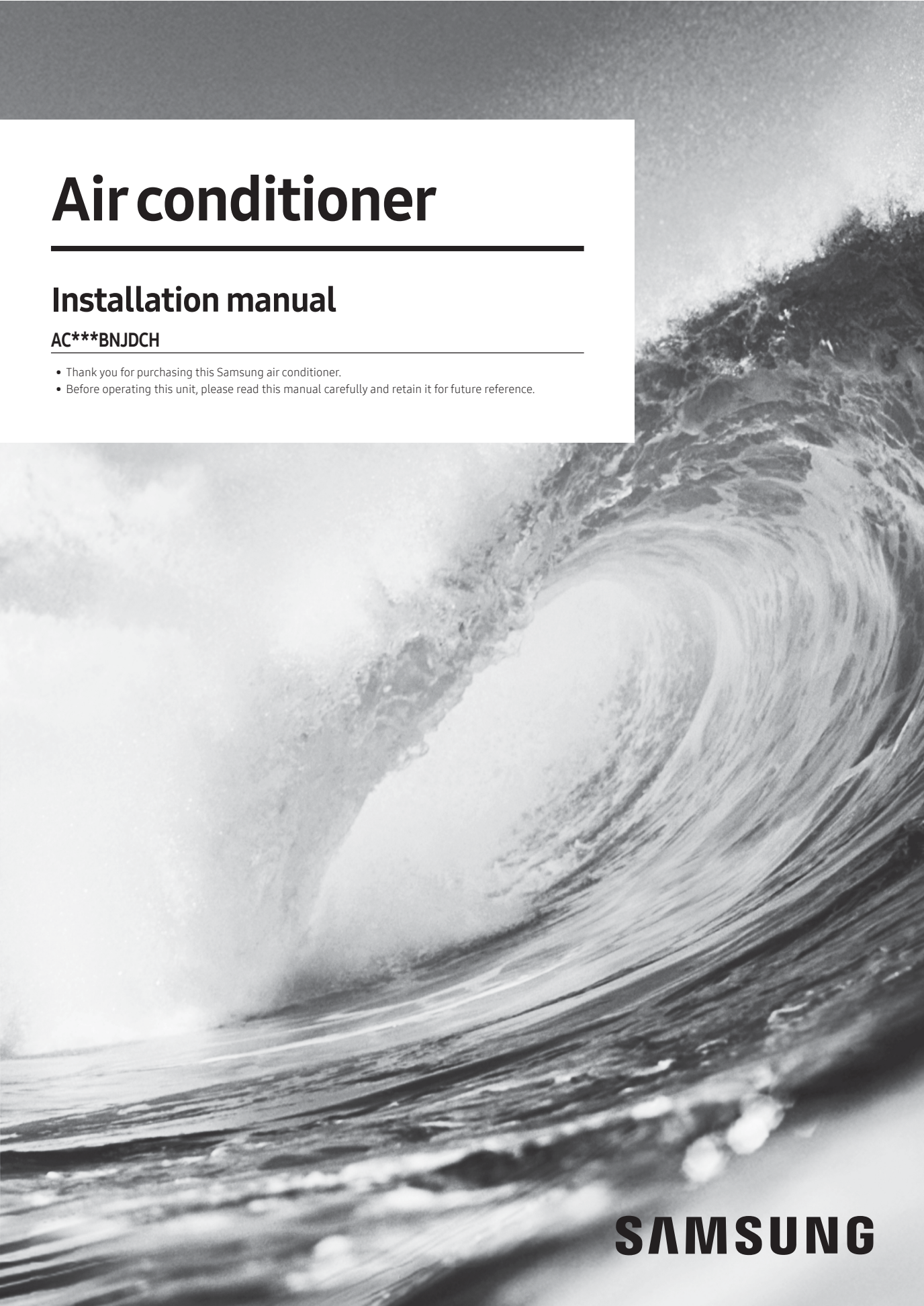
Air conditioner

Installation manual

AC***BNJDCH

- Thank you for purchasing this Samsung air conditioner.
- Before operating this unit, please read this manual carefully and retain it for future reference.



SAMSUNG

Contents

Safety Information

California Proposition 65 Warning (US)

⚠ WARNING

Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

⚠ WARNING

- Hazards or unsafe practices that may result in severe personal injury or death.

⚠ CAUTION

- Hazards or unsafe practices that may result in minor personal injury or property damage.
- Carefully follow the precautions listed below because they are essential to guarantee the safety of the equipment.

⚠ WARNING

- Always disconnect the air conditioner from the power supply before servicing it or accessing its internal components.
- Verify that installation and testing operations are performed by qualified personnel.
- Verify that the air conditioner is not installed in an easily accessible area.

General information

⚠ WARNING

- Carefully read the content of this manual before installing the air conditioner and store the manual in a safe place in order to be able to use it as reference after installation.
- For maximum safety, installers should always carefully read the following warnings.
- Store the operation and installation manual in a safe location and remember to hand it over to the new owner if the air conditioner is sold or transferred.
- This manual explains how to install an indoor unit with a split system with two SAMSUNG units. The use of other types of units with different control systems may damage the units and invalidate the warranty. The manufacturer shall not be responsible for damages arising from the use of non compliant units.
- The manufacturer shall not be responsible for damage originating from unauthorized changes or the improper connection of electric and requirements set forth in the “Operating limits” table, included in the manual, shall immediately invalidate the warranty.
- The air conditioner should be used only for the applications for which it has been designed: the indoor unit is not suitable to be installed in areas used for laundry.
- Do not use the units if damaged. If problems occur, switch the unit off and disconnect it from the power supply.
- In order to prevent electric shocks, fires or injuries, always stop the unit, disable the protection switch and contact SAMSUNG’s technical support if the unit produces smoke, if the power cable is hot or damaged or if the unit is very noisy.
- Always remember to inspect the unit, electric connections, refrigerant tubes and protections regularly. These operations should be performed by qualified personnel only.
- The unit contains moving parts, which should always be kept out of the reach of children.
- Do not attempt to repair, move, alter or reinstall the unit. If performed by unauthorized personnel, these operations may cause electric shocks or fires.
- Do not place containers with liquids or other objects on the unit.
- All the materials used for the manufacture and packaging of the air conditioner are recyclable.
- The packing material and exhaust batteries of the remote controller(optional) must be disposed of in accordance with current laws.
- The air conditioner contains a refrigerant that has to be disposed of as special waste. At the end of its life cycle, the air conditioner must be disposed of in authorised centres or returned to the retailer so that it can be disposed of correctly and safely.
- Wear protective equipment (such as safety gloves, goggles, and headgear) during installation and maintenance works. Installation/repair technicians may be injured if protective equipment is not properly equipped.

Safety Information

Installing the unit

⚠ WARNING

IMPORTANT: When installing the unit, always remember to connect first the refrigerant tubes, then the electrical lines.

- Always disassemble the electric lines before the refrigerant tubes.
- Upon receipt, inspect the product to verify that it has not been damaged during transport. If the product appears damaged, DO NOT INSTALL it and immediately report the damage to the carrier or retailer (if the installer or the authorized technician has collected the material from the retailer.)
- After completing the installation, always carry out a functional test and provide the instructions on how to operate the air conditioner to the user.
- Do not use the air conditioner in environments with hazardous substances or close to equipment that release free flames to avoid the occurrence of fires, explosions or injuries.
- Do not install the product in a place where thermohygrostat is needed (such as server room, machinery room, computer room, etc.). Those places do not provide guaranteed operation condition of the product therefore performance can be poor in these places.
- Do not install the product in a ship or a vehicle (such as a campervan). Salt, vibration or other environmental factor may cause the product malfunction, electric shock or fire.
- Our units should be installed in compliance with the spaces shown in the installation manual, to ensure accessibility from both sides and allow repairs or maintenance operations to be carried out. The unit's components should be accessible and easy to disassemble without endangering people and objects. For this reason, when provisions of the installation manual are not complied with, the cost required to access and repair the units (in SAFETY CONDITIONS, as set out in prevailing regulations) with harnesses, ladders, scaffolding or any other elevation system will NOT be considered part of the warranty and will be charged to the end customer.

Power supply line, fuse or circuit breaker

⚠ WARNING

- Always make sure that the power supply is compliant with current safety standards. Always install the air conditioner in compliance with current local safety standards.
- Always verify that a suitable grounding connection is available.
- Verify that the voltage and frequency of the power supply comply with the specifications and that the installed power is sufficient to ensure the operation of any other domestic appliance connected to the same electric lines.
- Always verify that the cut-off and protection switches are suitably dimensioned.
- Verify that the air conditioner is connected to the power supply in accordance with the instructions provided in the wiring diagram included in the manual.
- Always verify that electric connections (cable entry, section of leads, protections...) are compliant with the electric specifications and with the instructions provided in the wiring scheme. Always verify that all connections comply with the standards applicable to the installation of air conditioners.
- Devices disconnected from the power supply should be completely disconnected in the condition of overvoltage category.
- Be sure not to perform power cable modification, midway wiring, and multiple wire connection.
  - It may cause electric shock or fire due to poor connection or insulation and current limit override.
  - When midway wiring is required due to power line damage, refer to "Step 12 Optional: Extending the power cable" in the installation manual.

⚠ CAUTION

Make sure that you earth the cables.

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

Install the circuit breaker.

- If the circuit breaker is not installed, electric shock or fire may occur.

Make sure that the condensed water dripping from the drain hose runs out properly and safely.

Install the power cable and communication cable of the indoor and outdoor unit at least 3.3 ft (1m) away from the electric appliance.

Install the indoor unit away from lighting apparatus using the ballast.

- If you use the wireless remote control, reception error may occur due to the ballast of the lighting apparatus.

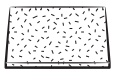
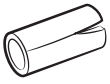
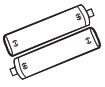
Do not install the air conditioner in following places.

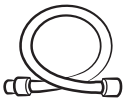
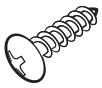
- A location where there is mineral oil or arsenic acid. Resin, flame, or accessories may drop or water may leak. The heat exchanger capacity may decrease or the air conditioner may be out of order.
- A place where corrosive gas such as sulphuric acid gas generates from vent pipes or air outlets.
- The copper pipe or connection pipe may corrode and refrigerant may leak.
- A place where machines may generate electromagnetic waves. The air conditioner's control system may not operate normally.
- The place where there is a danger of existing combustible gas, carbon fibre or flammable dust.
- The place where thinner or gasoline is handled. Gas may leak and it may cause fire.

Installation Procedure

Step 1 Checking and preparing accessories

The following accessories are supplied with the indoor unit. The type and quantity may differ, depending on the specifications.

User's manual(1)	Installation manual (1)
	
Insulation Install Outlet (1)	**Insulation Install SVC (1)**
	
Bracket Hanger (1)	**Cable-tie (8)**
	
Wireless remote control (1)	**Battery (2)**
	

Drain Hose (1)	M4x12 tapped screw(1)
	
Flare Nuts AC015BNJDCH	**Tube connector AC015BNJDCH**
	
Remote Control Holder (1)	**Tapped Screws M4 x 16 (2)**
	

Installation Procedure

Step 2 Choosing the installation location

General requirements for installation location

Do not install the air conditioner in a location where it will come into contact with the following elements:

- Combustible gases
- Saline air
- Machine oil
- Sulphide gas
- Special environmental conditions

Avoid installing the air conditioner in a location with the following conditions:

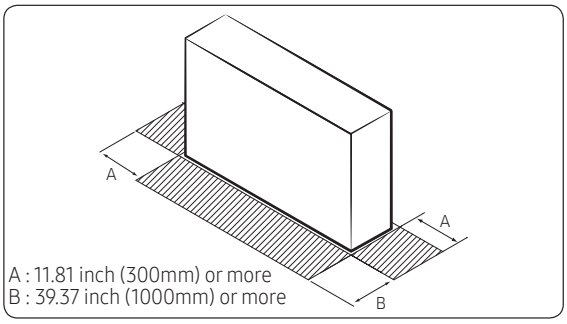
- In areas where it is exposed to direct sunlight. Close to heat sources.
- In damp areas or locations where it could come into contact with water. (for example rooms used for laundry)
- In areas where curtains and furniture could affect the supply and discharge of air.
- Without leaving the required minimum space around the unit. (as shown in the drawing)
- In scarcely ventilated areas.
- On surfaces that are unable to support the weight of the unit without deforming, breaking or causing vibrations during the use of the air conditioner.
- In a position that does not enable the condensate drainage pipe to be correctly installed. (at the end of the installation. It is always essential to check the efficiency of the drainage system)

Indoor unit installation requirement

- This unit has to be installed as floor type only.
- There must be no obstacles near the air inlet and outlet.
- Select a convenient location that permits the air to reach every corner of the area to be cooled.
- Pre-plan for easy and short routing of the refrigerant tubing and wiring to the outdoor unit.
- There should be no flammable gas, alkaline, substances present in the air.
- Maintain sufficient clearance around the indoor unit.
- Make sure that the water dripping from the drain hose runs away correctly and safely.
- Do not install the unit where it will be exposed to direct sunlight.

⚠ CAUTION

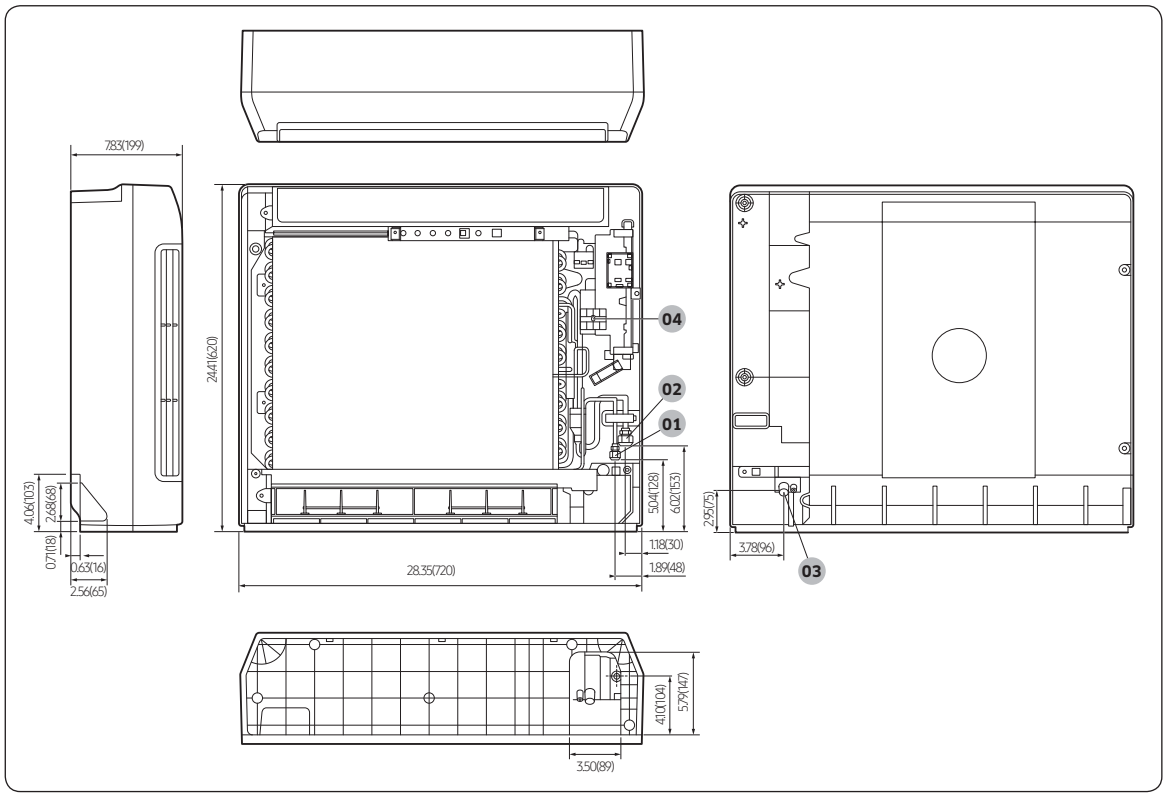
- Our units should be installed in compliance with the spaces shown in the installation manual, to ensure accessibility from both sides and allow repairs or maintenance operations to be carried out. The unit's components should be accessible and easy to disassemble without endangering people and objects.
- For this reason, when provisions of the installation manual are not complied with, the cost required to access and repair the units (in SAFETY CONDITIONS, as set out in prevailing regulations) with harnesses, ladders, scaffolding or any other elevation system will NOT be considered part of the warranty and will be charged to the end customer.



A : 11.81 inch (300mm) or more
B : 39.37 inch (1000mm) or more

Indoor unit dimensions

Unit:inch(mm)



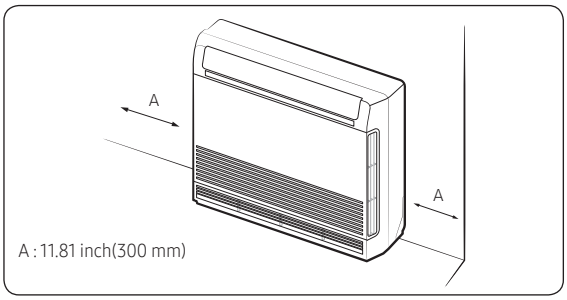
No.	Name		Model	
			AC009/012BNJDCH	AC015/018BNJDCH
01	Liquid pipe connection	inch (mm)	Ø1/4(6.35)	
02	Gas pipe connection	inch (mm)	Ø3/8(9.52)	Ø1/2(12.70)
03	Drainpipe connection	inch (mm)	ID : Ø0.47(12) ; OD : Ø0.71(18)	
04	Power supply connection	inch (mm)	-	

- Length of pipes and difference in height: see the outdoor unit installation manual
- Vacuum and refrigerant charge: see the outdoor unit installation manual

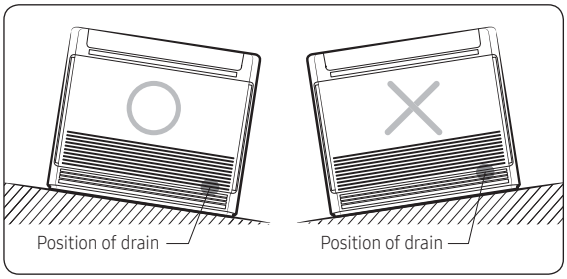
Installation Procedure

Step 3 Installing the unit

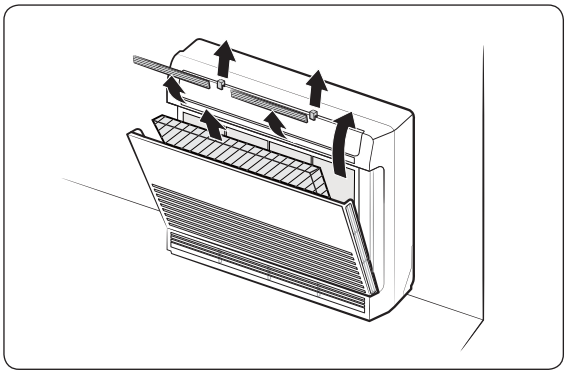
1 When you install the indoor with side-pipe connection, please make space more than 11.81 inch (300mm) from the wall.



2 When you install the indoor with side-pipe connection, please make space more than 11.81 inch (300mm) from the wall.

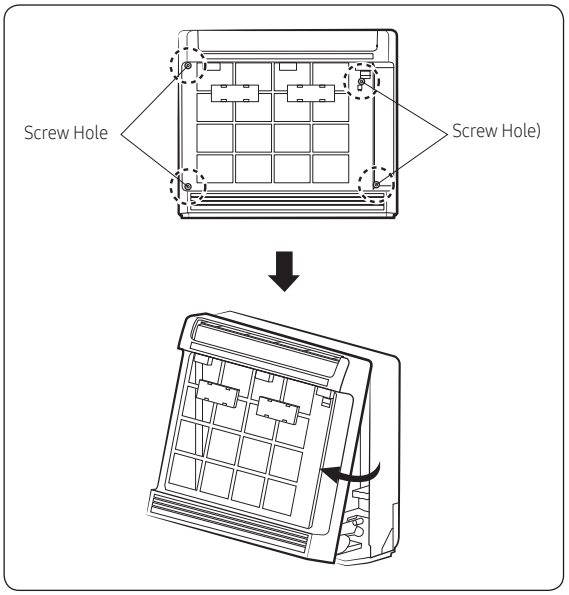


3 Please remove packaging materials when installing the unit. (**009/012******: 6 Items / **015/018******: 7 Items)

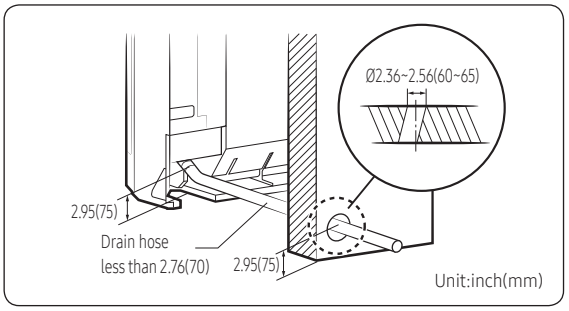


4 The body front should be opened to connect pipes.

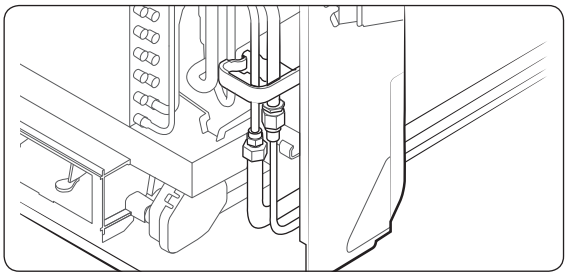
Remove the 4 screws on the front of the unit and then pull the lower section of the unit out as shown below.



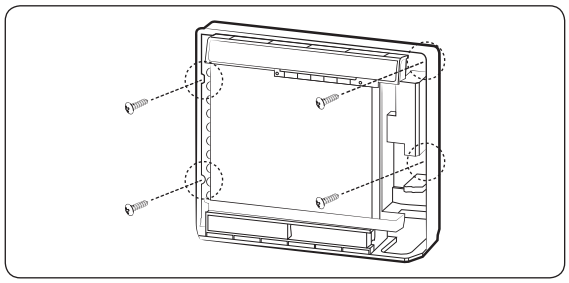
5 Make a hole in the wall.



6 Refrigerant and drain pipes and cables should go through the hole located at the on the back of the unit at the bottom.



7 Hanging the indoor unit on the Bracket Hanger, then fix the Indoor Unit by using 4 Screws.
   - Case 1. Installing on the floor: You must secure the unit to the wall using 4 screws to ensure that the unit does not fall.
   - Case 2. Hanging on the wall : Follow the installation guide supplied in the accessory part.
     – Screw positions are specified on the installation guide.



Step 4 Purging inert gas from the indoor unit

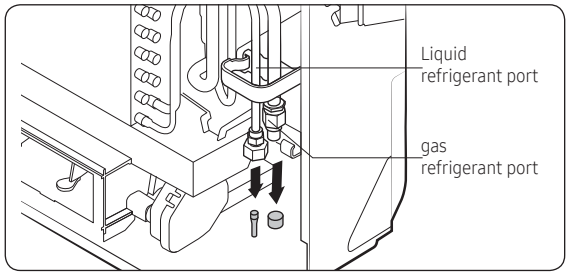
From factory the unit is supplied and set with a pre-charge of nitrogen gas (inert gas). Therefore, all inert gas must be purged before connecting the assembly piping.

Unscrew the pinch pipe at the end of each refrigerant pipe.

- Result: All inert gas escapes from the indoor unit.

NOTE

To prevent dirt or foreign objects from getting into the pipes during installation, do NOT remove the pinch pipe completely until you are ready to connect the piping.



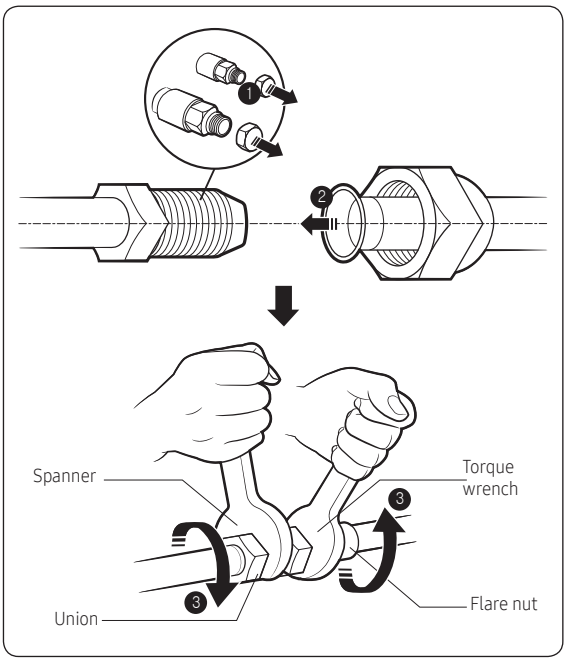
The designs and shape are subject to change according to the model.

Step 5 Connecting the assembly pipes to the refrigerant pipes

There are two refrigerant pipes of different diameters :

- A smaller one for the liquid refrigerant.
- A larger one for the gas refrigerant. The inside of copper pipe must be clean and has no dust.

1 Remove the pinch pipes and connect the assembly pipes. First tighten the flare nuts manually and then with a torque wrench and a spanner applying the following torque.



Outer Diameter		Torque	
mm	inch	N•m	lbf.ft
Ø6.35	1/4	14 to 18	10.3 to 13.3
Ø9.52	3/8	34 to 42	25.1 to 31.0
Ø12.70	1/2	49 to 61	36.1 to 45.0
Ø15.88	5/8	68 to 82	50.2 to 60.5
Ø19.05	3/4	100 to 120	73.8 to 88.5

(1 N•m=10 kgf•cm)

NOTE

- If the pipes must be shortened, see **Step 6 Cutting and flaring the pipes** on page **10**.

Installation Procedure

2 Use insulation that is thick enough to cover the refrigerant pipe to prevent condensate water on the outside of pipe and to ensure system efficiency. Condensation can drip onto the floor causing property damage or a slip hazard.

3 Cut off any excess foam insulation.

4 Make sure that the bent sections of pipe are not kinked or cracked.

5 It is necessary to double the insulation thickness (0.39 inch or more,10 mm or more) to prevent condensation even on the insulator when if the installed area is warm and humid.

6 Do not use joints or extensions for the pipes that connect the indoor and outdoor unit.

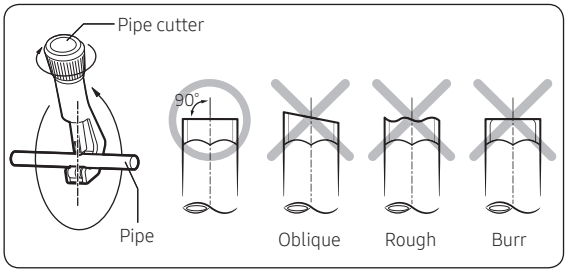
⚠ CAUTION

- Connect the indoor and outdoor units using pipes with flared connections (not supplied). For the lines, use insulated, unwelded, degreased and deoxidized copper pipe (Cu DHP type to ISO 1337 or UNI EN 12735-1), suitable for operating pressures of at least 4200kPa and for a burst pressure of at least 20700kPa. Copper pipe for hydro-sanitary applications is completely unsuitable.
- For sizing and limits (height difference, line length, max. bends, refrigerant charge, etc.) see the outdoor unit installation manual.
- All refrigerant connection must be accessible, in order to permit either unit maintenance or removing it completely.

Step 6 Cutting and flaring the pipes

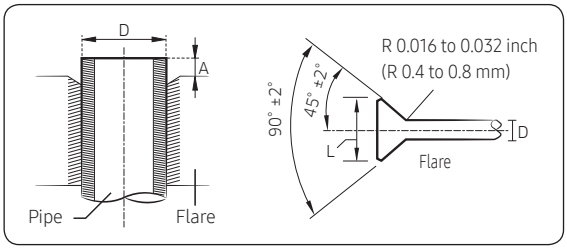
1 Make sure that you have the required tools available. (pipe cutter, reamer, flaring tool and pipe holder)

2 If you wish to shorten the pipes, cut it with a pipe cutter, taking care to ensure that the cut edge remains at a 90° angle with the side of the pipe. Refer to the illustrations below for examples of edges cut correctly and incorrectly.



3 To prevent any gas from leaking out, remove all burrs at the cut edge of the pipe, using a reamer.

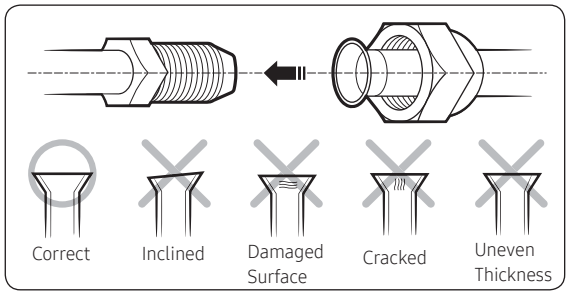
4 Slide a flare nut on to the pipe and flare the pipe.



Outer Diameter (D)	Depth (A)	Flare dimension (L)
Ø1/4 (6.35)	0.051 (1.3)	0.34~0.36 (8.7~9.1)
Ø3/8 (9.52)	0.071 (1.8)	0.50~0.52 (12.8~13.2)
Ø1/2 (12.70)	0.079 (2.0)	0.64~0.65 (16.2~16.6)
Ø5/8 (15.88)	0.087 (2.2)	0.76~0.78 (19.3~19.7)
Ø3/4 (19.05)	0.087 (2.2)	0.93~0.94 (23.6~24.0)

Unit: inch(mm)

5 Check that the flaring is correct, referring to the illustrations below for examples of incorrect flaring.

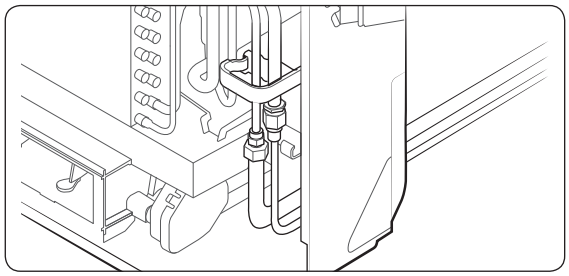


⚠ CAUTION

- If the pipes require brazing ensure that OFN (Oxygen Free Nitrogen) is flowing through the system.
- Nitrogen blowing pressure range is 0.02 ~ 0.05MPa.

Step 7 Performing the gas leak test

Pressure check the refrigerant system using high pressure nitrogen in order to detect basic refrigerant leaks. Before performing the vacuum process and releasing the factory R-410A charge into the refrigerant pipes, it is the responsibility of the installer to pressurize the whole system with nitrogen (using a cylinder with pressure reducer) at a pressure above 580.2 psi (4 MPa)(gauge).



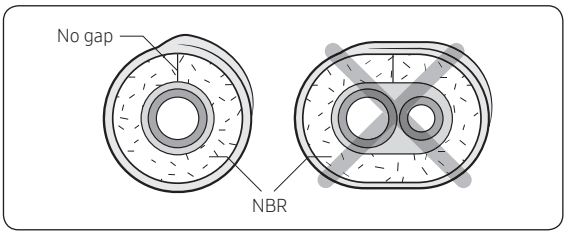
⚠ CAUTION

- If the pipes require brazing ensure that OFN (Oxygen Free Nitrogen) is flowing through the system.

Step 8 Insulating the refrigerant pipes

Once you have checked that there are no leaks in the system, you can insulate the piping and hose.

1 To avoid condensation problems, place Acrylonitrile Butadien Rubber separately around each refrigerant pipe.



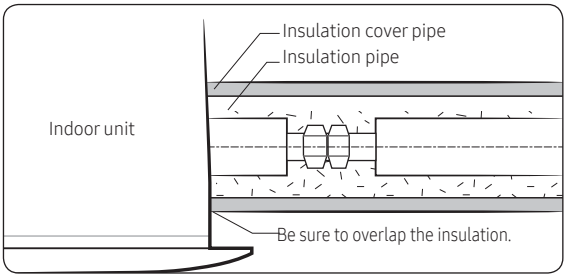
NOTE

- Always make the seam of pipes face upwards.

⚠ CAUTION

- The insulation has to be produced in full compliance of European regulation reg. EEC / EU 2037/ 2000 that requires the use of sheaths insulation form without using CFC and HCFC gases for health and the environment.

2 Wind insulating tape around the pipes and drain hose avoiding compressing the insulation too much.



⚠ CAUTION

- Be sure to wrap insulation tightly without any gaps.

Installation Procedure

3 Finish wrapping insulating tape around the rest of the pipes leading to the outdoor unit.

4 The pipes and electrical cables connecting the indoor unit with the outdoor unit must be fixed to the wall with suitable ducts.

⚠ CAUTION

- Make sure that all refrigerant connection must be accessible for easy maintenance and detachment.

5 Select the insulation of the refrigerant pipe.

- Insulate the gas side and liquid side pipe, noting the insulation thickness that must differ according to the pipe size.
- Standard: Less than an indoor temperature of 86°F(30°C), with humidity at 85%. If installing in a high humidity environment, use one grade thicker insulator by referring to the table below. If installing in an unfavourable environment, use thicker one.
- The heat-resistance temperature of the insulator must be more than 248°F(120°C).

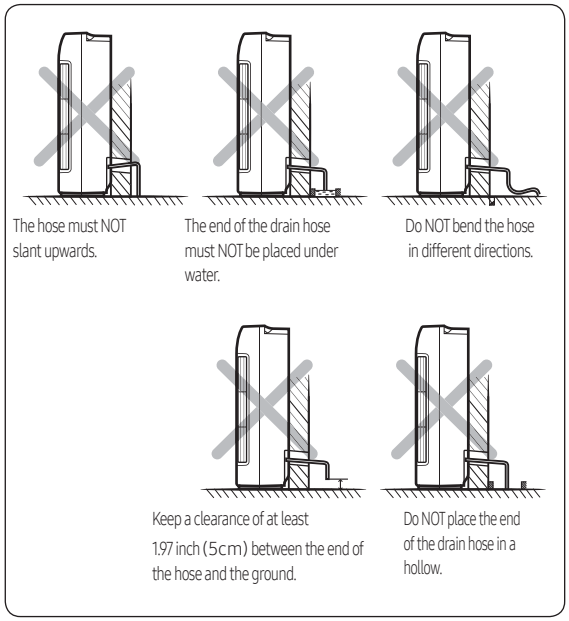
Pipe	Outer diameter		Insulation Type (Cooling, Heating)				Remarks
			General [86°F(30°C), 85%]		High humidity [86°F(30°C), over 85%]		
			EPDM, NBR				
	mm	inch	mm	inch	mm	inch	
Liquid pipe	6.35~9.52	1/4~3/8	9	3/8	9	3/8	The internal temperature is higher than 248°F(120°C)
	12.7~50.80	1/2~2	13	1/2	13	1/2	
Gas pipe	6.35	1/4	13	1/2	19	3/4	
	9.52~25.4	3/8~1	19	3/4	25	1	
	28.58~44.45	1 1/8~1 3/4	19	3/4	32	1 1/4	
	50.8	2	25	1	38	1 1/2	

- When installing insulation in the conditions below, use the same insulation that is used for high humidity conditions.

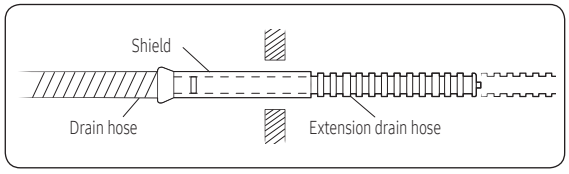
<Geological condition>
High humidity locations such as shorelines, hot springs, lake or riversides, and ridges (when part of the building is covered by earth and sand)
<Operation purpose condition>
Restaurant ceiling, sauna, swimming pool etc.
<Building construction condition>
Ceilings frequently exposed to moisture and cooling are not covered. For example, pipes installed at a corridor of a dormitory and studio or near an exit that opens and closes frequently. Places (where the pipes are installed) that are highly humid due to a lack of ventilation.

Step 9 Installing the drain hose and drain pipe

When installing the drain hose for the indoor unit, check if condensation draining is adequate. When passing the drain hose through the 2.56 inch (65mm) hole drilled in the wall, check the following:



1 If necessary, connect the 6.56ft (2 m) extension drain hose to the drain hose.



2 If you use the extension drain hose, insulate the outside of the extension drain hose with a insulation.

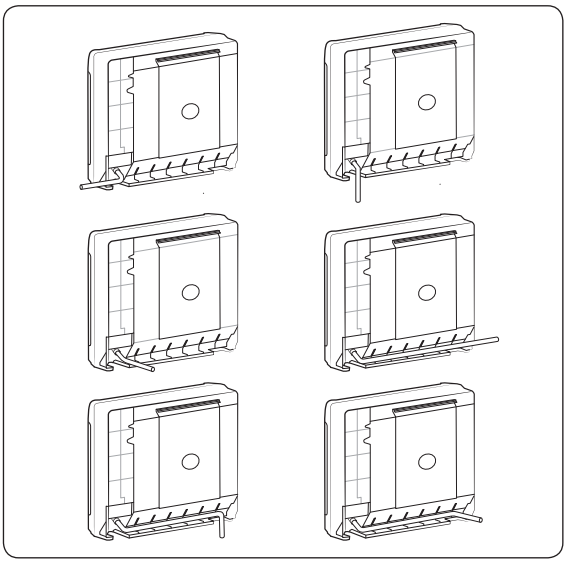
3 Fit the drain hose into 1 of 2 drain hose holes, then fix the end of the drain hose tightly with a clamp.

- If you don't use the other drain hose hole, block it with a rubber stopper.

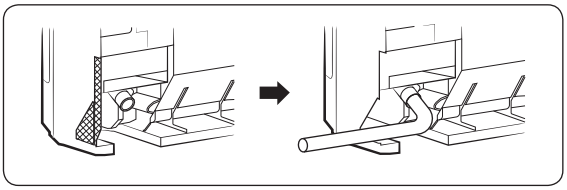
4 Pass the drain hose under the refrigerant pipes, keeping the drain hose tight.

5 Pass the drain hose through the hole in the wall. Verify that it slants downwards.

6-ways for drain hose and drain pipe connection



Knock out

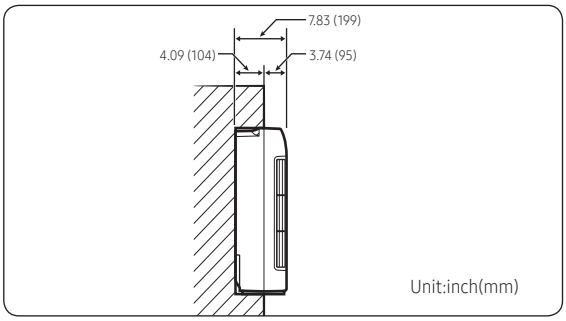


NOTE

- The hose will be fixed permanently into position after finishing the installation and the gas leak test; refer to page 11 for further details.

Step 10 Optional : Half concealed Installation

When installing this unit with a part in the wall, please keep the dimensions as shown below.



Installation Procedure

Step 11 Connecting the power and communication cables

⚠ CAUTION

- Always remember to connect the refrigerant pipes before performing the electric connections.
  When disconnecting the system, always disconnect the electric cables before disconnecting the refrigerant pipes.

⚠ CAUTION

- Always remember to connect the air conditioner to the grounding system before performing the electric connections. Use a crimp ring terminal at the end of each wire.

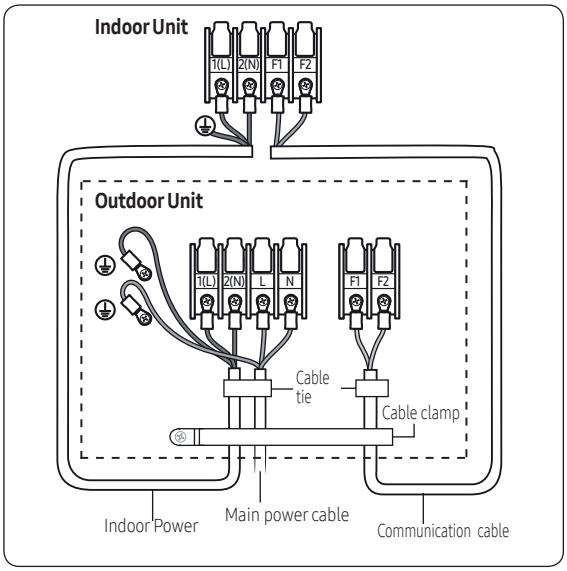
The indoor unit is powered through the outdoor unit by means of a H05RN-F connection cable (or a more power model), with insulation in synthetic rubber and a jacket in polychloroprene (neoprene), in accordance with the requirements specified in the standard EN 60335-2-40.

1 Remove the screw on the electrical component box and remove the cover plate.

2 Route the connection cord through the side of the indoor unit and connect the cable to the terminals refer to the figure below.

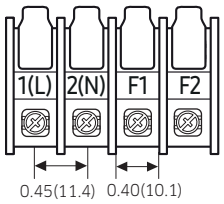
3 Route the other end of the cable to the outdoor unit.

4 Reassemble the electrical component box cover, carefully tightening the screw.



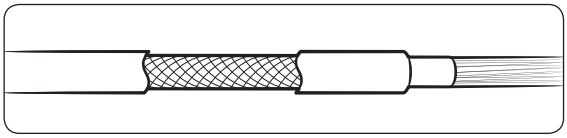
Indoor power supply		
Power supply	**Max/Min(V)**	**Indoor power cable**
208 to 230V, 60 Hz	±10%	0.0012 inch²↑ (0.75mm² ↑), 3 wires
Communication cable		
0.0012 inch²↑ (0.75mm² ↑), 2 wires		

AC power, Communication : M4 screw Unit:inch(mm)



Tightening torque lbf·ft (kgf • cm)	
M3.5	0.58 to 0.87 (8.0 to 12.0)
M4	0.87 to 1.30 (12.0 to 18.0)

- Power supply cords of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flexible cord. (Code designation IEC:60245 IEC 57 / CENELEC: H05RN-F)
- Screws on terminal block must not be unscrewed with the torque less than 0.87 ft•lb (12 kgf•cm).
- Since it has the external power supply, refer to the outdoor unit installation manual for MAIN POWER.



⚠ CAUTION

- When installing the indoor unit in a computer room or network room, use the double shielded communication cable (tape aluminum / polyester braid + copper) of FROHH2R type.

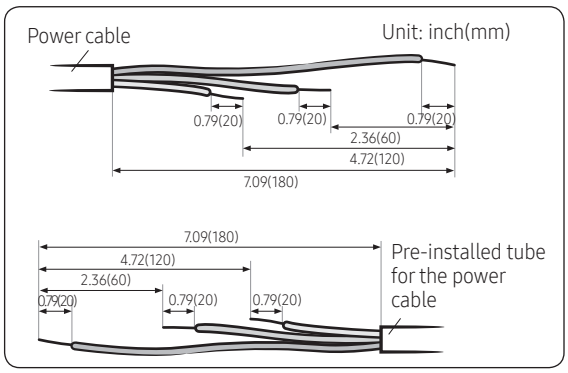
Step 12 Optional: Extending the power cable

1 Prepare a compressor and the following tools.

Tools	Spec	Shape
Crimping pliers	MH-14	
Connection sleeve	0.79xØ0.26inch (20xØ6.5mm) (HxOD)	
Insulation tape	Width 0.75inch(19mm)	
Contraction tube	2.76xØ0.31 inch (70xØ8.0mm) (LxOD)	

2 As shown in the figure, peel off the shields from the rubber or wire of the power cable.

- Peel off 0.79 inch (20 mm) of the wire shields of the tube installed already.

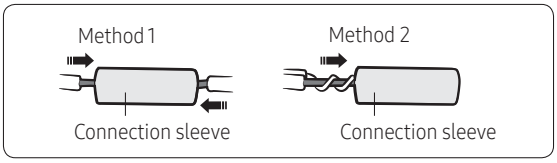


⚠ CAUTION

- For information about the power cable specifications for indoor and outdoor units, refer to the installation manual.
- After peeling off cable wires from the pre-installed tube, insert a contraction tube.

3 Insert both sides of core wire of the power cable into the connection sleeve.

- **Method 1**: Push the core wire into the sleeve from both sides.
- **Method 2**: Twist the wire cores together and push it into the sleeve.

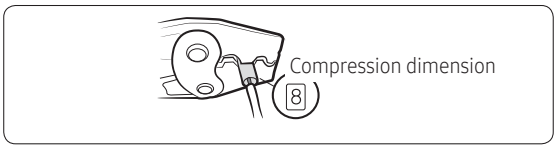


⚠ CAUTION

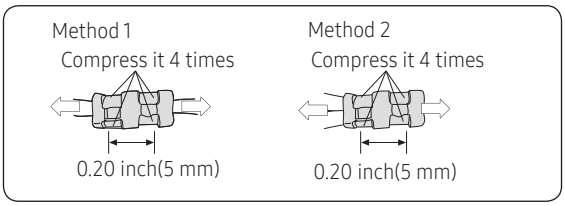
- If cable wires are connected without using connecting sleeves, their contact area becomes reduced, or corrosion develops on the outer surfaces of the wires (copper wires) over a long time. This may cause an increase of resistance (reduction of passing current) and consequently may result in a fire.

4 Using a compressor, compress the two points and flip it over and compress another two points in the same location.

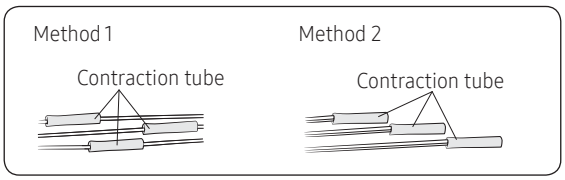
- The compression dimension should be 0.31 inch (8.0 mm)



- After compressing it, pull both sides of the wire to make sure it is firmly pressed.

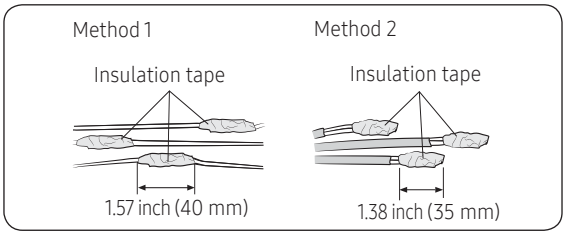


5 Apply heat to the contraction tube to contract it.

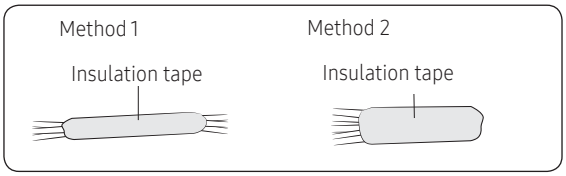


Installation Procedure

6 Wrap it with the insulation tape twice or more and position your contraction tube in the middle of the insulation tape.

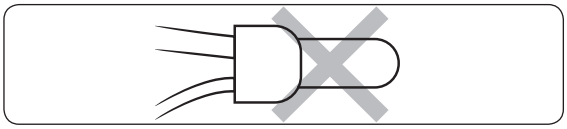


7 After tube contraction work is completed, wrap it with the insulation tape to finish.
Three or more layers of insulation are required.



⚠ CAUTION

- Make sure that the connection parts are not exposed to outside.
- Be sure to use insulation tape and a contraction tube made of approved reinforced insulating materials that have the same level of withstand voltage with the power cable. (Comply with the local regulations on extensions.)



⚠ WARNING

- In case of extending the electric wire, please DO NOT use a round-shaped Pressing socket.
  - Incomplete wire connections can cause electric shock or a fire.

Step 13 Optional : Setting the Emergency Temperature Output (ETO) function

Emergency Temperature Output (ETO) function (for the multi system, this function is not supported.)

⚠ CAUTION

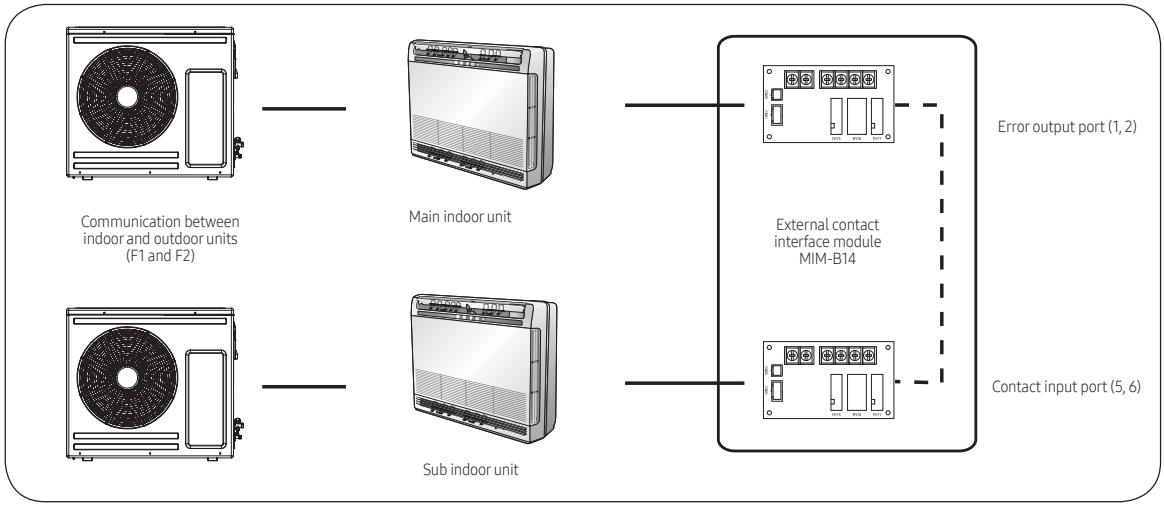
- In order to deploy the ETO function, the MIM-B14, an external contact interface module, must be installed in each indoor unit.

– The ETO is a concept of emergency operation of indoor units. If the indoor unit 1 (main indoor unit) stops because of an error, the indoor unit 2 (sub indoor unit) starts to operate.

– Basically, the indoor unit 2 operates in the previous mode. [For the first time operation, it starts in 75 °F (24 °C) Auto mode.]

– To set more detailed operation conditions for the indoor unit 2, use the S-net Pro.

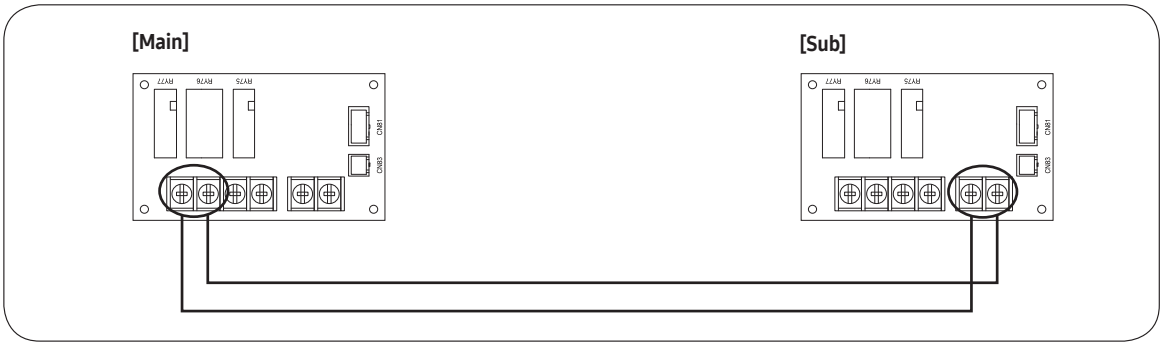
Setting up the ETO



1 Main indoor unit
   – Disable the external contact control (Default).
   – Connect the S-net pro2 to F1 and F2.
   – Enable the ETO function and set the temperature and time.

2 Sub indoor unit
   – (Required) Enable the external contact control (with the installation option SEG14 - Reverse Control).
   – Connect the S-net pro2 to F1 and F2.
   – Enable the entrance control and set the mode, set temperature, and fan speed.

Installation Procedure



ETO operation specifications

1 Main indoor unit
   - Based on the external contact control settings, the main indoor unit decides whether to generate output when an error (indoor unit stop) occurs.
   - Based on the ETO settings, the main indoor unit decides whether to generate output according to the temperature and time conditions.

2 Sub indoor unit
   - Based on the entrance control settings, the sub indoor unit decides the mode, set temperature, and fan speed when contact inputs are given.

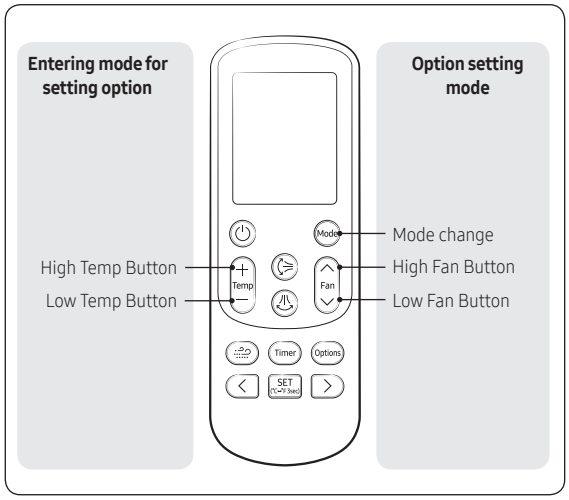
	Enable of ETO	Enable of external contact	Error port output
Main indoor unit	X	X	N/A
	X	O	Output due to an error
	O	X	Output by ETO entrance conditions (temperature / time / error occurrence)
	O	O	Output by ETO entrance conditions (temperature / time / error occurrence) ❉ Ready to control the main contact input

	Enable of entrance control	Enable of external contact	Operation when outputting Main
Sub indoor unit	X	X	N/A
	X	O	On with the previous operation conditions
	O	O	On with the entrance control enabled

Step 14 Setting the indoor unit addresses and the installation options

- Set the indoor unit address and installation option with a wireless remote controller. Options and address can also be modified using wired controllers or service software. You cannot set both the indoor unit addresses and the installation options at the same time.
- Please use the proper wireless remote controller which can set 24 digit option code.
- Please refer to the wired remote controller installation manual for setting with the wired remote controller.

Common steps for setting the addresses and options



NOTE

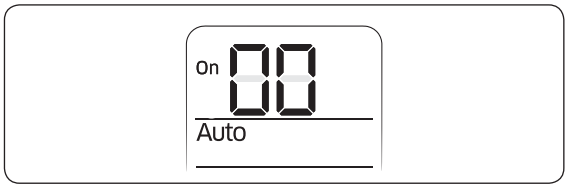
- The remote control display and buttons may vary depending on the model.

1 Enter the mode for setting the options:

a Remove the batteries from the remote control, and then insert them again.

b While holding down the (High Temp) and (Low Temp) buttons simultaneously, insert the batteries into the remote control.

c Make sure that you are entered to the mode for setting the options:



2 Set the option values.

⚠ CAUTION

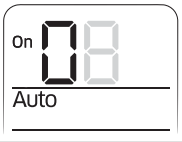
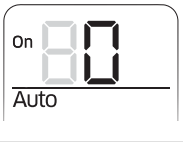
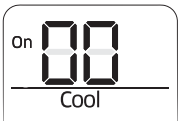
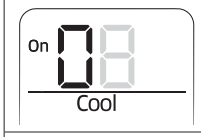
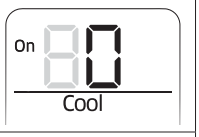
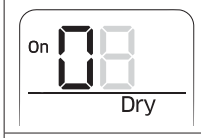
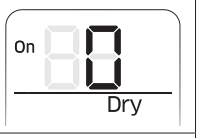
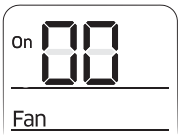
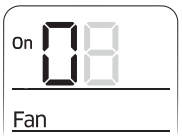
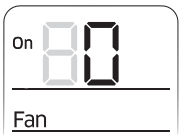
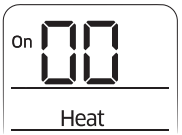
- The total number of available options are 24: SEG1 to SEG24.
- Because SEG1, SEG7, SEG13, and SEG19 are the page options used by the previous remote control models, the modes to set values for these options are skipped automatically.
- Set a 2-digit value for each option pair in the following order: SEG2 and SEG3 → SEG4 and SEG5 → SEG6 and SEG8 → SEG9 and SEG10 → SEG11 and SEG12 → SEG14 and SEG15 → SEG16 and SEG17 → SEG18 and SEG20 → SEG21 and SEG22 → SEG23 and SEG24

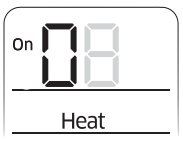
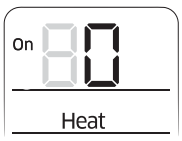
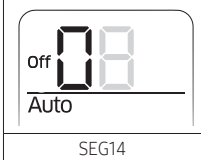
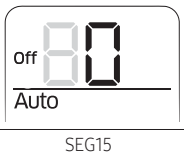
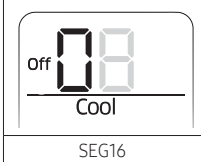
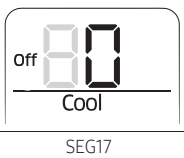
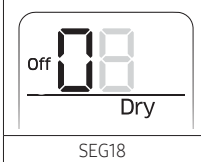
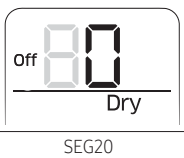
SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	X	X	X	X	X
SEG7	**SEG8**	**SEG9**	**SEG10**	**SEG11**	**SEG12**
1	X	X	X	X	X
SEG13	**SEG14**	**SEG15**	**SEG16**	**SEG17**	**SEG18**
2	X	X	X	X	X
SEG19	**SEG20**	**SEG21**	**SEG22**	**SEG23**	**SEG24**
3	X	X	X	X	X

On (SEG1 to SEG12)	Off (SEG13 to SEG24)
	

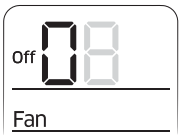
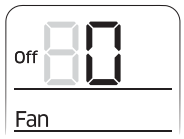
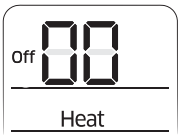
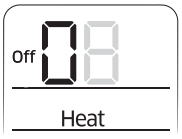
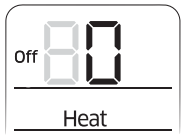
Installation Procedure

Take the steps presented in the following table:

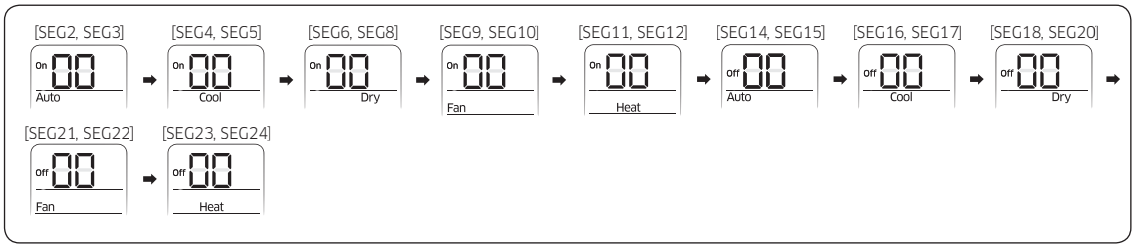
Option setting	Status
1 Setting SEG2, SEG3 option Press Low Fan button to enter SEG2 value. Press High Fan button to enter SEG3 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG2  SEG3
2 Setting **Cool** mode Press **Mode** button to be changed to **Cool** mode 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 → 1 → ··· E → F will be selected in rotation.	 SEG4  SEG5
4 Setting **Dry** 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 → 1 → ··· E → F will be selected in rotation.	 SEG6  SEG8
6 Setting **Fan** 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 → 1 → ··· E → F will be selected in rotation.	 SEG9  SEG10
8 Setting **Heat** mode Press **Mode** button to be changed to **Heat** mode in the ON status.	

Option setting	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 → 1 → ··· E → F will be selected in rotation.	 SEG11  SEG12
10 Setting Auto 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 → 1 → ··· E → F will be selected in rotation.	 SEG14  SEG15
12 Setting **Cool** mode Press **Mode** button to be changed 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 Press **Mode** button to be changed 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 Press **Mode** button to be changed to **Fan** mode in the OFF status.	

Installation Procedure

Option setting	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 Press **Mode** button to be changed to **Heat** mode in the OFF status.		
19 Setting SEG23, SEG24 option 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

3 Check whether the option values that you have set are correct by pressing the Mode button repeatedly.



4 Save the option values into the indoor unit:

Press the button with the direction of remote control for set. For correcting option values, input the option values twice.

5 Check whether the air conditioner operates in accordance with the option values you have set:

a Reset the indoor or outdoor unit.

- Indoor unit : Press the SET (°C↔°F 3sec) (Set) and Fan (Low Fan) buttons on the remote control simultaneously for 4 seconds.
- Outdoor unit : Press the K3 button.

b Remove the batteries from the remote control, insert them again, and then press the button on the remote control.

Setting the indoor unit addresses

Option No. for an indoor unit address: 0AXXXX-1XXXXX-2XXXXX-3XXXXX

Before installing an indoor unit, be sure to set an address for the indoor unit by taking the following steps:

1 Make sure that the power is supplied to the indoor unit. If the indoor unit is not plugged in, it must include a power supply.

2 Set an address for each indoor unit using the remote control, according to your air conditioning system plan, by referring to the following table and by following the steps in **Common steps for setting the addresses and options on page 19.**

- The indoor unit addresses (main and RMC addresses) are set to 0A0000-100000-200000-300000 by default.
- If indoor units and outdoor units match 1:1, you don't need to set the main address because it is automatically set by the outdoor unit.
- If you are using on or off controller, set RMC address.

Option	SEG1		SEG2		SEG3		SEG4	SEG5		SEG6	
Function	Page		Mode		Setting main address			Indoor unit number		Indoor unit number	
Indication and details	Indication	Details	Indication	Details	Indication	Details		Indication	Details	Indication	Details
	0		A		0	No main address	Reserved	0 to 1	Tens digit	0 to 9	Units digit
					1	Main address setting mode					
Option	SEG7		SEG8		SEG9		SEG10	SEG11		SEG12	
Function	Page		Reserved		Setting RMC address		Reserved	Group channel (x16)		Group address	
Indication and details	Indication	Details			Indication	Details		Indication	Details	Indication	Details
	1				0	No RMC address		RMC1	0 to 2	RMC2	0 to F
					1	RMC address setting mode					

⚠ CAUTION

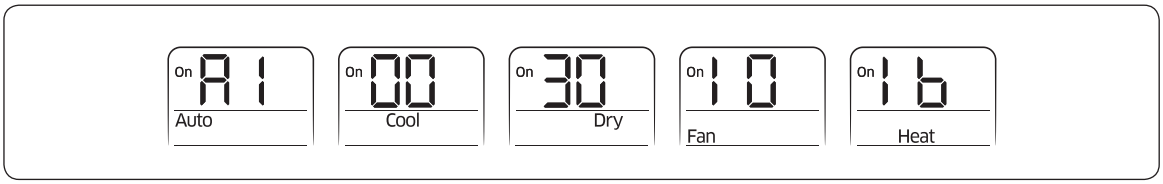
- The main address must be set to a value in the range 0 to 15. If you set other values, communication error will occur.
- If any of SEG5 and SEG6 is set to a value in the range A to F, the main address of the indoor unit does not change.
- If SEG3 is set to 0, the indoor unit maintains the existing main address even if SEG6 is set to a new value.
- If SEG9 is set 0, the indoor unit maintains the existing RMC address even if SEG11 and SET12 are set to new values.

Installation Procedure

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.



Setting the installation options in a batch

Installation option No. for an indoor unit address: 02XXXX-1XXXXX-2XXXXX-3XXXXX

1 Make sure that the power is supplied to the indoor unit. If the indoor unit is not plugged in, it must include a power supply.

2 Set the installation options of indoor units, by referring to the following table and by following the steps in **Common steps for setting the addresses and options** on page **19**.

- The installation options of indoor units are set to 020010-100000-200000-300000 by default.
- The SEG20 option, Individual control with remote control, allows you to control multiple indoor units individually by using the remote control.

Option	SEG1		SEG2		SEG3	SEG4			SEG5		SEG6
Function	Page		Mode			Use of external room temperature sensor / Minimizing fan operation when thermostat is off [1]			Central control		
Indication and details	Indication	Details	Indication	Details	Reserved	Indication	Details		Indication	Details	Reserved
							Use of external room temperature sensor	Minimizing fan operation when thermostat is off [1]			
	0		2			0	Disuse	Disuse	0	Disuse	
						1	Use	Disuse			
						2	Disuse	Use(Heating)			
						3	Use	Use(Heating)			
						4	Disuse	Use(Cooling)			
						5	Use	Use(Cooling)	1	Use	
						6	Disuse	Use (Cooling/Heating)			
						7	Use	Use (Cooling/Heating)			
						8	Disuse	Use (Cooling Ultra low speed)			
						9	Use	Use (Cooling Ultra low speed)			
						A	Disuse	Use (Heating/Cooling Ultra low speed)			
						B	Use	Use (Heating/Cooling Ultra low speed)			

Option	SEG7		SEG8	SEG9	SEG10	SEG11	SEG12
Function	Page		Reserved	Reserved	Reserved	Reserved	Reserved
Indication and details	Indication	Details					
	1						

Option	SEG13		SEG14			SEG15		SEG16	SEG17		SEG18	
Function	Page		Use of external control			Setting the output of extermal control			Buzzer control		Maximum filter usage time [2]	
Indication and details	Indication	Details	Indication	Details		Indication	Details	Reserved	Indication	Details	Indication	Details
	2		0	Disuse	Sub, Existing control	0	Thermo on		0	Use of buzzer	2	1000 hours
			1	On/Off								
			2	Off								
			3	Window On/Off								
			4	Disuse	Main, Existing control							
			5	On/Off								
			6	Off								
			7	Window On/Off								
			8	Disuse	Sub, Reverse control	1	Operation On		1	Disuse of buzzer	6	2000 hours
			9	On/Off								
			A	Off								
			B	Window On/Off								
			C	Disuse	Main, Reverse control							
			D	On/Off								
			E	Off								
			F	Window On/Off								

Option	SEG19		SEG20		SEG21		SEG22	SEG23	SEG24
Function	Page		Individual control with remote control [3]		Heating setting compensation [4]		Reserved	Reserved	Reserved
Indication and details	Indication	Details	Indication	Details	Indication	Details			
	3		0 or1	Indoor1	0	Default			
			2	Indoor2	1	3.6˚F (2˚C)			
			3	Indoor3	2	9˚F (5˚C)			
			4	Indoor4					

• 1) SEG4

By SEG4 setting, Minimizing fan operation when thermostat is off.

- Fan operates for 20 seconds at an interval of 5 minutes in heat mode.
- Fan stops or operates Ultra low in Cooling when thermostat is off.

• 2) SEG18

If you set the Maximum filter usage time option to a value other than 2 and 6, it is automatically set to 2 (1000 hours).

• 3) SEG20

If you set the Individual control with remote control option to a value other than 0 to 4, it is automatically set to 0 (Indoor1)

• 4) SEG21

Default value of Heating setting compensation is 9°F (5°C).

Installation Procedure

Changing the addresses and options individually

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

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 and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	0		D		Option mode	0~F	Tens' digit of SEG	0~9	Unit digit of SEG	0~9	The changed value	0~F

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'.

  Example) 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

Troubleshooting

- **If an error occurs during the operation, one or more LED flickers and the operation is stopped except the LED.**
- **If you re-operate the air conditioner, it operates normally at first, then detect an error again.**

Abnormal condition	Error code	LED Display				
		•••				
Error on indoor temperature sensor (Short or Open)	E121	X	X	◑	X	X
1. Error on Eva-in sensor (Short or Open) 2. Error on Eva-out sensor (Short or Open)	E122 E123	X	X	◑	X	◑
Indoor fan error	E154	X	◑	X	X	X
1. Error on outdoor temperature sensor (Short or Open) 2. Error on cond sensor 3. Error on discharge sensor Other outdoor unit sensor error that is not on the above list	E221 E237 E251	X	◑	X	X	◑
1. When there is no communication between the indoor·outdoor units for 2 minutes 2. Communication error received from the outdoor unit 3. 3 miniute tracking error on outdoor unit 4. Communication error after tracking due to unmatching number of installed units 5. Error due to repeated communication address 6. Communication address not confirmed Other outdoor unit communication error that is not on the above list	E101 E102 E202 E201 E108 E109	X	◑	◑	X	X
Self diagnosis error display 1. Thermal fuse error (Open)	E198	◑	◑	◑	X	X
1. Refrigerant leakage (2nd detection) 2. Abnomally high temperature on Cond (2nd detection) 3. Low pressure s/w (2nd detection) 4. Abnomally high temperature on discharged air on outdoor unit (2nd detection) 5. Indoor operation stop due to unconfirmed error on outdoor unit 6. Error due to reverse phase detection 7. Comp stop due to freeze detection (6th detection) 8. High pressure sensor is detached 9. Low pressure sensor is detached 10. Outdoor unit copression ration error 11. Outdoor sump down_1 prevetion control 12. Compressor down due to low pressure sensor prevention control_1 Other outdoor unit self-diagnosis error that is not on the above list	E554 E450 E451 E416 E559 E425 E403 E301 E306 E428 E413 E410	◑	◑	◑	X	X
Flowating s/w (2nd detection)	E153	◑	◑	X	X	X
EEPROM error	E162	◑	◑	◑	◑	◑
EEPROM option error	E163	◑	◑	◑	◑	◑

● : On, ◑ : Flickering, X : Off

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

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