

OPERATING LIMITS

■ Cooling Maximum conditions

Outdoor temperature : 122 °F (50°C) D.B.
Room temperature : 90 °F (32°C) D.B.
73 °F (23°C) W.B.

■ Cooling Minimum conditions

Outdoor temperature : 5 °F (-15°C) D.B.
Room temperature : 50 °F (10°C) D.B.
17 °F (6°C) W.B.

■ Heating Maximum conditions

Outdoor temperature : 75 °F (24°C) D.B.
65 °F (18°C) W.B.
Room temperature : 91 °F (27°C) D.B.

■ Heating Minimum conditions

Outdoor temperature : -25 °F (-32°C) D.B.
Room temperature : 41 °F (5°C) D.B.

Outdoor - Indoor unit combinations:
See Outdoor unit installation manual.

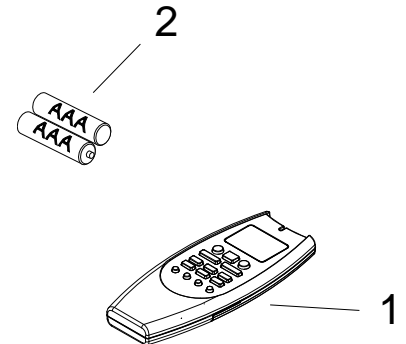
Power Supply:
208-230V, 1 ph, ~ 60 Hz

A - B - C - D = indoor unit size

Size	Indoor Unit Model Number
A	IS12MPA
B	IS24MPB

ACCESSORIES SUPPLIED WITH THE WALL MOUNT INDOOR UNIT

Item	Qty	Description
1	1	Remote control
2	2	AAA batteries



IMPORTANT!

Please read before installation

This air conditioning system meets strict safety and operating standards.

For the installer or service person, it is important to install or service the system so that it operates safely and efficiently.

For safe installation and trouble-free operation, you must:

- Carefully read this instruction booklet before beginning.
- Follow each installation or repair step exactly as shown.
- Observe all local, state and national electrical codes.
- Pay close attention to all warning and caution notices given in this manual.
- The unit must be supplied with a dedicated electrical line.



WARNING

This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.



CAUTION

This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

If necessary, get help

These instructions are all you need for most installation sites and maintenance conditions.

If you require help for a special problem, contact our sale/service outlet or your certified dealer for additional instructions.

In case of improper installation

The manufacturer shall in no way be responsible for improper installation or maintenance service, including failure to follow the instructions in this document.

SPECIAL PRECAUTIONS

- During installation, connect before the refrigerant system and then the wiring one; proceed in the reverse order when removing the units.

WARNING

When wiring



ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM

- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked, to ensure the grounding.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring.
Improper connections and inadequate grounding can cause **accidental injury and death.**

- **Ground the unit** following local electrical codes.
- The Yellow/Green wire cannot be used for any connection different from the ground connection.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.
- Do not allow wiring to touch the refrigerant tubing, compressor, or any moving parts of the fan.
- Do not use multi-core cable when wiring the power supply and control lines. Use separate cables for each type of line.

When transporting

Be careful when picking up and moving the indoor and outdoor units. Get a partner to help, and bend your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut your fingers.

When installing..

... In a ceiling or wall

Make sure the ceiling/wall is strong enough to hold the unit-weight. It may be necessary to build a strong wooden or metal frame to provide added support.

... In a room

Properly insulate any tubing run inside a room to prevent "sweating", which can cause dripping and water damage to walls and floors.

... In moist or uneven locations

Use a raised concrete base to provide a solid level foundation for the outdoor unit.

This prevents damage and abnormal vibrations.

... In area with strong winds

Securely anchor the outdoor unit down with bolts and a metal frame. Provide a suitable air baffle.

... In a snowy area (for heat pump-type systems)

Install the outdoor unit on a raised platform that is higher than drifting snow. Provide snow vents.

When connecting refrigerant tubing

- Keep all tubing runs as short as possible.
- Use the flare method for connecting tubing.
- Apply refrigerant lubricant to the matching surfaces of the flare and union tubes before connecting them; screw by hand and then tighten the nut with a torque wrench for a leak-free connection.
- Check carefully for leaks before starting the test run.

NOTE:

Depending on the system type, liquid and gas lines may be either narrow or wide. Therefore, to avoid confusion, the refrigerant tubing for your particular model is specified as narrow tube for liquid, wide tube for gas.

When servicing

- Turn the power OFF at the main power board before opening the unit to check or repair electrical parts and wiring.
- Keep your fingers and clothing away from any moving parts.
- Clean up the site after the work, remembering to check that no metal scraps or bits of wiring have been left inside the unit being serviced.
- Ventilate the room during the installation or testing the refrigeration system; make sure that, after the installation, no gas leaks are present, because this could produce toxic gas and dangerous if in contact with flames or heat-sources.

Installation site selection - Indoor unit

AVOID

- Direct sunlight.
- Nearby heat sources that may affect unit performance.
- Areas where leakage of flammable gas may be expected.
- Locations where large amounts of oil mist may occur (such as in kitchen or near factory equipment) because oil contamination can cause operation problems and may deform plastic surfaces and parts of the unit.
- Unsteady locations that will cause noise or possible water leakage.
- Locations where the remote control unit will be splashed with water or affected by dampness or humidity.
- To make holes in areas where electrical wiring or conduits are located.

DO

- Select an appropriate position from which every corner

of the room can be uniformly cooled.

- Select a sufficiently strong location to support the weight of the unit.
- Select a location where tubing and drain hose have the shortest run to the outside.
- Allow access for operation and maintenance as well as unrestricted air flow around the unit.

Installation site selection - Outdoor unit

AVOID

- Heat sources, exhaust fans.
- Direct sunlight.
- Damp, humid or uneven locations.
- To make holes in areas where electrical wiring or conduits are located.

DO

- Choose places as cool as possible and well ventilated.
- use lug bolts or equal to bolt down the unit, reducing vibration and noise.

ADDITIONAL MATERIAL REQUIRED FOR INSTALLATION (NOT SUPPLIED)

- Deoxidized annealed copper tube for refrigerant tubing connecting the units of the system; it has to be insulated with foamed polyethylene, minimum thickness 5/16 inch (8 mm).

INDOOR UNIT SIZE	SMALL TUBE (LIQUID LINE)		LARGE TUBE (VAPOR LINE)	
	OUTER DIAMETER	MIN. THICKNESS	OUTER DIAMETER	MIN. THICKNESS
A	0.25" (6,35 mm)	0.031" (0,8 mm)	0.375" (9,52 mm)	0.031" (0,8 mm)
B	0.25" (6,35 mm)	0.031" (0,8 mm)	0.500" (12,70 mm)	0.031" (0,8 mm)

- Refrigerant: R410A (if length exceeds standard pre-charge amount)
- Drain line (if needed): Plastic tubing (I.D. 3/4 inch [18 mm]).
- Lubrication oil for flare connections (about 1 oz. [30g]).
- Communication cable: 2-wire shielded cable, 18 ga. (minimum)
- Electric wire: use insulated copper wires per local codes.
- Tubing insulation

Tools required for installation (not supplied)

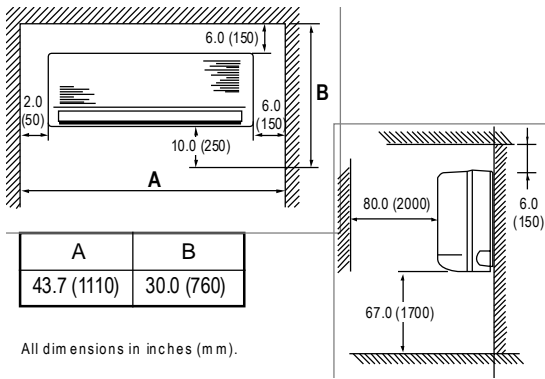
1. Standard screwdriver	7. Hacksaw	12. Tube flaring tool
2. Phillips head screwdriver	8. Drill bits 5/16" (8 mm) dia.	13. Torque wrench (Yellow Jacket #60650 or equal)
3. Knife or wire stripper	9. Hammer	14. Adjustable Wrench
4. Tape measure	10. Drill	15. Reamer (for de-burring)
5. Level	11. Tube cutter	16. Hex. key
6. Sabre saw or hole saw		

TUBING DESIGN LIMITS

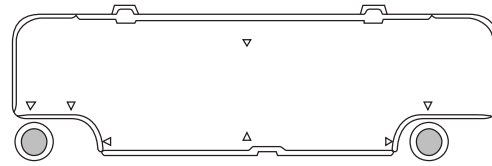
See Outdoor unit installation manual

INDOOR UNIT

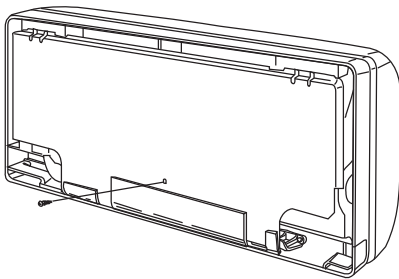
A Minimum operation and maintenance area.



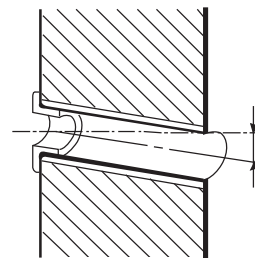
E Tubing connections from the rear. Use the rear panel as a template. Check the horizontal position with the level. Mark the holes to be made.



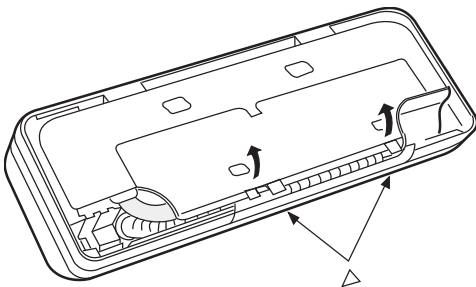
B Remove and discard the set screw on the rear panel.



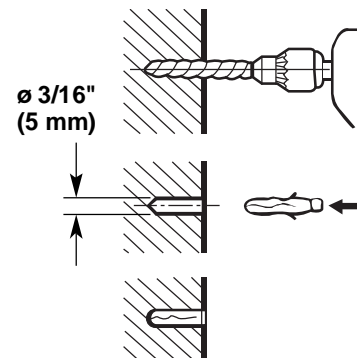
F Drill a 2.5 inch (65 mm) diameter hole. Insert a 2 inch PVC pipe and secure in place.



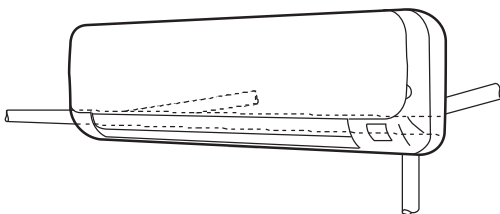
C Press the 2 marks on the frame cover and disengage the stationary tabs from the frame.



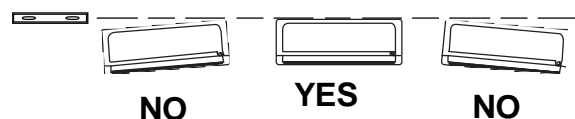
G Prepare wall for attachment of rear panel. Use anchors (not included) as appropriate.



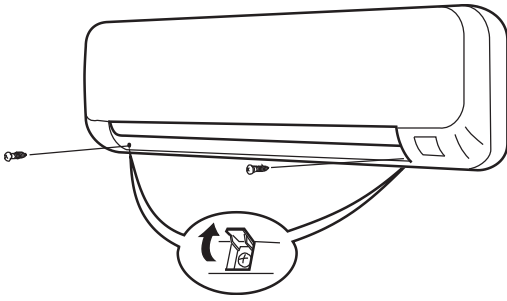
D The unit can be connected in five directions: right-rear, left-rear, left-side and right-downward.



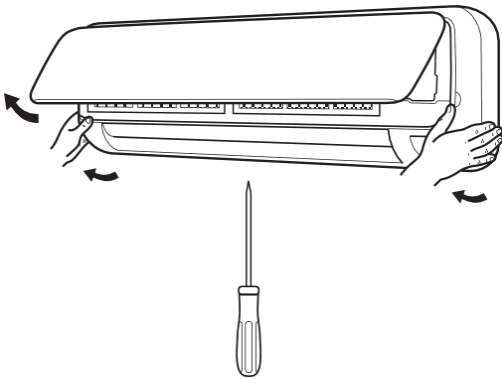
H Use the screws to fix the rear panel to the wall. Make sure the panel is flush against the wall and level. Any space between the wall and unit will cause noise and vibration.



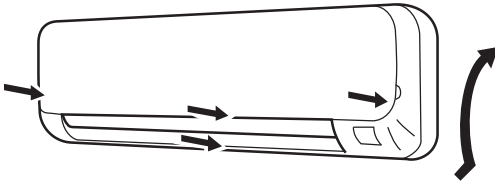
I The indoor unit can be installed without removing the front panel. If necessary, remove the set screws placed under the two little covers.



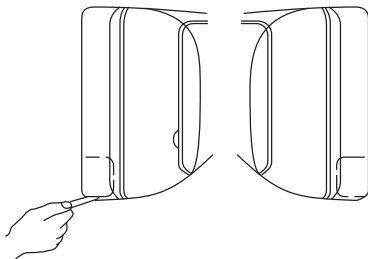
J Disengage the front panel through a screwdriver pressing the three shown marks. Remove the front panel by sliding it up.



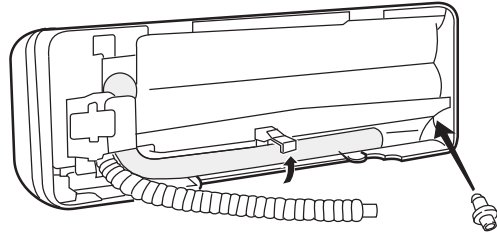
K To install the front panel again, insert it in the lower side of the unit and align it with the blocking points. Then push lightly on the shown marks (arrows).



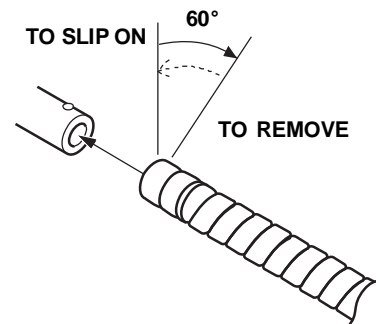
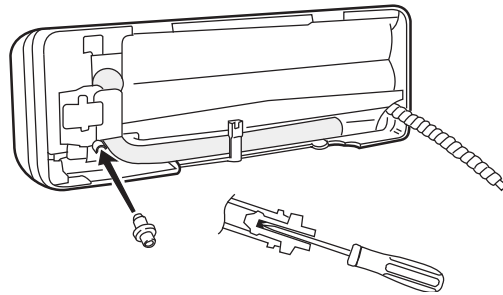
L Tubing connections on right or left side. Cut a corner of the frame.



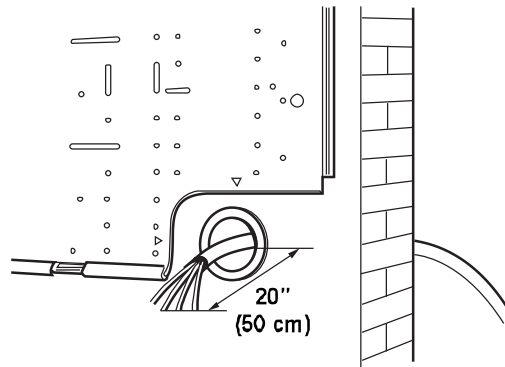
M The refrigerant tubes and drain hose are on the right side of the unit. The drain tray is supplied with two outlets with tube on the right side and rubber plug on the left side.



N How to reverse the drain hose position. Remove the drain hose by turning it counterclockwise, then remove the rubber plug on the other side of the unit. Replace them inverting their position, use a screwdriver to place the plug correctly.

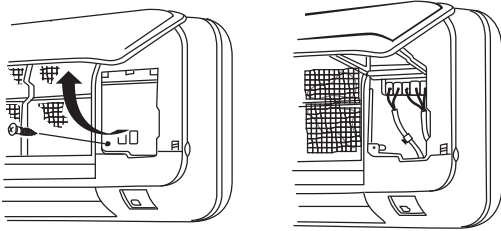


O Running power wires plus ground wire from indoor to outdoor unit (use table to determine wire size).



P Open the front panel of the unit. Remove the cover plate screw to reach the terminal strip.

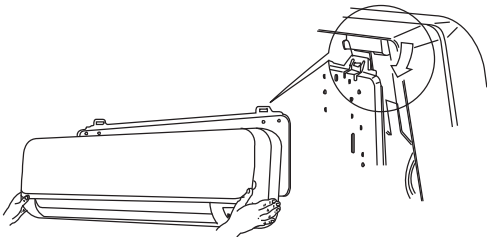
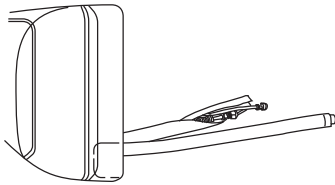
Insert the wires from the back, secure them with a conduit connector mounted in the knockout, and connect them to the power terminals.



There are two conduit connection holes on the rear of the unit. Use the 3/4 inch (22 mm) hole for the power lines and use the 1/2 inch (12.7 mm) hole for the communication cable.

Q RIGHT REAR TUBING

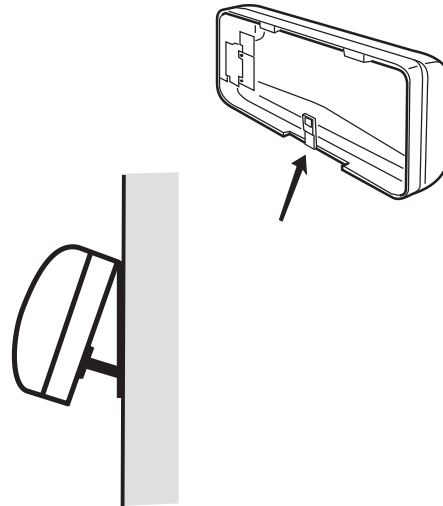
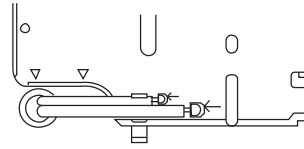
Insert refrigerant tubes and drain hose of the unit into the hole in the wall then hang the unit on the panel previously mounted on the wall.



Connect the line set to the refrigerant tubing on the outside of the wall (refer to outdoor unit installation manual for instructions for making flare connections).

R LEFT REAR TUBING

Insert the tubes connecting the units from the outside, then bend them right and remove the interior removable part of the frame. Hang the unit and extend the support on the back of indoor unit to make the connection easier.



Make a flare on the end of the line set and connect the line set (refer to the outdoor unit installation manual for instructions for making flare connections).

S Push lightly to fix the unit to the rear panel.

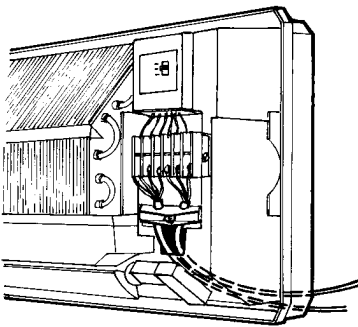
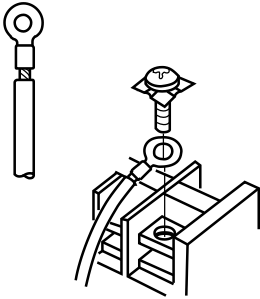


T Prepare the terminals of the wire to connect to the terminal strip, connect them and secure the wiring with clamp provided. (See wiring diagrams).

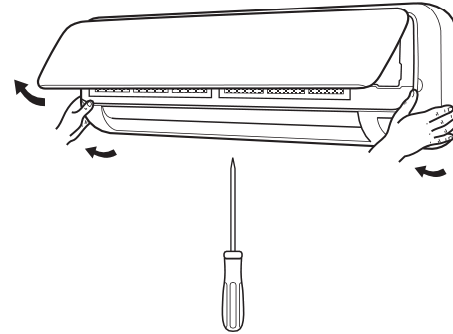
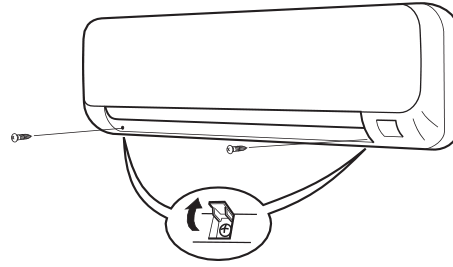


WARNING

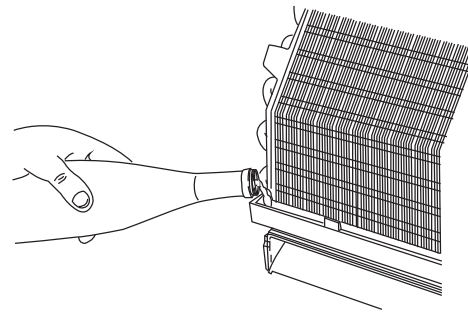
Loose wiring may cause the terminal to overheat or result in unit malfunction. A fire hazard may also exist. Therefore, be sure all wiring is tightly connected.



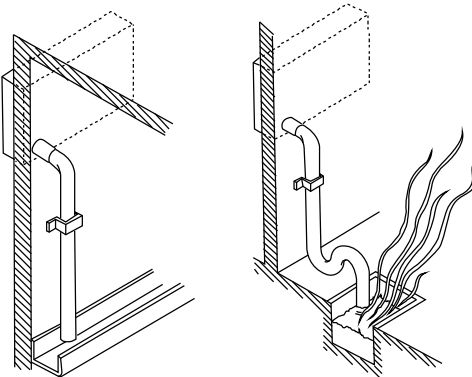
V Remove the front panel.



W Fill the tube and verify that the condensate can flow correctly. Reassemble the grille according to "L".

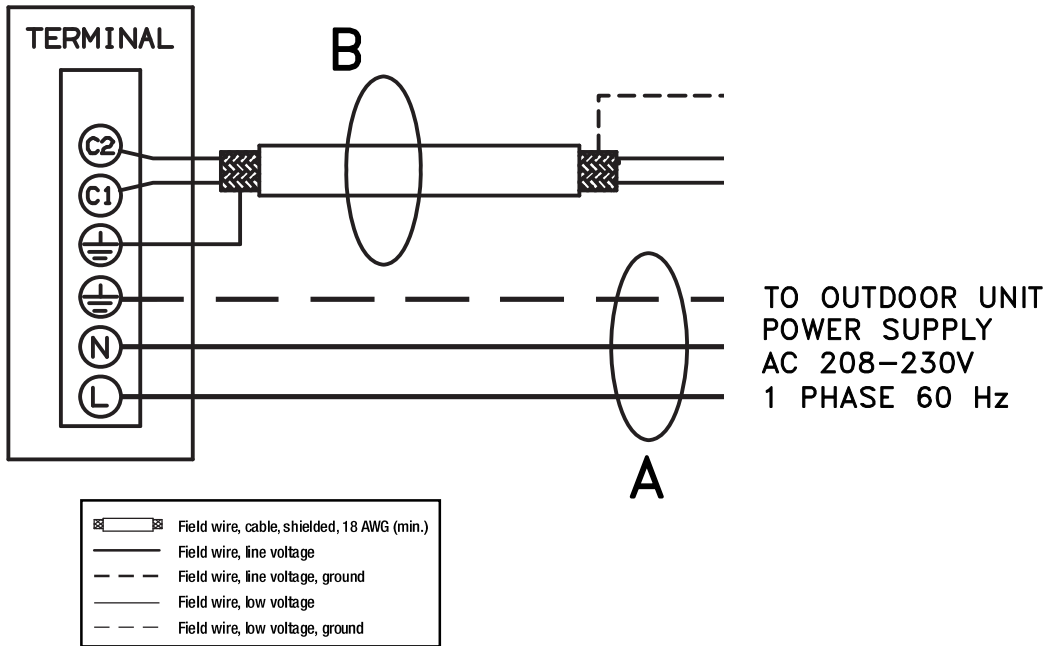


U Install the condensate drain to the outside with a positive slope. The condensate can then be carried away in a channel or collected into a reservoir so that it will evaporate. A trap may be installed in the condensate line to prevent air movement in the line.



WIRING DIAGRAM

INDOOR UNIT



Cable B must be shielded cable, 18 AWG (minimum)

WIRE LENGTH, SIZE

Outdoor units

MODEL	Power Supply	Full Load Current	Minimum Circuit Ampacity (MCA)	Maximum Overcurrent Protection (MOP)
IS18G50	1 phase, 60 Hz 208-230 V	10.0	13	20
IS24G65		12.5	16	25
IS30G80		16.0	20	35
IS36G110		22.0	28	50

Indoor units

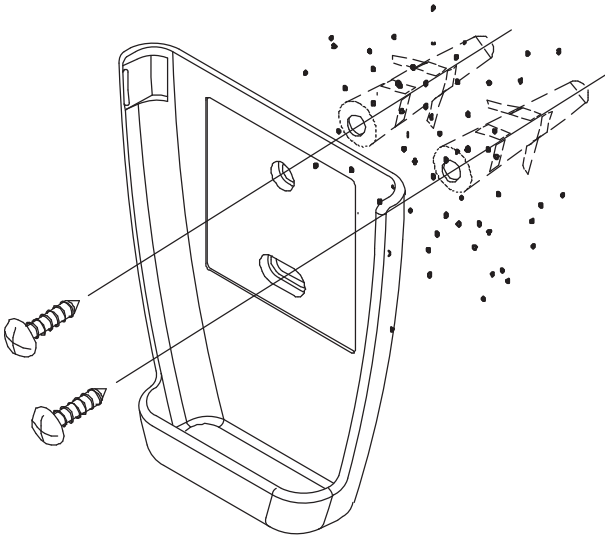
MODEL	Power Supply	Full Load Current	Minimum Circuit Ampacity (MCA)	Maximum Overcurrent Protection (MOP)
IS12MPA	1 phase, 60 Hz 208-230 V	0.5	*	*
IS24MPB		0.5	*	*

* Not fused separately. Connect directly to outdoor unit.

REMOTE CONTROL INSTALLATION

To ensure that the air conditioner operates correctly, DO NOT install the remote control unit in the following places:

- In direct sunlight.
- Behind a curtain or other places where it is covered.
- More than 25 ft (8 m) away from the air conditioner.
- In the path of the air conditioner's airstream.
- Where it may become extremely hot or cold.
- Where it may be subject to electrical or magnetic noise.
- Where there is an obstacle between the remote control unit and the air conditioner



Wall Mounted Position

- Momentarily place the remote control unit in the desired mounting position.
- Verify that the remote control unit can operate from this position.
- Fix the support at the wall with two screws and hang the remote control unit.

DEFAULT SETTING RESET

To reset the indoor unit to default (factory) setting, set the remote control as follows:

Filter: ON

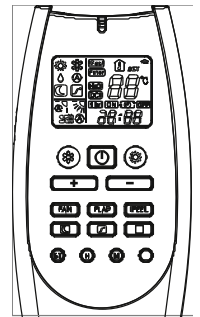
Night Mode / High Power Mode: OFF

Operation mode: AUTO

Flap: AUTO

Set-point: 50 °F (10°C)

After setting the remote, press the FAN and IFEEL keys for more than 5 seconds, then release them while pointing the remote control towards the indoor unit. If the setting is correct you will hear the indoor unit beep 4 times. To enable the reset values, cycle the power by switching the unit OFF and ON the air conditioner to enable. This completes the process and the unit will continue to function with the default factory settings.



PUMP DOWN (See outdoor unit installation instruction)

Pump down means collecting all refrigerant gas in the system back into the outdoor unit without losing gas. Pump down is used when the unit is to be moved or before servicing the refrigerant circuit.

REMOTE CONTROL UNIT/INDOOR UNIT CHANNEL

The remote communicates to the indoor unit with one of four different channels. Both need to be set to the same channel to talk. The default is channel 1. If you have two indoor units in the same room and want to control them separately with their own controller, they must each use a different channel. Set the remote controller as shown in the table.



WARNING
Disconnect the power

1. Disconnect the power of indoor unit.
2. Remove the batteries from the remote control unit.
3. Set the micro switches (see table). The switches are located in the battery compartment.
4. Insert the batteries in the remote control unit.
5. Set the channel in the indoor unit to match the same channel (see table).

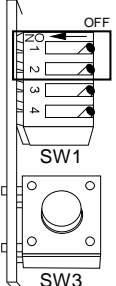
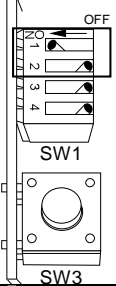
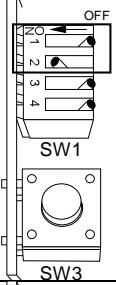
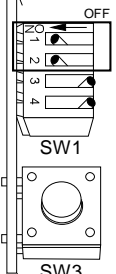
	REMOTE CONTROLLER	WALL MOUNT UNIT
<p>CHANNEL 1</p> <p>FACTORY DEFAULT</p> <p>1=OFF 2=OFF 3= OFF 4=OFF 5=ON 6=ON</p>	<p>SW1: 3=OFF 4=OFF</p>	
<p>CHANNEL 2</p> <p>1=ON 2=OFF</p>	<p>SW1: 3=ON 4=OFF</p>	
<p>CHANNEL 3</p> <p>1=OFF 2=ON</p>	<p>SW1: 3=OFF 4=ON</p>	
<p>CHANNEL 4</p> <p>1=ON 2=ON</p>	<p>SW1: 3=ON 4=ON</p>	

OUTDOOR UNIT REFRIGERANT CIRCUIT NUMBER (Method A – Using DIP switches)

Set the circuit number of the indoor unit to match the circuit number the refrigerant lines are connected to. Set the communication channel using the micro switches on the circuit board inside the control box.

- Disconnect the power of indoor unit.
- Set the micro switches (see table below).
- Switch on the indoor unit.

At this point the system will operate with the new address.

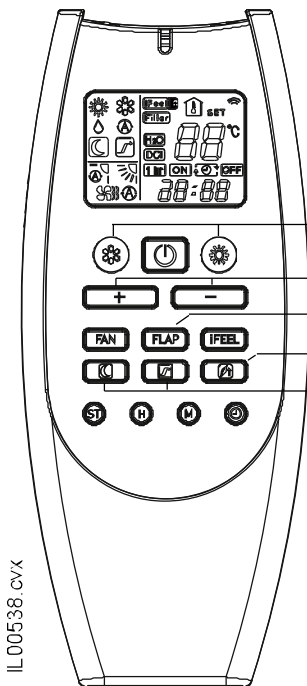
OUTDOOR UNIT CIRCUIT (PORT)	WALL MOUNT UNIT CONTROL BOARD
<p style="text-align: center;">1</p> <p style="text-align: center;">FACTORY DEFAULT</p>	 <p style="text-align: right;">SW1: 1=OFF 2=OFF</p>
<p style="text-align: center;">2</p>	 <p style="text-align: right;">SW1: 1=ON 2=OFF</p>
<p style="text-align: center;">3</p>	 <p style="text-align: right;">SW1: 1=OFF 2=ON</p>
<p style="text-align: center;">4</p>	 <p style="text-align: right;">SW1: 1=ON 2=ON</p>

CIRCUIT NUMBER (Method B – Using the iSERIES Remote)

The circuit number can also be set by using the iSERIES remote. To set the circuit, follow these steps:

1. Power the indoor unit ON (or outdoor unit if power is from the outdoor unit).
2. Set the remote controller according to the table below.
3. Press the FAN and IFEEL keys of the remote controller at the same time and hold for more than 5 seconds, then release them while pointing the remote control towards the indoor unit to be set.

If the setting is correct, you will hear 4 BEEPS as confirmation and the indoor unit starts operating with the new address.



button	settings to select the Circuit number			
	Circuit 1	Circuit 2	Circuit 3	Circuit 4
operating mode (COOL - HEAT)	AUTO	AUTO	AUTO	AUTO
set point	52 °F (11 °C)	54 °F (12 °C)	55 °F (13 °C)	57 °F (14 °C)
flap	AUTO	AUTO	AUTO	AUTO
filter	ON	ON	ON	ON
night mode / high mode	OFF	OFF	OFF	OFF

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VERIFY COMMUNICATIONS

After the wiring and piping is complete, verify that the system is fully communicating to each device.

1. Power ON the system.
2. Set the remote controller of unit 1 as follows (units 2, 3, and 4 must be OFF):
 - Mode: cooling
 - Filter: ON
 - Set point: 90 °F (32 °C)
3. Press FAN + IFEEL button for at least 5 seconds, pointing the remote control unit directly at the air conditioner receiver.
 System starts and runs for 3 minutes.
 During this operation TIMER LED is flashing, while OPERATION LED is ON.
 After 3 minutes operation:
 - If the setting is right, the unit switches to COOL mode and stops (set point: 90 °F [32 °C]). The system is ready to operate.
 - If the setting is wrong, the STANDBY lamp flashes; check the setting of indoor units and the connections of the refrigerant circuits.

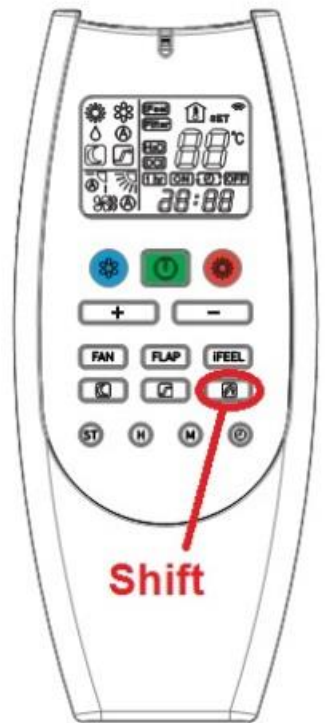
TEMPERATURE DISPLAY (UNIT OF MEASURE)

It is possible to change the temperature units from Celsius (°C) to Fahrenheit (°F) or back again.

1. Press the **GREEN**  button to turn ON the remote.
2. Next, press and hold the **Filter/Shift**  button for 6 seconds to enter the *Special Functions* mode. You will see the word “Filter” appear on the remote control display.
3. Press the “+” button until the number displayed reaches 77. The “-” button can also be used to reach 77, but this will not change the display from Celsius to Fahrenheit, or vice-versa.
4. To finish the switch, press and hold the **Filter/Shift** button for 6 seconds. This will cause the remote to exit the *Special Functions* mode. The display should now have switched between Celsius and Fahrenheit.
5. Repeating this process will cycle between Fahrenheit and Celsius display modes.

“F” is not shown when displaying the temperature using Fahrenheit units.

“C” will show only when temperature is in Celsius units.



REMOTE CONTROL FUNCTIONS

Refer to the Operation manual for the remote control features and functions.

