Installation Guide
ZigBee HA Glass Thermostat
3157100
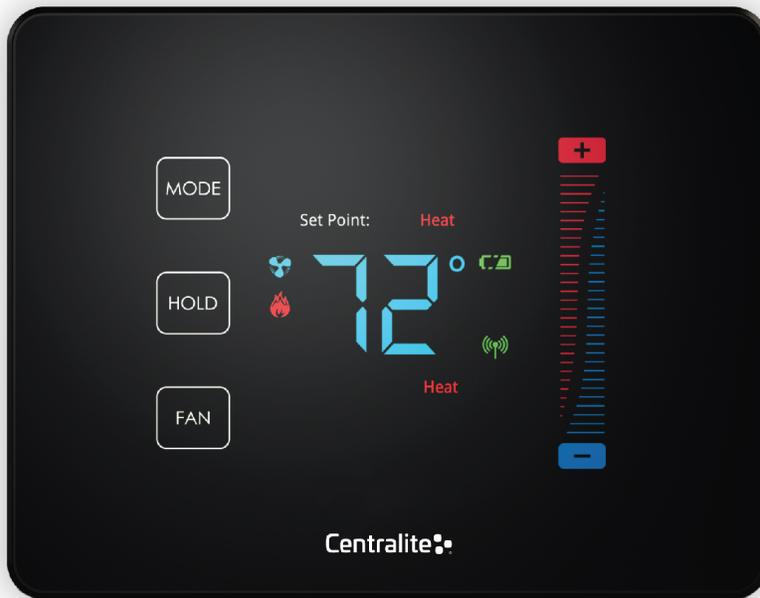
Thermostat Installation Best Practices

Locating the Thermostat

If this is to replace an existing thermostat, just use the existing thermostat location.

If this is a new install follow these suggestions:

- Locate the thermostat about 5 ft. above the floor away from direct sunlight, lamps, radios, televisions, fireplaces, hot water pipes, or other heating or cooling sources.

- Do not locate the thermostat near doors to the outside or windows.

- Do not locate the thermostat in a damp area.

- Do not locate the thermostat in an area that lacks air circulation.

Remove Existing Unit

- Switch OFF the electricity to the HVAC unit.

- Remove the cover to the existing thermostat

- Make a note of the terminal location for each wire connected to the thermostat wiring Terminals (use enclosed labels to label wires). Wire colors are not standard so it is important to note the terminal label each wire is connected to on the existing thermostat.

- While removing each wire from the existing thermostat wiring terminal, make sure to secure the wire so that it does not fall back into the wall.

- Once all wires are removed from the existing thermostat wiring terminal, remove the existing thermostat from the wall.

- Make sure to leave at least 3" of wire for each connection onto the CentraLite thermostat wiring terminal.

- Remove 1/8" insulation from the end of each wire.

Installing The Thermostat

- If removing another thermostat, please use the enclosed labels to label the wires from your old device.

- Place each wire in the appropriate wire terminal. The wiring terminal is labeled as follows:

Wiring Terminal

Y1	G	W1	RC	RH
B	O	W2	Y2	C
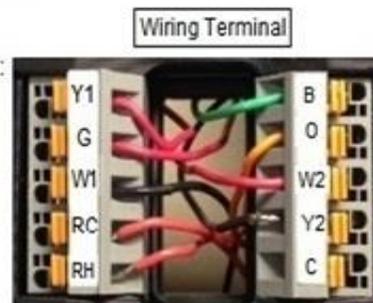
Y1	Cool Control/ Compressor
G	Fan
W1	Heat Control
RC	Power From Cooling
RH	Power From Heating
B	Heat Pump changeover (powered in heat mode)
O	Heat pump changeover (powered in cool mode)
W2	2nd stage HEAT or Heat Pump auxiliary heat
Y2	2nd Stage Cool Control
C	Common

❖ *See Figure-1 "Full Terminal View"*

Installing The Thermostat

- A thermostat which shows "E0" is a thermostat which has not yet been connected to a "valid" system or one which has not yet been "programmed" yet. This "E0" is an indicator that the thermostat is in a factory default state. This "EO" status can be changed to a valid status by either programming the thermostat or by hooking up the thermostat to a valid system. (See Appendix-A for programming menu options)

- By default the CentraLite thermostat comes with a wire jumper connecting the RH and RC power terminals. On most units only one power source is used and can be connected to both RH and RC. But if you have another type of HVAC system, it may require separate power sources for Heating and Cooling. In this case you will remove the jumper and separately power RC and RH. (See Figure-1)

- The CentraLite thermostat can be powered by 4 AA batteries or by the power from the 24V off the HVAC unit if a Common wire is available. Even if you use the common wire for power you should still install 4 AA batteries as a backup for the thermostat time clock.

- Connect the wires to the terminal at the middle of the thermostat

- Hold the thermostat up to the wall in the desired position. Mark where the 4 holes are to be drill. Drill 4 3/16 holes for the wall anchors.

- Use the included wall anchors and screws to mount the thermostat securely onto the wall.

- Install 4 AA batteries into the battery compartment at the bottom of the thermostat.

- Snap the top cover or front faceplate onto the thermostat.

Figure-1 – Full Terminal View
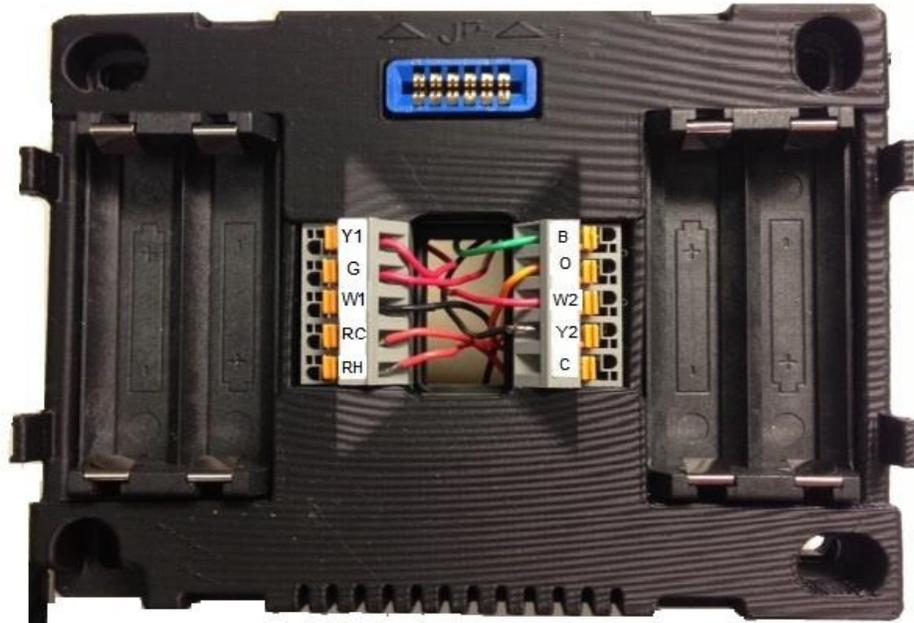
Thermostat Configuration

- From the factory the thermostat comes configured to work with single stage Cool/Heat, Single Speed Fan systems.

- If your HVAC system is different refer to the programming section to configure the thermostat for your system.

- If you have separate power for RH and RC then you will need to remove the factory installed jumper between RH and RC.
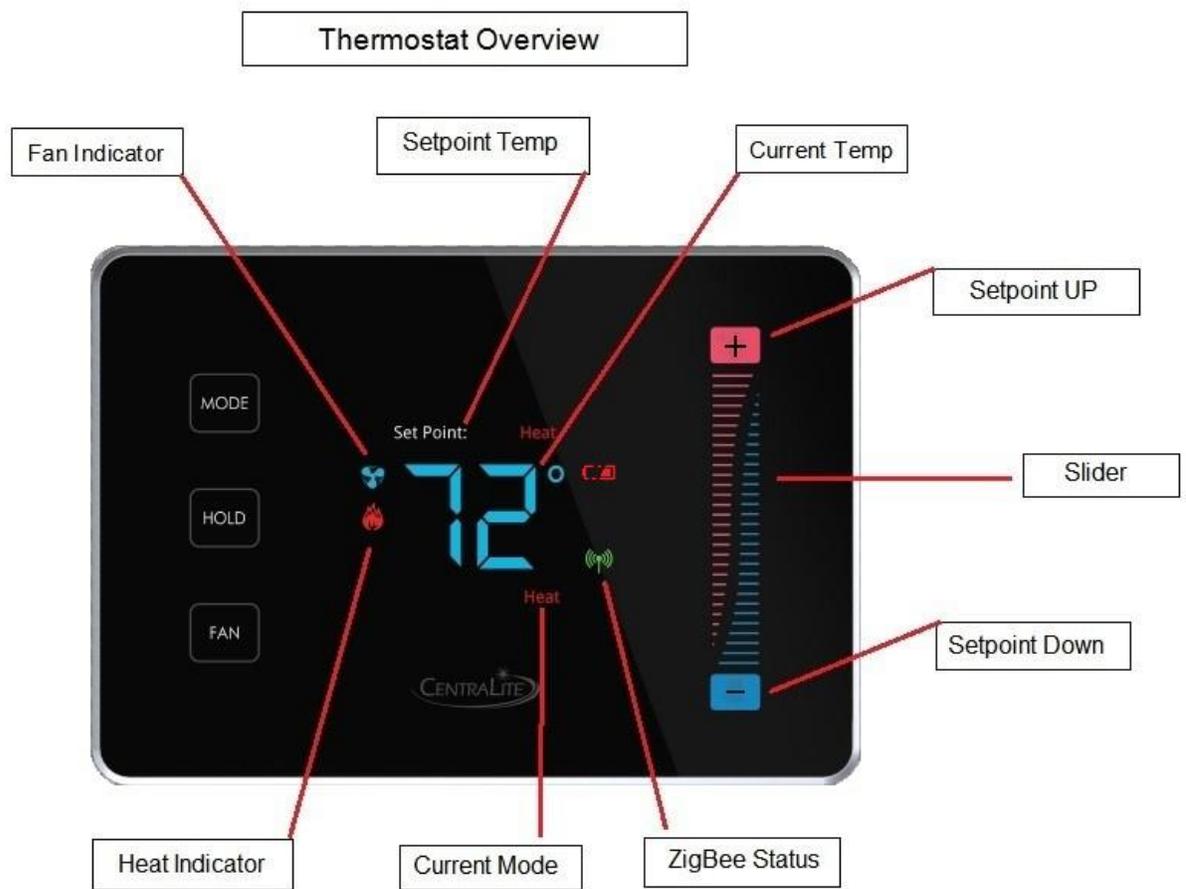
Figure-2 "Thermostat Overview"

Testing Thermostat Operation

- After completing any necessary configuration make sure the thermostat is in Cool mode by pressing the MODE button until Cool is displayed at the bottom of the screen. (See Figure-3)

- Make sure the system is not calling for Cooling by setting the setpoint several degrees above the room temperature.   Then check the Fan operation by pressing the Fan button.   When the Fan indicator is illuminated air should blow from the unit.

- Now make sure the Fan mode is in Auto and run the setpoint temperature at least several degrees below the room temperature.   Give the thermostat at least 3 minutes to respond.

- Now change the system mode to Heat.   Allow the system at least 3 minutes to respond.

The Heat (flame) mode symbol should illuminate and system should be blowing hot air.

Figure-3 "Thermostat Operation"
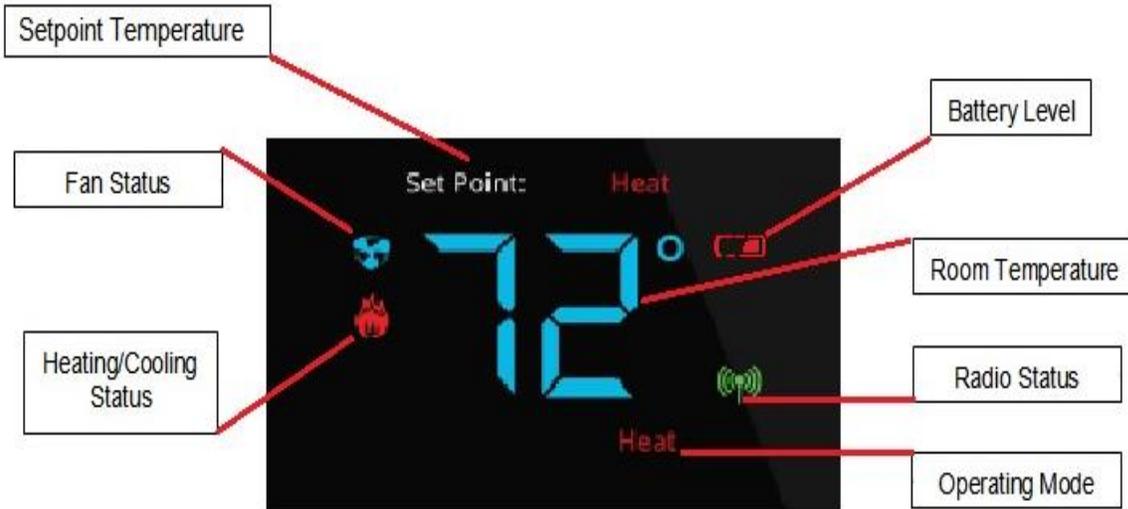
Thermostat Functions

- MODE button cycles between system modes: HEAT/COOL/E-H*/OFF
  *E/H stands for emergency heat mode – this mode uses second-stage heat as a supplemental or back-up heat.

- FAN button toggles between Fan On Mode and Fan Auto Mode.

- HOLD button will enable Hold function which locks out all scheduled system changes. This includes internal schedules and external schedules from a controller only if the controller supports this.

How to Join a ZigBee Network

- The CentraLite thermostat is intended to operate as part of a ZigBee HA network.

- The first step in the join process is to make sure the ZigBee HA controller is in a "Join Network Mode" state (This state may vary depending on your ZigBee HA Controller)

- The CentraLite thermostat will attempt to join a ZigBee HA network upon power up (as long as it has not already been joined to another ZigBee HA network).

- Upon successfully joining a ZigBee HA network the ZigBee Radio status indicator should illuminate. (See Figure-4)

Figure-4
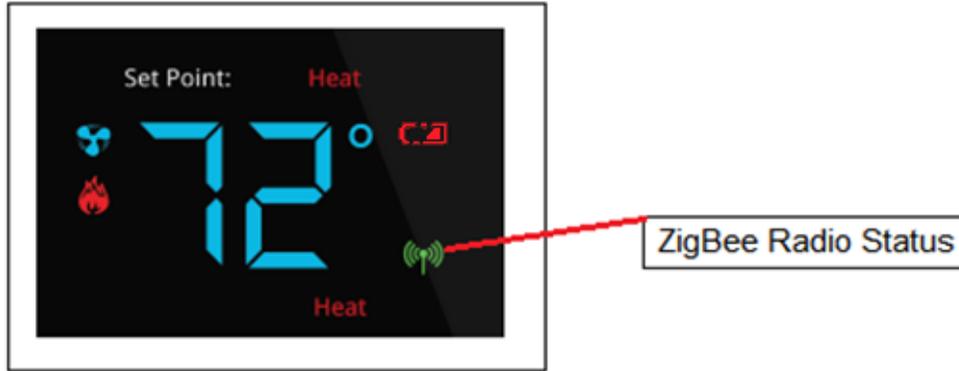
- If the indicator does not illuminate then make sure the ZigBee HA system controller is "Open" for joining.

- If the thermostat is part of a network and wish to leave that network and join to a different network, then you will go to the Menu and choose the option to leave network (See Appendix-A for menu options) followed by the join network (Appendix-A). Once a joinable HA network has been located, the ZigBee Radio Icon will appear.

- If the ZigBee Radio Icon is _solid then you are successfully connected to a network_. If the icon is _blinking slowly then you are currently scanning for a network_. If the icon is blinking fast then you are connected to a network but no parent has been found. If the icon quits blinking and does not stay on then the device was unable to find a network to join.

Thermostat Programming & Menu Functions

See Appendix-A of this document for a Quick Start Guide for support technician programming mode and programming functions.

Appendix-A

Quick Start Guide
Technical Support & Installation
Programming Mode Menu Functions

A thermostat which shows "E0" is a thermostat which has not yet been connected to a "valid" system or one which has not yet been "programmed." This E0 is the factory default state the thermostat was shipped in and can be removed to a valid status by either programming the thermostat or by hooking up the thermostat to a valid system

How to enter thermostat Programming Mode: Before you enter programming mode to program the thermostat, the device needs to be in an "off" state. To turn the thermostat off, press the "Mode" button until "Off" appears on the screen.

- PRESS BETWEEN the hold button and the fan button. Continue to hold and swipe down on the right slider - "01" will display
- When "01" is displayed, it indicates you are in "programming mode."
- Use the + and – buttons to advance through the menu options listed below in the "Menu Options" list.
- Use the HOLD button to enter a menu option then use the + and – to set the appropriate value and then HOLD to confirm you menu choice (HOLD is used like the ENTER key)
- *Note, utilizing the MODE button will exit you from the menu*
- When finished programming, tap the MODE button until the thermostat to EXIT the menu and returned to normal operation – programming mode has been exited.

Technical Support Thermostat Menu Functions
Menu Options

Display Celsius and Fahrenheit..1
> 0- Celsius
> 1- Fahrenheit (Default)

Heat type (Heat pump / Non Heat pump) 2
> 0- Non Heat pump(Default)
> 1- Heat pump

Heat source (Gas / Electric) 3
> 0- Electric
> 1- Gas(Default)

Temperature Calibration 4
> -2.5 – +2.5 Celsius
> -4.5 - +4.5 Fahrenheit
> (Default) - 0

Set Minimum Heatpoint...5
> (Default) – 44 Fahrenheit, 7 Celsius

        (Default) – 86 Fahrenheit, 30 Celsius

        (Default) – 44 Fahrenheit, 7 Celsius

        (Default) – 86 Fahrenheit, 30 Celsius

        (Default) – 1.8 Fahrenheit, 1.0 Celsius

        00 - Cool Only
        01 - Cool with reheat
        02 - Heat Only
        03 - Heat with reheat
        04 - Full Auto
        05 - Full Auto with reheat (default)

        11- Yes
        All others - No

        0- No
        1- Yes

        11- Yes
        All others - No

        0- No
        1- Yes

        0- No
        1- Yes
Types Detected
        04 - HP TWO COOL TWO HEAT
        05 - TWO COOL TWO HEAT
        FF - INVALID RELAY CONFIGURATION

        0- No
        1- Yes

    11- Yes
    All others - No

Order of Display:
    1- PSOC Version Number
    2- Ember Version Number
    3- Heat Type
    4- Heat Source
    5- Temperature Calibration
    6- Relays Detected
    7- Network State
    8- Network Channel
    9-10- PanID

    0-
    1- Reset to 0

    0-99- Brightness percentage level

Appendix-B
Quick Start Guide
Battery Installation and Replacement

1. Pull the wall thermostat housing off of its wall mount plate. If the housing will not easily pull off, slide the housing up on the wall mount plate and pull it off

2. Slide the new batteries, with the plus sign in the direction of the correct polarity indicator on the battery holder and into the slots.

3. Set the thermostat housing onto the back wall plate with the pins on the back aligned. Slide the housing down to snap it back into place.