4. Troubleshooting

4-1 Display Error and Check Method

4-1-1 Indoor unit

■ **MH✳✳✳FVEA/MH✳✳✳FBEA/MH✳✳✳FAEA**

Display	Explanation	Main checking Point / Remark
E1↔01	Communication error (unable to receive data)	Communication cable connection
E1↔02	Communication error (outdoor cannot communicate)	Another indoor unit or indoor PCB
E1↔21	Indoor unit room temperature sensor error (Open/Short)	Room temperature sensor, indoor PCB
E1↔22	Indoor unit heat exchanger in temperature sensor error (Open/Short)	Heat exchanger in sensor, indoor PCB
E1↔23	Indoor unit heat exchanger out temperature sensor error (Open/Short)	Heat exchanger out sensor, indoor PCB
E1↔28	Indoor unit heat exchanger in temperature sensor detached	Heat exchanger in sensor
E1↔29	Indoor unit heat exchanger out temperature sensor detached	Heat exchanger out sensor
E1↔30	Indoor unit heat exchanger in & out temperature sensor detached	Heat exchanger in & out sensor
E1↔53	Indoor unit float switch second detection	-
E1↔54	Indoor unit fan motor malfunction	Fan motor and cable
E1↔61	More than 2 indoor units cool and heat simultaneously	Another indoor unit operation mode
E1↔62	EEPROM error	Indoor PCB
E1↔63	Option code setting error	Option code
E1↔85	Cable miss-wiring	Cable connection (Indoor & Outdoor unit)
E1↔86	MPI error malfunction	MPI
E2↔01	The number of indoor unit mismatched	Cable connection (another indoor unit & outdoor unit), SW01(outdoor)
E2↔51	Compressor discharge sensor error(Short/Open)	Outdoor unit
E5↔59	Outdoor unit error	Outdoor unit (Error code)

■ **MH✳✳✳FNEA**

Description	Indicators			Main Checking Point
	OPERATION	TIMER	TURBO	
	≋	◷	TURBO	
Indoor unit room temperature sensor error (open or short)	○	◑	○	-
Indoor unit heat exchanger temperature sensor error (open or short)	◑	◑	○	-
Indoor fan motor malfunction	○	○	◑	-
EEPROM error	◑	◑	◑	Option Setting
Option error (option wasn t set up or option data error)	◑	◑	◑	Option Setting
Outdoor unit error	◑	○	◑	Remote Control on/off Outdoor Unit Power Reset
Indoor unit communication error	×	◑	◑	
Outdoor unit communication error	◑	×	◑	
Simultaneous operation error	○	◑	◑	

○ : On ◑ : Flickering × : Off

◆ If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

■ **MH✳✳✳FSEA/NJ✳✳✳1HXEA/MH✳✳✳FMEA**

Abnormal conditions		Indicators					Operating
		Green	Red	Yellow	Green	Orange	
	MH✳✳✳FSEA						
	MH✳✳✳FMEA						
Power reset		◑	×	×	×	×	
Error of temperature sensor in indoor unit (OPEN/SHORT)		×	×	◑	×	×	
Error of heat exchanger sensor in indoor unit Error of heat exchanger OUT sensor in indoor unit Error of outlet temperature sensor in indoor unit (OPEN/SHORT): For heat pump models only		◑	×	◑	×	×	
Error of mixed operation		×	◑	×	◑	×	
Error of indoor fan motor : Below 450RPM for 15 minutes		×	×	×	◑	×	
Error of outdoor temperature sensor Error of CONDENSER sensor Error of DISCHARGE sensor		◑	×	×	◑	×	
1. No communication for 2 minutes between indoor unit and outdoor unit (communication error for more than 2 minutes) 2. Indoor unit receiving the communication error from outdoor unit 3. Outdoor unit tracking 3 minutes error 4. When sending the communication error from outdoor unit due to the mismatching of the communication numbers and installed numbers after completion of tracking (communication error for more than 2 minutes)		×	×	◑	◑	×	Error of indoor unit: Displayed on the indoor unit regardless of operation
1. 2nd detection of refrigerant completely leak 2. 2nd detection of high temperature CONDENSER 3. 2nd detection of high temperature DISCHARGE 4. Compressor down due to 6th detection of freezing		×	×	◑	◑	◑	Displayed on appropriate indoor unit which is operating Displayed on outdoor unit
Error of float switch		×	×	×	◑	◑	
Error of setting option switches for optional accessories		×	×	◑	×	◑	
EEPROM error		◑	×	◑	◑	×	
EEPROM option error		◑	◑	◑	◑	◑	

○ : On ◑ : Flickering × : Off

◆ If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

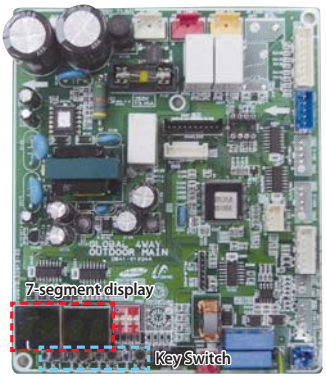
AJN***NDEHA

Abnormal conditions	LED lamp display				Remarks
	Operation	Defrost	Timer	Filter	
	⏻	✱	🕒	▦	
Power reset	◑	X	X	X	
Error of temperature sensor in the indoor unit (Open/Short)	X	◑	X	X	• Check indoor temperature sensor connection. • Check indoor temperature sensor's resistance value to see if it's short/open.
Error of heat exchanger sensor in the indoor unit (Open/Short)	◑	◑	X	X	• Check EVA IN/OUT sensor connection. • Check EVA IN/OUT sensor's resistance value to see if it's short/open.
Error of fan motor in the indoor unit	X	X	◑	X	• Check the connection of motor connector • Check the speed of the motor fan
Error of the outdoor temperature sensor Error of the condensor temperature sensor Error of the discharge temperature sensor	◑	X	◑	X	• Check indoor temperature sensor connection. • Check indoor temperature sensor's resistance value to see if it's short/open.
No communication for 2 minutes between indoor and outdoor unit (communication error for more than 2minutes)	X	◑	◑	X	• Check connection between indoor and outdoor heat exchangers' communication cables
Error of outdoor unit	X	◑	◑	◑	• Check error occurred with outdoor heat exchanger.
Detection of the float switch	X	X	◑	◑	• Check float switch connection. • Check whether the drain has been filled with water.
EEPROM error	◑	◑	◑	X	• Check if there is damage with EEPROM component.
EEPROM option error	◑	◑	◑	◑	• Check the indoor model to set the options. • Inspection for match between indoor and outdoor machine models
Motion detect sensor error	◑	X	X	◑	-.Check the wire connection -. Check the MDS-KIT -.Check the indoor PBA
Mixed operation error	X	X	X	◑	

Test run mode and View mode

■ Display Option Key

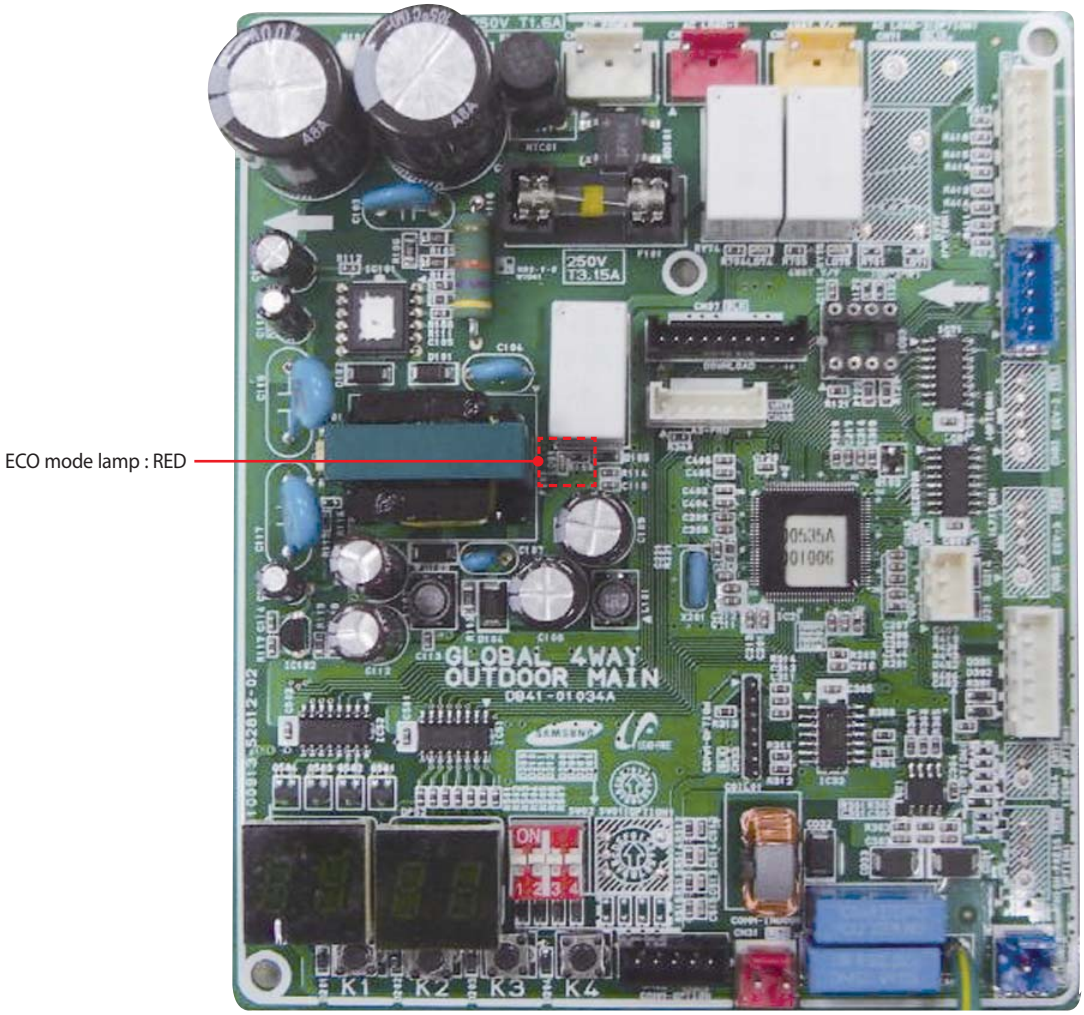
KEY	KEY operation	7-segment display
K1	Press once : Heating test run	"i""1""BLANK""BLANK"
	Press twice : Defrost test run	"i""3""BLANK""BLANK"
K2	Press once : Cooling test run	"i""2""BLANK""BLANK"
K3	Reset	
K4	View mode	Refer to View mode display



■ VIEW mode display

Number of press	Display contents	Display				Units
		Segment 1	Segment 2	Segment 3	Segment 4	
1	Order frequency	1	Three digits	Two digits	One digit	Hz
2	Current frequency	2	Three digits	Two digits	One digit	Hz
3	Number of indoor heat exchangers	3	Three digits	Two digits	One digit	Hz
4	Out sensor	4	Two digits	One digit	First decimal	℃
5	Discharge sensor	5	Two digits	One digit	First decimal	℃
6	OLP sensor	6	Two digits	One digit	First decimal	℃
7	Cond sensor	7	Two digits	One digit	First decimal	℃
8	Current	8	Two digits	One digit	First decimal	C
9	Fan RPM	9	Three digits	Two digits	One digit	rpm
10	Target discharge temperature	A	Three digits	Two digits	One digit	℃
11	EEV	B	Three digits	Two digits	One digit	step
12	Total indoor heat exchanger capacity	C	Two digits	One digit	First decimal	kW
13	Protection control	D	0 : air conditioning 1 : heating	**Protection control** 0 : no protection control 1 : freezing 2 : non-stop defrosting 3 : over-load 4 : discharge	**Frequency state** 0 : Normal 1 : Hold 2 : Down 3 : Up_limit 4 : Sown_limit	-
14	Group address of indoor heat exchanger	E	Three digits	Two digits	One digit	-
15	S/W check	F	-	-	-	-

ECO mode(Power save)



Mode	Display				ECO mode lamp
	Segment 1	Segment 2	Segment 3	Segment 4	RED color
ECO mode	"BLANK"	"BLANK"	"BLANK"	"BLANK"	On
Exit ECO mode	Press K3 to exit				Off

■ **MH✳✳✳FJEA**

Abnormal conditions	LED lamp display					Remarks
	White					
	MPI					
Power reset	×	×	×	×	◑	
Error of temperature sensor in the indoor unit (Open/Short)	×	×	◑	×	×	
Error of heat exchanger sensor in the indoor unit	×	×	◑	×	◑	
Error of the outdoor temperature sensor Error of the condensor temperature sensor Error of the discharge temperature sensor	×	◑	×	×	◑	
1. No communication between indoor and outdoor unit for 2 minutes 2. Error on the communication received from outdoor unit 3. Outdoor unit tracking time out (3 minutes) 4. Number of installation does not match after tracking	×	◑	◑	×	×	1. Indoor unit error (Display is unrelated with operation) 2. Outdoor unit error (Display is unrelated with operation)
Indoor fan motor is non-operative Indoor fan motor is operating slowly Indoor fan motor is operates at an excessive speed	×	◑	×	×	×	Indoor motor fan error
Simultaneous cooling/heating operation error (Multi model only)	×	◑	×	◑	×	
[Self diagnosis]Power voltage detection between indoor and outdoor unit communication cable [Self diagnosis]Outdoor unit refrigerant leakage(Gas leak) [Self diagnosis]Outdoor fan restriction error [Inverter]Inverter compressor operation failure [Inverter] DC peak error [Inverter]DC Link voltage 150V or less,410V or more [Inverter] Compressor rotation error [Inverter]Electric current error [Inverter]DC Link sensor error [Inverter]EEPROM READ/WRITE error [Inverter]Inverter zerocrossing error Setting the outdoor unit capacity option error	◑	◑	◑	×	×	
EEPROM error	×	◑	◑	×	◑	
EEPROM option error	◑	◑	◑	◑	◑	
MPI no feedback Error	◑	×	×	×	×	

○ : On ◑ : Flickering × : Off

◆ If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

■ **NJ✳✳✳LHXEA/MH✳✳✳FUEA**

The error indicated on the LED display of Indoor unit

Abnormal conditions	Indicators					Operating
	Concealed Type					
	Blue	Red				
	Standard Type					
Power reset	◑	×	×	×	×	
Error of temperature sensor in indoor unit(OPEN/SHORT)	×	×	◑	×	×	Displayed on appropriate indoor unit which is operating
Error of heat exchanger sensor in indoor unit Error of heat exchanger OUT sensor in indoor unit Error of outlet temperature sensor in indoor unit (OPEN/SHORT): For heat pump models only	◑	×	◑	×	×	Displayed on appropriate indoor unit which is operating
Error of mixed operation	×	◑	×	◑	×	
Error of outdoor temperature sensor Error of COND sensor Error of DISCHARGE sensor	◑	×	×	◑	×	Displayed on appropriate indoor unit which is operating Displayed on outdoor unit
1. No communication for 2 minutes between indoor unit and outdoor unit (communication error for more than 2 minutes) 2. Indoor unit receiving the communication error from outdoor unit 3. Outdoor unit tracking 3 minutes error 4. When sending the communication error from outdoor unit the mismatching of the communication numbers and installed numbers after completion of tracking. (communication error for more than 2 minutes)	×	×	◑	◑	×	1. Error of indoor unit : Displayed on the indoor unit regardless of operation 2. Error of outdoor unit : Displayed on the indoor unit which is operating
Self-diagnostic error (including the indoor unit not detected) 1. Error of electronic expansion valve close 2. Error of electronic expansion valve open 3. Breakaway of EVA OUT sensor 4. Breakaway of EVA IN sensor 5. Breakaway of COND MID sensor 6. 2nd detection of refrigerant completely leak 7. 2nd detection of high temperature COND 8. 2nd detection of high temperature DISCHARGE 9. COMP DOWN due to 2nd detection of low pressure switch 10. Error of reverse phase 11. Compressor down due to 6th detection of freezing 12. Self-diagnosis of condensation sensor (G8, G9) 13. Compressor down due to condensation ratio control	×	×	◑	◑	◑	Displayed on appropriate indoor unit which is operating Displayed on outdoor unit
Error of float switch	×	×	×	◑	◑	
Error of setting option switches for optional accessories	×	×	◑	×	◑	
EEPROM error	◑	×	◑	◑	×	
EEPROM option error	◑	◑	◑	◑	◑	

○ : On ◑ : Flickering × : Off

◆ If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

◆ If you re-operate the air conditioner, it operates normally at first, then detect an error again.

4-1-2 Ourdoor Unit

DISPLAY	EXPLANATION (The error indicated on the PCB display of outdoor unit)	REMARK
E1 01	Communiaction error(indoor unable to receive data)	Check electrical connection and setting
E1 02	Outdoor unit communication error(Abnormal data from indoor unit over 60 packet)	Check electrical connection and setting
E1 21	Indoor unit room temperature sensor error (Open/Short)	
E1 22	Indoor unit heat exchanger in temperature sensor error (Open/Short)	
E1 23	Indoor unit heat exchanger out temperature sensor error (Open/Short)	
E1 28	Indoor unit sensor error-Evaporator pipe in sensor - Self diagnosis	
E1 29	Indoor unit sensor error-Evaporator pipe out sensor - Self diagnosis	
E1 54	Indoor Unit FAN Error	
E1 61	More than two indoor units cool and heat simultaneously	
E1	Indoor Unit EEPROM Error	
E1	Indoor Unit EEPROM Option Error	
E1 90	Failure of pipe check operation	Check piping connection and setting
E1 99	No pipe check operation check - occasion : try to operation after the installation through auto addressing mode without pipe check operation.	Check setting
E2 01	The number of Indoor unit mismatched	Check electrical connection and setting
E2 02	Communication error between the outdoor and indoor unit	Check electrical connection and setting
E2 03	Outdoor communication error between main PCB and sub PCB	
E2 21	Outside temperature sensor error(Short/Open) - Error level: over 4.9V(-50°C) under 0.4V(93°C)	
E2 37	Condenser temperature sensor error(Short/Open) - Error level: over 4.9V(-50°C) under 0.4V(93°C)	
E2 46	Outdoor unit sensor error - Condenser out sensor(Short/Open) - Self diagnosis	
E2 51	Compressor Discharge temperature sensor error	
E2 61	Compressor discharge sensor detached - Self diagnosis	
E3 20	Compressor OLP sensor error (Short/Open) - Error condition : outdoor temperature under -20°C - Error level : over 4.95V(-30°C) under 0.5V(151°C)	
E3 30	EvaIn1 Sensor Short/Open	
E3 31	EvaIn2 Sensor Short/Open	
E3 32	EvaIn3 Sensor Short/Open	
E3 33	EvaIn4 Sensor Short/Open	
E3 34	EvaIn5 Sensor Short/Open	
E3 35	EvaOut1 Sensor Short/Open	
E3 36	EvaOut2 Sensor Short/Open	
E3 37	EvaOut3 Sensor Short/Open	
E3 38	EvaOut4 Sensor Short/Open	
E3 39	EvaOut5 Sensor Short/Open	

Ourdoor Unit(cont.)

DISPLAY	EXPLANATION (The error indicated on the PCB display of outdoor unit)	REMARK
E4 01	Outdoor unit freezing(Compressor stop)	check pipe lenght, indoor unit filter, refrigerant leakage/charge and service port
E4 04	Outdoor unit overload - Safety control(Compressor stop)	check pipe lenght, refrigerant leakage/charge
E4 16	Outdoor unit high discharge temperature - Safety control (Compressor stop)	check pipe lenght, refrigerant leakage/charge
E4 19	Outdoor unit EEV open (Stopped indoor unit's) -Self diagnosis	
E4 22	Outdoor unit EEV open (operating indoor unit's) -Self diagnosis	
E4 40	High temperature(over 30°C) of outdoor as heating mode	
E4 41	Low temperature(under -10°C) of outdoor as cooling mode	
E4 58	Outdoor Fan Error	
E4 60	Communication cable mismatched between indoor and outdoor unit	Check electrical connection
E4 61	Inverter compressor starting failure (5 times)	
E4 62	Compressor trip by input current control mode (PFC over current)	
E4 63	Compressor trip by OLP temperature control mode	
E4 64	Over current	
E4 65	Compressor Vlimit Error	
E4 66	DC link Voltage error (under 150V, over 410V)	
E4 67	Abnormal compressor running (Compressor Rotation Error)	
E4 68	Current sensor error	
E4 69	DC link Voltage sensor error	
E4 72	Inverter micom zero-crossing error	

4-2 Setting Option Setup Method

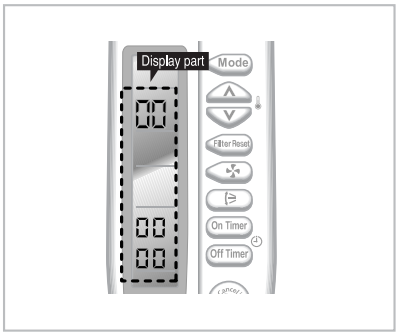
ex)Option No. : 045770- 1c8000

Step 1 : **Enter the Option Setup mode.**

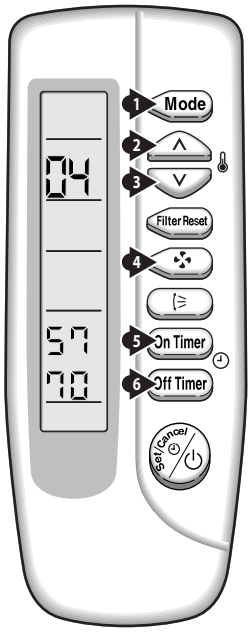
1st Take out the batteries of remote control.

2nd Press the temperature button simultaneously and insert the battery again.

3rd Make sure the remocon display shown as .



Step 2 : **Enter the Option Setup mode and select your option according to the following procedure.**



* Setting is not required if you must a value which has a default.

1

The default value is .
Otherwise, push the Mode button to 0.
Every time you push the button, the display panel reads 1 or 0 repeatedly.

2

Push the button to set the display panel to 4.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ... 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

3

Push the button to set the display panel to 5.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ... 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

4

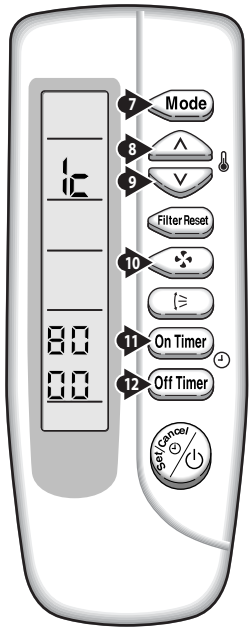
Push the button to set the display panel to 7.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ... 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

5

Push the On Timer button to set the display panel to 7.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ... 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

6

Push the button to set the display panel to 0.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ... 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.



* Setting is not required if you must 0 a value which has a 0 default.

7

Press Mode button, then the default value is 00.

8

Push the ∧ button to set the display panel to c .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

9

Push the ∨ button to set the display panel to 8 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

10

Push the button to set the display panel to 0 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

11

Push the On Timer button to set the display panel to 0 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

12

Push the Off Timer button to set the display panel to 0 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

Step 3 : Upon completion of the selection, check you made right selections.

Press the Mode Selection key, Mode to set the display part to 0 and check the display part.

➡ The display part shows 27 for 20.

Press the Mode Selection key, Mode set the display part to 1 and check the display part.

➡ The display part shows 1c 80 00 .

Step 4 : Pressing the ON/OFF button( )

When pressing the operation ON/OFF key with the direction of remote control for unit, the sound "Ding" or "Diriring" is heard and the OPERATION ICON( ) lamp of the display is flickering at the same time, then the input of option is completed. (If the diriring sound isn't heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote control.

Second, Re-insert the battery into the remote control.

Third, Press ON/OFF button( ) with the direction of remote control for set.

• Error Mode

1st If all lamps of indoor unit are flickering, Plug out, plug in power plug again and press ON/OFF key to retry.

2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for its model.

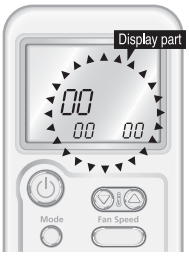
ex) Option No. : 066064- 170373

Step 1 : **Enter the Option Setup mode.**

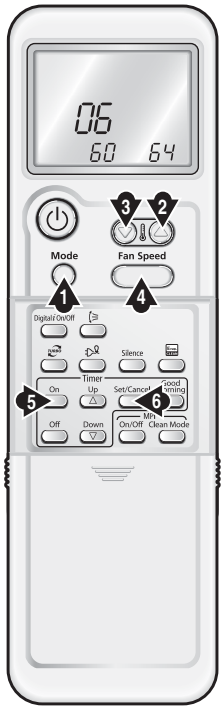
1st Take out the batteries of remote control.

2nd Press the temperature button simultaneously and insert the battery again.

3rd Make sure the remocon display shown as 00 00 00 .



Step 2 : **Enter the Option Setup mode and select your option according to the following procedure.**



✳ Setting is not required if you must 0 a value which has a 0 default.

1

The default value is 00 00 00 .
Otherwise, push the Mode button to 0.
Every time you push the button, the display panel reads 1 or 0 repeatedly.

2

Push the ▲ button to set the display panel to 6.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

3

Push the ▼ button to set the display panel to 6.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

4

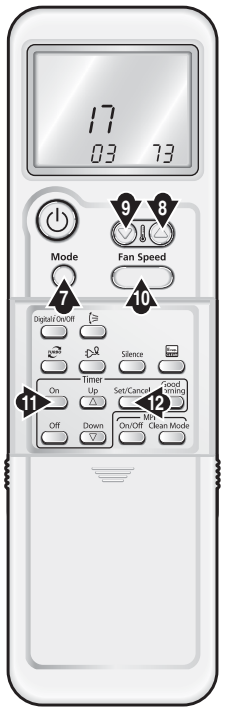
Push the Fan Speed button to set the display panel to 0.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

5

Push the On button to set the display panel to 6.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

6

Push the Set/Cancel button to set the display panel to 4.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ ··· 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.



✳ Setting is not required if you must 0 a value which has a 0 default.

7 Press Mode button, then the default value is 00 10 00 .

8 Push the ▲ button to set the display panel to 7.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

9 Push the ▼ button to set the display panel to 0.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

10 Push the Fan Speed button to set the display panel to 3.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

11 Push the On button to set the display panel to 7.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

12 Push the Set/Cance button to set the display panel to 3.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

Step 3 : Upon completion of the selection, check you made right selections.

Press the Mode Selection key, Mode to set the display part to 0 and check the display part.

➡ The display part shows 06 60 64 .

Press the Mode Selection key, Mode to set the display part to 1 and check the display part.

➡ The display part shows 17 03 73 .

Step 4 : Pressing the ON/OFF button (⏻)

When pressing the operation ON/OFF key with the direction of remote control for unit, the sound "Ding" or "Diriring" is heard and the OPERATION ICON(≋) lamp of the display is flickering at the same time, then the input of option is completed. (If the diriring sound isn't heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote control.

Second, Re-insert the battery into the remote control.

Third, Press ON/OFF key with the direction of remote control for set.

• Error Mode

1st If all lamps of indoor unit are flickering, plug out, plug in power plug again and press the ON/OFF key to retry.

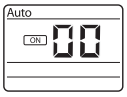
2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for its model.

ex) Option No. : 65 80 37 02 38

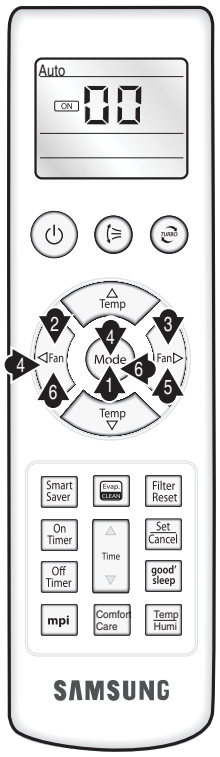
Step 1 : Enter the Option Setup mode.

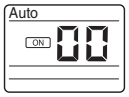
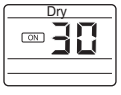
1st Take out the batteries of remote control.

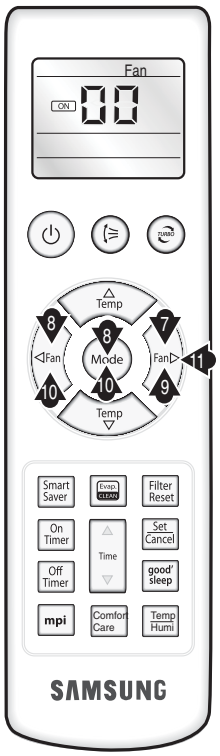
2nd Press the temperature button simultaneously and insert the battery again.

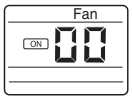
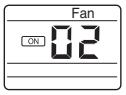
3rd Make sure the remote contr display shown as  .

Step 2 : Enter the Option Setup mode and select your option according to the following procedure.



	Feature	Display
1	The default value is . Every time you push the Mode button, the display panel reads ON Auto ➡ Cool ➡ Dry ➡ Fan ➡ Heat , OFF Auto ➡ Cool ➡ Dry ➡ Fan ➡ Heat repeatedly.	
2	Push the button to set the display panel to 6. Every time you push the button, the display panel reads 0➡1➡2➡ 3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	
3	Push the button to set the display panel to 5. Every time you push the button, the display panel reads 0➡1➡2➡ 3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	
4	Push the Mode button to . Push the button to set the display panel to 8. Every time you push the button, the display panel reads 0➡1➡2➡ 3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	
5	Push the button to set the display panel to 0. Every time you push the button, the display panel reads 0➡1➡2➡ 3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	
6	Push the Mode button to . Push the button to set the display panel to 3. Every time you push the button, the display panel reads 0➡1➡2➡ 3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	

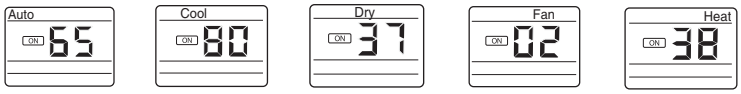


	Feature	Display
7	Push the button to set the display panel to 7. Every time you push the button, the display panel reads 0➡1➡2➡3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	
8	Push the Mode button to . Push the button to set the display panel to 0 . Every time you push the button, the display panel reads 0➡1➡2➡3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	
9	Push the button to set the display panel to 2. Every time you push the button, the display panel reads 0➡1➡2➡3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	
10	Push the Mode button to . Push the button to set the display panel to 3. Every time you push the button, the display panel reads 0➡1➡2➡3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	
11	Push the button to set the display panel to 8. Every time you push the button, the display panel reads 0➡1➡2➡3➡ ..... ➡9➡A➡b➡c➡d➡E➡F repeatedly.	

Step 3 : Upon completion of the selection, check you made right selections.

Press the Mode Selection key to set the display part and check the display part.

➡ The display part shows like below when each time you press Mode button .



Step 4 : Pressing the ON/OFF button ( )

When pressing the operation ON/OFF key with the direction of remote control for unit, the sound ííDingíí or ííDiriringíí is heard and the OPERATION ICON ( ) lamp of the display is flickering at the same time, then the input of option is completed. (If the diriring sound isnít heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote control.

Second, Re-insert the battery into the remote control.

Third, Press ON/OFF key with the direction of remote control for set.

● **Error Mode**

1st If all lamps of indoor unit are flickering, Plug out, plug in power plug again and press ON/OFF key to retry.

2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for its model.

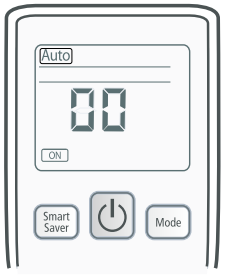
ex) Option No. : 30 00 07 C2 6C 83 10 00 00 00

Step 1 : Enter the Option Setup mode.

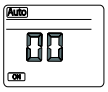
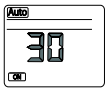
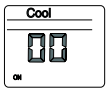
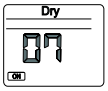
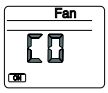
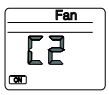
1st Take out the batterie of remote control.

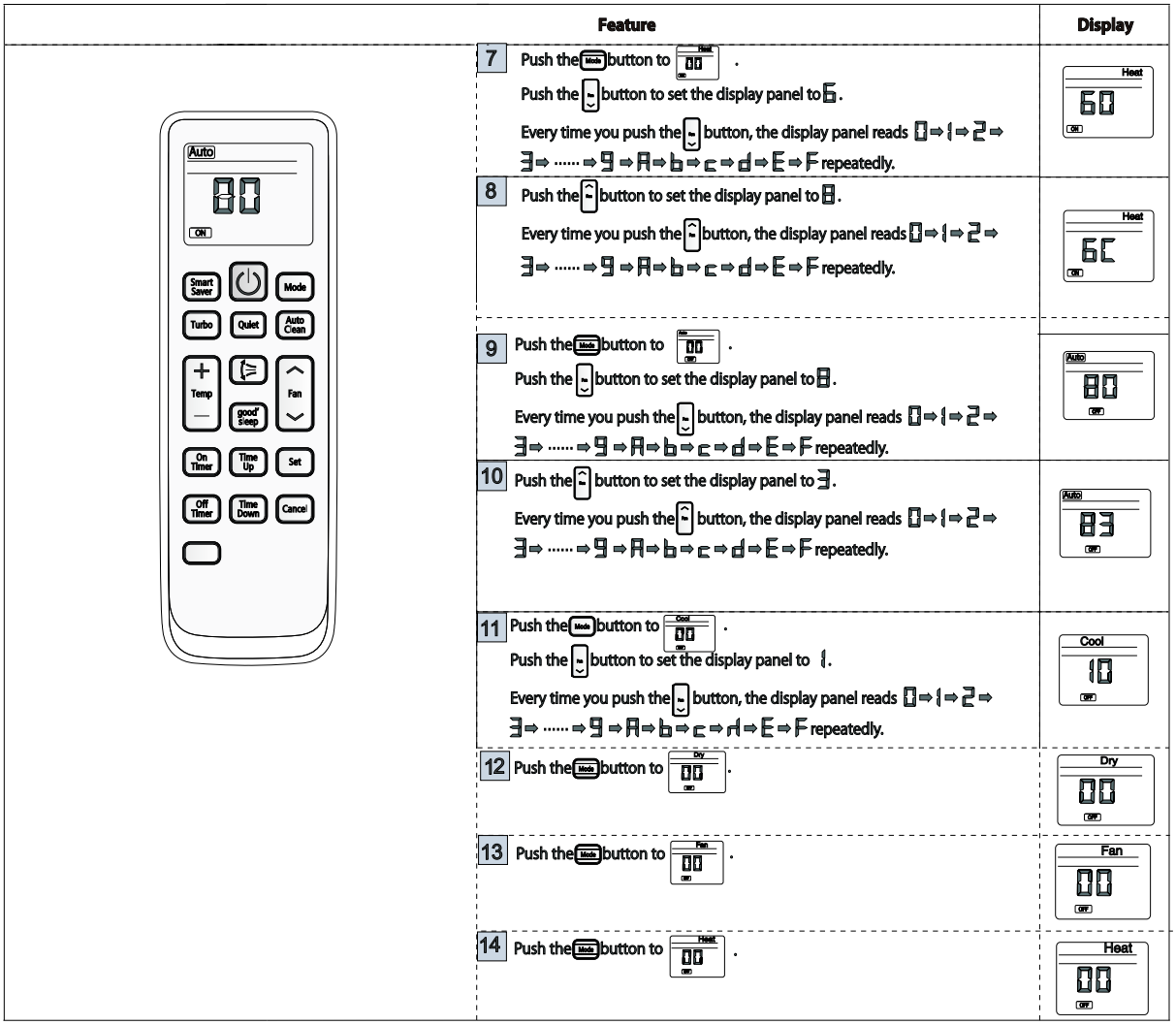
2nd Press the temperature button simultaneously and insert the battery again.

3rd Make sure the remote contr display shown as .



Step 2 : Enter the Option Setup mode and select your option according to the following procedure.

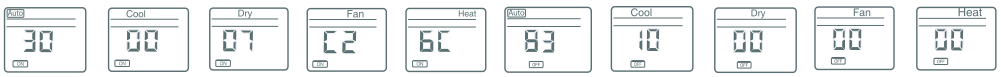
	Feature	Display
1	The default value is 00 . Every time you push the Mode button, the display panel reads ON Auto ⇒ Cool ⇒ Dry ⇒ Fan ⇒ Heat , OFF Auto ⇒ Cool ⇒ Dry ⇒ Fan ⇒ Heat repeatedly.	
2	Push the ~ button to set the display panel to 3. Every time you push the ~ button, the display panel reads 0 ⇒ 1 ⇒ 2 ⇒ 3 ⇒ ..... ⇒ 9 ⇒ A ⇒ b ⇒ C ⇒ d ⇒ E ⇒ F repeatedly.	
3	Push the Mode button to Cool 00 . Every time you push the ~ button, the display panel reads 0 ⇒ 1 ⇒ 2 ⇒ 3 ⇒ ..... ⇒ 9 ⇒ A ⇒ b ⇒ C ⇒ d ⇒ E ⇒ F repeatedly.	
4	Push the Mode button to Dry 00 . Push the ~ button to set the display panel to 7. Every time you push the ~ button, the display panel reads 0 ⇒ 1 ⇒ 2 ⇒ 3 ⇒ ..... ⇒ 9 ⇒ A ⇒ b ⇒ C ⇒ d ⇒ E ⇒ F repeatedly.	
5	Push the Mode button to Fan 00 . Push the ~ button to set the display panel to C . Every time you push the ~ button, the display panel reads 0 ⇒ 1 ⇒ 2 ⇒ 3 ⇒ ..... ⇒ 9 ⇒ A ⇒ b ⇒ C ⇒ d ⇒ E ⇒ F repeatedly.	
6	Push the ~ button to set the display panel to 2. Every time you push the ~ button, the display panel reads 0 ⇒ 1 ⇒ 2 ⇒ 3 ⇒ ..... ⇒ 9 ⇒ A ⇒ b ⇒ C ⇒ d ⇒ E ⇒ F repeatedly.	



Step 3 : Upon completion of the selection, check you made right selections.

Press the Mode Selection key to set the display part and check the display part.

➡ The display part shows like below when each time you press Mode button .



Step 4 : Pressing the ON/OFF button ( )

When pressing the operation ON/OFF key with the direction of remote control for unit, the sound "Ding" is heard and the OPERATION ICON( ) lamp of the display is flickering at the same time, then the input of option is completed. (If the diriring sound isn't heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote control.

Second, Re-insert the battery into the remote control.

Third, Press ON/OFF key with the direction of remote control for set.

• Error Mode

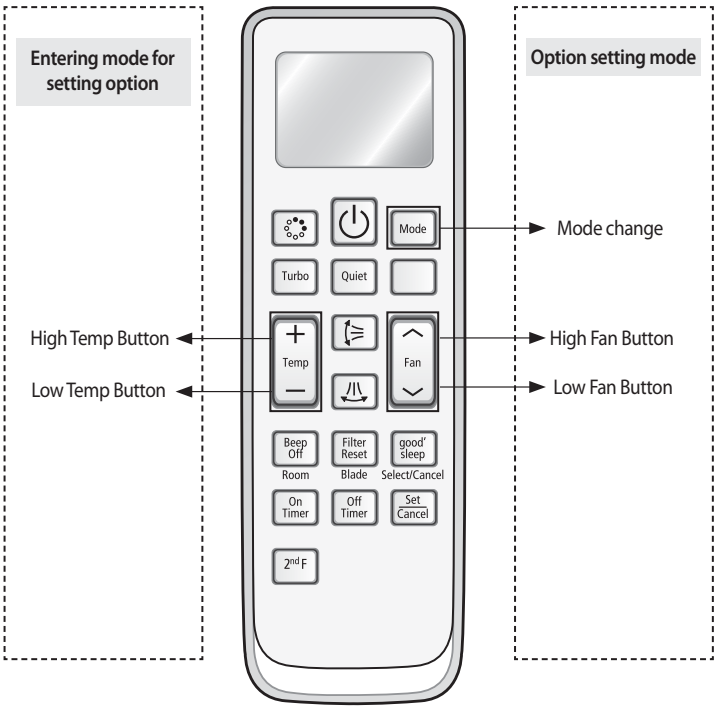
1st If all lamps of indoor unit are flickering, Plug out, plug in power plug again and press ON/OFF key to retry.

2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for its model.

4-2-1 Setting an indoor unit address and installation option

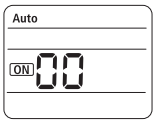
- Set the indoor unit address and installation option with remote controller option.
  Set the each option separately since you cannot set the ADDRESS setting and indoor unit installation setting option at the same time.You need to set twice when setting indoor unit address and installation option.
- Please use the proper wireless remocon which can set 24 digit option code. Following is the instructions of setting option code with wireless remocon of MR-DH00. (MR-AH01 can be used for operating but cannot be used for setting the installation option because only 12 digit option setting is available.
- Please refer to the wired remocon installation manual for setting with the wired remocon.

4-2-1-1 The procedure of setting option



Step 1. Entering mode to set option

1. Remove batteries from the remote controller.
2. Insert batteries and enter the option setting mode while pressing High Temp button and Low Temp button.

3. 

Check if you have entered the option setting status.

Step 2. The procedure of option setting

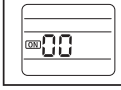
After entering the option setting status, select the option as listed below.

CAUTION

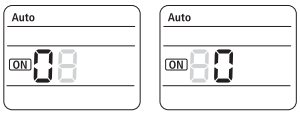
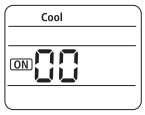
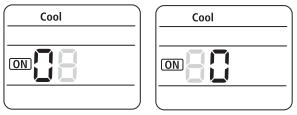
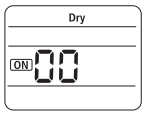
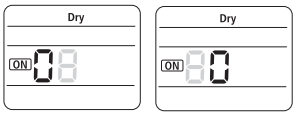
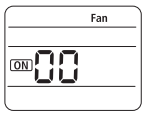
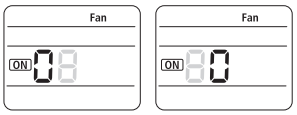
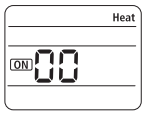
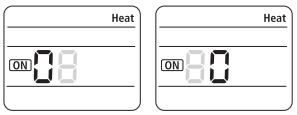
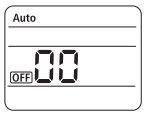
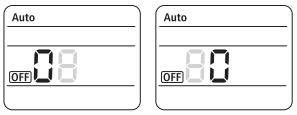
Option setting is available from SEG1 to SEG 24
- SEG1, SEG7, SEG13, SEG18 arenot need to be set at MR-DH00. They are the page options which were used at the previous other remocons.
- Set the each 2 bit option code in order except page options.

For example : SEG2, 3 → SEG4, 5 → SEG6, 8 → SEG9, 10 → SEG11, 12 → SEG 14, 15 → SEG 16, 17 → SEG 18, 20 → SEG 21, 22 → SEG23, 24.

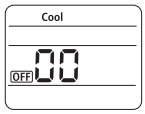
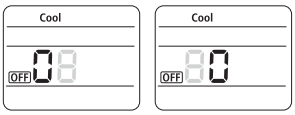
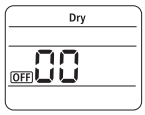
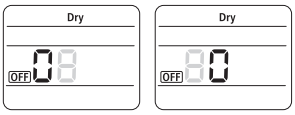
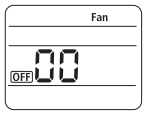
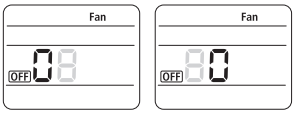
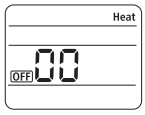
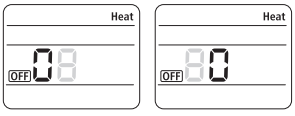
SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
0	X	X	X	X	X	1	X	X	X	X	X
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18	SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
2	X	X	X	X	X	3	X	X	X	X	X

On(SEG1~12)	Off(SEG13~24)
	

4-2-1-2 The procedure of setting option

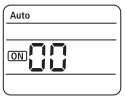
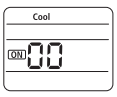
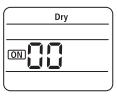
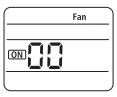
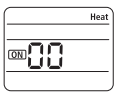
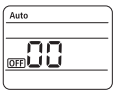
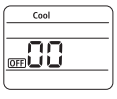
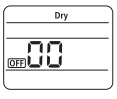
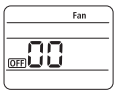
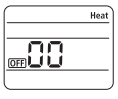
Option setting	Status
1. Setting SEG2, SEG3 option Press Low Fan button(∨) to enter SEG2 value. Press High Fan button(∧) to enter SEG3 value. Each time you press the button, 0→8→…E→F will be selected in rotation.	 SEG2 SEG3
2. Setting Cool mode Mode Press Mode button to be changed to Cool mode in the ON status.	
3. Setting SEG4, SEG5 option Press Low Fan button(∨) to enter SEG4 value. Press High Fan button(∧) to enter SEG5 value. Each time you press the button, 0→8→…E→F will be selected in rotation.	 SEG4 SEG5
4. Setting Dry mode Mode Press Mode button to be changed to DRY mode in the ON status.	
5. Setting SEG6, SEG8 option Press Low Fan button(∨) to enter SEG6 value. Press High Fan button(∧) to enter SEG8 value. Each time you press the button, 0→8→…E→F will be selected in rotation.	 SEG6 SEG8
6. Setting Fan mode Mode Press Mode button to be changed to FAN mode in the ON status.	
7. Setting SEG9, SEG10 option Press Low Fan button(∨) to enter SEG9 value. Press High Fan button(∧) to enter SEG10 value. Each time you press the button, 0→8→…E→F will be selected in rotation.	 SEG9 SEG10
8. Setting Heat mode Mode Press Mode button to be changed to HEAT mode in the ON status.	
9. Setting SEG11, SEG12 option Press Low Fan button(∨) to enter SEG11 value. Press High Fan button(∧) to enter SEG12 value. Each time you press the button, 0→8→…E→F will be selected in rotation.	 SEG11 SEG12
10. Setting Auto mode Mode Press Mode button to be changed to AUTO mode in the OFF status.	
11. Setting SEG14, SEG15 option Press Low Fan button(∨) to enter SEG14 value. Press High Fan button(∧) to enter SEG15 value. Each time you press the button, 0→8→…E→F will be selected in rotation.	 SEG14 SEG15

The procedure of setting option (cont.)

Option setting	Status
12. Setting Cool mode Mode Press Mode button to be change to Cool mode in the OFF status.	
13. Setting SEG16, SEG17 option Press Low Fan button(∨) to enter SEG16 value. Press High Fan button(∧) to enter SEG17 value. Each time you press the button, 0→1→··· E→F will be selected in rotation.	 SEG16 SEG17
14. Setting Dry mode Mode Press Mode button to be change to Dry mode in the OFF status.	
15. Setting SEG18, SEG20 option Press Low Fan button(∨) to enter SEG18 value. Press High Fan button(∧) to enter SEG20 value. Each time you press the button, 0→1→··· E→F will be selected in rotation.	 SEG18 SEG20
16. Setting Fan mode Mode Press Mode button to be change to Fan mode in the OFF status.	
17. Setting SEG21, SEG22 option Press Low Fan button(∨) to enter SEG21 value. Press High Fan button(∧) to enter SEG22 value. Each time you press the button, 0→1→··· E→F will be selected in rotation.	 SEG21 SEG22
18. Setting Heat mode Mode Press Mode button to be change to HEAT mode in the OFF status.	
19. Setting SEG23, SEG24 mode Press Low Fan button(∨) to enter SEG23 value. Press High Fan button(∧) to enter SEG24 value. Each time you press the button, 0→1→··· E→F will be selected in rotation.	 SEG23 SEG24

Step 3. Check the option you have set

After setting option, press Mode button to check whether the option code you input is correct or not.

Option	[SEG2,3]	[SEG4,5]	[SEG6,8]	[SEG9,10]	[SEG11,12]
Remote Controller Display					
Option	[SEG14,15]	[SEG16,17]	[SEG18,20]	[SEG21,22]	[SEG23,24]
Remote Controller Display					

Step 4. Input option

Press operation button ⏻ with the direction of remote control for set.
For the correct option setting, you must input the option twice.

Step 5. Check operation

1. Reset the indoor unit by pressing the RESET button of indoor unit or outdoor unit.
2. Take the batteries out of the remote controller and insert them again and then press the operation button.

4-2-1-3 Setting an indoor unit address (MAIN/RMC)

1. **Check whether power is supplied or not.**
   - When the indoor unit is not plugged in, there should be additional power supply in the indoor unit.
2. **The panel(display) should be connected to an indoor unit to receive option.**
3. **Before installing the indoor unit, assign an address to the indoor unit according to the air conditioning system plan.**
4. **Assign an indoor unit address by wireless remote controller.**

   -The initial indoor unit ADDRESS is set as "MAIN : 0, RMC : 0".
   -Set Main and RMC Address only the setting is required.
   -There is no need to assign the indoor unit Main Address if the outdoor unit is addressing automatically.
   The indoor unit Main address will follow the outdoor unit's automatically.
   -Assign 12 digit when setting the indoor unit address.
   -No need to assign SEG4, 5, 8, 10 which are non applicable. Even though those segments are set, they will be ignored.
   -If you set the applicable segments with numbers other than the indiciated, the initial setting will be maintained.

Option No. : 0AXXXX-1XXXXX-2XXXXX-3XXXXX

Option	SEG1		SEG2		SEG3		SEG4	SEG5	SEG6	
Explanation	PAGE		MODE		Setting Main address				The unit digit of an indoor unit	
Indication and Details	Indication	Details	Indication	Details	Indication	Details	RESERVED	RESERVED	Indication	Details
	0		A		0	No Main address			0~4	A single digit
					1	Main address setting mode				
Option	SEG7		SEG8		SEG9		SEG10	SEG11		SEG12	
Explanation	PAGE		RESERVED		Setting RMC address		RESERVED	Group channel(*16)		Group address	
Indication and Details	Indication	Details			Indication	Details		Indication	Details	Indication	Details
	1				0	No RMC address		RMC1	0~2	RMC2	0~F
					1	RMC address setting mode					

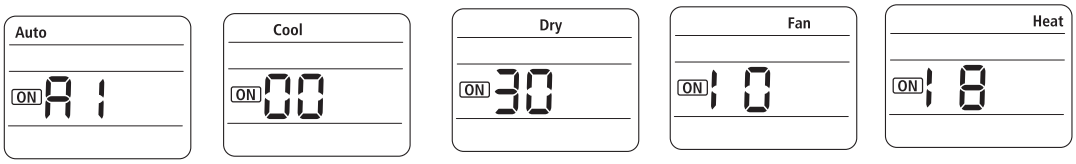
CAUTION

- When "A"~"F" is entered to SEG5~6, the indoor unit MAIN ADDRESS is not changed.
- If you set the SEG 3 as 0, the indoor unit will maintain the previous MAIN ADDRESS even if you input the option value of SEG6.
- If you set the SEG 9 as 0, the indoor unit will maintain previous RMC ADDRESS even if you input the option value of SEG11~12.

Example) If you want to set as "MAIN : 3, CHANNEL : 1, RMC : B",

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	A	1	-	-	3
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	-	1	-	1	B

assign option codes except SEG 1, 7 which are page options.



4-2-1-4 Setting an indoor unit installation option (suitable for the condition of each installation location)

1. **Check whether power is supplied or not.**
   - When the indoor unit is not plugged in, there should be additional power supply in the indoor unit.
2. **The panel(display) should be connected to an indoor unit to receive option.**
3. **Set the installation option according to the installation condition of an air conditioner.**
   - The default setting of an indoor unit installation option is "02000-100000-200000-300000".
   - Individual control of a remote controller(SEG20) is the function that controls an indoor unit individually when there is more than one indoor unit.
   - No need to assign SEG3, 6, 9, 10, 11, 16, 21, 22, 23, 24 which are non applicable. Even though those segments are set, they will be ignored.
   - If you set the applicable segments with numbers other than the indiciated, the initial setting will be maintained.
4. **Set the indoor unit option by wireless remote controller.**

Option No. : 02XXXX-1XXXXX-2XXXXX-3XXXXX

<table>
<tr><td>Option</td><td colspan="2">SEG1</td><td colspan="2">SEG2</td><td colspan="2">SEG3</td><td colspan="2">SEG4</td><td colspan="2">SEG5</td><td colspan="2">SEG6
(Mini 4Way only)</td></tr>
<tr><td>Explanation</td><td colspan="2">PAGE</td><td colspan="2">MODE</td><td colspan="2" rowspan="3">RESERVED</td><td colspan="2">Use of external temperature sensor</td><td colspan="2">Use of central control</td><td colspan="2">RPM setting compensation</td></tr>
<tr><td rowspan="3">Indication and Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td rowspan="3">0. Not used
1. High ceiling mode
2. High ceiling kit
3. Low noise operation mode</td></tr>
<tr><td colspan="2" rowspan="2">0</td><td colspan="2" rowspan="2">2</td><td>0</td><td>Disuse</td><td>0</td><td>Disuse</td></tr>
<tr><td>1</td><td>Use</td><td>1</td><td>Use</td></tr>
<tr><td>Option</td><td colspan="2">SEG7</td><td colspan="2">SEG8</td><td colspan="2">SEG9</td><td colspan="2">SEG10</td><td colspan="2">SEG11</td><td colspan="2">SEG12</td></tr>
<tr><td>Explanation</td><td colspan="2">PAGE</td><td colspan="2">Use of drain pump</td><td colspan="2" rowspan="4">RESERVED</td><td colspan="2" rowspan="4">RESERVED</td><td colspan="2" rowspan="4">RESERVED</td><td colspan="2">Master / Slave</td></tr>
<tr><td rowspan="4">Indication and Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td></tr>
<tr><td colspan="2" rowspan="3">1</td><td>0</td><td>Disuse</td><td>0</td><td>slave</td></tr>
<tr><td>1</td><td>Use</td><td>1</td><td>master</td></tr>
<tr><td>2</td><td>Use + 3minute delay</td><td></td><td></td></tr>
<tr><td>Option</td><td colspan="2">SEG13</td><td colspan="2">SEG14</td><td colspan="2">SEG15</td><td colspan="2">SEG16</td><td colspan="2">SEG17</td><td colspan="2">SEG18</td></tr>
<tr><td>Explanation</td><td colspan="2">PAGE</td><td colspan="2">Use of external control</td><td colspan="2">Setting the output of external control</td><td colspan="2">S-Plasma ion</td><td colspan="2">Buzzer control</td><td colspan="2">Number of hours using filter</td></tr>
<tr><td rowspan="7">Indication and Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td></tr>
<tr><td colspan="2" rowspan="4">2</td><td>0</td><td>Disuse</td><td>0</td><td>Thermo on</td><td>0</td><td>Disuse</td><td>0</td><td>Mixed operation control 1/Use buzzer</td><td>2</td><td>1000 Hour</td></tr>
<tr><td>1</td><td>ON/OFF Control</td><td rowspan="3">1</td><td rowspan="3">Operation on</td><td rowspan="3">1</td><td rowspan="3">Use</td><td>1</td><td>Mixed operation control 1/Disuse of buzzer</td><td rowspan="3">6</td><td rowspan="3">2000 Hour</td></tr>
<tr><td>2</td><td>OFF Control</td><td>2</td><td>Mixed operation control 2/Use buzzer</td></tr>
<tr><td>3</td><td>WINDOR ON/OFF</td><td>3</td><td>Mixed operation control 2/Disuse of buzzer</td></tr>
</table>

<table>
<tr><td>Option</td><td colspan="2">SEG19</td><td colspan="2">SEG20</td><td colspan="2">SEG21</td><td>SEG22</td><td colspan="2">SEG23
(Mini 4 Way only)</td><td>SEG24</td></tr>
<tr><td>Explanation</td><td colspan="2">PAGE</td><td colspan="2">Individual control of a remote controller</td><td colspan="2" rowspan="2"></td><td rowspan="4">RESERVED</td><td colspan="2">Motion detect sensor</td><td rowspan="4">RESERVED</td></tr>
<tr><td rowspan="3">Indication and Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td></tr>
<tr><td rowspan="2">3</td><td>0 or 1</td><td>Indoor 1</td><td rowspan="3">0</td><td rowspan="3">Disuse</td><td rowspan="2">0.No Use (Factory Setting)
1.Standard Mode/Auto Set OFF30 Min.
2.Standard Mode/Auto Set OFF60 Min.
3.Standard Mode/Auto Set OFF 120 Min.
4.Standard Mode/Auto Set OFF 180 Min.
5.Premium Mode/ Auto Set OFF30 Min.6.Premium Mode/ Auto Set OFF60 Min.
7.Premium Mode/Auto Set OFF 120 Min.
8.Premium Mode/Auto Set OFF 180 Min.</td></tr>
<tr><td>2</td><td>Indoor 2</td></tr>
<tr><td>3</td><td>Indoor 3</td><td rowspan="2">1</td><td rowspan="2">2℃</td></tr>
<tr><td>4</td><td>Indoor 4</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>2</td><td>5℃</td><td></td><td></td><td></td></tr>
</table>

▶ If you input a number other than 0~4 on the individual control of the indoor unit(SEG 20), the indoor is set as "Indoor 1".

Example) If you want to set as "Exterior temperature sensor : USE, External control : USE, Number of hours using filer : 2000hr",

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	2	-	1	0	-
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	0	-	-	-	0
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	1	0	-	0	6
SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	0	-	-	-	-

assign option codes except SEG 1, 7, 13, 19 which are page options.

4-2-1-5 Changing a particular option

You can change each digit of set option.

<table>
<tr><td>Option</td><td colspan="2">SEG1</td><td colspan="2">SEG2</td><td colspan="2">SEG3</td><td colspan="2">SEG4</td><td colspan="2">SEG5</td><td colspan="2">SEG6</td></tr>
<tr><td>Explanation</td><td colspan="2">PAGE</td><td colspan="2">MODE</td><td colspan="2">The option mode you want to change</td><td colspan="2">The tens' digit of an option SEG you will change</td><td colspan="2">The unit digit of an option SEG you will change</td><td colspan="2">The changed value</td></tr>
<tr><td rowspan="2">Indication and Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td></tr>
<tr><td colspan="2">0</td><td colspan="2">D</td><td>Option mode</td><td>0~F</td><td>Tens' digit of SEG</td><td>0~9</td><td>Unit digit of SEG</td><td>0~9</td><td>The changed value</td><td>0~F</td></tr>
</table>

NOTE

- When changing a digit of an indoor unit address setting option, set the SEG3 as 'A'.
- When changing a digit of indoor unit installation option, set the SEG3 as '2'.

Ex) When setting the 'buzzer control' into disuse status.

Option	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
Explanation	PAGE	MODE	The option mode you want to change	The tens' digit of an option SEG you will change	The unit digit of an option SEG you will change	The changed value
Indication	0	D	2	1	7	1

4-2-2 Changing a particular option

MODEL	OPTION CODE
MH020FNEA	026402-13225E-200000-300000
MH026FNEA	027402-14221A-200000-300000
MH035FNEA	027402-16224d-200000-300000
MH052FNEA	026402-19228F-200000-300000
MH023FBEA MH026FBEA	016402-142209-200000-300000
MH035FBEA	016402-16223c-200000-300000
MH052FBEA	016406-19224E-200000-300000
MH020FVEA	007402-132219-200000-300000
MH026FVEA	004402-1420E7-200000-300000
MH035FVEA	007402-16221A-200000-300000
MH052FVEA	005406-19225E-200000-300000
MH020FAEA	047402-1320E9-200000-300000

MODEL	OPTION CODE
MH026FAEA	047402-14221C-200000-300000
MH035FAEA	047402-16233C-200000-300000
MH052FAEA	047406-19223E-200000-300000
NJ0261HXEA MH026FSEA	078605-1420F8-200000-300000
NJ0351HXEA MH035FSEA	075605-16225d-200000-300000
MH030FMEA MH035FMEA	045023-16415b-200000-300000
MH052FMEA	045024-1940d0-200000-300000
MH026FJEA	087417-1400b6-200000-300000
MH035FJEA	087417-1600d8-200000-300000
MH052FJEA	087417-1900F9-200000-300000

TYPE	MODEL	Option Code
P	AQV07PSBN(NJ020DHXEA)	011305-1740E9-271416-372500-03403D-112E3F
	AQV09PSBN(NJ025DHXEA)	011305-17421D-271921-372500-03403D-112E3F
	AQV12PSBN(NJ035DHXEA)	011305-17423D-272328-372500-034B46-11474D
	AQV18PSBN(NJ050DHXEA)	012305-17421D-27323C-372600-034743-113F47
	AQV24PSBN(NJ068DHXEA)	012305-17427B-27444E-378200-034C4B-104442
P+	AQV07PMEN	015302-1740E9-271416-272500-033D3B-102E3E
	AQV09PMEN	015305-19422E-271921-37F600-022D2B-102E3E
	AQV12PMEN	015305-18424E-272328-37F600-034547-10454D
	AQV18PMBN	012305-17421D-27323C-372600-031743-113F47
	AQV24PMBN	012305-17427B-27444E-378200-034C4B-104442
Y	AQV09YWAN	010345-17C0F5-271920-372500-033B32-102A3C
	AQV12YWAN	010345-15C215-272328-352500-03453F-10404E
	AQV18YWAN	010245-15C24A-27323C-374500-03474C-104248

External Static Pressure (mmAq)	1.0	2.0(Standard)	3.0	4.0
NJ026LHXEA	015201-1400Fb -200000-300000	015201-14020c -200000-300000	015201-140360 -200000-300000	015201-1403A2 -200000-300000
NJ035LHXEA	015201-16025d -200000-300000	015201-16026E -200000-300000	015201-1603c4 -200000-300000	015203-160108 -200000-300000

External Static Pressure (mmAq)	0.0	2.0	4.0(Standard)	6.0
MH052FUEA	012221-194247 -200000-300000	012221-194360 -200000-300000	012221-1943A2 -200000-300000	012223-194105 -200000-300000

Option	AJN016NDEHA	AJN020NDEHA	AJN026NDEHA	AJN035NDEHA	AJN052NDEHA
SEG1~6	01507F	01507F	01507F	01507F	01507F
SEG7~12	1660F8	1660F8	1660F8	166219	17625D
SEG13~18	231014	231416	231A21	232328	23343C
SEG19~24	300000	300000	300000	300000	300000
SEG25~30	020000	020000	020000	020000	020000
SEG31~36	100000	100000	100000	100000	100000
SEG37~42	200000	200000	200000	200000	200000
SEG43~48	300000	300000	300000	300000	300000
SEG49~54	-	-	-	-	-
SEG55~60	-	-	-	-	-

◆ If you are going to use up to SEG 24, please refer to following instruction.

SEG 18 :

	Not in use	Use
Change temperature display	0(Celsius)	1(Fahrenheit)
Sound Mute	0	2

✳ If you want to use multiple functions, add each of the 'use' value of the function you want to used and input the final addition as option value. (Use Fahrenheit + Sound mute : 1 + 2 = 3)

Ex) 044217-1d00e6-200000-300000

When using Sound mute : 044217-1d00e6-200002-300000

When using Fahrenheit and Sound mute : 044217-1d00e6-200003-300000

4-3 Items to be checked first

1. The input voltage should be rating voltage ±10% range.
   The air conditioner may not operate properly if the voltage is out of this range.

2. Is the link cable linking the indoor unit and the outdoor unit linked properly?
   The indoor unit and the outdoor unit shall be linked by 4 cables.
   Check the terminals if the indoor unit and outdoor unit are properly linked by the same number of cables.
   Otherwise the air conditioner may not operate properly.

3. When a problem occurs due to the contents illustrated in the table below it is a symptom not related to the malfunction of the air conditioner.

No	Operation of air conditioner	Explanation
1	In a COOL operation mode, the compressor does not operate at a room temperature higher than the setting temperature that the INDOOR FAN should operate. In a HEAT operation mode, the compressor does not operate at a room temperature lower than the setting temperature that indoor fan should operate.	In happens after a delay of 3 minutes when the compressor is reoperated. The same phenomenon occurs when a power is on. As a phenomenon that the compressor is reoperated after a delay of 3 minutes, the indoor fan is adjusted automatically with reference to a temperature of the air blew
2	Fan speed setting is not allowed in AUTO(Auto) or DRY( ) mode.	The speed of the indoor fan is set to LL in DRY mode. Fan speed is 5 steps and is selected automatically in AUTO mode.
3	Compressor stops operation intermittently in DRY( ) mode.	Compressor operation is controlled automatically in DRY mode depending on the room temperature and humidity.
4	Compressor of the outdoor unit is operating although it is turned off in a HEAT mode.	When the unit is turned off while de-ice is activated, the compressor continues operation for up to 12 minutes (maximum) until the deice is completed.
5	Timer LED( ) only of the indoor unit lights up and the air conditioner does not operate.	Timer is being activated and the unit is in ready mode. The unit operates normally if the timer operation is cancelled.
6	The compressor and indoor fan stop intermittently in HEAT mode.	The compressor and indoor fan stop intermittently if room temperature exceeds a setting temperature in order to protect the compressor from overheated air in a HEAT mode.
7	Indoor fan and outdoor fan stop operation intermittently in a HEAT mode.	The compressor operates in a reverse cycle to remove exterior ice in a HEAT mode, and indoor fan and outdoor fan do not operate intermittently for within 20% of the total heater operation.
8	The compressor stops intermittently in a COOL mode or DRY mode, and fan speed of the indoor unit decreases.	The compressor stops intermittently or the fan speed of the indoor unit decreases to prevent inside/outside air frozen depending on the inside/outside air temperature.

4-4 Checking and Testing operations

To complete the installation, perform the following checks and tests to ensure that the air conditioner is operating correctly.

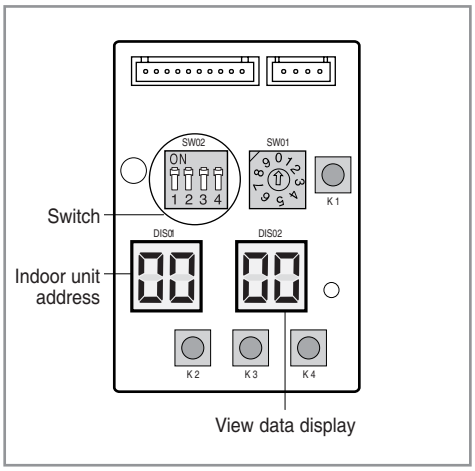
1. Review all the following elements in the installation:
   - Installation site strength
   - Piping connection tightness not to leak any gas
   - Connection wiring
   - Heat-resistant insulation of the piping
   - Drainage
   - Earthing wire connection
   - Setting number of the indoor unit installed (Outdoor unit SW)
   - Setting SW02 for addressing mode (AUTO or MANUAL)
   - Address number on each indoor unit (Manual addressing mode)
   - Correct operation for pipe checking connection (follow the step below)
   - If the auto addressing, refer to next page.
   - If the manual addressing, please do cool mode try-run or heat mode try-run.(refer to below)

■ **Settings of PCB Display of the Outdoor unit**

-K1 :pipe checking operation button -K2 :Function button

-K3 :Reset button -K4 :View mode change button

Key / Push	K1	K2	K3	K4
1	Pipe Checking Operation (Display: H5)	Heat Mode Try run (Display: H1)	Reset	View mode change
2	-	Refrigerant Charging (Display: H2)		
3	-	Cool Mode Try run (Display: H3)		
4	-	Pump down (Display: H4)		



Outdoor PCB Display

K4 View mode Display changes (Except RJ100F5HX**)

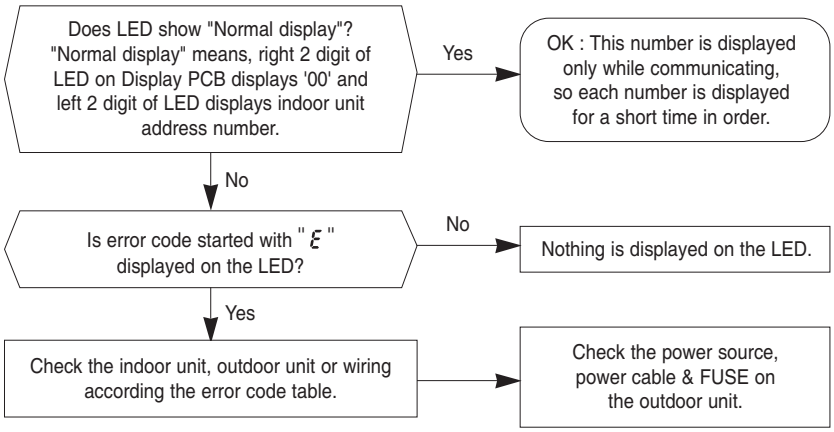
Push	Display Explanation	Push	Display Explanation
0	Present Compressor Frequency	8	Discharge temperature
1	Target Compressor Frequency	9	OLP temperature
2	Order Compressor Frequency	10	Condenser temperature
3	EEV0 current step	11	Outdoor temperature
4	EEV1 current step	12	First current
5	EEV2 current step	13	Target Discharge temperature
6	EEV3 current step	14	Total capacity of the indoor units
7	Fan RPM (H:high,L:low,Blank:off)	15	Safety control

- The EEV 2 and EEV 3 of RJ040F2HXE*/RJ050F2HXE* models are always displayed as blank.
- The EEV 3 of RJ052F3HXE*RJ060F3HXE* model is always displayed as blank.

K4 View mode Display changes (RJ100F5HX**)

Push	Display Explanation	Push	Display Explanation
0	Present Compressor Frequency	8	Discharge temperature
1	Target Compressor Frequency	9	OLP temperature
2	EEV0 current step	10	Condenser temperature
3	EEV1 current step	11	Outdoor temperature
4	EEV2 current step	12	First current
5	EEV3 current step	13	Target Discharge temperature
6	EEV4 current step	14	Total capacity of the indoor units
7	Fan RPM (H:high,L:low,Blank:off)	15	Safety control(just for Service Technician)

2. Apply the power to the outdoor unit.
   Outdoor unit will try to communicate the number of indoor units specified by SW01 on outdoor display PCB.



■ **Pipe Checking Operation (Auto Addressing Mode)**

Automated checking of pipe connection (Auto addressing option)

- Turn on the outdoor unit and wait for one minute.
  During these 60 seconds,the left dispaly DIS01 will show sequentially 00-01-02-03-...15-00.
- E199 is showed on the display PCB of outdoor unit.
  -It means you didn 't do “Pipe check operation“
- Push [K1] button on the display PCB of outdoor unit once, then begins to start “Pipe check operation” with displaying as below.

	Button [K1] 1 times	
Display	DIS 01 DIS 02 [DIS 01] is flickering on the setting time.	
Time duration	Outdoor Temperature	
	0˚C or more	less than 0˚C
	(Cool mode) 5min~10min	(Heat mode) 20min~50min

✳ Expected time of 4 indoor units installation.

- [DIS02] shows the indoor unit under searching.
- It could take more time depending on the indoor and outdoor temperature.
- After completeing pipe check operation,it shows "P5 oK" on the display PCB.
- The left display DIS01 will show sequentially the following message:

  00 -Estabilished communication with indoor unit "A";

  01 -Estabilished communication with indoor unit "B";

  02 -Estabilished communication with indoor unit "C";

  03 -Estabilished communication with indoor unit "D";

  00 -Estabilished communication with indoor unit "A"...
- Function of **Step 3**

Mode	Function
Auto Addressing	Checking the connection & addressing
Manual Addressing	Checking the connection only

- If the auto addressing does not work according to the indoor unit capacity, model or installation condition,apply the manual addressing.

✳ When SW01 set "0"on Auto address mode,it means you install the maximum number of indoor unit.

1) Installation ID Unit Number=MAX Installation ID Unit Number of OD Unit.
   ➟ Don't need set SW01.
2) Installation ID Unit Number<MAX Installation ID Unit Number of OD Unit.
   ➟ Pls set SW01 as the number of which you install the indoor unit.

✳ On Manual address mode,you must set SW01 as the number of which you install the indoor unit.

- This mode is for finding the combination between indoor unit and each valve on the outdoor unit. Because refrigerant flow is controlled with EEV in the outdoor, controller should know which EEV will control which indoor unit.
- Once "PIPE CHECK MODE" is done normally, each indoor unit will remember the given address number by the outdoor unit and no need to do this checking. But in case of listed below, PIPE CHECK MODE should be done again.
  - Re-install the system (ie.house moving)
  - Remove indoor unit, Add new indoor unit, Change indoor PCB for repair.
  - Mode change from "manual addressing" to "auto addressing"
- On this mode the controller will ignore the manual address number set on the rotary switch on the indoor PCB.
- To confirm the indoor address number assigned by this mode, use "TEST MODE" and the address number will be displayed on the LED display on the indoor unit.

■ **In case of MANUAL ADDRESSING mode.**

Switch Setting and Testing Operation

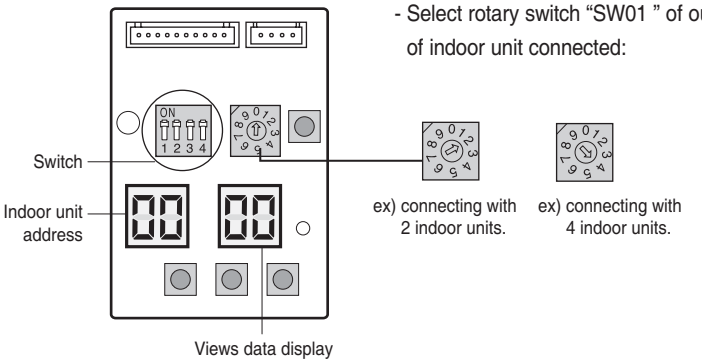
To complete the installation, perform the following checks and tests to ensure that the air conditioner is operating correctly.

Step 1 Review all the following elements in the installation:

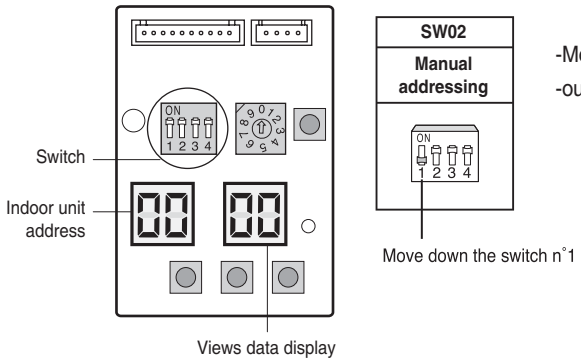
- Installation site strength
- Piping connection tightness to detect any gas leakage
- Connection wiring
- Heat-resistant insulation of the piping
- Drainage
- Earthing wire connection

Step 2 IMPORTANT!

Before selecting switch turn off the system power supply



Advise control we are going to proceeed with manual addressing as follow:



Step 3 Follow of indication reported into table below for indoor unit addressing.

Step 4 Turn on the system power supply and waiting for 60 seconds after estabilishing communication between outdoor and indoor units.

During this phase,the left display of outdoor unit display PCB “DIS01 ” will count fom 00--01--02 to 15.

Estabilished communication the left display will count sequentially:

00--communication with indoor unit A;

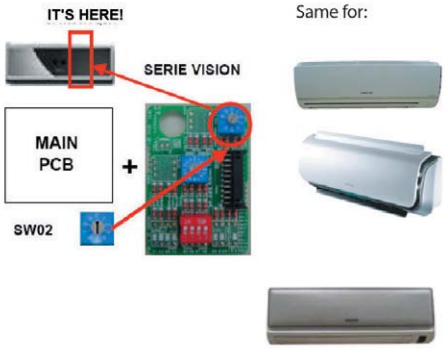
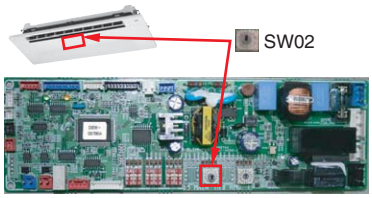
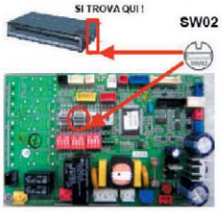
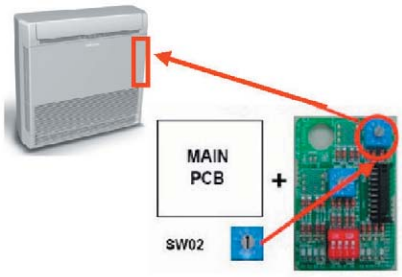
01--communication with indoor unit B;

02--communication with indoor unit C;

03--communication with indoor unit D;

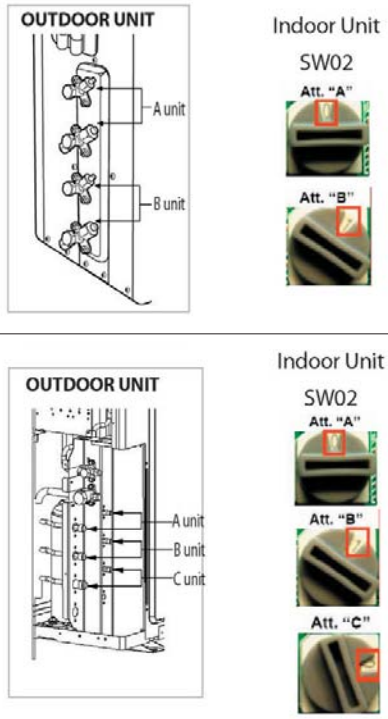
✳ In case of Manual address mode,you can do pipe check operation for check whether you connect the pipes correctly or not. But you need set indoor address switch yourselves.

Switch Setting and Testing Operation (cont.)

TYPE	PICTURE	MODEL	TO SET ADDRESSING MANUALLY BY ROTARY SWITCH "SW02 "
RAC		MH020FVEA MH026FVEA MH035FVEA MH052FVEA MH020FNEA MH026FNEA MH035FNEA MH052FNEA MH023FBEA MH026FBEA MH035FBEA MH052FBEA MH020FAEA MH026FAEA MH035FAEA MH052FAEA	
SLIM 1 WAY CASSETTE		MH026FSEA MH035FSEA NJ0261HXEA NJ0351HXEA	
MINI 4 WAY CASSETTE		MH030FMEA MH035FMEA MH052FMEA	
SLIM DUCT MSP-DUCT		NJ026LHXEA NJ035LHXEA MH052FUEA	
CONSOLE		MH026FJEA MH035FJEA MH052FJEA	

Switch Setting and Testing Operation (cont.)

ROTARY SWITCH "SW02 " POSITION ACCORDING TO REFRIGERANT CIRCUIT CONNECTED (0=A;1=B;2=C;3=D;4=E)



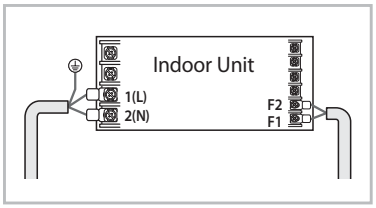
INSTALLATION TEST MODE (with all indoor units functioning)

Please do cool mode try-run or heat mode try run.

Cool mode try-run :Push the [K2] button three times.

Heat mode try-run :Push the [K2] button once.

Setting an indoor unit address (MAIN/RMC) (AQV07/09/12/18/24****)



1. **Check whether power is supplied or not.**
   - When the indoor unit is not plugged in, there should be additional power supply in the indoor unit.
2. **The panel(display) should be connected to an indoor unit to receive option.**
3. **Before installing the indoor unit, assign an address to the indoor unit according to the air conditioning system plan.**
4. **Assign an indoor unit address by wireless remote controller.**
   - The initial setting status of indoor unit ADDRESS(MAIN/RMC) is "0A0000-100000-200000-300000"
   - There is no need to assign extra ADDRESS for 1:1 installation between indoor unit and outdoor unit.

Option No. : 0AXXXX-1XXXXX-2XXXXX-3XXXXX

Option	SEG1		SEG2		SEG3		SEG4		SEG5		SEG6	
Explanation	PAGE		MODE		Setting Main address		100-digit of indoor unit address		10-digit of indoor unit		A single digit of indoor unit	
Remote Controller Display			Auto ON 8		Auto ON 8		Cool ON 8		Cool ON 8		Dry ON 8	
Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	0		A		0	No Main address	0~9	100-digit	0~9	10-digit	0~9	A single digit
					1	Main address setting mode						

Option	SEG7		SEG8		SEG9		SEG10		SEG11		SEG12	
Explanation	PAGE				Setting RMC address				Group channel(*16)		Group address	
Remote Controller Display					Fan ON 8				Heat ON 8		Heat ON 8	
Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	1				0	No RMC address			RMC1	1~F	RMC2	1~F
					1	RMC address setting mode						

※ You must set RMC address setting mode when using the centralized Control .

● **If Error code is displayed on indoor or outdoor LED, check as follows;**

- Manaul address setting

Contents		
Q1	Turn on the system. But outdoor units PCB displayed E201 or E101 Error code.	
	Check point	Remarks
Step 1	Check to Number of indoor unit's SW01.	Outdoor PCB SW01
Step 2	Check to power cable to indoor units. Check to communication cable indoor units.	Wire connect

Contents		
Q2	Turn on the system. But outdoor units PCB displayed E203 Error code.	
	Check point	Remarks
Guidance	Outdoor communication error between the outdoor main PCB and sub PCB.	Outdoor PCB SW01
Step 1	Check to sub PCB wire and replace it.	Wire connect

Contents	
Q3	Turn on the indoor units. But indoor unit displayed E121/122/123/154 Error code.
Error code	Explanation
E121	Indoor unit room temperature sensor error (open/short)
E122	Indoor unit heat exchanger in temperature sensor error (open/short)
E123	Indoor unit heat exchanger out temperature sensor error (open/short)
E154	Indoor unite fan error
Guidance	Please, all units turn off and check to indoor unit's PCB and wire connection. E121/122/123 error detected, replace related sensor.

Contents	
Q4	Turn on the system. But indoor unit displayed E162/163 Error code.
Error code	Explanation
E162	Indoor unit EEPROM Error.
E163	Indoor unit EEPROM Option Error.
Guidance	Please, all units turn off and follow guidance. E163 : Please reset indoor Option code. If you don't know about that, replace indoor unit PCB which is related. E162 : Please replace indoor unit PCB which is related.

Contents	
Q5	Turn on the system. But outdoor unit displayed E221/237/251/320 Error code.
Error code	Explanation
E221	Outside temperature sensor error (open/short)
E237	Indoor unit heat exchanger in temperature sensor error (open/short)
E251	Condenser temperature sensor error (open/short)
E251	Compressor Discharge temperature sensor error (open/short)
E320	Compressor OLP sensor error (open/short)
Guidance	Please, The System turn off and replace sensor which is related.

Contents		
Q6	Indoor units address SW setting correct, but outdoor unit's PCB displayed E201 Error Code.	
	Check point	Remarks
Analysis	Indoor unit's sub PCB address SW or sub PCB is connected by mistake.	
Step 1	Check to indoor unit's sub PCB wire connecting condition.(misconnecting or Sub PCB is out of order)	Indoor Sub PCB
Step 2	Address setting mode change to auto address setting.	
Step 3	Following auto address setting steps.	
Guidance	Manual Address setting is Option in FJM PLUS A. But we solved problem like this situation, with auto address setting.	

- Auto address setting

Contents		
Q1	When the pipe checking operation is finished, outdoor sub PCB display E190 Error code.	
	Check point	Remarks
Analysis	Outdoor unit fails to search indoor units or to check indoor address.	The pipe checking operation
Step 1	Whether The gas and liquid pipes are crossed with each other, check to connecting.	Pipe connecting
Step 2	Check to outdoor unit's EEV coil being connected in proper location.	EEV Coil
Step 3	Check to indoor unit's sensor being connected in proper location.	Indoor sensor
Guidance	During the pipe checking operation , system check temperature change of indoor Heat exchanger.In case, indoor sensor defect, EEV coil connector detach, malfunction of EEV, Leakage of Refrigerant, and etc can make this case.	

- Address setting another case

Contents		
Q1	When the system installation is finished, outdoor unit's PCB display E202 Error code.	
	Check point	Remarks
Analysis	This problem is caused by outdoor unit's communication part trouble or indoor units power and communication line trouble.	The pipe checking operation
Step 1	Check to connect outdoor unit and indoor units cable.	Pipe connecting
Step 2	Replace outdoor unit's ass'y control or indoor unit's ass'y control.	EEV Coil
Guidance	Basically, This error caused by communication between Indoor Units and Outdoor Unit. First of all, check the all communication connection and PCB's status.	

- Operation Error

Contents		
Q1	While using cooling or heating, indoor units display E161 Error code	
	Check point	Remarks
Analysis	This problem is caused by user's fault. User's simultaneously operate 2 more indoor units in the same time cooling and heating mode.	
Guidance	FJM is operate by just cooling or heating mode only. (Only, HR system can operate cooling and heating mode simultaneously in the same time) Outdoor unit will be operate by first received signal, another operation signal is not applied system.	

Contents		
Q2	While using cooling or heating, System turn off and display E416 Error code.	
	Check point	Remarks
Analysis	E416 is outdoor unit high discharge temperature safety control Error code. After System restart automatically until 3 times, system stop and display this error. System can be operated by remote controller signal and K3(reset) key input.	
Step 1	Check outdoor units installation environment. (air flow blocking, the halation of another outdoor air flow)	
Step 2	Check refrigerant leakage.	
Step 3	Check outdoor EEV operation.	

Contents		
Q3	While using cooling or heating, System Turn off and display E458 Error code	
	Check point	Remarks
Analysis	E458 Error is related with outdoor unit fan Error. Especially, If system have a some problem in fan, in heating mode , it will be happened. And In auto address setting, without pipe checking operation must be happened it.	
Step 1	Check to outdoor fan operation.	
Step 2	If outdoor fan operation is clear, start to pipe checking operation.	
Guidance	When Auto address setting is finished without pipe checking operation, in heating mode, outdoor unit refrigerant distribution control is malfunction. It make our system to confuse it's condition. But, basically this error code is concerned about fan error.	

Contents		
Q4	While using cooling mode, outdoor unit turn off and display E401 Error code.	
	Check point	Remarks
Analysis	This is caused by protection mode behavior. This is indoor Evaporator Freezing protection mode.	
Step 1	Please, check indoor unit, whether inlet or outlet grill is closed.	
Step 2	Please, check indoor unit, whether indoor fan is working.	

Contents		
Q5	When system start in cooling mode, System don't operate and display E441 Error code	
	Check point	Remarks
Analysis	FJM PLUS is able to operate by -10˚C But we admit that minimum Cooling temperature is by -5˚C Please, Remember cooling operation range.	

Contents		
Q6	While using heating, outdoor unit turn off and display E404 Error code.	
	Check point	Remarks
Analysis	Heating overload safety mode make this situation. After System restart automatically until 3 times, System display this error code and stop. System can operate by remote controller input signal or K3(reset) key input.	
Step 1	Check indoor units air flow.	
Step 2	Check outdoor unit air flow and installation (outdoor air flow blocking & over charging)	

Contents		
Q7	When system start in Heating mode, System don't operate and display E440 Error code.	
	Check point	Remarks
Analysis	FJM PLUS is able to operate up to 30˚C But we admit that Maximum Heating temperature is up to 24˚C Please, Remember Heating operation range.	

- Try-run Check Error

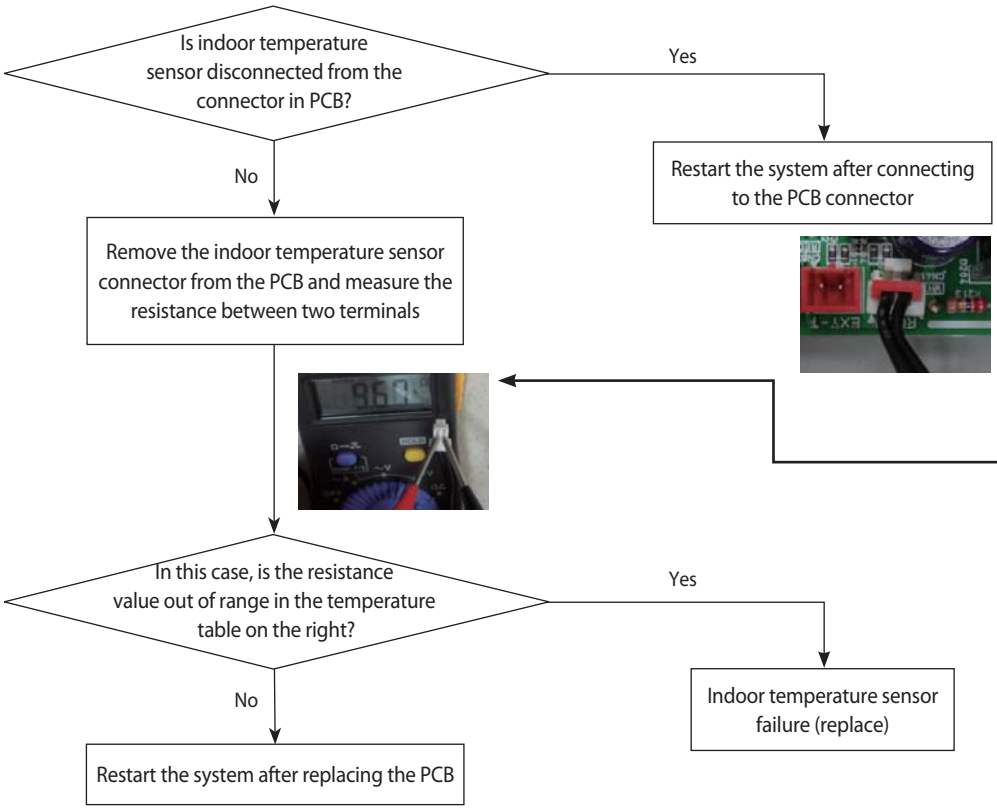
Contents		
Q1	While the system is working try-run mode, system turn off and display E128 / 129 / 246 / 261 / 419 / 422 / 554 Error code.	
	Check point	Remarks
Analysis	These Error codes only apply with Try-run mode, in case of system have some defect as result of try-run operation. ✳ Refer to self-detection algorithm (Check Error Code meaning and check it out)	

4-5 Fault Diagnosis by Symptom

4-5-1 Indoor

4-5-1-1 Indoor temperature sensor (open/short)

Indoor unit display	X (Operation) ◑ (Defrost) X (Timer) X (Filter)
Symptom	In case of open or short circuit of indoor temperature sensor
Failure	Short or leakage of the corresponding sensor

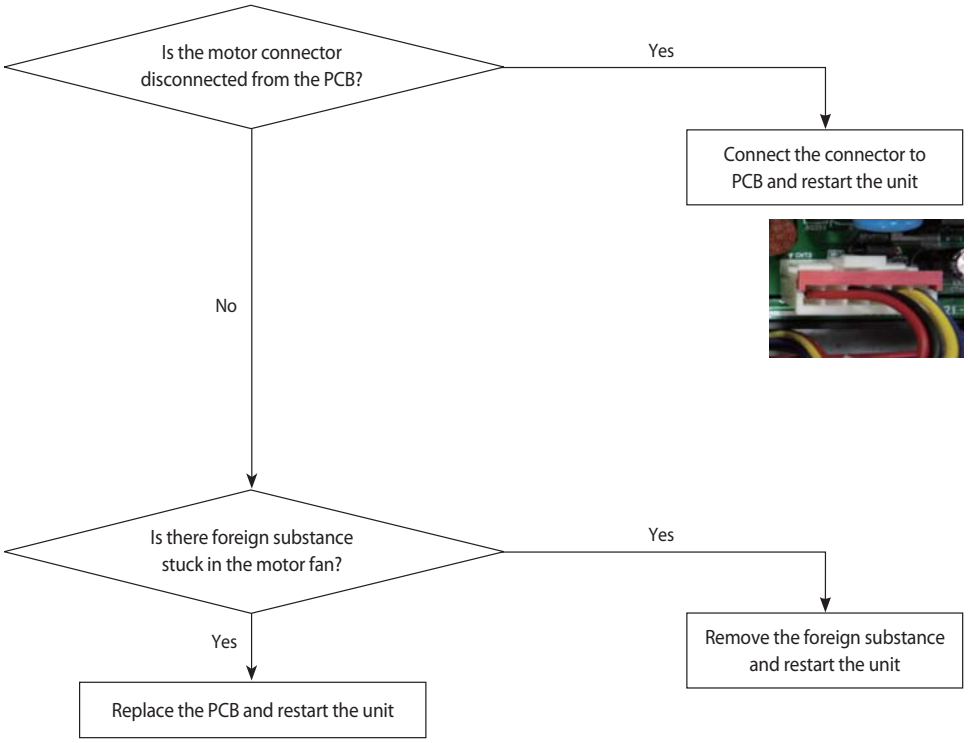


<Temperature sensor resistance value>

Current temperature (°C)	Resistance (kΩ)
40	5.800
35	6.900
30	8.300
25	10.00
20	12.10
15	14.70
10	18.00
5	22.00
0	28.30
-5	33.90
-10	42.30

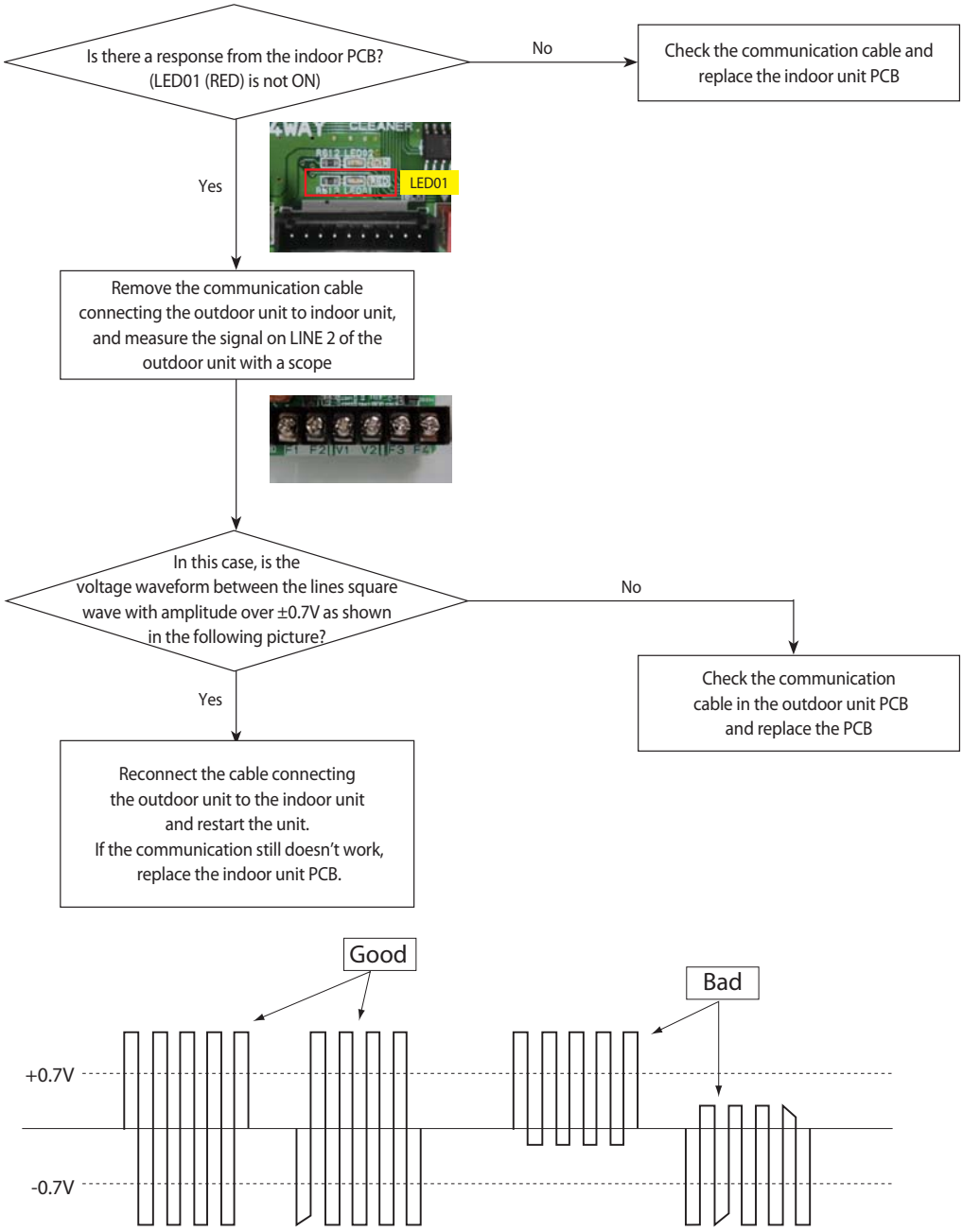
4-5-1-2 Indoor FAN Error (BLDC MOTOR MODEL)

Indoor unit display	X (Operation) X (Defrost) ◑ (Timer) X (Filter)
Symptom	Indoor unit fan does not run /Runs at excessive high speed and stops
Failure	Check if the motor connector is disconnected/ check the motor fan assembly status



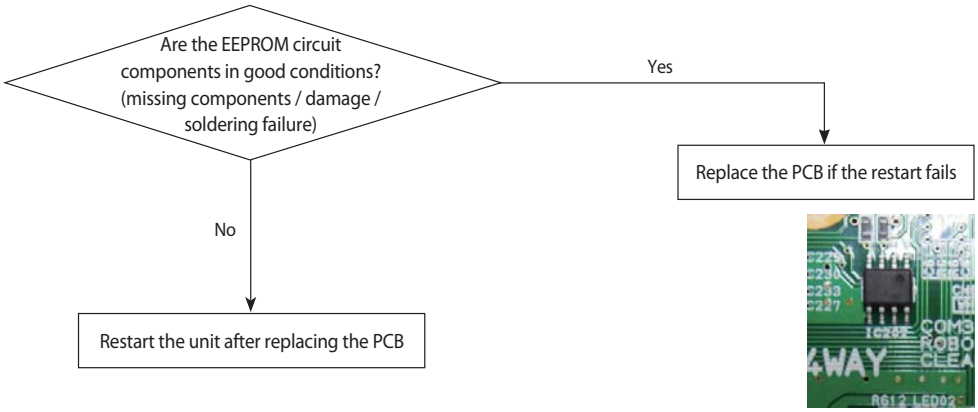
4-5-1-3 Communication error after finishing Tracking

Indoor unit display	X (Operation) ◑ (Defrost) ◑ (Timer) X (Filter)
Symptom	Communication error between the indoor and outdoor unit for two minutes
Failure	Communication error between the indoor unit and outdoor unit



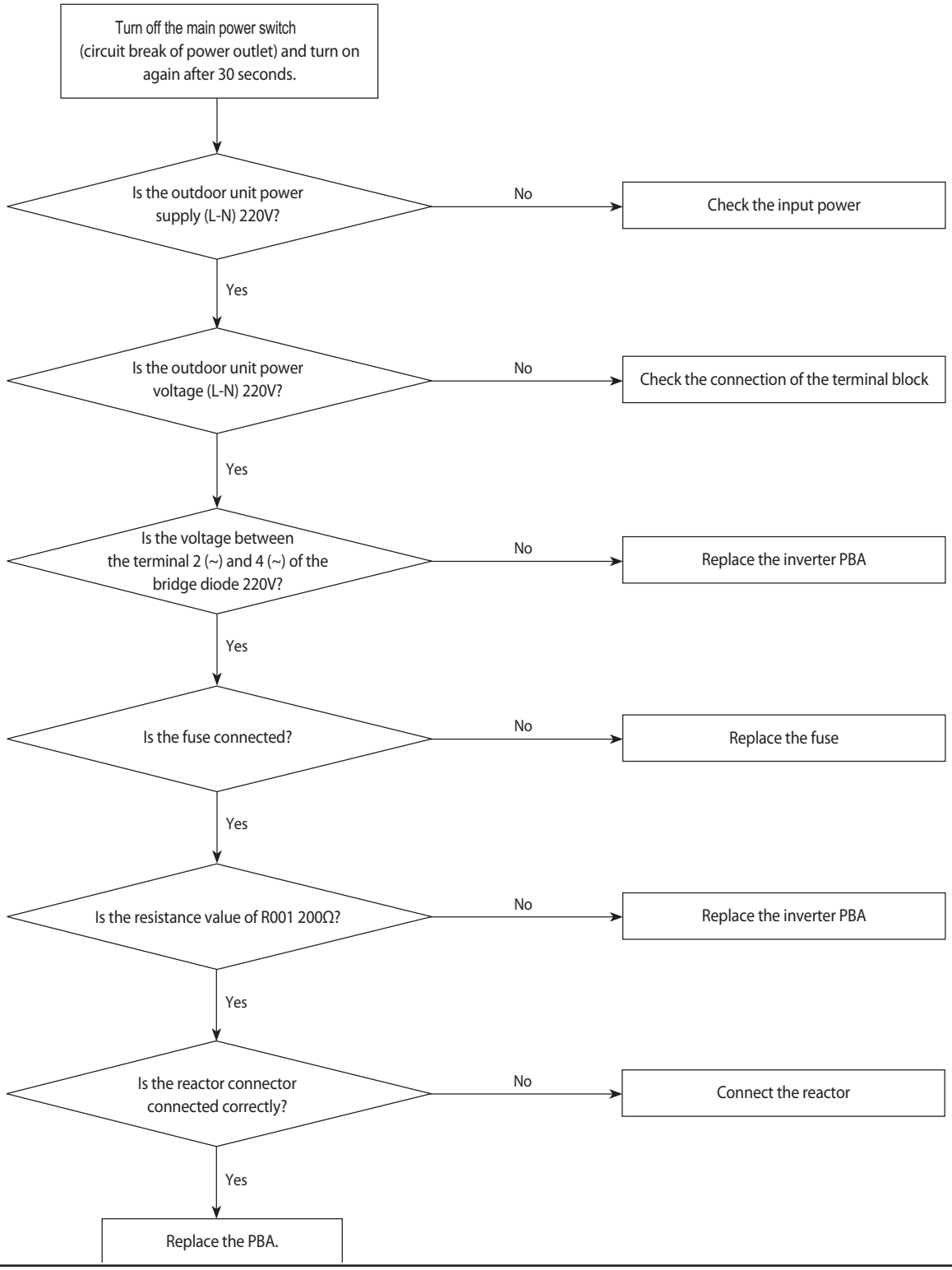
4-5-1-4 EEPROM circuit failure

Indoor unit display	◑ (Operation) ◑ (Defrost) ◑ (Timer) X (Filter)
Symptom	EEPROM circuit failure
Failure	EEPROM component failure, EEPROM circuit parts missing/damaged/soldering failure



4-5-2 Outdoor unit is not powered on – Initial diagnosis(1phase)

1. Check items
   1) Is the power supply voltage 220V?
   2) Is the AC power connected correctly?
   3) Are the LEDs in the main PCB and inverter PCB of the outdoor unit ON?
   4) Is the input power voltage of the indoor unit 220V?
   5) Is the wired remote controller connected correctly?
2. Check procedure



4-5-3 Checking Outdoor Controller

1. Making sure the wire connections.

   Caution! When you remove PBA, you have to check DC link Voltage. After Power off, DC link Voltage is so high!

2. Checking AC(220~240V) line

3. Checking DC voltage on each point

RJ040F2HXEA(B)/RJ050F2HXEA(B)

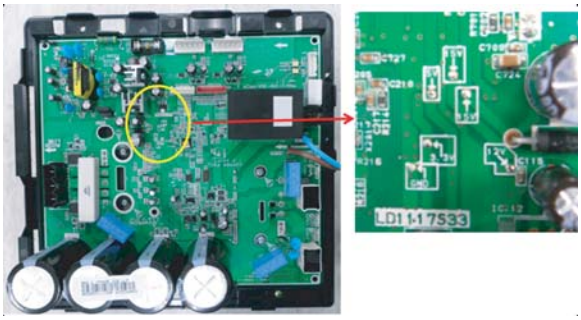
Item	Measuring point	Normal value
DC LINK	CE101 voltage	AC220V -> 305~310Vdc
Main control 15V	CE154 voltage	14.5V - 15.5V
Main control 12V	CE157 voltage	12V - 15V
Main control 5V	CE158 voltage	4.75V - 5.25V
Main control 3.3V	CE155 voltage	3.0V - 3.6V

RJ052F3HXEA/RJ060F3HXEA(B)/RJ070F4HXEA/RJ080F4HXEA

Item	Measuring point	Normal value
DC LINK	CE001 voltage	AC220V -> 305~310Vdc
Main control 15V	CE110 voltage	14.5V - 15.5V
Main control 12V	CE108 voltage	12V - 15V
Main control 5V	CE106 voltage	4.75V - 5.25V
Main control 3.3V	CE105 voltage	3.0V - 3.6V

RJ100F5HXEA MAIN PCB

Item	Measuring point	Normal value
12V	CN12	DC11~13V
5V	CN32 3-4PIN	DC4.75~5.25V



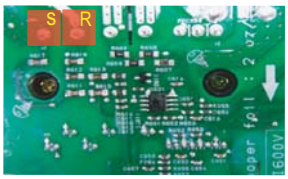
RJ100F5HXEA INVERTER PCB

Item	Measuring point	Normal value
DC LINK	PFCM 33/32	300~320V
Main control 15V	refer to picture	DC 14~16V
Main control 12V	refer to picture	DC 11~13V
Main control 5V	refer to picture	DC 4.75V - 5.25V
Main control 3.3V	refer to picture	DC 3.0V - 3.6V

4. Checking PFCM

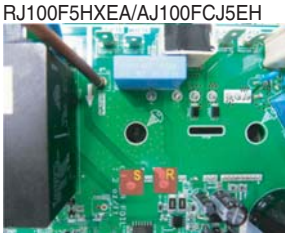
   Check Resistance between R and S

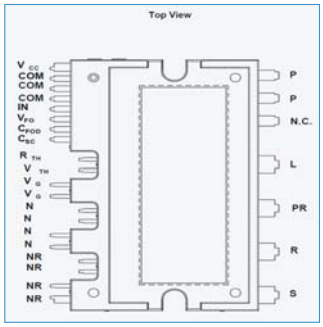
RJ040F2HXEA(B)/RJ050F2HXEA/AJ040FCJ2EH



RJ052F3HXEA/RJ060F3HXEA(B)/RJ070F4HXEA/RJ080F4HXEA/
AJ052FCJ3EH/AJ068FCJ3EH/AJ070FCJ4EH/AJ080FCJ4EH

RJ100F5HXEA/AJ100FCJ5EH



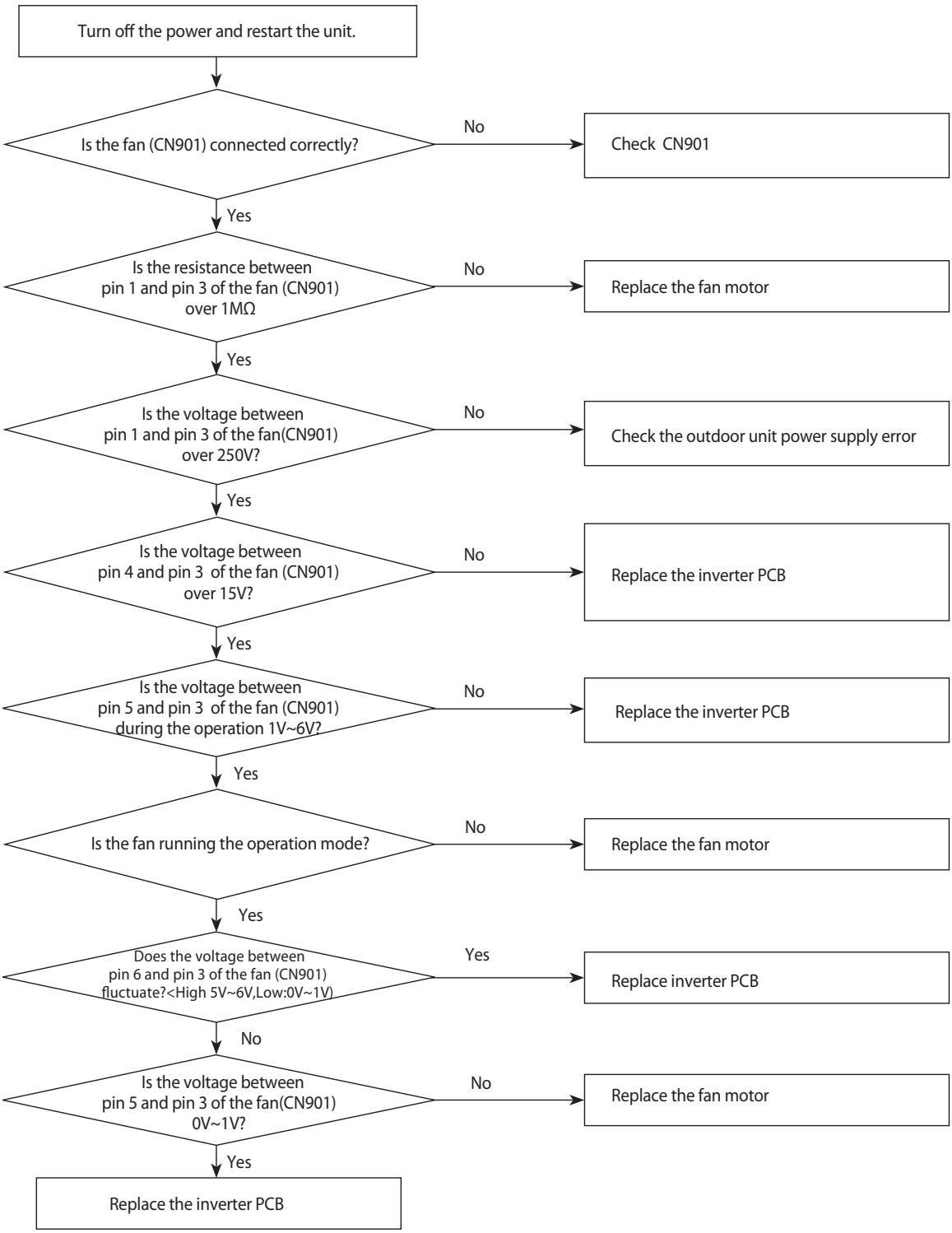


	Measuring point	Normal value
Resistance	R - S	over the hundreds kΩ

4-5-4 Outdoor unit fan error

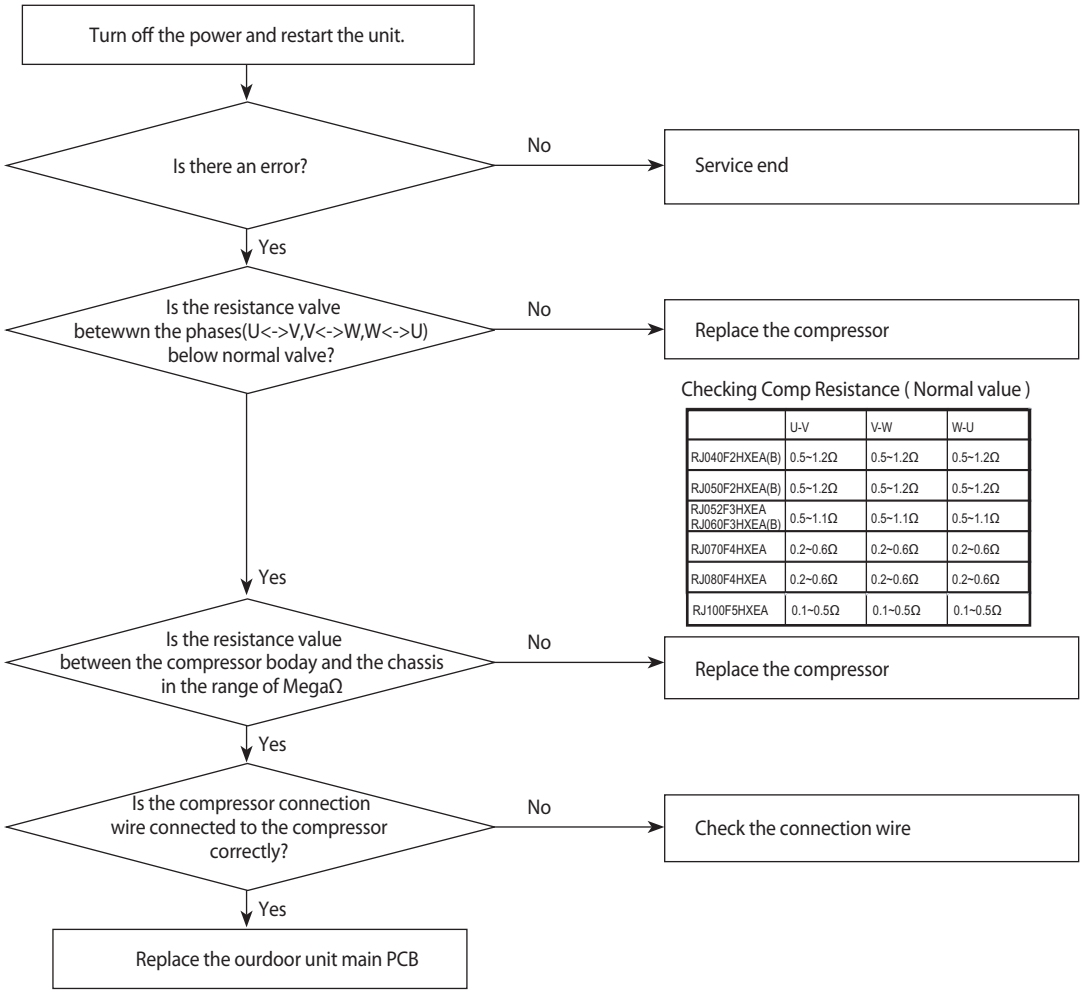
1. Check Items:
   1) Are the input voltage and power connection correct?
   2) Is the motor connecting wire connected to the outdoor unit PCB correctly?
   3) Are the indoor/outdoor fuses connected?
   4) Are there any obstacles near the motor or propeller?
   5) Is the motor driver out of order?
   6) RJ040~080 Model check CN901 , RJ100 Model Check CN 90

2. Check procedure



4-5-5 Compressor startup error, Compressor Lock error, Compressor rotation error.

1. Check Items:
   1) Are the power supply and compressor connecting wires connected correctly?
   2) Is the inter-phase resistance of the compressor normal?
2. Check procedure



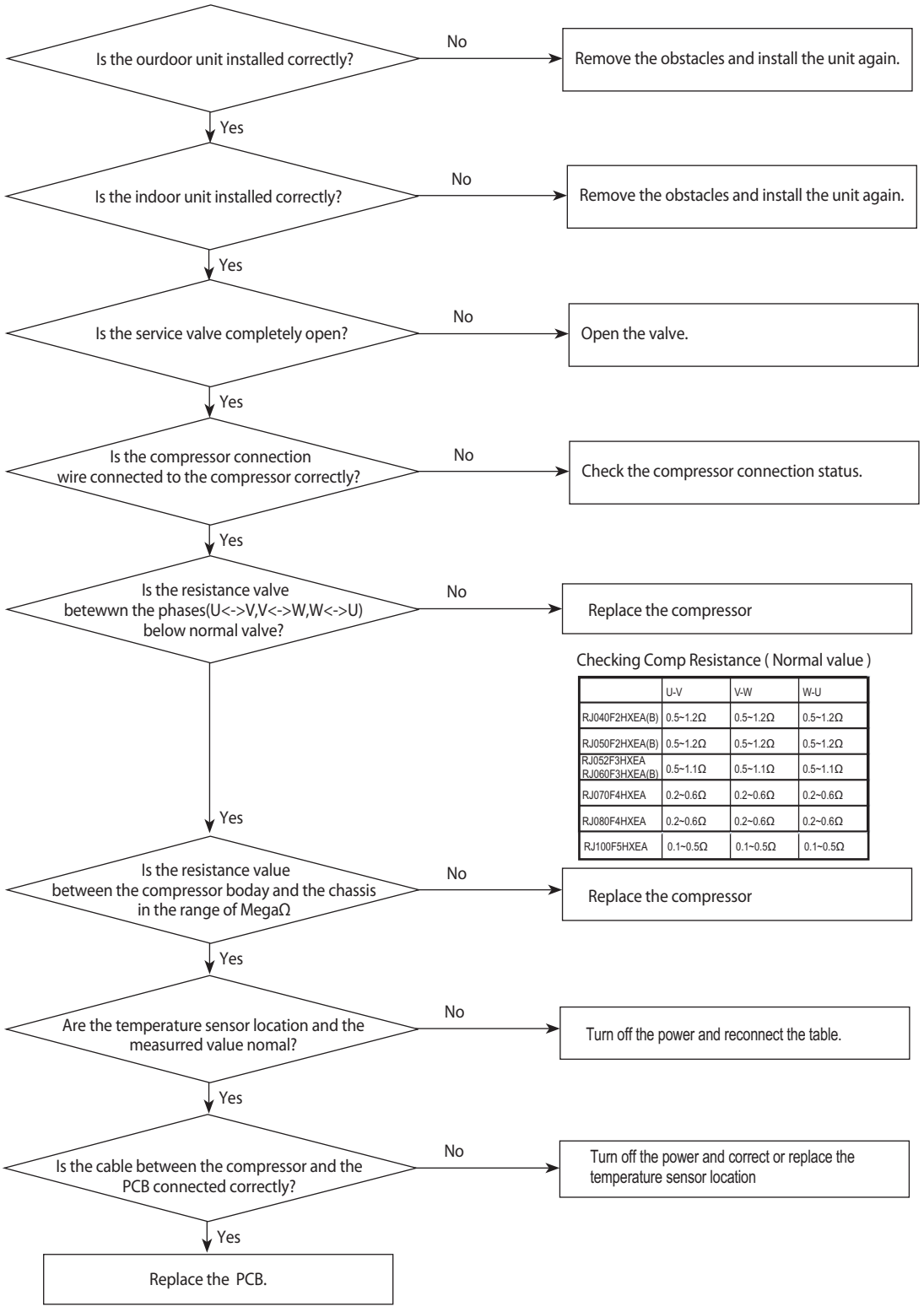
Checking Comp Resistance (Normal value)

	U-V	V-W	W-U
RJ040F2HXEA(B)	0.5~1.2Ω	0.5~1.2Ω	0.5~1.2Ω
RJ050F2HXEA(B)	0.5~1.2Ω	0.5~1.2Ω	0.5~1.2Ω
RJ052F3HXEA RJ060F3HXEA(B)	0.5~1.1Ω	0.5~1.1Ω	0.5~1.1Ω
RJ070F4HXEA	0.2~0.6Ω	0.2~0.6Ω	0.2~0.6Ω
RJ080F4HXEA	0.2~0.6Ω	0.2~0.6Ω	0.2~0.6Ω
RJ100F5HXEA	0.1~0.5Ω	0.1~0.5Ω	0.1~0.5Ω

4-5-6 IPM Over Current error

1. Check Items:
   1) Is the coolant changed?
   2) Is the compressor running normally?
   3) Is the compressor connected correctly?
   4) Are there any obstacles near the indoor and outdoor units?

2. Check procedure



Checking Comp Resistance (Normal value)

	U-V	V-W	W-U
RJ040F2HXEA(B)	0.5~1.2Ω	0.5~1.2Ω	0.5~1.2Ω
RJ050F2HXEA(B)	0.5~1.2Ω	0.5~1.2Ω	0.5~1.2Ω
RJ052F3HXEA RJ060F3HXEA(B)	0.5~1.1Ω	0.5~1.1Ω	0.5~1.1Ω
RJ070F4HXEA	0.2~0.6Ω	0.2~0.6Ω	0.2~0.6Ω
RJ080F4HXEA	0.2~0.6Ω	0.2~0.6Ω	0.2~0.6Ω
RJ100F5HXEA	0.1~0.5Ω	0.1~0.5Ω	0.1~0.5Ω

4-5-7 Checking Temperature sensor

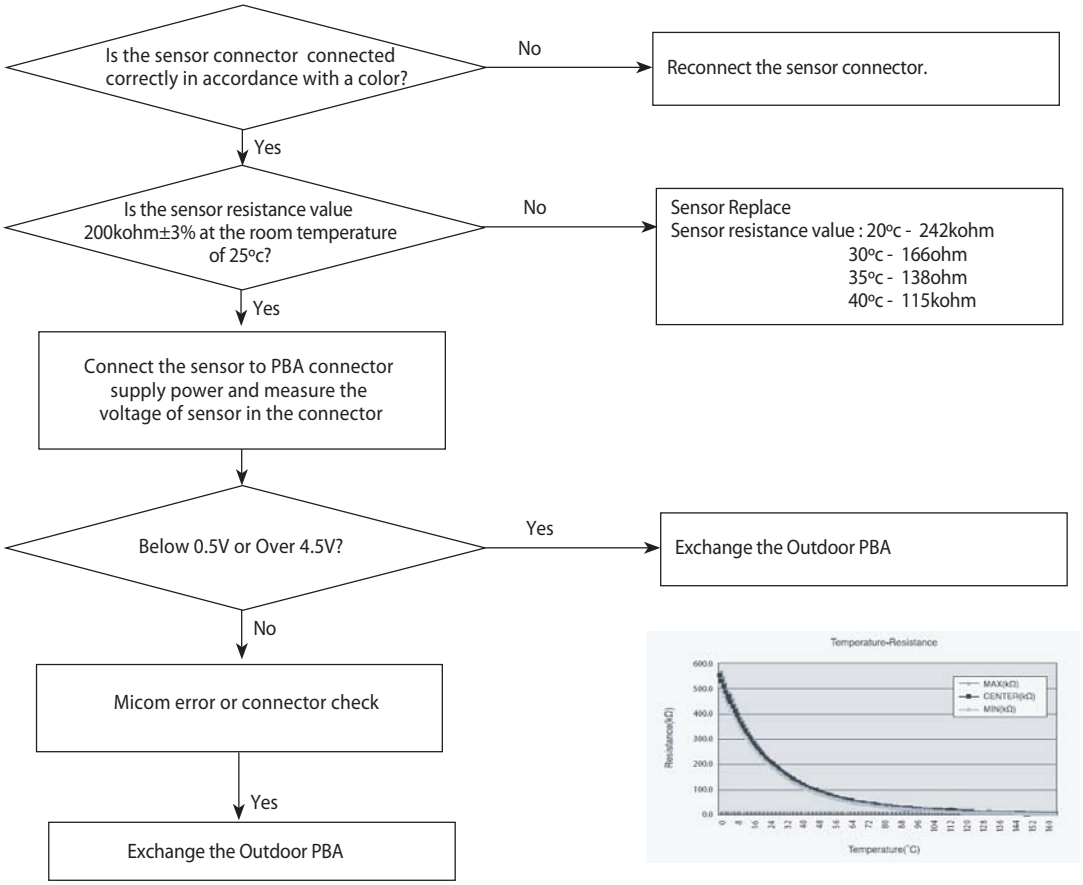
In case of a sensor in outdoor unit, temperature can be monitored with "VIEW MODE".
Press K4 key on the outdoor display PCB for several time to change the display to sensor temperature value.
Left 1 digit of the LED is data index and Right 2 digits are the value.

Index	Value	Remark
8	Discharge sensor temperature	The unit is degree C
9	OLP sensor temperature	
A	Condenser sensor temperature	
B	Outdoor sensor temperature	

4-5-7-1 Outdoor Discharge/OLP temperature sensor error

1. Check Items:
   1) Is the sensor connected correctly?
   2) Is the sensor placed correctly?
   3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
   4) Is the resistance value of sensor connection pull-up correct?

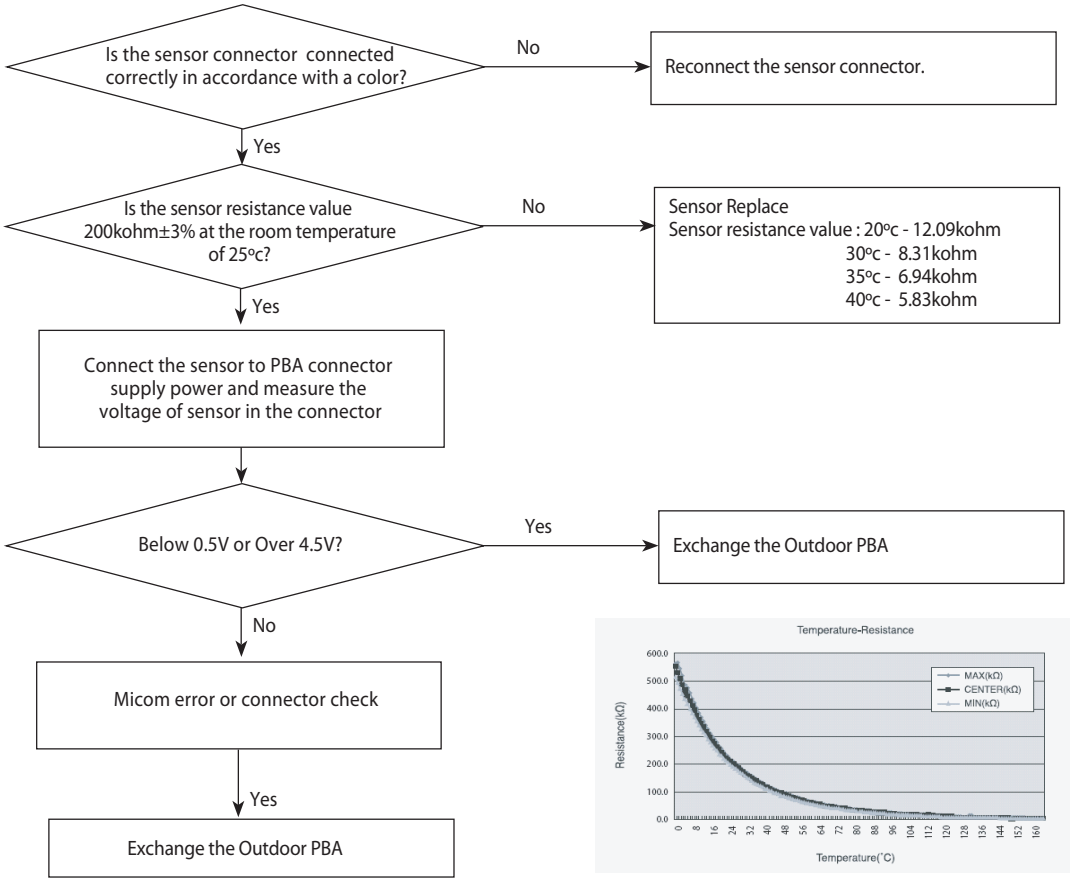
2. Troubleshooting procedure



4-5-7-2 Outdoor out / cond temperature sensor error

1. Check Items:
   1) Is the sensor connected correctly?
   2) Is the sensor placed correctly?
   3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
   4) Is the resistance value of sensor connection pull-up correct?

2. Troubleshooting procedure



4-5-8 Checking EEV

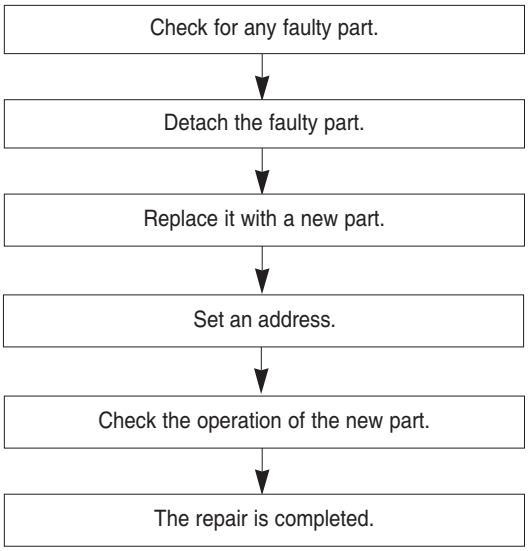
Current EEV step value can monitored with "VIEW MODE"
Press K4 key on the outdoor display PCB for several time to change the display to current EEV value.
Left 1 digit of the LED is data index and Right 3 digits is the value.

Index	Value		Remark
3	EEV-A step		The step value range is between Zero and 480.
4	EEV-B step		
5	EEV-C step	RJ040/050F2HXEA(B)	
6	EEV-D step	RJ052F3HXEA/RJ060F3HXEA(B) /RJ70/080F4HXEA	

4-6 PCB Inspection

4-6-1 Cautions for Part Replacement

1. The human body carries much static electricity. Before touching a part for repair, replacement or the similar purpose, be sure to touch a grounded metallic portion by hand to let the static electricity go through the metallic portion to the earth. Especially when handling any micro computer or IC, carefully remove such static electricity before touching them.
2. When repairing any part on a work bench, be sure to place an insulative sheet on the bench and always keep the sheet surface neat without any metal fragments. If any such fragment touches a part, a secondary trouble will possibly be caused in the part.
3. Before replacing any parts, be sure to turn off the power supply. If such replacement is done with the power supply kept on, an electric shock, short circuit or destruction of a part may result.
4. During replacement or repair of a part, carefully handle it : The printed circuit board has fine lead wires (jumper wires) and glass-made parts (diode) on its substrate. So if a circuit board is roughly handled, such lead wires and parts will be easily broken or damaged by bending or shock.
5. When soldering the lead wires of any new part, be sure to polish them using an emery paper or the like before soldering them. Since the lead wires of any new part are covered with an oxide film, solder cannot adhere to the lead wires if not polished.
6. When soldering any part, care should be exercised not to apply any high-wattage soldering iron to the part for a long time. Some parts are of so low a heat resistance that they may be broken or have the properties changed if a soldering iron is so applied (Otherwise, the pattern may possibly be separated and raised).
7. The heat of the soldering iron should be transferred to the entire object to be soldered. If the solder pieces are not well fused due to insufficient transfer of the heat from the soldering iron, no satisfactory electrical continuity can be assured even if the soldered objects appear well connected to each other.
8. The solder used should be limited to a minimum. If excessive solder is used, it will cause inter-pattern contact, which may cause malfunction of the circuit.
9. Although some part of the PCB surface are coated with coating material for protection from dust and dirt, soldering is also available to the coating part. Because this coating is thin and is weak for soldering heat. But coating material remaining on the solder part should be cleaned up before soldering a new component to prevent the solder part from becoming bad conduction.
10. After replacing a faulty PCB by a new one, the same address setting must be applied to the new PCB. (refer to the page 4-19 ~ page 4-24)
11. When connected to an outdoor unit manufactured after June, 2011, a new option code is not needed.

4-6-2 Procedure

The parts should be replaced in the following procedure.