Air conditioner

Installation manual

AC***BNAPKG

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

SAMSUNG

Contents

Safety Information

⚠ 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.
- Do not use means to accelerate the defrost operation or to clean, other than those recommended by Samsung.
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odour.

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.
- Excessive indoor humidity or clogged condensate drain lines may cause water to drip from indoor units. Do not install the indoor unit where dripping could result in damage to property, such as above electronic equipment or other sensitive instruments.
- 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.

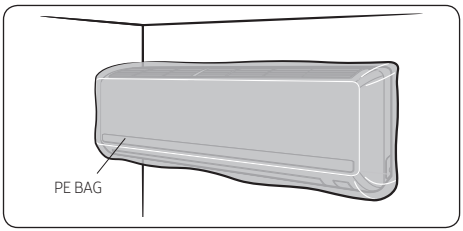
Power supply line, fuse or circuit breaker

⚠ 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, extension wiring, and multiple wire connection.
  - It may cause electric shock or fire due to poor connection, poor insulation, or current limit override.
  - When extension wiring is required due to power line damage, refer to "**Step 11 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 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 use the indoor unit for preservation of food items, plants, equipment, and art works. This may cause deterioration of their quality.
- Do not install the air conditioner in following places.
  - Place where there is mineral oil or arsenic acid. Resin parts flame and the accessories may drop or water may leak.
    The capacity of the heat exchanger may reduce or the air conditioner may be out of order.
  - 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, carbon fiber or flammable dust. The place where thinner or gasoline is handled.Gas may leak and it may cause fire.
- Please cover the air conditioner with PE BAG after installation,and remove it when you start to run air conditioner.



Installation

Step 1 Choosing the installation location

Installation location requirements

- There must be no obstacles near the air inlet and outlet.
- Install the indoor unit on a ceiling that can support its weight.
- Maintain sufficient clearance around the indoor unit.
- Before installing the indoor unit, be sure to check whether the chosen location is well-drained.

⚠ WARNING

- If appliances contain R-32 refrigerant, then the floor area of the room in which the appliances are installed, operated and stored must be larger than the minimum floor area defined in table below A (m^2).

Minimum required room area (A, m^2)	
m (kg)	Wall-mounted type
≤ 1.842	No requirement
1.843	4.45
1.9	4.58
2.0	4.83
2.2	5.31
2.4	5.79
2.6	6.39
2.8	7.41
3.0	8.51
3.2	9.68
3.4	10.9
3.6	12.3
3.8	13.7
4.0	15.1
4.2	16.7
4.4	18.3
4.6	20.0
4.8	21.8
5.0	23.6
5.2	25.6
5.4	27.6
5.6	29.7
5.8	31.8
6.0	34.0

- m : Total refrigerant charge in the system
- A : Minimum required room area

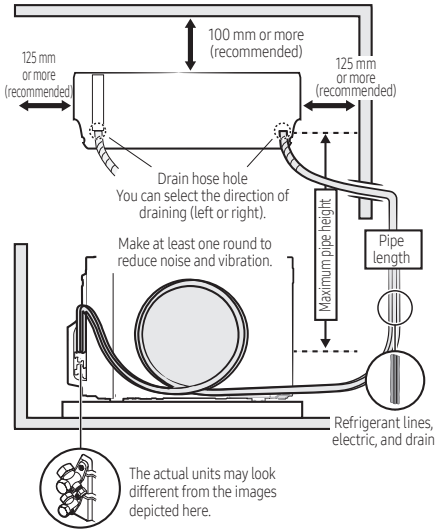
- IMPORTANT: it's mandatory to consider either the table 1 or taking into consideration the local law regarding the minimum living space of the premises.
- Minimum installation height of indoor unit is 0.6 m for floor mounted, 1.8 m for wall, 2.2 m for ceiling.

⚠ CAUTION

Do not install the air conditioner in following places.

- The place where there is mineral oil or arsenic acid. Resin parts flame and the accessories may drop or water may leak. The capacity of the heat exchanger may reduce or the air conditioner may be out of order.
- A place with aromatic diffusers, aromatherapy, scented candles or perfumes as the chemicals may react to the product's materials and may result in system failure or refrigerant leaks.
- 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, carbon fiber or flammable dust.
- The place where thinner or gasoline is handled. Gas may leak and it may cause fire.
- The place where animals may urinate on the product. Ammonia may be generated.
- The place where is close to heat sources.

Overview of installation location requirements



(Unit: m)

Model	Pipe length		Max. pipe height
m (kg)	Min.	Max.	
AC026/035BNAPKG	5	30	20
AC052BNAPKG	5	50	30
AC071BNAPKG	5	55	30

Make a U-trap (A) on the pipe (which is connected to the indoor unit) at outer wall and cut the bottom part of the insulation (about 10 mm) to prevent rainwater from getting inside through the insulation.

⚠ CAUTION

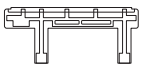
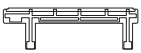
- Comply with the length and height limits described in the figure above.
- For the product that uses the R-32 refrigerant, Install the indoor unit on the wall 1.8 m or higher from the floor.

Step 2 Checking and preparing accessories and tools

Accessories

Accessories in the indoor unit package

AC*BNAPKG**

Mounting bracket (1) AC026/035BNAPKG	Mounting bracket (1) AC052/071BNAPKG
	
User Manual (1)	Installation manual (1)
	
PE indoor unit cover (1)	
	

Tools

General tools

- Vacuum pump
- (Backward flowing prevention)
- Manifold gau==ge
- Stud finder
- Torque wrench
- Pipe cutter
- Reamer
- Pipe bender
- Spirit level
- Screwdriver
- Spanner
- Drill
- L-wrench
- Measuring tape

Tools for test operation

- Thermometer
- Resistance meter
- Electroscope

Installation

Step 3 Attaching the mounting bracket to the wall

1 Hold the mounting bracket against the wall at the selected installation position (in Step 1), making sure that the screw holes align with the center of the studs in the wall. If the screw locations do not align with the studs, use wall anchors.

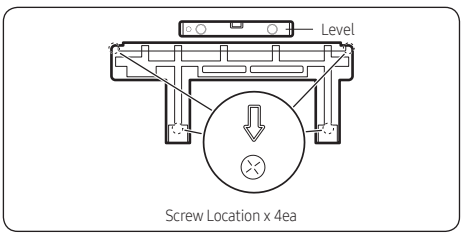
⚠ CAUTION

- The recommended best practice is to attach the mounting bracket directly to the studs in the wall. If you did not find a suitable location with studs (in Step 1), or if the wall is concrete, you must use wall anchors of a suitable type and weight capacity, and install them according to the manufacturer's instructions. Failure to do so may cause the material surrounding the joints to crumble over time and the screws to be loosened and stripped. This may result in the unit falling from the wall, which could cause physical injury or equipment damage.

2 Using a level, make sure that the mounting bracket is level, then mark the location of the screw holes on the wall.

3 If using wall anchors, install them at the screw hole positions, following the manufacturer's instructions.

4 Using six field-supplied mounting screws and anchors (if applicable), attach the bracket to the wall.

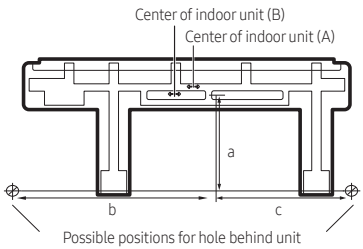


Step 4 Drilling the wall penetration

1 Determine the position of the hole through which the piping bundle (consisting of power and communication cables, refrigerant pipes, and the drain hose) will pass. Consider the following:

– The hole inner diameter must be 65mm.

– The recommended hole location is behind the unit so that the hole and the piping bundle will not be visible in the room. The minimum distances between the hole and the mounting bracket are:



Possible positions for hole behind unit

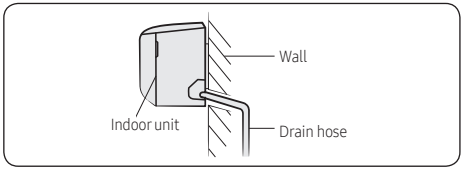
Unit : mm

Model		a	b	c
AC026/035BNAPKG	B	165	305	416
AC052/071BNAPKG	A	165	347	608.5

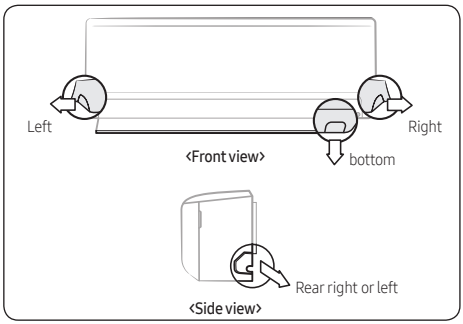
– If the hole cannot be positioned behind the unit, find a position as close to the unit as possible. The piping bundle that exits the unit and extends to the hole will need to be attached to the wall and will be visible inside the room.

– In relation to the bracket shown above, the unit is shipped with the drain hose connection on the right, the drain hose exits the unit on the left, and the refrigerant pipes are bent to exit on the left. Thus, positioning the hole to the left requires the least effort. If you position the hole to the right or below the unit, you will need to move the drain hose connection to the left and bend the pipes so that the hose and pipes exit to the right or bottom. See the figure in Step 7.

2 Use a standard 65mm hole saw to drill one hole at the selected location, at a 15° downward angle so that the drain hose will drain properly.



3 Based on the hole location, determine where the piping bundle (drain hose, refrigerant pipes, and cables) will exit the unit.



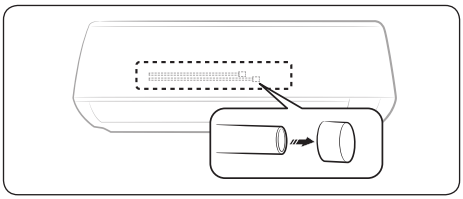
NOTE

- The left, right, or bottom exit will only be used if the hole is not positioned behind the unit.

Step 5 Purging the unit

Upon delivery, there may be inert gas inside the indoor unit. Purge the gas from the indoor unit before connecting the assembly pipe.

- Unscrew the caps at the end of each pipe. All inert gas exhausts from the indoor unit.



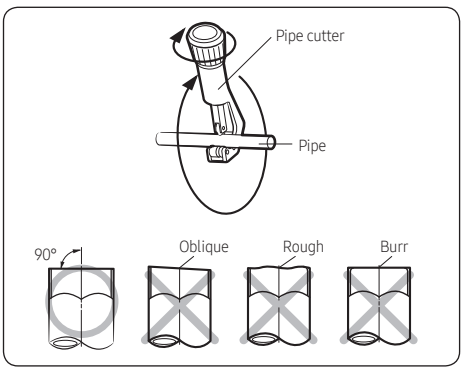
NOTE

- To prevent dirt or foreign substances from getting into the pipes during installation, do NOT remove the caps completely until you are ready to connect the pipes

Step 6 Cutting or flaring the pipes

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

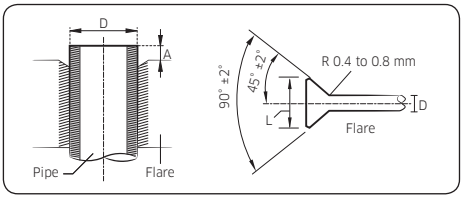
2 If you want to shorten the pipe, cut it using a pipe cutter ensuring that the cut edge remains at 90° with the side of the pipe. There are some examples of correctly and incorrectly cut edges below.



Installation

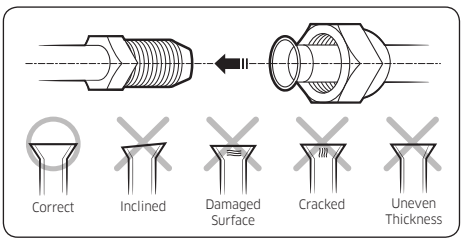
3 To prevent a gas leak, remove all burrs at the cut edge of the pipe using a reamer.

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



Outer Diameter (D)	Depth (A)	Flare dimension (L)
Ø6.35 mm	1.3 mm	8.7 to 9.1 mm
Ø9.52 mm	1.8 mm	12.8 to 13.2 mm
Ø12.70 mm	2.0 mm	16.2 to 16.6 mm
Ø15.88 mm	2.2 mm	19.3 to 19.7 mm
Ø19.05 mm	2.2 mm	23.6 to 24.0 mm

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



Outer Diameter (mm)	Torque (N•m)
Ø6.35	14 to 18
Ø9.52	34 to 42
Ø12.70	49 to 61
Ø15.88	68 to 82
Ø19.05	100 to 120

(1 N•m=10 kgf•cm)

NOTE

- If the pipes must be shortened, see **Step 6 Cutting or flaring the pipes** on page 9.

6 Be sure to use an insulator thick enough to cover the refrigerant tube to protect the condensate water on the outside of the pipe falling onto the floor and to improve the efficiency of the unit.

7 Cut off any excess foam insulation.

8 Make sure that there are no cracks or waves on the bent area.

9 It would be necessary to double the insulation thickness (10 mm or more) to prevent condensation even on the insulator when if the installed area is warm and humid.

⚠ 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 4.2 MPa and for a burst pressure of at least 20.7 MPa. 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.
- If the pipes require brazing, make sure that oxygen free nitrogen (OFN) is flowing through the system.
- Nitrogen blowing pressure range is 0.02 to 0.05 MPa.

Step 7 Connecting the refrigerant pipes

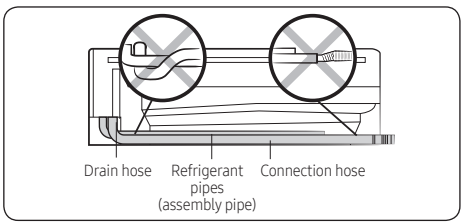
Connect indoor and outdoor units with field-supplied copper pipes by means of flare connections. Use insulated seamless refrigeration grade pipe only, (Cu DHP type according to ISO1337), degreased and deoxidized, suitable for operating pressures of at least 4200 kPa and for burst pressure of at least 20700 kPa. Under no circumstances must sanitary type copper pipe be used.

IMPORTANT

- When installing the unit, always connect the refrigerant pipes first, followed by the electrical cables. For disassembly, always disassemble the electric cables before the refrigerant pipes.

Two short refrigerant pipes are already attached to the air conditioner:

- The smaller-diameter pipe is for the high-pressure, two-phase refrigerant.
- The larger-diameter pipe is for the low-pressure refrigerant vapor.



In Step 4 you determined the exit position for the piping bundle. The unit has three knockouts available for the left, right, and bottom exits. When the bundle exits directly from the rear, none of the knockouts are used.

1 If the pipes will exit directly from the rear, skip to step 3. Otherwise, cut out the appropriate knockout piece (left, right, or bottom).

2 Use a razor knife to clean the cut edges (flashing).

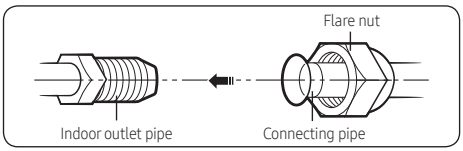
3 The left exit is the only position that does not require bending the pipes. For other positions, bend the pipes so that they will exit in the selected exit position.
   - The bending radius should be greater than 100 mm.
   - Bend the smaller pipe gradually to prevent kinking. The larger pipe has a preinstalled spring bender to prevent kinking.
   - Make sure that the pipes do not protrude from the back of the unit in a way that will make it difficult to attach the unit to the mounting bracket.
   - For right and bottom exits, pull the pipes out through the selected knockout opening. For left exits, the piping connections will be made in the service space behind the indoor unit (under the cover panel).

NOTE

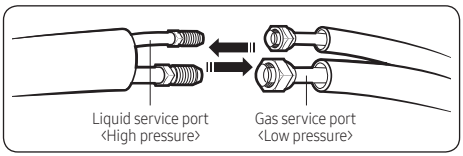
- If you are using the right rear exit, the pipes should be long enough to extend through the wall without needing to connect the line set first. It may be easier to connect the line set outside of the building, after you have bundled the pipes and cables and passed the bundle through the wall. In this case, do not connect the line set now. Instead, complete Step 9 through Step 12, then go outside and connect the line set as described below.

4 Slowly remove the protective caps on the refrigerant pipe connections to relieve the nitrogen holding charge.

5 Connect the line set to each pipe.



6 Hand-tighten the flare nuts to make sure that they do not become stripped.



Installation

7 Torque the flare connections to the following values:

Outer diameter (mm)	Torque (kgf•cm)
Φ 6.35	140~180
Φ 9.52	350~430
Φ 12.70	500~620
Φ 15.88	690~830

* 1N·m = 10 kgf·cm

⚠ CAUTION

1 Tighten the flare nuts only to the specified torque. If a flare nut is overtightened, the flare face may crack, causing refrigerant leakage.

2 Do not box in or cover the pipe connections. Make sure that the connections are accessible for testing later in the installation process and for future servicing.

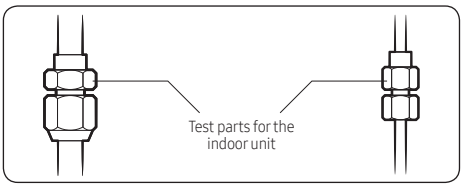
3 Tape over the end of the pipes so that debris will not enter the piping when it is passed through the wall. The pipes will be insulated later in the installation process.

Step 8 Performing leak test

Leak test

LEAK TEST WITH NITROGEN (before opening valves)
In order to detect basic refrigerant leaks, before recreating the vacuum and recirculating the R-32, it's responsible of installer to pressurize the whole system with nitrogen (using a pressure regulator) at a pressure above 4.1MPa (gauge).

LEAK TEST WITH R-32 (after opening valves)
Before opening valves, discharge all the nitrogen into the system and create vacuum. After opening valves check leaks using a leak detector for refrigerant R-32.

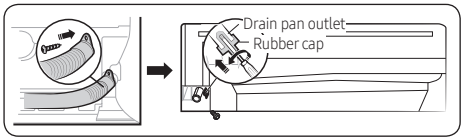


⚠ CAUTION

- Discharge all the nitrogen to create a vacuum and charge the system.

Step 9 Connecting the drain hose

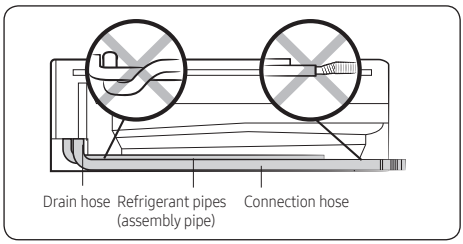
1 In Step 4 you determined the exit position for the piping bundle. If using the right, bottom, or right rear exit, change the drain hose connection from the right to the left so that the drain hose will lie along the inside of the unit and exit to the right.



⚠ CAUTION

- Be careful not to puncture the plug with the screwdriver when installing it.

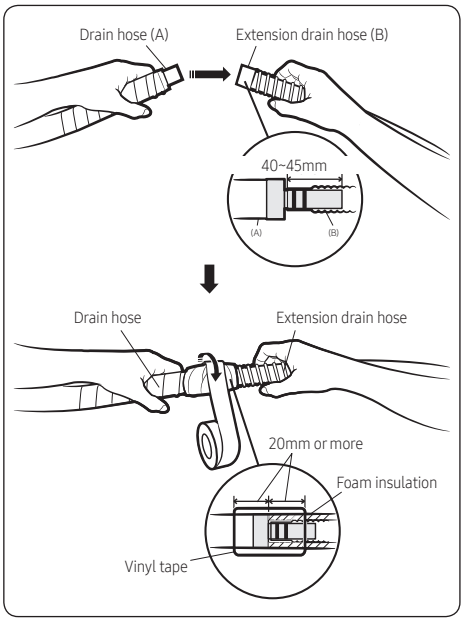
2 If using the left, right, or bottom exit, pass the drain hose through the selected knockout.



3 Connect a 15.88mm ID extension drain hose to the main drain hose.

⚠ CAUTION

- If the diameter of the connection hose is smaller than the product's drain hose, leakage may occur.



4 Do not box in or cover the drain hose connection. It must be accessible for testing later in the installation process and for future servicing.

5 If the drain hose is routed inside the room, insulate the hose so that dripping condensation does not damage the furniture or floors.

Step 10 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.
- 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 H05 RN-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.

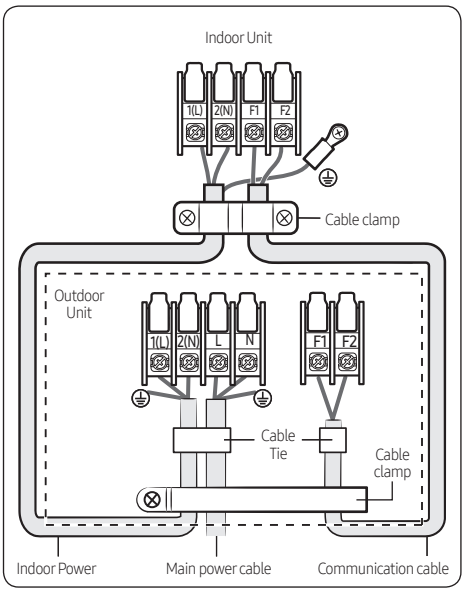
1 Remove the screw on the electrical component box and remove the cover plate.

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 through the ceiling & the hole on the wall.

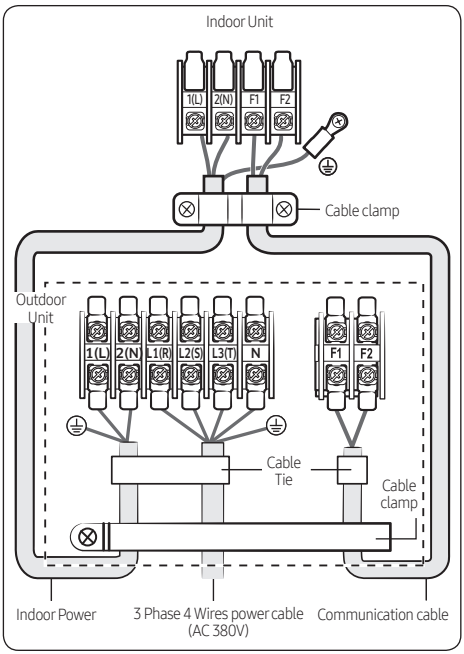
4 Reassemble the electrical component box cover, carefully tightening the screw.

1 phase



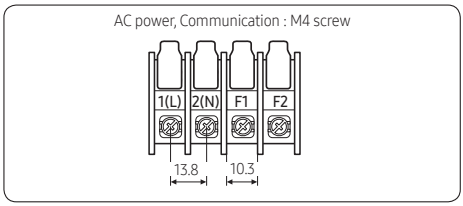
Installation

3 phase



Indoor power supply		
Power supply	Max/Min(V)	Indoor power cable
220 to 240V, 50Hz	±10%	0.75mm² ↑, 3 wires
Communication cable		
0.75mm² ↑, 2 wires		

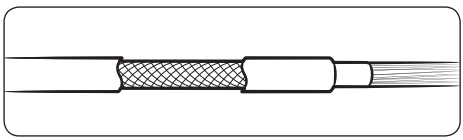
Unit: mm



	Tightening torque
	N·m
M3.5	0.8 to 1.2
M4	1.2 to 1.8

(1N·m=10kgf·cm)

- 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)
- 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 or LiYCY type.

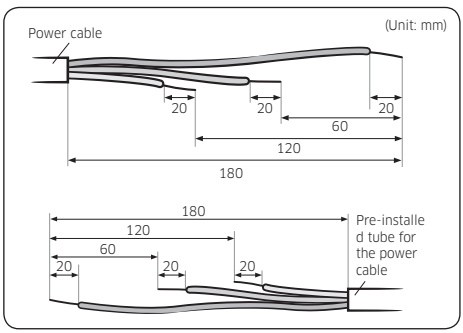
Step 11 Optional: Extending the power cable

1 Prepare the following tools.

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

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

- Peel off 20 mm of cable shields from the pre-installed tube.

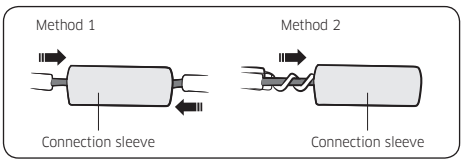


⚠ CAUTION

- 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.

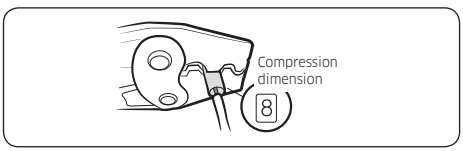


⚠ CAUTION

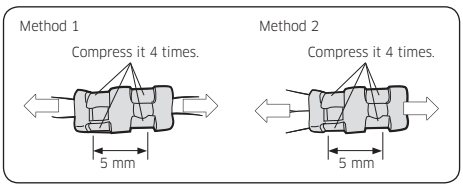
- If cable wires are connected without using connecting sleeves, their contact area becomes reduced, or corrosion develops on the outer surfaces of the wires (copper wires) over a long time. This may cause an increase of resistance (reduction of passing current) and consequently may result in a fire.

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

- The compression dimension should be 8.0.

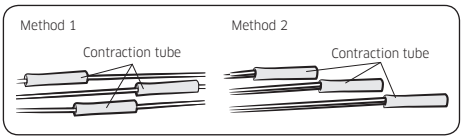


- After compressing it, pull both sides of the wire to make sure it is firmly pressed.

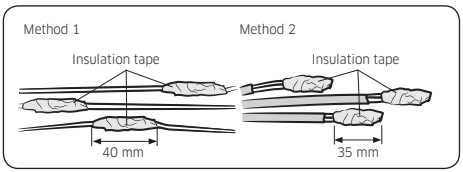


Installation

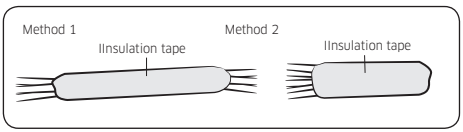
5 Apply heat to the contraction tube to contract it.



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.

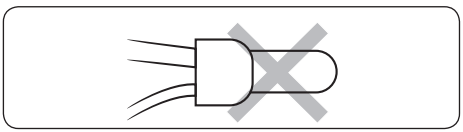


⚠ CAUTION

- 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.)

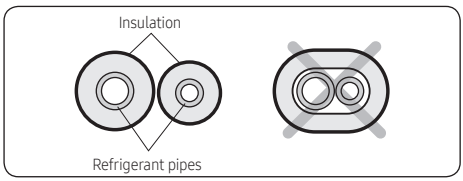
⚠ WARNING

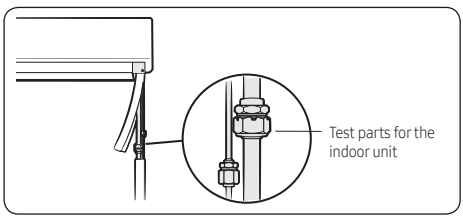
- In case of extending the electric wire, please DO NOT use a round-shaped Pressing socket.
  - Incomplete wire connections can cause electric shock or a fire.



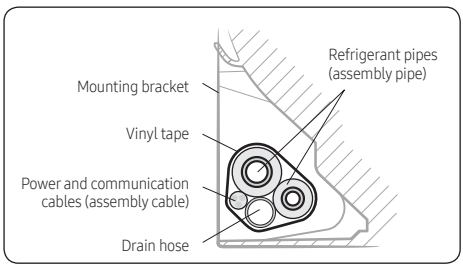
Step 12 Taping the pipes, cables, and drain hose

1 Wrap foam insulation around the refrigerant pipes, up to the connection points. The connections must remain accessible for testing later in the installation process. Either leave slits in the insulation or do not cover the connections.





2 Make a piping bundle by using vinyl tape to wrap together the refrigerant pipes, power cable, communication cable, and drain hose, up to the connection points. Connection points must remain accessible for testing later in the installation process.



Step 13 Optional: Installing DPM (Digital Packaged Multi)

- To find DPM allowable indoor unit models according to outdoor unit models, refer to outdoor installation manual.
- When installing DPM,you should set "DPM setting" to the outdoor unit.
- You do not need to set the address manually for the indoor unit.
- If DPM model is not set,communication error may occur.
- While the outdoor unit is tracking the indoor unit for one minute after the power supply is turned on.the operation may stop if the remote control reception signal of the installed indoor unit is different.
- To enable Level control with the centralized controller, refer to page **26**.

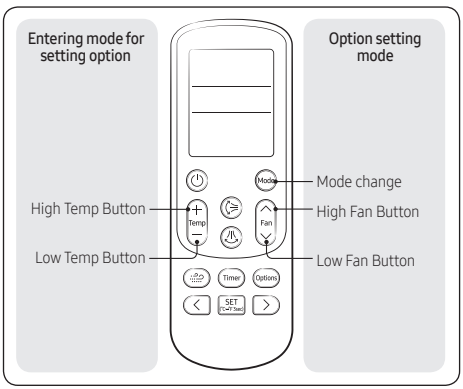
⚠ CAUTION

- When installing DPM, only one external controller can be connected.

Step 14 Setting the indoor unit addresses and the installation options

You cannot set both of the indoor unit addresses and the installation options in a batch: set both of them respectively.

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.

Installation

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

2 Set the option values.

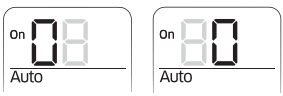
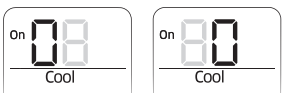
⚠ CAUTION

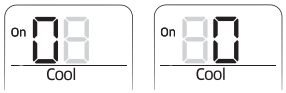
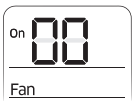
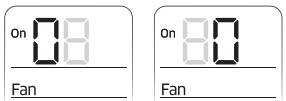
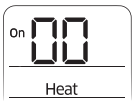
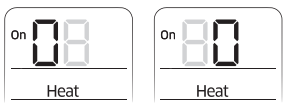
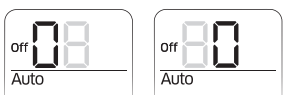
- The total number of available options are 24: SEG1 to SEG24.
- Because SEG1, SEG7, SEG13, and SEG19 are the page options used by the previous remote control models, the modes to set values for these options are skipped automatically.
- Set a 2-digit value for each option pair in the following order: 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

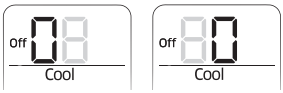
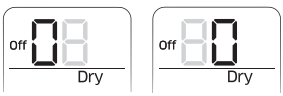
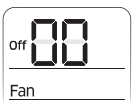
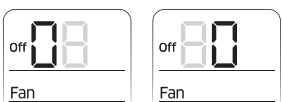
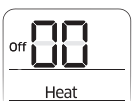
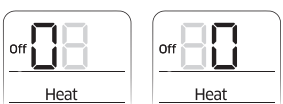
On (SEG1 to SEG12)	Off (SEG13 to SEG24)
	

Take the steps presented in the following table:

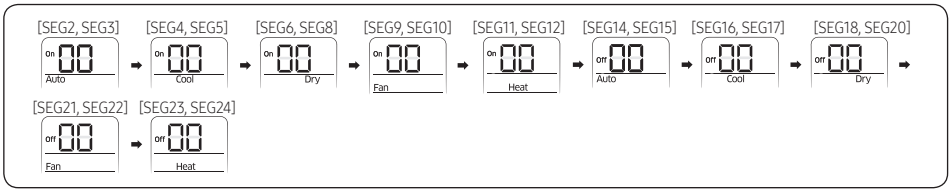
Option setting	Status
1 Setting SEG2, SEG3 option **a** Press Low Fan button to enter SEG2 value. **b** Press High Fan button to enter SEG3 value. Each time you press the button, 0 → 1 → ··· E → F will be selected in rotation.	 SEG2 SEG3
2 Setting **Cool** mode Press **Mode** button to be changed to **Cool** mode in the ON status.	
3 Setting SEG4, SEG5 option **a** Press Low Fan button to enter SEG4 value. **b** 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.	

Option setting	Status
5 Setting SEG6, SEG8 option **a** Press Low Fan button to enter SEG6 value. **b** 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 **a** Press Low Fan button to enter SEG9 value. **b** 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.	
9 Setting SEG11, **SEG12** option **a** Press Low Fan button to enter SEG11 value. **b** 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 **a** Press Low Fan button to enter SEG14 value. **b** 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.	

Installation

Option setting	Status
13 Setting SEG16, SEG17 option **a** Press Low Fan button to enter SEG16 value. **b** 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 **a** Press Low Fan button to enter SEG18 value. **b** 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.	
17 Setting SEG21, SEG22 option **a** Press Low Fan button to enter SEG21 value. **b** 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 **a** Press Low Fan button to enter SEG23 value. **b** 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:

6 Reset the indoor or outdoor unit.
- **a** Indoor unit : Press the SET (Set) and Fan (Low Fan) buttons on the remote control simultaneously for 4 seconds.
- **b** Outdoor unit : Press the K3 button.

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

Installation

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 **17**.

- 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.

<table>
<tr><td>Option</td><td colspan="2">SEG1</td><td colspan="2">SEG2</td><td colspan="2">SEG3</td><td>SEG4</td><td colspan="2">SEG5</td><td colspan="2">SEG6</td></tr>
<tr><td>Function</td><td colspan="2">Page</td><td colspan="2">Mode</td><td colspan="2">Setting main address</td><td rowspan="3">Reserved</td><td colspan="2">Indoor unit number</td><td colspan="2">Indoor unit number</td></tr>
<tr><td rowspan="3">Indication and details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td></tr>
<tr><td colspan="2" rowspan="2">0</td><td colspan="2" rowspan="2">A</td><td>0</td><td>No main address</td><td rowspan="2">0 to 1</td><td rowspan="2">Tens digit</td><td rowspan="2">0 to 9</td><td rowspan="2">Units digit</td></tr>
<tr><td>1</td><td>Main address setting mode</td></tr>
<tr><td>Option</td><td colspan="2">SEG7</td><td colspan="2">SEG8</td><td colspan="2">SEG9</td><td>SEG10</td><td colspan="2">SEG11</td><td colspan="2">SEG12</td></tr>
<tr><td>Function</td><td colspan="2">Page</td><td colspan="2" rowspan="3">Reserved</td><td colspan="2">Setting RMC address</td><td rowspan="3">Reserved</td><td colspan="2">Group channel (x16)</td><td colspan="2">Group address</td></tr>
<tr><td rowspan="3">Indication and details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td><td>Indication</td><td>Details</td></tr>
<tr><td colspan="2" rowspan="2">1</td><td>0</td><td>No RMC address</td><td rowspan="2">RMC1</td><td rowspan="2">0 to 2</td><td rowspan="2">RMC2</td><td rowspan="2">0 to F</td></tr>
<tr><td>1</td><td>RMC address setting mode</td></tr>
</table>

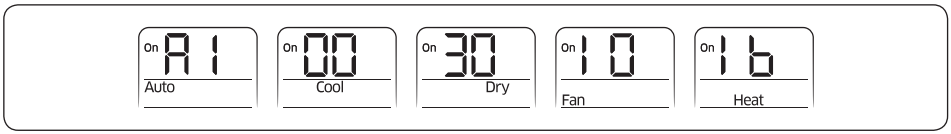
⚠ CAUTION

- 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 SEG12 are set to new values.

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

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 The panel (display) should be connected to an indoor unit to receive option.

3 Set the installation option according to the installation condition of an air conditioner.

- The installation options of indoor units are set to like a below table by default.

Model	Installation option
AC026BNAPKG	020010-100001-200000-300000
AC035BNAPKG	020010-100011-200000-300000
AC052BNAPKG	020010-100001-200000-300000
AC071BNAPKG	020010-100041-200000-300000

- Individual control of a remote controller(SEG20) is the function that controls an indoor unit individually when there is more than one indoor unit.
- No need to assign SEG3, 6, 9, 10, 16, 22, 23, 24 which are non applicable. Even though those segments are set, they will be ignored.
- If you set the applicable segments with numbers other than the indiciated, the initial setting will be maintained.

Installation

4 Set the indoor unit option by wireless remote controller.

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	Details	Indication	Details		Indication	Details		Indication	Details	
Indication and details	0		2		Reserved		Use of external room temperature sensor	Minimizing fan operation when thermostat is off			Reserved
						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		Use of drain pump				WindFree fan speed 2)			Dew removal operation in WindFree mode/ WindFree mode in Auto cleaning/ Smart Comfort in Auto mode			
	Indication	Details	Indication	Details			Indication	Details		Indication	Details		
								α	β		Dew removal operation in WindFree mode	WindFree mode in Auto cleaning	Smart Comfort in Auto mode
Indication and details	1		0	Disuse	Reserved	Reserved	0	0	0	0	Maintain blade	WindFree disuse	Smart Comfort use
							1	1	0				
							2	2	0	1	Open blade		
							3	3	0				
							4	4	0	2	Maintain blade	WindFree use	
							5	5	0				
							6	6	0	3	WindFree disuse		
							7	7	0				
			8	Use external drain pump			8	8	0	4	Maintain blade	WindFree disuse	Smart Comfort disuse
							9	9	0				
							A	10	0	5	Open blade		
							B	11	0				
							C	12	0	6	Maintain blade	WindFree use	
							D	13	0				
							E	14	0	7	WindFree disuse		
							F	15	0				

Option	SEG13		SEG14			SEG15		SEG16	SEG17		SEG18	
Function	Page		Use of external control			Setting the output of external control			Buzzer control		Maximum filter usage time 3)	
	Indication	Details	Indication	Details		Indication	Details		Indication	Details	Indication	Details
Indication and details	2		0	Disuse	Slave, Existing control	0	Thermo on	Reserved	0	Use of buzzer	2	1000 hours
			1	On/Off								
			2	Off								
			3	Window On/Off								
			4	Disuse	Master, Existing control							
			5	On/Off								
			6	Off								
			7	Window On/Off								
			8	Disuse	Slave, Reverse control	1	Operation On		1	Disuse of buzzer	6	2000 hours
			9	On/Off								
			A	Off								
			B	Window On/Off								
			C	Disuse	Master, 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 4)		Heating setting compensation 5)				
	Indication	Details	Indication	Details	Indication	Details			
Indication and details	3		0,1	Indoor1	0	Default	Reserved	Reserved	Reserved
			2	Indoor2	1	2°C			
			3	Indoor3					
			4	Indoor4	2	5°C			

- 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) SEG11: Compensation of the WindFree fan RPM option adjusts 20 rpm per 1 step.
- 3) 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).
- 4) 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 (Indoor 1)
- 5) SEG21: Default value of Heating setting compensation is 5°C.

Installation

- If you input a number other than 0~4 on the individual control of the indoor unit(SEG 20), the indoor is set as "Indoor 1".
  Example) If you want to set as "Exterior temperature sensor : USE, External control : USE

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

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

Example : When installing DPM (1 Outdoor unit with 4 indoor units)

Condition		SEG 14 Setting				Result
External control	Level control	Indoor 1	Indoor 2	Indoor 3	Indoor 4	
Default		Not set (0)				Slave (All)
Disuse	Use	4	Not set (0)	Not set (0)	Not set (0)	Master (Indoor 1), Slave (Indoor 2,3,4)
Use (Indoor 3)	Disuse	Not set (0)	Not set (0)	1~3	Not set (0)	Slave (All)
Use (Indoor 4)	Use	Not set (0)	Not set (0)	Not set (0)	5~7	Master (Indoor 4), Slave (Indoor 1,2,3)

Changing the addresses and options individually

You can change each digit of set option.

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

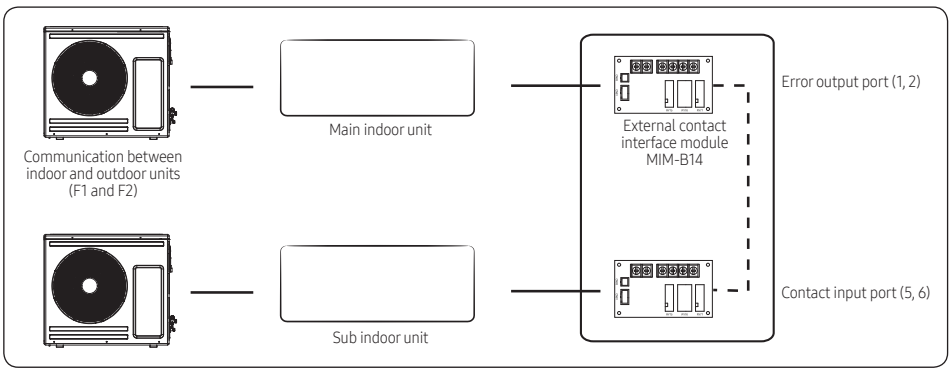
Step 15 Optional : Setting the Emergency Temperature Output (ETO) function

Emergency Temperature Output (ETO) function

⚠ 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 24 °C Auto mode.]
  - To set more detailed operation conditions for the indoor unit 2, use the S-net Pro.

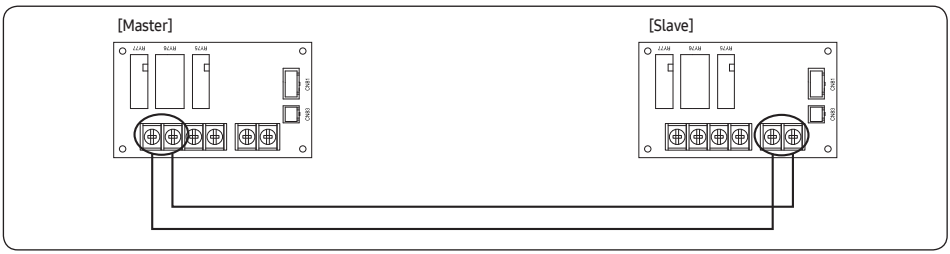
Setting up the ETO



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



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.

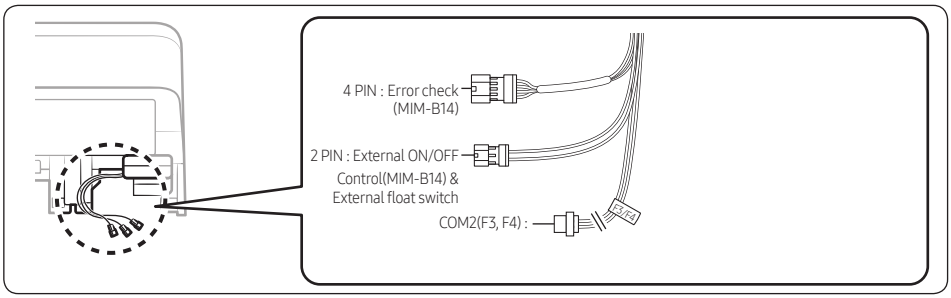
2 Sub indoor unit
   - Based on the entrance control settings, the sub indoor unit decides the mode, set temperature, and fan speed when contact inputs are given.

	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 16 Optional : Connecting the External control (MIM-B14), Wired Remote Control and External Floating switch

After disassembling the cover panel, you can connect the wires from the indoor unit's display to the External control(MIM-B14) and wired remote control, External floating switch.



- External controller (MIM-B14) : Connect the wires of the external controller to pin 4 (Error check) and pin 2 N (External On/Off). (Refer to the manual of MIM-B14.)
  Next, set SEG15 for the Install option (02 mode). (See step 15 for details on how to set an option code.)
- Wired Remote control : Be sure to connect the wired remote control for installation after cutting the COM2 wire.
- Connecting the External Floating switch:
  1. Connect the external float switch to the 2PIN wire.
  2. If the connector types of the external float switch and 2PIN wire do not match, cut off the end of the 2PIN wire before connecting the wire to the external float switch.
  3. Set SEG8 for the Install option (02 mode) to '8'. (Refer to "Setting an indoor unit installation option")

NOTE

- The External Floating switch is not sold separately by Samsung.
- External Control (MIM-B14) and External Floating switch cannot be connected simultaneously. Only either of them can be connected at a time.

Troubleshooting

Detection of errors

- If an error occurs during the operation, an 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.

LED Display on the receiver & display unit

LED Display

- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.
- When E108 error occurs, change the address and reset the system.Ex.) When address of the indoor unit #1 and #2 are set as 5, address of the indoor unit #1 will become 5 and indoor unit #2 will display E108, A002.

Abnormal condition	Error code
Error on indoor temperature sensor (Short or Open)	E121
1. Error on Eva-in sensor (Short or Open)	E122
2. Error on Eva-out sensor (Short or Open)	E123
3. Discharge sensor error (Short or Open)	E126
Indoor fan error	E154
1. Error on outdoor temperature sensor (Short or Open)	E221
2. Error on cond sensor	E237
3. Error on discharge sensor	E251
Other outdoor unit sensor error that is not on the above list	E101
1. When there is no communication between the indoor·outdoor units for 2 minutes	E102
2. Communication error received from the outdoor unit	E202
3. 3 miniute tracking error on outdoor unit	E201
4. Communication error after tracking due to unmatching number of installed units	E108
5. Error due to repeated communication address	E109
6. Communication address not confirmed	
Other outdoor unit communication error that is not on the above list	
Self diagnosis error display	
1. Error due to opened EEV (2nd detection)	E151
2. Error due to closed EEV (2nd detection)	E152
3. Eva in sensor is detached	E128
4. Eva out sensor is detached	E129
5. Thermal fuse error (Open)	E198

Abnormal condition	Error code
1. COND mid sensor is detached	E241
2. Refrigerant leakage (2nd detection)	E554
3. Abnomally high temperature on Cond (2nd detection)	E450
4. Low pressure s/w (2nd detection)	E451
5. Abnomally high temperature on discharged air on outdoor unit (2nd detection)	E416
6. Indoor operation stop due to unconfirmed error on outdoor unit	E559
7. Error due to reverse phase detection	E425
8. Comp stop due to freeze detection (6th detection)	E403
9. High pressure sensor is detached	E301
10. Low pressure sensor is detached	E306
11. Outdoor unit copression ration error	E428
12. Outdoor sump down_1 prevetion control	E413
13. Compressor down due to low pressure sensor prevention control_1	E410
14. Simultaneous opening of cooling/heating MCU SOL valve (1st detection)	E180
15. Simultaneous opening of cooling/heating MCU SOL valve (2nd detection)	E181
Other outdoor unit self-diagnosis error that is not on the above list	
EEPROM error	E162
External drain pump error	E665

SAMSUNG

This appliance is filled with R-32.