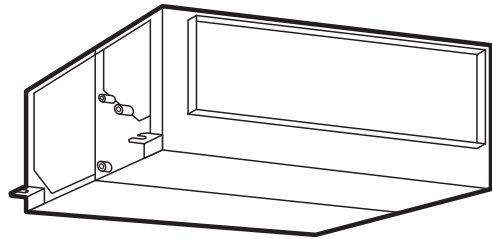


Operation Manual

INVERTER-DRIVEN MULTI-SPLIT SYSTEM HEAT PUMP AIR CONDITIONERS

Type	Model
DOAS (Dedicated Outdoor Air System)	(H,Y)DOA096B21S



IMPORTANT:

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

P00861Q

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 for.
- The installer and system specialist shall safeguard against leakage in accordance with local pipefitter and electrical 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 will be 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 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
Outdoor Air	Cooling Operation	109°F DB (43°C DB)	68°F DB (20°C DB)
	Heating Operation	59°F DB (15°C DB)	20°F DB (-7°C DB)

DB: Dry Bulb, WB: Wet Bulb

- 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	1
2. Safety Instructions	1
3. Before Operation.....	6
3.1 Working Range.....	6
3.2 Efficient Use of Indoor Unit.....	6
3.3 Control Mode.....	7
4. Names of Parts	8
4.1 Indoor Unit (DOAS)	8
4.2 Wired Controller (CIW01)	9
5. Operation Method	10
5.1 Basic Operation.....	10
5.2 Cooling / Heating / Fan Operation.....	11
5.3 Temperature Setting	12
5.4 Operation.....	13
6. Automatic Control	14
7. Maintenance	15
7.1 Cleaning Air Filter	15
7.2 Maintenance.....	16
8. Troubleshooting	17
8.1 This is Not Abnormal	17
8.2 Before Contacting a Contractor.....	18
8.3 Contact Distributor.....	19
8.4 Alarm Code	20

1. Introduction

This is operation manual for the indoor unit.
Read this operation manual carefully before operating this product.
Keep this operation manual with this product.

2. Safety Instructions

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

General Precautions	
 WARNING	To reduce the risk of serious injury or death, read these instructions thoroughly and follow all warnings or cautions included in all manuals that accompanied the product and are attached to the unit. <i>Refer back to these safety instructions as needed.</i>

- 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 quenching 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;

Refrigerant Precautions



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

- As originally manufactured, this unit contains refrigerant installed by Johnson Controls. Johnson Controls uses only refrigerants that have been approved for use in the unit's intended home country or market. Johnson Controls distributors similarly are only authorized to provide refrigerants that have been approved for use in the countries or markets they serve. The refrigerant used in this unit is identified on the unit's faceplate and/or in the associated manuals. Any additions of refrigerant into this unit must comply with the country's requirements with regard to refrigerant use and should be obtained from Johnson Controls distributors. Use of any non-approved refrigerant substitutes will void the warranty and will increase the potential risk of injury or death.
- If installed in a small room, take measures to prevent the refrigerant from exceeding the maximum allowable concentration in the event that refrigerant gases should escape. Refrigerant gases can cause asphyxiation (0.026 lbs/ft³ (0.42 kg/m³) based on ISO 5149 for R410A). Consult with your distributor for countermeasures (ventilation system and so on). If refrigerant gas has leaked during the installation work, ventilate the room immediately.
- Before installation is complete, make sure that the refrigerant leak test has been performed. If refrigerant gases escape into the air, turn OFF the main switch, extinguish any open flames and contact your service contractor. Refrigerant (Fluorocarbon) for this unit is odorless. If the refrigerant should leak and come into contact with open flames, toxic gas could be generated. Also, because the fluorocarbons are heavier than air, they settle to the floor, which could cause asphyxiation.
- When installing the unit, and connecting refrigerant piping, keep all piping runs as short as possible, and make sure to securely connect the refrigerant piping before the compressor starts operating. If the refrigerant piping is not connected and the compressor activates with the stop valve opened, the refrigerant cycle will become subjected to extremely high pressure, which can cause an explosion or fire.
- Tighten the flare nut with a torque wrench in the specified manner. Do not apply excessive force to the flare nut when tightening. If you do, the flare nut can crack and refrigerant leakage may occur.
- A compressor/unit comprises a pressurized system. Never loosen threaded joints while the system is under pressure and never open pressurized system parts.
- When maintaining, relocating, and disposing of the unit, dismantle the refrigerant piping after the compressor stops.

Electrical Precautions



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

- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause serious injury or death.
- Before servicing, open and tag all disconnect switches. Never assume electrical power is disconnected. Check with meter and equipment.
- Only use electrical protection equipment and tools suited for this installation.
- Use specified cables between units.
- Communication cable should be a minimum of AWG18 (0.82mm²), 2-Conductor, Stranded Copper. Shielded cable must be considered for applications and routing in areas of high EMI and other sources of potentially excessive electrical noise to reduce the potential for communication errors. When shielded cable is applied, proper bonding and termination of the cable shield is required as per Johnson Controls guidelines. Plenum and riser ratings for communication cables must be considered per application and local code requirements.
- Use an exclusive power supply for the air conditioner at the unit's rated voltage.
- Be sure to install circuit breakers (ground fault interrupter, isolating switch, molded case circuit breaker and so on), with the specified capacity. Ensure that the wiring terminals are tightened securely to recommended torque specifications. If a circuit breaker or fuse is frequently activated, shut down the system and contact your service contractor.
- Clamp electrical wires securely with a cable clamp after all wiring is connected to the terminal block. In addition, run wires securely through the wiring access channel.
- When installing the power lines, do not apply tension to the cables. Secure the suspended cables at regular intervals, but not too tightly.
- Make sure that the terminals do not come into contact with the surface of the electrical box. If the terminals are too close to the surface, it may lead to failures at the terminal connection.
- Turn OFF and disconnect the unit from the power supply when handling the service connector. Do not open the service cover or access panel to the indoor or outdoor units without turning OFF the main power supply.
- After stopping operation, be sure to wait at least five minutes before turning off the main power switch. Otherwise, water leakage or electrical breakdown may result. Disconnect the power supply completely before attempting any maintenance for electrical parts. Check to ensure that no residual voltage is present after disconnecting the power supply.
- Do not clean with, or pour water into, the controller as it could cause electric shock and/or damage the unit. Do not use strong detergent such as a solvent. Clean with a soft cloth.
- Check that the ground wiring is securely connected. Do not connect ground wiring to gas piping, water piping, lighting conductor, or telephone ground wiring.
- If a circuit breaker or fuse is frequently activated, shut down the system and contact your service contractor.
- This equipment can be installed with a Ground Fault Circuit Breaker (GFCI), which is a recognized measure for added protection to a properly grounded unit. Install appropriate sized breakers / fuses / overcurrent protection switches, and wiring in accordance with local, state and NEC codes and requirements. The equipment installer is responsible for understanding and abiding by applicable codes and requirements.

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. It can result in failure of the wired controller or an electrical shock.
- Hair spray, insecticides, lacquers, and other pressurized substances should not be used within 3.3ft (1m) of any air conditioning unit. It can react with energized electrical components and cause fire.
- Do not install the indoor unit anywhere discharge airflow can pass directly toward nearby heating appliances (space heaters). It may interfere with the combustion process in these units.
- Air circulation should be optimized so as to achieve the best distribution pattern and not settle into isolated pockets that can make people uncomfortable.
- When the indoor unit is operated with heating appliances, ventilate a room sufficiently. Any leaked refrigerant gases that happen to come into contact with any heat source can become toxic on contact which 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; toxic gas will be generated. Also, because the fluorocarbon is heavier than air, the floor surface will be filled with it, which can cause suffocation.
- If fluorocarbon gas should leak, turn OFF all heating appliances 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 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, it may cause an electric shock or fire.

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, 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.
- Inside piping is charged with refrigerant and highly pressurized.

! CAUTION

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

3. Before Operation

NOTICE

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

3.1 Working Range

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

Temperature

		Maximum	Minimum
Outdoor Air	Cooling Operation	109°F DB (43°C DB)	68°F DB (20°C DB)
	Heating Operation	59°F DB (15°C DB)	20°F DB (-7°C DB)

DB: Dry Bulb, WB: Wet Bulb

3.2 Efficient Use of Indoor Unit

- **Do not leave a window or a door open.**
The operating efficiency will be decreased.
It may cause condensation of the indoor unit. Ventilate a room sufficiently.
- **Attach a curtain or a blind to a window.**
Blocking direct sunlight into a room will increase efficiency.
- **Do not use heating appliances during cooling operation as much as possible.**
The cooling efficiency will be decreased, which may cause dew condensation and dew drop.
- **Use a circulator if warm air stays around the ceiling.**
Comfort will be increased. Contact your distributor for details for 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.

3.3 Control Mode

This unit have two control modes, “Indoor Temperature Control” and “Outlet Air Temperature Control”. The feature of each control mode is as shown below.
(Contact your distributor or contractor about the changing of control mode and more details.)

Indoor Temperature Control

This function controls operation to keep the indoor temperature almost at the set temperature on the wired controller. The set temperature on the wired controller is as follows.

COOL / FAN	66°F to 86°F (19°C to 30°C)
HEAT	62°F to 86°F (17°C to 30°C)

Outlet Air Temperature Control

This function controls operation to keep the discharge temperature almost at the set temperature on the wired controller. The set temperature on the wired controller is as follows.

COOL / FAN	56°F to 77°F (13°C to 25°C)
HEAT	66°F to 86°F (19°C to 30°C)

NOTICE

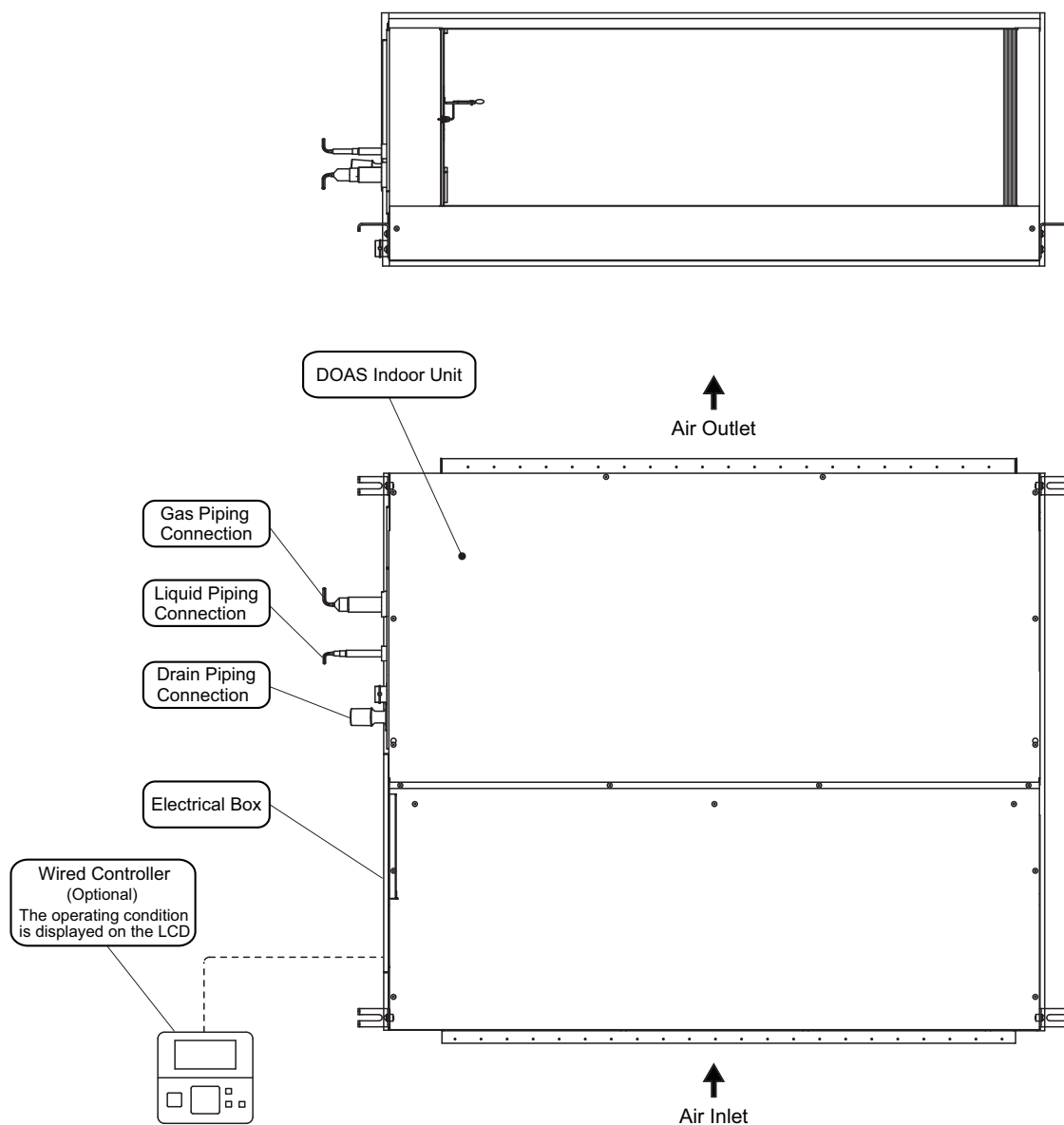
- If multiple indoor units are connected to one outdoor unit, the temperature setting of all the indoor units shall be the same. Different temperature setting may make the outlet air temperature unstable.

NOTE

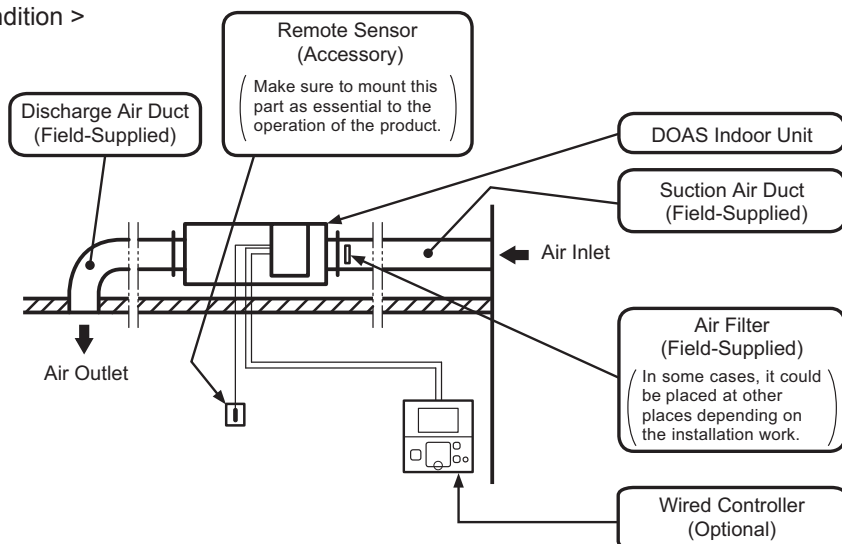
If the difference between the indoor temperature and the set temperature is too large or too small, the indoor temperature might not be close to the set temperature.

4. Names of Parts

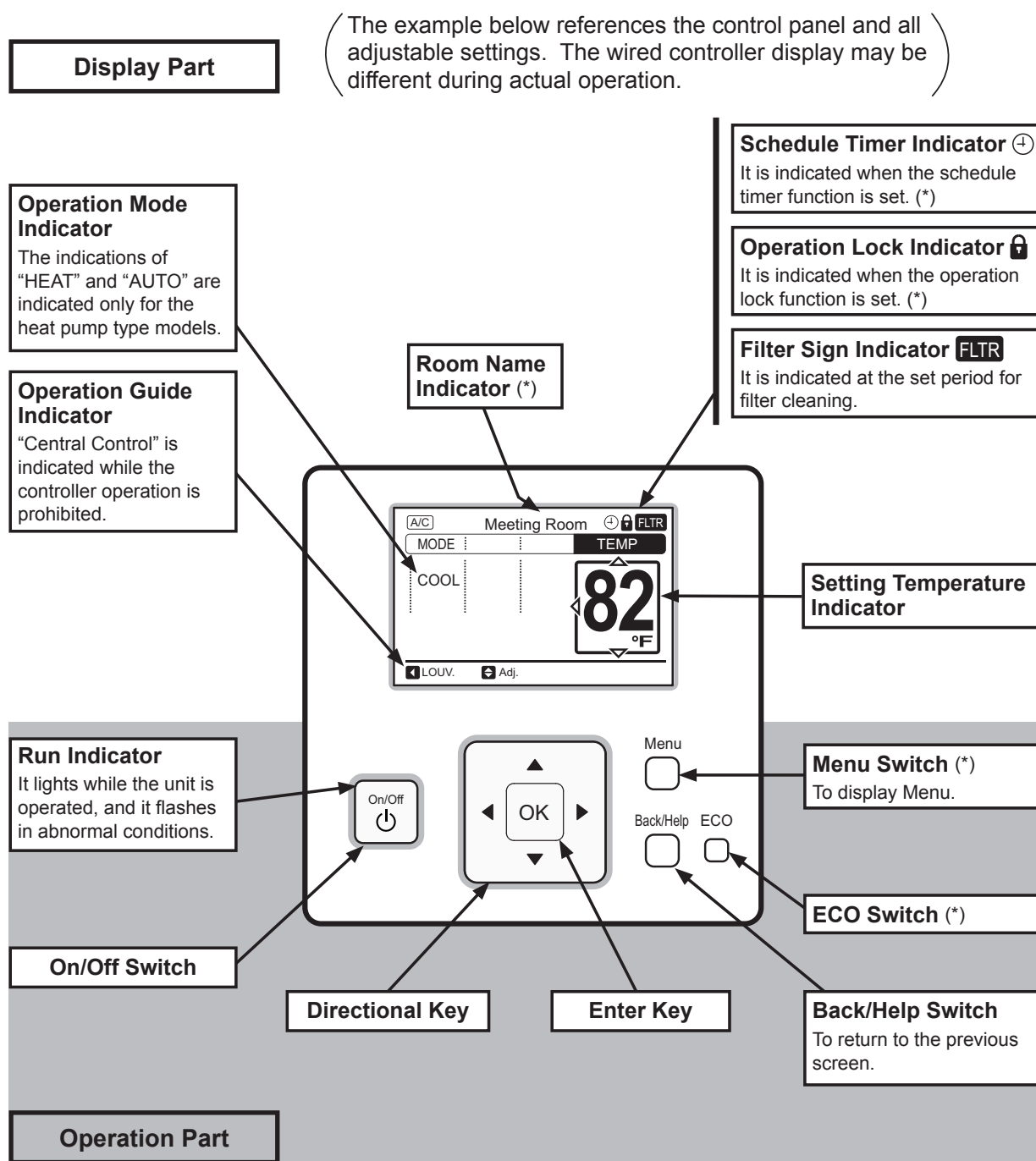
4.1 Indoor Unit (DOAS)



< Installation Condition >



4.2 Wired Controller (CIW01)



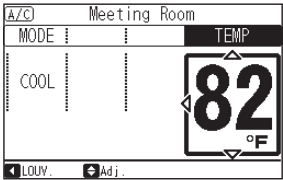

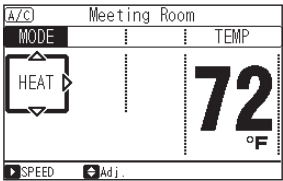


NOTE

- This manual shows example CIW01 is utilized. If other models of the controller are utilized, operate the unit according to the manual for that controller.
- Press the switches lightly to control the wired controller. Do not press the wired controller with a sharp object such as a pen. It may cause damage to the control part.
- (*) : For details description, refer to the operation manual for the wired controller.

5. Operation Method

5.1 Basic Operation

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

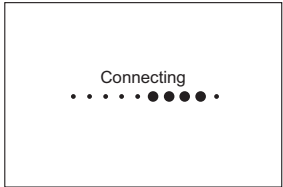
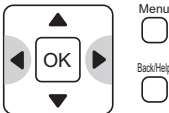
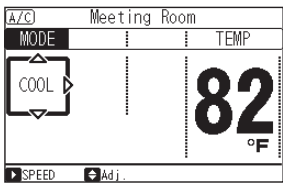

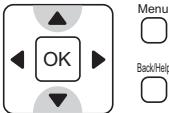
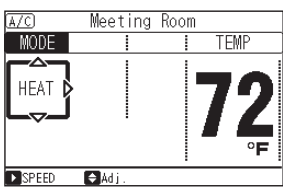
5.2 Cooling / Heating / Fan Operation

Heating Operation is for VRF system only and is not available for other systems.

<Function>


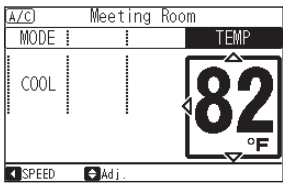

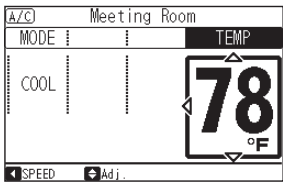
- * Cooling Operation: To decrease the room temperature.
- * Heating Operation: To increase the room temperature.
- * Fan Operation: To circulate the air in the room.

- The control of humidity is unavailable with this unit. If you require dehumidification and the control of humidity, choose specialized equipments.

Before Operation	<p>Turn ON the power supply. Turn ON the main power approximately 12 hours before operation in order to preheat the compressor.</p> <p>Do not turn OFF the main power of the indoor unit during season of heating or cooling.</p>		
1	<p>Press “◀” or “▶” to select “MODE”.</p>		
2	<p>By pressing “Δ” or “▽”, the mode will be changed as follows.</p> 		


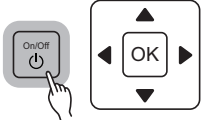
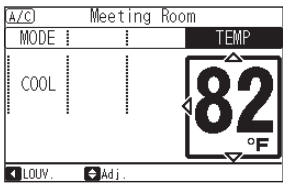
- Automatic Cooling / Heating operation requires an extra setting.
Contact your distributor or contractor for details.

5.3 Temperature Setting

1	Press “◀” or “▶” and select “TEMP”.		
2	<p>By pressing “Δ”, the temperature is increased by 1°F (0.5°C).</p> <p>By pressing “▽”, the temperature is decreased by 1°F (0.5°C).</p> <p>* Refer to Section 3.3 “Control Mode” for the setting temperature range.</p>		


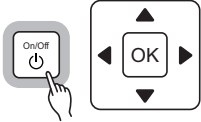
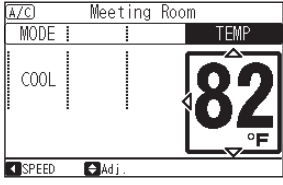
- In case the optional function “Automatic Reset of Setting Temperature” is set:
Even if changing the setting temperature on the wired controller, it automatically returns to the temperature set by “Automatic Reset Temperature” after a set time.
- Minimum and maximum temperature setpoint limits can be 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 dealer 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 Operation

Operation Start	Press “  ” (On/Off). The RUN indicator will be turned ON and the operation will start.		
------------------------	--	--	---

< Temperature Setting >

- The setting condition will be memorized. Therefore, no daily setting is required. Temperature setpoint will be 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 and 5.3.

Operation Stop	Press “  ” (On/Off) again. The RUN indicator will be turned OFF and the operation will stop.		
-----------------------	--	--	---

- 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.

6. 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		<ul style="list-style-type: none"> ▪ Enforced Stoppage: The compressor remains off for at least three minutes once it has stopped. If the system is started within approximately three minutes after it has stopped, the RUN indicator is activated. However, the cooling operation or the heating operation remains off and does not start until after three minutes 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 is operated during three minutes continuously. However, if all indoor units of the system are stopped by a controller, 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 Expansion Valve	The expansion valve self-cleaning when the cooling operation has stopped. The sound of which 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 automatically changed 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.
	Residual Heat Removal	When the heating operation is stopped, the indoor fan operation may be kept at the slow position for a maximum of two minutes to lower temperature of the inside of the indoor unit.
Freeze Protection		<p>To prevent heat exchanger of the indoor unit from freezing, the operation mode automatically switches to heating operation if the outdoor temperature drops down to 32°F (0°C). Moreover, the operation automatically stops if the outdoor temperature drops to 20°F (-7°C) or the heat exchanger temp. drops abnormally.</p> <p>* Display of the wired controller does not change even in this case.</p> <p>* If the unit is not simultaneous cooling/heating unit, the operation does not switch to heating operation, but automatically stops when the outdoor temperature drops to 32°F (0°C).</p>

NOTE

- This air conditioner 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 has been heated enough and discharged air reaches a required temperature, the indication "HOT-START" will be turned OFF after heating the room.
- The indication "HOT-START" may be displayed during, or right after, the defrosting operation. "HOT-START" is activated during defrost to ensure comfort by reducing the delivery of cold air in the heating cycle. This is NOT abnormal.

7. Maintenance

WARNING

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

CAUTION

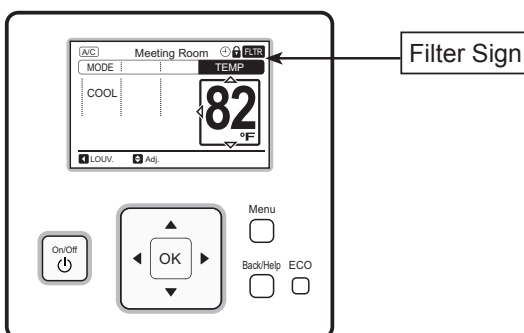
- Hold the air filter and the air inlet grille securely by hand when attaching or removing it. If not, it may cause the product to fall, resulting in an injury.

7.1 Cleaning Air Filter

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

(1) Air filter is a field-supplied.

The filter cleaning method is followed according to the manual included with the filter.



NOTICE

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

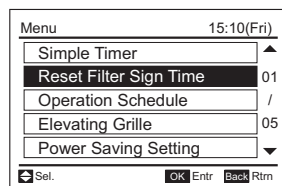
(2) The indication "FLTR" is shown on the LCD of wired controller after the time is set on the wired controller. (Default filter time for the ducted units is 1200 hours.)

(3) 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" will be displayed.

- Press "Menu".
Select "Reset Filter Sign Time" from the menu and press "OK".
The confirmation screen will be displayed.



- Select "Yes" by pressing "<" or ">" and press "OK".
The indication of "FLTR" will be turned OFF and the screen will return to the normal mode.



7.2 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 on regular basis the air filter, the air inlet grille to maintain the system's peak performance and efficiency.

8. Troubleshooting

8.1 This is Not Abnormal

Phenomenon		Cause
Operation Stopped	All indication lights 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.
	Freeze Protection	The heat exchanger stops operating at low outdoor temperature. If the temperature rises, the operation automatically restarts
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 been 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 Cooling Operation in Humid Environment	This might occur when the air outlet temperature becomes lower. Raise the set temperature.
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 against each other due to the extension and contraction of the resin parts caused by the temperature change.
	Sound of water flowing or bubbling during the operation.	This is the sound made when the refrigerant flows or the operation of the drain pump. The sound may be heard especially when starting the operation or stopping the compressor (for approx. three minutes).
	Cracking sound is heard when starting and during the operation.	This is the temporary sound made when water attached to the heat exchanger has been frozen or melted during the cooling operation.
Condensation on Cabinet	Condensation on Air Outlet Grille or Cabinet or Dew Drops	This might occur when the operation is performed in humid place (relative humidity is approx. 80%) for a long time.
Cooling and Heating Operation Unavailable	Only fan operation is available.	This might occur because the operation mode automatically switches to fan operation depending on the outdoor temperature.
“HOT-START” on LCD Turned ON		This might occur according to the operation mode or operation conditions.
Operation Mode on LCD Flashing		

Fixed Air Speed Mode

- Fixed air speed mode is available for this unit, in order to keep the air speed constant. If activating this function, the air speed is kept constant and cannot be changed during defrosting operation, which will cause cold draft during heating operation. Contact your distributor or contractor when setting this function.

8.2 Before Contacting a Contractor

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 out 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	Check for any obstacles preventing the air flow near the air inlet and outlet of the outdoor unit.	Remove the obstacles preventing the air flow.
Insufficient Cooling or Heating	Check that the operation mode is correct.	If the fan mode is selected, switch the operation mode to cooling or heating.
	Check that the set temperature is correct.	If not, change the set temperature by pressing “Δ” or “▽” by the wired controller.
	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 air flow near the air inlet and outlet of the indoor and outdoor units.	Remove the obstacles.
	Check for “Fixed Air Speed Mode” setting.	The air speed cannot be changed during defrost operation, which will cause cold draft during heating operation.
Excessive Cooling or Heating	Check that the set temperature is correct.	If not, change the set temperature by pressing “Δ” or “▽” by the wired controller.

If 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.

**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 of the product, an electric shock or a fire.
Contact your distributor or contractor.**

Provide the following information when contacting your distributor.

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

8.4 Alarm Code

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
16	Other Sensor	Abnormal Indoor Remote Sensor	52		Activation of Inverter Overcurrent Protection
17		Abnormal the embedded wired controller Thermistor	53		Activation of Transistor Module Protection
19	Fan Motor	Activation of Protection Device for Indoor Fan	54		Abnormality of Inverter Fin Temperature
20	Sensor on Outdoor Unit	Compressor Thermistor Failure	56	Outdoor Fan	Abnormality of Detection for Fan Motor Position
21		High Pressure Sensor Failure	57		Activation of Fan Controller Protection
22		Outdoor Air Thermistor Failure	58		Abnormality of Fan Controller
23		Discharge Gas Thermistor Failure	b0	System	Incorrect Setting of Unit Capacity
24		Evaporating Thermistor Failure	b1		Incorrect Setting of Unit and Refrigerant Cycle No.
29		Low Pressure Sensor Failure	EE	Compressor	Compressor Protection Alarm
31	System	Incorrect Capacity Setting of Outdoor Unit and Indoor Unit			
32		Incorrect Setting of Other Indoor Unit Number			

