

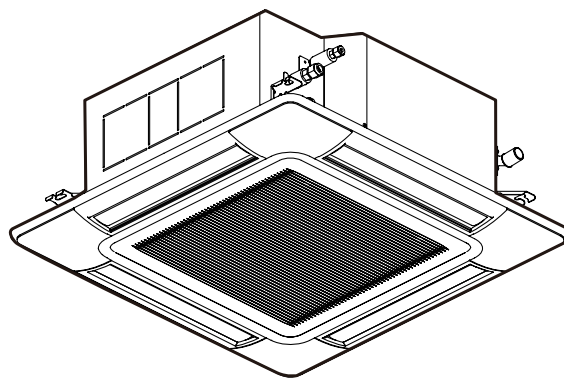
Operation Manual

INVERTER-DRIVEN MULTI-SPLIT SYSTEM HEAT PUMP AIR CONDITIONERS

Type	Model
4-Way Cassette	(H,Y,C)IC4008B21S
	(H,Y,C)IC4012B21S
	(H,Y,C)IC4015B21S
	(H,Y,C)IC4018B21S
	(H,Y,C)IC4024B21S
	(H,Y,C)IC4030B21S
	(H,Y,C)IC4036B21S
	(H,Y,C)IC4048B21S

IMPORTANT:

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



P5417055

Important Notice

- Johnson Controls Inc. pursues a policy of continuing 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 was 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 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 has been 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.



Forward this manual and the warranty to the next team of installers and then users.

Ask them to keep this manual with the air conditioning unit.


(Refrigerant Piping Work) → (Electrical Wiring Work) → (Ref. Charge Work) → (Test Run) → (User)

- For details on wiring between the indoor unit and the outdoor unit, refer to the installation and maintenance manual for the outdoor unit.
- For details on the optional decorative panel, refer to the installation and maintenance manual for the optional decorative panel.
- For details on the optional controller, refer to the installation and maintenance manual for that optional controller module.
- For details on each optional part, refer to the installation and maintenance manual for each optional part.
- For central controller, refer to the installation and maintenance manual for the central controller.

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 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, equipment damage or property damage;
 - Will void product warranties;
 - May invalidate product regulatory certifications;
 - May violate OSHA standards;

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.
- 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, the 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.

NOTICE

- Air circulation should be optimized to achieve the best distribution pattern and not settled into isolated pockets that can make people uncomfortable.

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.

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.

CAUTION

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

NOTICE

- When cleaning the lens surface of the motion sensor, do not make unnecessary contact as the lens can be easily scratched.

3. Before Operation

NOTICE

Apply power to the outdoor unit(s) at least 12 hours prior to system operation to allow for preheating of the compressor oil. Do not start the system immediately without preheating the compressor. Otherwise, the compressor can be damaged. Check that the outdoor unit is free of ice and snow cover. If snow covered, remove with hot water at (122°F or 50°C). If hot water temperature is higher than 122°F (50°C), it can 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 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 Operating 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)
	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.

3.2 Efficient Use of Indoor Unit

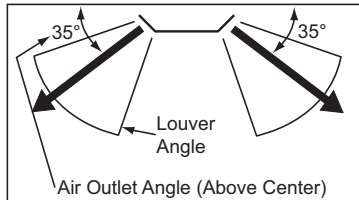
- **Do not leave windows or doors open.**
Operating efficiency is degraded.
Condensation and related problems can result. (Ventilate a room sufficiently too.)
- **Attach a curtain or a blind to a window.**
Direct sunlight is blocked, and the cooling efficiency is enhanced.
- **Avoid using heating equipment during the cooling operation as much as possible.**
Cooling efficiency is decreased. It may cause dew condensation and dew.
- **Use the built-in circulating fan, if warm air tends to remain around the ceiling.**
Comfort is increased. Contact your distributor for the 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.**
You are billed for excess electrical consumption while the unit rests in standby mode.

3.3 Efficient Use of Cooling and Heating

COOLING

(1) Airflow Direction

The appropriate air outlet angle is approximately 35°. If cooling is not sufficient, change the airflow direction. Each louver angle can be changed approximately 5° per step by the wired controller.



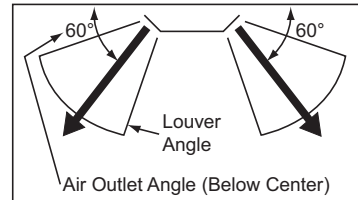
(2) Airflow Volume

"AUTO" is usually used. If the airflow volume is set as "HIGH" or "Low", freeze protection operation is activated and cooling and fan operation is performed in turn.

HEATING

(1) Airflow Direction

The appropriate air outlet angle is approximately 60°. If heating is not sufficient, change the airflow direction. Each louver angle can be changed approximately 5° per step by the wired controller.



(2) Airflow Volume

"AUTO" is usually used.

NOTE

For Multi-Split Systems

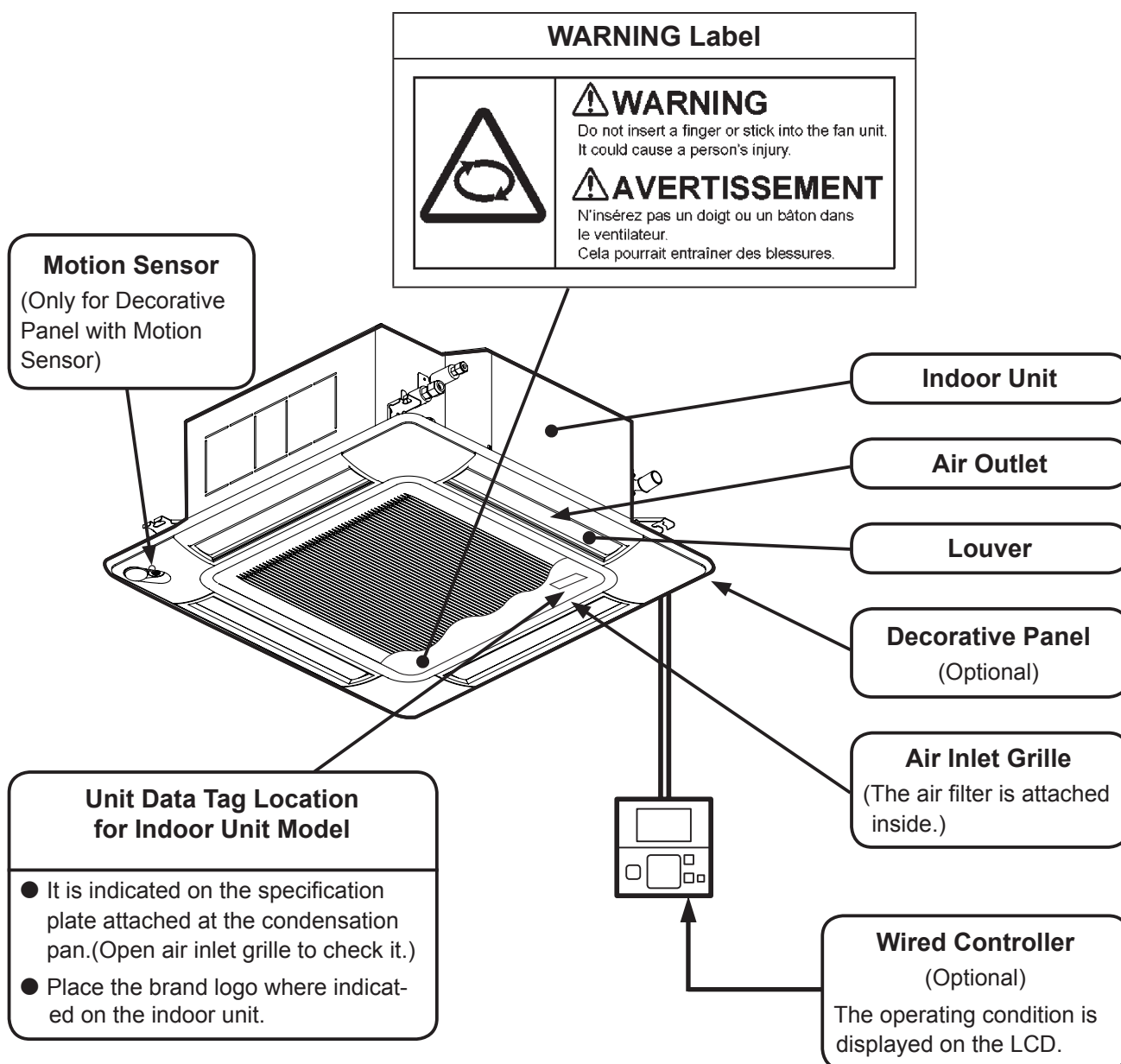
When the number of the indoor units in operation or the operating mode is changed, the change in air outlet temperature can cause the indoor temperature to change. In this case, adjust the settings as follows.

- During Cooling Operation: Lower the setting temperature slightly.
- During Heating Operation: Raise the setting temperature slightly.

4. Name of Parts and Indication of Safety Consideration

Safety labels are affixed to the indoor unit in order to ensure safe use.
Read and understand this manual before using the indoor unit.

4.1 Indoor Unit

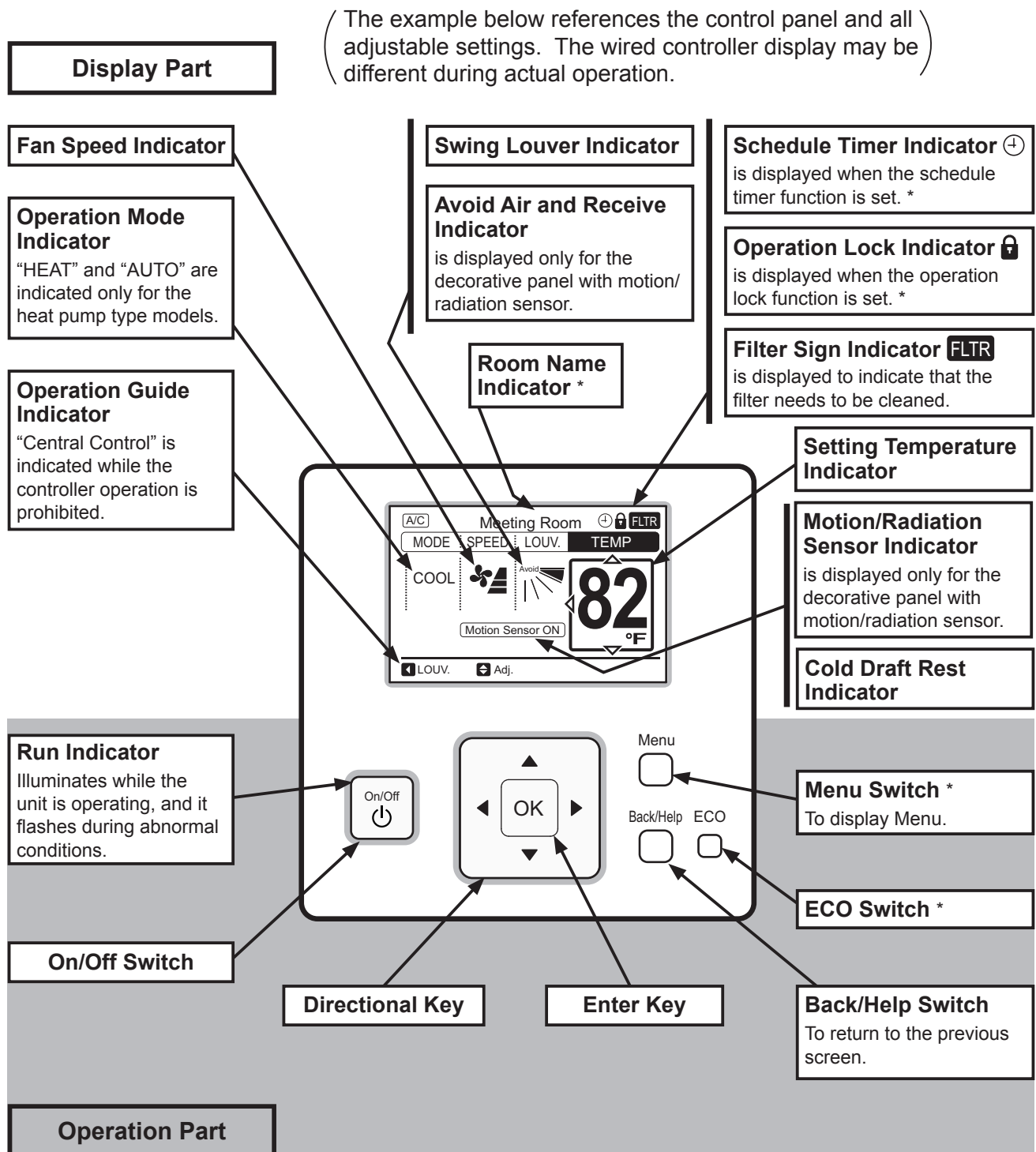


NOTE

- Press switches lightly to control the wired controller. Do not press them with a sharp object such as a pen, as it could cause damage to the controller.
- Review the installation manual for the optional Wireless Controller and Receiver Kit.

4.2 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.


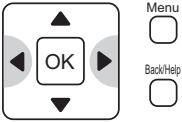
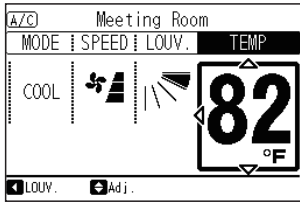
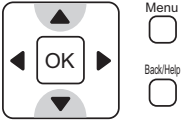
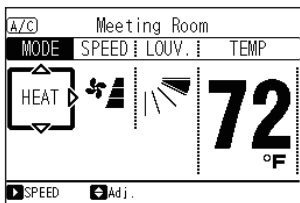


NOTE

* For detailed descriptions, refer to the "Operation Manual" for the wired controller.

5. Operation Method

5.1 Basic Operation

<p>Item Selection</p>	<p>By pressing “◀” or “▶”, the icon “” will move between “MODE”, “SPEED”, “LOUV.” and “TEMP”.</p>		
<p>Change of Settings</p>	<p>With “MODE”, “SPEED”, “LOUV.” or “TEMP” selected, press “Δ” or “∇”. The setting is changed.</p>		

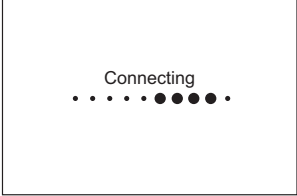
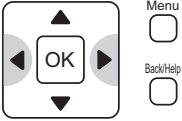
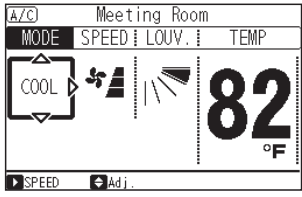

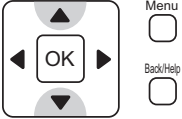
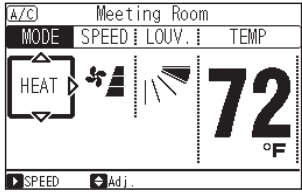
5.2 Cooling / Heating / Fan Operation

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

Function

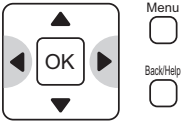
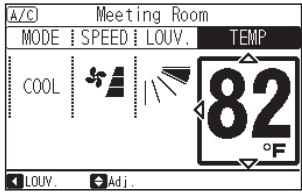
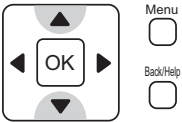
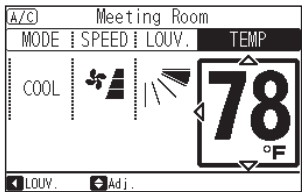
- * Cooling Operation: To decrease room temperature.
- * Heating Operation: To increase room temperature.
- * Dry Operation: To decrease humidity in the room.
- * Fan Operation: To increase air circulation in the room.

- Dry operation may not run properly if there are other heat sources that exceed the capacity of the unit.
- The control of humidity is unavailable for this unit. If you require dehumidification and the control of humidity, choose specialized equipments.
- In cases where individual settings are used, the ability to reduce humidity levels during the Dry Operation function might not be available.

Before Operation	<p>Turn ON the power supply. Turn ON the main power for approximately 12 hours before operation in order to preheat the compressor.</p> <p>Do not turn OFF the main power to 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> 		


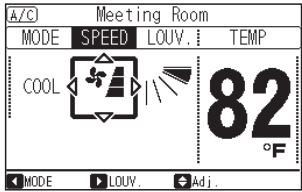


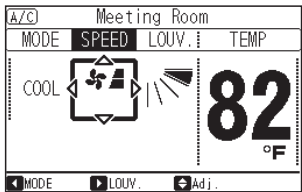
- Automatic heating/cooling operation requires extra settings. Contact your distributor or contractor for details.

5.3 Temperature Setting

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


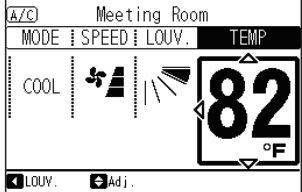
- In case that the optional function "Automatic Reset of Setting Temperature" is set:
Even if changing the setting temperature on the wired controller, it automatically returns to the set temperature by "Automatic Reset Temperature" after a set time.
- The minimum/maximum temperature settings can be changed by adjusting the lower limit for set temperature for cooling (or the upper limit for setting temperature for heating) from the function selection.
- Contact your distributor or contractor for details on optional functions "Automatic Reset for Setting Temperature," "Cooling Lower Limit for Set Temperature" and "Heating Upper Limit for Set Temperature."

5.4 Fan Speed

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


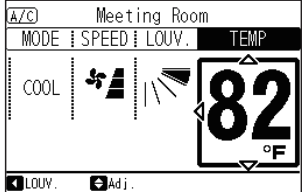
- During the dry operation, the fan speed is automatically adjusted to "LOW" and cannot be changed to any other fan speed. ("LOW" is NOT displayed on the LCD (Liquid Crystal Display) at this time. The present setting condition is displayed on the LCD.)
- The fan speed setting "HIGH 2" may not be available depending on the indoor unit type.

5.5 Operation

Operation Start	Press "⏻ On/Off". The RUN indicator is turned ON and the operation will start.		
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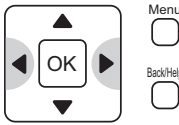
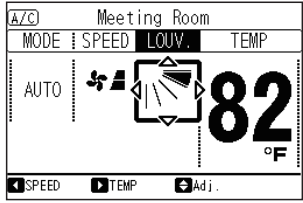
Temperature/Airflow Setting

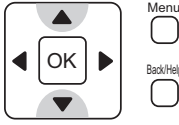
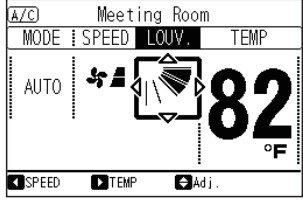
- The setting is stored. Therefore, no daily setting is required. In a case where a setting change is required, refer to Sections 5.2 to 5.4.









Operation Stop	Press "⏻ On/Off" again. The RUN indicator is turned OFF and the operation will stop.		
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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.


5.6 Louver Swing Direction

1	<p>Press "On/Off". Make sure that the operation is started. Press "◀" or "▶" and select "LOUV".</p>		
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2	<p>By pressing "Δ" or "▽", the louver direction are changed as follows.</p>		
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Step	1	2	3	4	5	6	7	-
LCD Indication								
Louver Angle	Approx. 25°	Approx. 35°	Approx. 42°	Approx. 49°	Approx. 55°	Approx. 60°	Approx. 65°	
FAN		Recommended Angle		Angle Range				
				Auto-Swing Range				
Louver Angle	Approx. 25°	Approx. 35°	Approx. 42°	Approx. 49°	Approx. 55°	Approx. 60°	Approx. 65°	
COOL and DRY		Recommended Angle		Angle Range		(※)	(※)	
				Auto-Swing Range				
Louver Angle	Approx. 30°	Approx. 35°	Approx. 41°	Approx. 47°	Approx. 53°	Approx. 60°	Approx. 66°	
HEAT				Angle Range		Recommended Angle		
				Auto-Swing Range				

NOTE:
 Even if 60° or 65° is selected during cooling and drying operations, the louver angle is automatically fixed at 55°.
 (※) If "Individual Louver Setting" mode is used, a louver setting of 60° or 65° can be corrected.

 : Auto-swing operation is activated.
 At this time, the animated louver graphic on the LCD appears to swing.

- The louver angle indicated on the LCD and the actual louver angle do not correspond precisely with each other during auto-swing mode operation. When the louver angle is established, set the louver angle according to the louver position indicated on the LCD.
- Louver movement may NOT stop immediately after the switch is pressed.

5.7 Individual Louver Setting

Function

- This setting is available only for indoor models equipped with the individual louver.
- Each louver angle can be set individually.

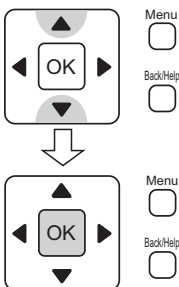
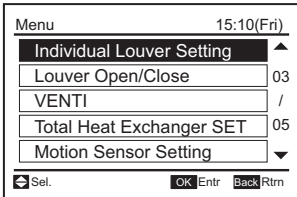
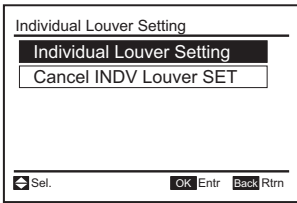
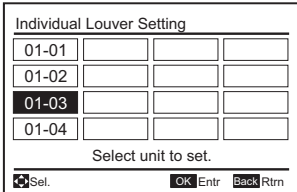
Example

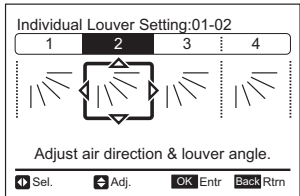
Units equipped with Auto-Swing have a set of options to allow for airflow adjustment from vertical to horizontal.


NOTICE


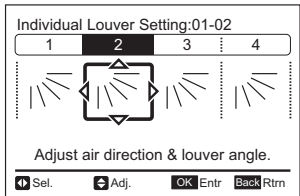
- This function cannot be set while the unit is not in operation.
- After the individual louver setting is set during the heating operation, the louver angles can be adjusted automatically to 25°. Louver angles assume this setting after a short period of time.
- Fan speed slows down to “LOW” while this function is being set. (After the setting process is completed, the unit operation returns to normal speed.)
- As for “Start-up of Heating Operation”, “During Defrost Operation” and “Activation of Thermistors”, all louver angles become fixed at 25° automatically, even when this function is set.
- This function is not displayed if 2 (two) controllers (including wired controller + wireless controller) are used.
- Less than 16 units can be set to Individual Louver Setting per wired controller.

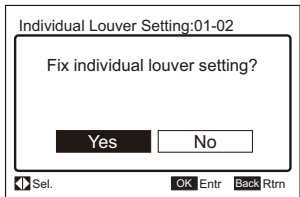
5.7.1 Individual Louver Settings

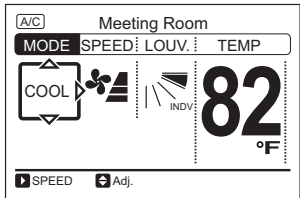
1	<p>Press “Menu”.</p> <p>Select “Individual Louver Setting” from the menu by pressing “Δ” or “▽” and press “OK”.</p> <p>The individual louver setting menu is displayed.</p>		
2	<p>Select “Individual Louver Setting” from the individual louver setting menu and press “OK”.</p> <p>The connected indoor units selection for the individual louver setting will be displayed.</p> <p><u>NOTE:</u></p> <p>If the connected indoor unit is one (1) in the system, the louver direction setting at the procedure “4” is displayed.</p>		
3	<p>Select the indoor unit to change the louver direction by pressing “Δ”, “▽”, “◀” or “▶”. Press “OK”.</p> <p>The louver direction setting is displayed.</p> <p><u>NOTE:</u></p> <p>The indoor unit displayed on the screen flashes when the individual louver is set.</p>		

4	Press “◀” or “▶” and select the louver direction from 1 to 4 (as shown). The selected louver is opened and the other louvers are seen horizontally.	
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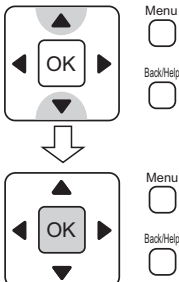
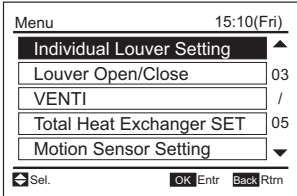
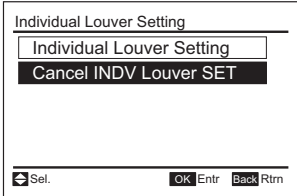
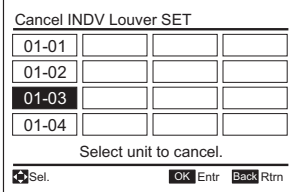
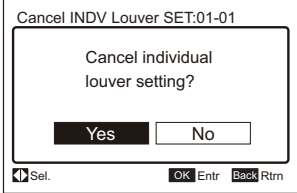
- If the louver position is hard to distinguish, press “△” or “▽” to set the position .
- In the default setting, the number-one louver is on the electrical box. Looking up from underneath the unit, the louver numbers run in a clockwise direction: numbered "one", "two", "three", and "four". The louver number can also be changed. Contact your distributor for details.

5	<p>Select the louver angle by pressing “△” or “▽” and press “OK”. The confirmation screen is displayed. The louver angle is changed as shown below.</p>  <p><u>NOTE:</u> The louver direction without “INDV” complies with the normal mode setting.</p>	
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6	Select “Yes” by pressing “◀” or “▶” and press “OK”. The setting is confirmed and the screen returns to the normal mode.	
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7	Verify that “INDV” is turned on at the airflow section on the normal mode.	
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5.7.2 Cancellation of Louver Setting

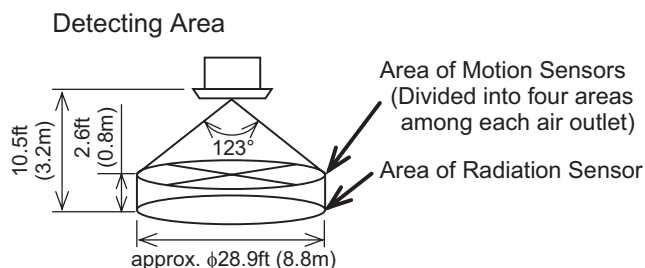
1	<p>Press “Menu”.</p> <p>Select “Individual Louver Setting” from the menu by pressing “△” or “▽” and press “OK”.</p> <p>The individual louver setting menu is displayed.</p>		
2	<p>Select “Cancel INDV Louver SET” from the individual louver setting menu and press “OK”.</p> <p>The connected indoor units selection of the cancelled louver setting is displayed.</p> <p><u>NOTE:</u></p> <p>If the connected indoor unit is one (1) in the system, the cancel individual louver setting at the procedure “4” is displayed.</p>		
3	<p>Select the indoor unit to cancel by pressing “△”, “▽”, “◁” or “▷”. Press “OK”.</p> <p><u>NOTE:</u></p> <p>The indoor unit displayed on the screen flashes when the individual louver is set.</p>		
4	<p>Select “Yes” by pressing “◁” or “▷” and press “OK”. The individual louver setting is canceled and the screen returns to the normal mode.</p> <p><u>NOTE:</u></p> <p>All the individual louver settings are canceled.</p>		

5.8 Motion Sensor

5.8.1 Function

The decorative panel (P-AP160NAE1) is equipped with four motion sensors and one radiation sensor.

- **Motion Sensor**
These sensors can detect human activity by measuring the level of change in infrared light emitted by humans or objects.
- **Radiation Sensor**
These sensors can detect the radiation temperature of humans or objects by measuring the level of infrared light emitted by humans or objects.



Function 1 Automatic Capacity Save Operation

This function can automatically perform the capacity save operation by a human activity in the air-conditioned area. If there is insufficient or absence of human activity in the air-conditioned area, the motion sensors detect it and save the air conditioning capacity. In addition, after the motion sensors detect absence for the period, the operation mode is changed to “If absent”.

- **During Capacity Save Operation**
 - * **Setting Temperature:** The temperature is adjusted 2° or 3°F (1° or 2°C) for saving capacity.
 - * **Airflow Volume:** The airflow volume is lowered to one step or to “Slow”. (except during “dry” operation).
 - * **Airflow Direction:** The louver angle of controlling airflow direction is adjusted horizontally or downward depending on the operation conditions.
- **If absent**
The unit performs the operation set by the controller. Refer to Section 5.8.2, “Descriptions for Setting Items”.

NOTICE

- Do not use the motion sensor function in situations where there is a disabled person or an infant. The motion sensor may detect little motion for a long time as absence, and the operation may be stopped.
- The motion sensor detects human activity. If someone is in a room with little motion, the motion sensor may detect an absence.
- The motion sensor may detect as human activity if the indoor unit with the motion sensor is installed near a moving object (ex. swing operation of the heating equipment) which creates a difference in temperature in the room.
- The indoor unit operation can be stopped by the motion sensor control.

NOTE:

Indoor units with and without motion sensors can be integrated together into a system installation.

In this case, when the operation is stopped by the motion sensor control, the indoor unit without the motion sensor also stops the operation.

When the total heat exchanger is interlocked with the indoor unit motion sensor, the total heat exchanger can be stopped with the indoor unit under the following condition:

- * The operation mode of the total heat exchanger is set to A/C + VENTI and “If absent” is set to STOP. However, the total heat exchanger operation mode is “VENTI”, it cannot be stopped even if the “If Absent” setting is set to “Stop”. This is so because during the “VENTI” operation of the total heat exchanger, the indoor unit is not activated (because the motion sensor is not active).
- While air conditioning capacity is saved or operation is stopped by the motion sensor control, “Motion sensor is activated” is displayed on the LCD.
- If the function: “Prohibiting operation by controller”, is activated from the centralized controller, select the command: “Running” or “Standby” inside the “If absent” condition at the motion sensor controls setting. If the command “Stop” is selected, motion sensor control is lost and cannot be performed correctly as follows:
 - * In the case that “If absent: Stop” of motion sensor setting is set by the controller and “Prohibiting operation by controller” (for all items) is set by the centralized controller, the operation can not be stopped even if in the indoor unit operation stoppage condition of “If absent: Stop”.
 - * In the case that “If absent: Stop” of motion sensor setting is set and “Prohibiting operation by controller” (for part of items) is set by the centralized controller, the indoor unit operation is stopped by the motion sensor control. However, the indoor unit operation cannot be restarted from the centralized controller.

Function 2 Adjusting Capacity by Increase or Decrease in the Number of People

- (1) In instances where people are gathered within or are beyond the range of the motion sensor. The air conditioning capacity is adjusted by the automatic setting temperature correction depending on human activity and movements of a heat source in the detecting area of the motion sensor .

Cooling or Dry Operation	Increase in the number of people	The setting temperature is adjusted from -2°F to -3°F (-1°C to -2°C).
	Decrease in the number of people	The setting temperature is adjusted from +2°F to +3°F (+1°C to +2°C).
Heating Operation	Increase in the number of people	The setting temperature is adjusted from -2°F to -3°F (-1°C to -2°C).
	Decrease in the number of people	The function is invalidated.

- (2) The adjusted setting temperature will return to normal setting temperature after 10 to 30 minutes, depending on the conditions.

NOTICE

- If human activity and movements of a heat source are small, the motion sensor cannot detect them.
- If room temperature is high and there is little difference between the radiation temperature of walls, floor space, and humans, the motion sensor may not detect increase or decrease in the number of humans. (For example: The cooling operation is performed with a setting at 86°F (30°C) in the summer season.)
- During the “Capacity Save” and “If absent” phase of operation of Function 1, the Function 2 is unavailable.

5.8.2 Descriptions for Setting Items

- Motion Sensor Setting

The operation mode for activations of functions 1 and 2 can be selected as follows:

- * “ALL MODES” : Functions 1 and 2 are available when the operation mode is “COOL”, “DRY”, “HEAT”, or “FAN”.
- * “COOL + DRY”: Functions 1 and 2 are available when the operation mode is “COOL”, “DRY”, or “FAN”.
- * “HEAT” : Functions 1 and 2 are available when the operation mode is “HEAT”.
- * “OFF” : Functions 1 and 2 are not available.

(The default setting is “ALL MODES”).

- If absent

The operation mode for activations during the automatic capacity save operation for Function 1 can be selected from “Running”, “Stand-by”, or “Stop” on the wired controller. It is set for the indoor unit operation after the motion sensor detects as an absence for the set time in “Check Interval”.

- * Running:

The operation continues with saving the capacity after being detected as an absence.

If human activity is detected over a period of time, normal operation is performed again.

- * Stand-by:

The operation mode is the fan operating at “Slow” speed. If human activity is detected for a period of time, normal operation is performed again.

- * Stop:

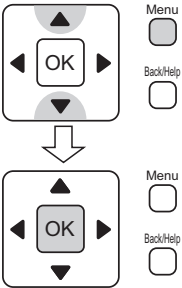
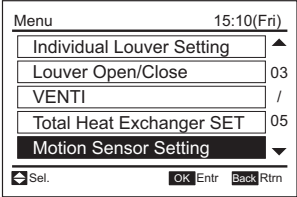

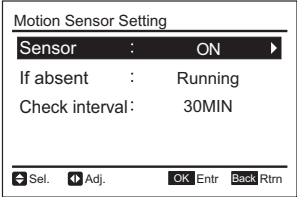
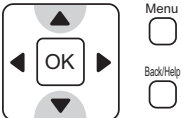
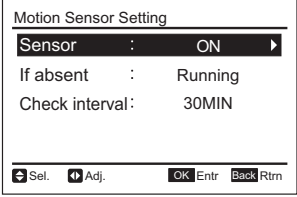

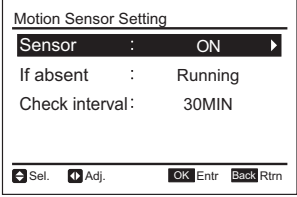

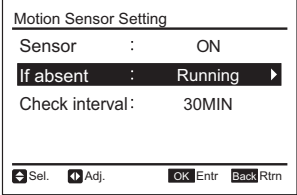
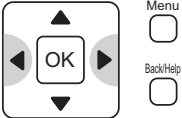
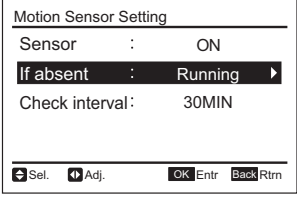
The operation is stopped by the wired controller when all the indoor units with motion sensor detect an absence that is connected with the same wired controller. If human activity is detected for a period of time by the stoppage, normal operation is performed again.

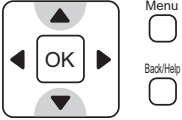
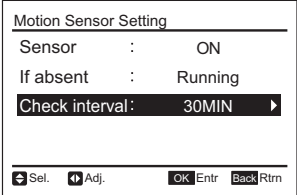

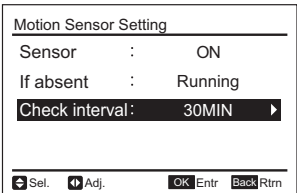
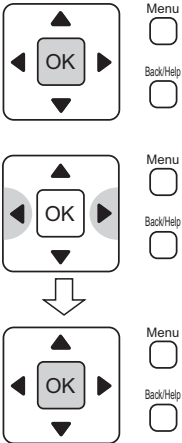
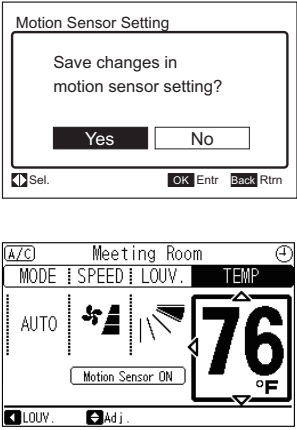
- Check Interval

When the motion sensor detects an absence at a selected check time interval, the function “If absent” (Function 1) is executed. The interval can be selected from choices ranging from: 30, 60, 90, 120, or 180 minutes.

(The default setting is 30 minutes.)

5.8.3 Setting the Motion Sensor

1	<p>Press "Menu". Select "Motion Sensor Setting" from the menu by pressing "△" or "▽" and press "OK".</p>		
2	<p>"Motion Sensor Setting" is displayed. The highlighted item changes to "Sensor", "If absent", and "Check interval" by pressing "△" or "▽".</p> <ul style="list-style-type: none"> To set "Sensor", go to procedure "3". To set "If absent", go to procedure "5". To set "Check interval", go to procedure "7". 		
3	<p>Press "△" or "▽" and select "Sensor".</p>		
4	<p>The display is switched "ON" and "OFF" in order by pressing "◀" or "▶" and change the setting. If other settings are not required, go to procedure "9".</p>		
5	<p>Press "△" or "▽" and select "If absent".</p>		
6	<p>The display changes to "Running", "Stand-by" and "Stop" in order by pressing "◀" or "▶" and change the setting. If other settings are not required, go to procedure "9".</p>		

7	Press "△" or "▽" and select "Check interval".		
8	The display will display: "30MIN", "60MIN", "90MIN", "120MIN", and "180MIN" in order by pressing "<" or ">" to change the setting. If other settings are not required, go to procedure "9".		
9	Press "OK" after the setting is made. The confirmation screen is displayed. Select "Yes" by pressing "<" or ">" and press "OK". The motion sensor setting is confirmed and the screen returns to normal mode (operation mode indicator).		

NOTICE

If more than two controllers are utilized, use the main controller only to set the motion sensor.

5.9 Comfort Setting

5.9.1 Setting of "Control Cool Air" (Cold Draft Control during Cooling Operation)

(1) Function

This function controls the overcooling airflow to prevent of cold draft.

(2) Setting Items

* OFF : This function is not available.

* LOW : The over-cooling airflow temperature is controlled low degree.

* MID : The over-cooling airflow temperature is controlled medium degree.

* HIGH : The over-cooling airflow temperature is controlled high degree.

(The default setting is "OFF")

(3) Supplement of Function

• The discharge air temperature is elevated higher in "HIGH" > "MID" > "LOW" order.

• The recommended discharge air temperature setting is "LOW". (When feeling cold at "LOW", change the setting to "MID" or "HIGH".)

* This function also reduces the formation of dew condensation on the decorative panel when the discharge air temperature is lower than the inlet air temperature in a very humid room.

(The recommended discharge air temperature setting is "LOW".)

NOTICE

- The "Control Cool Air" function may not have much effect depending on the operating conditions of the outdoor unit.
- In case one outdoor unit is connected to multiple indoor units and the rate of these indoor units which are equipped with the "Control Cool Air" function is low, this function may not have much of an effect.
- When this function is set, it may take a few minutes to cool the entire room.
- While this function is activated, "Cold draft rest." is displayed on the LCD control panel of the wired controller.

5.9.2 Setting of Avoid Air and Receive

(1) Function

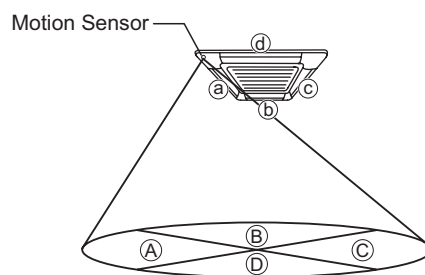
This function automatically activates the louver under the setting of "Avoid Air" or "Receive" when the motion sensor detects human activity.

(The "Avoid Air" setting is the reduction of airflow set by the wired controller.

The "Receive" setting allows airflow set by the wired controller.

Each Detection Area: (A) to (D), corresponds to each area (a) to (d) as shown on the right.

■ Detecting Area of Motion Sensor



(2) Descriptions for Setting Items

Louver in COOL (Louver Activation at Cooling Operation)

Louver in HEAT (Louver Activation at Heating Operation)

• NORMAL: The function is not activated.

(The louvers are situated in the setting directions on the main menu.)

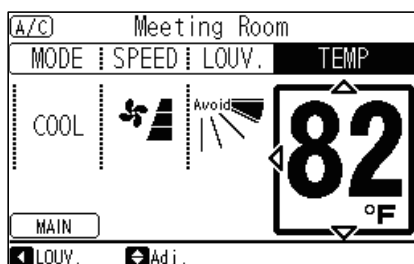
• AVOID AIR: The louver angle is automatically adjusted to the highest angle if human activity is detected by the motion sensor.

• RECEIVE: The louver operation is automatically changed to "AUTO" (Auto-Swing) mode if human activity is detected by the motion sensor.

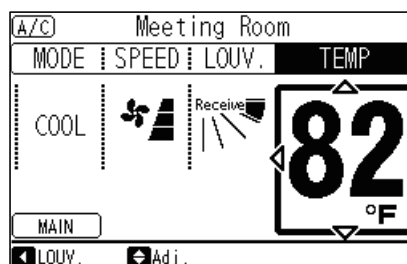
(The default setting is "NORMAL".)

(3) Supplement of Function

- The louver angle is adjusted by the motion sensor to compensate for the presence or absence of human activity and can be set for manual override at the wired controller.
- Each of the four louvers can move independently of the others.
- When the motion sensor detects continuous human activity, louver operation remains at: “Avoid Air” or the “Receive” setting.
- If the motion sensor detects an absence of human activity for 15 minutes or longer, louver angles can be adjusted to the “Avoid Air” or “Receive” settings to save on energy consumption or manually overridden from the wired controller.
- The commands: “Avoid Air” and “Receive” are shown on the LCD display as variations of angular louver positioning. See below:



Avoid Air



Receive

NOTICE

- The function diminishes to (sleep mode) in times of sparse human activity. To reactivate, stand up and begin walking.
- Objects with higher temperature signatures can be mistaken for humans and can activate this system function.
- Louver settings: “Avoid Air” or “Receive” in FAN or DRY operations are the equivalent settings for the “Louver in COOL”.

5.9.3 Setting of “Floor HEAT Control” (Radiation Sensor during Heating Operation)

(1) Function

If a steep temperature difference is detected between the radiation temperature and the setting temperature, this function heats the entire room efficiently by adjusting airflow direction and airflow volume.

(2) Descriptions for Setting Items:

The setting of “Floor HEAT Control”

- OFF: This function is unavailable.
- ON: This function is available.

(The default setting is OFF.)

(3) Supplement of Function

- When this function is activated, airflow direction is directed downwards and the airflow volume changes to “AUTO”.
- This function continues to be active for 20 to 60 minutes, depending on the difference between the ambient air temperature and the set temperature.
- This function will repeat, depending on the temperature difference between a radiation temperature and the setting temperature.

NOTICE

- If the radiation temperature (Floor Temperature) in the detecting area is low, this function may be activated frequently.
- This louver direction is downward during this function. Avoid a cold draft from a direct airflow by setting function “Individual Louver Setting” or “Avoid Air”.
- During the activation of this function, “Floor HEAT control” is indicated on the LCD.

5.9.4 Useful Tips on Setting the Swing Louver Direction

The swing louver direction can be varied according to each set function. If the set airflow direction is not comfortable, refer to the following descriptions and adjust the airflow direction.

Order of Priority for Setting the Swing Louver Direction

HIGH



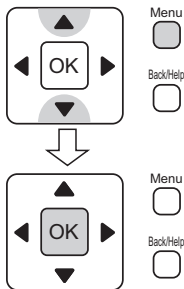
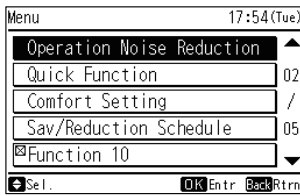
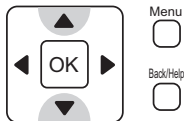
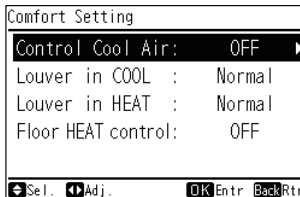
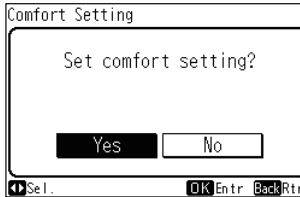
LOW

- Capacity save operation (Function 1) set as “Motion Sensor Setting”.
- Setting of “Individual Louver Setting”
- Swing louver direction at detecting human activity side by “Avoid Air” and “Receive” function.
- Setting of “Floor HEAT Control”
- Louver direction set on the main menu of a wired controller.

NOTICE

If two wired controllers are utilized, the comfort setting is available by using the wired controller 1 only.

5.9.5 Creating Comfort Settings

1	<p>Press "Menu".</p> <p>Select "Comfort Setting" from the menu by pressing "△" or "▽" and press "OK".</p>		
2	<p>"Motion Sensor Setting" is displayed. The highlighted item is changed to "Control Cool Air", "Louver in COOL", "Louver in HEAT" and "Floor HEAT control" by pressing "△" or "▽".</p> <p>After selecting set item, set function by pressing "◁" or "▷". Setting details are as shown below.</p> <ul style="list-style-type: none">Control Cool Air: "OFF" ↔ "LOW" ↔ "MED" ↔ "HI"Louver in COOL: "Normal" ↔ "Avoid Air" ↔ "Receive"Louver in HEAT: "Normal" ↔ "Avoid Air" ↔ "Receive"Floor HEAT Control: OFF ↔ ON		
3	<p>Press "OK".</p> <p>The confirmation screen is displayed. Select "Yes" by pressing "◁" or "▷" and press "OK".</p> <p>The "Comfort Setting" is completed and the LCD indication returns to the normal mode.</p>		

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

5.10 Automatic Heating/Cooling Operation

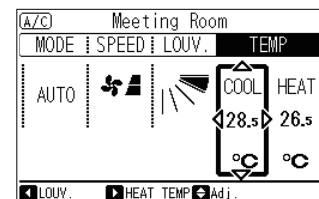
In case dual setpoint is selected in automatic heating/cooling operation, during auto mode both cooling setpoint and heating setpoint can be selected.

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

5.11 Setback Operation

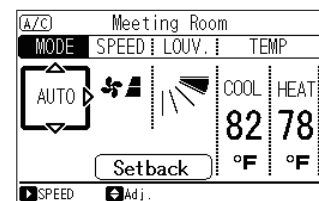
If the setback operation is enabled and the card key is removed, the louver starts to open in approximately 5 seconds, the setpoint is adjusted for setback, and the fan operates at "Low" speed. During this time, "Setback" is displayed on the LCD.

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 conditioner automatically starts the following operations according to the conditions.

The system is equipped with the following functions:

Three-Minute Guard		<p>Enforced Stoppage: The compressor remains OFF for at least three minutes once it has stopped. If the system is restarted 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.</p> <p>Enforced Operation: If all indoor units of a system are Thermo-OFF within approximately three minutes after the compressor has started, compressor operates continuously during those three minutes. However, if all indoor units of a system are stopped by a controller, compressor is stopped.</p>
Cooling and Dry	Frost Prevention	When the indoor unit is operating at a low discharge air temperature, the cooling operation may be changed to a fan operation for a while to avoid frost formation on the indoor heat exchanger.
	Self-Cleaning of Expansion Valve	It is for self-cleaning the expansion valve when the operation is stopped at cooling. The sound of the refrigerant flow may be heard from the indoor unit during the self-cleaning. However, this is not abnormal.
Heating	Hot Start	To prevent cold air discharge into a heated space, the fan speed is changed from the SLOW / LOW setting to a set position based on discharge air temperature. At this time, the louver is in a fixed horizontal position and "HOT START" is displayed on the LCD of the wired controller.
	Defrosting Operation	The indoor unit fan operation is stopped to prevent cold air discharge during the defrosting operation. At this time, the message "HOT-START" is displayed on the LCD of the wired controller and the indoor unit fan louver angle is fixed horizontally.
	Residual Heat Removal	When the heating operation is stopped, indoor fan operation may remain 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 heating operation, the operation is stopped by activation of the outdoor thermistor.

NOTE

- This air conditioner adopts hot air circulation system for the heating operation.
- Any oversized room with a low ambient air temperature will require an extended amount of time to warm up. Once the air temperature gets to the required setting temperature, the display "HOT START" is turned OFF.
- The indication "HOT-START" may be displayed during or right after the defrosting operation. It is activated during the hot start operation to prevent the perception of cold draft. This is NOT abnormal.

7. Maintenance

! WARNING

- Turn OFF the power source before maintenance work. If the power source is not turned off, a fire or an electric shock may result.
- 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. If not, it may cause the unit to fall, resulting in serious injury.

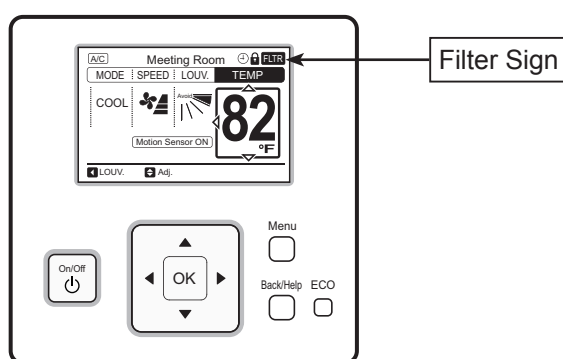
NOTICE

- Use light pressure with a clean soft cloth when cleaning the lens of the motion sensor. The surface material of the lens is easily scratched, blemished, and can result in degraded performance of the sensor.

7.1 Daily Maintenance

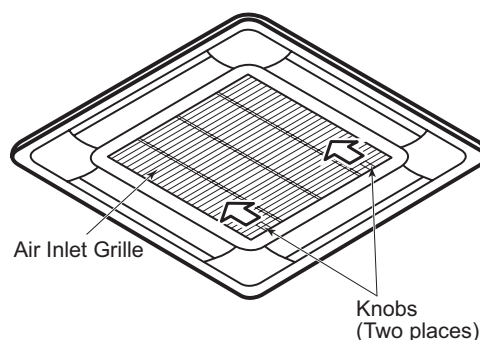
7.1.1 Cleaning Air Filter

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



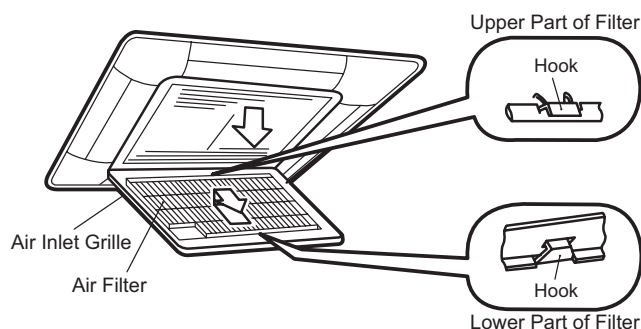
(1) Open the air inlet grille.

Slide the knobs on both sides of the air inlet grille in the direction of the arrows as shown, and open the air inlet grille.



(2) Remove the air filter.

Support the underside of the air inlet grille as shown. Unhook the filter from the air inlet grille and remove the air filter.



(3) Clean the air filter.

- Vacuum dust off with hand-held vacuum cleaner, or wash 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.
 - 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.
-

(4) Attach the air filter.

After the air filter is dried, attach it in the reverse order from what is shown procedure "2".

(5) Close the air inlet grille.

NOTE

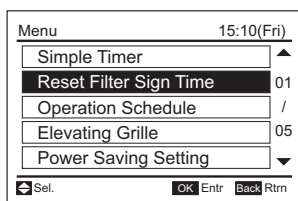
- Be sure to attach the air filter.
Operating the indoor unit without a filter installed will cause serious damage and breakdown.
 - Make sure that the air inlet grille is securely locked with the knobs. If not properly secured, it could swing open and strike someone below and cause minor injuries.
-

(6) Reset the filter sign.

NOTE

If the accumulated operation time is shorter than that indicated by the filter sign setting, the icon displaying "☒" activates 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 "FLTR" indication is turned OFF and the screen returns to the normal mode.



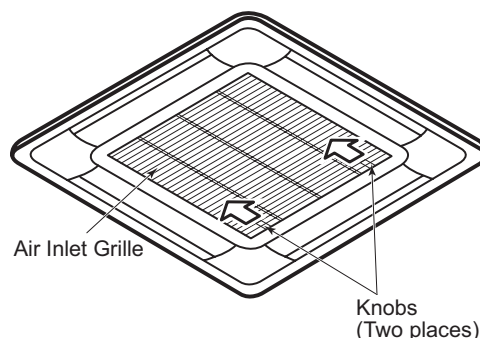
NOTICE

- Wipe down the air inlet grille with a soft cloth soaked in lukewarm water and wrung-out.
- Gently wipe down using only a clean soft cloth. Avoid the use of Benzene type thinners or chemical detergents and abrasives as cleaning agents which will damage the finish of outer plastic surfaces and louvers. Avoid using excessive force when cleaning these surfaces as they can be easily damaged.
- When cleaning the lens of the motion sensor, the surface material of the lens is easily scratched, and can result in degraded performance of the sensor.

The air inlet grille can be removed and cleaned.

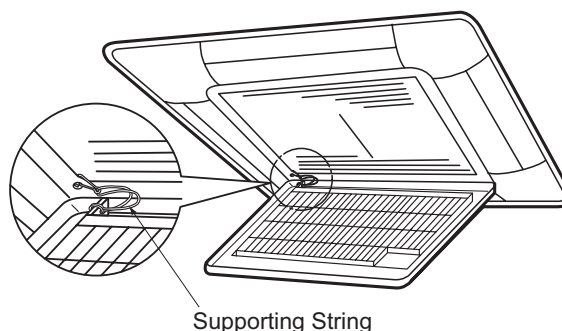
(1) Open the air inlet grille.

While sliding the knobs on both sides of the air inlet grille in the arrow direction, open the air inlet grille.



(2) Remove the air inlet grille.

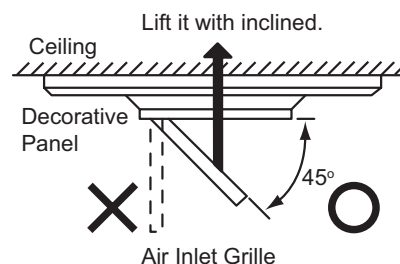
- Unhook the supporting string from the decorative panel.



- Open the air inlet grille at an approximately 45° angle from the decorative panel surface.
- Tilt the air inlet grille and lift it up to remove it.

NOTE:

Although the air inlet grille can be opened up to 90°, it cannot be removed from the decorative panel at that angle. Tilt it to a 45° angle when removing it.



(3) Clean the air inlet grille.

(4) Reattach the air inlet grille.
Reattach in reverse order.

7.2 Maintenance Prior to and After Use

Prior to Use

- Remove any obstacles around the air inlet grilles and the air outlet of both the indoor and outdoor units.
- Check that the air filter is not clogged with dust and dirt.

After Use

- Clean the air filter, the air inlet grille and the decorative panel.

8. Troubleshooting

8.1 This is Not Abnormal

Phenomenon		Cause and Action
Operation Stopped	All indicator LEDs on the wired controller are turned OFF.	The micro-computer is activated to protect the device from electromagnetic interference. Restart the operation.
	“Motion Sensor ON” is turned ON the wired controller.	The operation has stopped automatically because the motion sensor is set as “If absent: Stop” and it detects an absence of motion for a period of time. (All indoor units connected to the same controller are stopped.)
	After Power Failure	Restart the operation. If the instantaneous power failure is within 2 seconds, the operation restarts automatically.
White Steam from Indoor Unit	During Heating Operation	Dust attached to the heat exchanger has dried.
White Smoke from Indoor Unit	At Beginning of Heating Season	This might occur when dust attached to the heat exchanger has dried.
Mist from Indoor Unit	In Restaurant or Kitchen	This can occur when oily residue coats the fins and heat exchanger efficiency is degraded.
	During Dry Operation	This might occur due to the air outlet temperature decreasing. Change the operation mode.
	During Cooling Operation in Humid Environment	This might occur due to the air outlet temperature decreasing. Raise the set temperature and airflow volume.
Odor from Indoor Unit	Odors Emanating from Indoor Unit Air Dischagre	The intake of cigarette smoke is the likely reason, with nicotine deposits coating or clogging the cells and surfaces of the air filter. Ventilate the unit well in fan mode and clean the air filter, the air outlet and air inlet grill.
Sound from Indoor Unit	A grating sound is heard when starting or stopping the operation.	This is the sound made when the components are rubbing up against one another due to the expansion and contraction of plastic formed parts brought on by temperature change.
	Sound of water flowing or bubbling is heard 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 approximately 3 minutes).
	A growling sound may be heard temporarily right after the airflow volume is changed.	It is generated because the fan motor makes temporary sound by change of fan speed.
Dew Condensation on Decorative Panel	Dew condensation on Decorative Panel or Cabinet or Dew Drops	This might occur when the operation is performed in a humid environment over a prolonged period of time (relative humidity around 80%).
Temperature Irregularity	Airflow volume and temperature irregularities exist for each outlet.	This might occur for structural reasons, such as the size of an air outlet and the location of heat exchanger.
“HOT-START” on LCD Illuminated (ON)		This might occur according to the operation mode or operational conditions.
Operation Mode on LCD Flashing		

8.2 Before Contact

Check these items over before contacting a contractor.

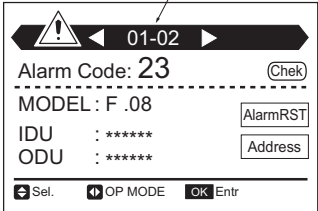
Trouble		Checking Point	Action
Operation Unavailable		Check that the main power source is turned ON.	Turn ON the power at the main power source for the air conditioner.
		Check that the fuse is not blown or the circuit breaker from the main power source is not tripped.	Replace the fuse or reset the circuit breaker. If trouble recurs, contact your contractor or distributor.
Immediate shutdown after start-up	Cooling	Check if the air inlet and outlet for the outdoor unit are not obstructed.	Remove objects obstructing the air inlet and outlet.
	Heating	Check if there are any obstacles impeding the airflow near the air inlet and outlet of the outdoor unit.	Remove any obstacles obstructing airflow.
		Check that the outlet air is not redirected into the air inlet.	
Insufficient Cooling or Heating		Check that the operation mode is appropriate.	If the fan mode is selected, switch the operation mode to cooling/heating.
		Check that the set temperature is appropriate.	If not, change the setting temperature by pressing “△” or “▽” by the wired controller.
		Check that the airflow direction is appropriate.	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.
		Verify that there are no open windows and doorways.	Close windows and doors.
		Check that there are no obstacles impeding airflow near the air inlet and outlet for both 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 Contact
Protection devices (fuses, breakers, and GFCI's) activate frequently or the operation switch does not work.	Turn OFF the power source.
Water leakage from the indoor unit.	Stop the operation.
"Motion Sensor ON" or "Radiation Sensor" is flashing.	There is a possibility of the failure of motion sensor or radiation sensor. Make the setting of motion sensor and "Floor HEAT Control" invalid and contact your distributor. In that case, after the LCD of wired controller display has disappeared and until service is finished, the operation of this unit is available.
<ul style="list-style-type: none">The RUN indicator (red) is flashing.The indoor unit number, alarm code, unit model code, and the number of connected indoor units are displayed on LCD.If multiple indoor units are connected to one controller, the above abnormality informations for each indoor unit are displayed individually. <p>Check the details on LCD and contact your distributor.</p> <div><p>Indoor Unit Number</p></div>	Refer to Section 8.4, the alarm code table. Contact your distributor and inform them of the alarm code indicated on the LCD of the wired controller.

Provide the following information when contacting your distributor.

- 1) Unit model
- 2) Symptoms and nature of the problem.
- 3) Number of the alarm code or any flashing indicator on the LCD.

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 Cycle No.
32		Incorrect Setting of Other Indoor Unit Number	EE	Compressor	Compressor Protection Alarm

