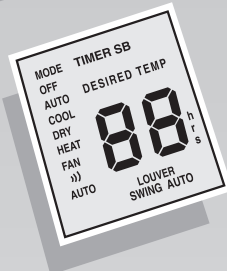
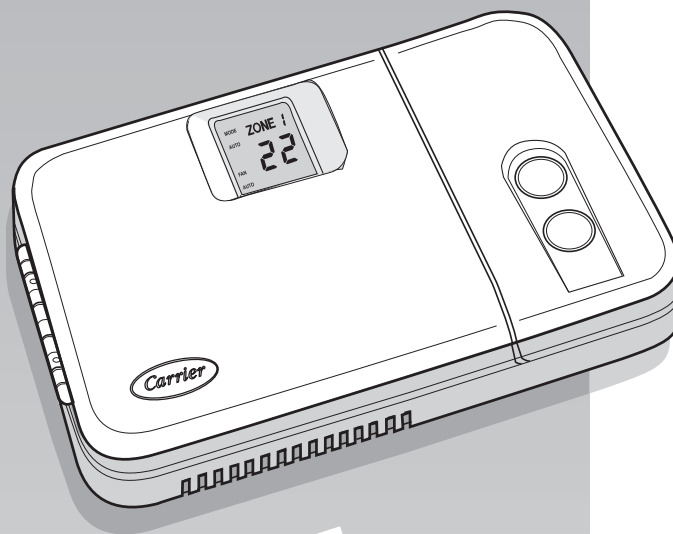




# Group Controller



CE



INSTALLATION MANUAL

# Group Controller

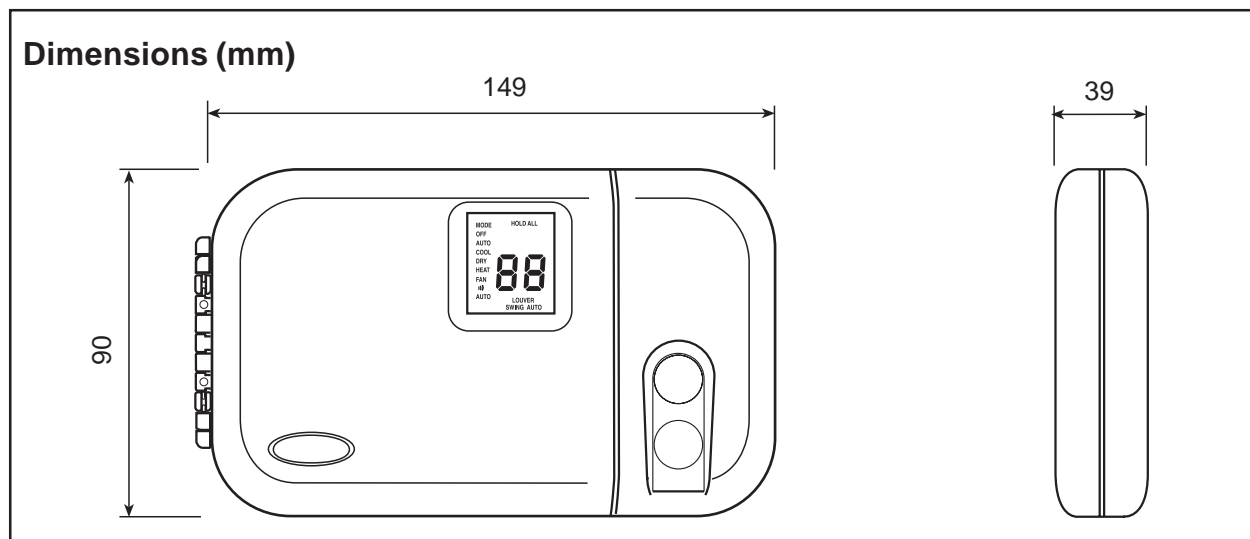
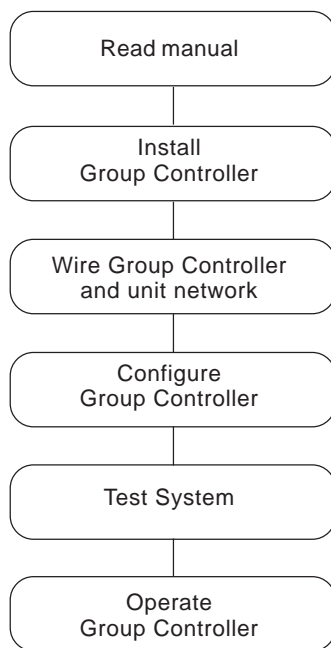
## Installation manual

This control system only operates with indoor units of the following types:  
 40GKX and 40QKX Cassette, 42HWX and 42HWS Hi-Wall, 42VKX and 42VRX Console, 40JX Above ceiling.  
**For installation instructions of this unit, refer to the relevant manuals.**

### Contents

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### INSTALLATION FLOW CHART



# Group Controller

## General information and characteristics

### IMPORTANT:

Read the entire instruction manual before starting the installation.

- For trouble-free installation, which should be carried out by a qualified installer, follow the installation chart sequence.
- Follow all current national safety code requirements. In particular ensure that a properly sized and connected ground wire is in place.
- After installation thoroughly test the system operation and explain all system functions to the owner.
- Leave this manual with the owner for consultation during future periodic maintenance.
- Dispose of packaging material in accordance with local requirements.
- The manufacturer denies any responsibility and warranty shall be void if these installation instructions are not observed.
- Inspect equipment for damage due to improper transportation or handling: file an immediate claim with the shipping company. Do not install or use damaged units.
- In case of any malfunctioning turn the unit off, disconnect the mains power supply and contact a qualified service engineer.

### Models

There is only 1 model, which is easily configurable for all installations.

### Products that the Group Controller can interface with

|                  |               |
|------------------|---------------|
| 40 GKX and 40QKX | CASSETTE      |
| 42 HWX and 42HWS | HI-WALL       |
| 42 VKX and 42VRX | CONSOLE       |
| 40 JX            | ABOVE CEILING |

### Wiring

- The Group Controller can be connected to one unit (that is the first in the network).
- Each unit must be connected one after the other (daisy chain).

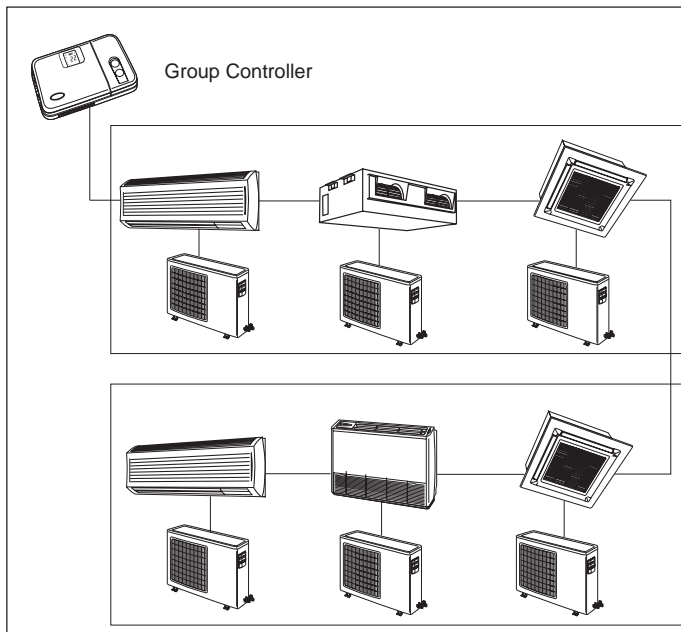
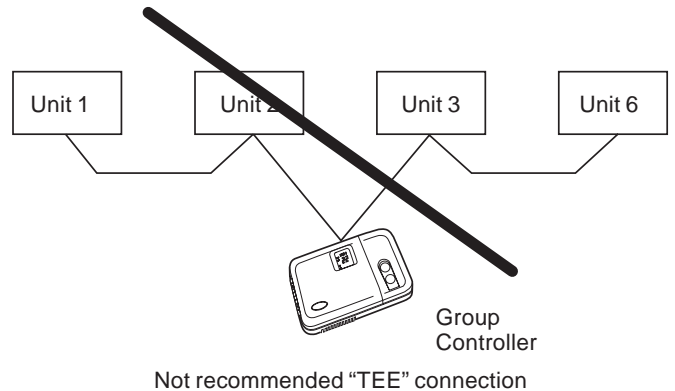
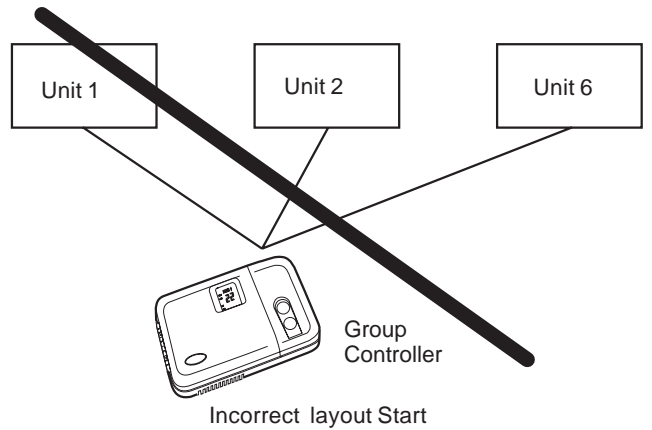
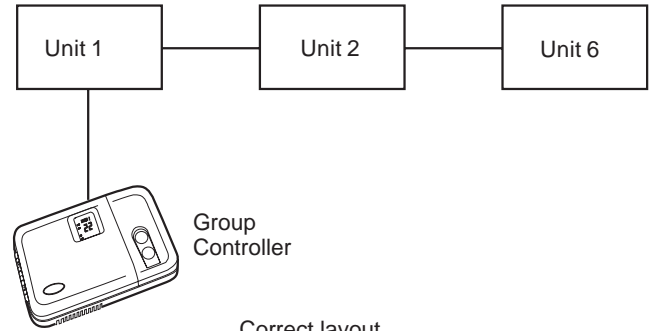
### CAUTION:

Star configuration can cause improper operation of the Group Controller.

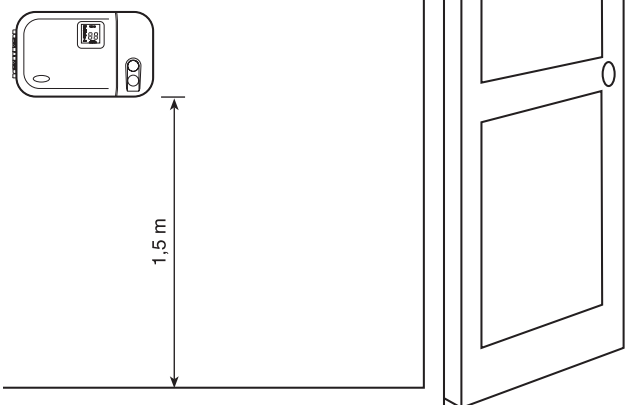
- If the Group Controller is to use its room sensor the controller has to be located in the same area as the unit(s).

### Power

Note that the Group Controller requires no batteries and is not "power stealing". It requires **5 VDC** to be connected for proper operation, which is easily obtained from the Unit connected to it. The Group Controller will not operate without this connection.



### Minimum clearances



### The Group Controller Location

The Group Controller can be located anywhere. However, if the installation requires the systems in the location to use the Air Sensor on the Group Controller; then, the controller should be mounted:

- Approximately 1.5 m from floor.
- In the same area where the units from group are located, preferably on an inside partitioning wall.
- On a section of wall without pipes or duct work.

If the air sensor on the Group Controller has been selected, it should NOT be mounted:

- Close to a window, on an outside wall, or next to a door leading to the outside.
- Exposed to direct light and heat from a lamp, sun, fireplace, or other temperature-radiating object which may cause a false reading.
- Close to or in direct airflow of a heating or cooling supply.
- In areas with poor air circulation, such as behind a door or in an alcove.

### Considerations

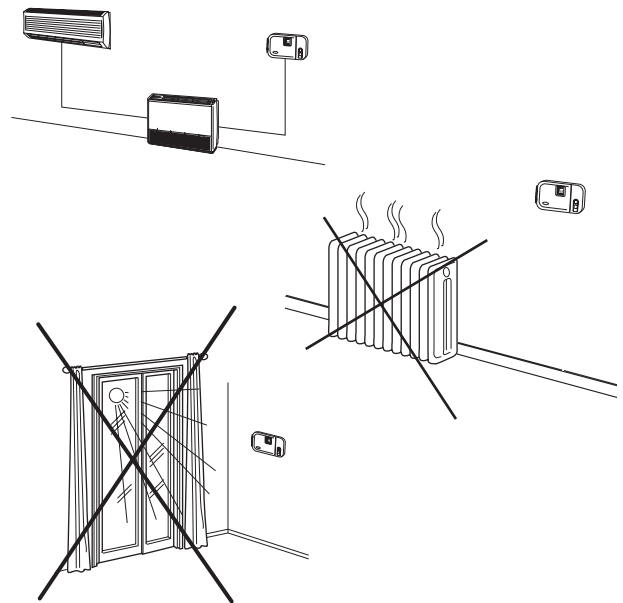
- Maximum of 150 m of total network wiring.
- Maximum of 6 Units allowed on a system.
- Network wiring must be daisy chained.

### Mounting

#### WARNING:

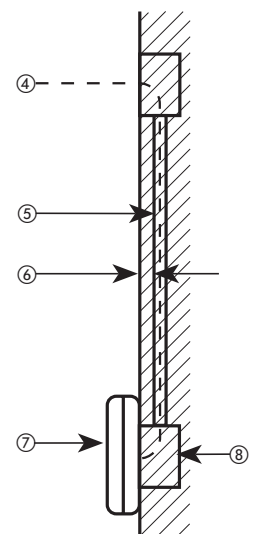
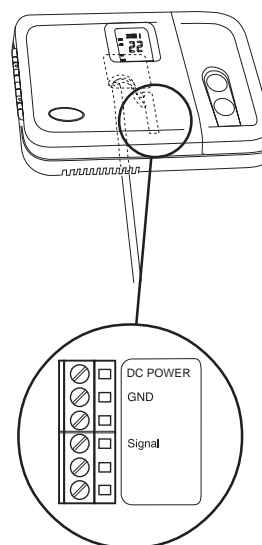
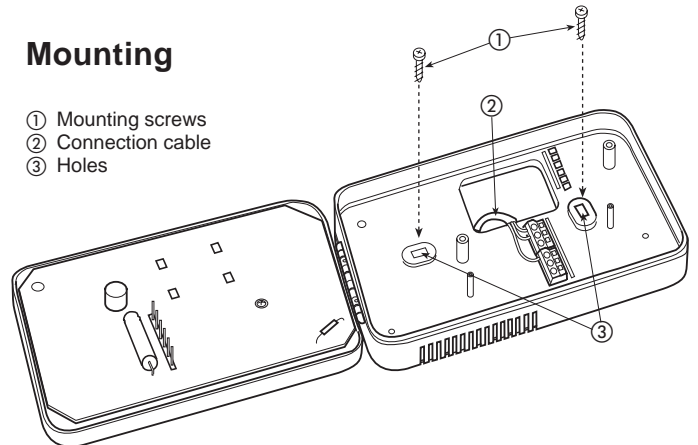
**Before installing the Group Controller, turn off all power to the Unit that will supply power to the Group Controller. Electrical shock can cause personal injury or death.**

- Turn OFF all power to unit.
- Open the Group Controller rear door (mounting base) to expose mounting holes. The base can be removed to simplify mounting (snap apart carefully at hinge to separate mounting base from remainder of the Group Controller).
- Route the Group Controller wires through the large hole in the mounting base.  
Level mounting base against wall (for aesthetic value only the Group Controller need not be level for proper operation) and mark the wall through the 2 mounting holes.
- Drill two 5 mm mounting holes in wall where marked.
- Secure mounting base to wall with 2 screws and anchors provided, (additional anchoring holes available for more secure mounting if needed) making sure all wires extend through hole in mounting base.
- Adjust length and routing of each wire to reach the proper terminal in the connector block on the mounting base, with 6 mm of extra wire (strip only 6 mm of insulation from each wire to prevent adjacent wires from shorting together when connected).
- Match and connect equipment wires to proper terminals in the connector block. Both power and communication wires must be connected correctly for proper Group Controller operation.
- Push any excess wire into the wall and against mounting base. If the air sensor is being used on the Group Controller, seal hole in wall to prevent air leaks. Leaks can affect sensor operation.
- Snap hinge back together.
- Close the Group Controller assembly making sure pins on back of circuit board align with sockets in connector.



### Mounting

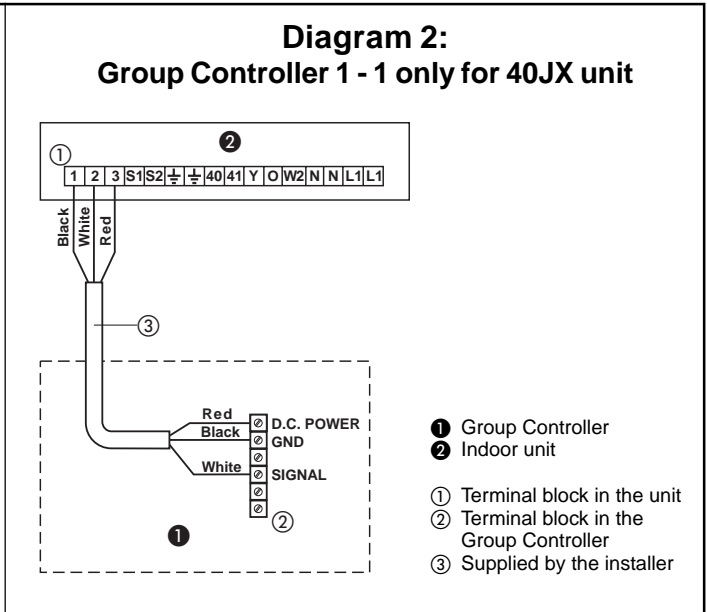
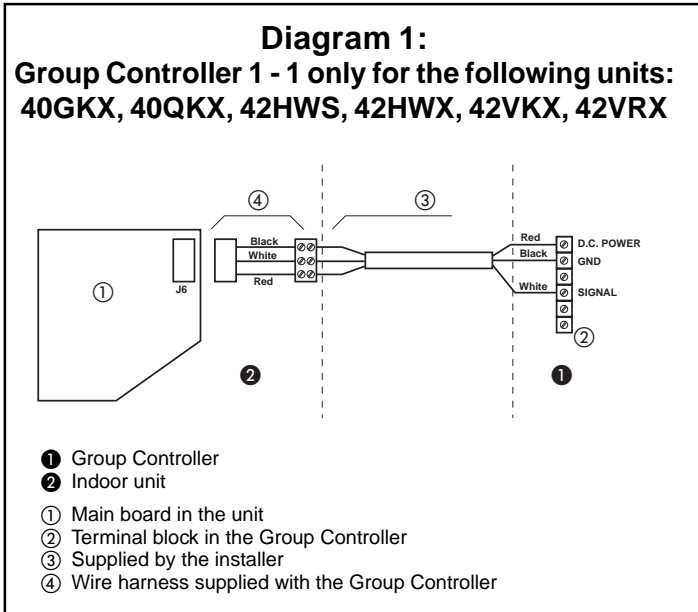
- ① Mounting screws
- ② Connection cable
- ③ Holes



- ④ To indoor unit
- ⑤ Rigid PVC conduit inside  $\varnothing$  30mm min.
- ⑥ Plaster approx 30 mm
- ⑦ Group Controller
- ⑧ Connector blok

# Group Controller

## Wiring



### Wiring Group Controller to master unit

The Group Controller has the ability to control up to 6 units products. To insure the correct operation of this system the wiring must be installed using the following guidelines.

#### WARNING:

**Before connecting any wiring to the Group Controller, turn off all power to the unit that will supply power to the Group Controller. Electrical shock can cause personal injury or death.**

The Group Controller is connected to the master unit using the following instructions. Reference Diagram 1 or 2 when making these connections.

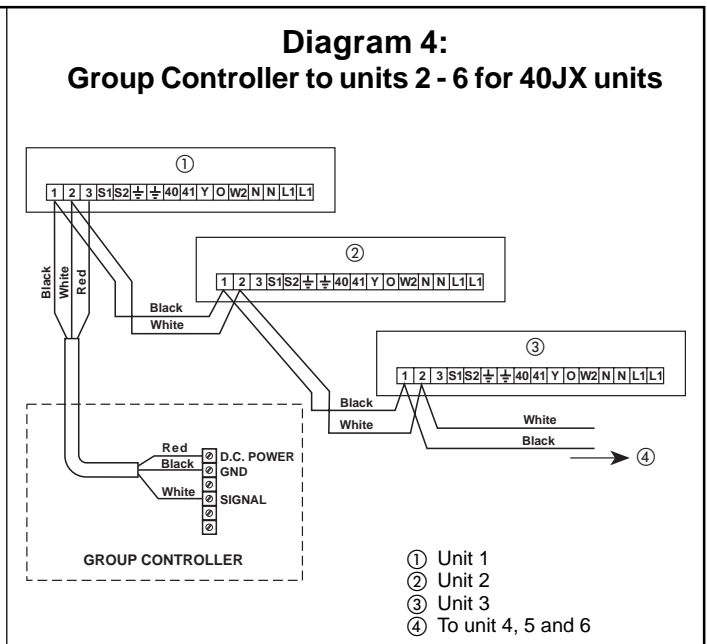
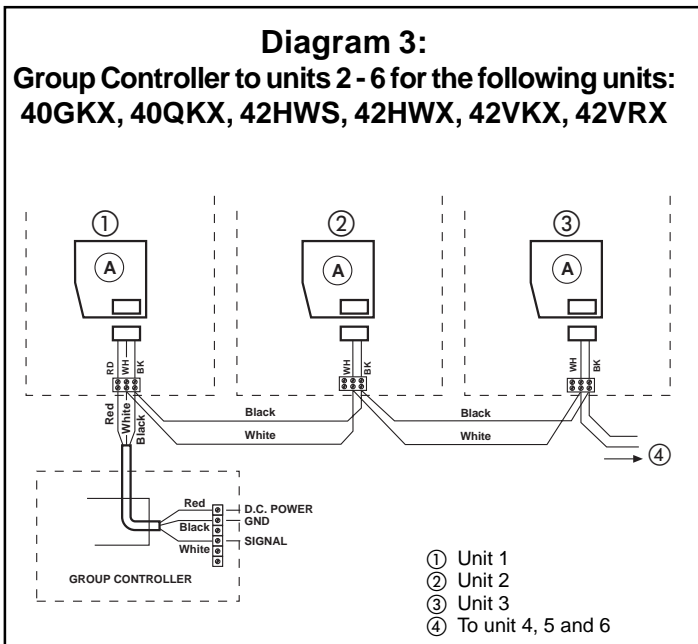
#### Power cable and communication connections Group controller to the master unit (3 conductor cable)

- In the Group Controller, loosen the screws on the terminals labeled DC Power, GND and SIGNAL.
- Insert the RED wire into the terminal labeled DC Power. Tighten the screw.

- Insert the BLACK wire into the terminal labeled GND. Tighten the screw.
- Insert the WHITE wire into the terminal labeled SIGNAL. Tighten the screw.
- At the main board in the master unit product, remove the IR receiver connection on **J6** and connect the wire harness supplied with the Group Controller. At its terminal blocks connect the wires of the cable supplied by the installer already connected to the Group Controller.
- Power cable installation is now complete.

#### Wiring Materials required (supplied by installer)

- 1 small screwdriver
- 3 x 0,5 and 2 x 0,5 mm<sup>2</sup> multiple cables, double insulated. Suggested type: H03VV-F.



# Group Controller

## Wiring and unit configuration

### Communication cable connections to the slave units (2 conductor, double insulated)

**NOTE:**

KIT 40QKX900---103-40 is required to connect one or more units to the same Group Controller.  
The kit has 5 harnesses, one for each additional unit.

**ATTENTION:**

The 3 wire harness (supplied with the Group Controller) is for installation in the master unit, or better, connected directly to the Group Controller.  
The 2 wire (supplied with the kit) harnesses are for use only with the "slave" units no. 2 to no. 6.

At the main board in the slave unit No. 2 remove the IR receiver connection on **J6** and install one of the wire harnesses supplied with the kit.

Now with a cable provided by the installer connect relevant wires from terminal block of unit number 2 to the terminal block of unit number 1.

Repeat the above steps for the remaining units in the network.

**CAUTION:**

Configuration options are intended to be selected at installation and normally are not modified by the end user.

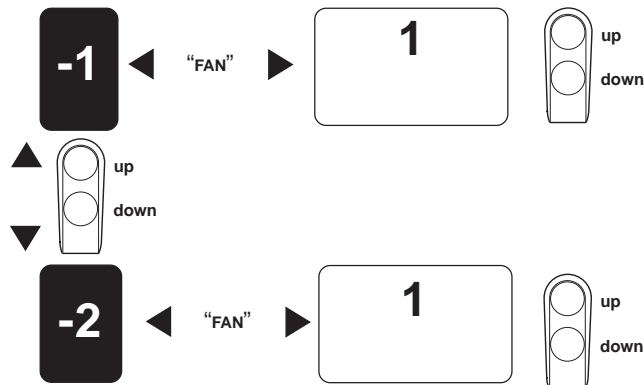
### UNIT CONFIGURATION

Selection options are intended to be determined at installation and normally are not modified by the end user.

A special procedure allows entry into the selection mode.  
The Group Controller will automatically exit this mode if no button is pressed within 10 seconds.

While in selection mode, 2 choices can be made:

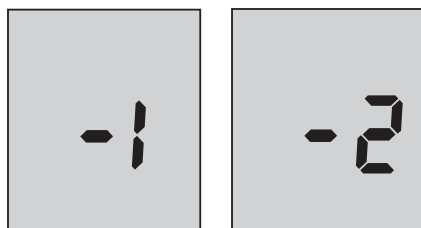
- Zone addressing 1 to 8
- Unit selection 1 to 4



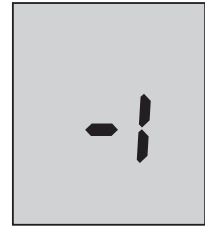
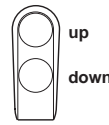
An explanation for each of these and how to enter the "UNIT CONFIGURATION" mode follows.

**To enter "UNIT CONFIGURATION" mode**

Press and hold the "FAN/Louver" button for approximately 5 seconds until display disappears and reads "-1".



This indicates that the user could set configuration item number 1. To move to the next setting, press the "UP" button again and the "-2" will be displayed.



Press the "down" button and the display will change to "-1". You are back to configuration item number 1.

### 1- ZONE ADDRESSING

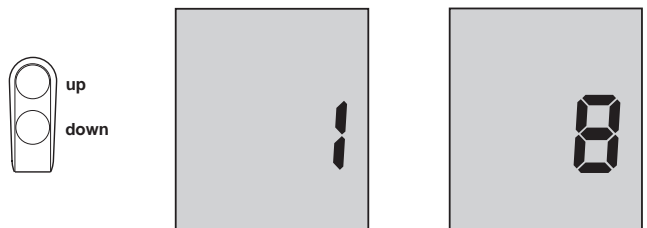
- It allows the installer to select the appropriate zone number for the units. To be used only in a network where a Zone Manager is installed. Factory fault is 1.



- The Selection Option ("-1") should be displayed.



- Press the "FAN/LOUVER" button to alter the current selection (the "-" will disappear).



- Use either the "UP" or "DOWN" button to change the zone number among 1 and 8.

### SENDING THE ADDRESS TO THE UNIT

It is sent automatically.

**NOTE:**

While it is possible to configure a communications address from 1- 32, a unit must have an address from 1- 8 to work properly with the Zone Manager.

- To end "UNIT CONFIGURATION" mode do not press any buttons for 10 seconds.

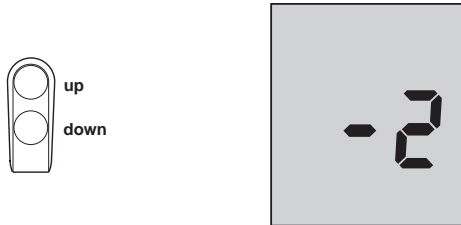
# Group Controller

## Unit and group controller configuration

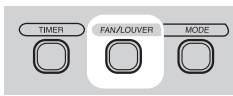
### 2- UNIT TYPE

It allows to determine appropriately which unit type is connected to the Group Controller.

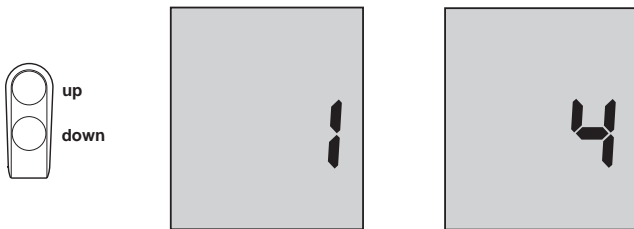
To select while in "UNIT CONFIGURATION" mode:



- Press "UP" button until "-2" is displayed.



- Press "FAN/LOUVER" button to alter the current selection (the "-" will disappear)



- Press either the "UP" or "DOWN" button until the appropriate number is displayed. Please refer to the following table for proper selection:

| Unit type          | Application  | Size           | Selected value |
|--------------------|--------------|----------------|----------------|
| Hi-Wall 42HWX      | All          | 06, 08, 10, 12 | 1              |
| Hi-Wall 42HWS      | All          | 07, 09, 12     | 1              |
| Hi-Wall 42HWX      | All          | 18, 24         | 2              |
| Hi-Wall 42HWS      | All          | 18, 24         | 2              |
| Cassette 40QKX     | All          | All            | 3              |
| Cassette 40GKX     | All          | All            | 3              |
| Console 42VKX      | Underceiling | All            | 3              |
| Console 42VKX      | Floor        | All            | 4              |
| Console 42VRX      | Underceiling | All            | 3              |
| Console 42VRX      | Floor        | All            | 4              |
| Above ceiling 40JX | All          | All            | 1              |

If your unit is not included in the above models, refer to unit installation manual to determine the selected value.

**An error in the selected value, causes a malfunction or absent swing of the louver and a bad comfort in the heating mode.**

- To end "UNIT CONFIGURATION" mode do not press any buttons for 10 seconds.

### GROUP CONTROLLER CONFIGURATION

Configuration options are intended to be selected at installation and normally are not modified by the end user. These options are not discussed in the end users manual and therefore must be made as part of the installation. A special procedure allows entry into the configuration mode. The Group Controller will automatically exit this mode if no button is pressed within 10 seconds. While in configuration mode, 6 choices can be made:



- Fahrenheit (F) or Celsius (C) (Default: Celsius).



- Room Air Override ON or OFF (Default: OFF).



- Cooling only (C) or Heat Pump (H) (Default: Heat Pump).



- Auto Mode Setback Dead band (Default 16): Value Adjustment.



- Timer Setback value. Number of degrees to set back in timer mode (Default: 4).



- Setback ON or OFF (Default: OFF).

Configuration mode ON is represented by the display "ON" and OFF is represented by the display "OF".

# Group Controller

## Group controller configuration

An explanation for each of these and how to enter the configuration mode follows.

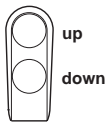
### To enter configuration mode

Press and hold the "MODE" button for approximately 5 seconds until the normal display disappears and reads "1-".



This indicates that the user could set configuration item number 1.

To move to the next setting, press the "UP" button again and the "2-" will be displayed.



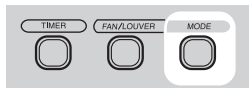
Press the "DOWN" button and the display will change to "1-". You are back to configuration item number 1.

### 1- FAHRENHEIT OR CELSIUS: SELECTION

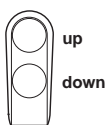
Select between Fahrenheit or Celsius operation. Factory default is Celsius.

To select while in configuration mode:

- The Configuration Option ("1-") and the current selection should be displayed.



- Press the "MODE" button to alter the current selection (current selection will now blink).



- Use either the "UP" or "DOWN" button to change between "F" or "C".
- To end configuration do not press any buttons for 10 seconds.

### 2- ROOM THERMISTOR OVERRIDE

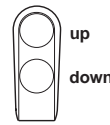
Select whether the unit(s) will use room temperature sensor in the Group Controller "On" or whether they will use the air sensor at the unit(s) "OF". Factory default is OFF.

#### CAUTION:

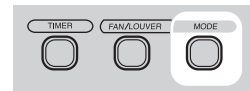
**If the room air sensor on the Group Controller is selected, installation of the Group Controller is critical.**

If the chosen option is "On" the room air temperature will be displayed.

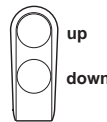
To select while in configuration mode:



- Press "UP" button until "2-" is displayed.



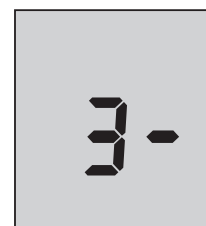
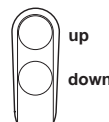
- Press the "MODE" button to change the current selection (current selection will now blink).



- Use either the "UP" or "DOWN" to change between "OF" (OFF) and "On" (ON).
- To end configuration do not press any buttons for 10 seconds.

### 3- COOLING ONLY OR HEATPUMP: SELECTION

Select whether the system is a cooling only or Heat Pump system. If there is a combination of cooling only and heatpump units on the system, then Heat Pump must be selected. Factory default is Heat Pump. To select when in configuration mode:



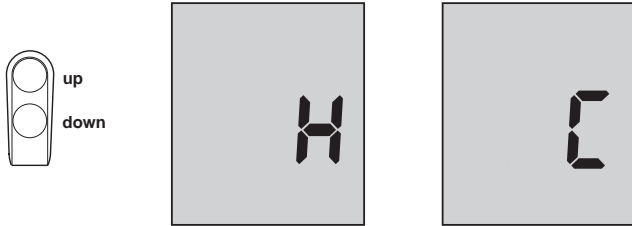
- Press the "UP" button until "3-" is displayed.



# Group Controller

## Group controller configuration

- Press the "MODE" button to change the current selection (current selection will now blink).



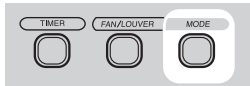
- Use either the "UP" or "DOWN" button to change between "H" (Heat Pump) and "C" (Cooling only).
- To end configuration do not press any buttons for 10 seconds.

### 4- AUTO MODE SETBACK DEADBAND : ADJUSTMENT

Select the number of degrees to setback the heating and cooling setpoints while a unit is in auto mode during a setback period. Factory default is 16 degrees. To select when in configuration mode:



- Press the "UP" or "DOWN" button until "4-" is displayed.



- Press the "MODE" button to change the current selection (current selection will now blink).



- Use either the "UP" or "DOWN" button to change the current number of degrees to setback. Allowable selections are 5-16 degrees.

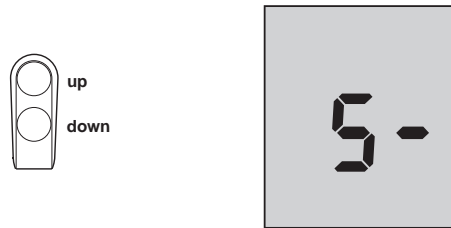
#### NOTE:

The scale of the temperature is dependent upon the currently configured scale. If the configuration item 1 is set to "F" and configuration item 4 has a value of 16, then an Auto Mode Setback Deadband of 16°F will be used. If the configuration item 1 is set to "C" and configuration item 4 has a value of 16, then an Auto Mode Setback Deadband of 16° C will be used.

- To end configuration do not press any buttons for 10 seconds.
- Please copy the configured value in the Table I of the owner's manual.

### 5- TIMER SETBACK DEGREES: ADJUSTMENT

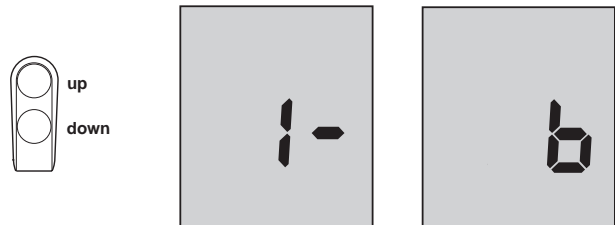
Select the number of degrees to setback the heating and cooling setpoints while a unit is in cooling or heating mode during a setback period. Factory default is 4 degrees. To select when in configuration mode:



- Press the "UP" or "DOWN" button until "5-" is displayed.



- Press the "MODE" button to change the current selection (current selection will now blink).



Use either the "UP" or "DOWN" button to change the current number of degrees to setback. Allowable selections are 1- 6 degrees.

#### NOTE:

The scale of the temperature is dependent upon the currently configured scale. If the configuration item 1 is set to "F" and configuration item 5 has a value of 6, then a Timer Setback Degrees of 6° F will be used. If the configuration item 1 is set to "C" and configuration item 5 has a value of 6, then a Timer Setback Degrees of 6° C will be used.

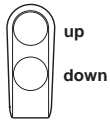
- To end configuration do not press any buttons for 10 seconds.
- Please copy the configured value in the Table I of the owner's manual.

# Group Controller

## Group controller configuration and Troubleshooting

### 6- SETBACK OR SYSTEM OFF

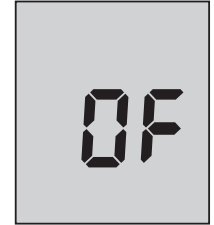
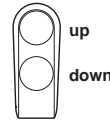
Select the if the unit will use the setback control. Factory default is "OFF".  
To select when in configuration mode:



- Press the "UP" or "DOWN" button until "6-" is displayed.



- Depress the "MODE" button to change the current selection (current selection will now blink).



- Use either the "UP" or "DOWN" button to change the current number of degrees to setback. Allowable selections are **Sb** (setback On) or **OFF** (OF).
- To end configuration, do not push any buttons for 10 seconds.

### Troubleshooting

| Symptom  | Possible Cause   | Things to check   | Solution   |
|--|--|---|--|
| No LCD display   | 1) mis-wiring of the 5 volt power to Group Controller control. | 1) Verify that + 5 V and GND are connected to the proper terminals of the Group Controller control. Reference Installation wiring section for correct connections<br>2) Check pin connections of Group Controller to base plate terminal block while closing the plastic. | After disconnecting the power, correct the wiring problem and re-cycle power.        |
|  | 2) Power not online  | 1) Check that the units main power is connected. The main control board should be operating normally  | After verifying the wiring to the Group Controller control, re-cycle the unit power. |
|  | 3) No 5 volts on + 5 and gnd of terminal block...              | 1) Check the installation of the J6 plug on the main control board.   | After disconnecting the power, correct the wiring problem and re-cycle power.        |
| +5 volts applied to Group Controller at the correct terminals and still does not operate | 1) The Group Controller control is damaged.                    |   | Change the Group Controller control and re-cycle power.                              |



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The manufacturer reserves the right to change any product specifications without notice.