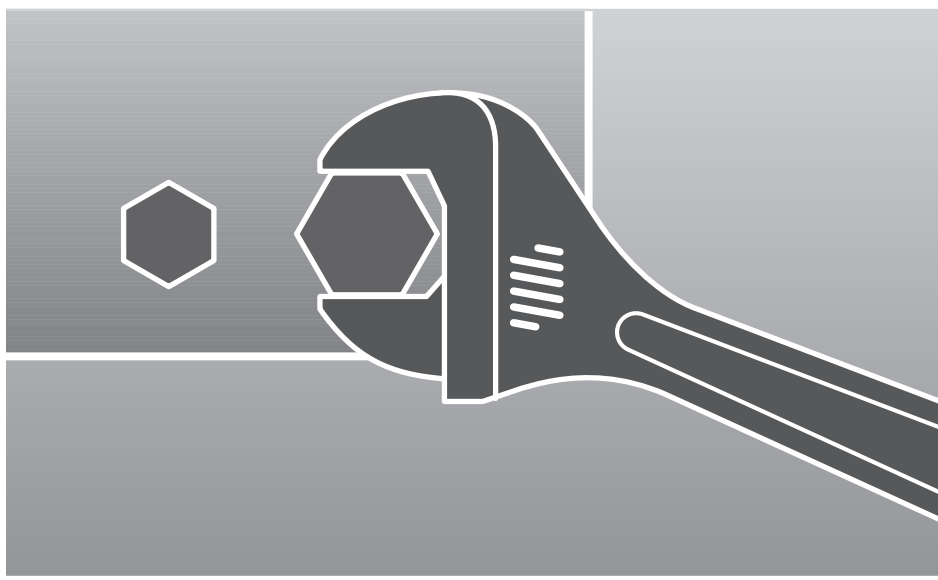
SAMSUNG

INSTALLATION MANUAL

Air Handling Unit Application Kit

MXD-A16K1X025A
MXD-A22K1X050A
MXD-A22K2X075A
MXD-A22K2X100A

Air Conditioner



Ⓔ DB98-31836A(1)

Contents

SAFETY INFORMATION

The following safety precautions must be taken when installing the unit.
Be aware that AHU-KIT has to be combined with DVM Plus 3 or 4 Series outdoor unit only.

Use R410A refrigerant.

- When using R410A, moisture or foreign substances may affect the capacity and reliability of the product. Safety precautions must be taken when installing the refrigerant pipe.
- R410A is a quasi-azeotrope of two refrigerants. Make sure to charge liquid one when adding refrigerant. (If you charge gaseous refrigerant, it may affect the capacity and reliability of the product as a result of change in formation of the refrigerant.)

⚠ WARNING

Risk of death or serious personal injury.

⚠ CAUTION

Potential risk of personal injury or material damage.

⚠ CAUTION

Turn off the power before installation, service, and cleaning.

The installation must be done by the manufacturer or its service agent or a similar qualified person in order to avoid a hazard.

- Installation by an unqualified person may cause a water leakage, electric shock or fire .

Install the outdoor unit correctly according to the installation manual.

- An incorrect installation may cause a water leakage, electric shock or fire and so on.

Manufacturer is not responsible for accidents due to incorrect installation by unqualified person.

Use only rated parts and tools.

- If you don't use the rated parts and tools, it can cause trouble with the product and bring about injury.

When adding the refrigerant, use the R410A refrigerant only.

- If any gas or impurities except R410A refrigerant come into the refrigerant pipe, serious problem may occur and it may cause injury.

Use the pipe or flare part for R410A refrigerant only.

When there were leakage during installation, you must ventilate the area.

- Toxic gas may generate when refrigerant gas contacts with fire.

If the power cable or cord is damaged, the manufacturer, a qualified service technician must replace it to avoid a potential risk.

The electric work must be done by service agent or similarly qualified persons according to national wiring regulations and use only rated cable.

- If the capacity of the power cable is insufficient or electric work is not properly completed, electric shock or fire may occur.

Arrange the cables between the AHU-KIT and outdoor unit after connecting. Attach the cover securely so that the electrical component box cover does not get loosen.

- If the cover is attached incompletely, it can cause trouble with a heat generation, electric shock or fire of the terminal board.

Install designated ELB for AHU when installing the power cable.

- If you do not install designated ELB for AHU, electric shock or fire may occur.

⚠ CAUTION

Install the cables with supplied cables firmly. Fix them securely so that external force is not exerted to the terminal board.

- If the connection or fixing is incomplete, it can cause trouble with a heat generation, electric shock or fire.

Make sure that the power for AHU-KIT is under maximum, and over minimum voltage allowed.

- It may cause electrical component malfunction which can damage the product.

Use the copper wire for the power cable and use only rated cables and parts.

Make sure electrical circuit is correctly connected.

- Overheating may cause fire.

Make sure there is no leakage after installation.

- Toxic gas may generate when refrigerant gas contacts with fire.

⚠ WARNING

Make sure of a earthing.

- Do not connect the earth wire to the gas pipe, water pipe, lighting rod or telephone wire.
- If earthing is incomplete, electric shock or fire may occur.

Follow the instructions in this manual to make sure that the condensed water dripping from the drain hose runs out properly and insulate the drain pipe so that dew condensate does not generate.

- Household goods may get wet if the drain pipe is not properly installed.

Install the power cable and communication cable of the AHU-KIT at least 1m away from electric appliances.

- Noise may heard depending on the electric wave though the cables are installed away from electric appliances.
- Keep the space in front of AHU-KIT for maintenance.

Do not install the air conditioner in following places.

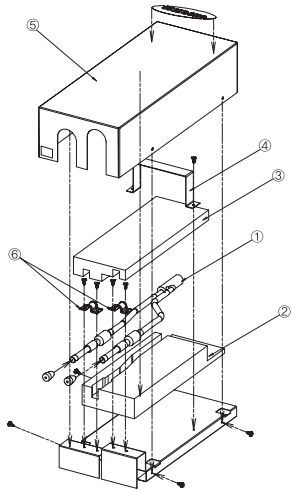
- The place where there is mineral oil or arsenic acid.
  - There is a chance that parts may get damaged due to burned resin.
- The place where corrosive gas such as sulfurous acid gas generates from the vent pipe or air outlet.
  - The copper pipe or connection pipe may corrode and refrigerant may leak.
- The place where there is a machine that generates electromagnetic waves.
  - The air conditioner may not operate normally due to control system.
- The place where there is a danger of existing combustible gas, thinner or gasoline is handled.
  - The place where carbon fiber or flammable dust is.
- The place where like spa and shore.
- The place with direct contact of outdoor humidity, dust and temperature.

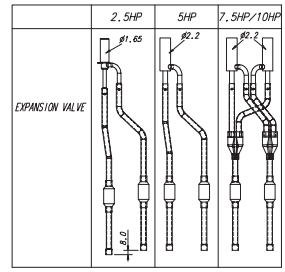
❉ The manufacturer is not responsible for the damage occurred by not keeping standard of the installation.

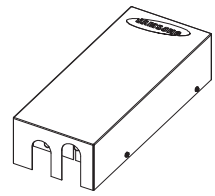
EXTERNAL APPEARANCE

External Appearance

EEV-KIT

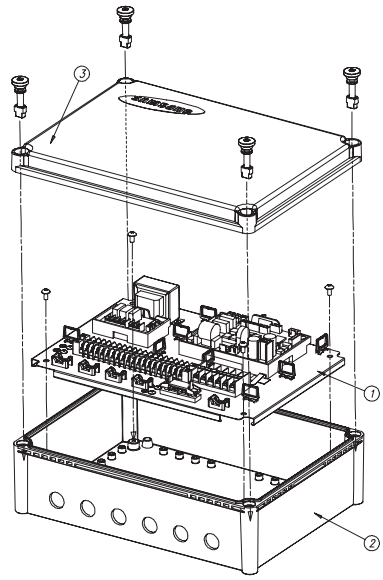




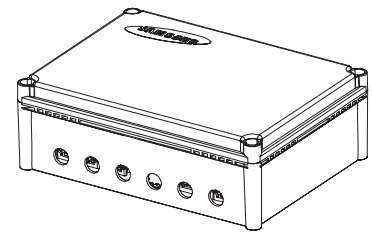


No.	Parts and components
1	EEV body
2	Lower insulation
3	Upper insulation
4	Holder
5	Cover
6	Clamp

Control-KIT

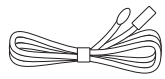
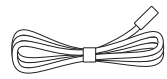
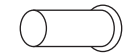
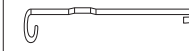


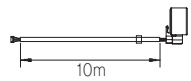
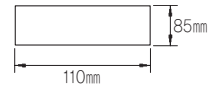
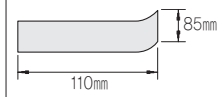
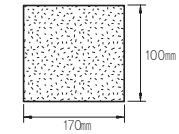
No.	Parts and components
1	Controller board
2	Case
3	Cover

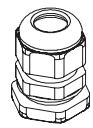
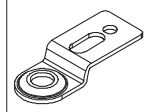


ACCESSORIES

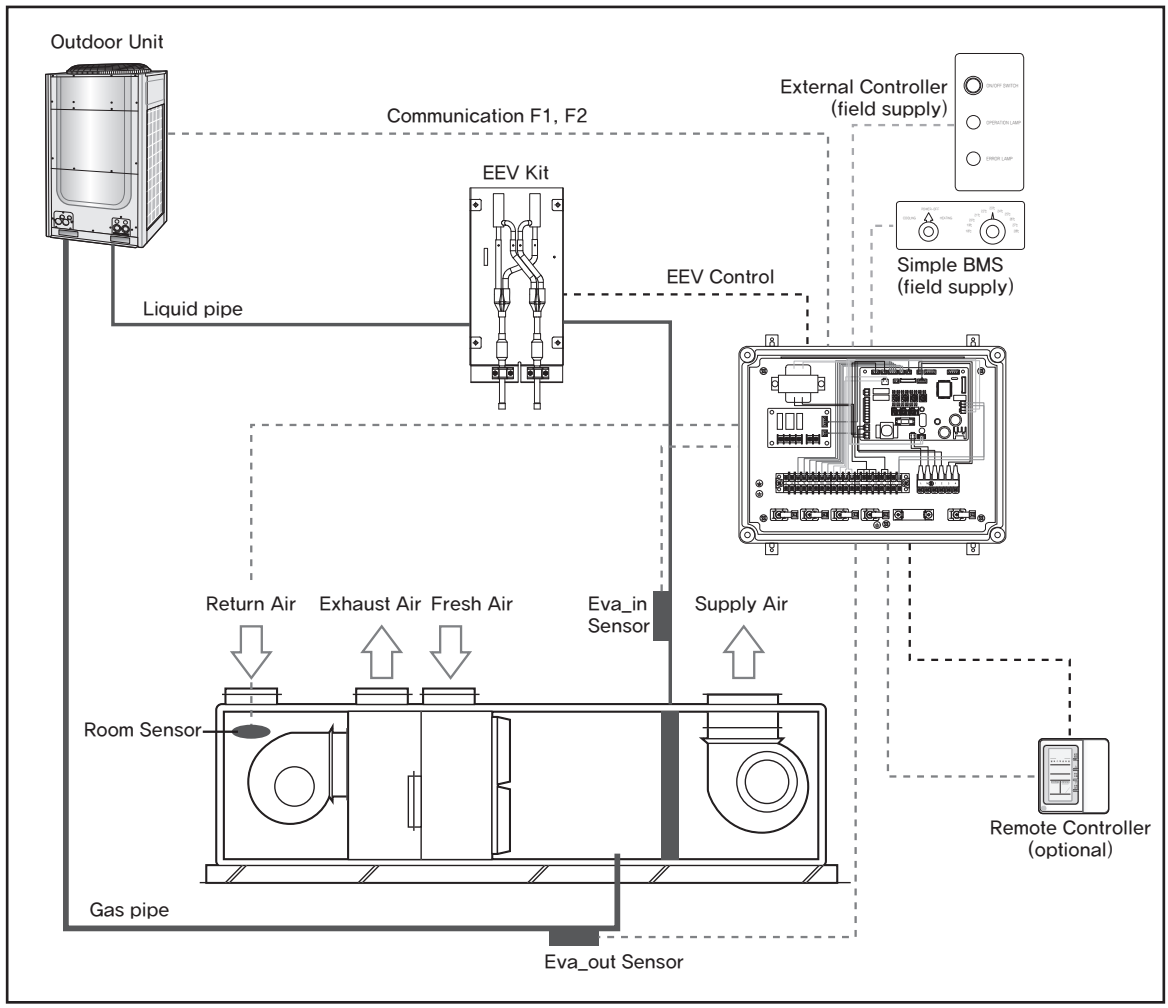
Accessories

ITEM	IN sensor (10m)	OUT sensor (10m)	IN sensor holder (OD Ø6.8mm)	OUT sensor holder (OD Ø7.8mm)	Sensor clip
QUANTITY	1	1	1	1	2
IMAGE					

ITEM	EEV coil		Aluminum tape	Rubber tape	Insulator
	2.5HP/5HP (MXD-A16K1X025A/A22K1X050A)	7.5HP/10HP (MXD-A22K2X075A/A22K2X100A)			
QUANTITY	1	2	4	2	2
IMAGE					

ITEM	Cable-tie	Cable-nut PG16	Bracket Base	Installation Manual	Screw plug PG16	Wired Remote Controller (optional)
QUANTITY	8	6	4	1	2	1
IMAGE						

AHU-KIT Structure Diagram



CAUTION

- When the controllers (External Controller, simple BMS, Remote Controller) are installed simultaneously, AHU-KIT doesn't have the priority of control and operates according to the final signal. (SIMPLE BMS may indicate the different condition of AHU, if AHU was controlled by other controller finally.)

Recommended AHU Size

AHU-KIT MODEL	AHU Capacity Allowance (㎾)		AHU Internal Heat Exchanger Volume Allowance (㎤)	
	Minimum	Maximum	Minimum	Maximum
MXD-A16K1X025A	7	8.75	1,200	1,500
MXD-A22K1X050A	14	17.5	2,150	2,688
MXD-A22K2X075A	21	26.25	3,100	3,875
MXD-A22K2X100A	28	35	4,000	5,000

※ Evaporating Temperature : 7˚C, Superheat : 1˚C, Air temperature : 27˚CDB/19˚CWB

Control-KIT Installation

CAUTION

- Make sure that Control-KIT should be installed within 5m from the EEV-KIT. (Supplied wire in the Accessory box is 10m.)
- Close the box with the cover and cable-nut securely so that Control-KIT is fireproofed.

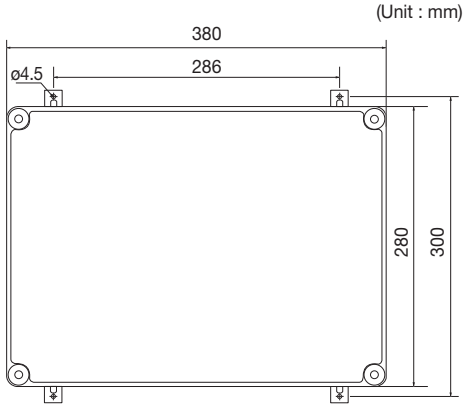
1) Drill 4 holes on the correct position of the wall and fix the Control-KIT securely. (refer to the dimension of figure below.)

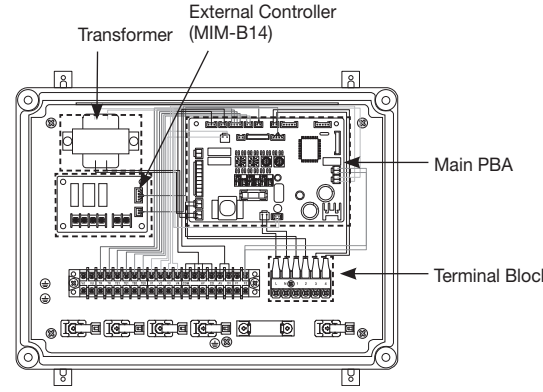
2) Open the box and connect the cables according to the diagram. (Wires should be pulled through the Cable-nut, before connecting to the terminal. Refer to the figure below.)

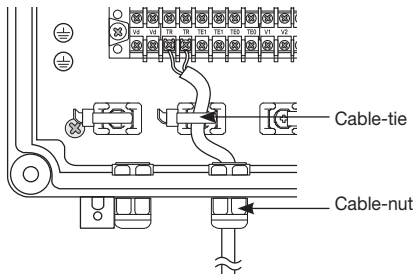
3) Fix the cable firmly with Cable-tie after connecting.

4) Close the box.

(Unit : mm)



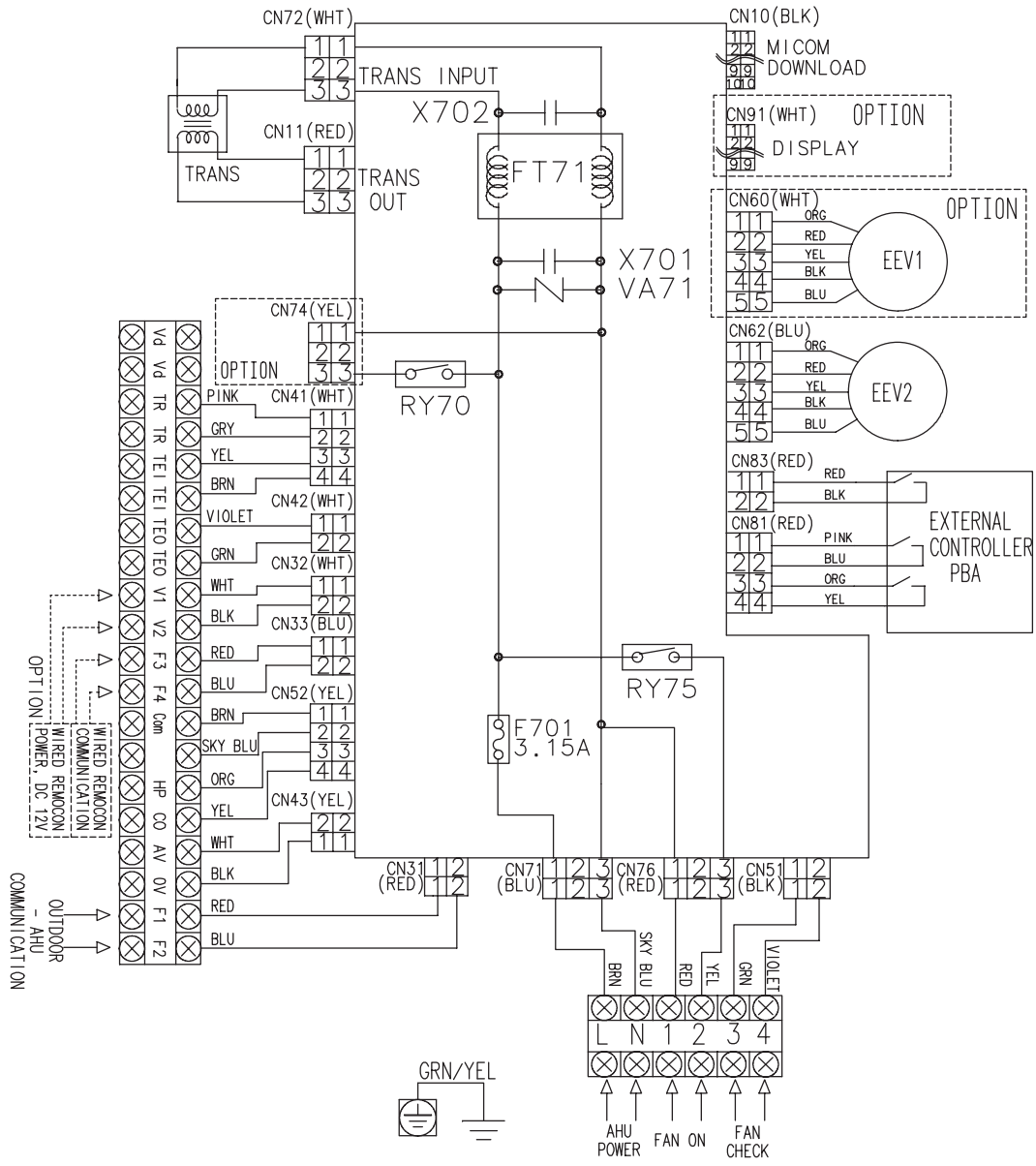




Control-KIT Function

- Control-KIT uses EEV to control the amount of refrigerant flow and controls the system through outdoor unit and wired remote controller.
- Control-KIT outputs the contact signal for AHU fan operation.
  Terminal block 1, 2 (Refer to page 10) outputs the AHU fan ON contact signal (220~240V) for AHU when operating in Cool/Heat/Fan mode. This contact signal output can not be used as power supply for the motor.
- Terminal block 3, 4 (Refer to page 10) is for AHU-KIT control to receive the fan operation status. This input signal should be simple OPEN/SHORT signal without any extra voltage.
  - Normal fan operation : Terminal block 3, 4 is in SHORT.
  - Fan is not in operation : Terminal block 3, 4 is in OPEN.
  - To use fan feedback to protect your system, set the function switch K12(Refer to page 21) to OFF position.
- Connect 220~240V/50Hz to terminal block 1(L)/2(N).
- You should connect outdoor unit communication cable to communication line (F1, F2)(Refer to page 10).
- V1, V2(Refer to page 10) is power line for the wired remote controller(12V).
  F3, F4(Refer to page 10) is communication line for wired remote controller.

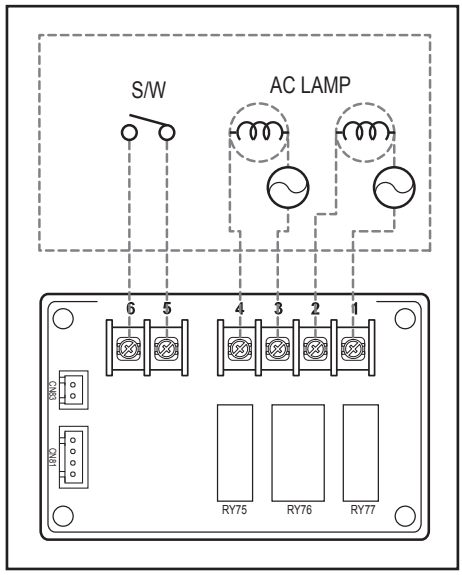
Control-KIT Circuit Diagram



✻ AHU-KIT sensor has approximately 10㏀ of resistance value at indoor temperature of 25℃.

External Controller Diagram (MIM-B14)

Circuit diagram of external controller's output



Operation specification according to AHU-KIT PBA DIP S/W set up

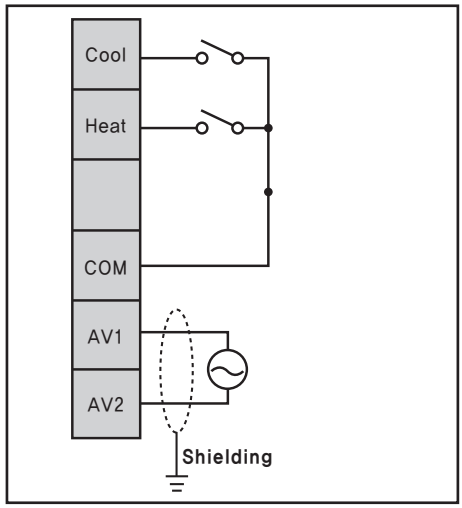
WIRE NO.	AHU-KIT DIP S/W STATE
	K11 OFF (Refer to page 21)
1, 2	ERROR Check
3, 4	COMP. Check
5, 6	ON/OFF Input

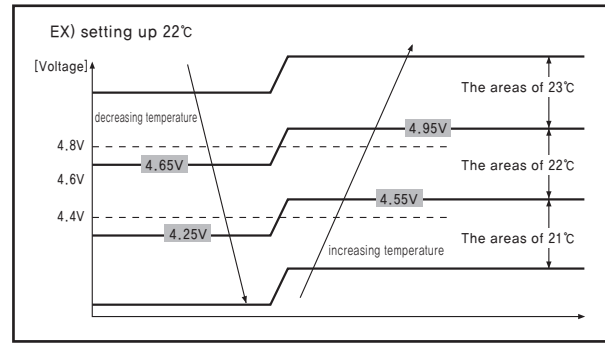
CAUTION

- In order for AHU-KIT to be controlled by External control, K11 located on Main PBA of AHU-KIT should be off position.

Simple BMS

Circuit diagram of Simple BMS





CAUTION

- Hysteresis is applied to the end of voltage range in order to stabilize the analog input. The amount of Hysteresis : 0.15V

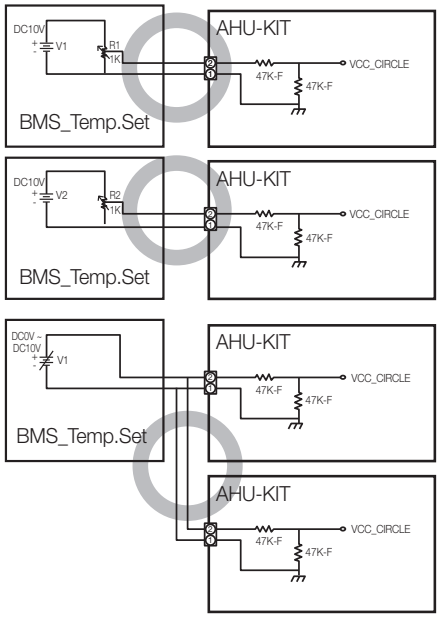
Operational Voltage range against Setting temperature

Simple BMS Voltage Range	Set Temperature	
	Heat	Cool
10.0V ~ 9.6V	30℃	30℃
9.6V ~ 9.2V	30℃	30℃
9.2V ~ 8.8V	30℃	30℃
8.8V ~ 8.4V	30℃	30℃
8.4V ~ 8.0V	30℃	30℃
8.0V ~ 7.6V	30℃	30℃
7.6V ~ 7.2V	29℃	29℃
7.2V ~ 6.8V	28℃	28℃
6.8V ~ 6.4V	27℃	27℃
6.4V ~ 6.0V	26℃	26℃
6.0V ~ 5.6V	25℃	25℃
5.6V ~ 5.2V	24℃	24℃
5.2V ~ 4.8V	23℃	23℃
4.8V ~ 4.4V	22℃	22℃
4.4V ~ 4.0V	21℃	21℃
4.0V ~ 3.6V	20℃	20℃
3.6V ~ 3.2V	19℃	19℃
3.2V ~ 2.8V	18℃	18℃
2.8V ~ 2.4V	18℃	18℃
2.4V ~ 2.0V	18℃	18℃
2.0V ~ 1.6V	18℃	18℃
1.6V ~ 1.2V	18℃	18℃
1.2V ~ 0.8V	18℃	18℃
0.8V ~ 0.4V	18℃	18℃
0.4V ~ 0.0V	18℃	18℃

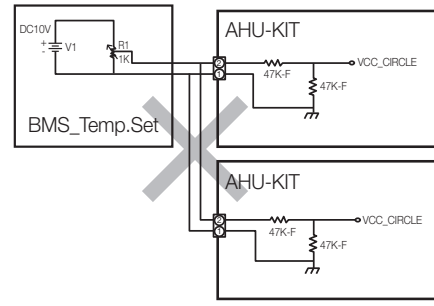
Setting the temperature

- Keep the power supply of Simple BMS in 10 V ± 0.2 V.
- If the Simple BMS uses variable resistor(VR), make the electric resistance of VR under 1㏀.
- Simple BMS which uses variable resistor(VR) need to be connected to the AHU-KIT with 1:1 link.
- Use the Simple BMS which outputs voltage so that one Simple BMS controls several AHU-KIT at the same time.

Available



Not Available



CAUTION

- Make sure that Simple BMS is connected to DC power supply before installing.
  Never connect Simple BMS to AC power supply .

Connecting the Power Terminal

Connecting Power/Communication cable

- Turn off the power before connecting the power terminal.
- Maximum cable length and the amount of voltage drop for AHU power/communication cables should be under 10%.
- Consider power usage of the AHU when installing the ELB.
- Connect V1, V2 on AHU-KIT PBA to the power line (V1, V2) on wired remote controller.
  Connect F3, F4 on AHU-KIT to the communication line (F3, F4) on wired remote controller. (Refer to page 14)
- Use the appropriate tools for wiring and make sure to connect them tightly within the tightening torque to withstand the external pressure. Arrange the wires so that cover or other parts does not get loose. They may cause overheating, electric shock or fire.
- Connect the power cable to the ELB.

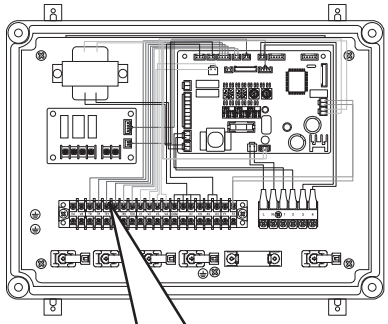
Tightening torque (kgf•cm)	
M4	12.0~14.7

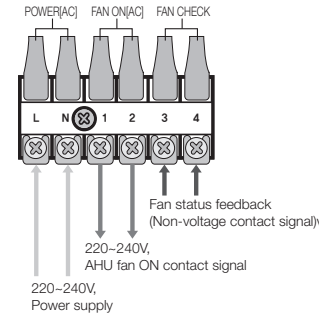
CAUTION

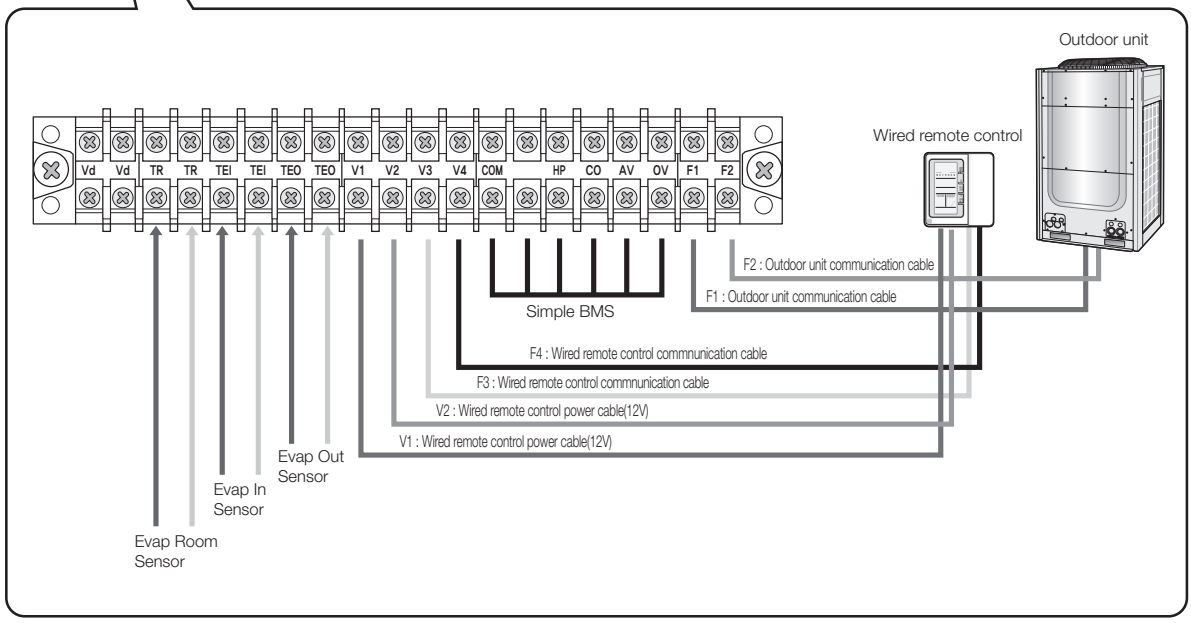
- Power supply for AHU-KIT should be separate from outdoor unit.
- Do not connect the terminal block power line from one indoor unit to more than one AHU-KIT.
- When peeling the power cable, use the appropriate tools to prevent damaging the wire.
- Communication cable should be installed separately from power cable or other cables.

	Description	Type of cable	Maximum length(m)	Specifications
TR/TR	Thermistor Room	2 x 0.75mm^2	accessory, 10 m	12V DC
TEI/TEI	Thermistor In (Gas pipe)	2 x 0.75mm^2	accessory, 10 m	12V DC
TEO/TEO	Thermistor Out (Liquid pipe)	2 x 0.75mm^2	accessory, 10 m	12V DC
V1/V2	Remote Controller (Optional)	2 x 0.75mm^2	-	Remote Controller Power (12V DC)
F3/F4	Communication to Remote Controller	2 x 0.75mm^2	-	-
COM/HP/CO	Simple BMS	-	-	-
AV/0V	Simple BMS (Temperature)	2 x 0.75mm^2	-	Simple BMS Power
F1/F2	Communication to Outdoor unit	2 x 0.75mm^2	-	-
L/N	Power supply	3 x over 1.5mm^2	-	1 phase/220~240V/50Hz
1/2	Fan on	2 x 0.75mm^2	-	-
3/4	Fan check	2 x 0.75mm^2	-	-

Control-KIT Connections







Brazing the Pipe

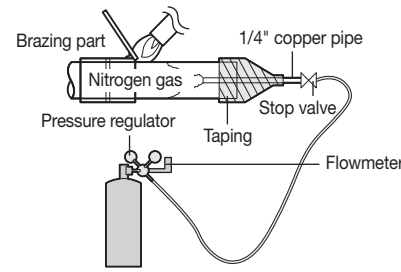
- Make sure that there is no moisture inside the pipe.
- Make sure that there are no foreign materials and impurities in the pipe.
- Make sure that there is no leak.
- Be sure to follow the instruction when brazing the pipe.

The use of Nitrogen gas

1) Use Nitrogen gas when brazing the pipes as shown in the picture.

2) If you do not use Nitrogen gas when brazing the pipes, oxide may form inside the pipe. It can cause the damage of the compressor, valves.

3) Adjust the flow rate of the Nitrogen gas with a pressure regulator to maintain 0.05m3/h or less.



EEV-KIT Installation

CAUTION
- Make sure that EEV-KIT should be installed within 5m from the heat exchanger and Control-KIT. (Supplied wire in the Accessory box is 10m.)

1) Open the EEV-KIT cover by unscrewing 4 screws on the side of the box.

2) Drill 4 holes on the correct position of the wall and fix the EEV-KIT securely. (Refer to the dimension of figure below.)

3) Remove the holder by unscrewing 1 screw at the plate.

4) Remove upper and lower insulations before brazing. (Clamp doesn't need to be loosened.)

5) Braze the pipe as indicated in figure below. (Ensure that IN/OUT pipes are correctly connected.)

CAUTION
- Make sure that filter and valve body should be kept under 120℃ with wet cloth.

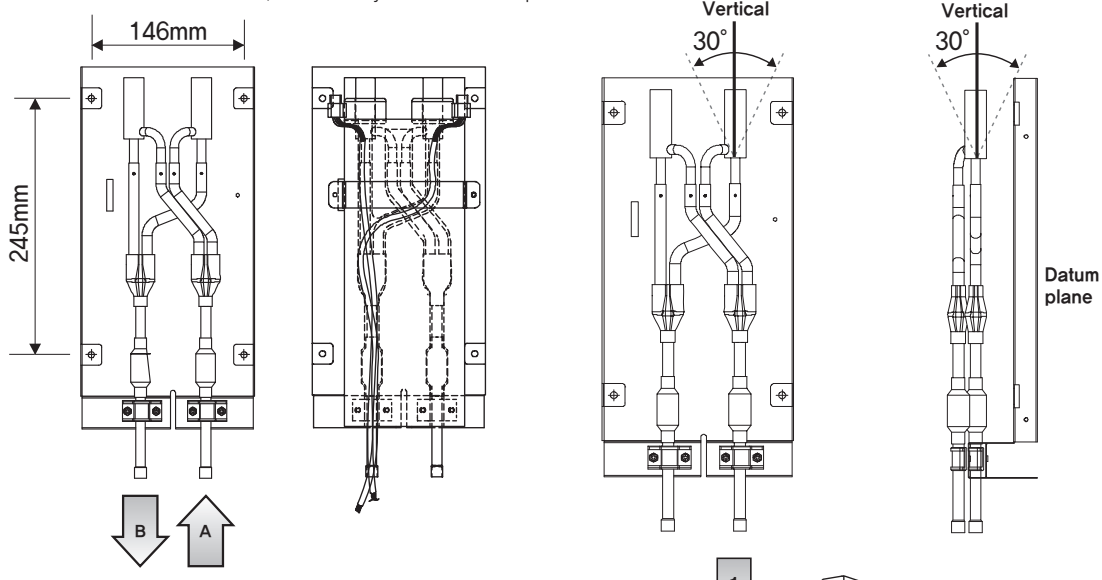
6) When the pipe become cool enough, after brazing, put the insulations back into the place.

7) Put the EEV coil into the EEV body and turn it to be fastened. (Refer to the figure below for wiring)

8) Attach the upper insulation to the lower insulation with peeling protective layer of upper insulation.

9) Fatsen the holder with 1 screw and close the EEV-KIT cover with 4 screws.

CAUTION
- Make sure that pipes are fully insulated. If there is any uninsulated part, it may cause condensation dripping.
- EEV-KIT should be installed in the vertical direction within the range of ± 15˚. If it is tilted over than 15˚, it can badly affect normal operation of EEV.



(Refrigerant flow under cooling mode)

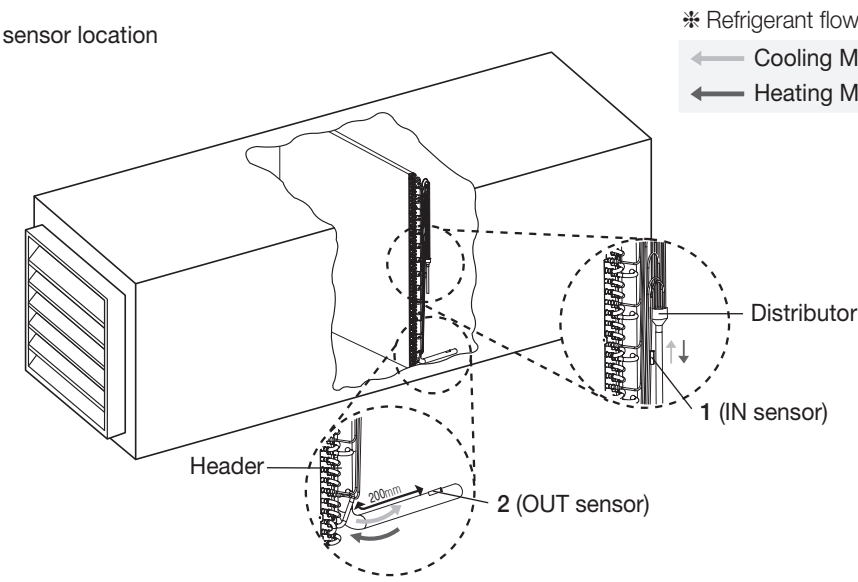
A : High pressure pipe from outdoor unit (IN) Diameter : ø9.52mm

B : High pressure pipe to AHU heat exchanger (OUT) Diameter : ø9.52mm

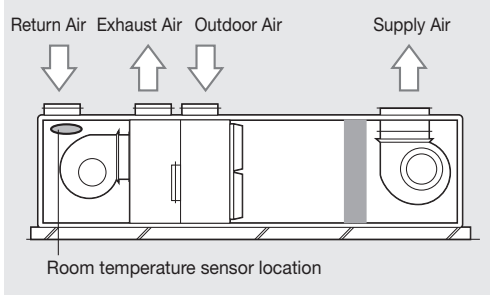
IN/OUT Sensor Installation

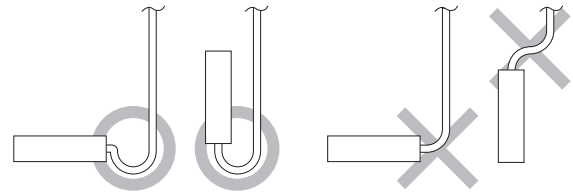
1) IN sensor should be attached after the distributor, on the coldest part of the heat exchanger pipe.
2) OUT sensor should be installed approximately 200mm behind the header of AHU heat exchanger.
3) IN/OUT sensor should be insulated for optimized system performance.
4) Room temperature sensor should be installed where room air enters.

Select IN/OUT sensor location



Example of room temperature sensor installation



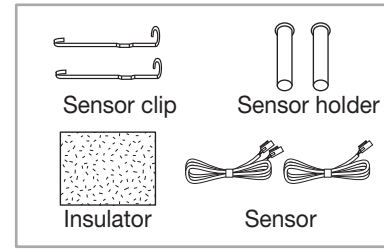


Note

- Braze the sensor holder at location suggested above and fix the sensor with sensor clip.
- IN/OUT sensor should be installed where temperature of heat exchanger can be measured accurately.

IN/OUT sensor installation example 1

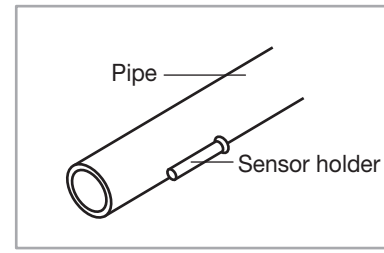
1) Check the sensor and the sensor holder.



Note

Type	Sensor OD(mm)	Sensor holder ID (mm)
IN sensor	Ø 6	Ø 6.8
OUT sensor	Ø 7	Ø 7.8

2) Braze the sensor holder on the selected location of the pipe.

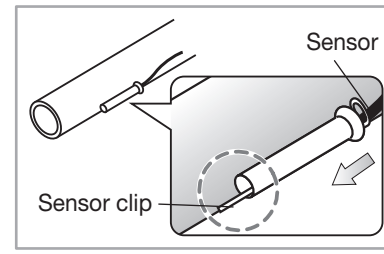


Note

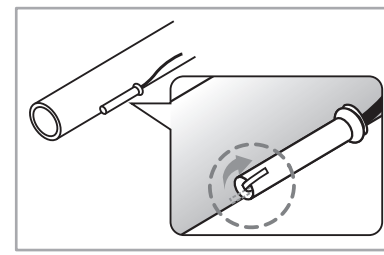
Sensor attachment method.

- Choose the location where temperature can be measured correctly. (Refer to page 16)
- Try to attach closely to the contact surface before brazing.
- Distinguish IN/OUT sensor and attach it. (IN/OUT sensor size is different.)

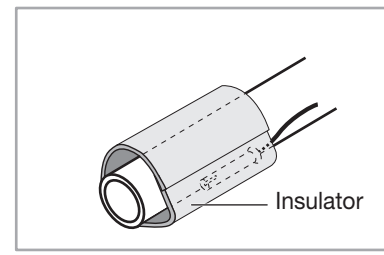
3) Insert sensor and the sensor clip in the sensor holder.



4) Bend end of the sensor clip to fix the sensor.

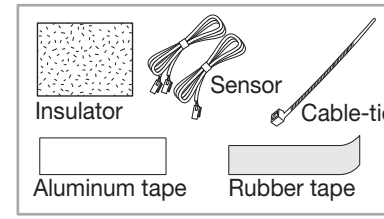


5) Attach the insulator around the sensor.



IN/OUT sensor installation example 2

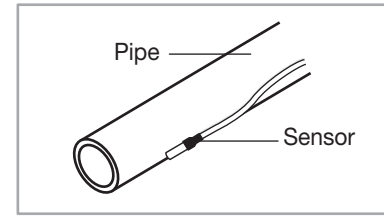
1) Check the sensor and the sensor holder.



Note

Type	Sensor OD (mm)	Sensor holder ID (mm)
IN sensor	Ø 6	Ø 6.8
OUT sensor	Ø 7	Ø 7.8

2) Put the sensor on the pipe.

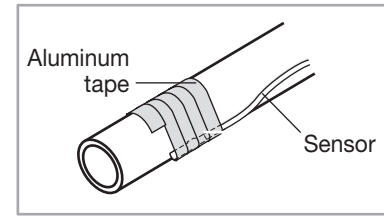


Note

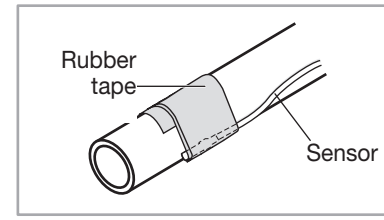
Sensor attachment method.

- Choose the location where temperature can be measured correctly. (Refer to page 16)
- Try to attach closely to the contact surface.
- Do not use the sensor holder.

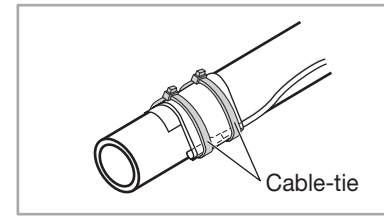
3) Hold the sensor and put aluminum tape around to fix the sensor.



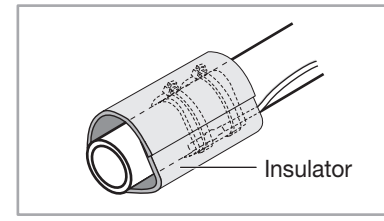
4) Put rubber tape around the sensor.



5) Use cable-tie to tighten the sensor around the pipe.



6) Attach the insulator around the sensor.

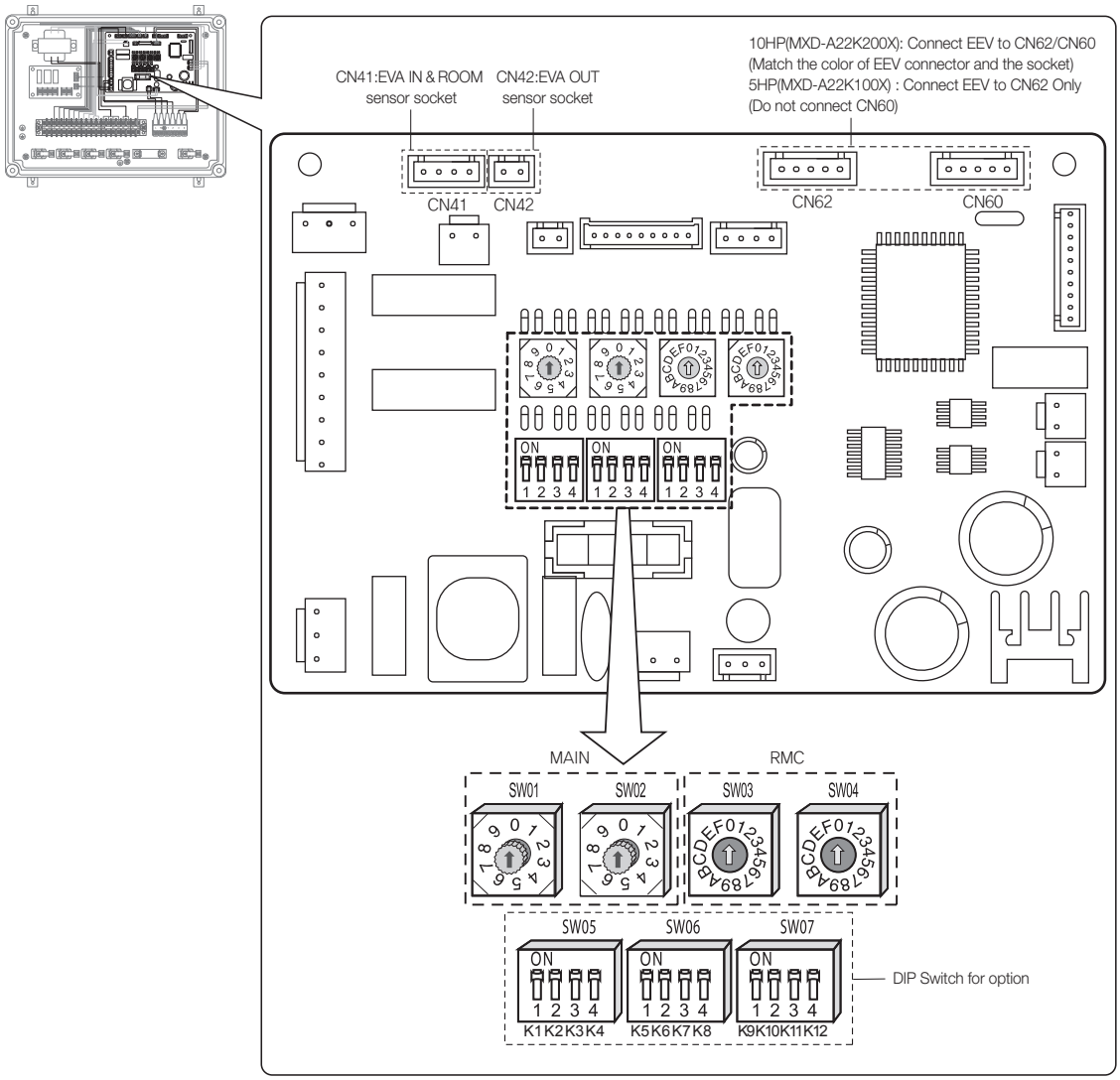


FUNCTION SETTING

Use the rotary switch to set up the address for each of the AHU-KIT.
Default setting is 0.

Setting the Address

- After the installation, you have to set up the address.
  Use MAIN and RMC switch to set the AHU-KIT address.
- **2.5HP(MXD-A16K1X025A)/5HP(MXD-A22K1X050A) : Connect EEV to CN62 Only (Do not connect CN60)**
  7.5HP(MXD-A22K2X075A)/10HP(MXD-A22K2X100A): Connect EEV to CN62/CN60
  (Match the color of EEV connector and the socket)



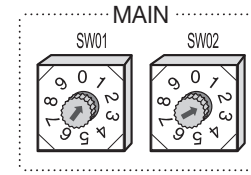
CAUTION

- Try not to touch other parts of the PBA with your hands when setting the address.
  Part may get damaged due to static electricity.

Setting the Main Address

- Main address is the standard address for the communication between the outdoor unit and the AHU-KIT.
- If the main address is not set up appropriately, communication error can occur and the AHU-KIT may not operate.
- Use both SW01 and SW02 to set the main address from '00' to '99'.
- Ensure that AHU-KIT does not have same address with any other indoor units connected to the same outdoor unit.

Example Main address :12

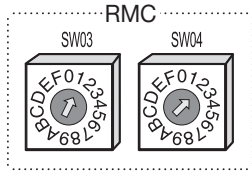


Setting the Controller Address

- To enable the centralized control (MCM-A202, DMS, S-NET Ⅲ) of the system, set up the same way as DVM PLUS Series.
- Use SW03 to set up the channel for interface module(MIM-B14). Choose from '0', '1', '2'.
- If the SW03 has been set up other than '0', '1' or '2', it will be recognized as '2'.
- Use SW04 to set up the RMC address for interface module.

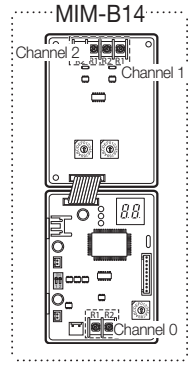
Example Channel 1, RMC 2

AHU-KIT Main PBA



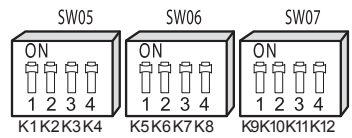
SW03	Channel
0	Channel 0
1	Channel 1
2	Channel 2
Others	Channel 2

Interface Module



Setting Up Function Switch

❊ Factory default



Switch No.		Function	ON (Default)	OFF
SW05	K1	External Thermistor	Disable	Enable
	K2	Centralized control	Disable	Enable
	K3	Setting up Capacity 1	K3 and K4 Set up the capacity. Refer to the table below.	
	K4	Setting up Capacity 2		
SW06	K5	Room temperature compansation for Heating	+2℃	+5℃
	K6	Fan feedback	Disable	Enable
	K7	Prevent cold wind	Enable	Disable
	K8	Defrost Bypass Valve	Disable	Enable
SW07	K9	Stop Unit EEV Indoor	80 step, fixed	0 or 80 step
	K10	Setting up Master Imdoor	Slave	Master
	K11	External control	Disable	Enable
	K12	Setting up External control output signals	Thermo ON/OFF	Operating ON/OFF

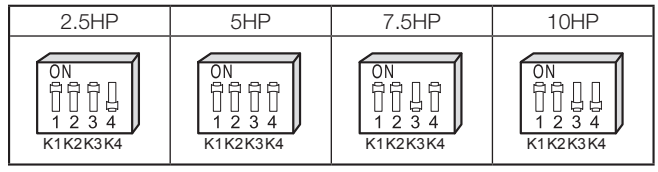
❊ Setting up capacity

K3	K4	Capacity
ON	OFF	2.5HP
ON	ON	5.0HP
OFF	ON	7.5HP
OFF	OFF	10HP

Note

SW05(K3 , K4) switches are all set in ON position as factory default.
In case of operating other capacity, set the switches following the table.

Ex.)



Initial Check-up

1) Check the connection status between Indoor unit and the AHU-KIT.

- Make sure you have followed instructions and wiring diagram shown in the installation manual.
- Make sure AHU-KIT PBA is installed in a place where there are no influence from outdoor humidity, dust and temperature.

2) Ensure that power voltage is AC 187V~AC 253V.

3) Check each of the accessories and make sure they are in good condition.

- CN32 : DC 11~13V (both ends)
- IC02 G/O : DC 4.5~5.5V (both ends)
- TRANS Output : AC 16~18V

EEPROM Error

Outdoor unit display	E162
Explanation	Internal communication error between EEPROM and MICOM
Reason	Require to change PBA due to Bad EEPROM

- Wired remote controller will show the same error shown in the outdoor unit.

Sensor Error

AHU-KIT heat exchanger IN sensor detachment error

Outdoor unit display	E128↔Axxx (xxx : Address of an indoor unit with an error)
Explanation	Refer to below explanation.
Reason	Indoor heat exchanger IN sensor detachment.

1) Explanation

• When testing run in Cool mode (Please, press the button for the test run inside the outdoor unit)

Tcond, out-Tair, out > 3℃	OK
Tair, in-Teva, in > 4℃	NO
Tair, in-Teva, out > 4℃	OK
Compressor,Indoor unit in operation. Thermo ON	OK
Error message	Indoor heat exchanger IN sensor detachment error

• When conditions shown in above table occurs, it is classified as E128↔Axxx

2) Self check

• Check for IN sensor of AHU-KIT heat exchanger. Make sure it is in the correct location.

AHU-KIT heat exchanger EVA OUT sensor detachment error

Outdoor unit display	E129↔Axxx (xxx : Address of an indoor unit with an error)
Explanation	Refer to below explanation.
Reason	Indoor heat exchanger OUT sensor detachment.

1) Explanation

• When testing run in Cool mode (Please, press the button for the test run inside the outdoor unit)

Tcond, out-Tair, out > 3℃	OK
Tair, in-Teva, in > 4℃	OK
Tair, in-Teva, out > 4℃	NO
Compressor,Indoor unit in operation. Thermo ON	OK
Error message	Indoor heat exchanger OUT sensor detachment error

• When conditions shown in above table occurs, it is classified as E129↔Axxx

1) Self check

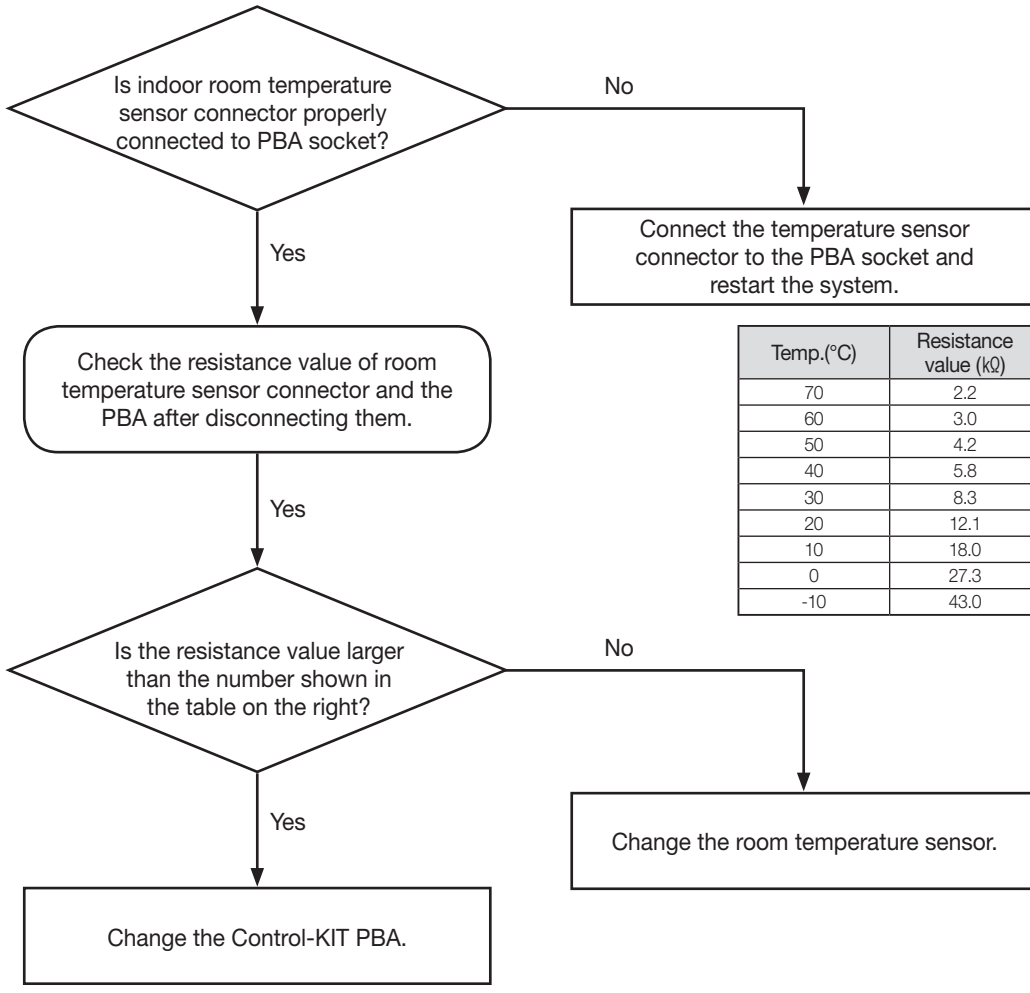
• Check for AHU-KIT heat exchanger OUT sensor. Make sure it is in the correct location.

• Wired remote controller will show the same error shown in the outdoor unit.

AHU-KIT temperature sensor OPEN/SHORT error

Outdoor unit display	E121 (ROOM sensor OPEN/SHORT) E122 (IN sensor OPEN/SHORT) E123 (OUT sensor OPEN/SHORT)
Explanation	When OPEN/SHORT signal is received for temperature sensor of AHU-KIT
Reason	Poor connection between sensor and the PBA, or poor conditioned sensor.

1) Self check



Temp.(°C)	Resistance value (kΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

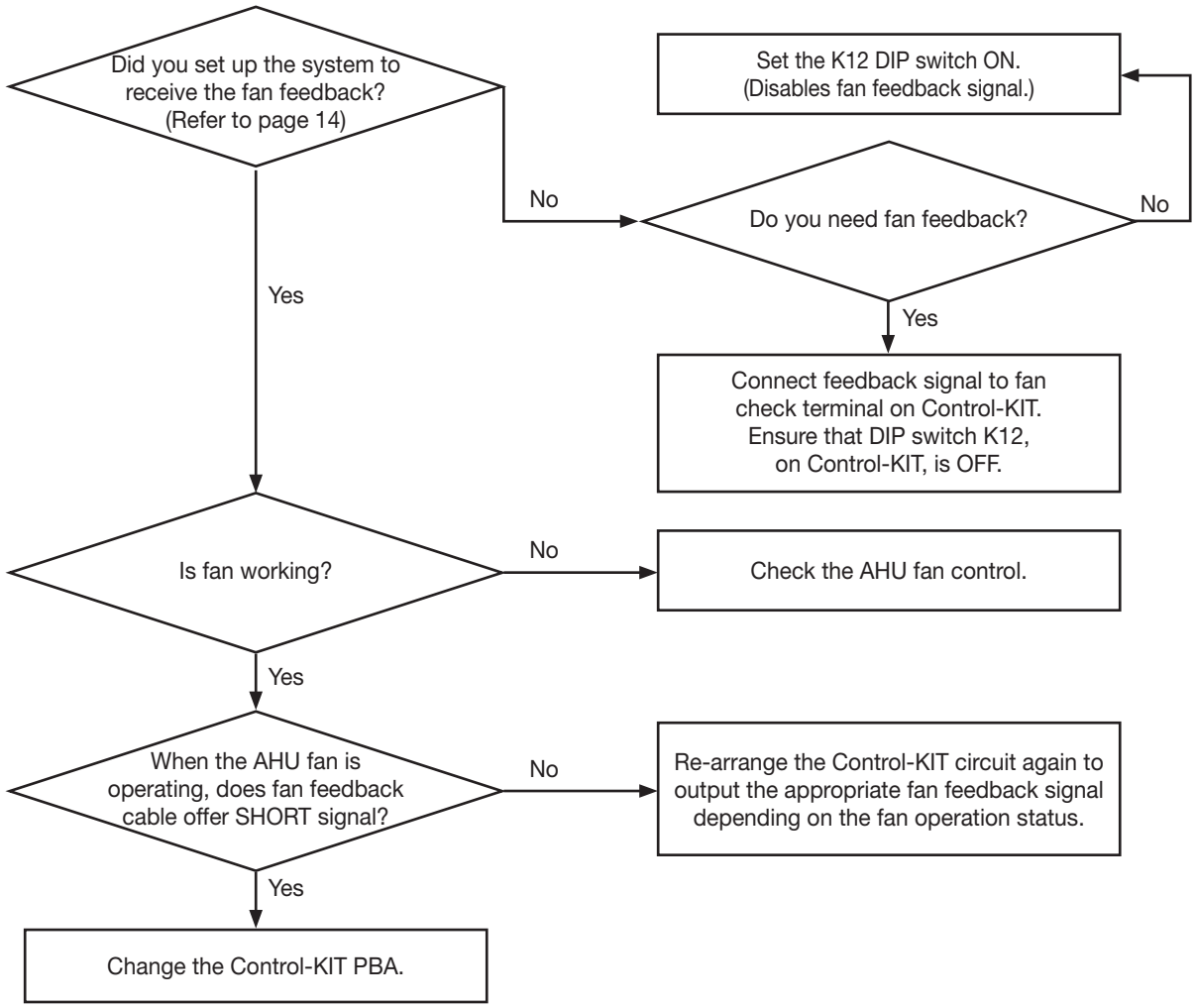
Note

• Wired remote controller will show the same error shown in the outdoor unit.

Fan Error

Outdoor unit display	E154
Explanation	When Control-KIT outputs fan operation status signal and the fan feedback signal stays OPEN for more than 10 seconds. (AHU-KIT only)
Reason	• Poor AHU fan operation • Missing or Incorrect circuit system for fan feedback check.

1) Self check



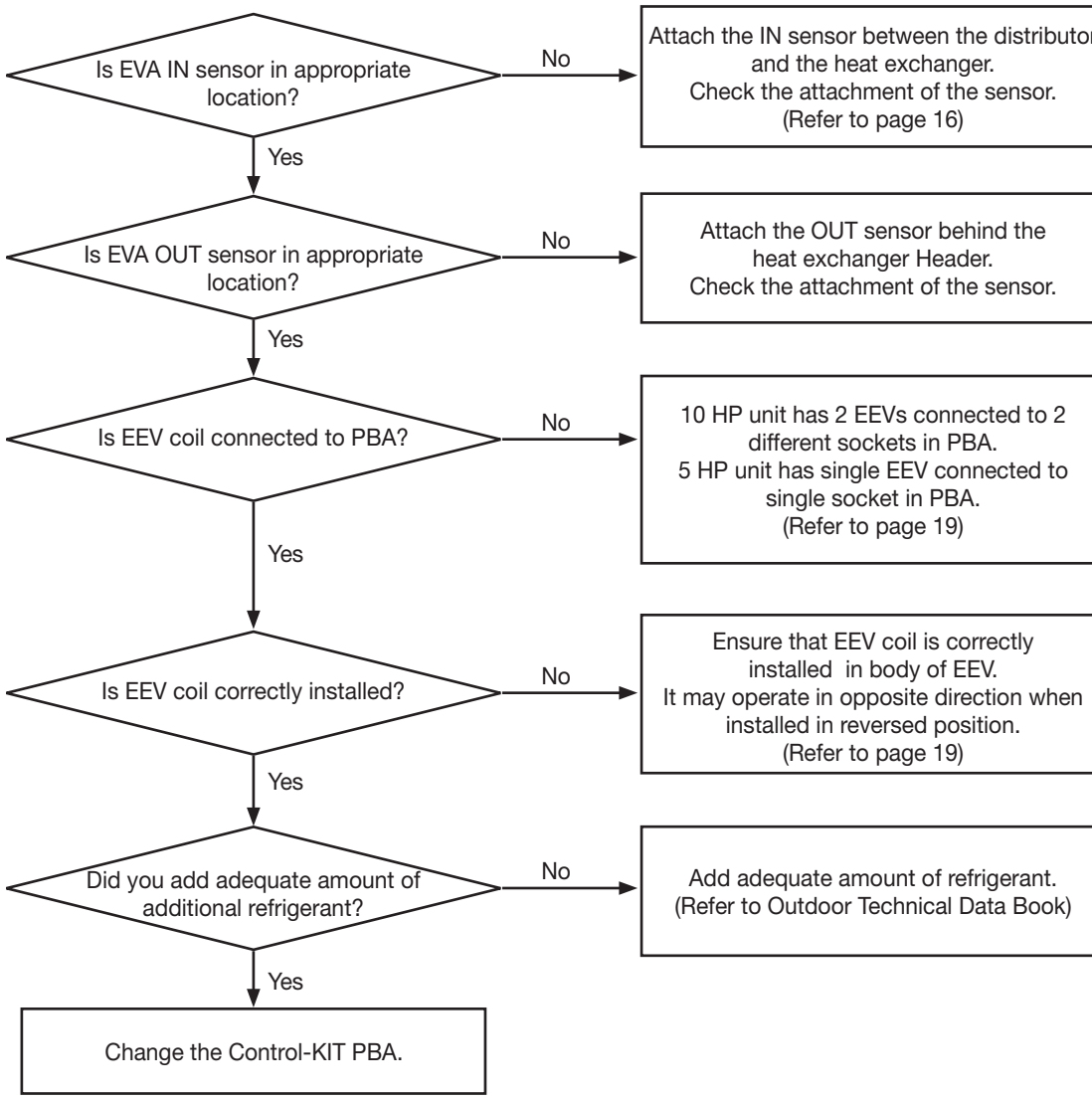
CAUTION

• Fan feedback check terminal should only receive OPEN/SHORT contact signal without voltage. When the fan feedback check terminal receives contact signal with voltage may damage the Control-KIT .

How to Inspect Just in Case the Below Condition is Satisfied

Outdoor unit display	N/A
Explanation	In Cool mode, Min.100 and Max.480 EEV steps can be controlled. In Heat mode, Min 250 EEV steps can be controlled.
Reason	• Inappropriate EVA IN/OUT sensor location • Reversed EEV coil installation • All or part of the EEV coil detachment • Excessive additional refrigerant.

1) Self check

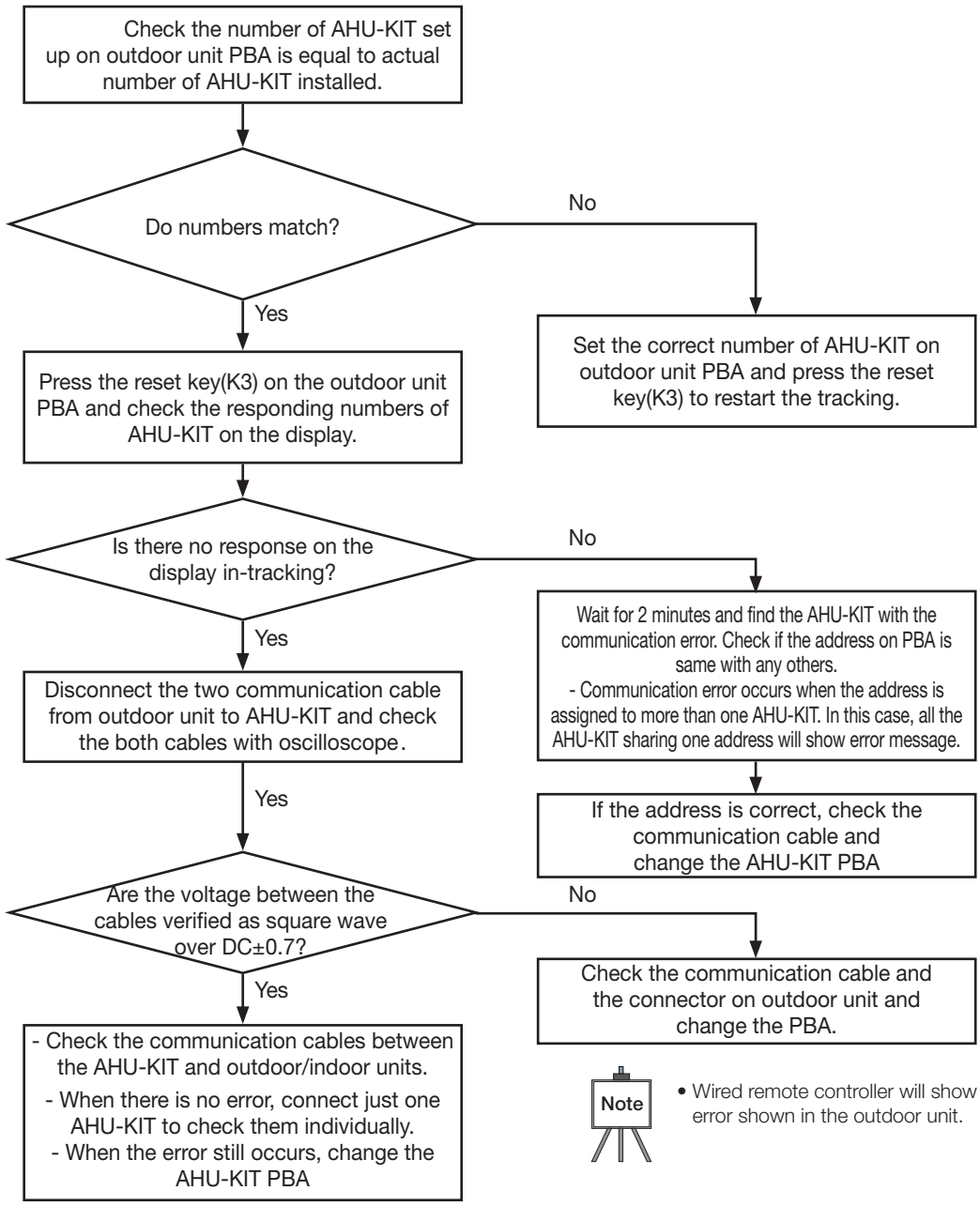


In-tracking Error

Error between AHU-KIT and outdoor unit at the beginning of operation(in tracking)

Outdoor unit display	E201
Explanation	Communication error between AHU-KIT and the outdoor unit
Reason	Refer to following self check

1) Self check



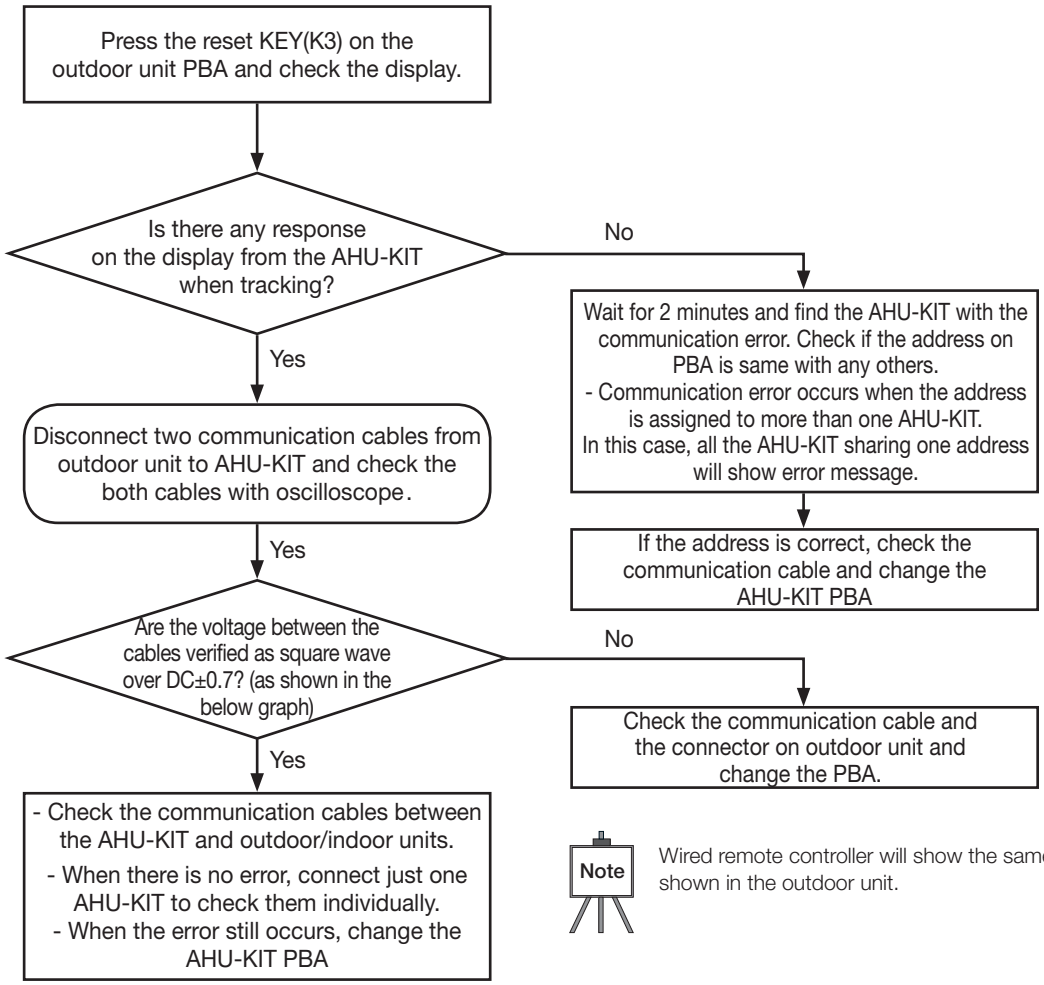
Note

- Wired remote controller will show the same error shown in the outdoor unit.

Error between AHU-KIT and outdoor unit during operation(after tracking)

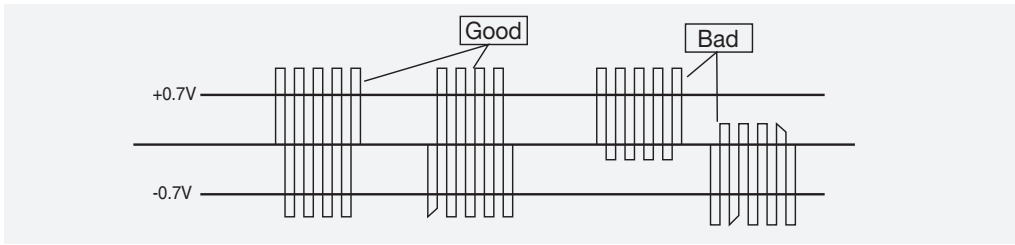
Outdoor unit display	E202
Explanation	Communication is off for 2 minutes between AHU-KIT and the outdoor unit during operation. (Ensure room)
Reason	Communication error between AHU-KIT and the outdoor or incorrect AHU-KIT number setting

1) Self check



Note

Wired remote controller will show the same error shown in the outdoor unit.



AFTER INSTALLATION

AHU-KIT Installation Check

1) Ensure that Control-KIT is correctly installed.

- You can choose the built-in type or auxillary type depending on installation environment.
- Ensure that the Control-KIT cables are correctly connected.
- Control-KIT should be fireproofed and avoid direct sunlight upon installation. (Especially for individual type)
- Avoid installing the unit in a location exposed to direct sunlight or rain.
- Do not install the Control-KIT in or on the outdoor unit.

2) Ensure that EEV-KIT is correctly installed.

- Ensure that EEV-KIT can be installed inside or outside, but do not install the EEV-KIT in residential areas.
- When EEV-KIT is installed separately outside of the AHU, insulate the pipe to prevent the dew condensate.
- Ensure that IN/OUT pipes are correctly connected.
- Ensure that the body of EEV-KIT is installed in level.
- Make sure that EEV-KIT is installed where condensation can be drained well.
- Do not install the EEV-KIT in or on the outdoor unit.

3) Ensure that IN/OUT sensor is correctly attached.

- IN sensor should be attached after the distributor, on the coldest part of the heat exchanger piping. Ensure that the sensor is insulated.
- OUT sensor should be installed approximately 200mm behind the header of AHU heat exchanger.

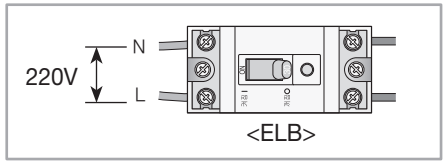
Test Operation

1) Before turning the power on, use DC 500V insulation tester to check the power terminal (L,N) and the earthing on AHU-KIT.

- Resistance value should be over 30MΩ .

2) Test the voltage of power(L, N) before turning on the power.

CAUTION
- Insulation tester may damage the communication circuit.
- Communication terminal should be tested with ordinary circuit tester to check the short circuit.



<ELB>

3) Check the list below after installation and make sure the AHU-KIT units are properly operating.

- Installation environment (resistance level etc.)
- Refrigerant leak test
- Power cable
- Insulation on refrigerant pipe.
- Drainage
- Circuit breaker connection and earthing
- Normal system operation

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