

Operation Manual

INVERTER-DRIVEN MULTI-SPLIT SYSTEM HEAT PUMP AIR CONDITIONERS

Type	Model
Floor Exposed	(H,Y,C)IFE006B21S
	(H,Y,C)IFE008B21S
	(H,Y,C)IFE012B21S
	(H,Y,C)IFE015B21S
Floor Concealed	(H,Y,C)IFC006B21S
	(H,Y,C)IFC008B21S
	(H,Y,C)IFC012B21S
	(H,Y,C)IFC015B21S

IMPORTANT:

***READ AND UNDERSTAND
THIS MANUAL BEFORE
USING THIS HEAT PUMP
AIR CONDITIONER.
KEEP THIS MANUAL FOR
FUTURE REFERENCE.***



PMGB0375

Important Notice

- Johnson Controls, Inc. pursues a policy of continual improvement in design and performance in its products. As such, Johnson Controls reserves the right to make changes at any time without prior notice.
- Johnson Controls cannot anticipate every possible circumstance that might involve a potential hazard.
- This heat pump air conditioning unit is designed for standard air conditioning applications only. Do not use this unit for anything other than the purposes for which it is intended.
- The installer and system specialist shall safeguard against leakage in accordance with local codes. The following standards may be applicable, if local regulations are not available. International Organization for Standardization: (ISO 5149 or European Standard, EN 378). No part of this manual may be reproduced in any way without the expressed written consent of Johnson Controls.
- This heat pump air conditioning unit is operated and serviced in the United States of America and comes with a full complement of the appropriate Safety, Dangers, Cautions, and Warnings.
- If you have questions, please contact your distributor or contractor.
- This manual provides common descriptions, basic and advanced information to maintain and service this heat pump air conditioning unit which you operate, as well for other models.
- This heat pump air conditioning unit is designed for a specific temperature range. For optimum performance and long life, operate this unit within the range limits according to the table below.

Temperature

		Maximum	Minimum
Cooling Operation	Indoor	89°F DB/73°F WB (32°C DB/23°C WB)	69°F DB/59°F WB (21°C DB/15°C WB)
	Outdoor	118°F DB (48°C DB) *	14°F DB (-10°C DB) *
Heating Operation	Indoor	80°F DB (27°C DB)	59°F DB (15°C DB)
	Outdoor	59°F WB (15°C WB) *	-4°F WB (-20°C WB) *

DB: Dry Bulb, WB: Wet Bulb

* The temperature may change depending on the outdoor unit.

- This manual should be considered as a permanent part of the air conditioning equipment and should remain with the air conditioning equipment.



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1. Introduction

Read this manual carefully before working with this product.
Keep this information with the product.

2. Safety Instructions

Signal Words	
 WARNING	Indicates a hazardous situation that, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates information considered important, but not hazard-related (for example, messages relating to property damage).

General Precautions

 WARNING	To reduce the risk of serious injury or death, read these instructions thoroughly and follow all warnings or cautions included in all manuals that accompanied the product and are attached to the unit. <i>Refer back to these safety instructions as needed.</i>
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- This system, including the controller, should be installed by personnel certified by Johnson Controls, Inc. Personnel must be qualified according to local, state and national building and safety codes and regulations. Incorrect installation could cause leaks, electric shock, fire or an explosion. In areas where Seismic Performance requirements are specified, the appropriate measures should be taken during installation to guard against possible damage or injury that might occur in an earthquake. If the unit is not installed correctly, injuries may occur because of a falling unit.
- Use appropriate personal protective equipment (PPE), such as gloves, protective goggles and electrical protection equipment and tools suited for electrical operation purposes.
- When transporting, be careful when picking up, moving and mounting these units. Although the controller may be packed using plastic straps, do not use them for transporting from one location to another. Do not stand on or put any material on the controller.
- When installing the controller cabling to the units, do not touch or adjust any safety devices inside the indoor or outdoor units. All safety features, disengagement, and interlocks must be in place and functioning correctly before the equipment is put into operation. If these devices are improperly adjusted or tampered with in any way, a serious accident can occur. Never bypass or jump-out any safety device or switch.
- Use only Johnson Controls recommended, provided as standardized, or replacement parts.
- Johnson Controls will not assume any liability for injuries or damage caused by not following steps outlined or described in this manual. Unauthorized modifications to Johnson Controls products are prohibited as they...
 - May create hazards which could result in death, serious injury or equipment damage.
 - Will void product warranties.
 - May invalidate product regulatory certifications.
 - May violate OSHA standards.

NOTICE

Take the following precautions to reduce the risk of property damage.

- Do not touch the main circuit board or electronic components in the controller or remote devices. Make sure that dust and/or steam does not accumulate on the circuit board.
- When installing the unit in a hospital or other facility where electromagnetic waves are generated from nearby medical and/or electronic devices, be prepared for Electromagnetic Interference (EMI). Do not install where the waves can directly radiate into the electrical box, controller cable, or controller. Inverters, appliances, high-frequency medical equipment, and radio communications equipment may cause the unit to malfunction. The operation of the unit may also adversely affect these same devices. Install the unit at least 10 ft. (approximately 3m) away from such devices.
- Locate the wireless controller at a distance of at least 3 ft. (approximately 1m) between the indoor unit and electric lighting. Otherwise, the receiver part of the unit may have difficulty receiving operation commands.
- If the wired controller is installed in a location where electromagnetic radiation is generated, make sure that the wired controller is shielded and cables are sleeved inside conduit tubing.
- If there is a source of electrical interference near the power source, install noise suppression equipment (filter).
- During the test run, check the unit's operation temperature. If the unit is used in an environment where the temperature exceeds the operation boundary, it may cause severe damage. Check the operational temperature boundary in the manual. If there is no specified temperature, use the unit within the operational temperature boundary of 32 to 104°F (0 to 40°C).
- Read installation and appropriate user manuals for connection with PC or peripheral devices. If a warning window appears on the PC, the product stops, does not work properly or works intermittently, immediately stop using the equipment.

Installation Precautions

WARNING

To reduce the risk of serious injury or death, the following installation precautions must be followed.

- If the remote sensors are not used with this controller, then do not install this controller
 - in a room where there is no thermostat.
 - where the unit is exposed to direct sunshine or direct light.
 - where the unit will be in close proximity to a heat source.
 - where hot/cold air from the outdoors, or a draft from elsewhere (such as air vents, diffusers or grilles) can affect air circulation.
 - in areas with poor air circulation and ventilation.
- Perform a test run using the controller to ensure normal operation. Safety guards, shields, barriers, covers, and protective devices must be in place while the compressor/unit is operating. During the test run, keep fingers and clothing away from any moving parts.

After installation work for the system has been completed, explain the "Safety Precautions," use, and maintenance of the unit to the customer according to the information in all manuals that accompanied the system. All manuals and warranty information must be given to the user or left near the Indoor Unit.

Electrical Precautions

WARNING

Take the following precautions to reduce the risk of electric shock, fire or explosion resulting in serious injury or death:.

- Only use electrical protection equipment and tools suited for this installation.
- Insulate the wired controller against moisture and temperature extremes.
- Use specified cables between units and the controller.

- Communication cabling should be a minimum of AWG18 (0.82mm²), 2-Conductor, Stranded Copper. Shielded cable must be considered for applications and routing in areas of high EMI and other sources of potentially excessive electrical noise to reduce the potential for communication errors. When shielded cabling is applied, proper bonding and termination of the cable shield is required as per Johnson Controls guidelines. Plenum and riser ratings for communication cables must be considered per application and local code requirements.
- This equipment can be installed with a Ground Fault Circuit Breaker (GFCI), which is a recognized measure for added protection to a properly grounded unit. Install appropriate sized breakers/fuses/overcurrent protection switches, and wiring in accordance with local, state and NEC codes and requirements. The equipment installer is responsible for understanding and abiding by applicable codes and requirements.
- The polarity of the input terminals is important, so be sure to match the polarity when using contacts that have polarity.
- Highly dangerous electrical voltages may be used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause serious injury or death.
- Before installing the controller or remote devices, ensure that the indoor and outdoor unit operation has been stopped. Further, be sure to wait at least five minutes before turning off the main power switch to the indoor or outdoor units. Otherwise, water leakage or electrical breakdown may result.
- Do not open the service cover or access panel to the indoor or outdoor units without turning OFF the main power supply. Before connecting or servicing the controller or cables to indoor or outdoor units, open and tag all disconnect switches. Never assume electrical power is disconnected. Check with a meter and equipment.
- Use an exclusive power supply at the controller's rated voltage.
- Be sure to install circuit breakers (ground fault circuit interrupter, isolating switch, molded case circuit breaker, and so forth) with the specified capacity. Ensure that the wiring terminals are tightened securely to recommended torque specifications.
- Clamp electrical wires securely with a cord clamp after all wiring is connected to the terminal block. In addition, run wires securely through the wiring access channel.
- When installing the power lines, do not apply tension to the cables. Secure the suspended cables at regular intervals, but not too tightly.
- Make sure that the terminals do not come into contact with the surface of the electrical box. If the terminals are too close to the surface, it may lead to failures at the terminal connection.
- Do not clean with, or pour water into, the controller as it could cause electric shock and/or damage the unit. Do not use strong detergent such as a solvent. Clean with a soft cloth.
- Check that the ground wire is securely connected. Do not connect ground wiring to gas piping, water piping, lighting conductor, or telephone ground wiring.

! WARNING

- Do not insert fingers or objects into an air inlet/outlet. Injury can result from rotating fan blades or energized electrical components.
- Do not touch the wired controller with wet hands. Failure of the wired controller or an electrical shock can result.
- Hair spray, insecticides, lacquers, and other pressurized substances should not be used within 3.3ft (1m) of any air conditioning unit. They can react with energized electrical components and cause fire.
- Do not install the indoor unit anywhere discharge airflow can pass directly toward nearby heating equipment (space heaters). It may interfere with the combustion process in these units.
- When the indoor unit is operating with heating equipment, ventilate a room sufficiently. Any leaked refrigerant gas that happens to come into contact with any heat source can become toxic on contact and can cause asphyxiation in the immediate area.
- Shut down at the main power source if the GFCI (Ground Fault Circuit Interrupter) activates frequently. Contact your distributor or contractor immediately. Failure to act accordingly can result in serious injury and damage to the unit.
- CAUTION! If you smell anything burning, shut down the unit and turn OFF the power at the main power source. Contact the fire department and your installer or electrical contractor.
- Make sure that a test for leakage of refrigerant gases has been performed. The refrigerant used for this unit (HFC R410A) is a non-flammable, non-toxic, and odorless gas. However if refrigerant should leak and make contact with sparks, fire will erupt and generate toxic gas. Also, fluorocarbon, which is heavier than air will cover the floor surface and can cause suffocation.
- If fluorocarbon gas should leak, turn OFF all heating equipment and ventilate the room immediately. Mop or vacuum floor areas to remove residual toxic particulate.
- Do not operate indoor units with the electrical box and switch panel open and exposed. Accidental contact with energized components can be fatal.
- CAUTION! Do not operate indoor units with the electrical box and switch panel open and exposed. Incidental contact with energized electrical components can prove fatal.

NOTICE

- Air circulation should be optimized so as to achieve the best distribution pattern and not settle into isolated pockets creating an uncomfortable environment.

Repair / Relocation

! WARNING

- When the air conditioner is to be repaired or transported to a new location, contact your distributor or contractor. If the repair and the installation are not completed correctly, electric shock or fire can result.

Other

! WARNING

- Turn OFF all power at the main power source before performing maintenance work. Failure to do so can result in damage to internal components with severe or fatal electrical shock.
- Insulate all electrical components and connections from exposure to moisture. Failure to do so can result in an electrical short or fire.
- Do not tamper with or attempt to "repair" electrical wiring or connections. Call your installer or electrical contractor. Serious or fatal injury can occur.
- Perform all maintenance work on a firm and stable foundation to minimize the risk of injury.
- Do not attempt to "clean" indoor unit components with liquid or powdered cleaning agents during maintenance. Electric shock, sparks, flame, and serious or fatal injury can occur.
- System piping is charged with refrigerant and highly pressurized.

! CAUTION

- Hold the air filter and the air inlet grille securely when attaching or removing it. Carelessness can result in accident or injury.

3. Before Operation

NOTICE

Power is turned on. Apply power to the outdoor unit(s) at least 12 hours prior to operation of the system for preheating of the compressor oil. Make sure that the outdoor unit is not covered with snow or ice. If it is, remove it by using hot water that is approximately 122°F (50°C).

Water temperature higher than 122°F (50°C) will cause damage to plastic parts.

- When the system is restarted after a shutdown longer than approximately three months, it is recommended that the system be checked over by your service contractor.
- Turn OFF at the main switch when the system has been off for a long period of time.
If the main switch is not turned OFF, electricity is consumed because the oil heater is always energized during periods of compressor stoppage.

3.1 Working Range

This heat pump air conditioner has been designed for the following temperatures. Operate the heat pump air conditioner within this range.

Temperature

		Maximum	Minimum
Cooling Operation	Indoor	89°F DB/73°F WB (32°C DB/23°C WB)	69°F DB/59°F WB (21°C DB/15°C WB)
	Outdoor	118°F DB (48°C DB) *	14°F DB (-10°C DB) *
Heating Operation	Indoor	80°F DB (27°C DB)	59°F DB (15°C DB)
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DB: Dry Bulb, WB: Wet Bulb

* The temperature may change depending on the outdoor unit.

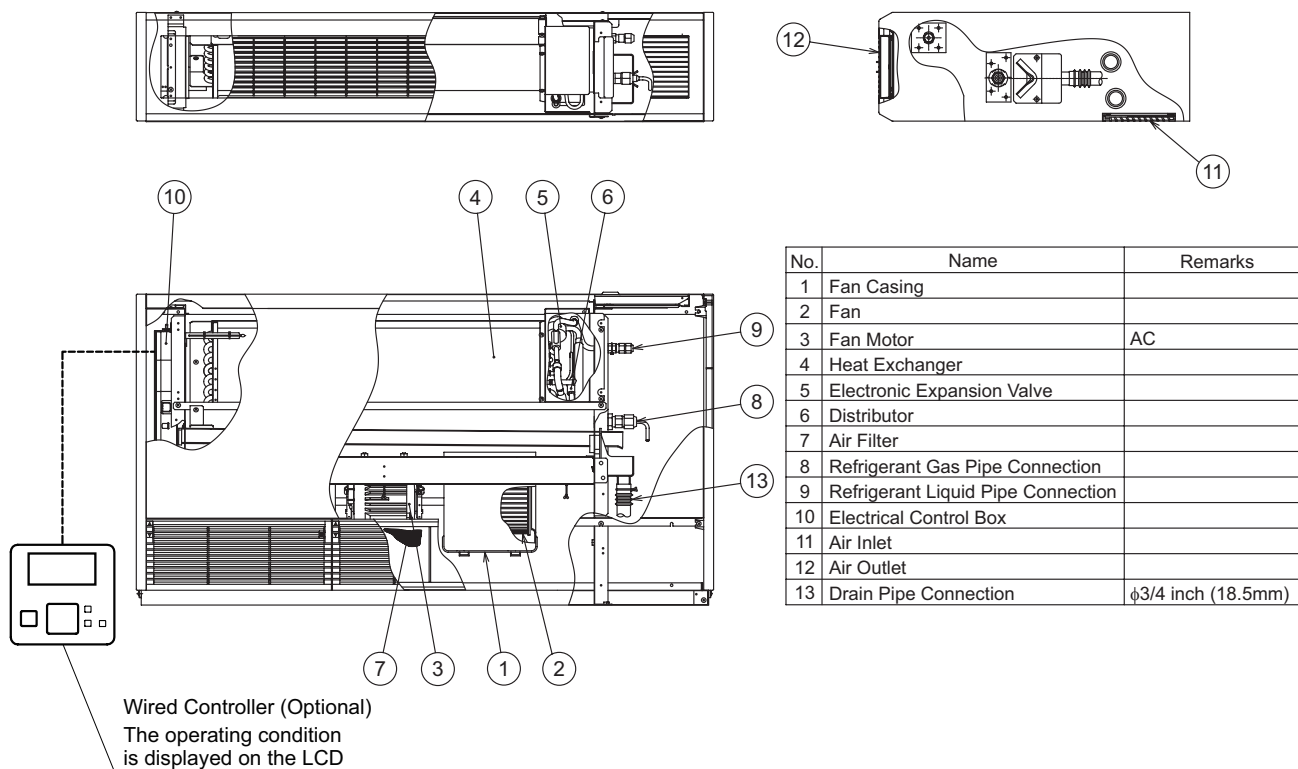
3.2 Efficient Use of Indoor Unit

- **Do not leave windows or doors open.**
Operating efficiency is decreased.
Condensation and problems relating to it can result. (Also ventilate a room sufficiently.)
- **Attach a curtain or a blind to a window.**
Direct sunlight is blocked so the cooling efficiency is enhanced.
- **Avoid using heating appliances during the cooling operation as much as possible.**
Cooling efficiency is decreased. It may cause condensation and dripping.
- **Use the built-in circulating fan if warm air tends to remain around the ceiling.**
Comfort increases. Contact your distributor for details.
- **Redirect airflow downward if ceiling surface areas become discolored due to airborne particulate.**
It is recommended that airflow be redirected 30° downward.
- **Turn OFF power at the main power source if the indoor unit is not being used over a prolonged period of time.**
This results in excess electrical consumption while the unit rests in standby mode.

4. Names of Parts

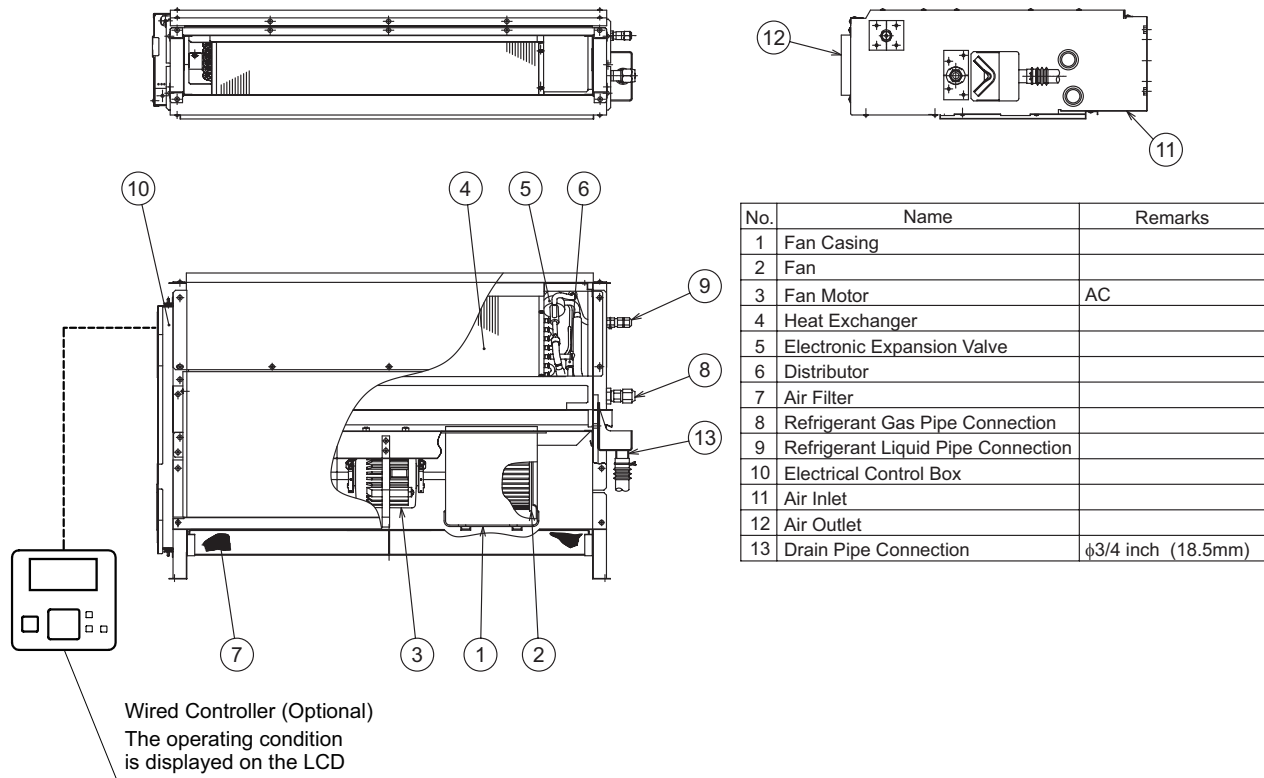
4.1 Floor Exposed Type

- (H,Y,C)IFE 006B21S, 008B21S, 012B21S and 015B21S



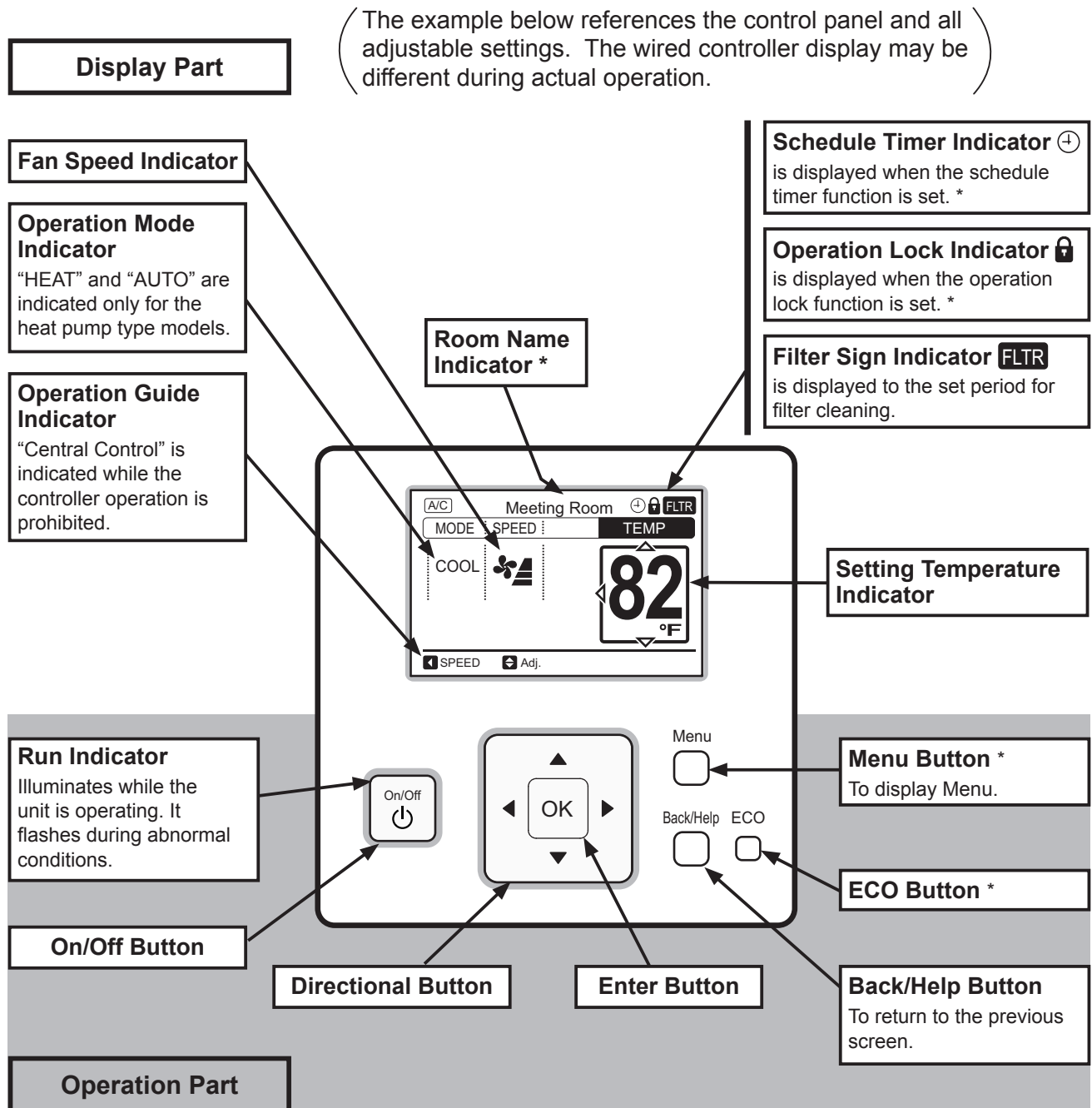
4.2 Floor Concealed Type

- (H,Y,C)IFC 006B21S, 008B21S, 012B21S and 015B21S





4.3 Wired Controller (CIW01)

Following is an example of how the CIW01 is utilized. If other models of the controller are utilized, operate the unit according to the manual for that controller.



5. Operation Method

5.1 Basic Operation

<div>Item Selection</div>	<div><div><div>By pressing “◀”or “▶”, the icon “</div></div><div><div>82</div><div>°F</div></div></div> <div><div><div>▶SPEED</div><div>▶Adj.</div></div></div>		
<div>Change of Settings</div>	<div><div><div>With (“MODE”, “SPEED”, “LOUV.” or “TEMP”) selected, press “Δ” or “▽”. The setting is changed.</div></div></div>	<div><div><div><div><div><div>▲</div><div>▼</div><div>◀</div><div>▶</div><div>OK</div></div></div><div><div>Menu</div><div>Back/Help</div></div></div></div></div>	<div><div><div><div>A/CMeeting Room</div><div><div>MODE</div><div>SPEED</div><div>TEMP</div></div><div><div>HEAT</div><div></div></div><div><div>72</div><div>°F</div></div></div><div><div><div>▶SPEED</div><div>▶Adj.</div></div></div></div></div>

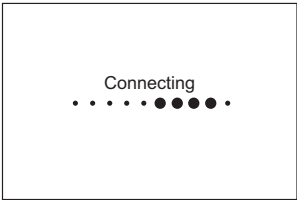
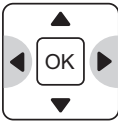
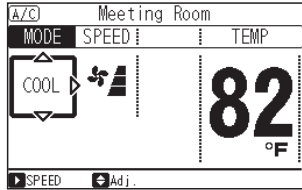


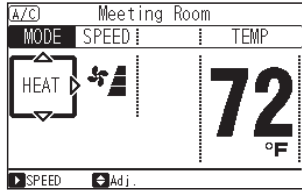
5.2 Cooling / Heating / Fan Mode

Heating Mode is for VRF systems only and is not available for typical systems.

Function

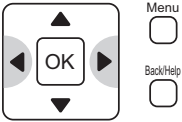
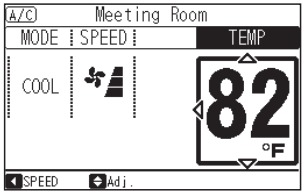
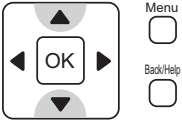
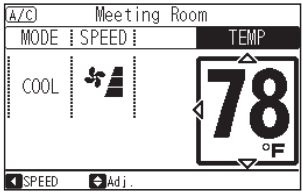
- * Cooling Mode: To decrease the room temperature.
- * Heating Mode: To increase the room temperature.
- * Dry Mode: To decrease the humidity in the room.
- * Fan Mode: To circulate the air in the room.

- Dry mode may not perform properly if there are other heat sources that exceed the capacity of the unit.
- The humidity control is unavailable for this unit. If you require dehumidification and the control of humidity, choose specialized equipment.
- Decreasing humidity during dry operation might be unavailable.

Before Operation	<p>Turn ON the power supply. Apply power to the outdoor unit(s) at least 12 hours prior to operation of the system for preheating of the compressor oil.</p> <p>Do not turn OFF the main power of the indoor unit during heating or cooling season.</p>		
1	Press "◀" or "▶" to select "MODE".		
2	<p>By pressing "Δ" or "▽", the mode is changed as follows.</p> 		


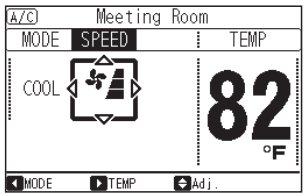


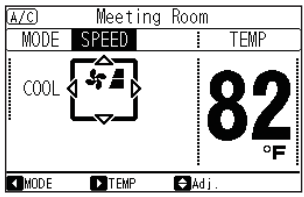
- An automatic cooling/heating operation requires an extra setting. Contact your distributor or contractor for details.

5.3 Temperature Setpoint

1	Press "◀" or "▶" and select "TEMP".		
2	<p>By pressing "Δ", the temperature is increased by 1°F (0.5°C) to a Max. 86°F (30°C)</p> <p>By pressing "▽", the temperature is decreased by 1°F (0.5°C).</p> <p>COOL, FAN operation: Min. 66°F (19°C)</p> <p>HEAT operation: Min. 62°F (17°C)</p>		


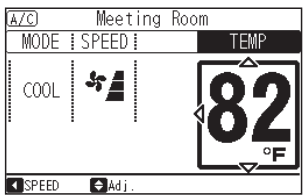
- If the optional function "Automatic Reset of Setting Temperature" is set:
Even if you change the setting temperature on the wired controller, it automatically returns to the temperature set by "Automatic Reset Temperature" after a set time.
- Minimum and maximum temperature setpoint limits can be configured by selecting a cooling lower limit and heating upper limit in the "Function Selection" mode of the wired controller's Test Run Menu.
- Contact your distributor or contractor for details on optional functions "Automatic Reset of Setting Temperature", "Cooling Lower Limit for Setting Temperature", and "Heating Upper Limit for Setting Temperature".

5.4 Fan Speed

1	Press “◀” or “▶” and select “SPEED”.		
2	By pressing “Δ” or “▽”, the fan speed is changed as follows. 		


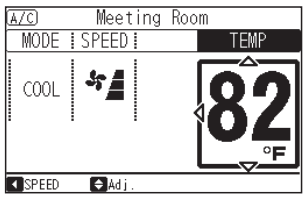
- During the dry mode, the fan speed automatically changes to “LOW” and you cannot change it to any other fan speed. (Only the current setting is displayed on the liquid crystal display (LCD). “LOW” is NOT displayed.)
- The fan speed setting “HIGH 2” may not be available depending on the indoor unit type.

5.5 Operation

Operation Start	Press “⏻” (On/Off). The RUN indicator turns ON and the operation starts.		
------------------------	-----------------------------------------------------------------------------	--------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------

Temperature/Airflow Setting

- The setting condition is stored in memory. Therefore, no daily setting is required. Temperature setpoint and airflow settings are retained after the indoor unit is turned OFF at the controller. In a case where the setting change is required, refer to Sections 5.2 to 5.4.

Operation Stop	Press “⏻” (On/Off) again. The RUN indicator turns OFF and the operation stops.		
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- The indoor unit fan may continue to operate for up to two minutes following the heating cycle to dissipate residual heat from the indoor unit.

An automatic heating/cooling operation and setback operation requires extra settings.
Contact your distributor or contractor for details.

5.6 Automatic Heating/Cooling Operation

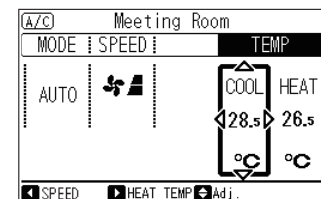
In case dual setpoint is selected in automatic heating/cooling operation, during auto mode both cooling setpoint and heating setpoint can be selected.

By default, temperature when the heating/cooling mode changes is as follows.

Cooling mode changes to heating mode when the indoor temperature is at the heating setpoint -2°F (-1°C).

Heating mode changes to cooling mode when the indoor temperature is at the cooling setpoint +2°F (+1°C).

If the temperature for changing modes must be changed, contact your distributor or contractor for details.



NOTE:

In case of Celsius Indication.

5.7 Setback Operation

If the setback operation is enabled and the card key is removed, the setpoint is adjusted for setback, and the fan operates at "Low" speed.

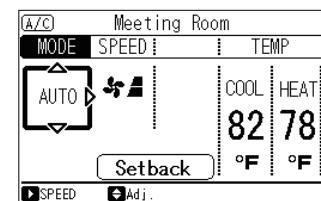
During this time, "Setback" is displayed on the LCD.

By default,

Cooling: Setpoint +4°F (+2.5°C)

Heating: Setpoint -4°F (-2.5°C)

If the adjustment for setback operation must be changed, contact your distributor or contractor for details.



NOTE:

In case of Fahrenheit Indication.

6. Automatic Control

This air conditioning unit automatically starts the following operations according to the indoor conditions.

The system is equipped with the following functions.

Three-Minute Guard		<ul style="list-style-type: none"> ▪ Enforced Stoppage: The compressor remains off for at least three minutes once it has stopped. If the system is started within approximately three minutes after it has stopped, the RUN indicator is activated. However, the cooling operation or the heating operation remains off and does not start until after three minutes have elapsed. ▪ Enforced Operation: If all indoor units of the system are Thermo-OFF* within approximately three minutes after the compressor has started, the compressor operates continuously during these three minutes. However, if all indoor units of the system are stopped by a controller, the compressor has stopped.
Cooling and Dry	Frost Prevention	When the indoor unit is operated at a low discharge air temperature, the cooling operation may be changed to fan operation for a while to avoid frost formation on the indoor heat exchanger.
	Self-Cleaning of Electronic Expansion Valve	The electronic expansion valve self-cleans when the cooling operation has stopped. The sound of refrigerant flows may be heard from the indoor unit during the self-cleaning. This is not abnormal.
Heating	Hot Start	To prevent cold air discharge in the room, the fan speed is controlled from the slow position and the low position to the set position according to the discharge air temperature. At this time "HOT-START" is displayed on the LCD of the wired controller.
	Defrost Operation	The indoor unit fan operation is stopped to prevent cold air discharge during the defrost operation. At this time, the indication "HOT-START" is displayed on the LCD of the wired controller.
	Residual Heat Removal	When the heating operation is stopped, indoor fan operation may be kept at the slow speed for a maximum of two minutes to lower the internal temperature of the indoor unit.
	Prevention of Overload Operation	When the outdoor temperature is high (approximately 70°F (21°C) or more) during the heating operation, the operation is stopped by activation of the outdoor thermistor.

* Thermo-OFF: The outdoor unit and some indoor units stay on, but don't run.

Thermo-ON: The outdoor unit and some indoor units are running.

NOTE

- This air conditioning unit adopts a hot air circulation system for the heating operation. If the space is large or the room temperature is excessively low, it takes time to heat the entire room. If the room is heated enough and discharged air reaches a required temperature, the indication "HOT-START" turns OFF after heating the room.
- The indication "HOT-START" may be displayed during, or right after, the defrosting operation. "HOT-START" is activated during defrost to ensure comfort by reducing the delivery of cold air in the heating cycle. This is NOT abnormal.

7. Maintenance

WARNING

- Turn OFF the power source before the maintenance work. If the power source is not turned OFF, the result may be an electric shock or fire.
- Perform the maintenance work with a stable foothold or foundation. This can prevent falling or injury.

CAUTION

- Hold the air filter and the air inlet grille securely by hand when attaching or removing it. Not doing so may cause the product to fall, resulting in an injury.

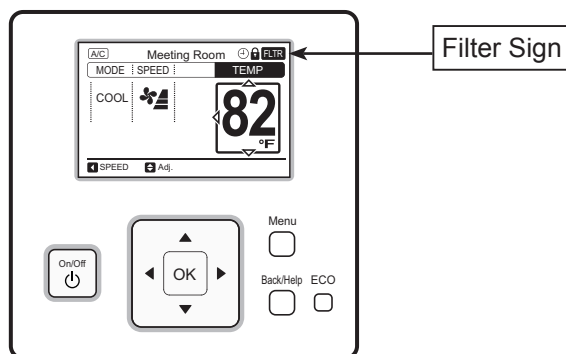
NOTICE

- Do not operate the system without the air filter to protect the indoor unit heat exchanger from being clogged.

7.1 Cleaning Air Inlet Grille and Air Filter

The air inlet grille and the air filter can be removed and cleaned.

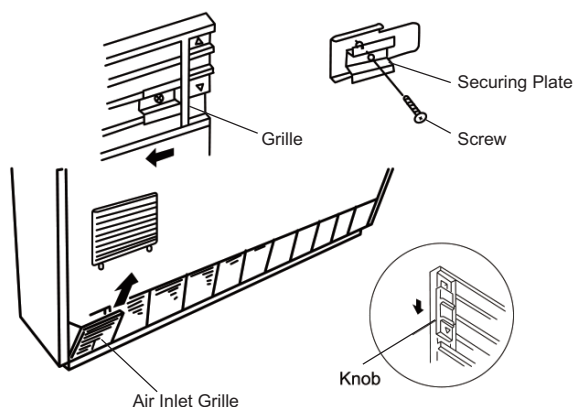
Clean the air inlet grille and the air filter when the filter sign is turned ON.



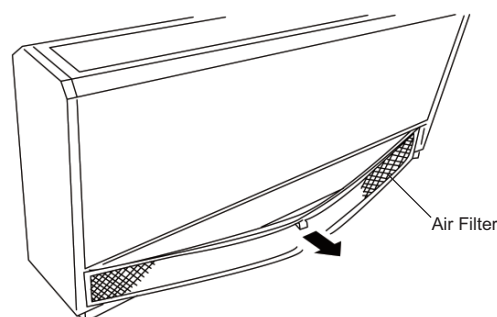
(1) Removal of the air inlet grille and the air filter.

(H,Y,C)IFE006B21S, 008B21S, 012B21S, and 015B21S

- Loosen the screws of the securing plate on the right part of the grille. Then remove the plates. Press the knob on both sides of the grille in the direction indicated by the arrow. The grille can be opened at a 30° angle. Remove the air inlet grille from the hinges.

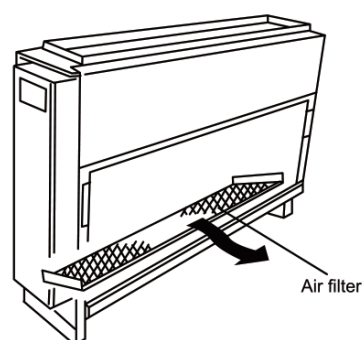


- The air filter is located inside the air inlet grille. Remove the filter by pulling the filter.



(H,Y,C)IFC006B21S, 008B21S, 012B21S, and 015B21S

- Remove the filter by pulling the filter.



(2) Clean the air inlet grille and the air filter.

- Vacuum dust off with hand-held vacuum cleaner, or wash the air inlet grille and the air filter with water or a neutral detergent.
- Dry the air filter in a shaded area.

NOTE

- Do not use water warmer than 122°F (50°C). Filter elements can be damaged by heat.
 - Do not dry the air filter by holding it over open flame, with a hair dryer, or any type of heating device. Filter elements can be damaged by heat.
-

- (3) Attach the air inlet grille and the air filter.

After the air filter is dried, attach it in the reverse order from what is shown in Step 1 above.

NOTE

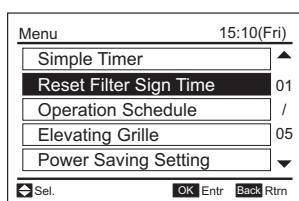
- Be sure to attach the air filter.
Operating the indoor unit without a filter installed will cause serious damage and breakdown.
 - Make sure that the air inlet grille is securely locked with the knobs and screws.
-

- (4) Reset the filter sign.

NOTE

If the accumulated operation time is shorter than the filter sign setting, the indication "☒" is turned ON and "Setting Disabled" is displayed.

- Press "Menu".
Select "Reset Filter Sign Time" from the menu and press "OK".



- The confirmation screen is displayed.
Select "Yes" by pressing "<" or ">" and press "OK".
The indication of "FLTR" turns OFF and the screen returns to the normal mode.



7.2 Maintenance

Before Use

- Remove obstacles around the air inlet and the air outlet of the indoor unit and outdoor unit.
- Check that the air filter is not clogged with dust or dirt.

After Use

- Clean the air filter and the air inlet grille on a regular basis to maintain the system's peak performance and efficiency.

8. Troubleshooting

8.1 This is Normal

Phenomenon		Cause
Operation Stopped	All indication lamps on the wired controller are turned OFF.	The micro-computer is activated to protect the device from electromagnetic waves. Restart the operation.
	After Power Failure	Restart the operation. If the instantaneous power failure is within two seconds, the operation restarts automatically.
White Steam from Indoor Unit	During Heating Operation	This might occur during the defrosting operation in the heating operation.
White Smoke from Indoor Unit	At Beginning of Heating Operation Season	This might occur when dust attached to the heat exchanger has dried.
Mist from Indoor Unit	In Restaurant or Kitchen	This might occur when oil attached to the fins might decrease the heat exchange efficiency.
	During Dry Operation	This might occur when the air outlet temperature becomes lower. Change the operation mode.
	During Cooling Operation in Humid Environment	This might occur when the air outlet temperature becomes lower. Raise the set temperature and the airflow volume.
Odor from Indoor Unit	Odor Discharged from Indoor Unit	This might occur when the smell of cigarette smoke infiltrated the inside of the indoor unit. Ventilate the unit well in the fan mode and clean the air filter, the air outlet, and the air inlet grille.
Sound from Indoor Unit	Grating sound is heard when starting or stopping the operation.	This is the sound made when the components are rubbing against each other due to the expansion and contraction of the resin parts caused by the temperature change.
	Sound of water flowing or bubbling during the operation.	This is the sound made when the refrigerant flows or the drain-up mechanism drains water. The sound may be heard especially when starting the operation or stopping the compressor (for approx. three minutes).
	Growling sound may be heard temporarily right after the airflow volume is changed.	It is generated because the fan motor makes a temporary sound when the fan speed changes.
Temperature Irregularity	The airflow volume and temperature of each air outlet are irregular.	This might occur for structural reasons, such as the size of air outlet and the location of heat exchanger.
“HOT-START” on LCD Turns ON		This might occur according to the operation mode or operating conditions.
Operation Mode on LCD is Flashing		

8.2 Before Contact

Refer to the information below before contacting a contractor.

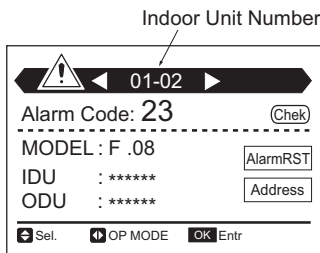
Trouble		Check Point	Action
Operation Unavailable		Check that the main power source is turned ON.	Turn ON the main power source for the air conditioner.
		Check that the fuse is not blown or the circuit breaker of the main power source tripped.	Replace the fuse or reset the circuit breaker. If the trouble recurs, contact your contractor or distributor.
Immediate Shutdown after Start-up	Cooling	Check that the air inlet and outlet of the outdoor unit are not covered with paper, vinyl or other objects.	Remove objects covering the air inlet and outlet.
	Heating	Check for any obstacles preventing the airflow near the air inlet and outlet of the outdoor unit.	Remove the obstacles preventing the airflow.
		Check that the outlet air is not short-circuited to the air inlet.	
Insufficient Cooling or Heating		Check that the operation mode is correct.	If the fan mode is selected, switch the operation mode to cooling or heating.
		Check that the set temperature is correct.	If not, change the set temperature by pressing “Δ” or “▽” with the wired controller.
		Check that the airflow direction is correct.	If not, change the airflow direction. In case the footing is not heated well during the heating operation, change the louver downward.
		Check that the air filter is not clogged.	Clean the air filter.
		Check that a window or a door is not open.	Close the window or the door.
		Check for any obstacles preventing the airflow near the air inlet and outlet of the indoor and outdoor units.	Remove the obstacles.

8.3 Contact Distributor

If trouble still persists, even after checking off previously listed items or detecting problems not mentioned in the previous pages, stop using this product and call your distributor or contractor immediately.

WARNING

If there is any perceived abnormality present (noises or odors associated with electrical short, fire, or burning elements), shut down immediately and shut OFF at the main power source. Contact your distributor or contractor without delay.

Trouble	Action before Contacting Contractor or Distributor
The protection devices (fuse, breaker, GFCI, and so forth) are frequently activated or the operation switch does not work.	Turn OFF the power source.
Water Leakage from the Indoor Unit.	Stop the operation.
<ul style="list-style-type: none">The RUN indicator (red) is flashing.The indoor unit number, the alarm code, the unit model code and the number of connected indoor units are displayed on the LCD.If plural indoor units are connected to one controller, the above abnormality information displays individually for each indoor unit. <p>Check the details on the LCD and contact your distributor.</p> <div data-bbox="304 1155 625 1406"></div>	<p>Refer to the Alarm Code Table.</p> <p>Contact your distributor and advise of the indication details on the wired controller.</p>

Provide the following information when contacting your distributor.

- 1) Unit Model**
- 2) Explain the Trouble or Problem**
- 3) Alarm Code No. on the LCD or Details of a Flashing Indicator**

8.4 Alarm Codes

Code	Category	Content of Abnormality	Code	Category	Content of Abnormality
01	Indoor Unit	Activation of Protection Device	35	System	Incorrect Setting of Indoor Unit No.
02	Outdoor Unit	Activation of Protection Device (High Pressure Cut)	36		Incorrect Indoor Unit Combination
03	Communication	Operational Irregularities between Indoor and Outdoor	38		Problem with Protective Pickup Circuit in Outdoor Unit
04		Problem between Inverter PCB and Outdoor PCB	39	Compressor	Problem with Running Current at Constant Speed Compressor
05	Supply Phase	Problem of Power Source Phases	41	Pressure	Overload Cooling
06	Voltage	Abnormal Voltage Drop in Outdoor Unit	42		Overload Heating
07	Cycle	Decrease in Superheated Discharge Gas	43	Protection Device	Activation of Pressure Ratio Decrease Protection Device
08		Increase in Discharge Gas Temperature	44		Activation of Low Pressure Decrease Protection Device
09	Outdoor Unit	Activation of Protection Device for Outdoor Fan	45		Activation of Low Pressure Increase Protection Device
11	Sensor on Indoor Unit	Inlet Air Thermistor Failure	46		Activation of High Pressure Increase Protection Device
12		Outlet Air Thermistor Failure	47		Activation of High Pressure Decrease Protection Device
13		Freeze Protection Thermistor Failure	48		Activation of Overcurrent Protection Device
14		Gas Piping Thermistor Failure	51	Inverter	Problem with Inverter Current Sensor
19	Fan Motor	Activation of Protection Device for Indoor Fan	52		Activation of Inverter Overcurrent Protection
20	Sensor on Outdoor Unit	Compressor Thermistor Failure	53		Activation of Transistor Module Protection
21		High Pressure Sensor Failure	54		Abnormality of Inverter Fin Temperature
22		Outdoor Air Thermistor Failure	56	Outdoor Fan	Abnormality of Detection for Fan Motor Position
23		Discharge Gas Thermistor Failure	57		Activation of Fan Controller Protection
24		Evaporating Thermistor Failure	58		Abnormality of Fan Controller
29		Low Pressure Sensor Failure	b0	System	Incorrect Setting of Unit Capacity
31	System	Incorrect Capacity Setting of Outdoor Unit and Indoor Unit	b1		Incorrect Setting of Unit and Refrigerant System No.
32		Incorrect Setting of Other Indoor Unit Number	EE	Compressor	Compressor Protection Alarm

