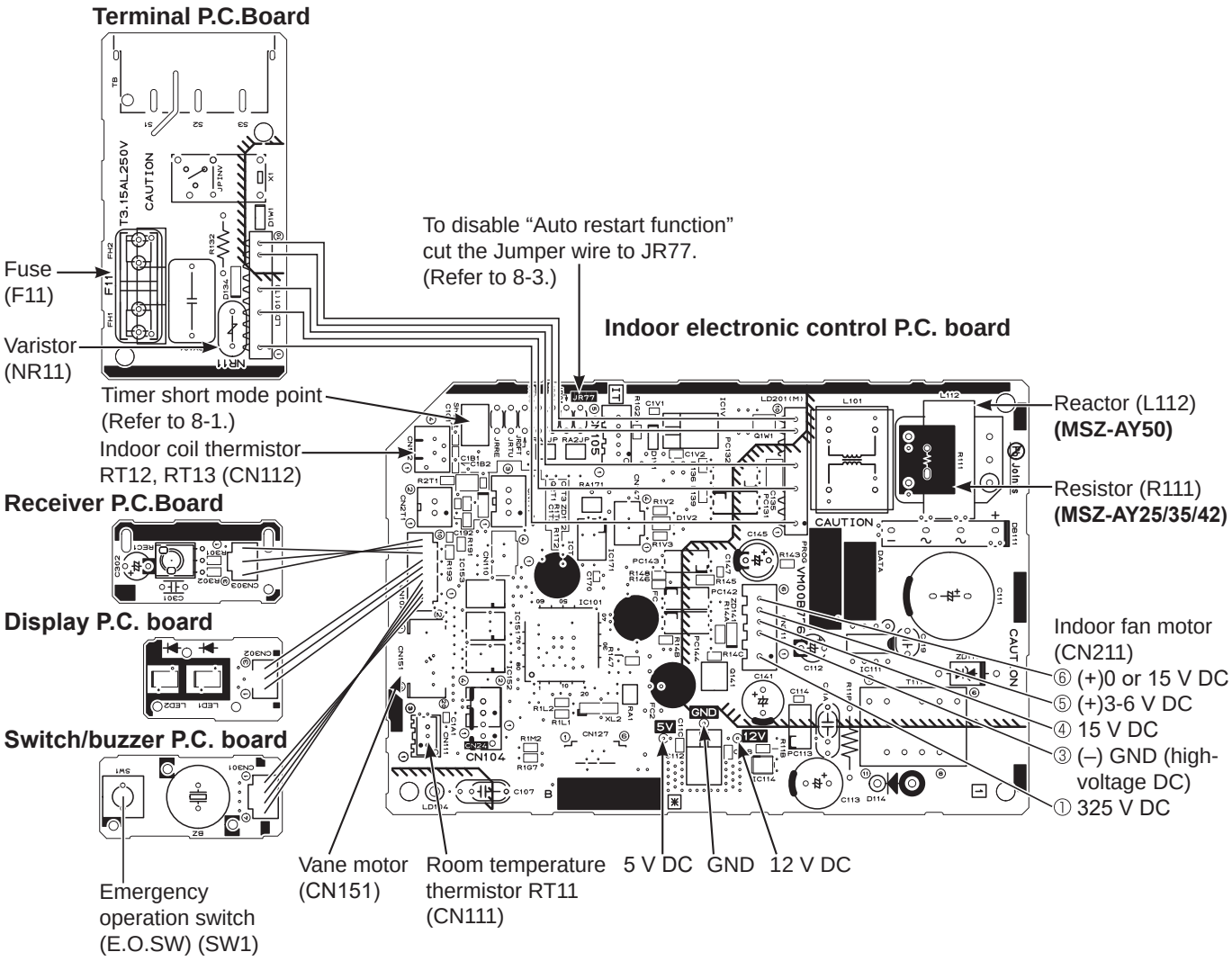
Even if all of the above conditions are fulfilled, the electromagnetic noise may enter, depending on the electric field strength or the installation condition (combination of specific conditions such as antennas or wiring).
Check the following before asking for service.

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 OFF/ON (stop/operate) 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 OFF/ON (stop/operate) 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.

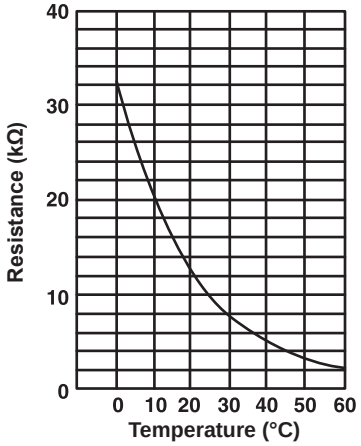
10-7. TEST POINT DIAGRAM AND VOLTAGE

Indoor terminal P.C. board, Indoor electronic control P.C. board, Receiver P.C. board, Display P.C. board, Switch/buzzer P.C. board

MSZ-AY25VG MSZ-AY35VG MSZ-AY42VG MSZ-AY50VG
MSZ-AY25VGK MSZ-AY35VGK MSZ-AY42VGK MSZ-AY50VGK
MSZ-AY25VGKP MSZ-AY35VGKP MSZ-AY42VGKP MSZ-AY50VGKP



Room temperature thermistor (RT11)
Indoor coil thermistor (RT12, RT13)

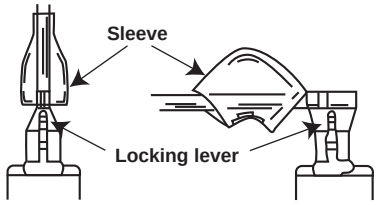


11 DISASSEMBLY INSTRUCTIONS

<Detaching method of the terminal with locking mechanism>

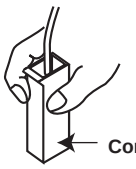
The terminal which has the locking mechanism can be detached as shown below.
There are 2 types of the terminal with locking mechanism.
The terminal without locking mechanism can be detached by pulling it out.
Check the shape of the terminal before detaching.

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



①Slide the sleeve.
②Pull the terminal while pushing the locking lever.

(2) The terminal with this connector shown below has the locking mechanism.



①Hold the sleeve, and pull out the terminal slowly.

MSZ-AY25VG MSZ-AY35VG MSZ-AY42VG MSZ-AY50VG
MSZ-AY25VGK MSZ-AY35VGK MSZ-AY42VGK MSZ-AY50VGK
MSZ-AY25VGKP MSZ-AY35VGKP MSZ-AY42VGKP MSZ-AY50VGKP

——→: Indicates the visible parts in the photos/figures.
- - - - - - - - →: Indicates the invisible parts in the photos/figures.

NOTE: Turn OFF the power supply before disassembly.

Photos: MSZ-AY42VGKP

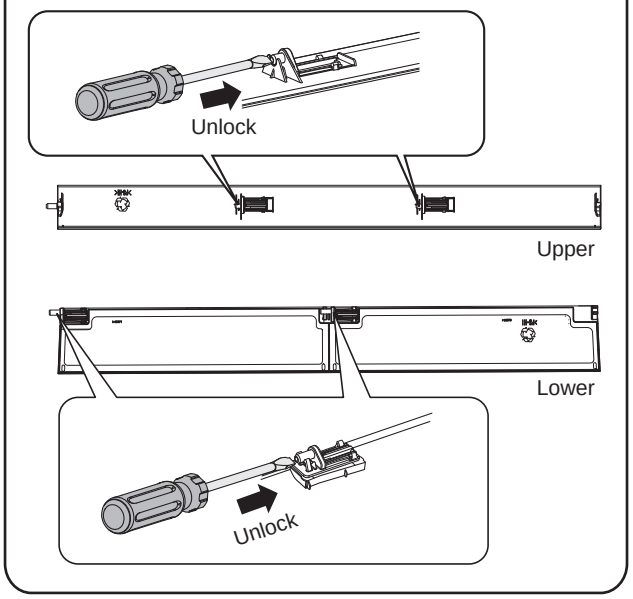
OPERATING PROCEDURE

1. Removing the front panel and the panels (R/L/F/U)

Removing the front panel (Photo 1, Figure 1)

(1) Lift the front panel until a “click” is heard.
(2) Hold the hinges and pull to remove the front panel (Figure 1).
(3) Remove the horizontal vanes.

Unlock the stopper and remove the horizontal vanes using following tool like a screw driver.



PHOTOS/FIGURES

Photo 1

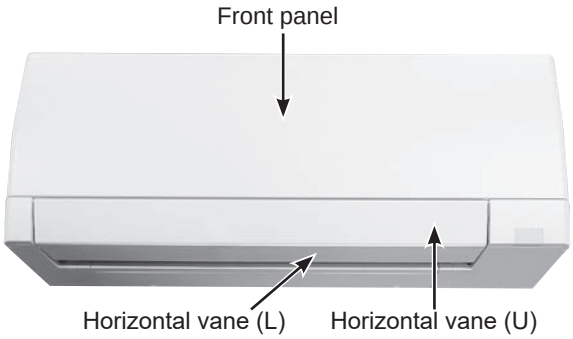
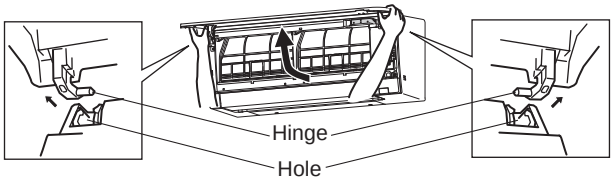
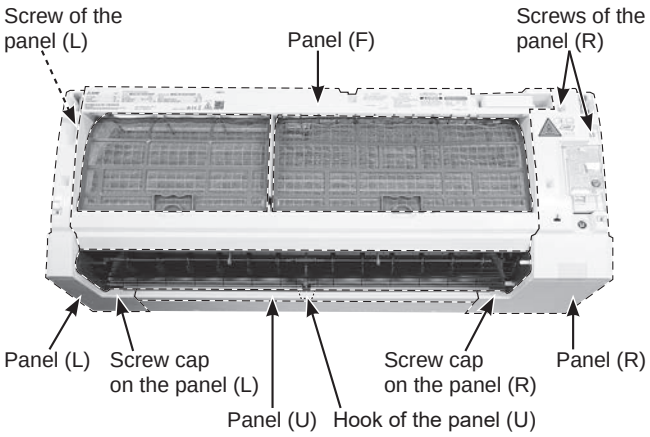
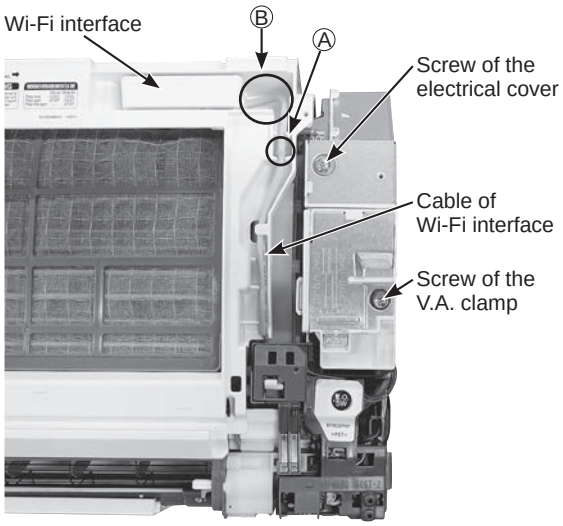


Figure 1



OPERATING PROCEDURE	PHOTOS/FIGURES
Removing the panel (R) (Photos 1, 2, Figure 1) (1) Remove the front panel and the horizontal vanes (U) (L). (2) Remove the screw cap on the panel (R), and the screw. (3) Remove the 2 screws of the panel (R), and pull the top of the panel (R) toward you to remove. **Removing the panel (L) (Photos 1, 2, Figure 1)** (1) Remove the front panel and the horizontal vanes (U) (L). (2) Remove the screw cap on the panel (L), and the screw. (3) Remove the screw of the panel (L), and pull the top of the panel (L) toward you to remove. **Removing the panel (F) (Photos 1, 2, 3 Figure 1)** (1) Remove the front panel and the horizontal vanes (U) (L). (2) Remove the panels (R) (L). (3) Remove the Wi-Fi interface on the right side of the panel (F). Pull out its cable, and remove the cable tie (Refer to section 2). (4) Remove the panel (F) from the bottom to the top. **Removing the panel (U) (Photo 2, Figure 1)** (1) Remove the front panel and the horizontal vanes (U) (L). (2) Remove the panels (R) (L). (3) Remove the center hook of the panel (U), and pull it toward you to remove.	**Photo 2** 

OPERATING PROCEDURE	PHOTOS/FIGURES
2. Removing the Wi-Fi interface (Photos 3, 5) (1) Remove the front panel and the horizontal vanes (U) (L). (2) Remove the panels (R) (L) (U). (3) Remove the screw of the V.A. clamp and remove the V.A. clamp. (4) Remove the Wi-Fi interface on the right side of the panel (F). Pull out its cable, and remove the cable tie, then remove the panel (F). (5) Unhook the catch on the left side of the display and receiver P.C. board holder. Pull the display and receiver P.C. board holder as if opening the door at 90 degrees. (6) Remove the screw of the electrical cover, and remove the electrical cover. (7) Disconnect the following connector (Photo 5): <Indoor electronic control P.C. board> CN110 (Wi-Fi interface) (8) Remove the lead wire of the Wi-Fi interface from the hook of the cable guide. **How to install the Wi-Fi interface (Photo 3)** **Note**: Install the Wi-Fi interface before installing the panel (R). (1) Install the panel (F). (2) Fasten the cable of Wi-Fi interface to the part Ⓐ of the panel (F) with a cable tie. (3) Stow the cable of Wi-Fi interface in the area Ⓑ. (4) Attach the Wi-Fi interface so that its cable is facing away from you on the right side. (5) Attach the lead wire of the Wi-Fi interface to the hook of the cable guide. (6) Close the display and receiver P.C. board holder through the lead wire under the display and receiver P.C. board holder. (7) Connect the connector of Wi-Fi interface (CN110) to the indoor electronic control P.C. board. (8) Install the electrical cover, and install the screw in the electrical cover. (9) Install the V.A. clamp, and install the screw in the V.A. clamp. (10) Install the panel (U). (11) Install the panel (R). (12) Install the panel (L).	**Photo 3** 

OPERATING PROCEDURE

3. Removing the indoor electrical box and the air purifying device (Photos 3, 4, 5, 6)

(1) Remove the front panel and the horizontal vanes (U) (L).
(2) Remove the panel (R) and the Wi-Fi interface from the panel (F).
(3) Remove the panels (L) (U) (F).
(4) Remove the lead wires of indoor coil thermistor and the air purifying device from the water cover.
(4) Remove the earth wire connected to the indoor heat exchanger from the electrical box.
(5) Disconnect the following connector (Photo 5):
<Indoor electronic control P.C. board>
CN110 (Wi-Fi interface)
CN151 (Vane motors)
CN211 (Indoor fan motor)
CN112 (Indoor coil thermistors)
CN1T1, CN2T1 (Air purifying device) **(MSZ-AY·VGKP)**
(6) Remove the electrical box.
(7) Remove the screw of the air purifying device and the air purifying devece (Photo 6). **(MSZ-AY·VGKP)**

4. Removing the indoor terminal P.C. board, the switch board, the display board, the receiver board and the indoor electronic control P.C. board

(1) Remove the indoor electrical box (Refer to section 3).
(2) Remove the screw of the terminal block (Photo 5).
(3) Remove the earth wire connected to the electrical box from the indoor electronic control P.C. board.
(4) Remove the indoor terminal P.C. board.
(5) Pull the display and receiver P.C. board holder as if opening the door at 90 degrees. Remove the display and receiver P.C. board holder from the axial rod on the electrical box.
(6) Open the rear cover of the display and receiver P.C. board holder.
(7) Remove the switch/ buzzer P.C. board, the display P.C. board and the receiver P.C. board.
(8) Remove the indoor electronic control P.C. board.

PHOTOS/FIGURES

Photo 4

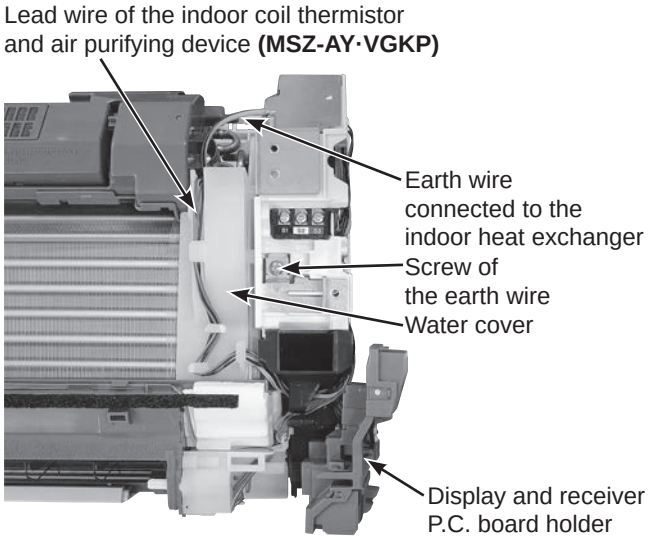


Photo 5

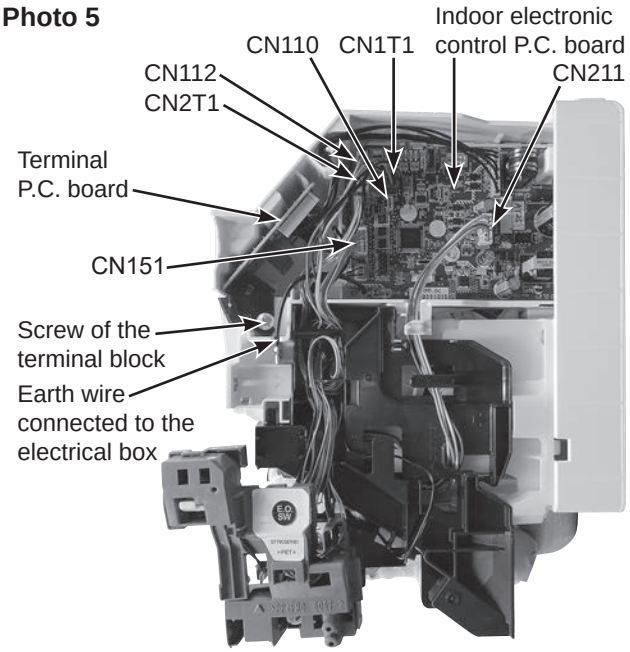
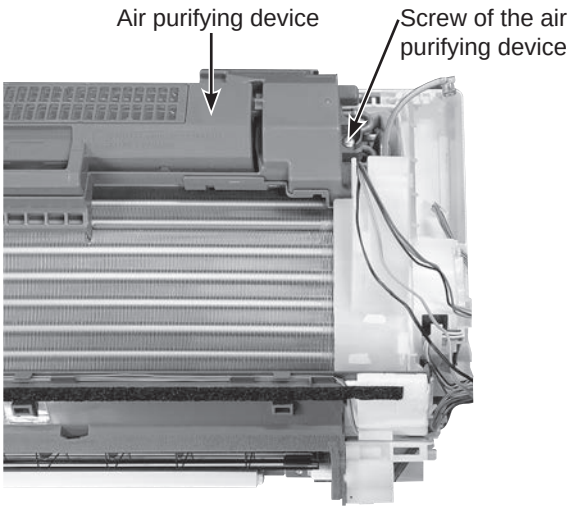
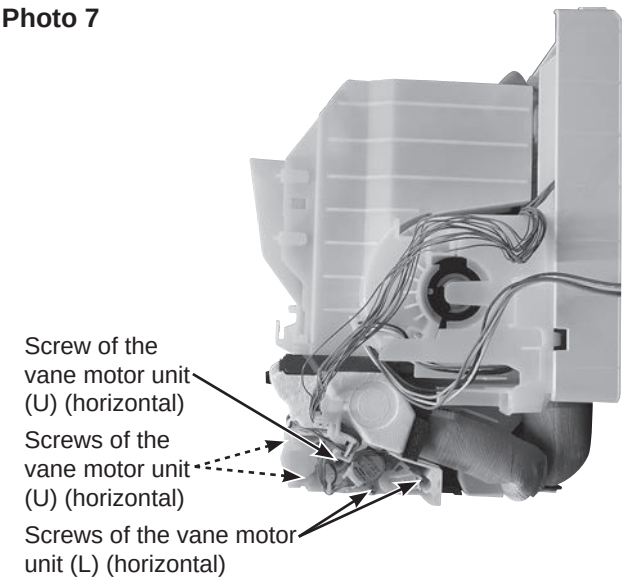
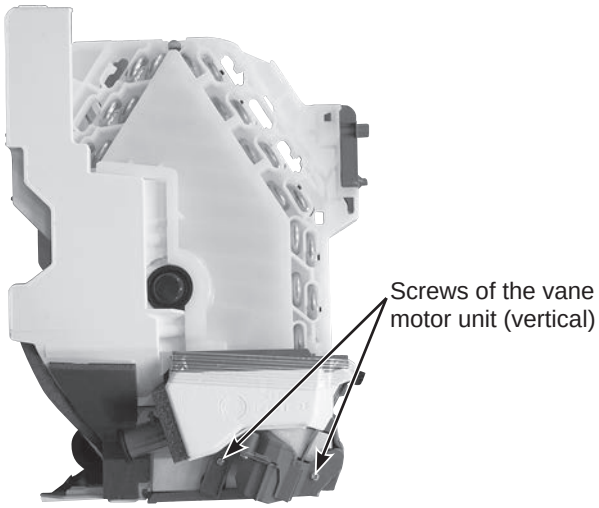
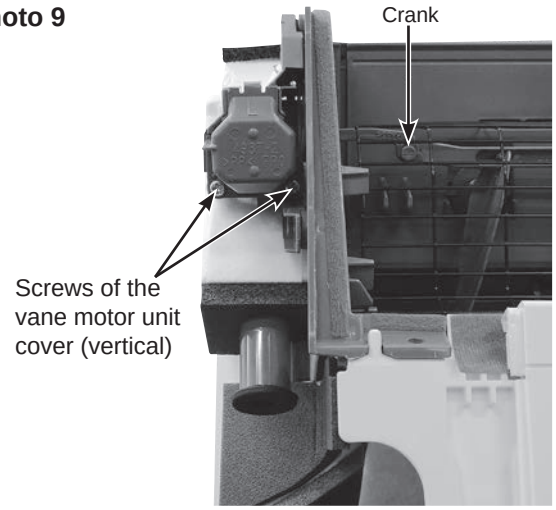


Photo 6 (MSZ-AY·VGKP)



OPERATING PROCEDURE	PHOTOS/FIGURES
5. Removing the nozzle assembly (1) Remove the front panel and the horizontal vanes (U) (L). (2) Remove the panels (R) (L) (U) (F). (3) Remove the indoor/outdoor connecting wire (Refer to section 3). (4) Remove the electrical cover (Refer to section 3). (5) Disconnect the following connector: <Indoor electronic control P.C. board> CN151 (Vane motors) (6) Unhook the catch on the left side of the display and receiver P.C. board holder. Pull the display and receiver P.C. board holder as if opening the door at 90 degrees. Remove the display and receiver P.C. board holder from the axial rod on the electrical box. (7) Pull out the drain hose from the nozzle assembly and remove the nozzle assembly. (8) Remove the vane motors (Refer to section 6).	**Photo 7** 
6. Removing the vane motors (U) (L) (horizontal) and the vane motor (vertical) (1) Remove the front panel, the horizontal vanes (U) (L), the panels (R) (L) (F) (U), the Wi-Fi interface, the V.A. clamp, and the electrical cover. (2) Unhook the catch on the left side of the display and receiver P.C. board holder. Pull the display and receiver P.C. board holder as if opening the door at 90 degrees. (3) Remove the following connector (Photo 5): <Indoor electronic control P.C. board> CN151 (Vane motors) (4) Pull out the drain hose from the nozzle assembly. Pull and remove the nozzle assembly (refer to section 5). **Removing the vane motors (U) (L) (horizontal) (Photo 7)** (5) Remove the 2 screws of the vane motor unit (U) (L) and remove the lead wires of the vane motors (U) (L) (horizontal). (6) Remove the screw of the vane motor unit (L) (horizontal), and remove the vane motor unit (L) (horizontal). (7) Remove the 2 screws of the vane motor unit (U) (horizontal) from the backside of the vane motor unit (U) (L) (horizontal), and remove the vane motor unit (L) (horizontal). **Removing the vane motor unit (vertical) (Photo 8, 9)** (8) Remove the crank of the vane motor unit (vertical) from the vane (vertical). (9) Remove the 2 screws of the vane motor unit (vertical), and pull the vane motor unit (vertical). (10) Remove the 2 screws of the vane motor unit cover (vertical). (11) Remove the crank of the vane motor unit (vertical) from the shaft of the vane motor (vertical). (12) Remove the vane motor (vertical) from the vane motor unit (vertical). (13) Disconnect the connector of vane motor (vertical) from the vane motor (vertical).	**Photo 8**  **Photo 9** 

OPERATING PROCEDURE	PHOTOS/FIGURES

7. Removing the line flow fan, the indoor fan motor assembly, the indoor coil thermistor (Photo 10, 11, 12)

(1) Remove the front panel, the horizontal vanes (U) (L), the panels (R) (L) (F) (U), the Wi-Fi interface, the electrical box, and the nozzle assembly.
(2) Disengage the catches of the water cover, and remove the water cover.
(3) Loosen the screw inside the right side of the line flow fan (Photo 10).
(4) Remove the 3 screws of the fan motor assembly. Pull the fan motor assembly slightly toward you, and remove it by pulling to the right (Photo 11).
(5) Remove the indoor coil thermistor from the heat exchanger.
(6) Remove the 2 screws of the hairpin holder on the left side of the heat exchanger. Raise the left side of the heat exchanger, and pull the line flow fan to the lower left to remove (Photo 12).

*1 When attaching the line flow fan, screw the line flow fan so 4 mm gap is provided between the right end of the line flow fan and the right wall of the air passage of the box (Figure 2).

Figure 2

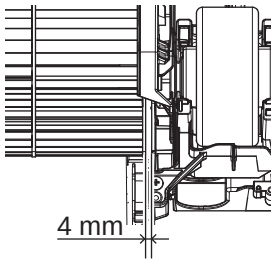


Photo 10

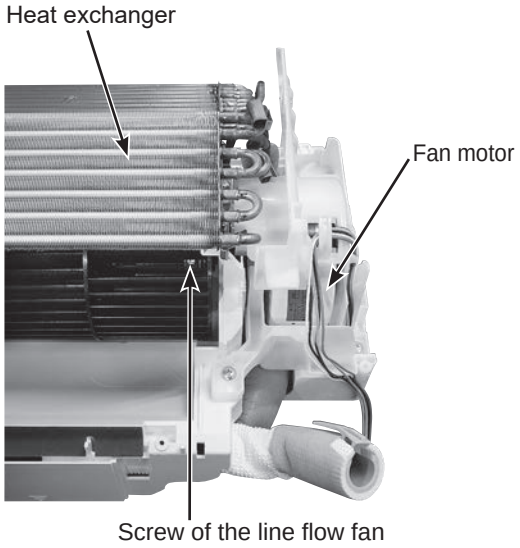


Photo 11

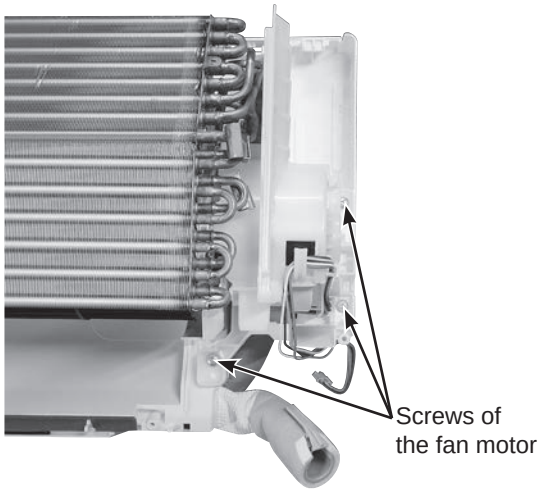
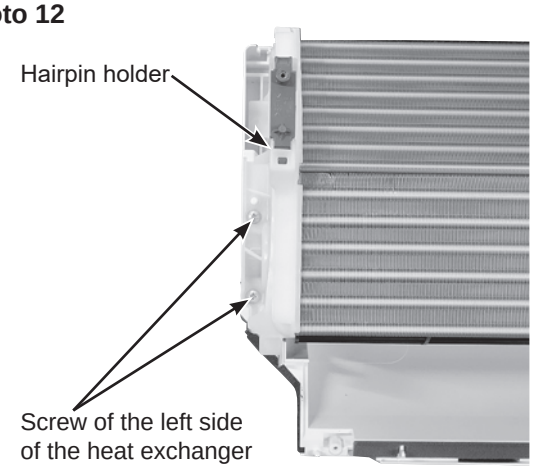


Photo 12



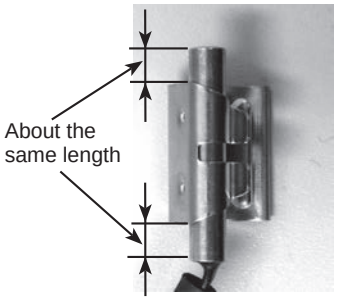
Fixing the indoor coil thermistor

* There are 2 forms of parts for fixing the indoor coil thermistor.

Clip shape

Holder shape

When fixing the indoor coil thermistor to the clip-shape/holder-shape part, the lead wire should point down.



Position and procedure for mounting the clip-shape part

1. Set the indoor coil thermistor in the center of the clip-shape part.

2. Check the (marked) mounting position.

3. Mount the clip-shape part.

NOTE:

- Take care to avoid loss and accidental falling of the clip-shape part inside the unit.
- Mount the clip-shape part on the marked position.
- Do not pull the lead wire when removing the indoor coil thermistor.

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BUILDING, 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN

Published: Dec. 2022. No. OBH932
Made in Japan

MITSUBISHI ELECTRIC

SPLIT-TYPE AIR CONDITIONERS

OUTDOOR UNIT

HFC utilized R32

No. OBH931

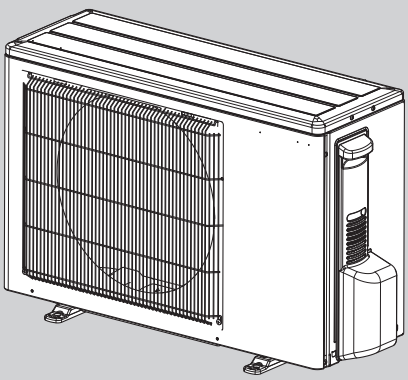
SERVICE MANUAL

Models

MUZ-AY25VG - E1, ET1, ER1
MUZ-AY35VG - E1, ET1, ER1
MUZ-AY42VG - E1, ET1, ER1
MUZ-AY50VG - E1, ET1, ER1
MUZ-AY25VGH - SC1
MUZ-AY35VGH - SC1
MUZ-AY42VGH - SC1
MUZ-AY50VGH - SC1

Indoor unit service manual
MSZ-AY•VG, VGK, VGKP Series (OBH930, 932)

MUZ-AY25VG MUZ-AY25VGH
MUZ-AY35VG MUZ-AY35VGH
MUZ-AY42VG MUZ-AY42VGH



CONTENTS

Use the specified refrigerant only

Never use any refrigerant other than that specified.

Doing so may cause a burst, an explosion, or fire when the unit is being used, serviced, or disposed of.
Correct refrigerant is specified in the manuals and on the spec labels provided with our products.
We will not be held responsible for mechanical failure, system malfunction, unit breakdown or accidents caused by failure to follow the instructions.

<Preparation before the repair service>

- Prepare the proper tools.
- Prepare the proper protectors.
- Provide adequate ventilation.
- After stopping the operation of the air conditioner, turn off the power-supply breaker and pull the power plug.
- Discharge the capacitor before the work involving the electric parts.

<Precautions during the repair service>

- Do not perform the work involving the electric parts with wet hands.
- Do not pour water into the electric parts.
- Do not touch the refrigerant.
- Do not touch the hot or cold areas in the refrigeration cycle.
- When the repair or the inspection of the circuit needs to be done without turning off the power, exercise great caution not to touch the live parts.

⚠ WARNING

- **When the refrigeration circuit has a leak, do not execute pump down with the compressor.**
- **When pumping down the refrigerant, stop the compressor before disconnecting the refrigerant pipes. The compressor may burst if air etc. get into it.**
- **When opening or closing the valve below freezing temperatures, refrigerant may spurt out from the gap between the valve stem and the valve body, resulting in injuries.**

1 TECHNICAL CHANGES

MUZ-AY25VG - E1, ET1, ER1
MUZ-AY35VG - E1, ET1, ER1
MUZ-AY42VG - E1, ET1, ER1
MUZ-AY50VG - E1, ET1, ER1
MUZ-AY25VGH - SC1
MUZ-AY35VGH - SC1
MUZ-AY42VGH - SC1
MUZ-AY50VGH - SC1

1. New model

2 SERVICING PRECAUTIONS FOR UNITS USING REFRIGERANT R32

Servicing precautions for units using refrigerant R32

WARNING

This unit uses a flammable refrigerant.
If refrigerant leaks and comes in contact with fire or heating part, it will create harmful gas and there is risk of fire.

- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater.)
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odor.
- Pipe-work shall be protected from physical damage.
- The installation of pipe-work shall be kept to a minimum.
- Compliance with national gas regulations shall be observed.
- Keep any required ventilation openings clear of obstruction.
- Servicing shall be performed only as recommended by the manufacturer.
- The appliance shall be stored so as to prevent mechanical damage from occurring.

Basic work procedures are the same as those for conventional units using refrigerant R410A.
However, pay careful attention to the following points.

1. Information on servicing
   (1) Checks on the Area
   Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized.
   (2) Work Procedure
   Work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapor being present while the work is being performed.
   (3) General Work Area
   All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided. The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.
   (4) Checking for Presence of Refrigerant
   The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.
   (5) Presence of Fire Extinguisher
   If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO2 fire extinguisher adjacent to the charging area.
   (6) No Ignition Sources
   No person carrying out work in relation to a refrigeration system which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. “No Smoking” signs shall be displayed.
   (7) Ventilated Area
   Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.
   (8) Checks on the Refrigeration Equipment
   Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.
   The following checks shall be applied to installations using flammable refrigerants:
   • The charge size is in accordance with the room size within which the refrigerant containing parts are installed.
   • The ventilation machinery and outlets are operating adequately and are not obstructed.
   • If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant.
   • Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected.
   • Refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being corroded.
   (9) Checks on Electrical Devices
   Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.
   Initial safety checks shall include that:
   • capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
   • no live electrical components and wiring are exposed while charging, recovering or purging the system;
   • there is continuity of earth bonding
2. Repairs to Sealed Components
   (1) During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.
   (2) Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
   Ensure that the apparatus is mounted securely.
   Ensure that seals or sealing materials have not degraded to the point that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.
3. Repair to intrinsically Safe Components
   Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.
   Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.
   Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.
4. Cabling
   Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

5. Detection of Flammable Refrigerants
Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

6. Leak Detection Methods
Electronic leak detectors may be used to detect refrigerant leaks but, in the case of flammable refrigerants, the sensitivity may not be adequate, or may need recalibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25 % maximum) is confirmed.
Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.
If a leak is suspected, all naked flames shall be removed/extinguished.
If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. For appliances containing flammable refrigerants, oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

7. Removal and Evacuation
When breaking into the refrigerant circuit to make repairs - or for any other purpose conventional procedures shall be used. However, for flammable refrigerants it is important that best practice is followed since flammability is a consideration. The following procedure shall be adhered to:
▪ remove refrigerant
▪ purge the circuit with inert gas
▪ evacuate
▪ purge again with inert gas
▪ open the circuit by cutting or brazing.
The refrigerant charge shall be recovered into the correct recovery cylinders. For appliances containing flammable refrigerants, the system shall be “flushed” with OFN to render the unit safe. This process may need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems.
For appliances containing flammable refrigerants, flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system. When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. This operation is absolutely vital if brazing operations on the pipe-work are to take place.
Ensure that the outlet for the vacuum pump is not close to any ignition sources and that ventilation is available.

8. Charging Procedures
In addition to conventional charging procedures, the following requirements shall be followed:
▪ Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
▪ Cylinders shall be kept upright.
▪ Ensure that the refrigeration system is earthed prior to charging the system with refrigerant.
▪ Label the system when charging is complete (if not already).
▪ Extreme care shall be taken not to overfill the refrigeration system.
Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

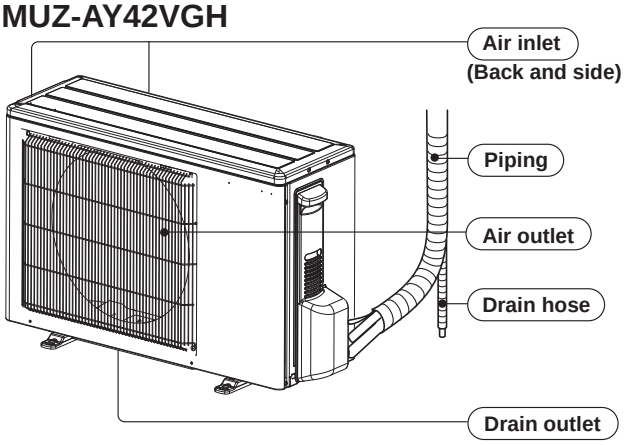
9. Decommissioning
Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to reuse of reclaimed refrigerant. It is essential that electrical power is available before the task is commenced.
(1) Become familiar with the equipment and its operation.
(2) Isolate system electrically.
(3) Before attempting the procedure, ensure that:
▪ mechanical handling equipment is available, if required, for handling refrigerant cylinders;
▪ all personal protective equipment is available and being used correctly;
▪ the recovery process is supervised at all times by a competent person;
▪ recovery equipment and cylinders conform to the appropriate standards.
(4) Pump down refrigerant system, if possible.
(5) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
(6) Make sure that cylinder is situated on the scales before recovery takes place.
(7) Start the recovery machine and operate in accordance with manufacturer's instructions.
(8) Do not overfill cylinders. (no more than 80 % volume liquid charge).
(9) Do not exceed the maximum working pressure of the cylinder, even temporarily.
(10) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
(11) Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

10. Labeling
Equipment shall be labeled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing flammable refrigerants, ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

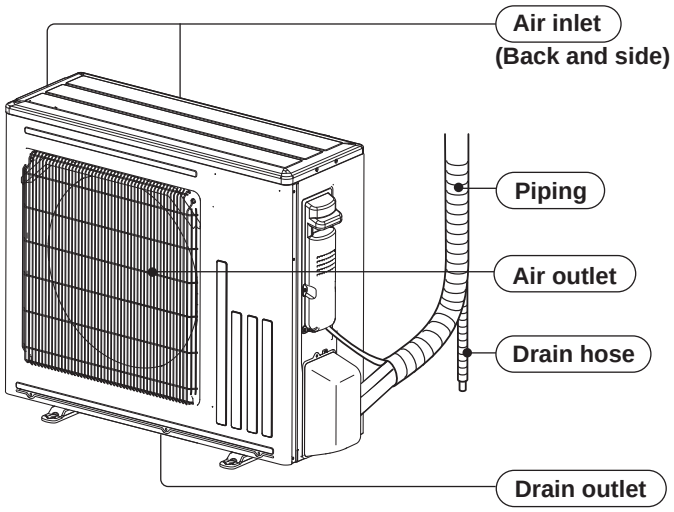
11. Recovery
When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely. When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge are available. All cylinders to be used are designated for the recovered refrigerant and labeled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of all appropriate refrigerants including, when applicable, flammable refrigerants. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.
The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.
If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

3 PART NAMES AND FUNCTIONS

MUZ-AY25VG
MUZ-AY35VG
MUZ-AY42VG
MUZ-AY25VGH
MUZ-AY35VGH
MUZ-AY42VGH



MUZ-AY50VG
MUZ-AY50VGH



ACCESSORIES

MODELS	MUZ-AY25VG MUZ-AY35VG MUZ-AY42VG MUZ-AY50VG
Drain socket	1

4 SPECIFICATION

Outdoor model					MUZ-AY25VG MUZ-AY25VGH	MUZ-AY35VG MUZ-AY35VGH	MUZ-AY42VG MUZ-AY42VGH	MUZ-AY50VG MUZ-AY50VGH
Power supply					Single phase, 230 V, 50 Hz			
Capacity Rated (Min.-Max.)			Cooling	kW	2.5 (0.9 - 3.4)	3.5 (1.1 - 3.8)	4.2 (0.9 - 4.5)	5.0 (1.4 - 5.4)
			Heating		3.2 (1.0 - 4.1)	4.0 (1.3 - 4.6)	5.2 (1.3 - 6.0)	5.5 (1.4 - 7.3)
Breaker Capacity				A	10			16
Electrical data	Power input *1 (Set)		Cooling	W	600	990	1,300	1,540
			Heating		780	1,030	1,390	1,470
	Running current *1 (Set)		Cooling	A	2.9	4.5	5.8	6.9
			Heating		3.6	4.7	6.1	6.5
	Power factor *1 (Set)		Cooling	%	89	95	97	97
			Heating		94	95	99	98
	Starting current *1 (Set)			A	3.6	4.7	6.1	6.5
Coefficient of performance (COP) *1 (Set)			Cooling		4.17	3.54	3.23	3.25
			Heating		4.10	3.88	3.74	3.74
Compressor	Model				KVB073FYTMC		SVB130FBBMC	SVB130FBBMT
	Output			W	470	470	900	900
	Current *1		Cooling	A	2.50	4.10	5.42	6.39
			Heating		3.14	4.20	6.05	6.41
	Refrigeration oil (Model)			L	0.27 (FW68S)		0.35 (FW68S)	
Fan motor	Model				RC0J37-AA			RC0J50-RA
	Current *1		Cooling	A	0.22	0.22	0.20	0.27
			Heating		0.20	0.24	0.23	0.27
Dimensions W × H × D				mm	800 × 550 × 285			800 × 714 × 285
Weight				kg	27	28.5	34	40.5
Special remarks	Dehumidification		Cooling	L/h	0.3	0.6	1.4	1.9
	Airflow *1	Cooling	High	m^3/h	2,178	2,178	2,058	2,430
			Low		1,038	1,038	906	1,320
		Heating	High		2,076	2,076	1,962	2,430
			Med.		1,788	1,788	1,686	2,238
			Low		1,452	1,452	1,260	1,704
	Sound level *1		Cooling	dB(A)	47	49	50	52
			Heating		48	50	51	52
	Fan speed	Cooling	High	rpm	940	940	940	840
			Low		470	470	460	490
		Heating	High		900	900	900	840
			Med.		780	780	780	780
			Low		640	640	600	610
	Fan speed regulator				3			
	Refrigerant filling capacity (R32)			kg	0.55	0.55	0.70	1.00

NOTE: Test conditions are based on ISO 5151.

Cooling: Indoor Dry-bulb temperature 27°C Wet-bulb temperature 19°C
Outdoor Dry-bulb temperature 35°C
Heating: Indoor Dry-bulb temperature 20°C
Outdoor Dry-bulb temperature 7°C Wet-bulb temperature 6°C
Refrigerant piping length (one way): 5 m
*1 Measured under rated operating frequency.

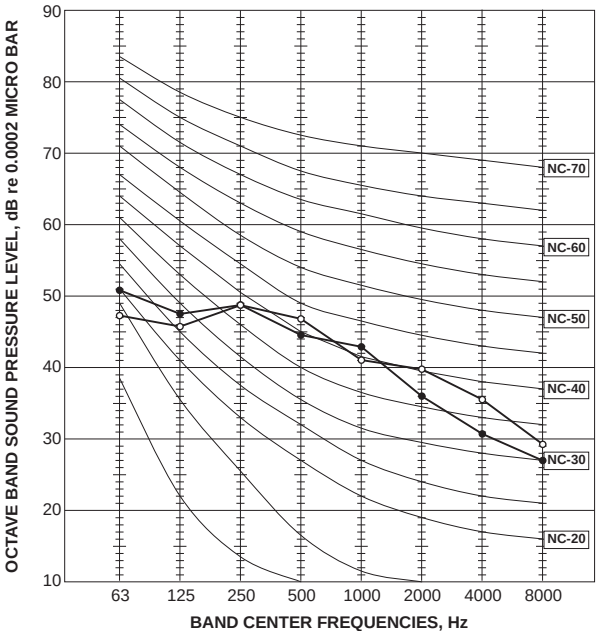
Specifications and rated conditions of main electric parts

Item \ Model		MUZ-AY25VG	MUZ-AY25VGH	MUZ-AY35VG	MUZ-AY35VGH	MUZ-AY42VG	MUZ-AY42VGH	MUZ-AY50VG	MUZ-AY50VGH
Smoothing capacitor	(C61, C62)	600 µF/ 620 µF 420 V							
	(C63)	—				600 µF/ 620 µF 420 V			
Diode module	(DB61)	25 A 600 V							
	(DB65)	25 A 600 V							
Fuse	(F61)	25A 250V							
	(F62)	15A 250V							
	(F701, F801, F901)	T3.15AL250V							
Defrost heater	(H)	—	230 V 60W	—	230 V 60W	—	230 V 60W	—	230 V 130W
Power module	(IC700)	15 A 600 V				20 A 600 V			
	(IC932)	5 A 600 V							
Expansion valve coil	(LEV)	12 V DC							
Reactor	(L61)	18 mH		23 mH					
Switch power transistor	(Q821)	30 A/37 A 600 V							
Circuit protection	(PTC64, PTC65)	33 Ω							
Terminal block	(TB1)	5 P							
Relay	(X63)	3 A 250 V							
	(X64)	20 A 250 V							
	(X66)	—	3 A 250 V	—	3 A 250 V	—	3 A 250 V	—	3 A 250 V
	(X69)	10 A 230 V							
R.V.coil	(21S4)	220 - 240 V AC							
Heater protector	(26H)	—	Open 45°C	—	Open 45°C	—	Open 45°C	—	Open 45°C

5 NOISE CRITERIA CURVES

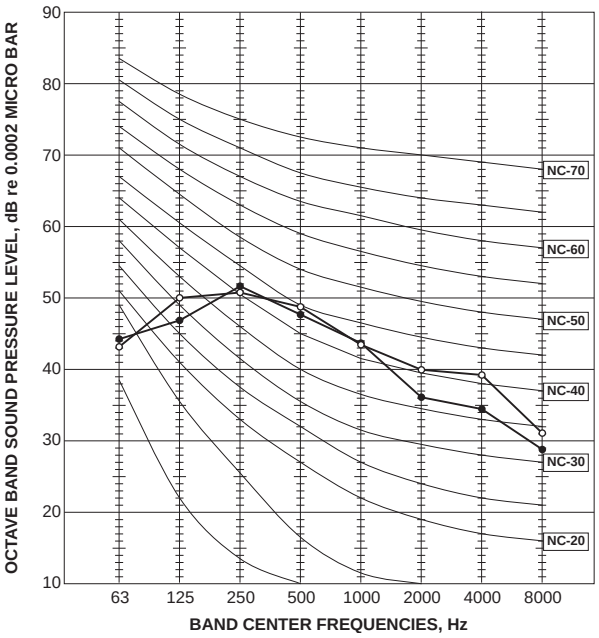
MUZ-AY25VG
MUZ-AY25VGH

FUNCTION	SPL(dB(A))	LINE
COOLING	47	●—●
HEATING	48	○—○



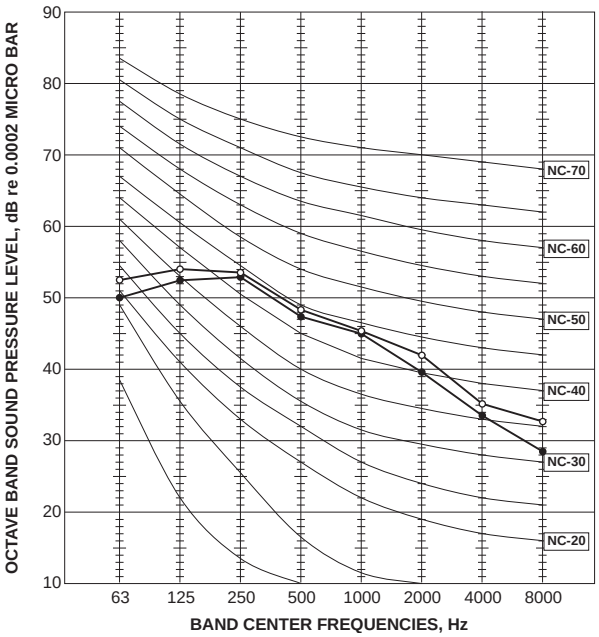
MUZ-AY35VG
MUZ-AY35VGH

FUNCTION	SPL(dB(A))	LINE
COOLING	49	●—●
HEATING	50	○—○



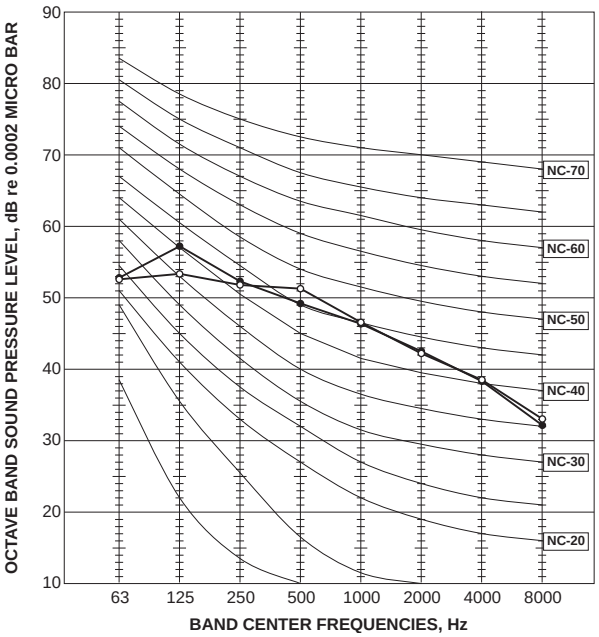
MUZ-AY42VG
MUZ-AY42VGH

FUNCTION	SPL(dB(A))	LINE
COOLING	50	●—●
HEATING	51	○—○



MUZ-AY50VG
MUZ-AY50VGH

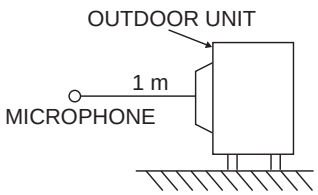
FUNCTION	SPL(dB(A))	LINE
COOLING	52	●—●
HEATING	52	○—○



Test conditions

Cooling: Dry-bulb temperature 35°C

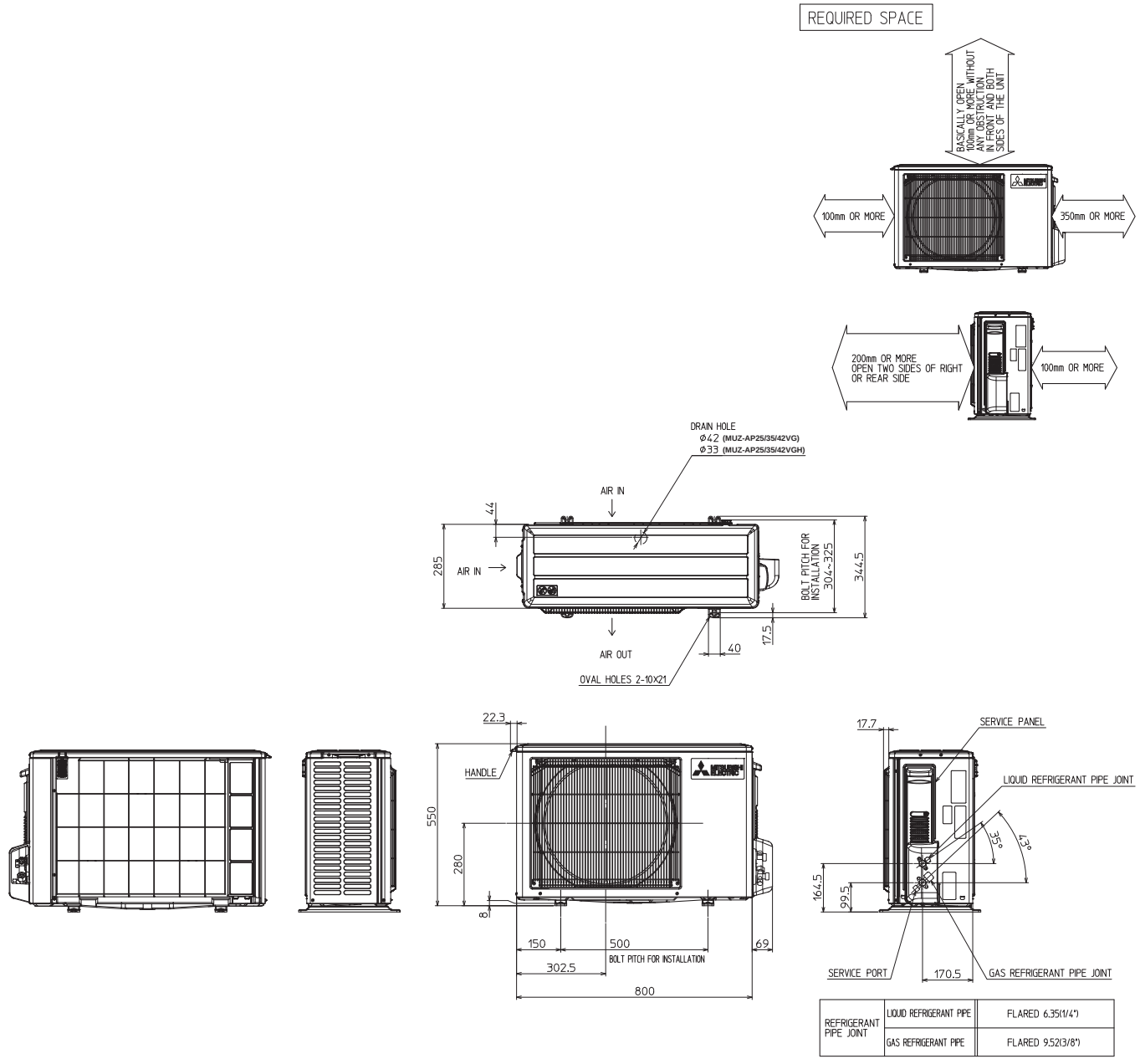
Heating: Dry-bulb temperature 7°C Wet-bulb temperature 6°C



6 OUTLINES AND DIMENSIONS

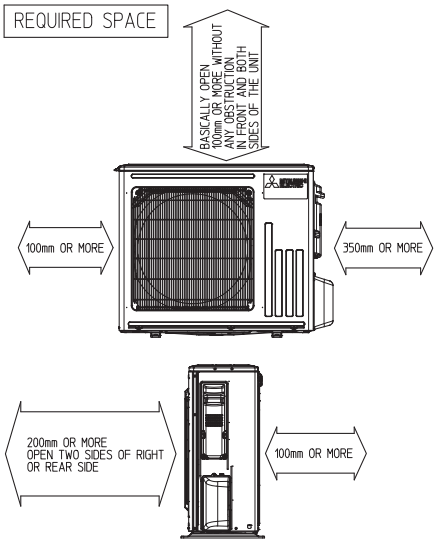
MUZ-AY25VG MUZ-AY35VG MUZ-AY42VG
MUZ-AY25VGH MUZ-AY35VGH MUZ-AY42VGH

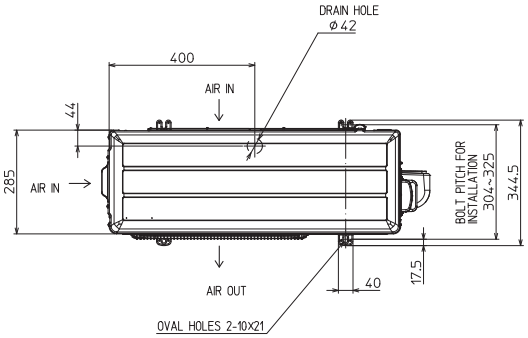
Unit: mm

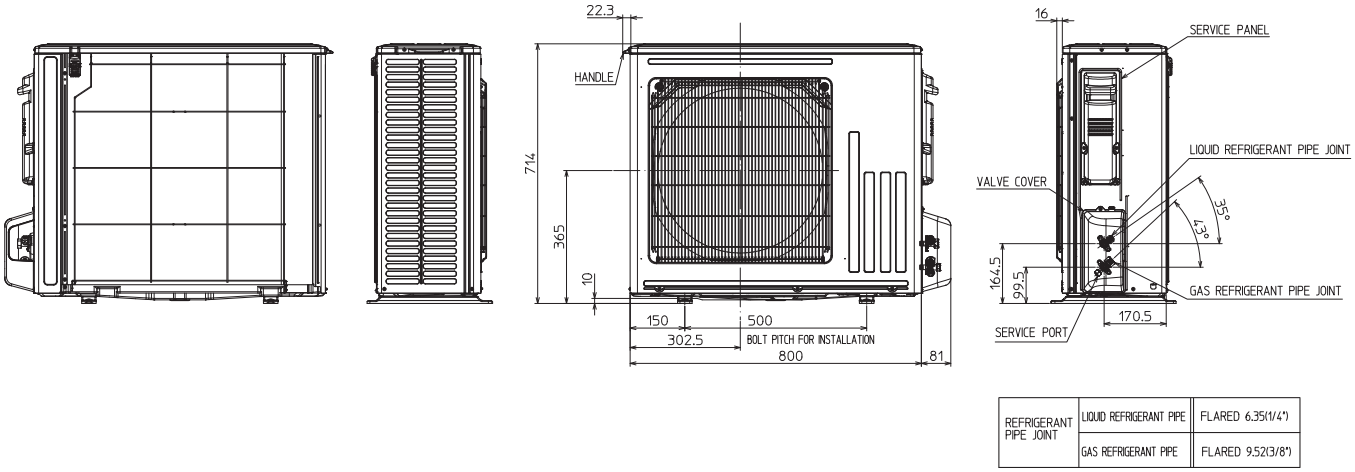


MUZ-AY50VG
MUZ-AY50VGH

Unit: mm



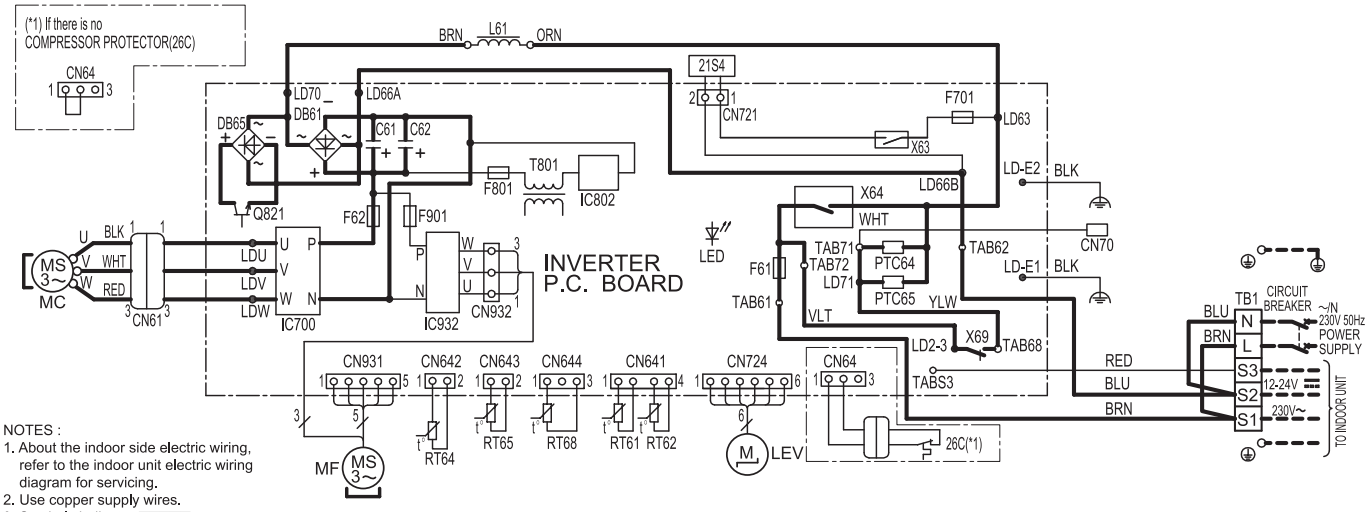




REFRIGERANT PIPE JOINT	LIQUID REFRIGERANT PIPE	FLARED 6.35(1/4")
	GAS REFRIGERANT PIPE	FLARED 9.52(3/8")

7 WIRING DIAGRAM

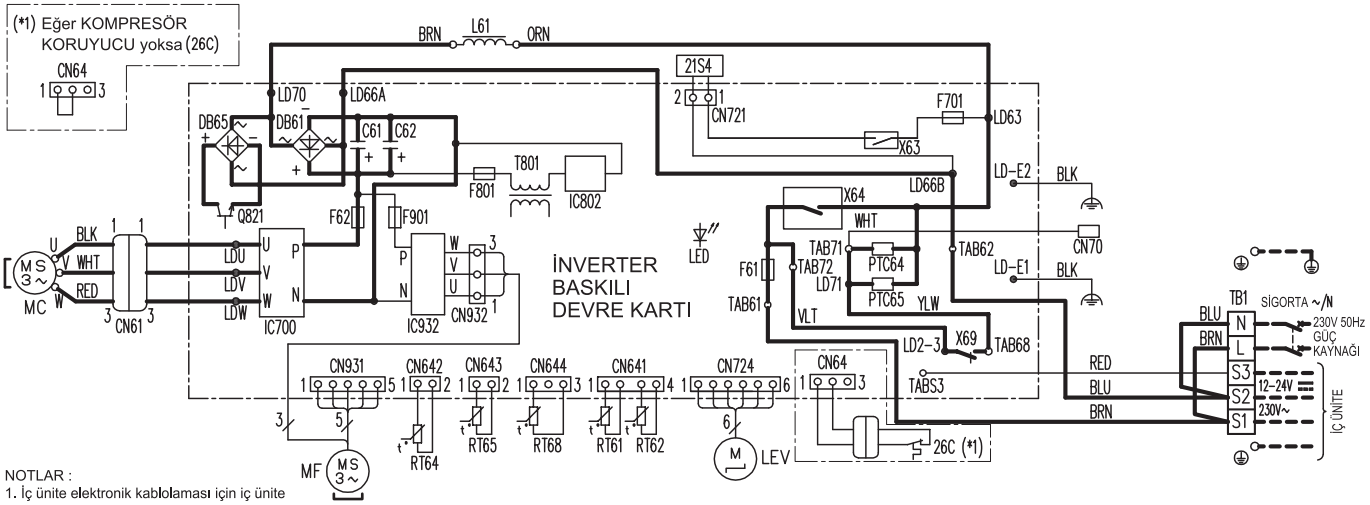
MUZ-AY25VG - E1, ER1 MUZ-AY35VG - E1, ER1



NOTES :
1. About the indoor side electric wiring, refer to the indoor unit electric wiring diagram for servicing.
2. Use copper supply wires.
3. Symbols indicate, □□□□□ :Terminal block
⬭⬭⬭⬭⬭ :Connector

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CN61	CONNECTOR	LEV	EXPANSION VALVE COIL	RT65	AMBIENT TEMP. THERMISTOR
C61,C62	SMOOTHING CAPACITOR	L61	REACTOR	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
DB61,DB65	DIODE MODULE	MC	COMPRESSOR		
F61	FUSE (25A 250V)	MF	FAN MOTOR	TB1	TERMINAL BLOCK
F62	FUSE (15A 250V)	PTC64,PTC65	CIRCUIT PROTECTION	T801	TRANSFORMER
F701,F801,F901	FUSE (T3. 15AL250V)	Q821	SWITCHING POWER TRANSISTOR	X63,X64,X69	RELAY
IC700,IC932	POWER MODULE	RT61	DEFROST THERMISTOR	21S4	REVERSING VALVE COIL
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	26C	COMPRESSOR PROTECTOR
LED	LED	RT64	FIN TEMP. THERMISTOR		

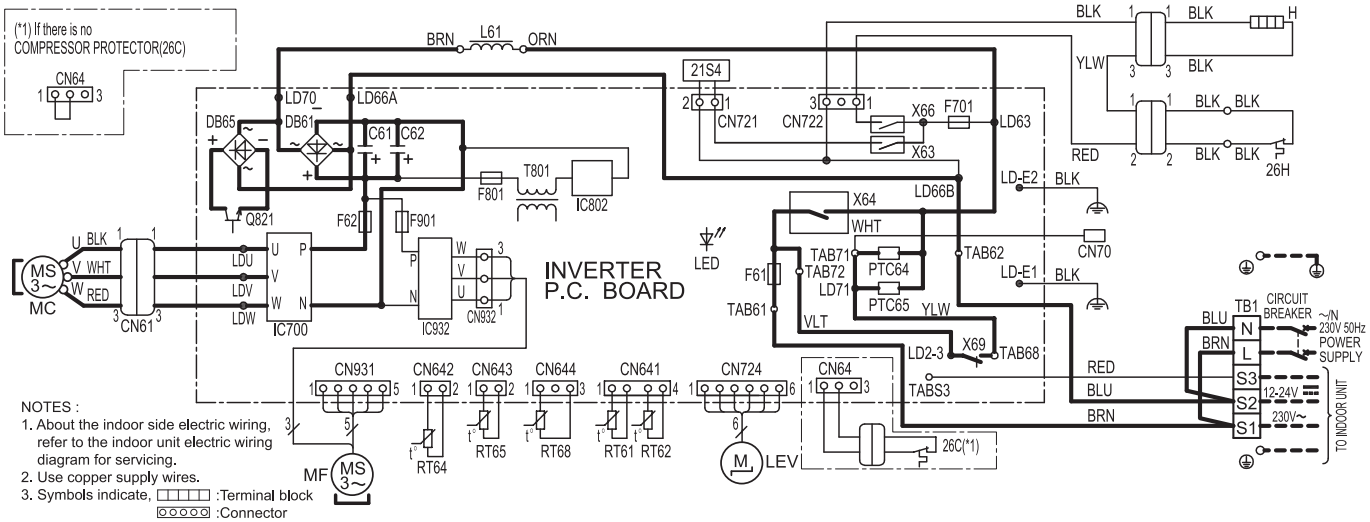
MUZ-AY25VG - ET1 MUZ-AY35VG - ET1



NOTLAR :
1. İç ünite elektronik kablolaması için iç ünite elektronik kablo devre şemasını referans alınız.
2. Sadece bakır besleme kablosu kullanın.
3. Sembolleri gösterir. □□□□□ :Terminal bloğu ⬭⬭⬭⬭⬭ :Konnektör

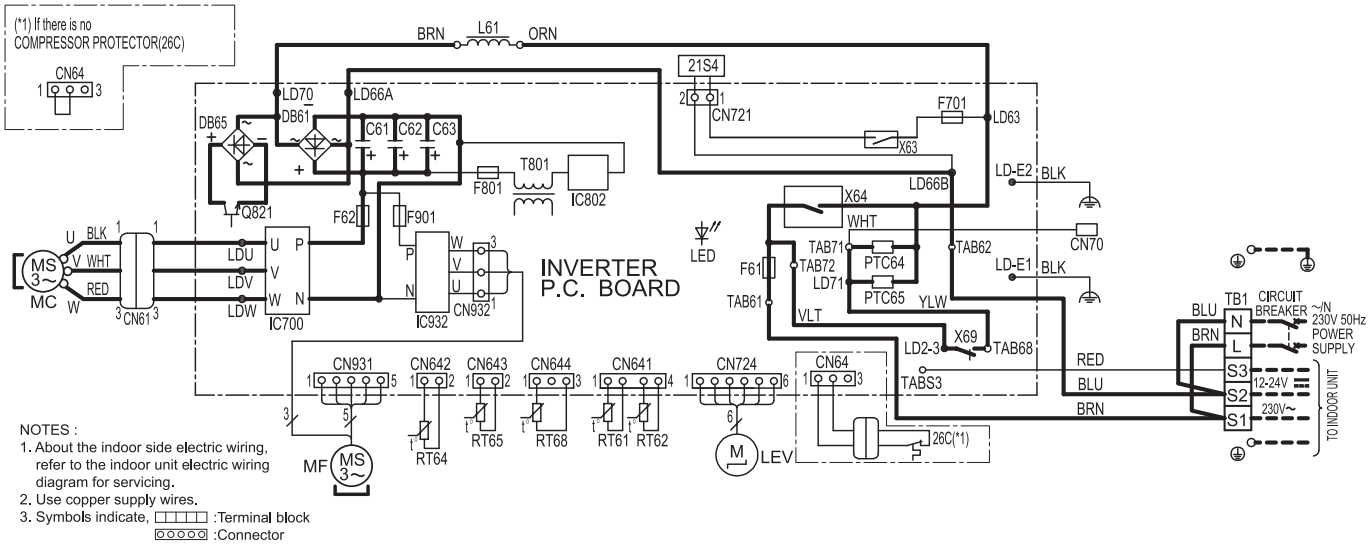
SEMBOL	PARÇA ADI	SEMBOL	PARÇA ADI	SEMBOL	PARÇA ADI
CN61	KONNEKTÖR	LEV	GENLEŞME VANASI SARGISI	RT65	ORTAM SICAKLIK TERMİSTÖRÜ
C61,C62	KAPASİTÖR	L61	REAKTÖR	RT68	DIŞ ÜNİTE EŞANJÖR SICAKLIK TERMİSTÖRÜ
DB61,DB65	DİYOT MODÜLÜ	MC	KOMPRESÖR		
F61	SİGORTA (25A 250V)	MF	FAN MOTORU	TB1	TERMİNAL BLOĞU
F62	SİGORTA (15A 250V)	PTC64,PTC65	DEVRE KORUMASI	T801	TRANSFORMATÖR
F701,F801,F901	SİGORTA (T3. 15AL250V)	Q821	SİVİÇLİ GÜÇ TRANSİSTÖRÜ	X63,X64,X69	RÖLE
IC700,IC932	GÜÇ MODÜLÜ	RT61	DEFROST TERMİSTÖRÜ	21S4	4 YOLLU VANA SARGISI
IC802	GÜÇ CİHAZI	RT62	BASMA SICAKLIK TERMİSTÖRÜ	26C	KOMPRESÖR KORUYUCU
LED	LED	RT64	FİN SICAKLIK TERMİSTÖRÜ		

MUZ-AY25VGH - SC1 MUZ-AY35VGH - SC1



SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CN61	CONNECTOR	LEV	EXPANSION VALVE COIL	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
C61,C62	SMOOTHING CAPACITOR	L61	REACTOR		
DB61,DB65	DIODE MODULE	MC	COMPRESSOR	TB1	TERMINAL BLOCK
F61	FUSE (25A 250V)	MF	FAN MOTOR	T801	TRANSFORMER
F62	FUSE (15A 250V)	PTC64,PTC65	CIRCUIT PROTECTION	X63,X64,X66,X69	RELAY
F701,F801,F901	FUSE (T3. 15AL250V)	Q821	SWITCHING POWER TRANSISTOR	21S4	REVERSING VALVE COIL
H	DEFROST HEATER	RT61	DEFROST THERMISTOR	26C	COMPRESSOR PROTECTOR
IC700,IC932	POWER MODULE	RT62	DISCHARGE TEMP. THERMISTOR	26H	HEATER PROTECTOR
IC802	POWER DEVICE	RT64	FIN TEMP. THERMISTOR		
LED	LED	RT65	AMBIENT TEMP. THERMISTOR		

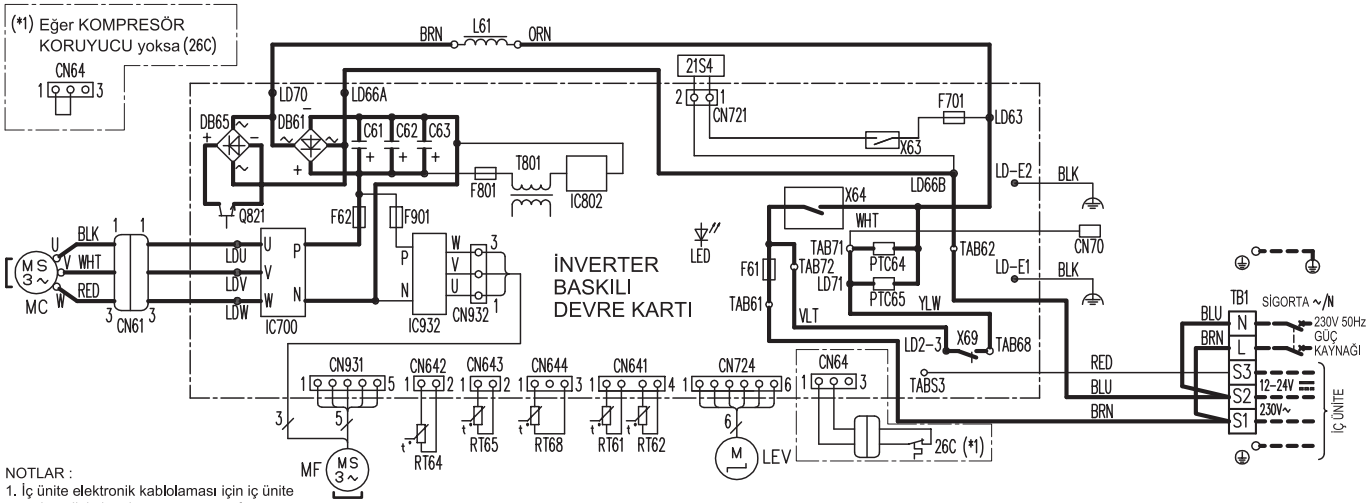
MUZ-AY42VG - E1, ER1



NOTES :
1. About the indoor side electric wiring, refer to the indoor unit electric wiring diagram for servicing.
2. Use copper supply wires.
3. Symbols indicate, □□□□ :Terminal block
   ⬭⬭⬭⬭ :Connector

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CN61	CONNECTOR	LEV	EXPANSION VALVE COIL	RT65	AMBIENT TEMP. THERMISTOR
C61,C62,C63	SMOOTHING CAPACITOR	L61	REACTOR	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
DB61,DB65	DIODE MODULE	MC	COMPRESSOR		
F61	FUSE (25A 250V)	MF	FAN MOTOR	TB1	TERMINAL BLOCK
F62	FUSE (15A 250V)	PTC64,PTC65	CIRCUIT PROTECTION	T801	TRANSFORMER
F701,F801,F901	FUSE (T3. 15AL250V)	Q821	SWITCHING POWER TRANSISTOR	X63,X64,X69	RELAY
IC700,IC932	POWER MODULE	RT61	DEFROST THERMISTOR	21S4	REVERSING VALVE COIL
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	26C	COMPRESSOR PROTECTOR
LED	LED	RT64	FIN TEMP. THERMISTOR		

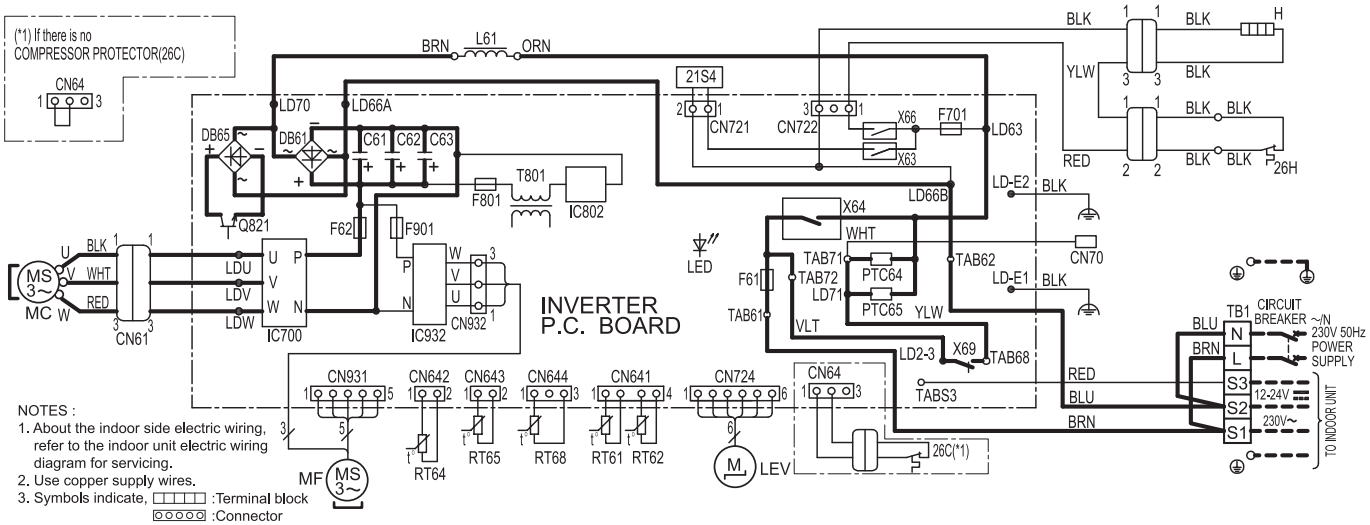
MUZ-AY42VG - ET1



NOTLAR :
1. İç ünite elektronik kablolaması için iç ünite elektronik kablo devre şemasını referans alınız.
2. Sadece bakır besleme kablosu kullanın.
3. Sembolleri gösterir. □□□□ :Terminal bloğu ⬭⬭⬭⬭ :Konnektör

SEMBOL	PARÇA ADI	SEMBOL	PARÇA ADI	SEMBOL	PARÇA ADI
CN61	KONNEKTÖR	LEV	GENLEŞME VANASI SARGISI	RT65	ORTAM SICAKLIK TERMİSTÖRÜ
C61,C62,C63	KAPASİTÖR	L61	REAKTÖR	RT68	DIŞ ÜNİTE EŞANJÖR SICAKLIK TERMİSTÖRÜ
DB61,DB65	DİYOT MODÜLÜ	MC	KOMPRESÖR		
F61	SİGORTA (25A 250V)	MF	FAN MOTORU	TB1	TERMİNAL BLOĞU
F62	SİGORTA (15A 250V)	PTC64,PTC65	DEVRE KORUMASI	T801	TRANSFORMATÖR
F701,F801,F901	SİGORTA (T3. 15AL250V)	Q821	SİVİÇLİ GÜÇ TRANSİSTÖRÜ	X63,X64,X69	RÖLE
IC700,IC932	GÜÇ MODÜLÜ	RT61	DEFROST TERMİSTÖRÜ	21S4	4 YOLLU VANA SARGISI
IC802	GÜÇ CİHAZI	RT62	BASMA SICAKLIK TERMİSTÖRÜ	26C	KOMPRESÖR KORUYUCU
LED	LED	RT64	FİN SICAKLIK TERMİSTÖRÜ		

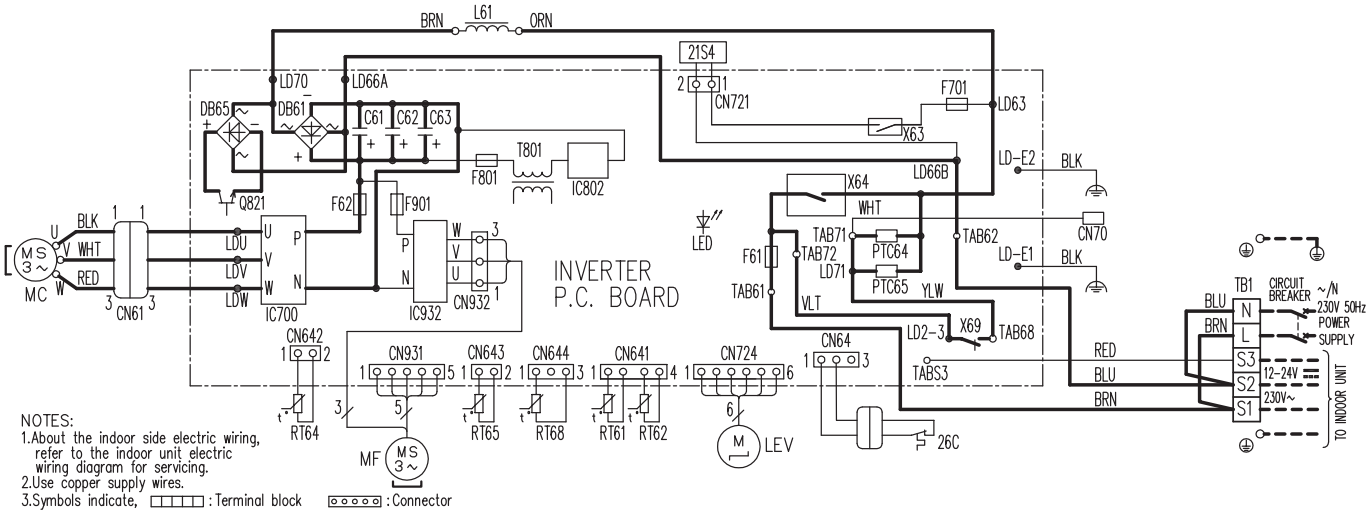
MUZ-AY42VGH - SC1



NOTES :
1. About the indoor side electric wiring, refer to the indoor unit electric wiring diagram for servicing.
2. Use copper supply wires.
3. Symbols indicate, □□□□□ :Terminal block, ⊙⊙⊙⊙⊙ :Connector

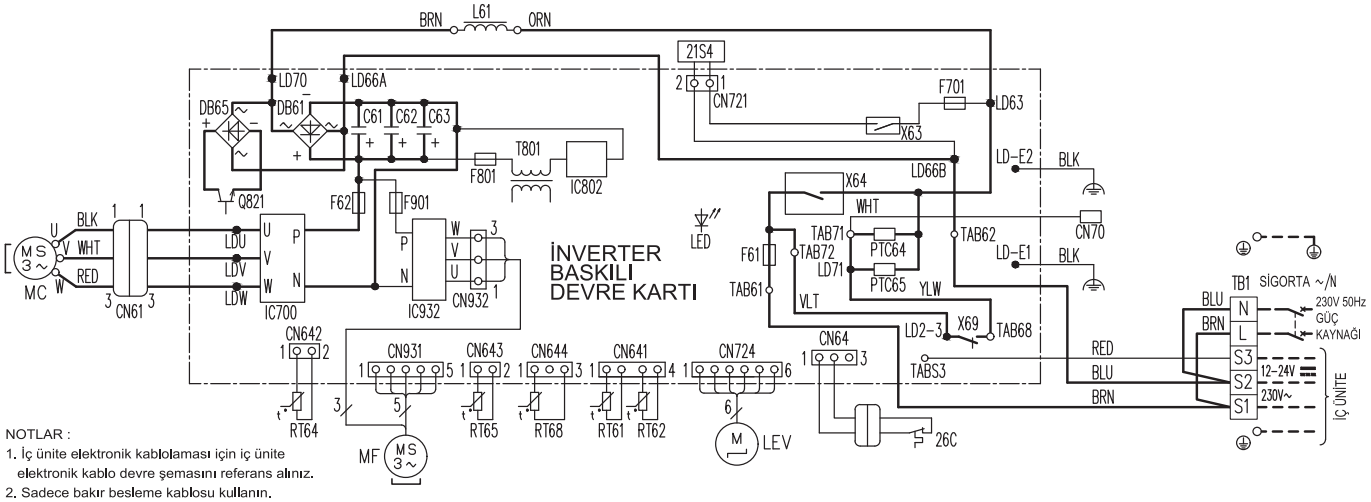
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CN61	CONNECTOR	LEV	EXPANSION VALVE COIL	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
C61,C62,C63	SMOOTHING CAPACITOR	L61	REACTOR		
DB61,DB65	DIODE MODULE	MC	COMPRESSOR	TB1	TERMINAL BLOCK
F61	FUSE (25A 250V)	MF	FAN MOTOR	T801	TRANSFORMER
F62	FUSE (15A 250V)	PTC64,PTC65	CIRCUIT PROTECTION	X63,X64,X66,X69	RELAY
F701,F801,F901	FUSE (T3. 15AL250V)	Q821	SWITCHING POWER TRANSISTOR	21S4	REVERSING VALVE COIL
H	DEFROST HEATER	RT61	DEFROST THERMISTOR	26C	COMPRESSOR PROTECTOR
IC700,IC932	POWER MODULE	RT62	DISCHARGE TEMP. THERMISTOR	26H	HEATER PROTECTOR
IC802	POWER DEVICE	RT64	FIN TEMP. THERMISTOR		
LED	LED	RT65	AMBIENT TEMP. THERMISTOR		

MUZ-AY50VG - E1, ER1



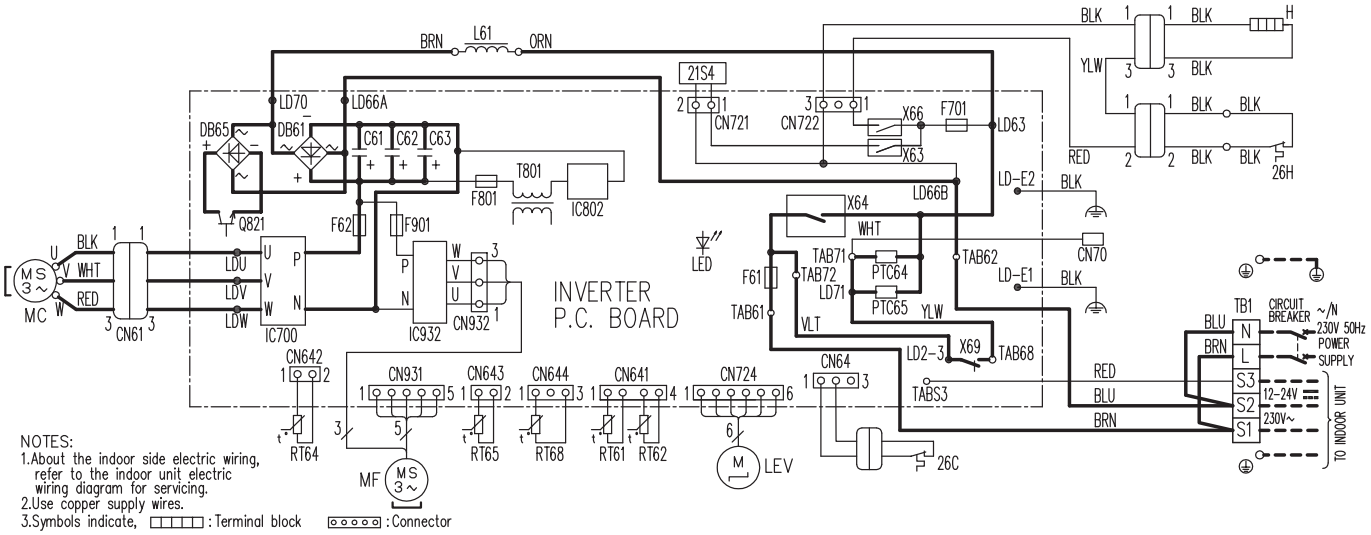
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CN61	CONNECTOR	LEV	EXPANSION VALVE COIL	RT65	AMBIENT TEMP. THERMISTOR
C61,C62,C63	SMOOTHING CAPACITOR	L61	REACTOR	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
DB61,DB65	DIODE MODULE	MC	COMPRESSOR		
F61	FUSE (25A 250V)	MF	FAN MOTOR	TB1	TERMINAL BLOCK
F62	FUSE (15A 250V)	PTC64,PTC65	CIRCUIT PROTECTION	T801	TRANSFORMER
F701,F801,F901	FUSE (T3.15AL250V)	Q821	SWITCHING POWER TRANSISTOR	X63,X64,X69	RELAY
IC700,IC932	POWER MODULE	RT61	DEFROST THERMISTOR	21S4	REVERSING VALVE COIL
IC802	POWER DEVICE	RT62	DISCHARGE TEMP. THERMISTOR	26C	COMPRESSOR PROTECTOR
LED	LED	RT64	FIN TEMP. THERMISTOR		

MUZ-AY50VG - ET1



SEMBOL	PARÇA ADI	SEMBOL	PARÇA ADI	SEMBOL	PARÇA ADI
CN61	KONNEKTÖR	LEV	GENLEŞME VANASI SARGISI	RT65	ORTAM SICAKLIK TERMİSTÖRÜ
C61,C62,C63	KAPASİTÖR	L61	REAKTÖR	RT68	DIŞ ÜNİTE EŞANJÖR SICAKLIK TERMİSTÖRÜ
DB61,DB65	DİYOT MODÜLÜ	MC	KOMPRESÖR		
F61	SİGORTA (25A 250V)	MF	FAN MOTORU	TB1	TERMİNAL BLOĞU
F62	SİGORTA (15A 250V)	PTC64,PTC65	DEVRE KORUMASI	T801	TRANSFORMATÖR
F701,F801,F901	SİGORTA (T3. 15AL250V)	Q821	SİVİÇLİ GÜÇ TRANSİSTÖRÜ	X63,X64,X69	RÖLE
IC700,IC932	GÜÇ MODÜLÜ	RT61	DEFROST TERMİSTÖRÜ	21S4	4 YOLLU VANA SARGISI
IC802	GÜÇ CİHAZI	RT62	BASMA SICAKLIK TERMİSTÖRÜ	26C	KOMPRESÖR KORUYUCU
LED	LED	RT64	FİN SICAKLIK TERMİSTÖRÜ		

MUZ-AY50VGH - SC1



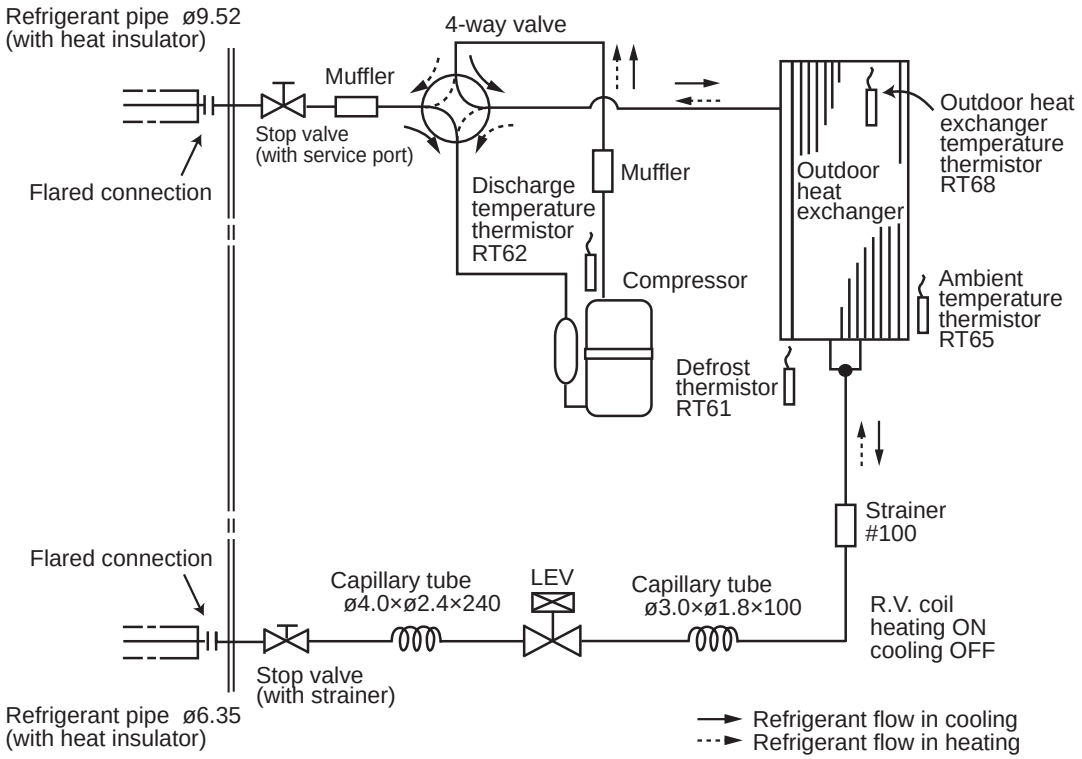
NOTES:
1. About the indoor side electric wiring, refer to the indoor unit electric wiring diagram for servicing.
2. Use copper supply wires.
3. Symbols indicate, ▭▭▭ : Terminal block ▭▭▭ : Connector

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CN61	CONNECTOR	LEV	EXPANSION VALVE COIL	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
C61, C62, C63	SMOOTHING CAPACITOR	L61	REACTOR		
DB61, DB65	DIODE MODULE	MC	COMPRESSOR	TB1	TERMINAL BLOCK
F61	FUSE (25A 250V)	MF	FAN MOTOR	T801	TRANSFORMER
F62	FUSE (15A 250V)	PTC64, PTC65	CIRCUIT PROTECTION	X63, X64, X66, X69	RELAY
F701, F801, F901	FUSE (T3.15AL250V)	Q821	SWITCHING POWER TRANSISTOR	21S4	REVERSING VALVE COIL
H	DEFROST HEATER	RT61	DEFROST THERMISTOR	26C	COMPRESSOR PROTECTOR
IC700, IC932	POWER MODULE	RT62	DISCHARGE TEMP. THERMISTOR	26H	HEATER PROTECTOR
IC802	POWER DEVICE	RT64	FIN TEMP. THERMISTOR		
LED	LED	RT65	AMBIENT TEMP. THERMISTOR		

8 REFRIGERANT SYSTEM DIAGRAM

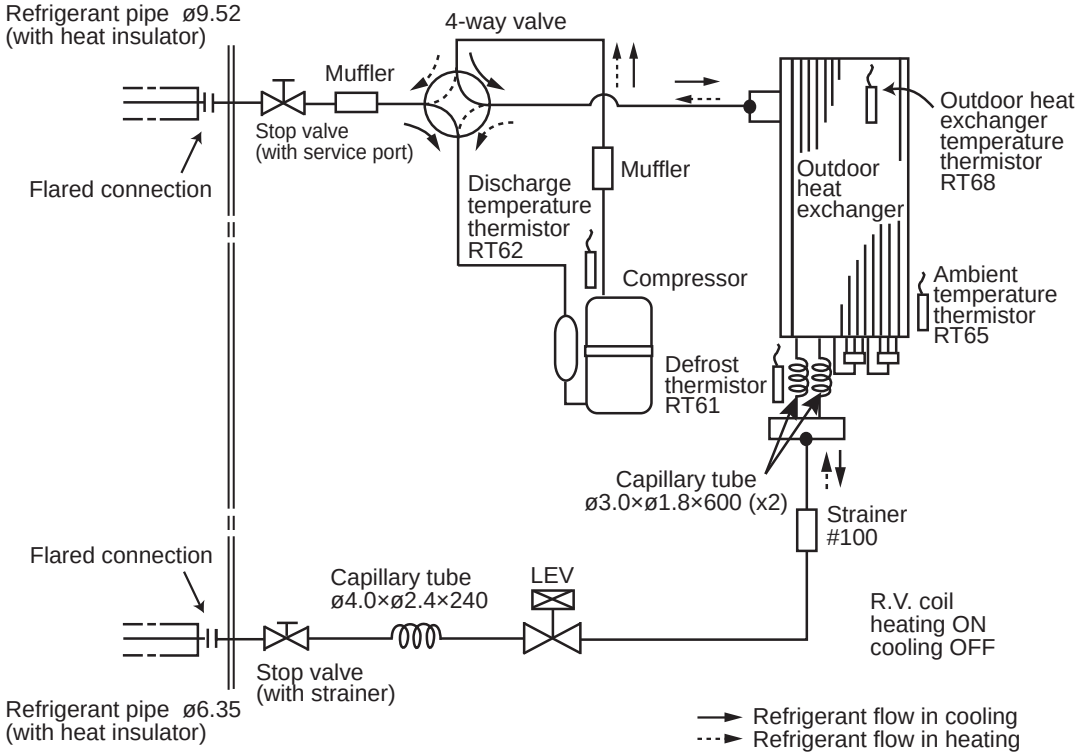
MUZ-AY25VG MUZ-AY35VG
MUZ-AY25VGH MUZ-AY35VGH

Unit: mm



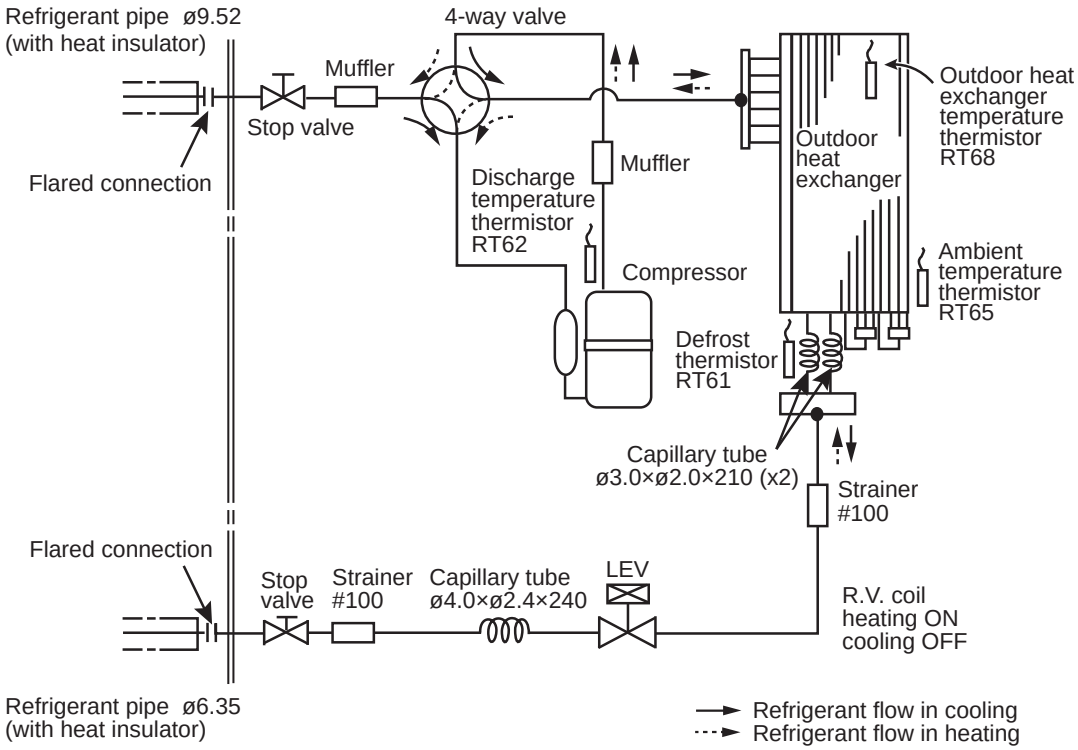
MUZ-AY42VG
MUZ-AY42VGH

Unit: mm



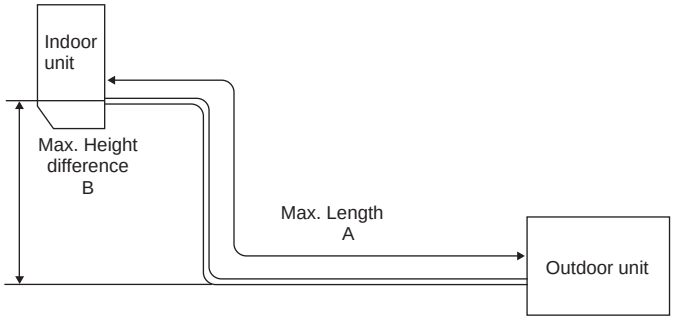
MUZ-AY50VG
MUZ-AY50VGH

Unit: mm



MAX. REFRIGERANT PIPING LENGTH and MAX. HEIGHT DIFFERENCE

Model	Refrigerant piping: m		Piping size O.D: mm	
	Max. Length A	Max. Height difference B	Gas	Liquid
MUZ-AY25/35/42/50VG **MUZ-AY25/35/42/50VGH**	20	12	9.52	6.35



ADDITIONAL REFRIGERANT CHARGE (R32: g)

Model	Outdoor unit precharged	Refrigerant piping length (one way)								
		7 m	11 m	12 m	13 m	14 m	15 m	16 m	17 m	18 m	20 m
MUZ-AY25/35VG **MUZ-AY25/35VGH**	550	—	70	90	110	130	150	170	190	210	250
MUZ-AY42VG **MUZ-AY42VGH**	700									
MUZ-AY50VG **MUZ-AY50VGH**	1,000									

Calculation: X g = 20 g/m × (Refrigerant piping length (m) – 7.5)

9 PERFORMANCE CURVES

MUZ-AY25VG MUZ-AY35VG MUZ-AY42VG MUZ-AY50VG
MUZ-AY25VGH MUZ-AY35VGH MUZ-AY42VGH MUZ-AY50VGH

The standard specifications apply only to the operation of the air conditioner under normal conditions. Since operating conditions vary according to the areas where these units are installed, the following information has been provided to clarify the operating characteristics of the air conditioner under the conditions indicated by the performance curve.

(1) GUARANTEED VOLTAGE

198 ~ 264 V, 50 Hz

(2) AIRFLOW

Airflow should be set at MAX.

(3) MAIN READINGS

(1) Indoor intake air wet-bulb temperature:	°C [WB]	Cooling
(2) Indoor outlet air wet-bulb temperature:	°C [WB]	
(3) Outdoor intake air dry-bulb temperature:	°C [DB]	
(4) Total input:	W	
(5) Indoor intake air dry-bulb temperature:	°C [DB]	Heating
(6) Outdoor intake air wet-bulb temperature:	°C [WB]	
(7) Total input:	W	

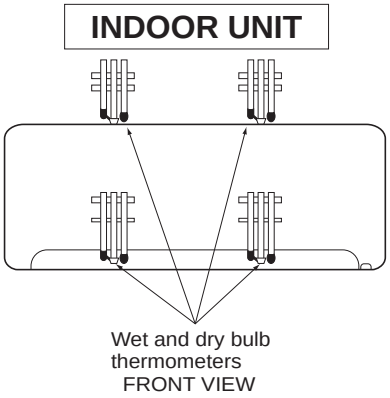
Indoor air wet and dry bulb temperature difference on the left side of the following chart shows the difference between the indoor intake air wet and dry bulb temperature and the indoor outlet air wet and dry bulb temperature for your reference at service.

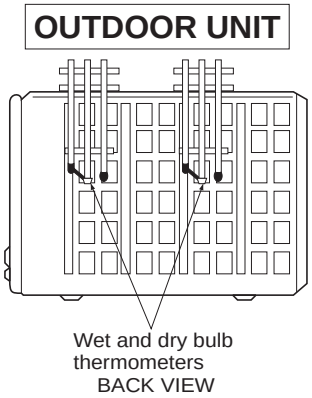
(4) GUARANTEED OUTDOOR TEMPERATURE

1. MUZ-AY25/35/42/50/60/71VG
   COOLING (DB/WB): -10/- ~ 46/-
   HEATING (DB/WB): -15/-16 ~ 24/18
2. MUZ-AY25/35/42/50VGH
   COOLING (DB/WB): -10/- ~ 46/-
   HEATING (DB/WB): -20/-21 ~ 24/18

How to measure the indoor air wet and dry bulb temperature difference

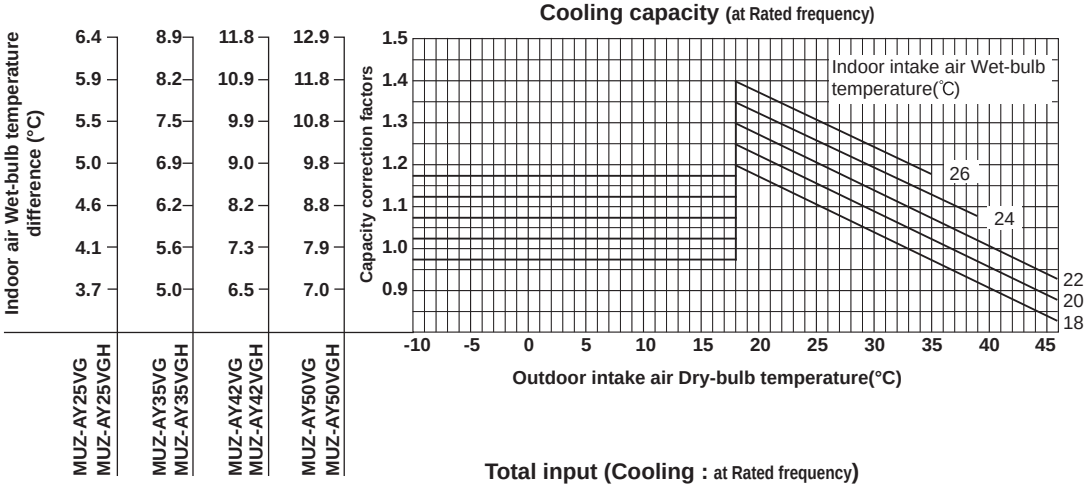
1. Attach at least 2 sets of wet and dry bulb thermometers to the indoor air intake as shown in the figure, and at least 2 sets of wet and dry bulb thermometers to the indoor air outlet. The thermometers must be attached to the position where air speed is high.
2. Attach at least 2 sets of wet and dry bulb thermometers to the outdoor air intake.
   Cover the thermometers to prevent direct rays of the sun.
3. Check that the air filter is cleaned.
4. Open windows and doors of room.
5. Press the emergency operation switch once (twice) to start the EMERGENCY COOL (HEAT) MODE.
6. When system stabilizes after more than 15 minutes, measure temperature and take an average temperature.
7. 10 minutes later, measure temperature again and check that the temperature does not change.



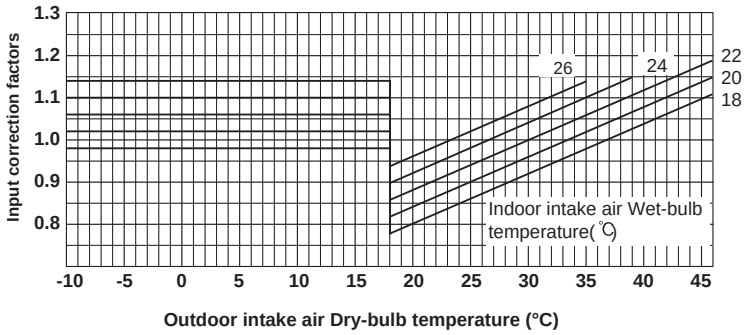


9-1. CAPACITY AND INPUT CURVES

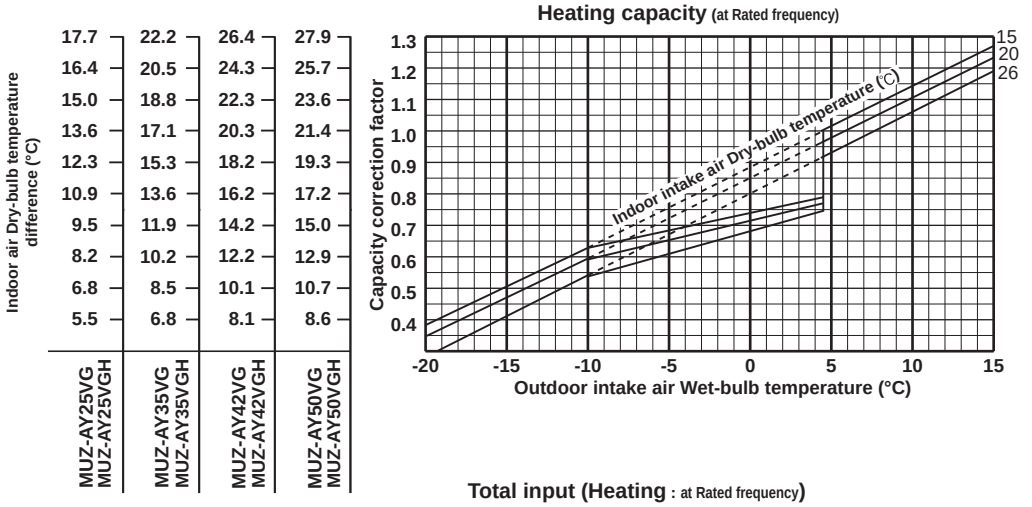
Cooling capacity (at Rated frequency)



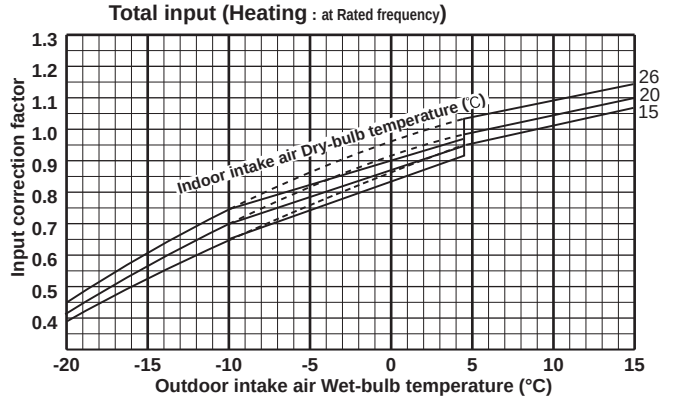
Total input (Cooling : at Rated frequency)



Heating capacity (at Rated frequency)



Total input (Heating : at Rated frequency)



Lower limit of guaranteed operating range in heating

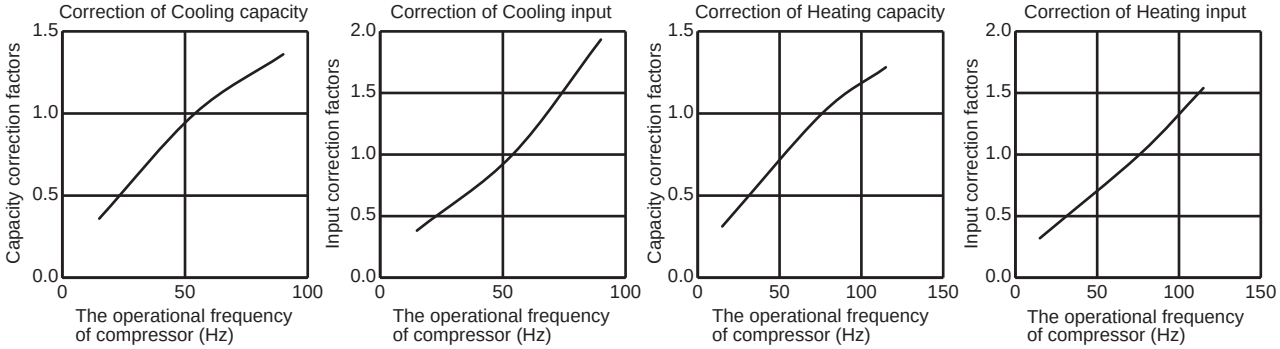
MUZ-AY25/35/42/50VG: -15°C

MUZ-AY25/35/42/50VGH: -20°C

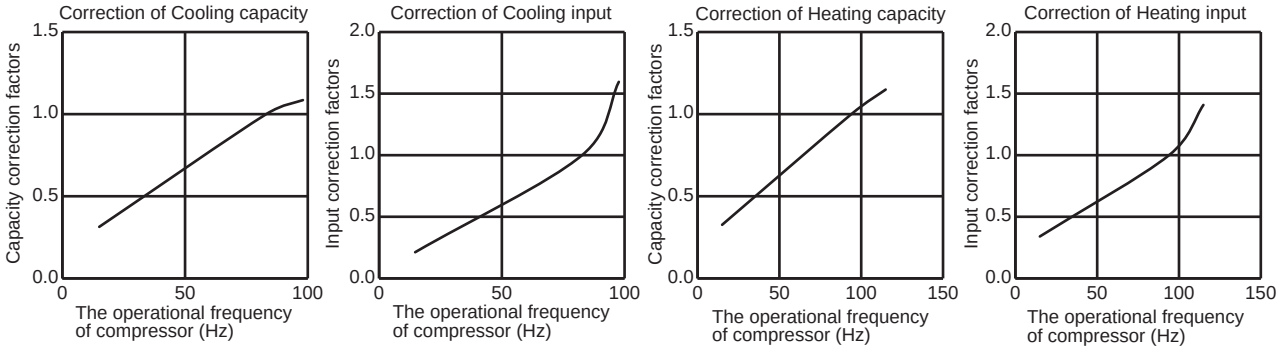
NOTE: The above broken lines are for the heating operation without any frost and defrost operation.

9-2. CAPACITY AND INPUT CORRECTION BY OPERATIONAL FREQUENCY OF COMPRESSOR

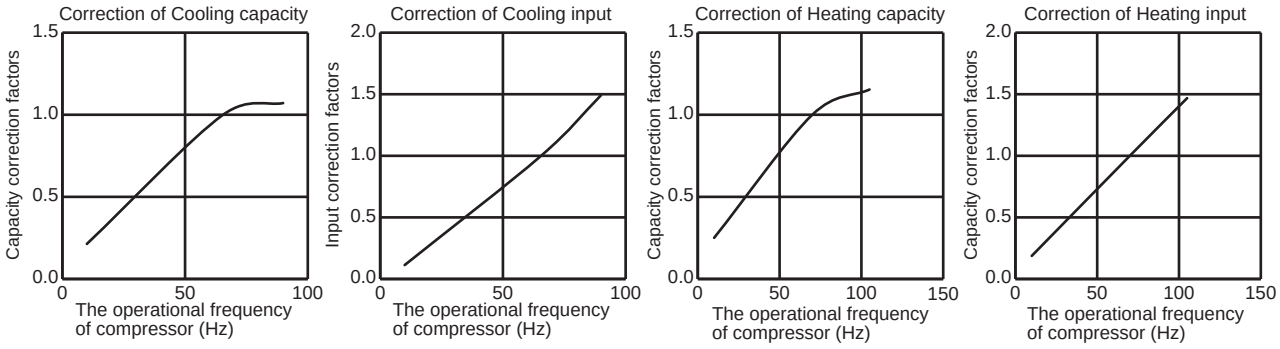
MUZ-AY25VG
MUZ-AY25VGH



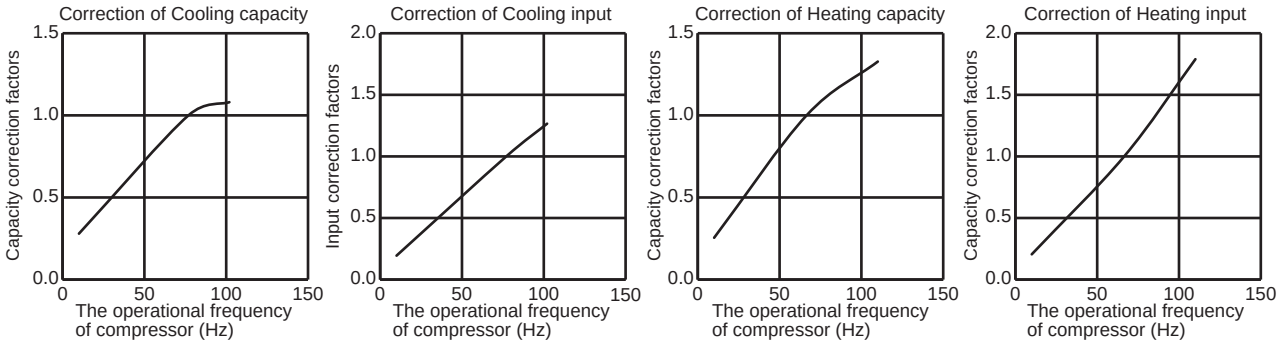
MUZ-AY35VG
MUZ-AY35VGH



MUZ-AY42VG
MUZ-AY42VGH



MUZ-AY50VG
MUZ-AY50VGH



9-3. HOW TO OPERATE FIXED-FREQUENCY OPERATION

<Test run operation>

1. Press the emergency operation switch to start COOL or HEAT mode (COOL: Press once, HEAT: Press twice).
2. Test run operation starts and continues to operate for 30 minutes.
3. Compressor operates at rated frequency in COOL mode or 58 Hz in HEAT mode.
4. Indoor fan operates at High speed.
5. After 30 minutes, test run operation finishes and EMERGENCY OPERATION starts (operational frequency of compressor varies).
6. To cancel test run operation (EMERGENCY OPERATION), press the emergency operation switch or any button on remote controller.

9-4. OUTDOOR LOW PRESSURE AND OUTDOOR UNIT CURRENT

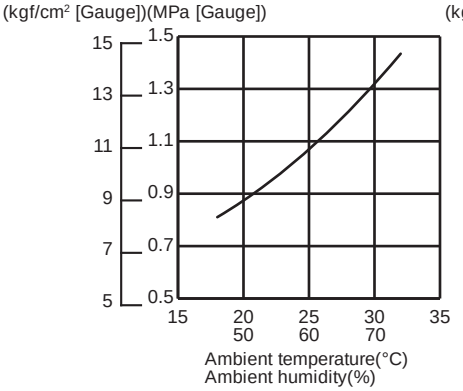
COOL operation

① Both indoor and outdoor unit are under the same temperature/ humidity condition.
② Operation: TEST RUN OPERATION (Refer to 9-3.)

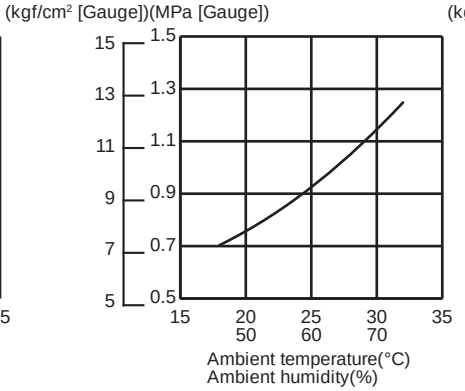
Dry-bulb temperature (°C)	Relative humidity (%)
20	50
25	60
30	70

Outdoor low pressure

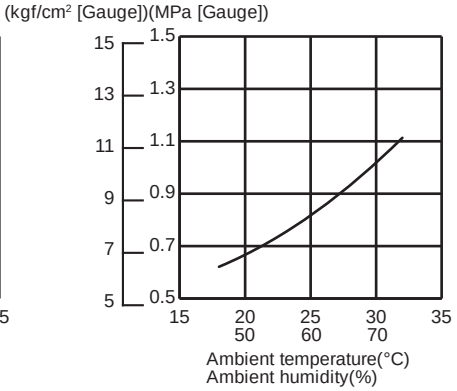
MUZ-AY25VG
MUZ-AY25VGH



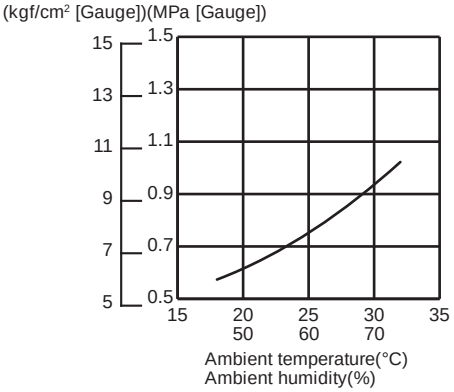
MUZ-AY35VG
MUZ-AY35VGH



MUZ-AY42VG
MUZ-AY42VGH



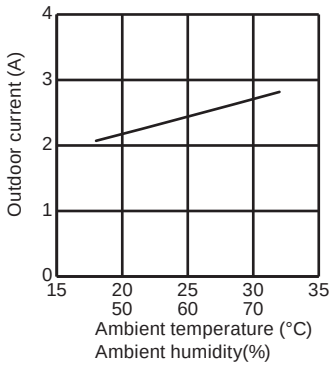
MUZ-AY50VG
MUZ-AY50VGH



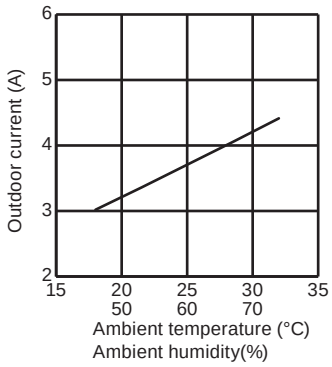
NOTE:
The unit of pressure has been changed to MPa on the international system of units (SI unit system)
The conversion factor is: **1 (MPa [Gauge]) = 10.2 (kgf/cm² [Gauge])**

Outdoor unit current

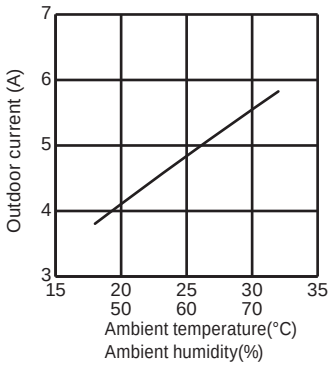
MUZ-AY25VG
MUZ-AY25VGH



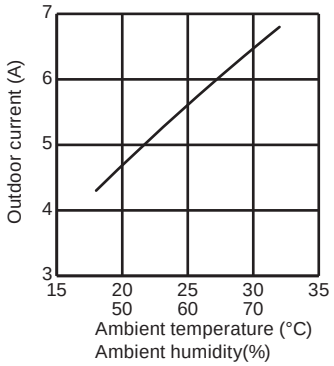
MUZ-AY35VG
MUZ-AY35VGH



MUZ-AY42VG
MUZ-AY42VGH



MUZ-AY50VG
MUZ-AY50VGH



HEAT operation

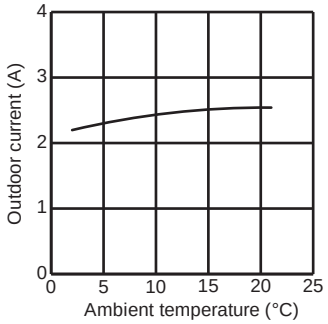
① Condition:

	Indoor	Outdoor			
Dry bulb temperature (°C)	20.0	2	7	15	20.0
Wet bulb temperature (°C)	14.5	1	6	12	14.5

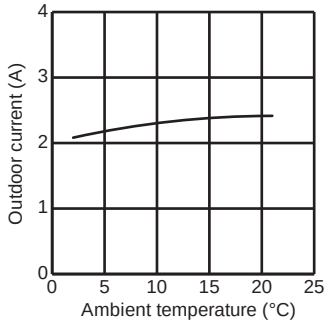
② Operation: Test run operation (Refer to 9-3.)

Outdoor unit current

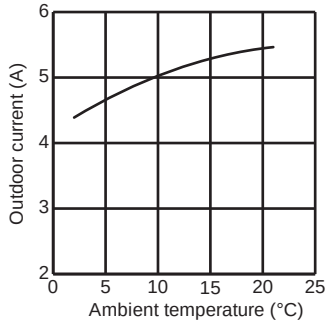
MUZ-AY25VG
MUZ-AY25VGH



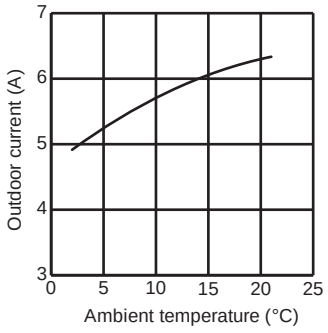
MUZ-AY35VG
MUZ-AY35VGH



MUZ-AY42VG
MUZ-AY42VGH



MUZ-AY50VG
MUZ-AY50VGH



PERFORMANCE DATA COOL operation at Rated frequency

MUZ-AY25VG MUZ-AY25VGH

CAPACITY: 2.5 kW SHF: 0.92 INPUT: 600 W

INDOOR DB (°C)	INDOOR WB (°C)	OUTDOOR DB (°C)															
		21				25				27				30			
		Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.94	2.17	0.74	480	2.81	2.08	0.74	504	2.70	2.00	0.74	528	2.60	1.92	0.74	552
21	20	3.06	1.90	0.62	504	2.94	1.82	0.62	534	2.85	1.77	0.62	546	2.75	1.71	0.62	570
22	18	2.94	2.29	0.78	480	2.81	2.19	0.78	504	2.70	2.11	0.78	528	2.60	2.03	0.78	552
22	20	3.06	2.02	0.66	504	2.94	1.94	0.66	534	2.85	1.88	0.66	546	2.75	1.82	0.66	570
22	22	3.19	1.72	0.54	522	3.08	1.66	0.54	555	3.00	1.62	0.54	570	2.88	1.55	0.54	594
23	18	2.94	2.41	0.82	480	2.81	2.31	0.82	504	2.70	2.21	0.82	528	2.60	2.13	0.82	552
23	20	3.06	2.14	0.70	504	2.94	2.06	0.70	534	2.85	2.00	0.70	546	2.75	1.93	0.70	570
23	22	3.19	1.85	0.58	522	3.08	1.78	0.58	555	3.00	1.74	0.58	570	2.88	1.67	0.58	594
24	18	2.94	2.53	0.86	480	2.81	2.42	0.86	504	2.70	2.32	0.86	528	2.60	2.24	0.86	552
24	20	3.06	2.27	0.74	504	2.94	2.17	0.74	534	2.85	2.11	0.74	546	2.75	2.04	0.74	570
24	22	3.19	1.98	0.62	522	3.08	1.91	0.62	555	3.00	1.86	0.62	570	2.88	1.78	0.62	594
24	24	3.35	1.68	0.50	546	3.23	1.61	0.50	576	3.15	1.58	0.50	594	3.05	1.53	0.50	624
25	18	2.94	2.64	0.90	480	2.81	2.53	0.90	504	2.70	2.43	0.90	528	2.60	2.34	0.90	552
25	20	3.06	2.39	0.78	504	2.94	2.29	0.78	534	2.85	2.22	0.78	546	2.75	2.15	0.78	570
25	22	3.19	2.10	0.66	522	3.08	2.03	0.66	555	3.00	1.98	0.66	570	2.88	1.90	0.66	594
25	24	3.35	1.81	0.54	546	3.23	1.74	0.54	576	3.15	1.70	0.54	594	3.05	1.65	0.54	624
26	18	2.94	2.76	0.94	480	2.81	2.64	0.94	504	2.70	2.54	0.94	528	2.60	2.44	0.94	552
26	20	3.06	2.51	0.82	504	2.94	2.41	0.82	534	2.85	2.34	0.82	546	2.75	2.26	0.82	570
26	22	3.19	2.23	0.70	522	3.08	2.15	0.70	555	3.00	2.10	0.70	570	2.88	2.01	0.70	594
26	24	3.35	1.94	0.58	546	3.23	1.87	0.58	576	3.15	1.83	0.58	594	3.05	1.77	0.58	624
26	26	3.45	1.59	0.46	576	3.35	1.54	0.46	606	3.30	1.52	0.46	624	3.20	1.47	0.46	642
27	18	2.94	2.88	0.98	480	2.81	2.76	0.98	504	2.70	2.65	0.98	528	2.60	2.55	0.98	552
27	20	3.06	2.63	0.86	504	2.94	2.53	0.86	534	2.85	2.45	0.86	546	2.75	2.37	0.86	570
27	22	3.19	2.36	0.74	522	3.08	2.28	0.74	555	3.00	2.22	0.74	570	2.88	2.13	0.74	594
27	24	3.35	2.08	0.62	546	3.23	2.00	0.62	576	3.15	1.95	0.62	594	3.05	1.89	0.62	624
27	26	3.45	1.73	0.50	576	3.35	1.68	0.50	606	3.30	1.65	0.50	624	3.20	1.60	0.50	642
28	18	2.94	2.94	1.00	480	2.81	2.81	1.00	504	2.70	2.70	1.00	528	2.60	2.60	1.00	552
28	20	3.06	2.76	0.90	504	2.94	2.64	0.90	534	2.85	2.57	0.90	546	2.75	2.48	0.90	570
28	22	3.19	2.49	0.78	522	3.08	2.40	0.78	555	3.00	2.34	0.78	570	2.88	2.24	0.78	594
28	24	3.35	2.21	0.66	546	3.23	2.13	0.66	576	3.15	2.08	0.66	594	3.05	2.01	0.66	624
28	26	3.45	1.86	0.54	576	3.35	1.81	0.54	606	3.30	1.78	0.54	624	3.20	1.73	0.54	642
29	18	2.94	2.94	1.00	480	2.81	2.81	1.00	504	2.70	2.70	1.00	528	2.60	2.60	1.00	552
29	20	3.06	2.88	0.94	504	2.94	2.76	0.94	534	2.85	2.68	0.94	546	2.75	2.59	0.94	570
29	22	3.19	2.61	0.82	522	3.08	2.52	0.82	555	3.00	2.46	0.82	570	2.88	2.36	0.82	594
29	24	3.35	2.35	0.70	546	3.23	2.26	0.70	576	3.15	2.21	0.70	594	3.05	2.14	0.70	624
29	26	3.45	2.00	0.58	576	3.35	1.94	0.58	606	3.30	1.91	0.58	624	3.20	1.86	0.58	642
30	18	2.94	2.94	1.00	480	2.81	2.81	1.00	504	2.70	2.70	1.00	528	2.60	2.60	1.00	552
30	20	3.06	3.00	0.98	504	2.94	2.88	0.98	534	2.85	2.79	0.98	546	2.75	2.70	0.98	570
30	22	3.19	2.74	0.86	522	3.08	2.64	0.86	555	3.00	2.58	0.86	570	2.88	2.47	0.86	594
30	24	3.35	2.48	0.74	546	3.23	2.39	0.74	576	3.15	2.33	0.74	594	3.05	2.26	0.74	624
30	26	3.45	2.14	0.62	576	3.35	2.08	0.62	606	3.30	2.05	0.62	624	3.20	1.98	0.62	642
31	18	2.94	2.94	1.00	480	2.81	2.81	1.00	504	2.70	2.70	1.00	528	2.60	2.60	1.00	552
31	20	3.06	3.06	1.00	504	2.94	2.94	1.00	534	2.85	2.85	1.00	546	2.75	2.75	1.00	570
31	22	3.19	2.87	0.90	522	3.08	2.77	0.90	555	3.00	2.70	0.90	570	2.88	2.59	0.90	594
31	24	3.35	2.61	0.78	546	3.23	2.52	0.78	576	3.15	2.46	0.78	594	3.05	2.38	0.78	624
31	26	3.45	2.28	0.66	576	3.35	2.21	0.66	606	3.30	2.18	0.66	624	3.20	2.11	0.66	642
32	18	2.94	2.94	1.00	480	2.81	2.81	1.00	504	2.70	2.70	1.00	528	2.60	2.60	1.00	552
32	20	3.06	3.06	1.00	504	2.94	2.94	1.00	534	2.85	2.85	1.00	546	2.75	2.75	1.00	570
32	22	3.19	3.00	0.94	522	3.08	2.89	0.94	555	3.00	2.82	0.94	570	2.88	2.70	0.94	594
32	24	3.35	2.75	0.82	546	3.23	2.64	0.82	576	3.15	2.58	0.82	594	3.05	2.50	0.82	624
32	26	3.45	2.42	0.70	576	3.35	2.35	0.70	606	3.30	2.31	0.70	624	3.20	2.24	0.70	642

NOTE Q : Total capacity (kW) SHF : Sensible heat factor DB : Dry-bulb temperature
SHC : Sensible heat capacity (kW) INPUT : Total power input (W) WB : Wet-bulb temperature

PERFORMANCE DATA COOL operation at Rated frequency

MUZ-AY25VG MUZ-AY25VGH

CAPACITY: 2.5 kW SHF: 0.92 INPUT: 600 W

INDOOR DB (°C)	INDOOR WB (°C)	OUTDOOR DB (°C)											
		35				40				46			
		Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	2.45	1.81	0.74	588	2.25	1.67	0.74	624	2.08	1.54	0.74	648
21	20	2.58	1.60	0.62	612	2.40	1.49	0.62	642	2.23	1.38	0.62	678
22	18	2.45	1.91	0.78	588	2.25	1.76	0.78	624	2.08	1.62	0.78	648
22	20	2.58	1.70	0.66	612	2.40	1.58	0.66	642	2.23	1.47	0.66	678
22	22	2.73	1.47	0.54	636	2.55	1.38	0.54	672	2.38	1.28	0.54	696
23	18	2.45	2.01	0.82	588	2.25	1.85	0.82	624	2.08	1.70	0.82	648
23	20	2.58	1.80	0.70	612	2.40	1.68	0.70	642	2.23	1.56	0.70	678
23	22	2.73	1.58	0.58	636	2.55	1.48	0.58	672	2.38	1.38	0.58	696
24	18	2.45	2.11	0.86	588	2.25	1.94	0.86	624	2.08	1.78	0.86	648
24	20	2.58	1.91	0.74	612	2.40	1.78	0.74	642	2.23	1.65	0.74	678
24	22	2.73	1.69	0.62	636	2.55	1.58	0.62	672	2.38	1.47	0.62	696
24	24	2.88	1.44	0.50	660	2.70	1.35	0.50	690	2.55	1.28	0.50	720
25	18	2.45	2.21	0.90	588	2.25	2.03	0.90	624	2.08	1.87	0.9	648
25	20	2.58	2.01	0.78	612	2.40	1.87	0.78	642	2.23	1.74	0.78	678
25	22	2.73	1.80	0.66	636	2.55	1.68	0.66	672	2.38	1.57	0.66	696
25	24	2.88	1.55	0.54	660	2.70	1.46	0.54	690	2.55	1.38	0.54	720
26	18	2.45	2.30	0.94	588	2.25	2.12	0.94	624	2.08	1.95	0.94	648
26	20	2.58	2.11	0.82	612	2.40	1.97	0.82	642	2.23	1.82	0.82	678
26	22	2.73	1.91	0.70	636	2.55	1.79	0.70	672	2.38	1.66	0.70	696
26	24	2.88	1.67	0.58	660	2.70	1.57	0.58	690	2.55	1.48	0.58	720
26	26	3.03	1.39	0.46	684	2.85	1.31	0.46	714	2.68	1.23	0.46	744
27	18	2.45	2.40	0.98	588	2.25	2.21	0.98	624	2.08	2.03	0.98	648
27	20	2.58	2.21	0.86	612	2.40	2.06	0.86	642	2.23	1.91	0.86	678
27	22	2.73	2.02	0.74	636	2.55	1.89	0.74	672	2.38	1.76	0.74	696
27	24	2.88	1.78	0.62	660	2.70	1.67	0.62	690	2.55	1.58	0.62	720
27	26	3.03	1.51	0.50	684	2.85	1.43	0.50	714	2.68	1.34	0.50	744
28	18	2.45	2.45	1.00	588	2.25	2.25	1.00	624	2.08	2.08	1.00	648
28	20	2.58	2.32	0.90	612	2.40	2.16	0.90	642	2.23	2.00	0.90	678
28	22	2.73	2.13	0.78	636	2.55	1.99	0.78	672	2.38	1.85	0.78	696
28	24	2.88	1.90	0.66	660	2.70	1.78	0.66	690	2.55	1.68	0.66	720
28	26	3.03	1.63	0.54	684	2.85	1.54	0.54	714	2.68	1.44	0.54	744
29	18	2.45	2.45	1.00	588	2.25	2.25	1.00	624	2.08	2.08	1.00	648
29	20	2.58	2.42	0.94	612	2.40	2.26	0.94	642	2.23	2.09	0.94	678
29	22	2.73	2.23	0.82	636	2.55	2.09	0.82	672	2.38	1.95	0.82	696
29	24	2.88	2.01	0.70	660	2.70	1.89	0.70	690	2.55	1.79	0.70	720
29	26	3.03	1.75	0.58	684	2.85	1.65	0.58	714	2.68	1.55	0.58	744
30	18	2.45	2.45	1.00	588	2.25	2.25	1.00	624	2.08	2.08	1.00	648
30	20	2.58	2.52	0.98	612	2.40	2.35	0.98	642	2.23	2.18	0.98	678
30	22	2.73	2.34	0.86	636	2.55	2.19	0.86	672	2.38	2.04	0.86	696
30	24	2.88	2.13	0.74	660	2.70	2.00	0.74	690	2.55	1.89	0.74	720
30	26	3.03	1.88	0.62	684	2.85	1.77	0.62	714	2.68	1.66	0.62	744
31	18	2.45	2.45	1.00	588	2.25	2.25	1.00	624	2.08	2.08	1.00	648
31	20	2.58	2.58	1.00	612	2.40	2.40	1.00	642	2.23	2.23	1.00	678
31	22	2.73	2.45	0.90	636	2.55	2.30	0.90	672	2.38	2.14	0.90	696
31	24	2.88	2.24	0.78	660	2.70	2.11	0.78	690	2.55	1.99	0.78	720
31	26	3.03	2.00	0.66	684	2.85	1.88	0.66	714	2.68	1.77	0.66	744
32	18	2.45	2.45	1.00	588	2.25	2.25	1.00	624	2.08	2.08	1.00	648
32	20	2.58	2.58	1.00	612	2.40	2.40	1.00	642	2.23	2.23	1.00	678
32	22	2.73	2.56	0.94	636	2.55	2.40	0.94	672	2.38	2.23	0.94	696
32	24	2.88	2.36	0.82	660	2.70	2.21	0.82	690	2.55	2.09	0.82	720
32	26	3.03	2.12	0.70	684	2.85	2.00	0.70	714	2.68	1.87	0.70	744

NOTE Q : Total capacity (kW) SHF : Sensible heat factor DB : Dry-bulb temperature
SHC : Sensible heat capacity (kW) INPUT : Total power input (W) WB : Wet-bulb temperature

PERFORMANCE DATA COOL operation at Rated frequency

MUZ-AY35VG MUZ-AY35VGH

CAPACITY: 3.5 kW SHF: 0.88 INPUT: 990 W

INDOOR DB (°C)	INDOOR WB (°C)	OUTDOOR DB (°C)															
		21				25				27				30			
		Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	4.11	2.88	0.70	792	3.94	2.76	0.70	832	3.78	2.65	0.70	871	3.64	2.55	0.70	911
21	20	4.29	2.49	0.58	832	4.11	2.39	0.58	881	3.99	2.31	0.58	901	3.85	2.23	0.58	941
22	18	4.11	3.04	0.74	792	3.94	2.91	0.74	832	3.78	2.80	0.74	871	3.64	2.69	0.74	911
22	20	4.29	2.66	0.62	832	4.11	2.55	0.62	881	3.99	2.47	0.62	901	3.85	2.39	0.62	941
22	22	4.46	2.23	0.50	861	4.31	2.15	0.50	916	4.20	2.10	0.50	941	4.03	2.01	0.50	980
23	18	4.11	3.21	0.78	792	3.94	3.07	0.78	832	3.78	2.95	0.78	871	3.64	2.84	0.78	911
23	20	4.29	2.83	0.66	832	4.11	2.71	0.66	881	3.99	2.63	0.66	901	3.85	2.54	0.66	941
23	22	4.46	2.41	0.54	861	4.31	2.32	0.54	916	4.20	2.27	0.54	941	4.03	2.17	0.54	980
24	18	4.11	3.37	0.82	792	3.94	3.23	0.82	832	3.78	3.10	0.82	871	3.64	2.98	0.82	911
24	20	4.29	3.00	0.70	832	4.11	2.88	0.70	881	3.99	2.79	0.70	901	3.85	2.70	0.70	941
24	22	4.46	2.59	0.58	861	4.31	2.50	0.58	916	4.20	2.44	0.58	941	4.03	2.33	0.58	980
24	24	4.69	2.16	0.46	901	4.52	2.08	0.46	950	4.41	2.03	0.46	980	4.27	1.96	0.46	1030
25	18	4.11	3.54	0.86	792	3.94	3.39	0.86	832	3.78	3.25	0.86	871	3.64	3.13	0.86	911
25	20	4.29	3.17	0.74	832	4.11	3.04	0.74	881	3.99	2.95	0.74	901	3.85	2.85	0.74	941
25	22	4.46	2.77	0.62	861	4.31	2.67	0.62	916	4.20	2.60	0.62	941	4.03	2.50	0.62	980
25	24	4.69	2.35	0.50	901	4.52	2.26	0.50	950	4.41	2.21	0.50	980	4.27	2.14	0.50	1030
26	18	4.11	3.70	0.90	792	3.94	3.54	0.90	832	3.78	3.40	0.90	871	3.64	3.28	0.90	911
26	20	4.29	3.34	0.78	832	4.11	3.21	0.78	881	3.99	3.11	0.78	901	3.85	3.00	0.78	941
26	22	4.46	2.95	0.66	861	4.31	2.84	0.66	916	4.20	2.77	0.66	941	4.03	2.66	0.66	980
26	24	4.69	2.53	0.54	901	4.52	2.44	0.54	950	4.41	2.38	0.54	980	4.27	2.31	0.54	1030
26	26	4.83	2.03	0.42	950	4.69	1.97	0.42	1000	4.62	1.94	0.42	1030	4.48	1.88	0.42	1059
27	18	4.11	3.87	0.94	792	3.94	3.70	0.94	832	3.78	3.55	0.94	871	3.64	3.42	0.94	911
27	20	4.29	3.52	0.82	832	4.11	3.37	0.82	881	3.99	3.27	0.82	901	3.85	3.16	0.82	941
27	22	4.46	3.12	0.70	861	4.31	3.01	0.70	916	4.20	2.94	0.70	941	4.03	2.82	0.70	980
27	24	4.69	2.72	0.58	901	4.52	2.62	0.58	950	4.41	2.56	0.58	980	4.27	2.48	0.58	1030
27	26	4.83	2.22	0.46	950	4.69	2.16	0.46	1000	4.62	2.13	0.46	1030	4.48	2.06	0.46	1059
28	18	4.11	4.03	0.98	792	3.94	3.86	0.98	832	3.78	3.70	0.98	871	3.64	3.57	0.98	911
28	20	4.29	3.69	0.86	832	4.11	3.54	0.86	881	3.99	3.43	0.86	901	3.85	3.31	0.86	941
28	22	4.46	3.30	0.74	861	4.31	3.19	0.74	916	4.20	3.11	0.74	941	4.03	2.98	0.74	980
28	24	4.69	2.91	0.62	901	4.52	2.80	0.62	950	4.41	2.73	0.62	980	4.27	2.65	0.62	1030
28	26	4.83	2.42	0.50	950	4.69	2.35	0.50	1000	4.62	2.31	0.50	1030	4.48	2.24	0.50	1059
29	18	4.11	4.11	1.00	792	3.94	3.94	1.00	832	3.78	3.78	1.00	871	3.64	3.64	1.00	911
29	20	4.29	3.86	0.90	832	4.11	3.70	0.90	881	3.99	3.59	0.90	901	3.85	3.47	0.90	941
29	22	4.46	3.48	0.78	861	4.31	3.36	0.78	916	4.20	3.28	0.78	941	4.03	3.14	0.78	980
29	24	4.69	3.10	0.66	901	4.52	2.98	0.66	950	4.41	2.91	0.66	980	4.27	2.82	0.66	1030
29	26	4.83	2.61	0.54	950	4.69	2.53	0.54	1000	4.62	2.49	0.54	1030	4.48	2.42	0.54	1059
30	18	4.11	4.11	1.00	792	3.94	3.94	1.00	832	3.78	3.78	1.00	871	3.64	3.64	1.00	911
30	20	4.29	4.03	0.94	832	4.11	3.87	0.94	881	3.99	3.75	0.94	901	3.85	3.62	0.94	941
30	22	4.46	3.66	0.82	861	4.31	3.53	0.82	916	4.20	3.44	0.82	941	4.03	3.30	0.82	980
30	24	4.69	3.28	0.70	901	4.52	3.16	0.70	950	4.41	3.09	0.70	980	4.27	2.99	0.70	1030
30	26	4.83	2.80	0.58	950	4.69	2.72	0.58	1000	4.62	2.68	0.58	1030	4.48	2.60	0.58	1059
31	18	4.11	4.11	1.00	792	3.94	3.94	1.00	832	3.78	3.78	1.00	871	3.64	3.64	1.00	911
31	20	4.29	4.20	0.98	832	4.11	4.03	0.98	881	3.99	3.91	0.98	901	3.85	3.77	0.98	941
31	22	4.46	3.84	0.86	861	4.31	3.70	0.86	916	4.20	3.61	0.86	941	4.03	3.46	0.86	980
31	24	4.69	3.47	0.74	901	4.52	3.34	0.74	950	4.41	3.26	0.74	980	4.27	3.16	0.74	1030
31	26	4.83	2.99	0.62	950	4.69	2.91	0.62	1000	4.62	2.86	0.62	1030	4.48	2.78	0.62	1059
32	18	4.11	4.11	1.00	792	3.94	3.94	1.00	832	3.78	3.78	1.00	871	3.64	3.64	1.00	911
32	20	4.29	4.29	1.00	832	4.11	4.11	1.00	881	3.99	3.99	1.00	901	3.85	3.85	1.00	941
32	22	4.46	4.02	0.90	861	4.31	3.87	0.90	916	4.20	3.78	0.90	941	4.03	3.62	0.90	980
32	24	4.69	3.66	0.78	901	4.52	3.52	0.78	950	4.41	3.44	0.78	980	4.27	3.33	0.78	1030
32	26	4.83	3.19	0.66	950	4.69	3.10	0.66	1000	4.62	3.05	0.66	1030	4.48	2.96	0.66	1059

NOTE Q : Total capacity (kW) SHF : Sensible heat factor DB : Dry-bulb temperature
SHC : Sensible heat capacity (kW) INPUT : Total power input (W) WB : Wet-bulb temperature

PERFORMANCE DATA COOL operation at Rated frequency

MUZ-AY35VG MUZ-AY35VGH

CAPACITY: 3.5 kW SHF: 0.88 INPUT: 990 W

INDOOR DB (°C)	INDOOR WB (°C)	OUTDOOR DB (°C)											
		35				40				46			
		Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	3.43	2.40	0.70	970	3.15	2.21	0.70	1030	2.91	2.03	0.70	1069
21	20	3.61	2.09	0.58	1010	3.36	1.95	0.58	1059	3.12	1.81	0.58	1119
22	18	3.43	2.54	0.74	970	3.15	2.33	0.74	1030	2.91	2.15	0.74	1069
22	20	3.61	2.24	0.62	1010	3.36	2.08	0.62	1059	3.12	1.93	0.62	1119
22	22	3.82	1.91	0.50	1049	3.57	1.79	0.50	1109	3.33	1.66	0.50	1148
23	18	3.43	2.68	0.78	970	3.15	2.46	0.78	1030	2.91	2.27	0.78	1069
23	20	3.61	2.38	0.66	1010	3.36	2.22	0.66	1059	3.12	2.06	0.66	1119
23	22	3.82	2.06	0.54	1049	3.57	1.93	0.54	1109	3.33	1.80	0.54	1148
24	18	3.43	2.81	0.82	970	3.15	2.58	0.82	1030	2.91	2.38	0.82	1069
24	20	3.61	2.52	0.70	1010	3.36	2.35	0.70	1059	3.12	2.18	0.70	1119
24	22	3.82	2.21	0.58	1049	3.57	2.07	0.58	1109	3.33	1.93	0.58	1148
24	24	4.03	1.85	0.46	1089	3.78	1.74	0.46	1139	3.57	1.64	0.46	1188
25	18	3.43	2.95	0.86	970	3.15	2.71	0.86	1030	2.91	2.50	0.86	1069
25	20	3.61	2.67	0.74	1010	3.36	2.49	0.74	1059	3.12	2.31	0.74	1119
25	22	3.82	2.37	0.62	1049	3.57	2.21	0.62	1109	3.33	2.06	0.62	1148
25	24	4.03	2.01	0.50	1089	3.78	1.89	0.50	1139	3.57	1.79	0.50	1188
26	18	3.43	3.09	0.90	970	3.15	2.84	0.90	1030	2.91	2.61	0.90	1069
26	20	3.61	2.81	0.78	1010	3.36	2.62	0.78	1059	3.12	2.43	0.78	1119
26	22	3.82	2.52	0.66	1049	3.57	2.36	0.66	1109	3.33	2.19	0.66	1148
26	24	4.03	2.17	0.54	1089	3.78	2.04	0.54	1139	3.57	1.93	0.54	1188
26	26	4.24	1.78	0.42	1129	3.99	1.68	0.42	1178	3.75	1.57	0.42	1228
27	18	3.43	3.22	0.94	970	3.15	2.96	0.94	1030	2.91	2.73	0.94	1069
27	20	3.61	2.96	0.82	1010	3.36	2.76	0.82	1059	3.12	2.55	0.82	1119
27	22	3.82	2.67	0.70	1049	3.57	2.50	0.70	1109	3.33	2.33	0.70	1148
27	24	4.03	2.33	0.58	1089	3.78	2.19	0.58	1139	3.57	2.07	0.58	1188
27	26	4.24	1.95	0.46	1129	3.99	1.84	0.46	1178	3.75	1.72	0.46	1228
28	18	3.43	3.36	0.98	970	3.15	3.09	0.98	1030	2.91	2.85	0.98	1069
28	20	3.61	3.10	0.86	1010	3.36	2.89	0.86	1059	3.12	2.68	0.86	1119
28	22	3.82	2.82	0.74	1049	3.57	2.64	0.74	1109	3.33	2.46	0.74	1148
28	24	4.03	2.50	0.62	1089	3.78	2.34	0.62	1139	3.57	2.21	0.62	1188
28	26	4.24	2.12	0.50	1129	3.99	2.00	0.50	1178	3.75	1.87	0.50	1228
29	18	3.43	3.43	1.00	970	3.15	3.15	1.00	1030	2.91	2.91	1.00	1069
29	20	3.61	3.24	0.90	1010	3.36	3.02	0.90	1059	3.12	2.80	0.90	1119
29	22	3.82	2.98	0.78	1049	3.57	2.78	0.78	1109	3.33	2.59	0.78	1148
29	24	4.03	2.66	0.66	1089	3.78	2.49	0.66	1139	3.57	2.36	0.66	1188
29	26	4.24	2.29	0.54	1129	3.99	2.15	0.54	1178	3.75	2.02	0.54	1228
30	18	3.43	3.43	1.00	970	3.15	3.15	1.00	1030	2.91	2.91	1.00	1069
30	20	3.61	3.39	0.94	1010	3.36	3.16	0.94	1059	3.12	2.93	0.94	1119
30	22	3.82	3.13	0.82	1049	3.57	2.93	0.82	1109	3.33	2.73	0.82	1148
30	24	4.03	2.82	0.70	1089	3.78	2.65	0.70	1139	3.57	2.50	0.70	1188
30	26	4.24	2.46	0.58	1129	3.99	2.31	0.58	1178	3.75	2.17	0.58	1228
31	18	3.43	3.43	1.00	970	3.15	3.15	1.00	1030	2.91	2.91	1.00	1069
31	20	3.61	3.53	0.98	1010	3.36	3.29	0.98	1059	3.12	3.05	0.98	1119
31	22	3.82	3.28	0.86	1049	3.57	3.07	0.86	1109	3.33	2.86	0.86	1148
31	24	4.03	2.98	0.74	1089	3.78	2.80	0.74	1139	3.57	2.64	0.74	1188
31	26	4.24	2.63	0.62	1129	3.99	2.47	0.62	1178	3.75	2.32	0.62	1228
32	18	3.43	3.43	1.00	970	3.15	3.15	1.00	1030	2.91	2.91	1.00	1069
32	20	3.61	3.61	1.00	1010	3.36	3.36	1.00	1059	3.12	3.12	1.00	1119
32	22	3.82	3.43	0.90	1049	3.57	3.21	0.90	1109	3.33	2.99	0.90	1148
32	24	4.03	3.14	0.78	1089	3.78	2.95	0.78	1139	3.57	2.78	0.78	1188
32	26	4.24	2.80	0.66	1129	3.99	2.63	0.66	1178	3.75	2.47	0.66	1228

NOTE Q : Total capacity (kW) SHF : Sensible heat factor DB : Dry-bulb temperature
SHC : Sensible heat capacity (kW) INPUT : Total power input (W) WB : Wet-bulb temperature

PERFORMANCE DATA COOL operation at Rated frequency

MUZ-AY42VG MUZ-AY42VGH

CAPACITY: 4.2 kW SHF: 0.77 INPUT: 1300 W

INDOOR DB (°C)	INDOOR WB (°C)	OUTDOOR DB (°C)															
		21				25				27				30			
		Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	4.94	2.91	0.59	1040	4.73	2.79	0.59	1092	4.54	2.68	0.59	1144	4.37	2.58	0.59	1196
21	20	5.15	2.42	0.47	1092	4.94	2.32	0.47	1157	4.79	2.25	0.47	1183	4.62	2.17	0.47	1235
22	18	4.94	3.11	0.63	1040	4.73	2.98	0.63	1092	4.54	2.86	0.63	1144	4.37	2.75	0.63	1196
22	20	5.15	2.62	0.51	1092	4.94	2.52	0.51	1157	4.79	2.44	0.51	1183	4.62	2.36	0.51	1235
22	22	5.36	2.09	0.39	1131	5.17	2.01	0.39	1203	5.04	1.97	0.39	1235	4.83	1.88	0.39	1287
23	18	4.94	3.31	0.67	1040	4.73	3.17	0.67	1092	4.54	3.04	0.67	1144	4.37	2.93	0.67	1196
23	20	5.15	2.83	0.55	1092	4.94	2.71	0.55	1157	4.79	2.63	0.55	1183	4.62	2.54	0.55	1235
23	22	5.36	2.30	0.43	1131	5.17	2.22	0.43	1203	5.04	2.17	0.43	1235	4.83	2.08	0.43	1287
24	18	4.94	3.50	0.71	1040	4.73	3.35	0.71	1092	4.54	3.22	0.71	1144	4.37	3.10	0.71	1196
24	20	5.15	3.04	0.59	1092	4.94	2.91	0.59	1157	4.79	2.82	0.59	1183	4.62	2.73	0.59	1235
24	22	5.36	2.52	0.47	1131	5.17	2.43	0.47	1203	5.04	2.37	0.47	1235	4.83	2.27	0.47	1287
24	24	5.63	1.97	0.35	1183	5.42	1.90	0.35	1248	5.29	1.85	0.35	1287	5.12	1.79	0.35	1352
25	18	4.94	3.70	0.75	1040	4.73	3.54	0.75	1092	4.54	3.40	0.75	1144	4.37	3.28	0.75	1196
25	20	5.15	3.24	0.63	1092	4.94	3.11	0.63	1157	4.79	3.02	0.63	1183	4.62	2.91	0.63	1235
25	22	5.36	2.73	0.51	1131	5.17	2.63	0.51	1203	5.04	2.57	0.51	1235	4.83	2.46	0.51	1287
25	24	5.63	2.19	0.39	1183	5.42	2.11	0.39	1248	5.29	2.06	0.39	1287	5.12	2.00	0.39	1352
26	18	4.94	3.90	0.79	1040	4.73	3.73	0.79	1092	4.54	3.58	0.79	1144	4.37	3.45	0.79	1196
26	20	5.15	3.45	0.67	1092	4.94	3.31	0.67	1157	4.79	3.21	0.67	1183	4.62	3.10	0.67	1235
26	22	5.36	2.95	0.55	1131	5.17	2.84	0.55	1203	5.04	2.77	0.55	1235	4.83	2.66	0.55	1287
26	24	5.63	2.42	0.43	1183	5.42	2.33	0.43	1248	5.29	2.28	0.43	1287	5.12	2.20	0.43	1352
26	26	5.80	1.80	0.31	1248	5.63	1.74	0.31	1313	5.54	1.72	0.31	1352	5.38	1.67	0.31	1391
27	18	4.94	4.10	0.83	1040	4.73	3.92	0.83	1092	4.54	3.76	0.83	1144	4.37	3.63	0.83	1196
27	20	5.15	3.65	0.71	1092	4.94	3.50	0.71	1157	4.79	3.40	0.71	1183	4.62	3.28	0.71	1235
27	22	5.36	3.16	0.59	1131	5.17	3.05	0.59	1203	5.04	2.97	0.59	1235	4.83	2.85	0.59	1287
27	24	5.63	2.65	0.47	1183	5.42	2.55	0.47	1248	5.29	2.49	0.47	1287	5.12	2.41	0.47	1352
27	26	5.80	2.03	0.35	1248	5.63	1.97	0.35	1313	5.54	1.94	0.35	1352	5.38	1.88	0.35	1391
28	18	4.94	4.29	0.87	1040	4.73	4.11	0.87	1092	4.54	3.95	0.87	1144	4.37	3.80	0.87	1196
28	20	5.15	3.86	0.75	1092	4.94	3.70	0.75	1157	4.79	3.59	0.75	1183	4.62	3.47	0.75	1235
28	22	5.36	3.37	0.63	1131	5.17	3.25	0.63	1203	5.04	3.18	0.63	1235	4.83	3.04	0.63	1287
28	24	5.63	2.87	0.51	1183	5.42	2.76	0.51	1248	5.29	2.70	0.51	1287	5.12	2.61	0.51	1352
28	26	5.80	2.26	0.39	1248	5.63	2.19	0.39	1313	5.54	2.16	0.39	1352	5.38	2.10	0.39	1391
29	18	4.94	4.49	0.91	1040	4.73	4.30	0.91	1092	4.54	4.13	0.91	1144	4.37	3.97	0.91	1196
29	20	5.15	4.06	0.79	1092	4.94	3.90	0.79	1157	4.79	3.78	0.79	1183	4.62	3.65	0.79	1235
29	22	5.36	3.59	0.67	1131	5.17	3.46	0.67	1203	5.04	3.38	0.67	1235	4.83	3.24	0.67	1287
29	24	5.63	3.10	0.55	1183	5.42	2.98	0.55	1248	5.29	2.91	0.55	1287	5.12	2.82	0.55	1352
29	26	5.80	2.49	0.43	1248	5.63	2.42	0.43	1313	5.54	2.38	0.43	1352	5.38	2.31	0.43	1391
30	18	4.94	4.69	0.95	1040	4.73	4.49	0.95	1092	4.54	4.31	0.95	1144	4.37	4.15	0.95	1196
30	20	5.15	4.27	0.83	1092	4.94	4.10	0.83	1157	4.79	3.97	0.83	1183	4.62	3.83	0.83	1235
30	22	5.36	3.80	0.71	1131	5.17	3.67	0.71	1203	5.04	3.58	0.71	1235	4.83	3.43	0.71	1287
30	24	5.63	3.32	0.59	1183	5.42	3.20	0.59	1248	5.29	3.12	0.59	1287	5.12	3.02	0.59	1352
30	26	5.80	2.72	0.47	1248	5.63	2.65	0.47	1313	5.54	2.61	0.47	1352	5.38	2.53	0.47	1391
31	18	4.94	4.89	0.99	1040	4.73	4.68	0.99	1092	4.54	4.49	0.99	1144	4.37	4.32	0.99	1196
31	20	5.15	4.48	0.87	1092	4.94	4.29	0.87	1157	4.79	4.17	0.87	1183	4.62	4.02	0.87	1235
31	22	5.36	4.02	0.75	1131	5.17	3.87	0.75	1203	5.04	3.78	0.75	1235	4.83	3.62	0.75	1287
31	24	5.63	3.55	0.63	1183	5.42	3.41	0.63	1248	5.29	3.33	0.63	1287	5.12	3.23	0.63	1352
31	26	5.80	2.96	0.51	1248	5.63	2.87	0.51	1313	5.54	2.83	0.51	1352	5.38	2.74	0.51	1391
32	18	4.94	4.94	1.00	1040	4.73	4.73	1.00	1092	4.54	4.54	1.00	1144	4.37	4.37	1.00	1196
32	20	5.15	4.68	0.91	1092	4.94	4.49	0.91	1157	4.79	4.36	0.91	1183	4.62	4.20	0.91	1235
32	22	5.36	4.23	0.79	1131	5.17	4.08	0.79	1203	5.04	3.98	0.79	1235	4.83	3.82	0.79	1287
32	24	5.63	3.77	0.67	1183	5.42	3.63	0.67	1248	5.29	3.55	0.67	1287	5.12	3.43	0.67	1352
32	26	5.80	3.19	0.55	1248	5.63	3.10	0.55	1313	5.54	3.05	0.55	1352	5.38	2.96	0.55	1391

NOTE Q : Total capacity (kW) SHF : Sensible heat factor DB : Dry-bulb temperature
SHC : Sensible heat capacity (kW) INPUT : Total power input (W) WB : Wet-bulb temperature

PERFORMANCE DATA COOL operation at Rated frequency

MUZ-AY42VG MUZ-AY42VGH

CAPACITY: 4.2 kW SHF: 0.77 INPUT: 1300 W

INDOOR DB (°C)	INDOOR WB (°C)	OUTDOOR DB (°C)											
		35				40				46			
		Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	4.12	2.43	0.59	1274	3.78	2.23	0.59	1352	3.49	2.06	0.59	1404
21	20	4.33	2.03	0.47	1326	4.03	1.90	0.47	1391	3.74	1.76	0.47	1469
22	18	4.12	2.59	0.63	1274	3.78	2.38	0.63	1352	3.49	2.20	0.63	1404
22	20	4.33	2.21	0.51	1326	4.03	2.06	0.51	1391	3.74	1.91	0.51	1469
22	22	4.58	1.79	0.39	1378	4.28	1.67	0.39	1456	3.99	1.56	0.39	1508
23	18	4.12	2.76	0.67	1274	3.78	2.53	0.67	1352	3.49	2.34	0.67	1404
23	20	4.33	2.38	0.55	1326	4.03	2.22	0.55	1391	3.74	2.06	0.55	1469
23	22	4.58	1.97	0.43	1378	4.28	1.84	0.43	1456	3.99	1.72	0.43	1508
24	18	4.12	2.92	0.71	1274	3.78	2.68	0.71	1352	3.49	2.48	0.71	1404
24	20	4.33	2.55	0.59	1326	4.03	2.38	0.59	1391	3.74	2.21	0.59	1469
24	22	4.58	2.15	0.47	1378	4.28	2.01	0.47	1456	3.99	1.88	0.47	1508
24	24	4.83	1.69	0.35	1430	4.54	1.59	0.35	1495	4.28	1.50	0.35	1560
25	18	4.12	3.09	0.75	1274	3.78	2.84	0.75	1352	3.49	2.61	0.75	1404
25	20	4.33	2.73	0.63	1326	4.03	2.54	0.63	1391	3.74	2.35	0.63	1469
25	22	4.58	2.33	0.51	1378	4.28	2.18	0.51	1456	3.99	2.03	0.51	1508
25	24	4.83	1.88	0.39	1430	4.54	1.77	0.39	1495	4.28	1.67	0.39	1560
26	18	4.12	3.25	0.79	1274	3.78	2.99	0.79	1352	3.49	2.75	0.79	1404
26	20	4.33	2.90	0.67	1326	4.03	2.70	0.67	1391	3.74	2.50	0.67	1469
26	22	4.58	2.52	0.55	1378	4.28	2.36	0.55	1456	3.99	2.19	0.55	1508
26	24	4.83	2.08	0.43	1430	4.54	1.95	0.43	1495	4.28	1.84	0.43	1560
26	26	5.08	1.58	0.31	1482	4.79	1.48	0.31	1547	4.49	1.39	0.31	1612
27	18	4.12	3.42	0.83	1274	3.78	3.14	0.83	1352	3.49	2.89	0.83	1404
27	20	4.33	3.07	0.71	1326	4.03	2.86	0.71	1391	3.74	2.65	0.71	1469
27	22	4.58	2.70	0.59	1378	4.28	2.53	0.59	1456	3.99	2.35	0.59	1508
27	24	4.83	2.27	0.47	1430	4.54	2.13	0.47	1495	4.28	2.01	0.47	1560
27	26	5.08	1.78	0.35	1482	4.79	1.68	0.35	1547	4.49	1.57	0.35	1612
28	18	4.12	3.58	0.87	1274	3.78	3.29	0.87	1352	3.49	3.03	0.87	1404
28	20	4.33	3.24	0.75	1326	4.03	3.02	0.75	1391	3.74	2.80	0.75	1469
28	22	4.58	2.88	0.63	1378	4.28	2.70	0.63	1456	3.99	2.51	0.63	1508
28	24	4.83	2.46	0.51	1430	4.54	2.31	0.51	1495	4.28	2.18	0.51	1560
28	26	5.08	1.98	0.39	1482	4.79	1.87	0.39	1547	4.49	1.75	0.39	1612
29	18	4.12	3.75	0.91	1274	3.78	3.44	0.91	1352	3.49	3.17	0.91	1404
29	20	4.33	3.42	0.79	1326	4.03	3.19	0.79	1391	3.74	2.95	0.79	1469
29	22	4.58	3.07	0.67	1378	4.28	2.87	0.67	1456	3.99	2.67	0.67	1508
29	24	4.83	2.66	0.55	1430	4.54	2.49	0.55	1495	4.28	2.36	0.55	1560
29	26	5.08	2.19	0.43	1482	4.79	2.06	0.43	1547	4.49	1.93	0.43	1612
30	18	4.12	3.91	0.95	1274	3.78	3.59	0.95	1352	3.49	3.31	0.95	1404
30	20	4.33	3.59	0.83	1326	4.03	3.35	0.83	1391	3.74	3.10	0.83	1469
30	22	4.58	3.25	0.71	1378	4.28	3.04	0.71	1456	3.99	2.83	0.71	1508
30	24	4.83	2.85	0.59	1430	4.54	2.68	0.59	1495	4.28	2.53	0.59	1560
30	26	5.08	2.39	0.47	1482	4.79	2.25	0.47	1547	4.49	2.11	0.47	1612
31	18	4.12	4.07	0.99	1274	3.78	3.74	0.99	1352	3.49	3.45	0.99	1404
31	20	4.33	3.76	0.87	1326	4.03	3.51	0.87	1391	3.74	3.25	0.87	1469
31	22	4.58	3.43	0.75	1378	4.28	3.21	0.75	1456	3.99	2.99	0.75	1508
31	24	4.83	3.04	0.63	1430	4.54	2.86	0.63	1495	4.28	2.70	0.63	1560
31	26	5.08	2.59	0.51	1482	4.79	2.44	0.51	1547	4.49	2.29	0.51	1612
32	18	4.12	4.12	1.00	1274	3.78	3.78	1.00	1352	3.49	3.49	1.00	1404
32	20	4.33	3.94	0.91	1326	4.03	3.67	0.91	1391	3.74	3.40	0.91	1469
32	22	4.58	3.62	0.79	1378	4.28	3.38	0.79	1456	3.99	3.15	0.79	1508
32	24	4.83	3.24	0.67	1430	4.54	3.04	0.67	1495	4.28	2.87	0.67	1560
32	26	5.08	2.80	0.55	1482	4.79	2.63	0.55	1547	4.49	2.47	0.55	1612

NOTE Q : Total capacity (kW) SHF : Sensible heat factor DB : Dry-bulb temperature
SHC : Sensible heat capacity (kW) INPUT : Total power input (W) WB : Wet-bulb temperature

PERFORMANCE DATA COOL operation at Rated frequency

MUZ-AY50VG MUZ-AY50VGH

CAPACITY: 5.0 kW SHF: 0.74 INPUT: 1540 W

INDOOR DB (°C)	INDOOR WB (°C)	OUTDOOR DB (°C)															
		21				25				27				30			
		Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	5.88	3.29	0.56	1232	5.63	3.15	0.56	1294	5.40	3.02	0.56	1355	5.20	2.91	0.56	1417
21	20	6.13	2.70	0.44	1294	5.88	2.59	0.44	1371	5.70	2.51	0.44	1401	5.50	2.42	0.44	1463
22	18	5.88	3.53	0.60	1232	5.63	3.38	0.60	1294	5.40	3.24	0.60	1355	5.20	3.12	0.60	1417
22	20	6.13	2.94	0.48	1294	5.88	2.82	0.48	1371	5.70	2.74	0.48	1401	5.50	2.64	0.48	1463
22	22	6.38	2.30	0.36	1340	6.15	2.21	0.36	1425	6.00	2.16	0.36	1463	5.75	2.07	0.36	1525
23	18	5.88	3.76	0.64	1232	5.63	3.60	0.64	1294	5.40	3.46	0.64	1355	5.20	3.33	0.64	1417
23	20	6.13	3.19	0.52	1294	5.88	3.06	0.52	1371	5.70	2.96	0.52	1401	5.50	2.86	0.52	1463
23	22	6.38	2.55	0.40	1340	6.15	2.46	0.40	1425	6.00	2.40	0.40	1463	5.75	2.30	0.40	1525
24	18	5.88	4.00	0.68	1232	5.63	3.83	0.68	1294	5.40	3.67	0.68	1355	5.20	3.54	0.68	1417
24	20	6.13	3.43	0.56	1294	5.88	3.29	0.56	1371	5.70	3.19	0.56	1401	5.50	3.08	0.56	1463
24	22	6.38	2.81	0.44	1340	6.15	2.71	0.44	1425	6.00	2.64	0.44	1463	5.75	2.53	0.44	1525
24	24	6.70	2.14	0.32	1401	6.45	2.06	0.32	1478	6.30	2.02	0.32	1525	6.10	1.95	0.32	1602
25	18	5.88	4.23	0.72	1232	5.63	4.05	0.72	1294	5.40	3.89	0.72	1355	5.20	3.74	0.72	1417
25	20	6.13	3.68	0.60	1294	5.88	3.53	0.60	1371	5.70	3.42	0.60	1401	5.50	3.30	0.60	1463
25	22	6.38	3.06	0.48	1340	6.15	2.95	0.48	1425	6.00	2.88	0.48	1463	5.75	2.76	0.48	1525
25	24	6.70	2.41	0.36	1401	6.45	2.32	0.36	1478	6.30	2.27	0.36	1525	6.10	2.20	0.36	1602
26	18	5.88	4.47	0.76	1232	5.63	4.28	0.76	1294	5.40	4.10	0.76	1355	5.20	3.95	0.76	1417
26	20	6.13	3.92	0.64	1294	5.88	3.76	0.64	1371	5.70	3.65	0.64	1401	5.50	3.52	0.64	1463
26	22	6.38	3.32	0.52	1340	6.15	3.20	0.52	1425	6.00	3.12	0.52	1463	5.75	2.99	0.52	1525
26	24	6.70	2.68	0.40	1401	6.45	2.58	0.40	1478	6.30	2.52	0.40	1525	6.10	2.44	0.40	1602
26	26	6.90	1.93	0.28	1478	6.70	1.88	0.28	1555	6.60	1.85	0.28	1602	6.40	1.79	0.28	1648
27	18	5.88	4.70	0.80	1232	5.63	4.50	0.80	1294	5.40	4.32	0.80	1355	5.20	4.16	0.80	1417
27	20	6.13	4.17	0.68	1294	5.88	4.00	0.68	1371	5.70	3.88	0.68	1401	5.50	3.74	0.68	1463
27	22	6.38	3.57	0.56	1340	6.15	3.44	0.56	1425	6.00	3.36	0.56	1463	5.75	3.22	0.56	1525
27	24	6.70	2.95	0.44	1401	6.45	2.84	0.44	1478	6.30	2.77	0.44	1525	6.10	2.68	0.44	1602
27	26	6.90	2.21	0.32	1478	6.70	2.14	0.32	1555	6.60	2.11	0.32	1602	6.40	2.05	0.32	1648
28	18	5.88	4.94	0.84	1232	5.63	4.73	0.84	1294	5.40	4.54	0.84	1355	5.20	4.37	0.84	1417
28	20	6.13	4.41	0.72	1294	5.88	4.23	0.72	1371	5.70	4.10	0.72	1401	5.50	3.96	0.72	1463
28	22	6.38	3.83	0.60	1340	6.15	3.69	0.60	1425	6.00	3.60	0.60	1463	5.75	3.45	0.60	1525
28	24	6.70	3.22	0.48	1401	6.45	3.10	0.48	1478	6.30	3.02	0.48	1525	6.10	2.93	0.48	1602
28	26	6.90	2.48	0.36	1478	6.70	2.41	0.36	1555	6.60	2.38	0.36	1602	6.40	2.30	0.36	1648
29	18	5.88	5.17	0.88	1232	5.63	4.95	0.88	1294	5.40	4.75	0.88	1355	5.20	4.58	0.88	1417
29	20	6.13	4.66	0.76	1294	5.88	4.47	0.76	1371	5.70	4.33	0.76	1401	5.50	4.18	0.76	1463
29	22	6.38	4.08	0.64	1340	6.15	3.94	0.64	1425	6.00	3.84	0.64	1463	5.75	3.68	0.64	1525
29	24	6.70	3.48	0.52	1401	6.45	3.35	0.52	1478	6.30	3.28	0.52	1525	6.10	3.17	0.52	1602
29	26	6.90	2.76	0.40	1478	6.70	2.68	0.40	1555	6.60	2.64	0.40	1602	6.40	2.56	0.40	1648
30	18	5.88	5.41	0.92	1232	5.63	5.18	0.92	1294	5.40	4.97	0.92	1355	5.20	4.78	0.92	1417
30	20	6.13	4.90	0.80	1294	5.88	4.70	0.80	1371	5.70	4.56	0.80	1401	5.50	4.40	0.80	1463
30	22	6.38	4.34	0.68	1340	6.15	4.18	0.68	1425	6.00	4.08	0.68	1463	5.75	3.91	0.68	1525
30	24	6.70	3.75	0.56	1401	6.45	3.61	0.56	1478	6.30	3.53	0.56	1525	6.10	3.42	0.56	1602
30	26	6.90	3.04	0.44	1478	6.70	2.95	0.44	1555	6.60	2.90	0.44	1602	6.40	2.82	0.44	1648
31	18	5.88	5.64	0.96	1232	5.63	5.40	0.96	1294	5.40	5.18	0.96	1355	5.20	4.99	0.96	1417
31	20	6.13	5.15	0.84	1294	5.88	4.94	0.84	1371	5.70	4.79	0.84	1401	5.50	4.62	0.84	1463
31	22	6.38	4.59	0.72	1340	6.15	4.43	0.72	1425	6.00	4.32	0.72	1463	5.75	4.14	0.72	1525
31	24	6.70	4.02	0.60	1401	6.45	3.87	0.60	1478	6.30	3.78	0.60	1525	6.10	3.66	0.60	1602
31	26	6.90	3.31	0.48	1478	6.70	3.22	0.48	1555	6.60	3.17	0.48	1602	6.40	3.07	0.48	1648
32	18	5.88	5.88	1.00	1232	5.63	5.63	1.00	1294	5.40	5.40	1.00	1355	5.20	5.20	1.00	1417
32	20	6.13	5.39	0.88	1294	5.88	5.17	0.88	1371	5.70	5.02	0.88	1401	5.50	4.84	0.88	1463
32	22	6.38	4.85	0.76	1340	6.15	4.67	0.76	1425	6.00	4.56	0.76	1463	5.75	4.37	0.76	1525
32	24	6.70	4.29	0.64	1401	6.45	4.13	0.64	1478	6.30	4.03	0.64	1525	6.10	3.90	0.64	1602
32	26	6.90	3.59	0.52	1478	6.70	3.48	0.52	1555	6.60	3.43	0.52	1602	6.40	3.33	0.52	1648

NOTE Q : Total capacity (kW) SHF : Sensible heat factor DB : Dry-bulb temperature
SHC : Sensible heat capacity (kW) INPUT : Total power input (W) WB : Wet-bulb temperature

PERFORMANCE DATA COOL operation at Rated frequency

MUZ-AY50VG MUZ-AY50VGH

CAPACITY: 5.0 kW SHF: 0.74 INPUT: 1540 W

INDOOR DB (°C)	INDOOR WB (°C)	OUTDOOR DB (°C)											
		35				40				46			
		Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT	Q	SHC	SHF	INPUT
21	18	4.90	2.74	0.56	1509	4.50	2.52	0.56	1602	4.15	2.32	0.56	1663
21	20	5.15	2.27	0.44	1571	4.80	2.11	0.44	1648	4.45	1.96	0.44	1740
22	18	4.90	2.94	0.60	1509	4.50	2.70	0.60	1602	4.15	2.49	0.60	1663
22	20	5.15	2.47	0.48	1571	4.80	2.30	0.48	1648	4.45	2.14	0.48	1740
22	22	5.45	1.96	0.36	1632	5.10	1.84	0.36	1725	4.75	1.71	0.36	1786
23	18	4.90	3.14	0.64	1509	4.50	2.88	0.64	1602	4.15	2.66	0.64	1663
23	20	5.15	2.68	0.52	1571	4.80	2.50	0.52	1648	4.45	2.31	0.52	1740
23	22	5.45	2.18	0.40	1632	5.10	2.04	0.40	1725	4.75	1.90	0.40	1786
24	18	4.90	3.33	0.68	1509	4.50	3.06	0.68	1602	4.15	2.82	0.68	1663
24	20	5.15	2.88	0.56	1571	4.80	2.69	0.56	1648	4.45	2.49	0.56	1740
24	22	5.45	2.40	0.44	1632	5.10	2.24	0.44	1725	4.75	2.09	0.44	1786
24	24	5.75	1.84	0.32	1694	5.40	1.73	0.32	1771	5.10	1.63	0.32	1848
25	18	4.90	3.53	0.72	1509	4.50	3.24	0.72	1602	4.15	2.99	0.72	1663
25	20	5.15	3.09	0.60	1571	4.80	2.88	0.60	1648	4.45	2.67	0.60	1740
25	22	5.45	2.62	0.48	1632	5.10	2.45	0.48	1725	4.75	2.28	0.48	1786
25	24	5.75	2.07	0.36	1694	5.40	1.94	0.36	1771	5.10	1.84	0.36	1848
26	18	4.90	3.72	0.76	1509	4.50	3.42	0.76	1602	4.15	3.15	0.76	1663
26	20	5.15	3.30	0.64	1571	4.80	3.07	0.64	1648	4.45	2.85	0.64	1740
26	22	5.45	2.83	0.52	1632	5.10	2.65	0.52	1725	4.75	2.47	0.52	1786
26	24	5.75	2.30	0.40	1694	5.40	2.16	0.40	1771	5.10	2.04	0.40	1848
26	26	6.05	1.69	0.28	1756	5.70	1.60	0.28	1833	5.35	1.50	0.28	1910
27	18	4.90	3.92	0.80	1509	4.50	3.60	0.80	1602	4.15	3.32	0.80	1663
27	20	5.15	3.50	0.68	1571	4.80	3.26	0.68	1648	4.45	3.03	0.68	1740
27	22	5.45	3.05	0.56	1632	5.10	2.86	0.56	1725	4.75	2.66	0.56	1786
27	24	5.75	2.53	0.44	1694	5.40	2.38	0.44	1771	5.10	2.24	0.44	1848
27	26	6.05	1.94	0.32	1756	5.70	1.82	0.32	1833	5.35	1.71	0.32	1910
28	18	4.90	4.12	0.84	1509	4.50	3.78	0.84	1602	4.15	3.49	0.84	1663
28	20	5.15	3.71	0.72	1571	4.80	3.46	0.72	1648	4.45	3.20	0.72	1740
28	22	5.45	3.27	0.60	1632	5.10	3.06	0.60	1725	4.75	2.85	0.60	1786
28	24	5.75	2.76	0.48	1694	5.40	2.59	0.48	1771	5.10	2.45	0.48	1848
28	26	6.05	2.18	0.36	1756	5.70	2.05	0.36	1833	5.35	1.93	0.36	1910
29	18	4.90	4.31	0.88	1509	4.50	3.96	0.88	1602	4.15	3.65	0.88	1663
29	20	5.15	3.91	0.76	1571	4.80	3.65	0.76	1648	4.45	3.38	0.76	1740
29	22	5.45	3.49	0.64	1632	5.10	3.26	0.64	1725	4.75	3.04	0.64	1786
29	24	5.75	2.99	0.52	1694	5.40	2.81	0.52	1771	5.10	2.65	0.52	1848
29	26	6.05	2.42	0.40	1756	5.70	2.28	0.40	1833	5.35	2.14	0.40	1910
30	18	4.90	4.51	0.92	1509	4.50	4.14	0.92	1602	4.15	3.82	0.92	1663
30	20	5.15	4.12	0.80	1571	4.80	3.84	0.80	1648	4.45	3.56	0.80	1740
30	22	5.45	3.71	0.68	1632	5.10	3.47	0.68	1725	4.75	3.23	0.68	1786
30	24	5.75	3.22	0.56	1694	5.40	3.02	0.56	1771	5.10	2.86	0.56	1848
30	26	6.05	2.66	0.44	1756	5.70	2.51	0.44	1833	5.35	2.35	0.44	1910
31	18	4.90	4.70	0.96	1509	4.50	4.32	0.96	1602	4.15	3.98	0.96	1663
31	20	5.15	4.33	0.84	1571	4.80	4.03	0.84	1648	4.45	3.74	0.84	1740
31	22	5.45	3.92	0.72	1632	5.10	3.67	0.72	1725	4.75	3.42	0.72	1786
31	24	5.75	3.45	0.60	1694	5.40	3.24	0.60	1771	5.10	3.06	0.60	1848
31	26	6.05	2.90	0.48	1756	5.70	2.74	0.48	1833	5.35	2.57	0.48	1910
32	18	4.90	4.90	1.00	1509	4.50	4.50	1.00	1602	4.15	4.15	1.00	1663
32	20	5.15	4.53	0.88	1571	4.80	4.22	0.88	1648	4.45	3.92	0.88	1740
32	22	5.45	4.14	0.76	1632	5.10	3.88	0.76	1725	4.75	3.61	0.76	1786
32	24	5.75	3.68	0.64	1694	5.40	3.46	0.64	1771	5.10	3.26	0.64	1848
32	26	6.05	3.15	0.52	1756	5.70	2.96	0.52	1833	5.35	2.78	0.52	1910

NOTE Q : Total capacity (kW) SHF : Sensible heat factor DB : Dry-bulb temperature
SHC : Sensible heat capacity (kW) INPUT : Total power input (W) WB : Wet-bulb temperature

PERFORMANCE DATA HEAT operation at Rated frequency

MUZ-AY25VG

CAPACITY: 3.2 kW INPUT: 780 W

INDOOR DB (°C)	OUTDOOR WB (°C)															
	-15		-10		-5		0		5		10		15		20	
	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT
15	1.60	406	2.02	507	2.43	608	2.85	686	3.26	741	3.68	788	4.06	811	4.48	827
21	1.50	429	1.92	546	2.30	647	2.72	718	3.10	772	3.52	811	3.90	835	4.30	866
26	1.31	468	1.73	585	2.14	686	2.53	757	2.94	811	3.36	850	3.74	874	4.16	897

MUZ-AY25VGH

CAPACITY: 3.2 kW INPUT: 780 W

INDOOR DB (°C)	OUTDOOR WB (°C)															
	-20		-15		-10		-5		0		5		10		15		20	
	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT
15	1.22	312	1.60	406	2.02	507	2.43	608	2.85	686	3.26	741	3.68	788	4.06	811	4.48	827
21	1.12	328	1.50	429	1.92	546	2.30	647	2.72	718	3.10	772	3.52	811	3.90	835	4.30	866
26	0.90	351	1.31	468	1.73	585	2.14	686	2.53	757	2.94	811	3.36	850	3.74	874	4.16	897

MUZ-AY35VG

CAPACITY: 4.0 kW INPUT: 1030 W

INDOOR DB (°C)	OUTDOOR WB (°C)															
	-15		-10		-5		0		5		10		15		20	
	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT
15	2.00	536	2.52	670	3.04	803	3.56	906	4.08	979	4.60	1040	5.08	1071	5.60	1092
21	1.88	567	2.40	721	2.88	855	3.40	948	3.88	1020	4.40	1071	4.88	1102	5.38	1143
26	1.64	618	2.16	773	2.68	906	3.16	999	3.68	1071	4.20	1123	4.68	1154	5.20	1185

MUZ-AY35VGH

CAPACITY: 4.0 kW INPUT: 1030 W

INDOOR DB (°C)	OUTDOOR WB (°C)															
	-20		-15		-10		-5		0		5		10		15		20	
	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT
15	1.52	412	2.00	536	2.52	670	3.04	803	3.56	906	4.08	979	4.60	1040	5.08	1071	5.60	1092
21	1.40	433	1.88	567	2.40	721	2.88	855	3.40	948	3.88	1020	4.40	1071	4.88	1102	5.38	1143
26	1.12	464	1.64	618	2.16	773	2.68	906	3.16	999	3.68	1071	4.20	1123	4.68	1154	5.20	1185

MUZ-AY42VG

CAPACITY: 5.2 kW INPUT: 1390 W

INDOOR DB (°C)	OUTDOOR WB (°C)															
	-15		-10		-5		0		5		10		15		20	
	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT
15	2.60	723	3.28	904	3.95	1084	4.63	1223	5.30	1321	5.98	1404	6.60	1446	7.28	1473
21	2.44	765	3.12	973	3.74	1154	4.42	1279	5.04	1376	5.72	1446	6.34	1487	6.99	1543
26	2.13	834	2.81	1043	3.48	1223	4.11	1348	4.78	1446	5.46	1515	6.08	1557	6.76	1599

MUZ-AY42VGH

CAPACITY: 5.2 kW INPUT: 1390 W

INDOOR DB (°C)	OUTDOOR WB (°C)																	
	-20		-15		-10		-5		0		5		10		15		20	
	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT
15	1.98	556	2.60	723	3.28	904	3.95	1084	4.63	1223	5.30	1321	5.98	1404	6.60	1446	7.28	1473
21	1.82	584	2.44	765	3.12	973	3.74	1154	4.42	1279	5.04	1376	5.72	1446	6.34	1487	6.99	1543
26	1.46	626	2.13	834	2.81	1043	3.48	1223	4.11	1348	4.78	1446	5.46	1515	6.08	1557	6.76	1599

NOTE: Q: Total capacity (kW) INPUT : Total power input (W) DB: Dry-bulb temperature WB: Wet-bulb temperature

PERFORMANCE DATA HEAT operation at Rated frequency

MUZ-AY50VG

CAPACITY: 5.5 kW INPUT: 1470 W

INDOOR DB (°C)	OUTDOOR WB (°C)															
	-15		-10		-5		0		5		10		15		20	
	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT
15	2.75	764	3.47	956	4.18	1147	4.90	1294	5.61	1397	6.33	1485	6.99	1529	7.70	1558
21	2.59	809	3.30	1029	3.96	1220	4.68	1352	5.34	1455	6.05	1529	6.71	1573	7.40	1632
26	2.26	882	2.97	1103	3.69	1294	4.35	1426	5.06	1529	5.78	1602	6.44	1646	7.15	1691

MUZ-AY50VGH

CAPACITY: 5.5 kW INPUT: 1470 W

INDOOR DB (°C)	OUTDOOR WB (°C)															
	-20		-15		-10		-5		0		5		10		15		20	
	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT	Q	INPUT
15	2.09	588	2.75	764	3.47	956	4.18	1147	4.90	1294	5.61	1397	6.33	1485	6.99	1529	7.70	1558
21	1.93	617	2.59	809	3.30	1029	3.96	1220	4.68	1352	5.34	1455	6.05	1529	6.71	1573	7.40	1632
26	1.54	662	2.26	882	2.97	1103	3.69	1294	4.35	1426	5.06	1529	5.78	1602	6.44	1646	7.15	1691

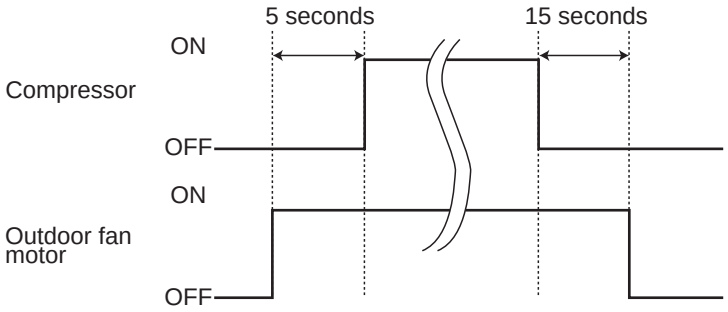
NOTE: Q: Total capacity (kW) INPUT : Total power input (W) DB: Dry-bulb temperature WB: Wet-bulb temperature

10 ACTUATOR CONTROL

MUZ-AY25VG MUZ-AY35VG MUZ-AY42VG MUZ-AY50VG
MUZ-AY25VGH MUZ-AY35VGH MUZ-AY42VGH MUZ-AY50VGH

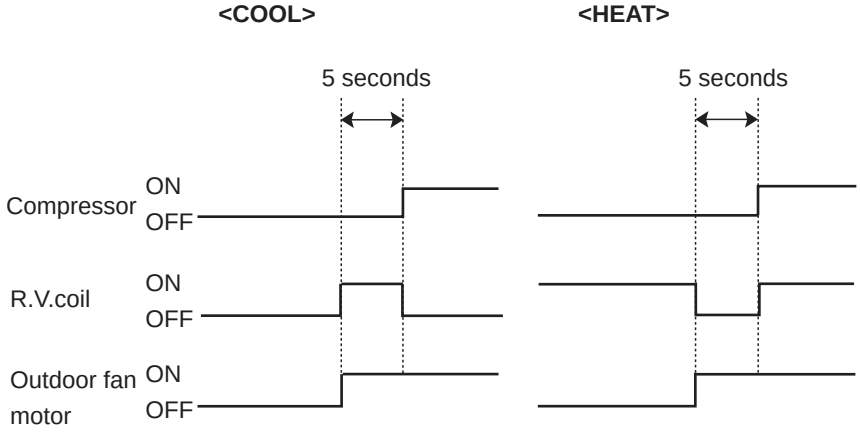
10-1. OUTDOOR FAN MOTOR CONTROL

The fan motor turns ON/OFF, interlocking with the compressor.
[ON] The fan motor turns ON 5 seconds before the compressor starts up.
[OFF] The fan motor turns OFF 15 seconds after the compressor has stopped running.



10-2. R.V. COIL CONTROL

Heating · · · · · · · · · · · · · · · · · ON
Cooling · · · · · · · · · · · · · · · · · OFF
Dry · · · · · · · · · · · · · · · · · · · OFF
NOTE: The 4-way valve reverses for 5 seconds right before startup of the compressor.



10-3. RELATION BETWEEN MAIN SENSOR AND ACTUATOR

Sensor	Purpose	Actuator					
		Compressor	LEV	Outdoor fan motor	R.V. coil	Indoor fan motor	Defrost heater
Discharge temperature thermistor	Protection	○	○				
Indoor coil temperature thermistor	Cooling: Coil frost prevention	○					
	Heating: High pressure protection	○	○				
Defrost thermistor	Heating: Defrosting	○	○	○	○	○	
Fin temperature thermistor	Protection	○		○			
Ambient temperature thermistor	Cooling: Low ambient temperature operation	○	○	○			
	Heating: Defrosting (Heater)						○
Outdoor heat exchanger temperature thermistor	Cooling: Low ambient temperature operation	○	○	○			
	Cooling: High pressure protection	○	○	○			

11 SERVICE FUNCTIONS

MUZ-AY25VG MUZ-AY35VG MUZ-AY42VG MUZ-AY50VG
MUZ-AY25VGH MUZ-AY35VGH MUZ-AY42VGH MUZ-AY50VGH

11-1. CHANGE IN DEFROST SETTING

Changing defrost finish temperature

<JS> To change the defrost finish temperature, cut/solder the JS wire of the outdoor inverter P.C. board.
(Refer to 12-6-1.)

Jumper wire		Defrost finish temperature (°C)
JS	Soldered (Initial setting)	5
	None (Cut)	10

11-2. PRE-HEAT CONTROL SETTING

PRE-HEAT CONTROL

When moisture gets into the refrigerant cycle, it may interfere the startup of the compressor at low outside temperature. The pre-heat control prevents this interference. The pre-heat control turns ON when the discharge temperature thermistor is 20°C or below. When the pre-heat control turns ON, the compressor is energized. (About 50 W)

Pre-heat control setting

<JK>
ON: To activate the pre-heat control, cut the JK wire of the inverter P.C. board.
OFF: To deactivate the pre-heat control, solder the JK wire of the inverter P.C. board.
(Refer to 12-6.1)

NOTE: When the inverter P.C. board is replaced, check the jumper wires, and cut/solder them if necessary.

12 TROUBLESHOOTING

MUZ-AY25VG MUZ-AY35VG MUZ-AY42VG MUZ-AY50VG
MUZ-AY25VGH MUZ-AY35VGH MUZ-AY42VGH MUZ-AY50VGH

12-1. CAUTIONS ON TROUBLESHOOTING

1. Before troubleshooting, check the following

1) Check the power supply voltage.
2) Check the indoor/outdoor connecting wire for miswiring.

2. Take care of the following during servicing

1) Before servicing the air conditioner, be sure to turn OFF the main unit first with the remote controller, and 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 electrical parts, be careful of the residual voltage of smoothing capacitor.
4) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.
5) When connecting or disconnecting the connectors, hold the connector housing. DO NOT pull the lead wires.

<Incorrect> <Correct>

Lead wiring **Connector housing**

3. Troubleshooting procedure

1) Check if the OPERATION INDICATOR lamp on the indoor unit is blinking on and off to indicate an abnormality.
To make sure, check how many times the OPERATION INDICATOR lamp is blinking on and off before starting service work.
2) Before servicing, verify that all connectors and terminals are connected properly.
3) When the electronic control P.C. board seems to be defective, check for disconnection of the copper foil pattern and burnt or discolored components.
4) Refer to 12-2 and 12-3.

12-2. FAILURE MODE RECALL FUNCTION

Outline of the function

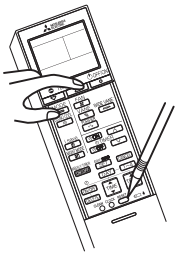
This air conditioner can memorize the abnormal condition which has occurred once.

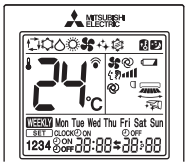
Even though LED indication listed on the troubleshooting check table (12-3.) disappears, the memorized failure details can be recalled.

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

NOTE: The indoor unit does not operate by smartphone, refer to 10-3.2. “Check of Wi-Fi Interface”.

MSZ-AY25/35/42/50VGK
MSZ-AY25/35/42/50VGKP





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 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 OFF/ON (stop/operate) 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 upper 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 upper lamp on the indoor unit. *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. (Refer to 12-2.2)

Yes (Blinks)

Judgment of indoor/outdoor abnormality

Before blinking, does the upper lamp on the indoor unit 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 table of outdoor unit failure mode recall function. (Refer to 12-2.3)
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 table of indoor unit failure mode recall function. (Refer to indoor unit service manual.)
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.

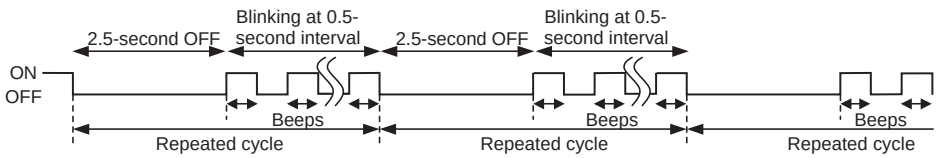
Repair the failure parts.

Deleting the memorized abnormal condition

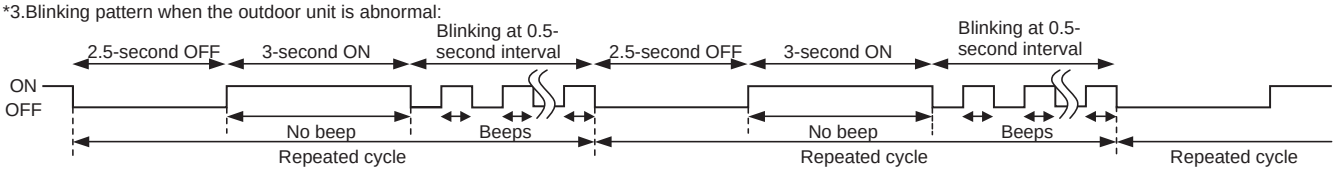
① After repairing the unit, recall the failure mode again according to “Setting up the failure mode recall function” mentioned above.
② Press OFF/ON (stop/operate) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit.
③ Press the emergency operation switch so that the memorized abnormal condition is deleted.
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:



2. Flow chart of the detailed outdoor unit failure mode recall function

Operational procedure

The outdoor unit might be abnormal.
Check if outdoor unit is abnormal according to the following procedures.

↓

Make sure that the remote controller is set to the failure mode recall function.

↓

With the remote controller headed towards the indoor unit, press TEMP ⊕ button to adjust the set temperature to 25°C. *1

↓

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

No (OFF) → The outdoor unit is normal.

Yes (Blinks)

↓

The outdoor unit is abnormal.
Check the blinking pattern, and identify the abnormal point by referring to the table of outdoor unit failure mode recall function (12-2.3.).
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.

The outdoor unit is normal. → Release the failure mode recall function according to the left mentioned procedure.

↓

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” (12-2.1.).
② Press OFF/ON (stop/operate) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit.
③ Press the emergency operation switch so that the memorized abnormal condition is deleted. *3
④ Release the failure mode recall function according to “Releasing the failure mode recall function” mentioned above.

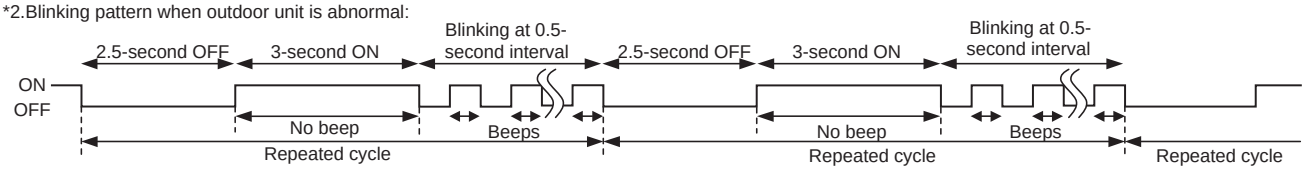
*1. Regardless of normal or abnormal condition, 2 short beeps are emitted as the signal is received.

NOTE: It takes up to 1 minute to indicate the outdoor unit abnormality.
Even if the upper lamp on the indoor unit is not lit, keep checking at least 1 minute or longer.

*3 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)

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 outdoor unit is abnormal:



3. Table of outdoor unit failure mode recall function

NOTE: Blinking patterns of this mode differ from the ones of TROUBLESHOOTING CHECK TABLE (12-3.).

Upper lamp (Indoor unit)	Abnormal point (Failure mode/protection)	LED indication (Outdoor P.C. board)	Condition	Remedy	Indoor/outdoor unit failure mode recall function	Outdoor unit failure mode recall function
OFF	None (Normal)	—	—	—	—	—
1-time blink 2.5 seconds OFF	Indoor/outdoor communication, receiving error	—	Any signals from the inverter P.C. board cannot be received normally for 3 minutes.	•Refer to 12-5. Ⓜ How to check miswiring and serial signal error.	○	○
	Indoor/outdoor communication, receiving error	—	Although the inverter P.C. board sends signal “0”, signal “1” has been received 30 consecutive times.	•Refer to 12-5. Ⓜ How to check miswiring and serial signal error.		
2-time blink 2.5 seconds OFF	Outdoor power system	—	Overcurrent protection cut-out operates 3 consecutive times within 1 minute after the compressor gets started.	•Reconnect connectors. •Refer to 12-5. Ⓐ “How to check inverter/ compressor”. •Check stop valve.	○	○
3-time blink 2.5 seconds OFF	Discharge temperature thermistor	1-time blink every 2.5 seconds	Thermistor shorts or opens during compressor running.	•Refer to 12-5. Ⓖ “Check of outdoor thermistors”. Defective outdoor thermistors can be identified by checking the blinking pattern of LED.	○	○
	Defrost thermistor					
	Fin temperature thermistor	3-time blink 2.5 seconds OFF				
	Ambient temperature thermistor	2-time blink 2.5 seconds OFF				
	Outdoor heat exchanger temperature thermistor	—				
	P.C. board temperature thermistor	4-time blink 2.5 seconds OFF		•Replace the inverter P.C. board.		
4-time blink 2.5 seconds OFF	Overcurrent	11-time blink 2.5 seconds OFF	Large current flows into power module (IC700).	•Reconnect compressor connector. •Refer to 12-5. Ⓐ “How to check inverter/ compressor”. •Check stop valve.	—	○
	Compressor synchronous abnormality (Compressor startup failure protection)	12-time blink 2.5 seconds OFF	Waveform of compressor current is distorted.	•Reconnect compressor connector. •Refer to 12-5. Ⓐ “How to check inverter/ compressor”.	—	○
5-time blink 2.5 seconds OFF	Discharge temperature	—	Temperature of discharge temperature thermistor exceeds 116°C, compressor stops. Compressor can restart if discharge temperature thermistor reads 100°C or less 3 minutes later.	•Check refrigerant circuit and refrigerant amount. •Refer to 12-5. Ⓚ “Check of LEV”.	—	○
6-time blink 2.5 seconds OFF	High pressure	—	Temperature of indoor coil thermistor exceeds 70°C in HEAT mode. Temperature of defrost thermistor exceeds 70°C in COOL mode.	•Check refrigerant circuit and refrigerant amount. •Check stop valve.	—	○
7-time blink 2.5 seconds OFF	Fin temperature/P.C. board temperature	7-time blink 2.5 seconds OFF	Temperature of fin temperature thermistor on the inverter P.C. board exceeds 75 ~ 86°C, or temperature of P.C. board temperature thermistor on the inverter P.C. board exceeds 72 ~ 85°C.	•Check around outdoor unit. •Check outdoor unit air passage. •Refer to 12-5. Ⓘ “Check of outdoor fan motor”.	—	○
8-time blink 2.5 seconds OFF	Outdoor fan motor	—	Outdoor fan has stopped 3 times in a row within 30 seconds after outdoor fan startup.	•Refer to 12-5. Ⓘ “Check of outdoor fan motor”. Refer to 12-5. Ⓛ “Check of inverter P.C. board”.	—	○
9-time blink 2.5 seconds OFF	Nonvolatile memory data	5-time blink 2.5 seconds OFF	Nonvolatile memory data cannot be read properly.	•Replace the inverter P.C. board.	○	○
	Power module (IC700)	6-time blink 2.5 seconds OFF	The interface short circuit occurs in the output of the power module (IC700). The compressor winding shorts circuit.	•Refer to 12-5. Ⓐ “How to check inverter/ compressor”.	—	
10-time blink 2.5 seconds OFF	Discharge temperature	—	Temperature of discharge temperature thermistor has been 50°C or less for 20 minutes.	•Refer to 12-5. Ⓚ “Check of LEV”. •Check refrigerant circuit and refrigerant amount.	—	○
11-time blink 2.5 seconds OFF	Bus-bar voltage (DC)	8-time blink 2.5 seconds OFF	Bus-bar voltage of inverter cannot be detected normally.	•Refer to 12-5. Ⓐ “How to check inverter/ compressor”.	—	○
	Each phase current of compressor	9-time blink 2.5 seconds OFF	Each phase current of compressor cannot be detected normally.			

NOTE: Blinking patterns of this mode differ from the ones of TROUBLESHOOTING CHECK TABLE (12-3.).

Upper lamp (Indoor unit)	Abnormal point (Failure mode/protection)	LED indication (Outdoor P.C. board)	Condition	Remedy	Indoor/outdoor unit failure mode recall function	Outdoor unit failure mode recall function
14-time blink 2.5 seconds OFF	Stop valve (Closed valve)	14-time blink 2.5 seconds OFF	Closed valve is detected by compressor current.	•Check stop valve.	○	○
	4-way valve/ Pipe temperature	16-time blink 2.5 seconds OFF	The 4-way valve does not work properly. The indoor coil thermistor detects an abnormal temperature.	•Check the 4-way valve. •Replace the inverter P.C. board.		
16-time blink 2.5 seconds OFF	Outdoor refrigerant system abnormality	1-time blink 2.5 seconds OFF	A closed valve and air trapped in the refrigerant circuit are detected based on the temperature sensed by the indoor and outdoor thermistors and the current of the compressor.	•Check for a gas leak in a connecting piping etc. •Check the stop valve. •Refer to 12-5. Ⓝ “Check of outdoor refrigerant circuit”.	○	○

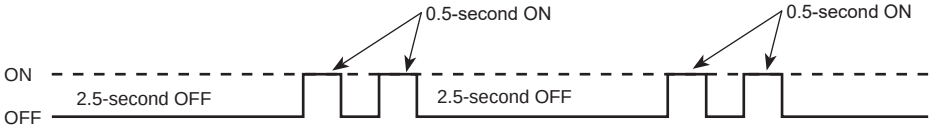
12-3. TROUBLESHOOTING CHECK TABLE

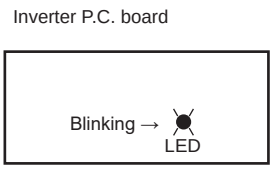
No.	Symptom	LED indication	Abnormal point/ Condition	Condition	Remedy
1	Outdoor unit does not operate.	1-time blink every 2.5 seconds	Outdoor power system	Overcurrent protection cut-out operates 3 consecutive times within 1 minute after the compressor gets started.	•Reconnect connector of compressor. •Refer to 12-5.Ⓐ "How to check inverter/compressor". •Check stop valve.
2			Outdoor thermistors	Discharge temperature thermistor, fin temperature thermistor, defrost thermistor, outdoor heat exchanger temperature thermistor or ambient temperature thermistor shorts or opens during compressor running.	•Refer to 12-5.Ⓖ "Check of outdoor thermistors".
				P.C. board temperature thermistor shorts or opens during compressor running.	•Replace inverter P.C. board.
3			Outdoor control system	Nonvolatile memory data cannot be read properly. (Upper lamp of OPERATION INDICATOR lamp on the indoor unit lights up or blinks 7-time.)	•Replace inverter P.C. board.
4		6-time blink 2.5 seconds OFF	Serial signal	The communication fails between the indoor and outdoor unit for 3 minutes.	•Refer to 12-5.Ⓜ "How to check miswiring and serial signal error".
5		11-time blink 2.5 seconds OFF	Stop valve/ Closed valve	Closed valve is detected by compressor current.	•Check stop valve.
6		14-time blink 2.5 seconds OFF	Outdoor unit (Other abnormality)	Outdoor unit is defective.	•Refer to 12-2.2. "Flow chart of the detailed outdoor unit failure mode recall function".
7		16-time blink 2.5 seconds OFF	4-way valve/ Pipe temperature	The 4-way valve does not work properly. The indoor coil thermistor detects an abnormal temperature.	•Refer to 12-5.Ⓗ "Check of R.V. coil". •Replace the inverter P.C. board.
8		17-time blink 2.5 seconds OFF	Outdoor refrigerant system abnormality	A closed valve and air trapped in the refrigerant circuit are detected based on the temperature sensed by the indoor and outdoor thermistors and the current of the compressor.	•Check for a gas leak in a connecting piping etc. •Check the stop valve. •Refer to 12-5. Ⓝ "Check of outdoor refrigerant circuit".
9	'Outdoor unit stops and restarts 3 minutes later' is repeated.	2-time blink 2.5 seconds OFF	Overcurrent protection	Large current flows into power module (IC700).	•Reconnect connector of compressor. •Refer to 12-5.Ⓐ "How to check inverter/compressor". •Check stop valve.
10		3-time blink 2.5 seconds OFF	Discharge temperature overheat protection	Temperature of discharge temperature thermistor exceeds 116°C, compressor stops. Compressor can restart if discharge temperature thermistor reads 100°C or less 3 minutes later.	•Check refrigerant circuit and refrigerant amount. •Refer to 12-5.Ⓚ "Check of LEV".
11		4-time blink 2.5 seconds OFF	Fin temperature /P.C. board temperature thermistor overheat protection	Temperature of fin temperature thermistor on the heat sink exceeds 75 ~ 86°C or temperature of P.C. board temperature thermistor on the inverter P.C. board exceeds 72 ~ 85°C.	•Check around outdoor unit. •Check outdoor unit air passage. •Refer to 12-5.Ⓘ "Check of outdoor fan motor".
12		5-time blink 2.5 seconds OFF	High pressure protection	Indoor coil thermistor exceeds 70°C in HEAT mode. Defrost thermistor exceeds 70°C in COOL mode.	•Check refrigerant circuit and refrigerant amount. •Check stop valve.
13		8-time blink 2.5 seconds OFF	Compressor synchronous abnormality	The waveform of compressor current is distorted.	•Reconnect connector of compressor. •Refer to 12-5.Ⓐ "How to check inverter/compressor".
14		10-time blink 2.5 seconds OFF	Outdoor fan motor	Outdoor fan has stopped 3 times in a row within 30 seconds after outdoor fan startup.	•Refer to 12-5.Ⓘ "Check of outdoor fan motor". •Refer to 12-5.Ⓛ "Check of inverter P.C. board".
15		12-time blink 2.5 seconds OFF	Each phase current of compressor	Each phase current of compressor cannot be detected normally.	•Refer to 12-5.Ⓐ "How to check inverter/compressor".
16		13-time blink 2.5 seconds OFF	Bus-bar voltage (DC)	Bus-bar voltage of inverter cannot be detected normally.	•Refer to 12-5.Ⓐ "How to check inverter/compressor".
17	Outdoor unit operates.	1-time blink 2.5 seconds OFF	Deceleration of the operational frequency of the compressor by the current protection control	When the input current exceeds approximately 10A, compressor frequency lowers.	The unit is normal, but check the following. •Check if indoor filters are clogged. •Check if refrigerant is short. •Check if indoor/outdoor unit air circulation is short cycled.
18		3-time blink 2.5 seconds OFF	Deceleration of the operational frequency of the compressor by the high pressure protection	Temperature of indoor coil thermistor exceeds 55°C in HEAT mode, compressor frequency lowers.	
			Deceleration of the operational frequency of the compressor by the overcooling prevention of the indoor heat exchanger	Indoor coil thermistor reads 8°C or less in COOL mode, compressor frequency lowers.	

No.	Symptom	LED indication	Abnormal point/ Condition	Condition		Remedy
19	Outdoor unit operates.	4-time blink 2.5 seconds OFF	Deceleration of the operational frequency of the compressor by the discharge temperature protection	Temperature of discharge temperature thermistor exceeds 111°C, compressor frequency lowers.		•Check refrigerant circuit and refrigerant amount. •Refer to 12-5.Ⓚ "Check of LEV". •Refer to 12-5.Ⓖ "Check of outdoor thermistors".
20		5-time blink 2.5 seconds OFF	Outside temperature thermistor protection	When the outside temperature thermistor shorts or opens, protective operation without that thermistor is performed.		•Refer to 12-5. Ⓖ Check of outdoor thermistors.
21		7-time blink 2.5 seconds OFF	Low discharge temperature protection	Temperature of discharge temperature thermistor has been 50°C or less for 20 minutes.	•Refer to 12-5.Ⓚ "Check of LEV". •Check refrigerant circuit and refrigerant amount.	
22		8-time blink 2.5 seconds OFF	PAM protection PAM: Pulse Amplitude Modulation	The overcurrent flows into PFC (Power factor correction: IC820) or the bus-bar voltage reaches 394 V or more, PAM stops and restarts.	This is not malfunction. PAM protection will be activated in the following cases: 1 Instantaneous power voltage drop. (Short time power failure) 2 When the power supply voltage is high.	
23		9-time blink 2.5 seconds OFF	Inverter check mode	The connector of compressor is disconnected, inverter check mode starts.	•Check if the connector of the compressor is correctly connected. Refer to 12-5.Ⓐ "How to check inverter/compressor".	

NOTE: 1. The location of LED is illustrated at the right figure. Refer to 12-6.1.
2. LED is lit during normal operation.

The blinking frequency shows the number of times the LED blinks after every 2.5-second OFF.
(Example) When the blinking frequency is "2".





12-4. TROUBLESHOOTING CRITERION OF MAIN PARTS

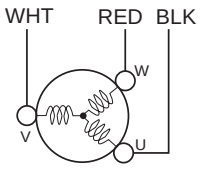
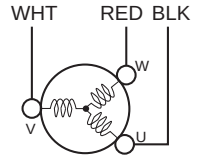
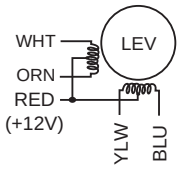
<table>
<tr><th>Part name</th><th>Check method and criterion</th><th>Figure</th></tr>
<tr><td>Defrost thermistor (RT61)

Fin temperature thermistor (RT64)

Ambient temperature thermistor (RT65)

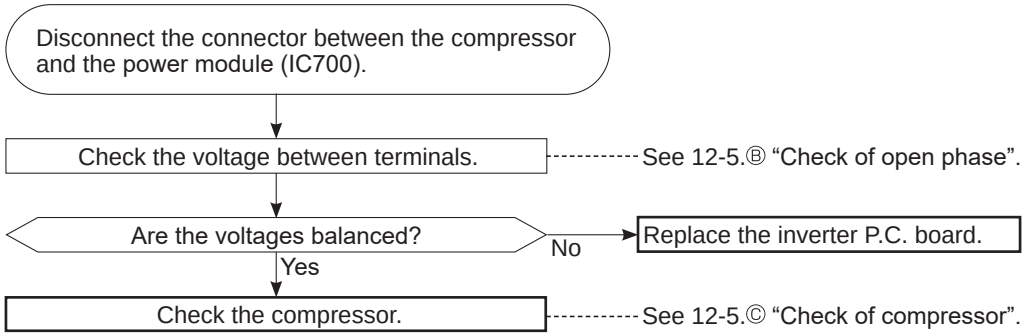
Outdoor heat exchanger temperature thermistor (RT68)</td><td>Measure the resistance with a multimeter.

Refer to 12-6. “Test point diagram and voltage”, 1. “Inverter P.C. board”, for the chart of thermistor.</td><td></td></tr>
<tr><td>Discharge temperature thermistor (RT62)</td><td>Measure the resistance with a multimeter. Before measurement, hold the thermistor with your hands to warm it up.

Refer to 12-6. “Test point diagram and voltage”, 1. “Inverter P.C. board”, for the chart of thermistor.</td><td></td></tr>
<tr><td>Compressor (MC)</td><td>Measure the resistance between terminals using a multimeter.
(Temperature: -10 to 40°C)
<table>
<tr><th rowspan="2"></th><th colspan="2">Normal (Ω)</th></tr>
<tr><th>MUZ-AY25/35VG
MUZ-AY25/35VGH</th><th>MUZ-AY42/50VG
MUZ-AY42/50VGH</th></tr>
<tr><td>U-V
U-W
V-W</td><td>2.21 - 2.99</td><td>0.82 - 1.11</td></tr>
</table></td><td> 
</td></tr>
<tr><td>Outdoor fan motor (MF)</td><td>Measure the resistance between lead wires using a multimeter.
(Temperature: -10 to 40°C)
<table>
<tr><th rowspan="2">Color of lead wire</th><th colspan="2">Normal (Ω)</th></tr>
<tr><th>MUZ-AY25/35/42VG
MUZ-AY25/35/42VGH</th><th>MUZ-AY50VG
MUZ-AY50VGH</th></tr>
<tr><td>RED – BLK
BLK – WHT
WHT – RED</td><td>31 - 42</td><td>15 - 20</td></tr>
</table></td><td> 
</td></tr>
<tr><td>R. V. coil (21S4)</td><td>Measure the resistance using a multimeter. (Temperature: -10 - 40°C)
<table>
<tr><th>Normal (kΩ)</th></tr>
<tr><td>1.41 - 2.00</td></tr>
</table></td><td></td></tr>
<tr><td>Expansion valve coil (LEV)</td><td>Measure the resistance using a multimeter. (Temperature: -10 to 40°C)
<table>
<tr><th>Color of lead wire</th><th>Normal (Ω)</th></tr>
<tr><td>RED – ORN</td><td rowspan="4">37 - 54</td></tr>
<tr><td>RED – WHT</td></tr>
<tr><td>RED – BLU</td></tr>
<tr><td>RED – YLW</td></tr>
</table></td><td> 
</td></tr>
<tr><td>Defrost heater
MUZ-AY•VGH</td><td>
<table>
<tr><th colspan="2">Normal (Ω)</th></tr>
<tr><th>MUZ-AY25/35/42VGH</th><th>MUZ-AY50VGH</th></tr>
<tr><td>802 - 980</td><td>370 - 428</td></tr>
</table></td><td></td></tr>
</table>

12-5. TROUBLESHOOTING FLOW

Ⓐ How to check inverter/compressor



Ⓑ Check of open phase

- With the connector between the compressor and the power module (IC700) disconnected, activate the inverter and check if the inverter is normal by measuring **the voltage balance** between the terminals.

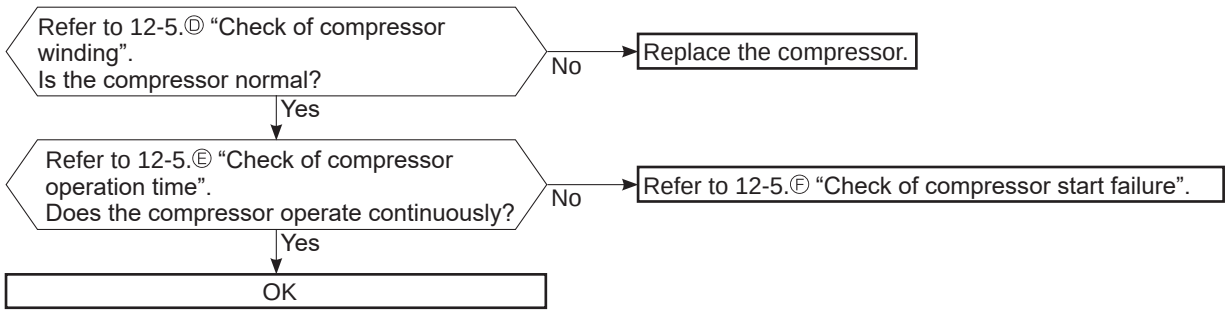
Output voltage is 50 - 130 V. (The voltage may differ according to the multimeter.)

<< Operation method>>
Start cooling or heating operation by pressing the emergency operation switch on the indoor unit. (TEST RUN OPERATION: Refer to 9-3.)

<<Measurement point>>
At 3 points *Measure AC voltage between the lead wires at 3 points.
BLK (U)-WHT (V)
BLK (U)-RED (W)
WHT(V)-RED (W)

NOTE: 1. Output voltage varies according to power supply voltage.
2. Measure the voltage by analog type multimeter.
3. During this check, LED of the inverter P.C. board blinks 9 times. (Refer to 12-6.1.)

Ⓒ Check of compressor



Ⓓ Check of compressor winding

● Disconnect the connector between the compressor and the power module (IC700), and measure the resistance between the compressor terminals.

<<Measurement point>>

At 3 points
BLK-WHT
BLK-RED
WHT-RED

*Measure the resistance between the lead wires at 3 points.

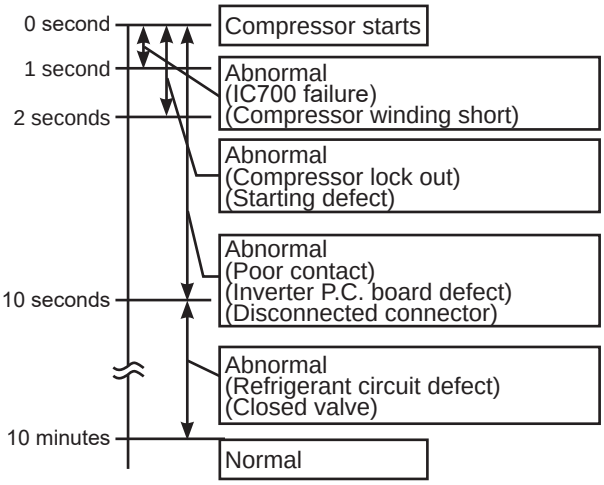
<<Judgement>>

Refer to 12-4.
0 [Ω] ·····Abnormal [short]
Infinite [Ω] ·····Abnormal [open]
NOTE: Be sure to zero the ohmmeter before measurement.

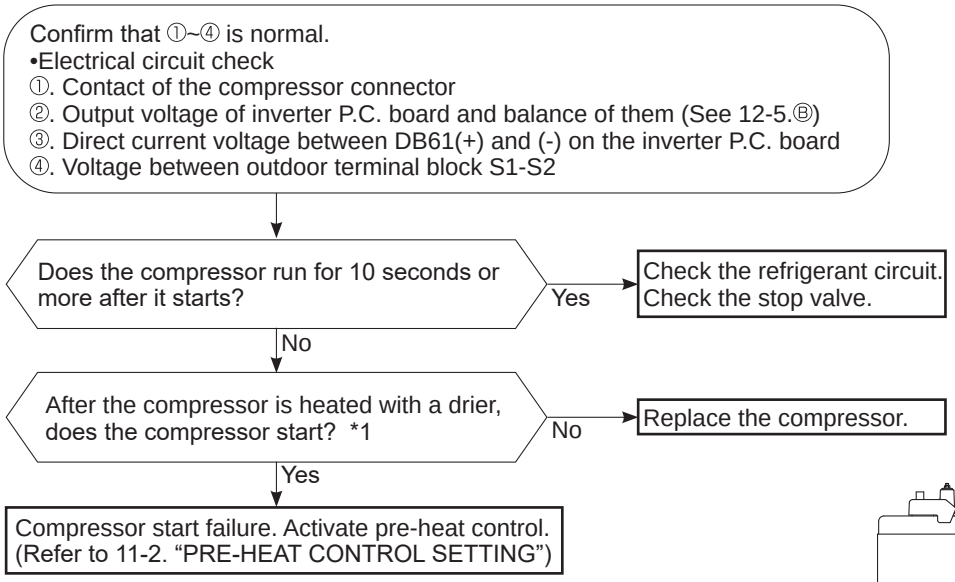
Ⓔ Check of compressor operation time

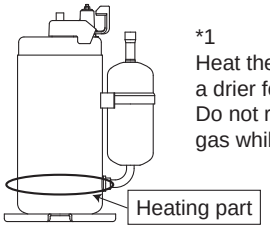
● Connect the compressor and activate the inverter. Then measure the time until the inverter stops due to overcurrent.
<<Operation method>>
Start heating or cooling operation by pressing the emergency operation switch on the indoor unit. (TEST RUN OPERATION: Refer to 9-3.)
<<Measurement>>
Measure the time from the start of compressor to the stop of compressor due to overcurrent.

<<Judgement>>



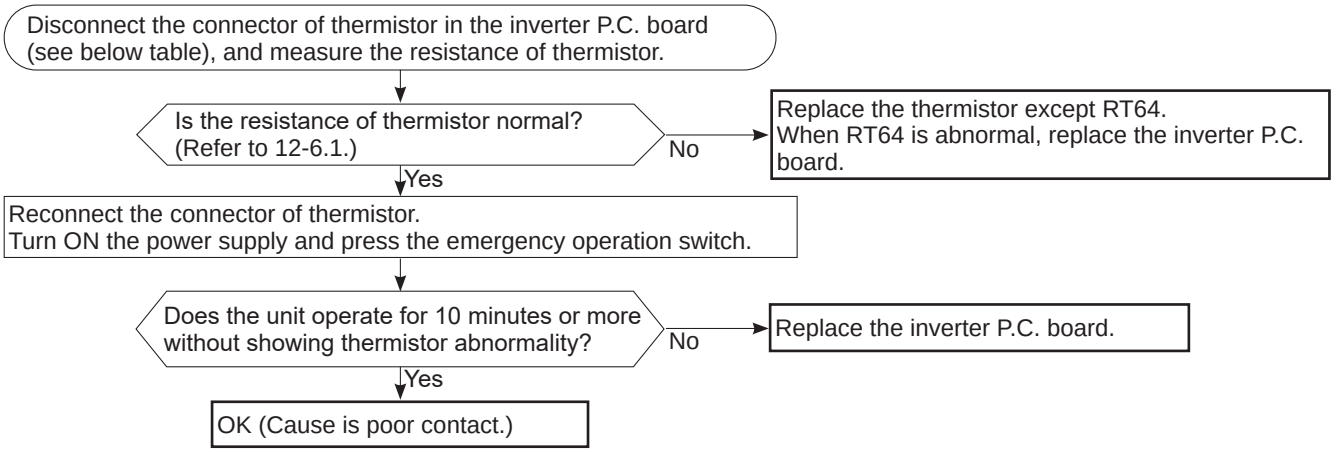
Ⓕ Check of compressor start failure





*1
Heat the compressor with a drier for about 20 minutes. Do not recover refrigerant gas while heating.

Ⓖ Check of outdoor thermistors

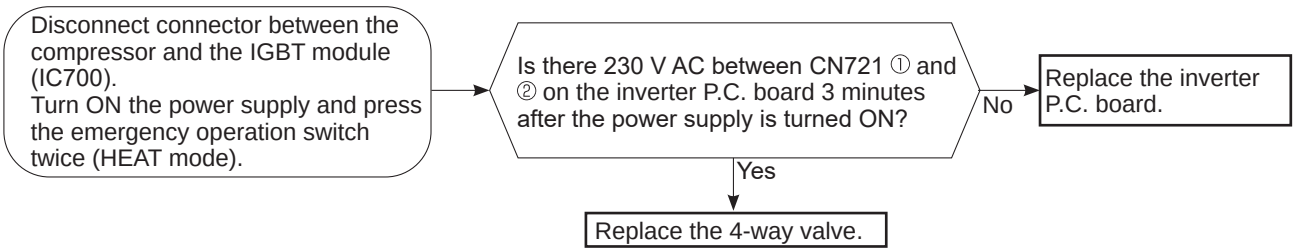


Thermistor	Symbol	Connector, Pin No.	Board
Defrost	RT61	Between CN641 pin1 and pin2	Inverter P.C. board
Discharge temperature	RT62	Between CN641 pin3 and pin4	
Fin temperature	RT64	Between CN642 pin1 and pin2	
Ambient temperature	RT65	Between CN643 pin1 and pin2	
Outdoor heat exchanger temperature	RT68	Between CN644 pin1 and pin3	

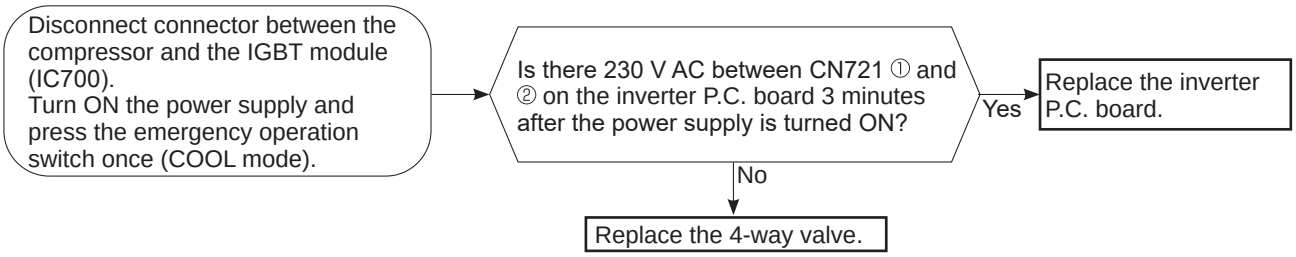
Ⓗ Check of R.V. coil

* First of all, measure the resistance of R.V. coil to check if the coil is defective. Refer to 12-4.
* In case CN721 is disconnected or R.V. coil is open, voltage is generated between the terminal pins of the connector although no signal is being transmitted to R.V. coil.
  Check if CN721 is connected.

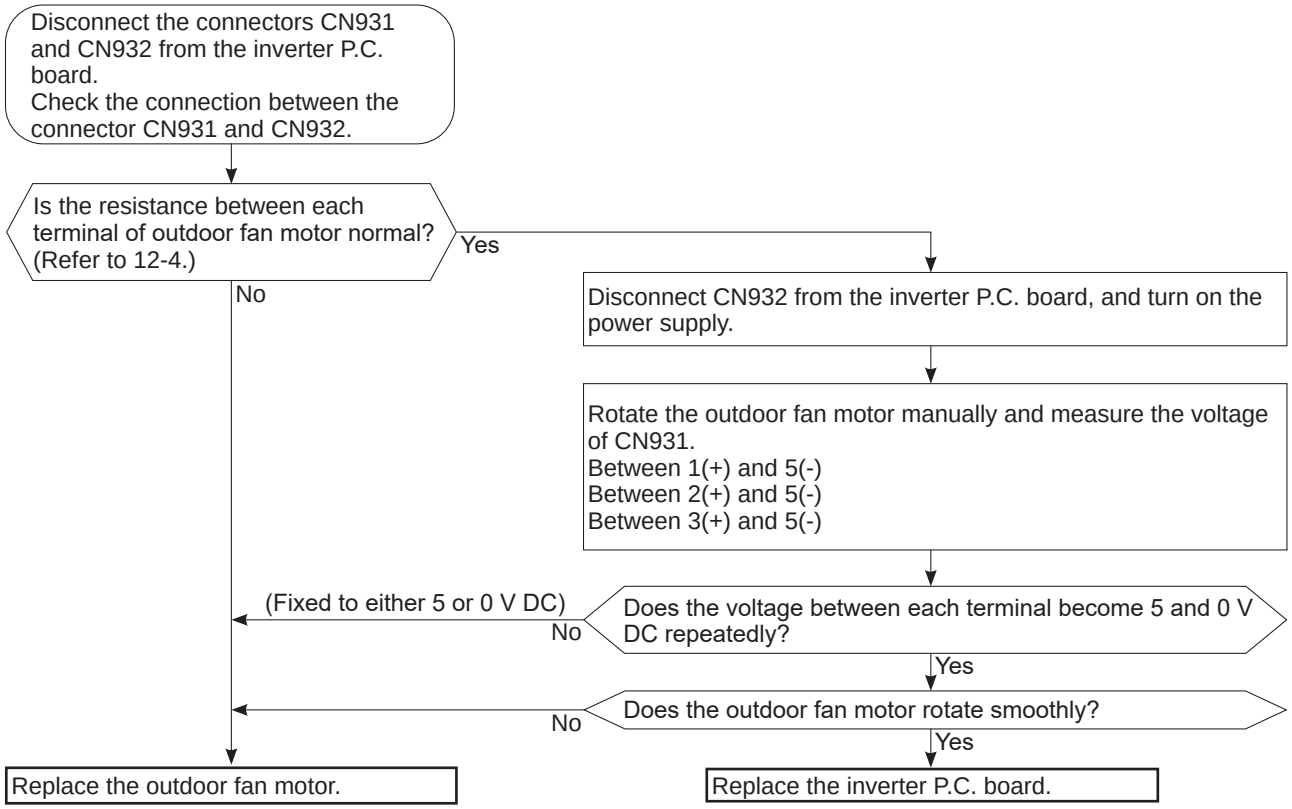
Unit operates in COOL mode even if it is set to HEAT mode.



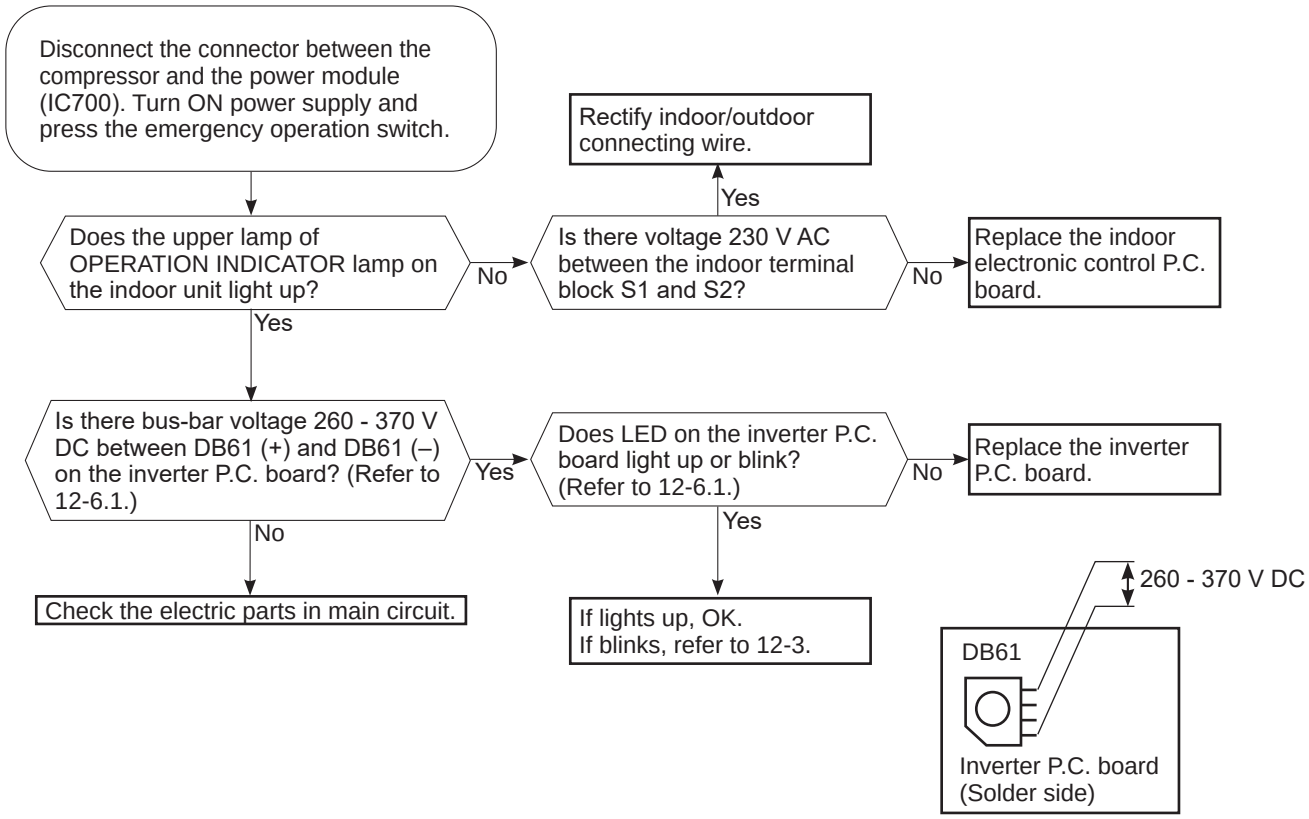
Unit operates in HEAT mode even if it is set to COOL mode.



ⓛ Check of outdoor fan motor

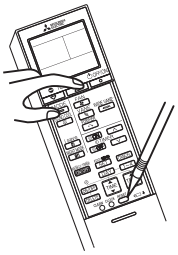


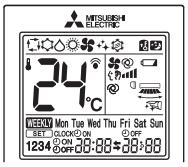
Ⓙ Check of power supply



Ⓚ Check of LEV (Expansion valve)

MSZ-AY25/35/42/50VGK
MSZ-AY25/35/42/50VGKP





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 OFF/ON (stop/operate) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit. *1

↓

Expansion valve operates in full-opening direction.

↓

Do you hear the expansion valve "click, click·····"?
Do you feel the expansion valve vibrate when touching it ?

Yes → OK

No ↓

Is LEV coil properly fixed to the expansion valve?

No → Properly fix the LEV coil to the expansion valve.

Yes ↓

Does the resistance of LEV coil have the characteristics? (Refer to 12-4.)

Yes →

Measure each voltage between connector pins of CN724 on the inverter P.C. board.
1. Pin③(-) — Pin①(+)
2. Pin④(-) — Pin①(+)
3. Pin⑤(-) — Pin①(+)
4. Pin⑥(-) — Pin①(+)
Is there about 3 - 5 V AC between each?
NOTE: Measure the voltage by an analog multimeter.

No → Replace the inverter P.C. board.

Yes ↓

Replace the expansion valve.

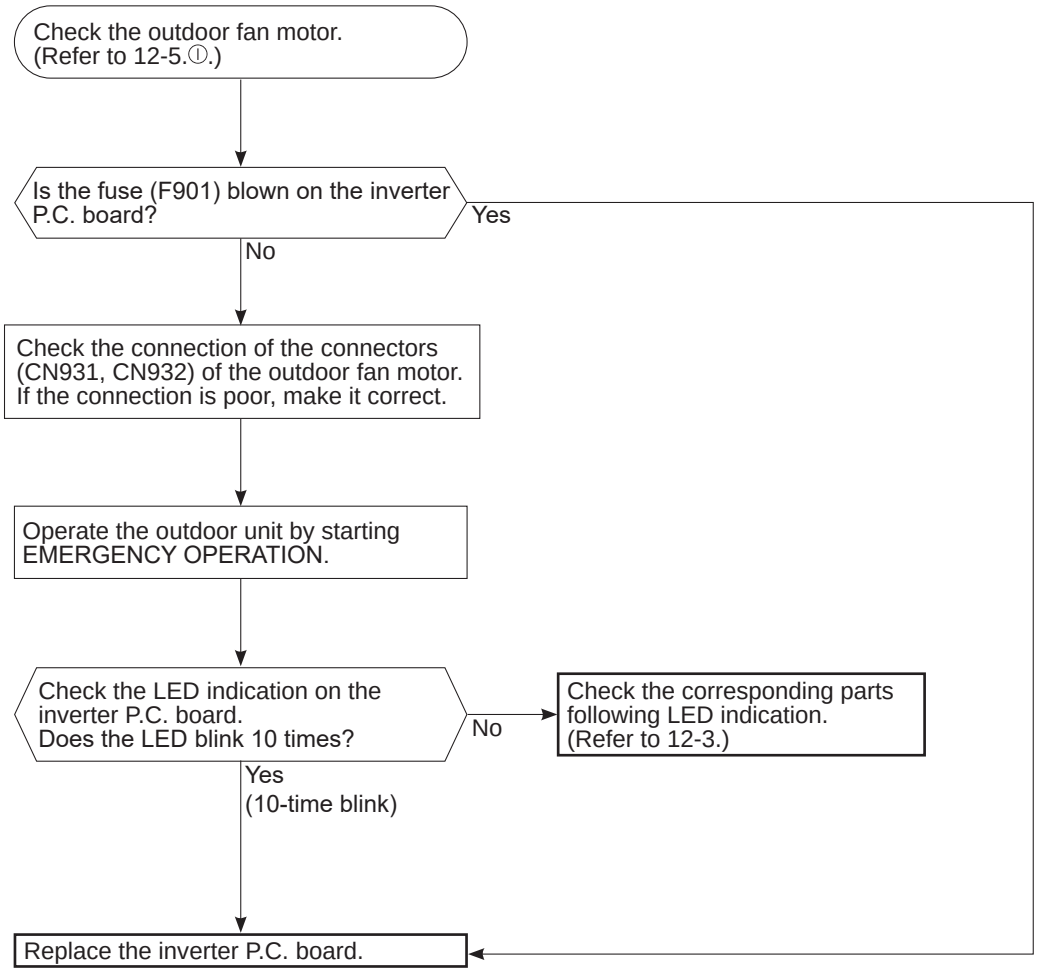
No ↓

Replace the LEV coil.

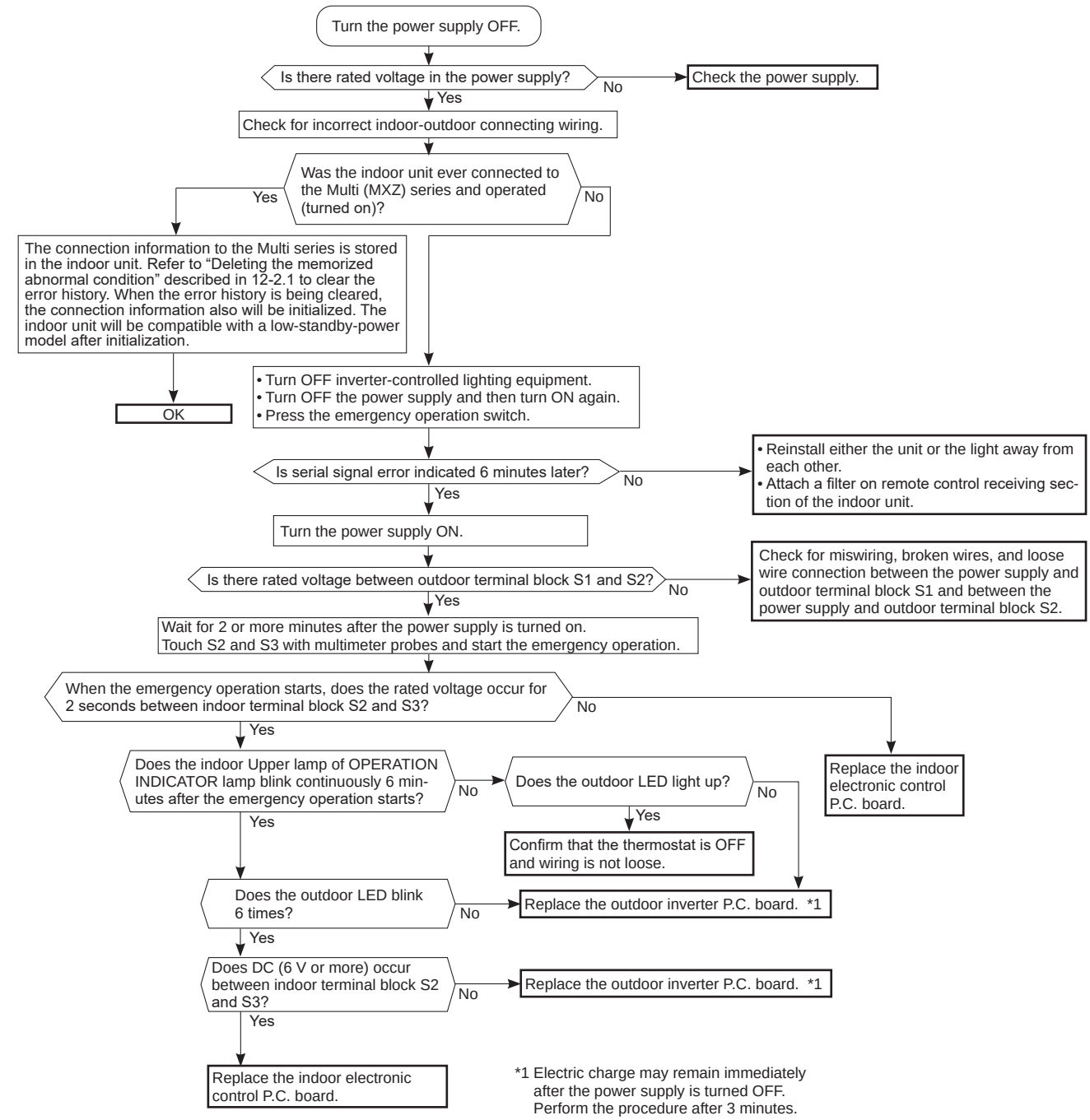
*1. Regardless of normal or abnormal condition, a short beep is emitted once the signal is received.

NOTE: After check of LEV, take the following steps.
1. Turn OFF the power supply and turn it ON again.
2. Press RESET button on the remote controller.

Ⓛ Check of inverter P.C. board

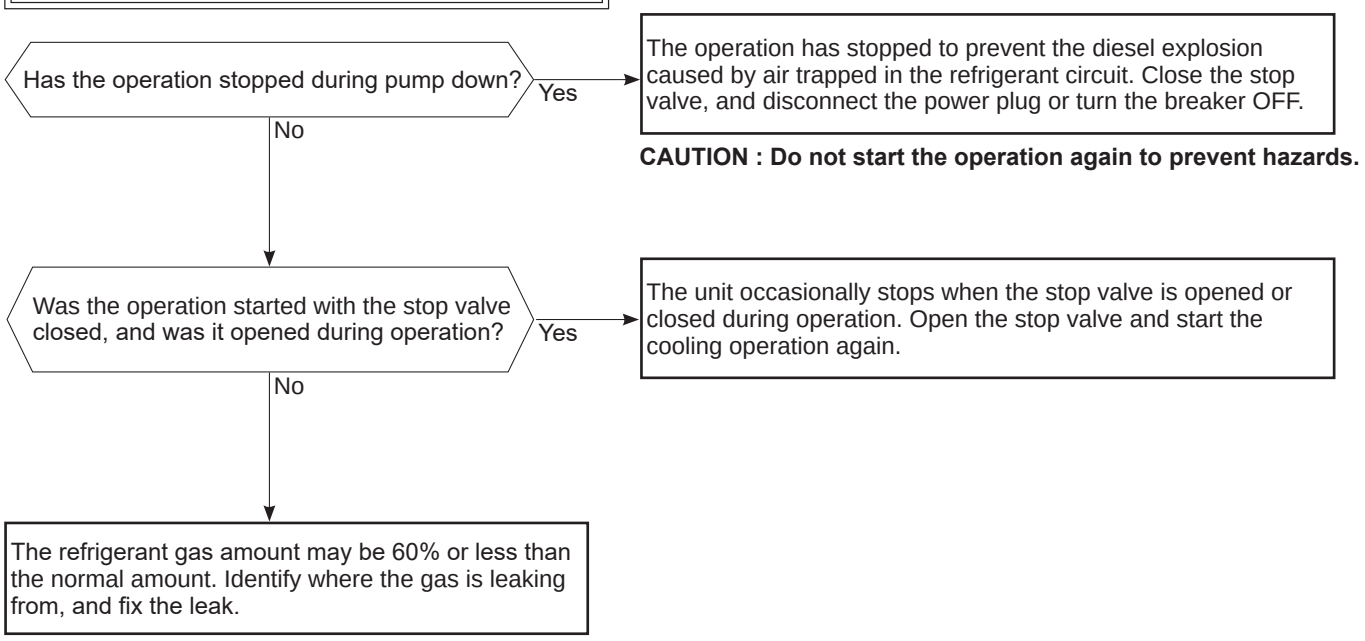


Ⓜ How to check miswiring and serial signal error

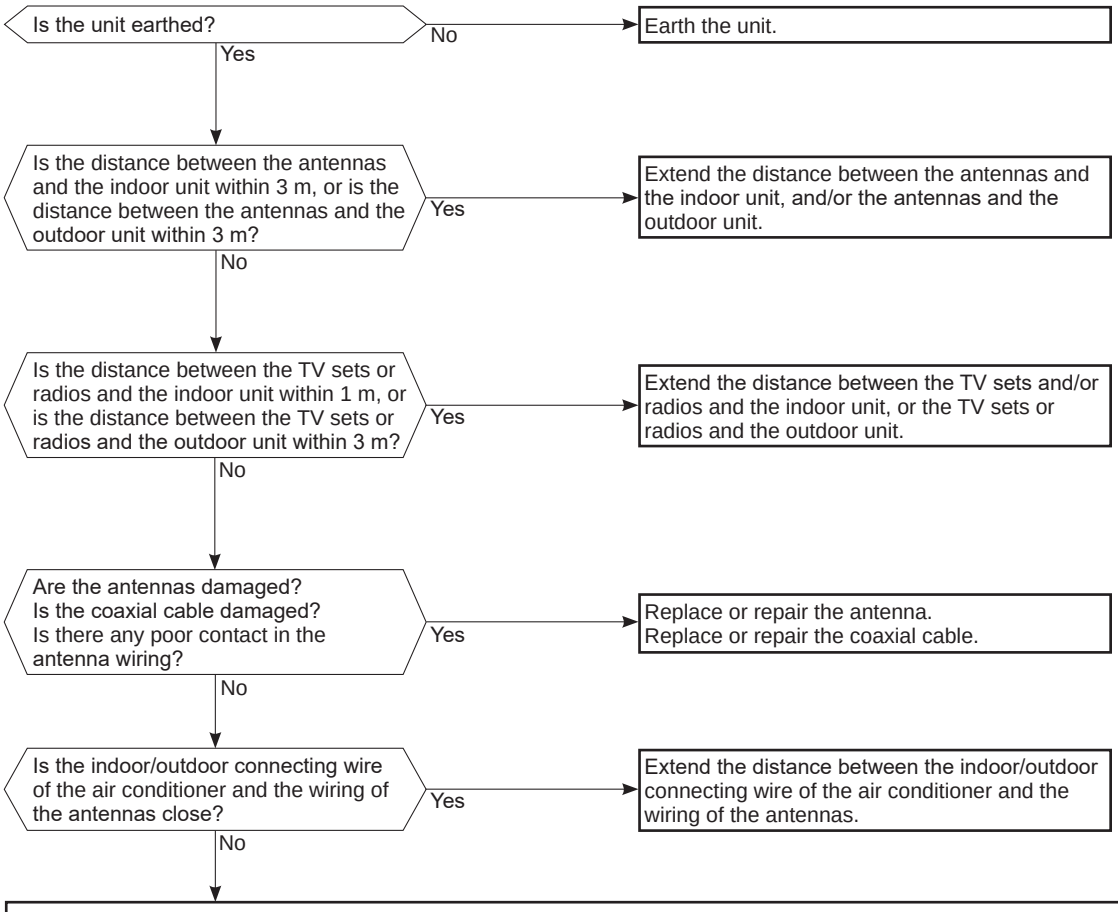


*1 Electric charge may remain immediately after the power supply is turned OFF. Perform the procedure after 3 minutes.

Ⓝ Check of the outdoor refrigerant circuit



Ⓞ Electromagnetic noise enters into TV sets or radios



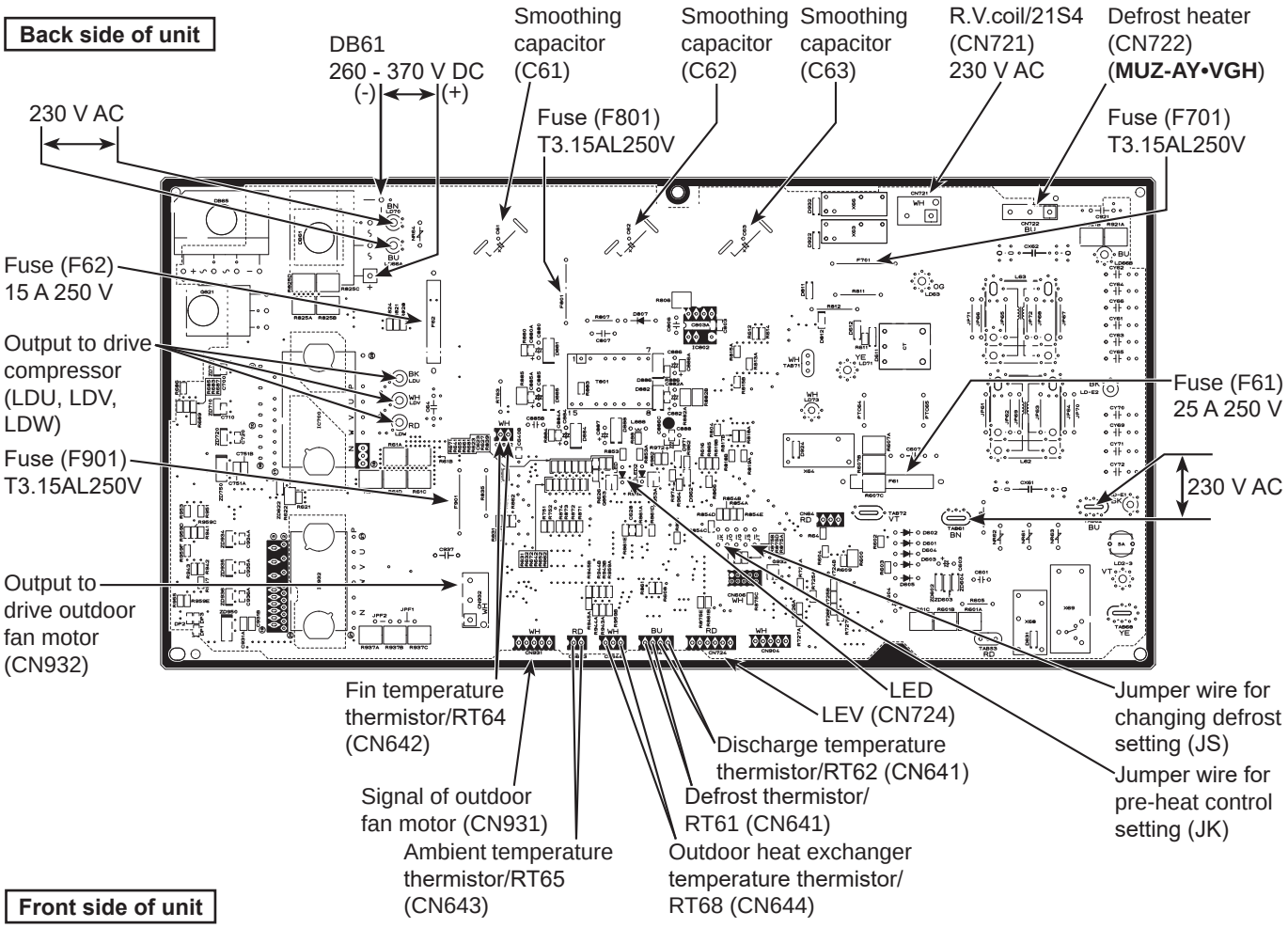
Even if all of the above conditions are fulfilled, the electromagnetic noise may enter, depending on the electric field strength or the installation condition (combination of specific conditions such as antennas or wiring).
Check the following before asking for service.

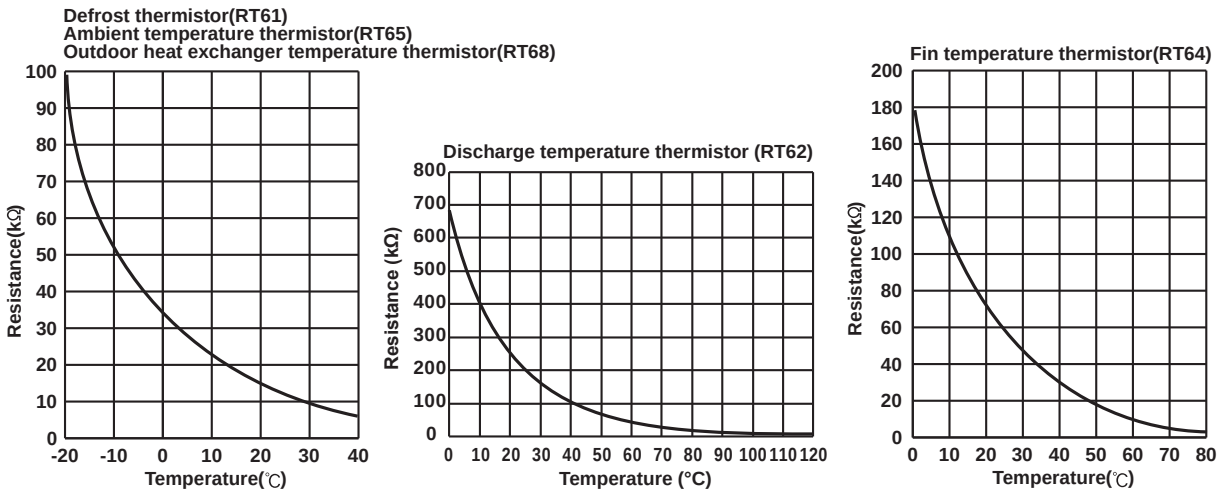
1. Devices affected by the electromagnetic noise
   TV sets, radios (FM/AM broadcast, shortwave)
2. Channel, frequency, broadcast station affected by the electromagnetic noise
3. Channel, frequency, broadcast station unaffected by the electromagnetic noise
4. Layout of:
   indoor/outdoor unit of the 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 OFF/ON (stop/operate) 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 OFF/ON (stop/operate) 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.

12-6. TEST POINT DIAGRAM AND VOLTAGE

1. Inverter P.C. board

MUZ-AY25VG MUZ-AY35VG MUZ-AY42VG MUZ-AY50VG
MUZ-AY25VGH MUZ-AY35VGH MUZ-AY42VGH MUZ-AY50VGH



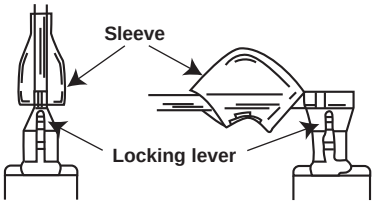


13 DISASSEMBLY INSTRUCTIONS

<Detaching method of the terminal with locking mechanism>

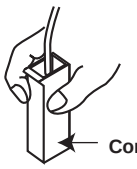
The terminal which has the locking mechanism can be detached as shown below.
There are 2 types of the terminal with locking mechanism.
The terminal without locking mechanism can be detached by pulling it out.
Check the shape of the terminal before detaching.

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



①Slide the sleeve.
②Pull the terminal while pushing the locking lever.

(2) The terminal with this connector shown below has the locking mechanism.

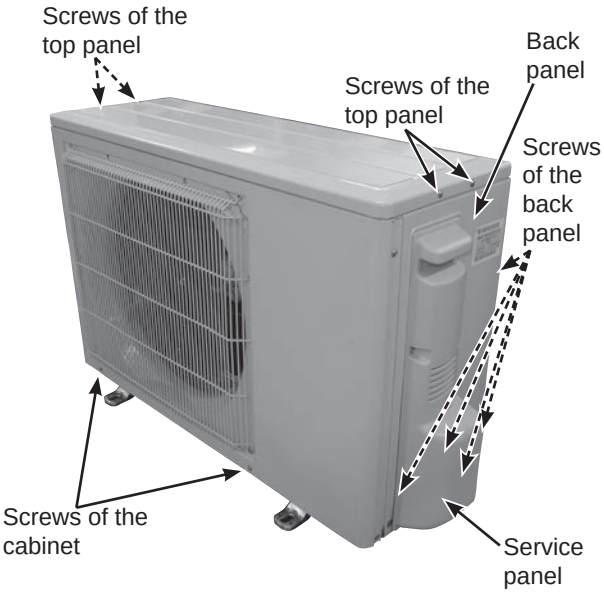
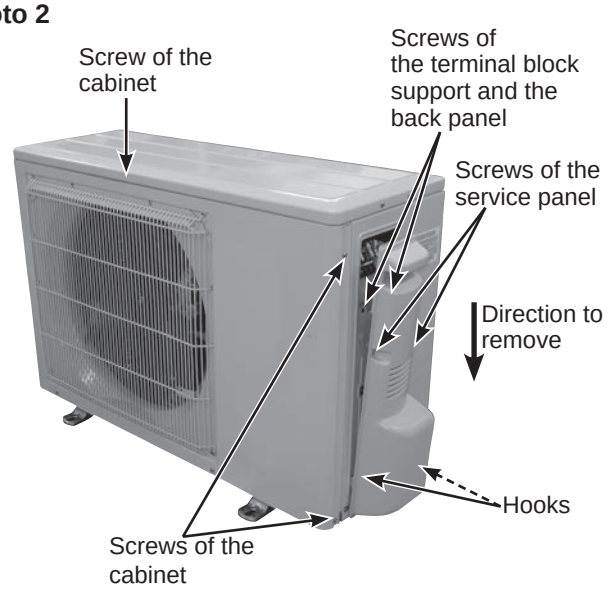


①Hold the sleeve, and pull out the terminal slowly.

13-1. MUZ-AY25VG MUZ-AY35VG MUZ-AY42VG MUZ-AY25VGH MUZ-AY35VGH MUZ-AY42VGH

NOTE: Turn OFF the power supply before disassembly.

——→: Indicates the visible parts in the photos/figures.
- - - - - - - →: Indicates the invisible parts in the photos/figures.

OPERATING PROCEDURE	PHOTOS/FIGURES
1. Removing the cabinet (1) Remove the screw fixing the service panel. (2) Pull down the service panel and remove it. (3) Disconnect the power supply cord and indoor/outdoor connecting wire. (4) Remove the screws fixing the top panel. (5) Remove the top panel. (6) Remove the screws fixing the cabinet. (7) Remove the cabinet. (8) Remove the screws fixing the back panel. (9) Remove the back panel.	**Photo 1**  **Photo 2** 

OPERATING PROCEDURE

2. Removing the inverter assembly, inverter P.C. board

(1) Remove the top panel, cabinet and service panel. (Refer to section 1.)
(2) Disconnect the lead wire to the reactor and the following connectors:
<Inverter P.C. board>
CN721 (R.V. coil)
CN722 (Defrost heater)(**MUZ-AY•VGH**)
CN931, CN932 (Fan motor)
CN641 (Defrost thermistor and discharge temperature thermistor)
CN643 (Ambient temperature thermistor)
CN644 (Outdoor heat exchanger temperature thermistor)
CN724 (Expansion valve coil)
(3) Remove the compressor connector (CN61).
(4) Remove the screws fixing the heat sink support and the separator.
(5) Remove the fixing screws of the terminal block support and the back panel.
(6) Remove the inverter assembly.
(7) Remove the screw of the earth wire and screw of the terminal block support.
(8) Remove the heat sink support from the P.C. board support.
(9) Remove the screw of the inverter P.C. board and remove the inverter P.C. board from the P.C. board support.

3. Removing R.V. coil

(1) Remove the cabinet and panels. (Refer to section 1.)
(2) Disconnect the following connectors:
<Inverter P.C. board>
CN721 (R.V. coil)
(3) Remove the R.V. coil.

4. Removing the discharge temperature thermistor, defrost thermistor, outdoor heat exchanger temperature thermistor and ambient temperature thermistor

(1) Remove the cabinet and panels. (Refer to section 1.)
(2) Disconnect the lead wire to the reactor and the following connectors:
<Inverter P.C. board>
CN641 (Defrost thermistor and discharge temperature thermistor)
CN643 (Ambient temperature thermistor)
CN644 (Outdoor heat exchanger temperature thermistor)
(3) Pull out the discharge temperature thermistor from its holder.
(4) Pull out the defrost thermistor from its holder. (Photo 6)
(5) Pull out the outdoor heat exchanger temperature thermistor from its holder. (Photo 6)
(6) Pull out the ambient temperature thermistor from its holder.

PHOTOS/FIGURES

Photo 3

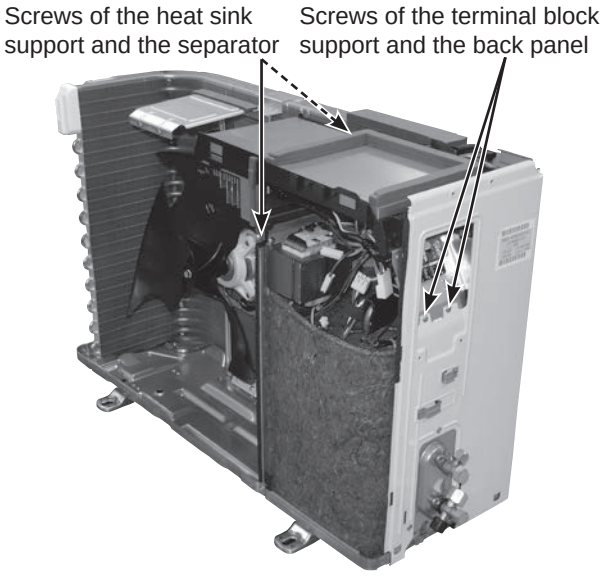


Photo 4 (Inverter assembly)

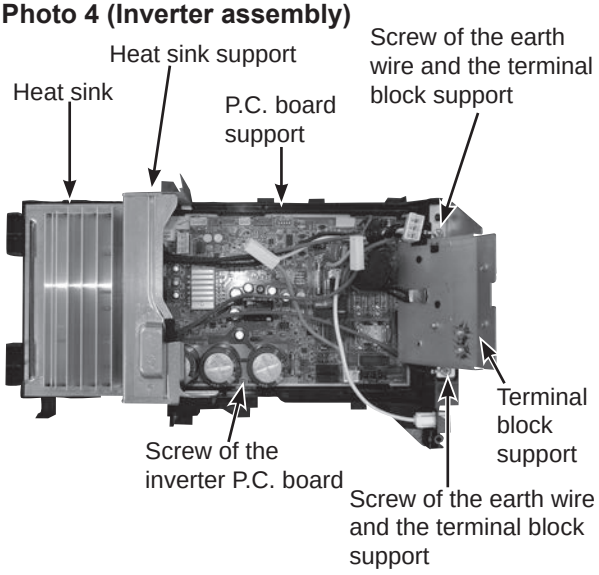
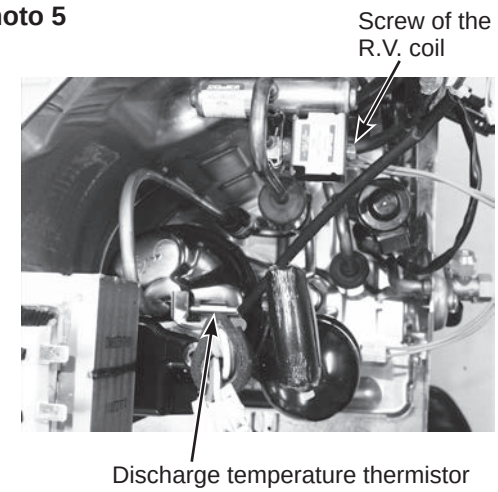


Photo 5



OPERATING PROCEDURE

5. Removing outdoor fan motor

(1) Remove the top panel, cabinet and service panel. (Refer to section 1.)
(2) Disconnect the following connectors:
<Inverter P.C. board>
CN931, CN932 (Fan motor)
(3) Remove the propeller fan nut.
(4) Remove the propeller fan.
(5) Remove the screws fixing the fan motor.
(6) Remove the fan motor.

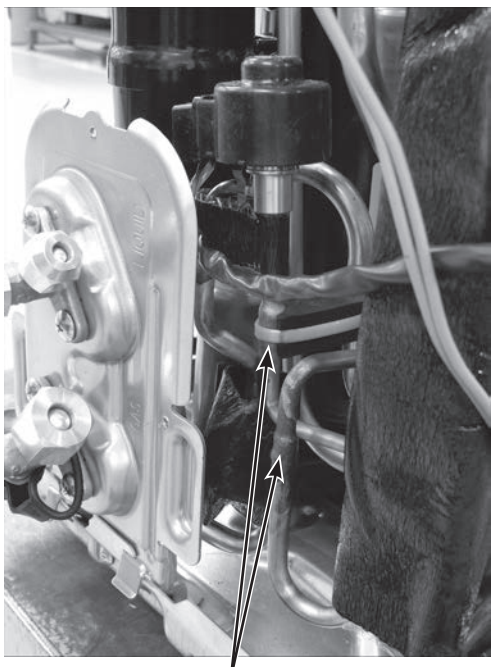
6. Removing the compressor and 4-way valve

(1) Remove the cabinet and panels. (Refer to section 1.)
(2) Remove the inverter assembly. (Refer to section 2.)
(3) Recover gas from the refrigerant circuit.
NOTE: Recover gas from the pipes until the pressure gauge shows 0 kg/cm^2 (0 MPa).
(4) Detach the brazed part of the suction and the discharge pipe connected with compressor.
(5) Remove the nuts of compressor legs.
(6) Remove the compressor.
(7) Detach the brazed part of pipes connected with 4-way valve.

7. Removing the expansion valve assembly

(1) Detaching the brazed part of pipes connected with the expansion valve.

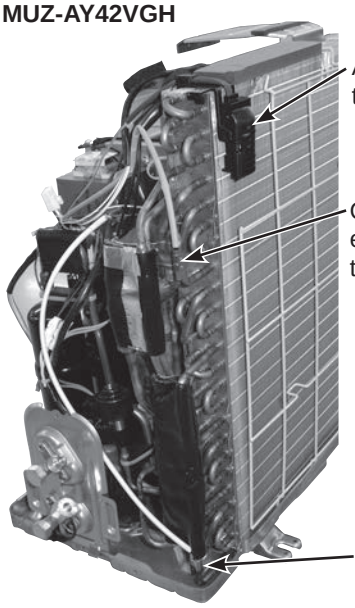
Photo 9



Brazed parts of the expansion valve

PHOTOS/FIGURES

Photo 6
MUZ-AY42VGH



NOTE: MUZ-AY25/35VG/H are different in the installation position of thermistors.

Photo 7

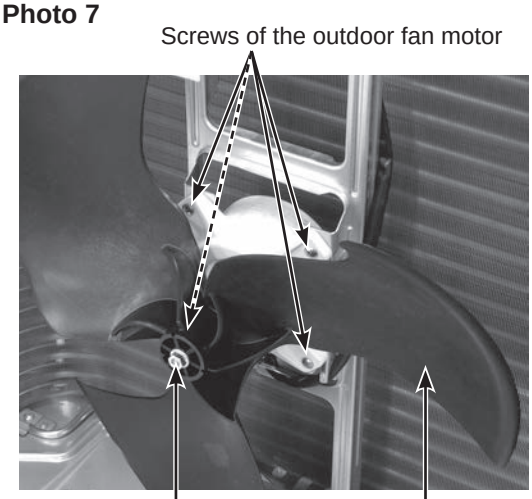
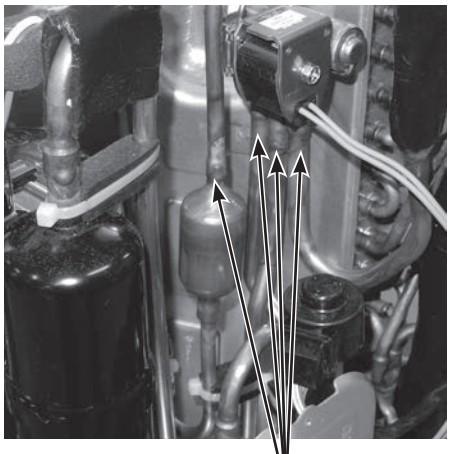


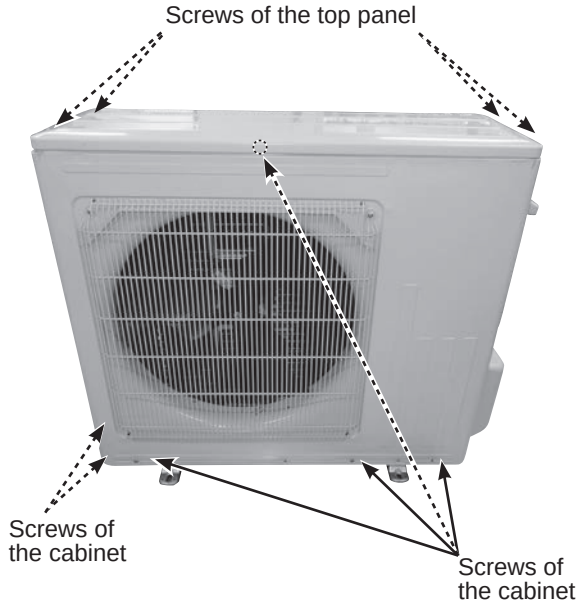
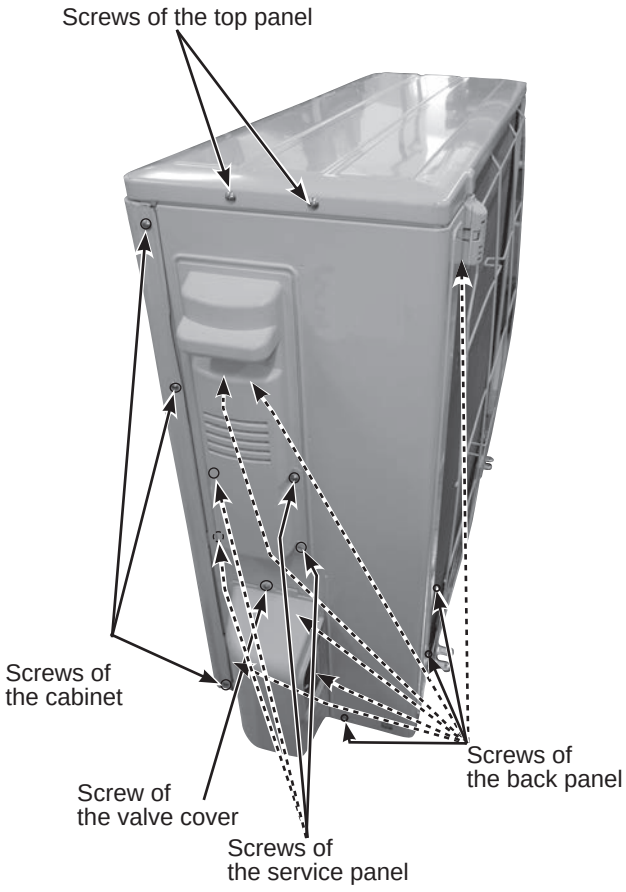
Photo 8



Brazed parts of 4-way valve

13-2. MUZ-AY50VG
MUZ-AY50VGH

NOTE: Turn OFF the power supply before disassembly.

OPERATING PROCEDURE	PHOTOS/FIGURES
1. Removing the cabinet (1) Remove the screws of the service panel. (2) Remove the screws of the top panel. (3) Remove the screw of the valve cover. (4) Remove the service panel. (5) Remove the top panel. (6) Remove the valve cover. (7) Disconnect the power supply cord and indoor/outdoor connecting wire. (8) Remove the screws of the cabinet. (9) Remove the cabinet. (10) Remove the screws of the back panel. (11) Remove the back panel.	**Photo 1** 
Photo 2  	

OPERATING PROCEDURE

2. Removing the inverter assembly and inverter P.C. board

(1) Remove the cabinet and panels (refer to section 1).
(2) Disconnect the lead wire to the reactor and the following connectors:
<Inverter P.C. board>
CN721 (R.V. coil)
CN931, CN932 (Fan motor)
CN641 (Defrost thermistor and discharge temperature thermistor)
CN643 (Ambient temperature thermistor)
CN644 (Outdoor heat exchanger temperature thermistor)
CN724 (Expansion valve coil)
CN722 (Defrost heater and heater protector) (**MUZ-AY50VGH**)
CN64 (Compressor protector)
(3) Remove the compressor connector (CN61).
(4) Remove the screws fixing the heat sink support and the separator.
(5) Remove the fixing screw of the P.B. support and the separator.
(6) Remove the fixing screws of the terminal block support and the back panel.
(7) Remove the inverter assembly.
(8) Remove the screws of the earth wires.
(9) Remove the heat sink support from the P.C. board support.
(10) Remove the screw of the inverter P.C. board and remove the inverter P.C. board from the P.C. board support.

PHOTOS/FIGURES

Photo 3

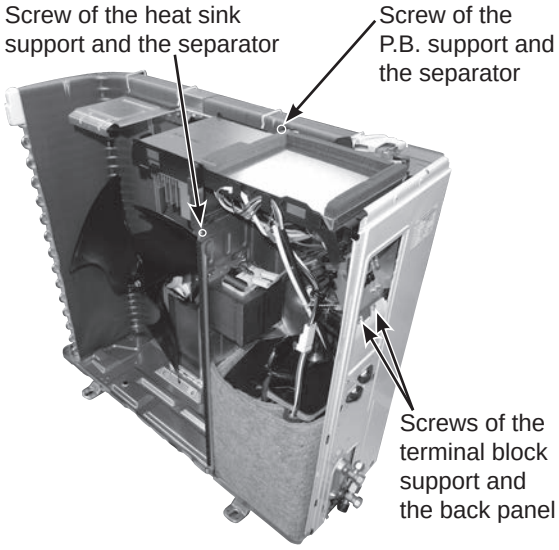


Photo 4 (**MUZ-AY50VGH**)

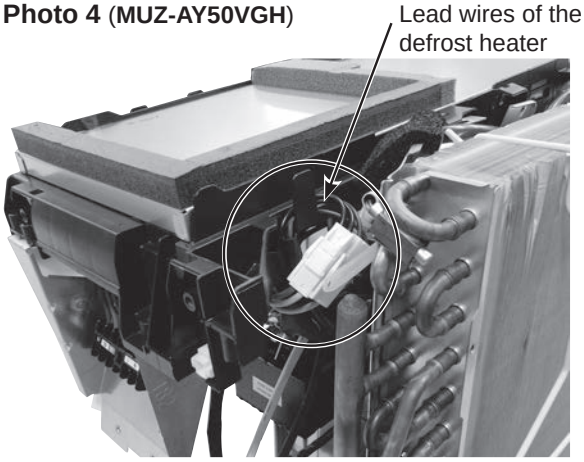
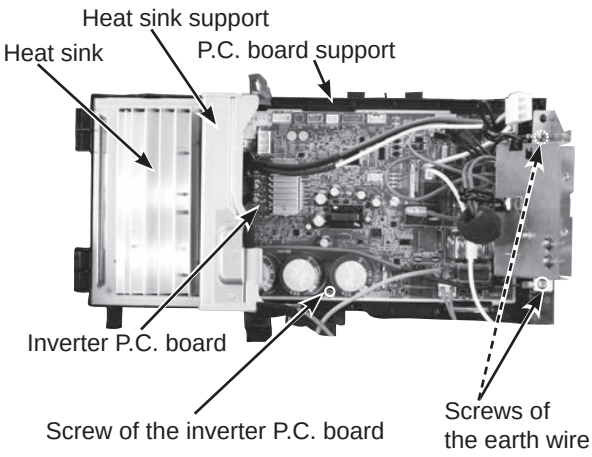


Photo 5 (Inverter assembly)



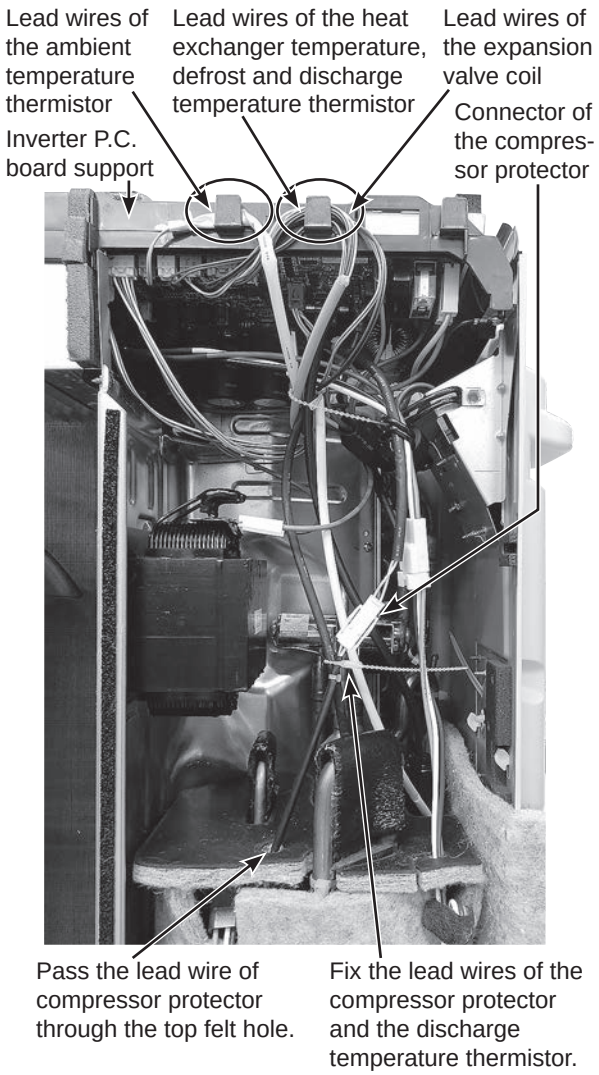
OPERATING PROCEDURE

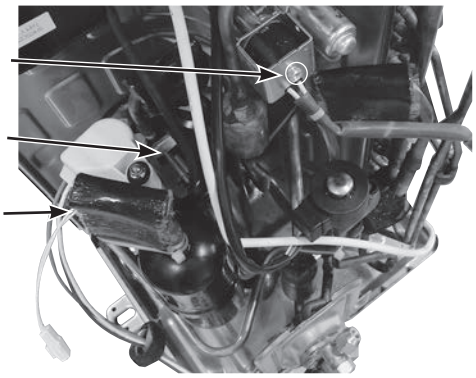
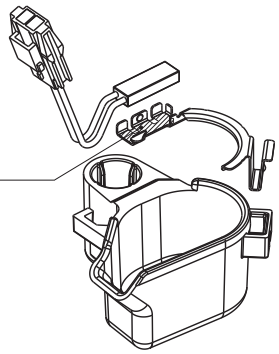
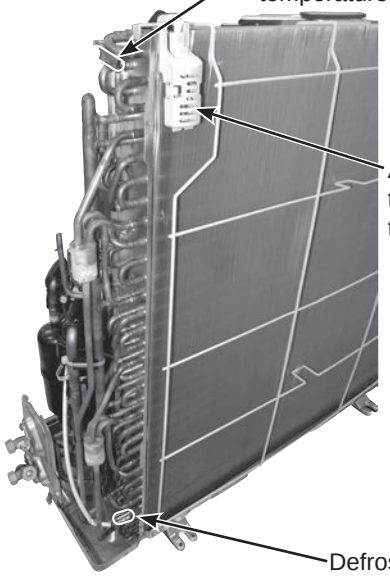
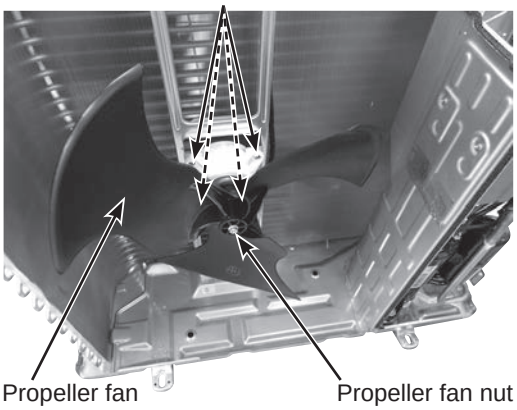
*** Connection procedure when attaching the inverter P.C. board (Photo 6)**

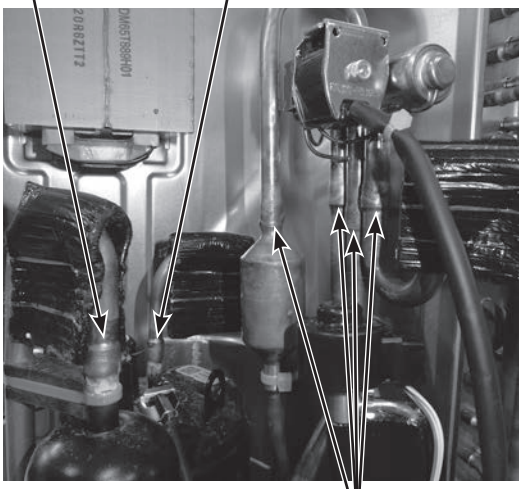
1. Connect the lead wires of the heat exchanger temperature thermistor, the defrost thermistor and discharge temperature thermistor to the connector on the inverter P.C. board. Pull the lead wires toward you and put them on the right hook on the P.C. board support.
2. Connect the lead wires of the expansion valve coil to the connector on the inverter P.C. board. Pull the lead wires toward you and put them on the right hook on the P.C. board support.
3. Connect the lead wires of the ambient temperature thermistor to the connector on the inverter P.C. board. Pull the lead wires toward you and put them on the left hook on the P.C. board support so that the fan motor lead wires are bundled up as shown in Photo 6.
4. Hook the lead wires of the defrost heater and the heater protector. (Photo 4)

PHOTOS/FIGURES

Photo 6



OPERATING PROCEDURE	PHOTOS/FIGURES
3. Removing R. V. coil (1) Remove the cabinet and panels (refer to section 1). (2) Disconnect the following connectors: <Inverter P.C. board> CN721 (R.V. coil) (3) Remove the R.V. coil.	**Photo 7** Screw of the R.V. coil Discharge temperature thermistor Compressor protector  **Figure 1** Attach the compressor protector to the protector holder with the surface on which the model name is printed facing the area hatched in the figure. 
4. Removing the discharge temperature thermistor, defrost thermistor, outdoor heat exchanger temperature thermistor and ambient temperature thermistor (1) Remove the cabinet and panels (refer to section 1). (2) Disconnect the lead wire to the reactor and the following connectors: <Inverter P.C. board> CN641 (Defrost thermistor and discharge temperature thermistor) CN643 (Ambient temperature thermistor) CN644 (Outdoor heat exchanger temperature thermistor) (3) Pull out the discharge temperature thermistor from its holder. (4) Pull out the defrost thermistor from its holder. (5) Pull out the outdoor heat exchanger temperature thermistor from its holder. (6) Pull out the ambient temperature thermistor from its holder.	**Photo 8** Outdoor heat exchanger temperature thermistor Ambient temperature thermistor Defrost thermistor 
5. Removing outdoor fan motor (1) Remove the cabinet and panels (refer to section 1). (2) Disconnect the following connectors: <Inverter P.C. board> CN931, CN932 (Fan motor) (3) Remove the propeller fan nut. (4) Remove the propeller fan. (5) Remove the screws fixing the fan motor. (6) Remove the fan motor.	**Photo 9** Screws of the outdoor fan motor Propeller fan Propeller fan nut 

OPERATING PROCEDURE	PHOTOS/FIGURES
6. Removing the compressor and 4-way valve (1) Remove the cabinet and panels (refer to section 1). (2) Remove the inverter assembly (refer to section 2). (3) Recover gas from the refrigerant circuit. **NOTE:** Recover gas from the pipes until the pressure gauge shows 0 kg/cm^2 (0 MPa). (4) Detach the brazed part of the suction and the discharge pipe connected with compressor. (5) Remove the compressor nuts. (6) Remove the compressor. (7) Detach the brazed part of pipes connected with 4-way valve.	**Photo 10** Suction pipe brazed part Discharge pipe brazed part  Brazed parts of 4-way valve

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BUILDING, 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN

Published: Nov. 2022. No. OBH931
Made in Japan