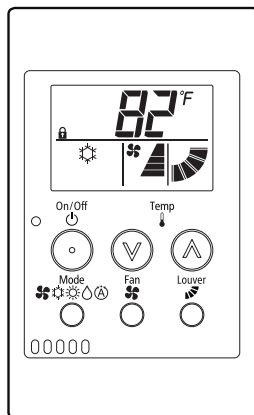


Operation Manual

Simplified Wired Controller

Model: CIS01





IMPORTANT:

**READ AND UNDERSTAND
THIS MANUAL BEFORE
USING THIS CONTROLLER.
KEEP THIS MANUAL FOR
FUTURE REFERENCE.**


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1. Safety Summary

Signal Words

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

General Precautions

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

NOTICE	Take the following precautions to reduce the risk of property damage.
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- Do not touch the main circuit board or electronic components in the controller or remote devices. Make sure that dust and/or steam does not accumulate on the circuit board.
- When installing the unit in a hospital or other facility where electromagnetic waves are generated from nearby medical and/or electronic devices, be prepared for noise and electronic interference Electromagnetic Interference (EMI). Do not install where the waves can directly radiate into the electrical box, controller cable, or controller. Inverters, appliances, high-frequency medical equipment, and radio communications equipment may cause the unit to malfunction. The operation of the unit may also adversely affect these same devices. Install the unit at least 10 ft. (approximately 3m) away from such devices.
- Locate the controller at a distance of at least three feet (approximately 1m) between the indoor unit and electric lighting. Otherwise, the receiver part of the unit may have difficulty receiving operation commands.

- If the controller is installed in a location where electromagnetic radiation is generated, make sure that the controller is shielded and cables are sleeved inside conduit tubing.
- If there is a source of electrical interference near the power source, install noise suppression equipment (filter).
- During the run test, check the unit's operation temperature. If the unit is used in an environment where the temperature exceeds the operation boundary, it may cause severe damage. Check the operation temperature boundary in the manual. If there is no specified temperature, use the unit within the operation temperature boundary of 35° to 104°F (0 to 40°C).
- Perform properly electrical wiring work. The details of the electrical wiring connection is described in the "Electrical Wiring" of Installation and Maintenance Manual for CIS01.

Installation Precautions



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

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

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

Electrical Precautions



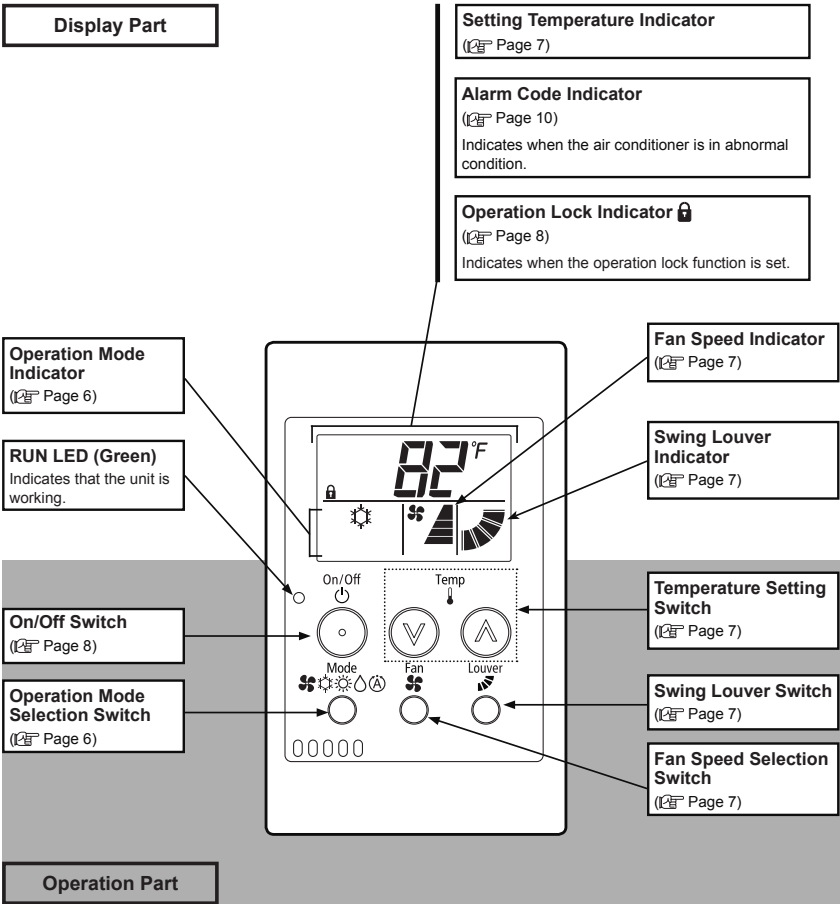
Take the following precautions to reduce the risk of electric shock, fire or explosion resulting in serious injury or death:

- Only use electrical protection equipment and tools suited for this installation.
- Insulate the controller against moisture and temperature extremes.
- Use specified cables between units and the controller.
- Communication cabling shall be a minimum of 18-Gauge, 2-Conductor, Stranded, Shielded Copper. Shielded cable must be used in all areas to reduce the potential for communication errors. When shielded cabling is applied, proper bonding and termination of the cable shield is required as per Johnson Controls guidelines. Plenum and riser ratings for communication cables must be considered per application and local code requirements.
- The polarity of the input terminals is important, so be sure to match the polarity when using contacts that have polarity.
- Highly dangerous electrical voltages may be used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause serious injury or death.
- Before installing the controller or remote devices, ensure that the indoor and outdoor unit operation has been stopped. Further, be sure to wait at least five minutes before turning off the main power switch to the indoor or outdoor units. Otherwise, water leakage or electrical breakdown may result.
- Do not open the service cover or access panel to the indoor or outdoor units without turning OFF the main power supply. Before connecting or servicing the controller or cables to indoor or outdoor units, open and tag all disconnect switches. Never assume electrical power is disconnected. Check with a meter and equipment.
- Use an exclusive power supply at the controller's rated voltage.

- Be sure to install circuit breakers (ground fault interrupter, isolating switch, molded case circuit breaker, and so forth) with the specified capacity. Ensure that the wiring terminals are tightened securely to recommended torque specifications.
- Clamp electrical wires securely with a cord clamp after all wiring is connected to the terminal block. In addition, run wires securely through the wiring access channel.
- When installing the power lines, do not apply tension to the cables. Secure the suspended cables at regular intervals, but not too tightly.
- Make sure that the terminals do not come into contact with the surface of the electrical box. If the terminals are too close to the surface, it may lead to failures at the terminal connection.
- Do not clean with, or pour water into, the controller as it could cause electric shock and/or damage the unit. Do not use strong detergent such as a solvent. Clean with a soft cloth.
- Verify that the ground wire is securely connected. Do not connect ground wiring to gas piping, water piping, lighting conductor, or telephone ground wiring.

2. Switch Names and Functions

The figure below shows all the indications for reference. The actual display during operation is different.



3. Operation Method

3.1 Operation Mode (Cooling, Heating, Dry, Cooling/Heating Automatic and Airflow Operation)

<Function>

- * Cooling Operation (COOL):
To decrease the room temperature.
- * Heating Operation (HEAT):
To increase the room temperature.
- * Dry Operation (DRY):
To decrease the room temperature and passively reduce the humidity in the room.
- * Cooling/Heating Automatic Operation (AUTO):
To set automatic mode changeover especially for spring/summer or when temperature range throughout a day is wide.
- * Airflow Operation (FAN):
To circulate the air in the room.

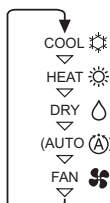
<Before Operation>

CAUTION

Turn ON the power supply for the air conditioner. To protect the compressor unit, the power supply should be energized 12 hours before the startup operation is begun. Do not turn OFF the power supply during in-season heating or cooling operation.

Make sure that the outdoor unit is always free of ice and snow. If snow covered, remove it by using hot water (cooler than 122°F (50°C)). If the water temperature is higher than 122°F (50°C), it will damage plastic parts.

By pressing "Mode",
the operation mode changes as follows.



NOTE:

Function selection setting is required for "AUTO" operation mode. Refer to Installation Manual and Service Manual for detailed information.

3.2 Automatic Cooling/Heating Operation

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

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

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

* NOTE:

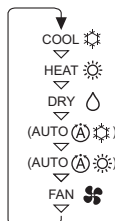
The function selection setting is required for "Dual setpoint activation".



NOTE:

In case of AUTO COOL indication

By pressing "Mode",
the operation mode changes as follows.



NOTES:

- For Auto COOL/HEAT, though the temperature indication on display changes by pressing "Mode", the actual operation mode remains as "AUTO" and it does not change between AUTO COOL and AUTO HEAT.
- Function selection setting is needed for the use of automatic cooling/heating operation and changing AUTO HEAT/COOL temperature. Refer to Installation Manual and Service Manual for detailed information.

4. Setting Method

4.1 Temperature Setting

By pressing "Temp ^", the temperature is increased by 1°F (0.5°C). (Max. 86°F (30°C))

By pressing "v Temp", the temperature is decreased by 1°F (0.5°C).

(Cooling, Dry, Airflow operation:

Min. 66°F (19°C))

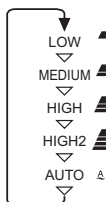
(Heating operation: Min. 62°F (17°C))

NOTE:

Minimum and maximum temperature levels can be adjusted by setting the lower limit (set temperature for cooling) and the upper limit (set temperature for heating) from the function selection.

4.2 Fan Speed

By pressing "Fan", the fan speed changes as follows.

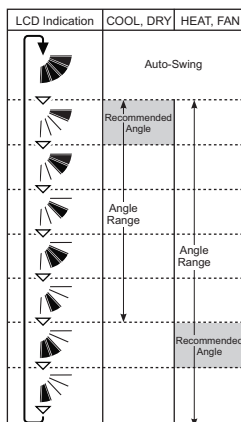


NOTES:

- During the dry operation, the fan speed is automatically adjusted to "LOW" and cannot be changed to another 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 settings "HIGH2" and (or) "AUTO" might not be available depending on the type of indoor unit.

4.3 Swing Louver Direction

By pressing "Louver", the louver direction changes as follows.



The Auto-swing operation starts.

At this time, the louver graphic swings repeatedly on the LCD display.

NOTES:

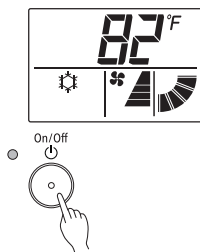
- The airflow angle is different for each indoor unit type. Check for detailed information in "Swing Louver Direction" of each operation manual for indoor unit.
- Louver action as depicted on the LCD display might not mimic the actual movement of the louver during the auto-swing operation. To adjust louver position, first set the angle new angle on the LCD display.
- Louver action might not stop immediately after the switch is pressed.

5. Operation

5.1 Operation Start

Press "On/Off".

The run indicator turns ON and the operation initiates.



NOTE:

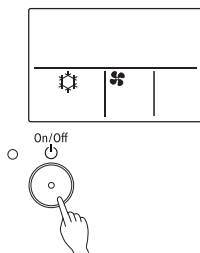
Temperature/Airflow Setting

The setting condition is entered into memory once the setting is confirmed, therefore a daily setting is not required. In cases where a change of setting is required, refer to items 3.1 to 4.3.

5.2 Operation Stop

Press "On/Off" again.

The run indicator is turned OFF and the operation is halted.



NOTE:

After the heating operation is halted, the airflow operation may be activated for approximately two minutes.

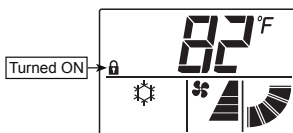
6. Other Indicators

6.1 In Normal Conditions

6.1.1 Central Control

When remote control operation is restricted (all functions)

The central control " " turns ON. If the remote control restriction is set from the central controller, the settings for "RUN", "Operation Mode", "Temperature Setting", "Fan Speed", and "Louver" are not accessible from the controller.



6.1.2 Thermo-controller

The fan speed is changed to "LOW" at the thermo-controller switch. However, the graphic indication remains unchanged. (Only in the heating operation mode.)

6.1.3 Defrost

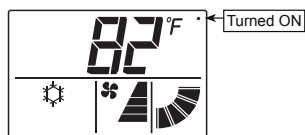
• Defrost Operation

The " " is turned ON during the defrosting.

The indoor fan is stopped although the graphic indication is unchanged.

The louver is fixed at the horizontal position.

The graphic louver symbol on the LCD remains animated.



• Operation Stoppage during Defrosting Operation

The RUN LED (Green) goes out when the operation is stopped during defrosting.

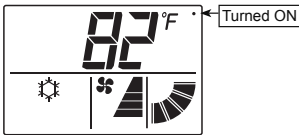
However, the operation continues with the " " displayed, and the unit stops after the defrost operation is finished.

6.1.4 Operation Control

• Supplying Electrical Power

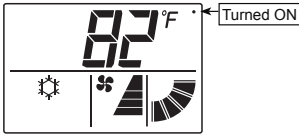
The “•” is activated when electrical power is supplied to outdoor unit for the first time or after long disconnection.

In this case, the compressor is now in the preheat stage. Operation might be delayed by a maximum of four hours. Do not cut power to the outdoor unit during seasonal heating and cooling operation. Refer to outdoor unit manuals for details.



• During Hot Start (Heating Operation Only)

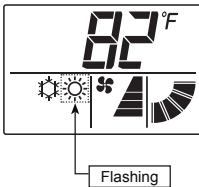
The “•” is turned ON.



• Different Operation Mode

The operation mode set by the controller is different from the outdoor unit operation mode. (Except for the heat recovery system models.)

The operation mode indicator flashes.



This indicator flashes when a command to COOL has been set by way of the controller during a HEATING operation.

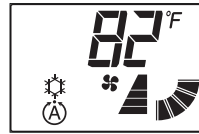
• Setback Operation

In case the setback operation is enabled and the card key is removed, setpoint is compensated and fan operate at “Low” speed. While in setback mode, the boundary lines on the screen disappears.

By default,

Cooling: Setpoint +4°F (+2.5°C)

Heating: Setpoint -4°F (-2.5°C)



NOTE:

Function selection setting is needed for the use of setback operation and changing compensation for setback. Contact your distributor or dealer for detailed information.

6.2 In Alarm Conditions

6.2.1 Alarms

- The RUN LED (Red) is flashing.
- The indoor unit number, alarm code, model code, and the connected number of indoor units are displayed on LCD.
- In cases where a number of indoor units are connected, the above items for each indoor unit are displayed one by one.

6.2.2 Power Failure

- All indicators are DARK.
- Once a unit is shut down by a power failure for longer than 2 seconds, it cannot be restarted after the power recovers. Repeat starting procedures again.
- In instances where the power failure and recovery occur within 2 seconds, the unit restarts automatically.

6.2.3 Electronic Interference

For instance, if a unit is in a shutdown state and all indicators are OFF, this condition could have been induced by the reaction of the unit's micro-computer fail-safe protections against electronic interference (EMI). If this is the case, perform restart procedures.

