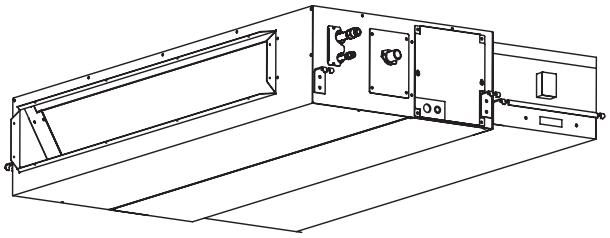
Operation Manual

INVERTER-DRIVEN
MULTI-SPLIT SYSTEM
HEAT PUMP
AIR CONDITIONERS



Type	Model
Ducted (Medium Static) with EconoFresh Kit	(H,Y,C)IDM030B21E (H,Y,C)IDM036B21E (H,Y,C)IDM048B21E with EF-456NE

IMPORTANT:

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

PMGB0384

Important Notice

- Johnson Controls Inc. pursues a policy of continual improvement in design and performance in its products. As such, Johnson Controls Inc. reserves the right to make changes at any time without prior notice.
- Johnson Controls Inc. 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 Inc.
- 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, Danger, and Caution, warnings.
- If you have questions, please contact your distributor or dealer.
- 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.
- This manual should be considered as a permanent part of the air conditioning equipment and should remain with the air conditioning equipment.

TABLE OF CONTENTS

1. Introduction

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

For details on the EconoFresh Kit, refer to the installation manual for the EconoFresh Kit.

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. *Refer back to these safety instructions as needed.*

- This system 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 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 due to a falling unit.
- Use appropriate Personal Protective Equipment (PPE), such as gloves and protective goggles and, where appropriate, have a gas mask nearby. Also use electrical protection equipment and tools suited for electrical operation purposes. Keep a wet cloth and a fire extinguisher nearby during brazing. Use care in handling, rigging, and setting of bulky equipment.
- When transporting, be careful when picking up, moving and mounting these units. Although the unit may be packed using plastic straps, do not use them for transporting the unit from one location to another. Do not stand on or put any material on the unit. Get a partner to help, and bend with your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut fingers, so wear protective gloves.
- 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.

- Before servicing, turn OFF current at the power source and use accepted lockout and tag out procedures at all main switches.
- This unit is the pressurized system. Never loosen threaded joints while the system is under pressure and never open pressurized system 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;

Operation

⚠ WARNING
● Do not insert fingers or objects into 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.
● Air circulation should be optimized to achieve the best distribution pattern and not settle into isolated pockets that can make people uncomfortable.
● 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 suffocation 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 down or vacuum floor areas of residual toxic particulate.
● 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.

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, electric shock or fire can result.

Others

⚠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 platform 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.
- Refer to the "Installation and Maintenance Manual" of this indoor unit for any restrictions and usage.

⚠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

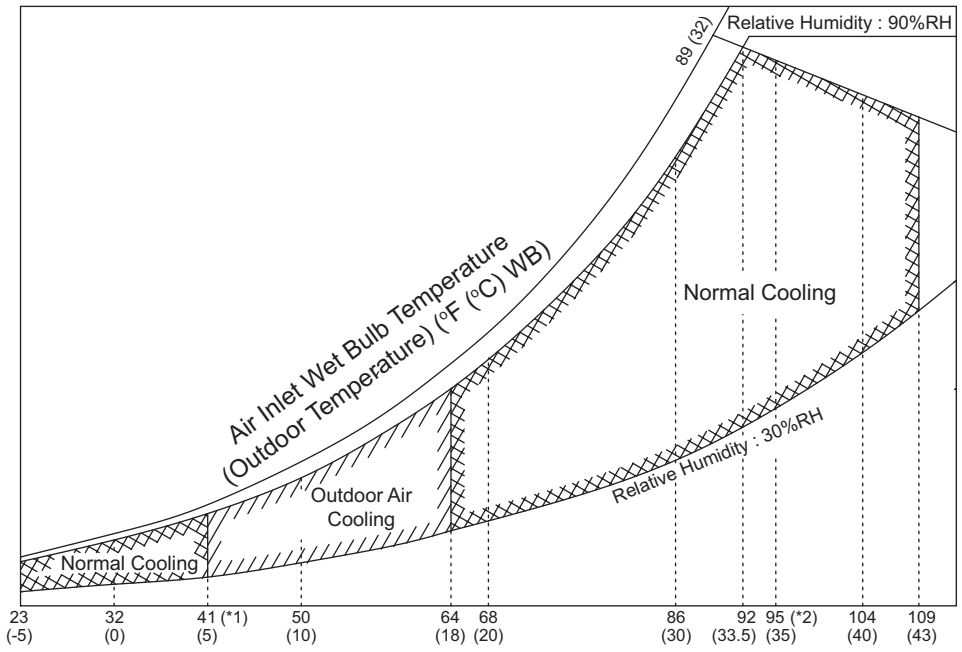
Power is turned on. Apply power to the outdoor unit(s) at least 12 hours prior to operation of the system for preheating of the compressor oil. Make sure that the outdoor unit is not covered with snow or ice. If it is required, remove it by using hot water that is approximately 122°F (50°C). Water temperature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

- Turn OFF the main power switch when the system is stopped 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 compressor stopping.
- When the system is started after a shutdown longer than approximately three months, it is recommended that the system be checked by your service contractor.
- **Make sure to enable the EconoFresh Pressure Mode (optional function C5) on the wired controller before operation. Otherwise, this unit will not operate effectively. Refer to Section 6. for details.**

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.

Cooling Mode Operation Range

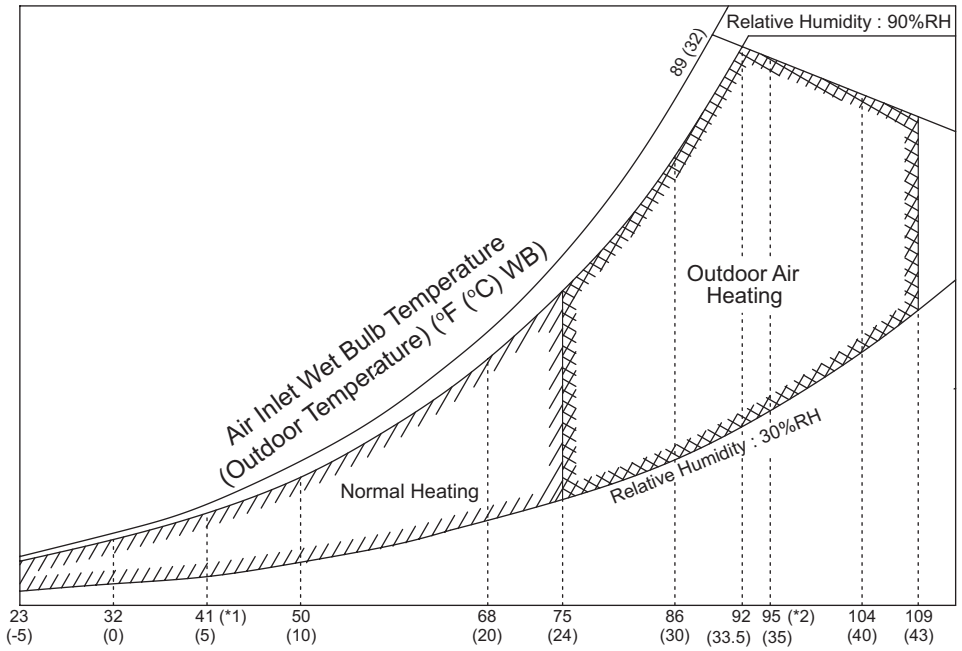


Air Inlet Dry Bulb Temperature
(Outdoor Temperature) (°F (°C) DB)

NOTES:

1. Make sure to apply extra insulation on the unit and duct to prevent condensation when the outdoor temperature is low.
2. Outdoor air damper of this unit may remain opened at “Damper Minimum Opening” setting (optional function d7) or prohibits OA intake for All Fresh mode below 41°F (5°C). (*1)
3. Unit may not operate when the outdoor temperature is high for All Fresh mode. (*2)
4. Compressor is stopped during outdoor air cooling.
5. Air inlet dry bulb temperature (outdoor temperature) indicates the temperature detected by the unit's outdoor thermistor.

Heating Mode Operation Range



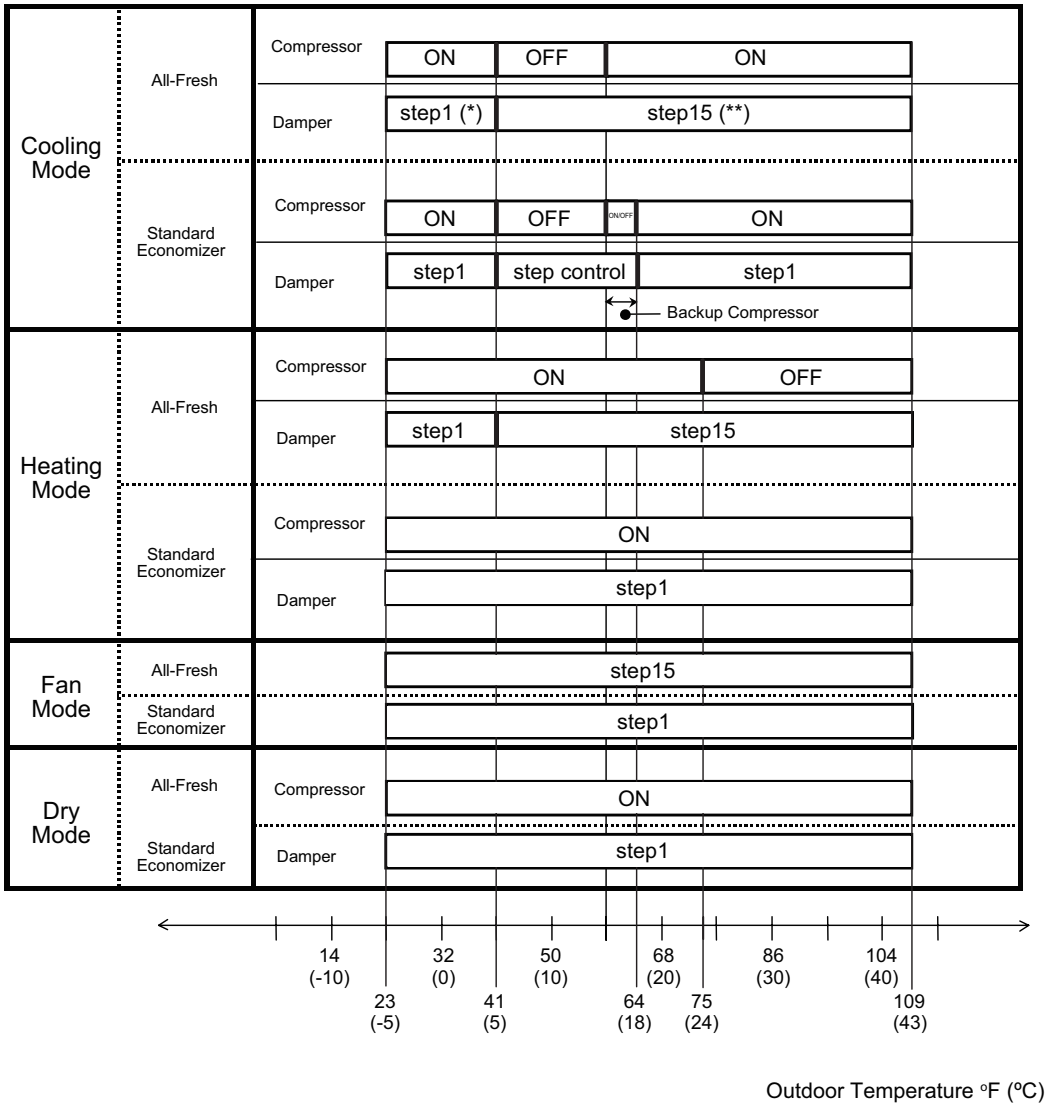
Air Inlet Dry Bulb Temperature
(Outdoor Temperature) (°F (°C) DB)

NOTES:

1. Make sure the air inlet wet bulb temperature (outdoor temperature) is below 59°F WB (15°C WB).
2. Outdoor air damper of this unit may remain opened at “Damper Minimum Opening” setting (optional function d7) or prohibits OA intake for All Fresh mode below 41°F (5°C). (*1)
3. Unit may not operate when the outdoor temperature is high for All Fresh mode. (*2)
4. Compressor is stopped during outdoor air heating.
5. Air inlet dry bulb temperature (outdoor temperature) indicates the temperature detected by the unit's outdoor thermistor.
6. Make sure to apply extra insulation on the unit and duct to prevent condensation when the outdoor temperature is low.

Operation Sequence

Compressor operation and the angle (step) of the damper are controlled according to both room air temperature and outdoor temperature to adjust the fresh air flow, thus keeping the room temperature constant.



(*) Damper Step 1: Fresh Outdoor Air Damper Minimum Opened
(**) Damper Step 15: Fresh Outdoor Air Damper Fully Opened

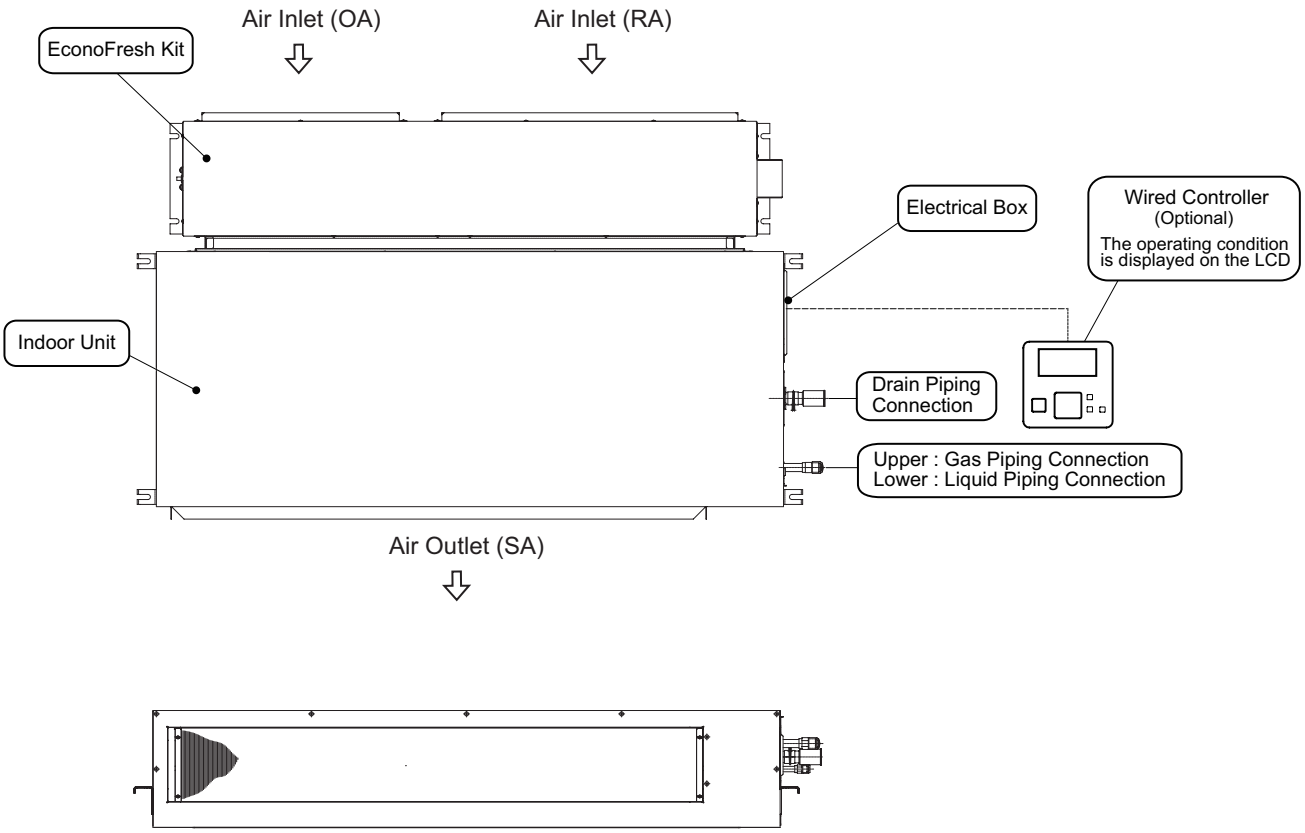
3.2 Efficient Use of Indoor Unit

- **Do not leave a window or a door open.**
  Operating efficiency is decreased.
  It may cause condensation ON the indoor unit. Ventilate a room sufficiently.
- **Attach a curtain or a blind to a window.**
  Blocking direct sunlight into a room increases efficiency.
- **Do not use heating appliances during cooling operation as much as possible.**
  Cooling efficiency is reduced, which may cause condensation and dripping.
- **Use a circulator if warm air stays around the ceiling.**
  Comfort increases. Contact your distributor for details about using a circulator.
- **Turn OFF the main power source if the indoor unit is not to be used for a long period.**
  The standby electricity charges will have to be paid even if the indoor unit is unused.

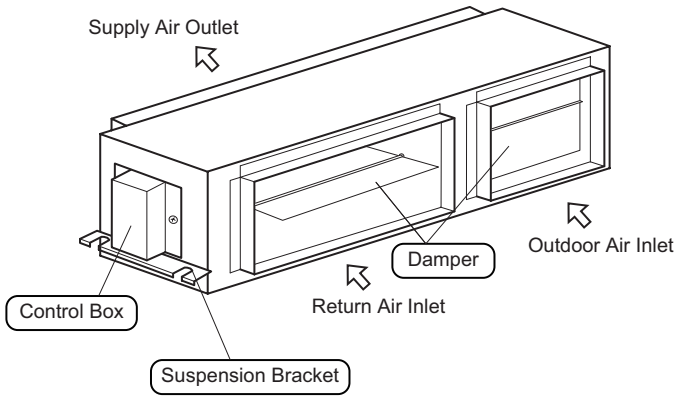
4. Names of Parts

4.1 Ducted Type

- Medium Static Type
  (H,Y,C)IDM030B21E, 036B21E and 048B21E

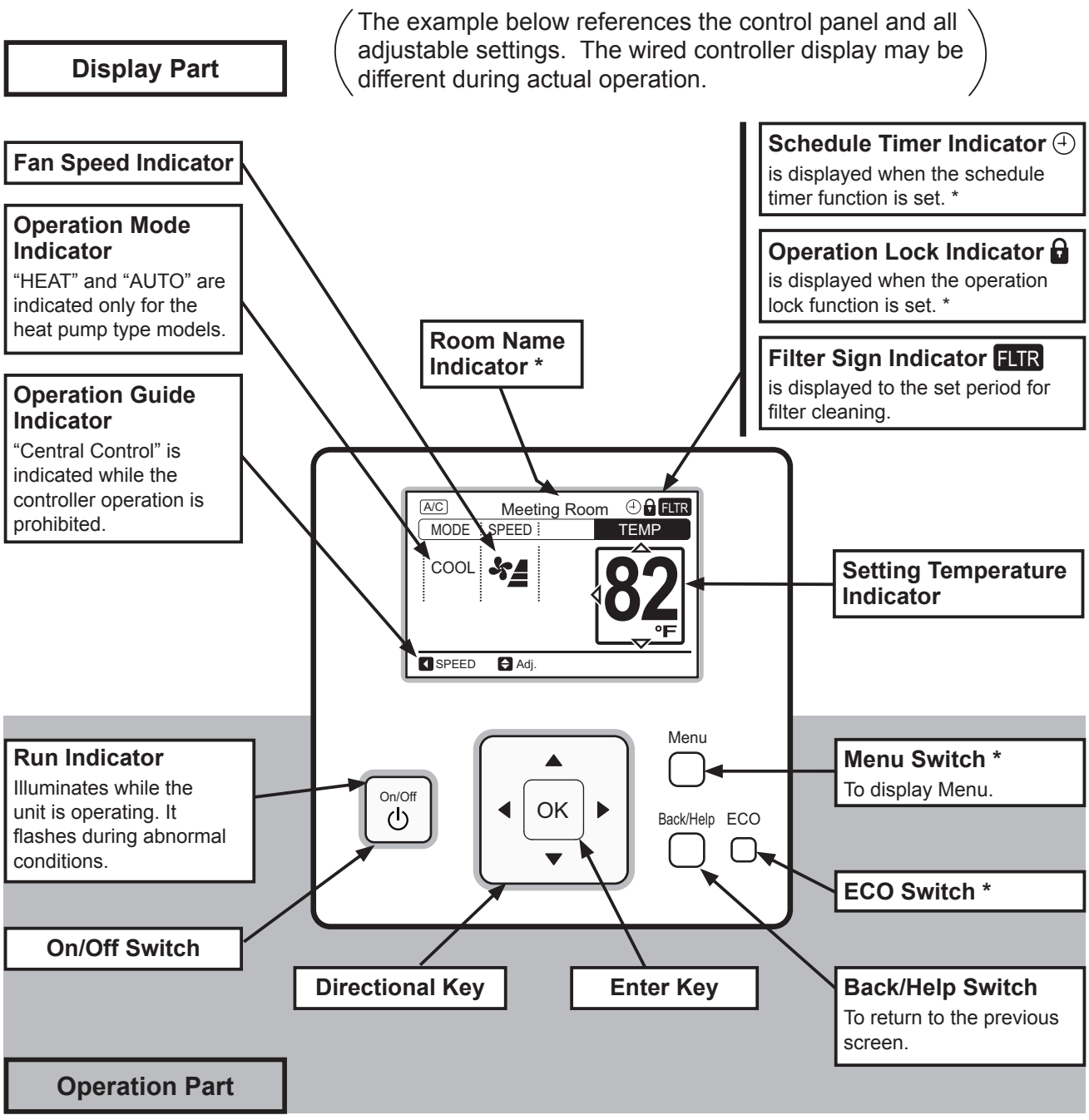


4.2 EconoFresh Kit



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.

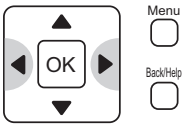
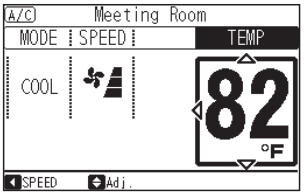
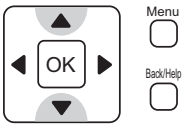
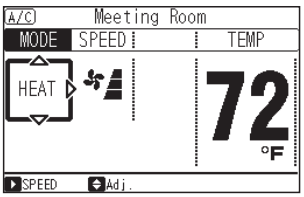


NOTE

- * For detailed descriptions, refer to the "Operation Manual" for the wired controller.
- Do not use the Power Saving Settings "Indoor Unit Rotation Control" and "Intermittent Operation Control" when using this unit. When the outdoor temperature is high, the room temperature may become high.
- Do not use the optional function CE when using this unit. When it is used, the function of outdoor air intake may not work effectively.
- Do not use the Quick Function Setting when using this unit.

5. Operation Method

5.1 Basic Operation

Item Selection	By pressing “◁”or “▷”, the icon “⬚” moves between “MODE”, “SPEED”, “LOUV.” and “TEMP”.		
Change of Settings	With (“MODE”, “SPEED”, “LOUV.” or “TEMP”) selected, press “△” or “▽”. The setting is changed.		

- For this ducted unit, “LOUV.” is not displayed on Liquid Crystal Display (LCD).

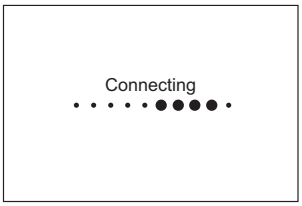
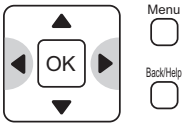
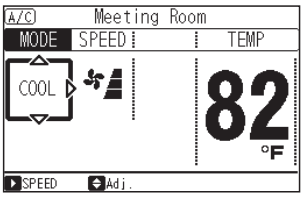
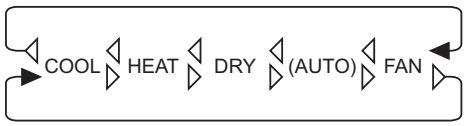
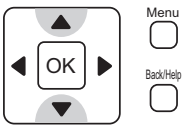
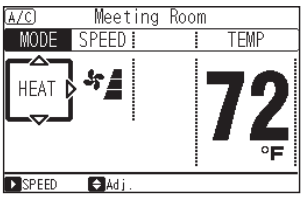
5.2 Cooling / Heating / Fan Mode

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

Function

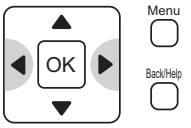
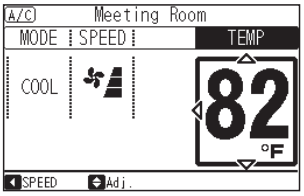
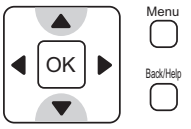
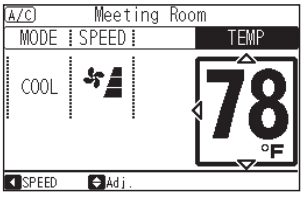
* Cooling Mode: To decrease the room temperature.
* Heating Mode: To increase the room temperature.
* Dry Mode: To decrease the humidity in the room.
* Fan Mode: To circulate the air in the room.

- 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	Turn ON the power supply. Turn ON the main power approximately 12 hours before operation in order to preheat the compressor. Do not turn OFF the main power of the indoor unit during heating or cooling season.		
1	Press “◁” or “▷” to select “MODE”.		
2	By pressing “△” or “▽”, the mode is changed as follows. 		

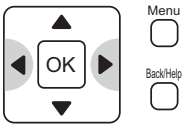
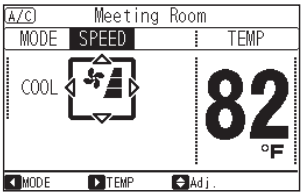
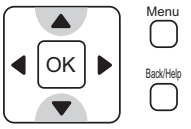
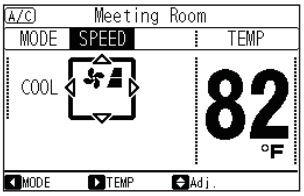
- Automatic cooling/heating operation requires an extra setting. Contact your distributor or contractor for details.

5.3 Temperature Setpoint

1	Press “◁” or “▷” and select “TEMP”.		
2	By pressing “△”, the temperature is increased by 1°F (0.5°C). (Max. 86°F (30°C)) By pressing “▽”, the temperature is decreased by 1°F (0.5°C). COOL, FAN operation: Min. 66°F (19°C) HEAT operation: Min. 62°F (17°C)		

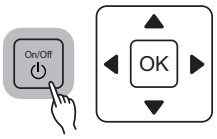
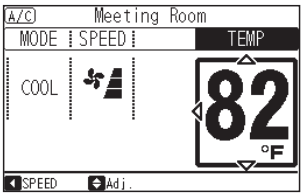
- In case the optional function “Automatic Reset of Setting Temperature” is set:
  Even if you change the setting temperature on the wired controller, it automatically returns to the temperature set by “Automatic Reset Temperature” after a set time.
- Minimum and maximum temperature setpoint limits can 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 “△” or “▽”, the fan speed is changed as follows. HIGH 2 ⇔ HIGH ⇔ MED ⇔ LOW ⇔ AUTO		

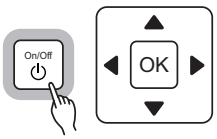
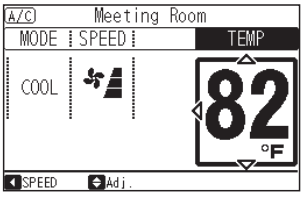
- During the dry mode, the fan speed automatically changes to “LOW” and you cannot change it to any other fan speed. (Only the current setting is displayed on the liquid crystal display (LCD). “LOW” is NOT displayed.)
- The fan speed setting “HIGH 2” may not be available depending on the indoor unit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

5.5 Operation

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

Temperature/Air Flow 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.		

- 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, setback operation and auxiliary heater requires extra settings. Contact your distributor or contractor for details.

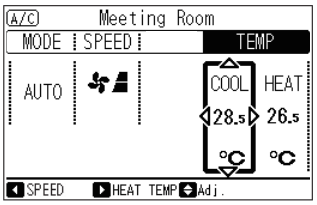
5.6 Automatic Heating/Cooling Operation

This operation is not available for all fresh mode or gas sensor mode.
Depending on the operation range the compressor may stop and this unit switches to fan mode during heating or 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 are 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.

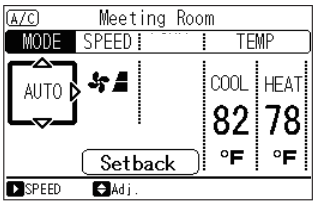
5.7 Setback Operation

This operation is not available for all fresh mode or gas sensor mode.
Depending on the operation range the compressor may stop and this unit switches to fan mode during heating or cooling 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.

5.8 Auxiliary Heater

In case the auxiliary heater is connected and the setting is enabled, during following instances the auxiliary heater alone without heat pump may operate in heating mode.
- During Defrosting Operation
- Low Ambient Temperature

NOTES:
- When the heater capacity is small, the air outlet temperature during defrost can decrease.
- Heater and fan are turned off and slowly start the heating operation for approximately three minutes to stabilize the refrigerant cycle after the defrost recovery.

NOTE

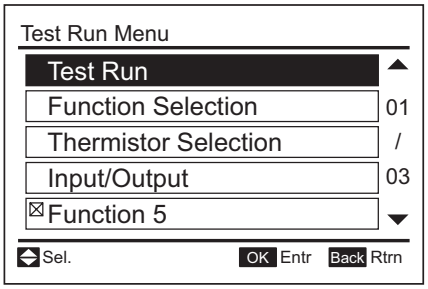
- All fresh mode when enabled, the damper of econofresh kit is fully opened to let 100% fresh air in.
- Gas sensor mode when enabled and operated with CO_2 or enthalpy sensors, the damper of econofresh kit is opened to let outside air in and control the air quality in the room.

6. Optional Function Settings

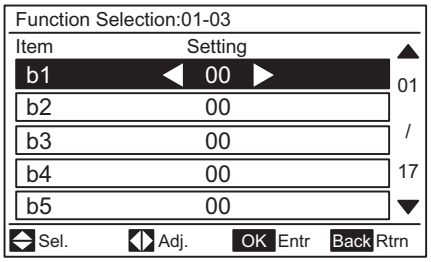
Optional functions can be set on the wired controller as follows.

1. Press and hold “Menu” and “Back/Help” simultaneously for at least three seconds with power applied and the indoor unit is not operating. The Test Run menu is displayed.

2. Select “Function Selection” from the Test Run menu and press “OK”.



3. Press “△ ▽” and select the Item as shown in the table below.
Setting value can be changed by pressing "◁ ▷" and press "OK".



When the products are shipped, the setting values should be set to **"00"**, which indicates functions are not available.
EconoFresh Pressure Mode (optional function C5) must be changed to "01" on the wired controller before operation. (Optional function C5 on the wired controller is set to "00" by default)

Item	Functions	Setting Conditions	Description
C5	EconoFresh Pressure Mode	00, 02: Not Available 01: Available	Setting must change to "01" before operation.
E1	All Fresh Operation [1]	00: Not Available 01, 02: Available	Able to fully open the outdoor air damper
E2	Enthalpy Sensor [1]	00: Not Available 01: Available	Enthalpy Sensor Input can be set.
E4	CO_2 Gas Sensor [1]	00: Not Available 01, 02: Available	CO_2 Gas Sensor Input can be set.
d7	Damper Minimum Opening [2]	00: Step1 (5%) 01: Step2 (9%) 02: Step3 (13%) 03: Step4 (17%) 04: Step5 (21%) 05: Step6 (25%) 06: Step7 (29%) 07: Step8 (34%)	Outdoor Air damper minimum opening selection Values in ( ) represent OA airflow volume ratio. However, this ratio will change by duct installation. For example if the OA intake duct is long then the ratio becomes small. NOTE: When the opening is bigger, the outdoor air intake increases and this become additional load.

1. Automatic heating/cooling operation and setback operation are not available with the function. Setting value should be set to "00".
2. Setting value should be set to "00" during automatic heating/cooling operation or setback operation. Higher step may increase the load and affect the air outlet temperature of other standard indoor units.

NOTE

If this unit is operated without enabling the EconoFresh Pressure Mode, then the airflow volume becomes insufficient and it will not operate effectively.

7. Automatic Control

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

The system is equipped with the following functions.

Three-Minute Guard		▪ 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 has 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 the 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.

8. Maintenance

⚠ WARNING

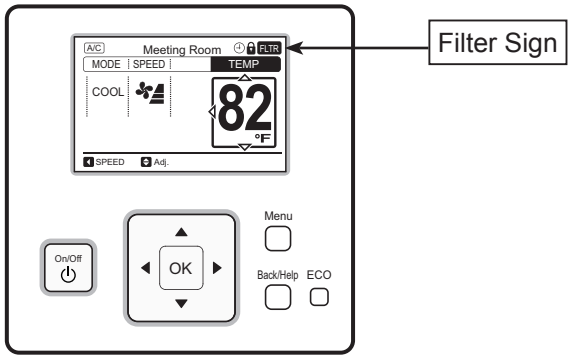
- Turn OFF the power source before any maintenance work. If the power source is not turned OFF, the result may be an electric shock or fire.
- Perform the maintenance work with a stable foothold or foundation. This may prevent falling or injury.

⚠ 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.

8.1 Cleaning Air Filter

Clean the air filter when the filter sign is turned ON.



NOTICE

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

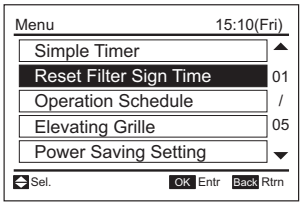
(1) The indication "FLTR" is shown on the LCD of wired controller after the time is set on the wired controller. (Default filter time for the ducted units is 1200 hours.)

(2) Reset the filter sign.

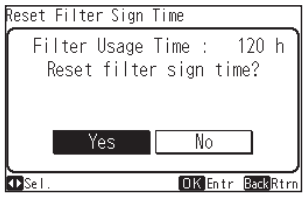
NOTE

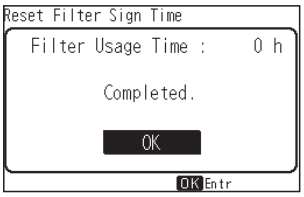
If the accumulated operation time is shorter than the filter sign setting, the indication "☒" is turned ON and "Setting Disabled" is displayed.

- 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.





8.2 Maintenance

Beginning of Start Up

- 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 and dirt.

Regular Maintenance

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

9. Troubleshooting

9.1 This is Normal

Phenomenon		Cause and Action
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 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 a 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 air-flow volume is changed.	It is generated because the fan motor makes a temporary sound when the fan speed changes.
Condensation on Cabinet	Condensation or Dew drops	This might occur when the operation is performed in a humid place (relative humidity is approx. 70%) for a long time.
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 operation conditions.
Operation Mode on LCD is Flashing		

9.2 Before Contact

Refer to the information below before contacting a contractor.

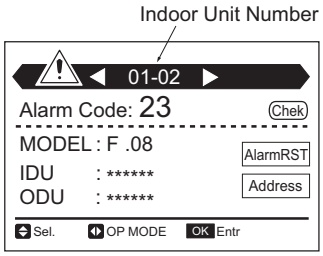
Trouble		Check Point	Action
Operation Unavailable		Check that the main power source is turned ON.	Turn ON the main power source for the air conditioner.
		Check that the fuse is not blown or the circuit breaker of the main power source tripped.	Replace the fuse or reset the circuit breaker. If the trouble 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 air flow.
		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 "△" or "▽" by the wired controller.
		Check that the airflow direction is correct.	If not, change the air flow direction. In case the footing is not heated well during the heating operation, change the air flow direction downward.
		Check that the air filter is not clogged.	Clean the air filter.
		Check that a window or a door is not opened.	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.
		Check that the damper of the EconoFresh Kit open and closes.	Replace the relay wiring. Change the damper minimum opening.

9.3 Contact Distributor

If a problem still remains even after checking previous issues or other problems not mentioned in the previous issues occur, stop using the product and contact your distributor or contractor.

⚠ WARNING

If an abnormality such as a burnt odor or something similar occurs, stop the operation and turn OFF the main power source immediately. If the power source is not turned OFF, there may be damage to the product, an electric shock or a fire.
Contact your distributor or contractor.

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.
● 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. ● In a case where multiple indoor units are connected to one controller, the above abnormality information for each indoor unit is displayed individually. Check the details on the LCD and contact your distributor. 	Refer to the alarm code table. Contact your distributor and advise the indication detailed on the wired controller.

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

9.4 Alarm Code

Code	Category	Content of Abnormality
01	Indoor Unit	Activation of Protection Device
02	Outdoor Unit	Activation of Protection Device (High Pressure Cut)
03	Communication	Operational Irregularities between Indoor and Outdoor
04		Problem between Inverter PCB and Outdoor PCB
05	Supply Phase	Problem of Power Source Phases
06	Voltage	Abnormal Voltage Drop in Outdoor Unit
07	Cycle	Decrease in Superheated Discharge Gas
08		Increase in Discharge Gas Temperature
09	Outdoor Unit	Activation of Protection Device for Outdoor Fan
11	Sensor on Indoor Unit	Inlet Air Thermistor Failure
12		Outlet Air Thermistor Failure
13		Freeze Protection Thermistor Failure
14		Gas Piping Thermistor Failure
15		Outdoor Thermistor Failure
19	Fan Motor	Activation of Protection Device for Indoor Fan
20	Sensor on Outdoor Unit	Compressor Thermistor Failure
21		High Pressure Sensor Failure
22		Outdoor Air Thermistor Failure
23		Discharge Gas Thermistor Failure
24		Evaporating Thermistor Failure
29		Low Pressure Sensor Failure
31	System	Incorrect Capacity Setting of Outdoor Unit and Indoor Unit
32		Incorrect Setting of Other Indoor Unit Number

Code	Category	Content of Abnormality
35	System	Incorrect Setting of Indoor Unit No.
38		Problem with Protective Pickup Circuit in Outdoor Unit
39	Compressor	Problem with Running Current at Constant Speed Compressor
41	Pressure	Overload Cooling
42		Overload Heating
43	Protection Device	Activation of Pressure Ratio Decrease Protection Device
44		Activation of Low Pressure Decrease Protection Device
45		Activation of Low Pressure Increase Protection Device
46		Activation of High Pressure Increase Protection Device
47		Activation of High Pressure Decrease Protection Device
48		Activation of Overcurrent Protection Device
51	Inverter	Problem with Inverter Current Sensor
52		Activation of Inverter Overcurrent Protection
53		Activation of Transistor Module Protection
54		Abnormality of Inverter Fin Temperature
56	Outdoor Fan	Abnormality of Detection for Fan Motor Position
57		Activation of Fan Controller Protection
58		Abnormality of Fan Controller
b0	System	Incorrect Setting of Unit Capacity
b1		Incorrect Setting of Unit and Refrigerant Cycle No.
EE	Compressor	Compressor Protection Alarm

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