

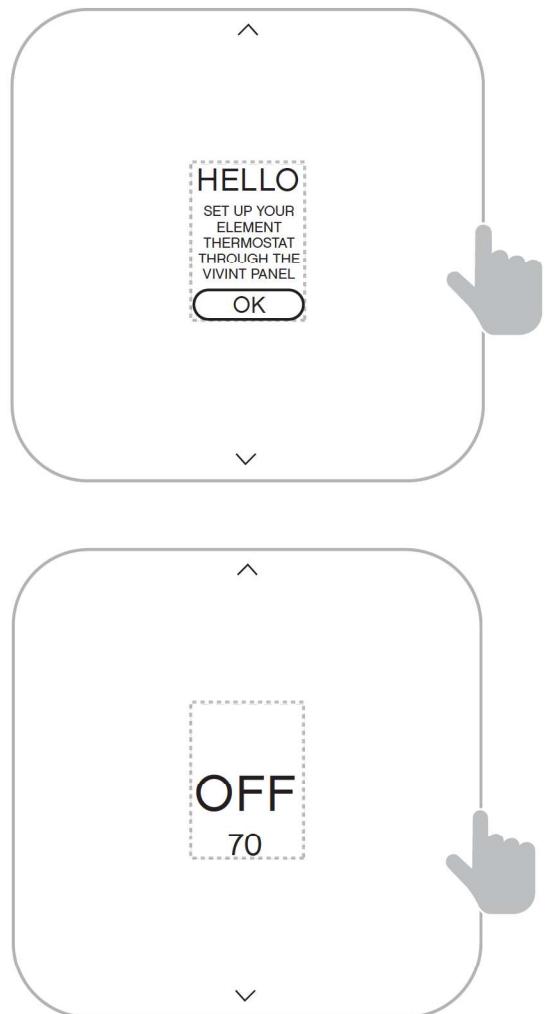
Setup

Connecting the Thermostat to a Z-Wave® Network

The Vivint Element Thermostat is a Z-Wave® compliant thermostat. It has an onboard radio that can be connected to an existing Z-Wave® network.

1. Set your primary controller to INCLUDE mode to add the thermostat as a node on your network (see your specific controller's User Manual for detailed instructions).
2. The Thermostat main screen shows a welcome message. Press the SIDE button to continue.
3. When your primary controller is ready to connect to the Thermostat, press the SIDE button to connect. This initiates the network connection process. The Thermostat's screen says "Connecting."
 - If the connection fails, the screen says, "Failed." Press the SIDE button to try connecting again.
5. When the Thermostat has successfully joined a Z-Wave network, the screen displays the message "Connected! Complete your setup on the VIVINT panel." Press the SIDE button to continue.
6. The Thermostat displays the Home screen, with the device status of "OFF" and the current room temperature. You can now configure the thermostat to work with your system.

Your primary controller indicates that the thermostat was successfully added to its network (see your specific controller's User Manual for details).



Z-Wave and Power Supply

The thermostat's node type is pre-determined when it connects to the Z-Wave network; if the C-Wire is not connected and is only battery-powered when connecting to the network, the thermostat will remain a frequent listening routing slave (FLiRS) node until it is removed from the network.

When your thermostat is running on battery power, the Z-Wave radio will turn off to help conserve battery life. The Thermostat Z-Wave radio module supports Z-Wave beaming, which allows other devices in the network to wake up the Z-Wave module and accept commands and then go back to sleep.

When your thermostat is running on C-Wire power, the Z-Wave radio will stay on and actively help route messages within the Z-Wave network. The thermostat's node type is pre-determined when it connects to the Z-Wave network; if the C-Wire is present and powered when connecting to the network, the thermostat will remain an always-listening node until it is removed from the network.

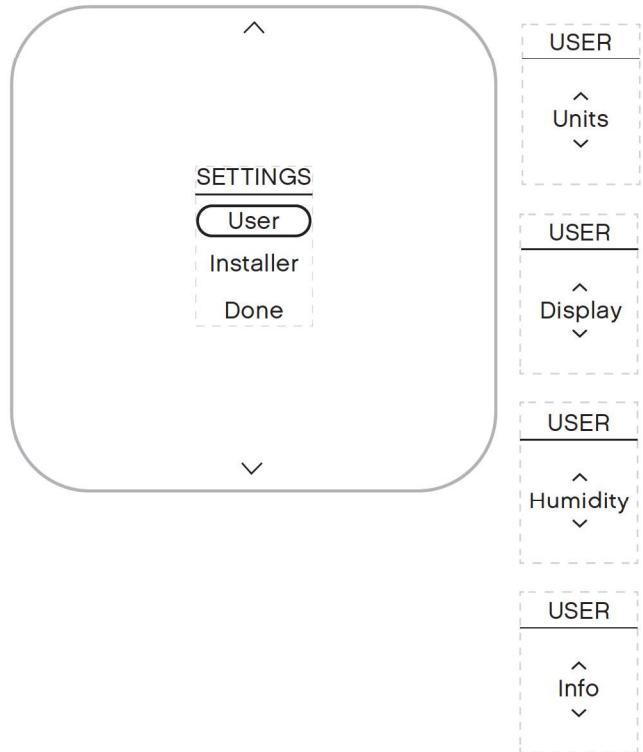
Z-Wave and Thermostat Programs

You must connect the Thermostat to a Z-Wave network. This unit cannot operate without a network connection. When you are paired to a Z-Wave system, the Z-Wave application on your device controls your thermostat's programs. You can still temporarily override settings on the thermostat itself, but otherwise you control it remotely.

Navigating the Vivint Element Screens

- Use the UP and DOWN buttons to move the cursor on the screen.
- Use the SIDE button to make a selection or scroll through options.
- To go back to a previous screen, highlight the **arrow** at the top of the screen and press the SIDE button.
- After configuring these settings, on the Home screen, press the side button to turn the system on. Press the side button repeatedly to cycle through modes.

To return to the Home screen press and hold the SIDE button for one (1) second.



Vivint Element Installation Guide

Setup

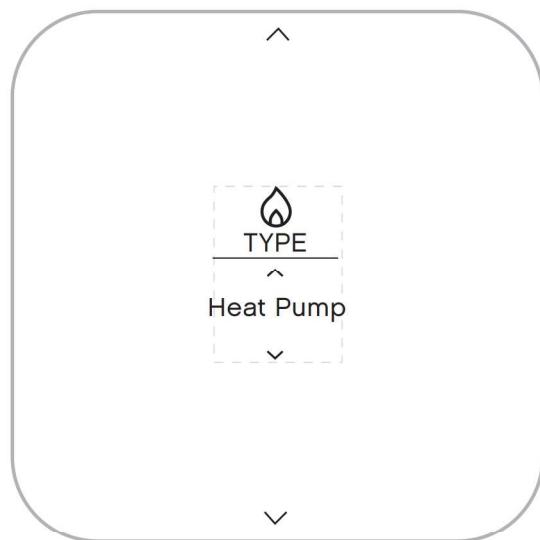
Selecting HVAC & Heat Types

1. From the Thermostat's Home screen, press and hold the SIDE button until the Settings menu appears (approximately 10 seconds).
2. Highlight Installer, then press the SIDE button. The Installer Settings menu opens.
3. Highlight Equipment, then press the SIDE button. The Equipment menu opens.
4. Highlight Heating, then press the SIDE button. The Heating menu opens.
5. Under Heating Type, press the SIDE button until your heating type is displayed: Forced Air, Heat Pump, Hydronic, or Radiant.
6. Under Fuel, press the SIDE button until your heating fuel is displayed: Natural Gas, Propane, Fuel Oil, or Geothermal and Electric. For Heat Pump systems, this field is labeled Aux Fuel.
7. Under Stages, press the SIDE button until your system's heating stage type is displayed: 1 (single), 2 (multi-stage), 1 + Auxiliary, or 2 + Auxiliary. For Heat Pump systems, this field is labeled Aux. Stages.

Note: Auxiliary stages are only available if you select Heat Pump as the heating type.

Selecting Heat Pump Settings

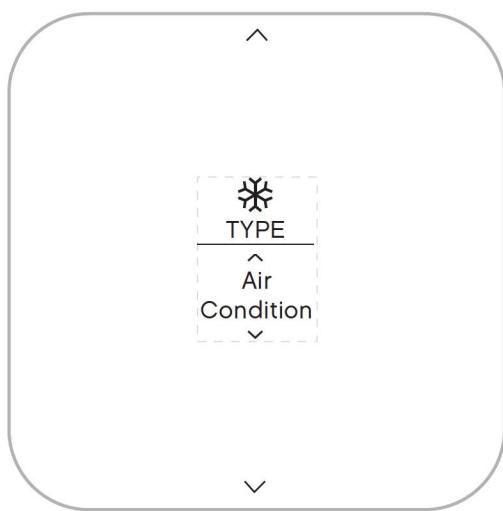
1. From the Thermostat's Home screen, press and hold the SIDE button until the Settings menu appears (approximately 10 seconds).
2. Highlight Installer, then press the SIDE button. The Installer Settings menu opens.
3. Highlight Equipment, then press the SIDE button. The Equipment menu opens.
4. Highlight Heat Pump, then press the SIDE button. The Heat Pump menu opens.
5. Highlight Wire, then select the letter corresponding to the terminal the Heat Pump is connected to: O or B.
6. Under Stages, press the SIDE button until your system's heating stage type is displayed: 1 (single), or 2 (multi-stage).



Heat Types

Selecting Cooling Type

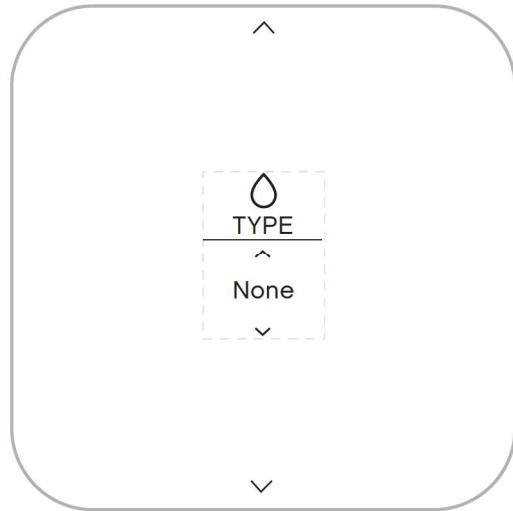
1. From the Thermostat's Home screen, press and hold the SIDE button until the Settings menu appears (approximately 10 seconds).
2. Highlight Installer, then press the SIDE button. The Installer Settings menu opens.
3. Highlight Equipment, then press the SIDE button. The Equipment menu opens.
4. Highlight Cooling, then press the SIDE button. The Cooling menu opens.
5. Under Type, press the SIDE button until your Cooling type is displayed: Air Conditioning, Heat Pump, or Evaporative.
6. Under Stages, press the SIDE button until the number of stages your system uses is displayed: 1(single) or 2 (multistage).



Cooling

Selecting Humidity Settings

1. From the Thermostat's Home screen, press and hold the SIDE button until the Settings menu appears (approximately 10 seconds).
2. Highlight Installer, then press the SIDE button. The Installer Settings menu opens.
3. Highlight Equipment, then press the SIDE button. The Equipment menu opens.
4. Highlight Humidity, then press the SIDE button. The Humidity menu opens.
5. Under Type, press the SIDE button until the type of humidity system you have is displayed: None, Humidifier, Dehumidifier or Air Conditioner.
6. Under Activation, press the SIDE button until the method your humidity system uses is displayed: W(ith) Heating, W(ith) Cooling, or Independent.
7. Under Fan, press the SIDE button until the fan option your humidity system uses is displayed: Active or Inactive.



Humidity

Test Installation

Do not operate AC if the outside temp is below 65°F.

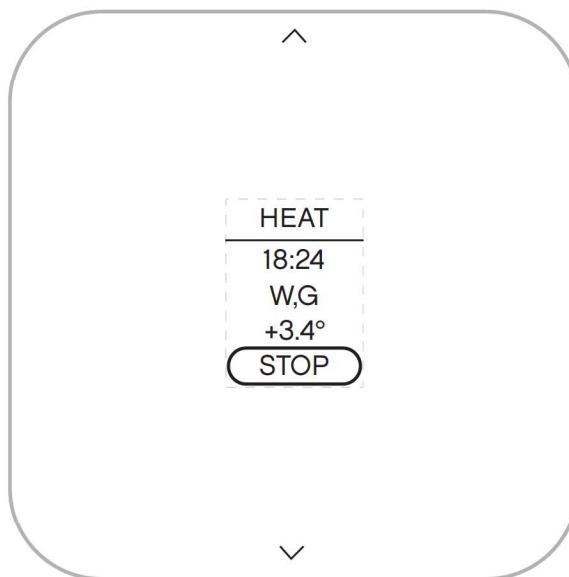
To Check Heat

The heating and cooling tests run for up to 30 minutes. You can stop a test at any time by selecting the **arrow** and pressing the SIDE button.

1. From the Thermostat's Home screen, press and hold the SIDE button until the Settings menu appears (approximately 10 seconds).
2. Highlight Installer, then press the SIDE button. The Installer Settings menu opens.
3. Highlight Testing, then press the SIDE button. The Testing menu opens.
4. Highlight Heating, then press the SIDE button. The Heat Test menu opens.
5. Highlight START, then press the SIDE button. The Thermostat screen displays the following:
 - HEAT TIME: how long the test has been running in minutes and seconds
 - ACTIVE: the wires the system is using to communicate with the heating system (example: W, G)
 - CHANGE: the amount of temperature change caused during the test (example: +3 .4°)

- 6 . Wait for the test to end, or highlight the back **arrow** and press the SIDE button.

A test of a successfully functioning heating system will show a rise in the temperature, as well as the proper wires indicated as being active. If the temperature appears to drop, or the wrong wires are indicated as being active, the test indicates a problem with the Thermostat installation. Check the wire connections and run the heating test again.



To Check Cool

1. From the Thermostat's Home screen, press and hold the SIDE button until the Settings menu appears (approximately 10 seconds).
2. Highlight Installer, then press the SIDE button. The Installer Settings menu opens.
3. Highlight Testing, then press the SIDE button. The Testing menu opens.
4. Highlight Cooling, then press the SIDE button. The Cool Test menu opens.
5. Highlight START, then press the SIDE button. The Thermostat screen displays the following:

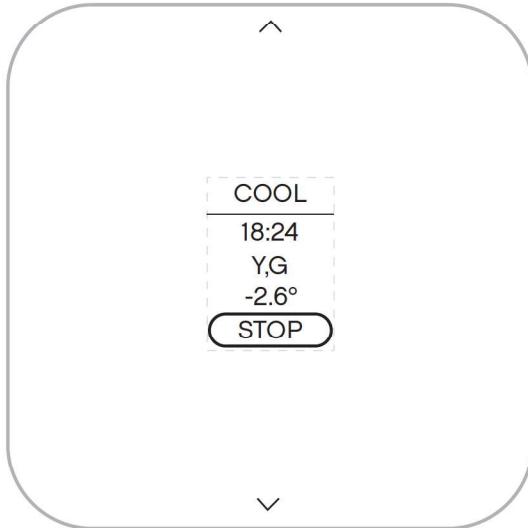
COOL TIME: how long the test has been running in minutes and seconds

ACTIVE: the wires the system is using to communicate with the cooling system (example: Y, G)

CHANGE: the amount of temperature change caused during the test (example: -2 .6°)

6. Wait for the test to end, or highlight the back **arrow** and press the SIDE button.

A test of a successfully functioning cooling system will show a drop in the temperature, as well as the proper wires indicated as being active. If the temperature appears to rise, or the wrong wires are indicated as being active, the test indicates a problem with the Thermostat installation. Check the wire connections and run the cooling test again.





Wiring Diagrams

Detailed Wiring Diagrams

Diagram 1

3 Wires Heat
C W R



Diagram 2

4 Wire Heat
C W R G

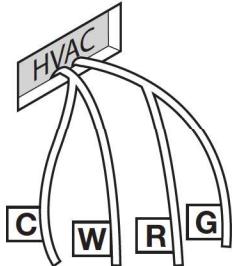


Diagram 3

5 Wire Heat/Cool
C W Y R G

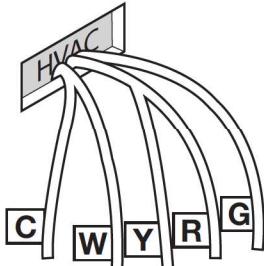


Diagram 4

6 Wire Heat/Cool
C W Y RH RC G

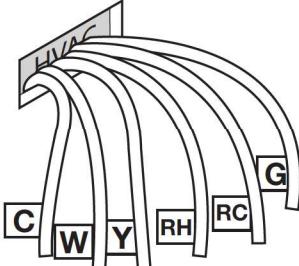


Diagram 5

Multi-stage Cool
Multi-stage Heat
C W1 Y1 R G W2 Y2

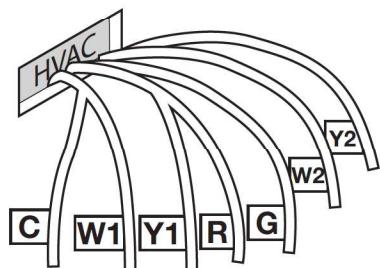


Diagram 6

5 Wire Heat Pump
w/o Aux Heat
C B or O Y R G

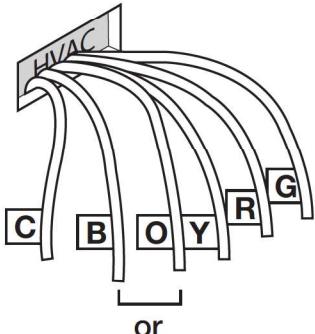
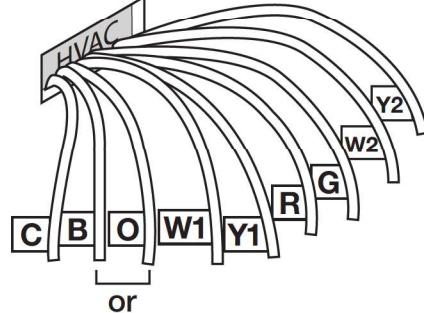


Diagram 7

Multi-stage Heat Pump
w/Multi-stage Aux Heat
C B or O Y1 Y2 W1 W2 R G



Vivint Element Installation Guide

Wiring

Step-By-Step Wiring Diagrams

DIAGRAM 1

2 Wire GAS MILLIVOLT or 24VAC System

1. Connect the R (or RH) wire to the RH terminal. This connects the heat power.
2. Connect the W wire to the W terminal. This connects the heat.
3. If available, connect the C wire to the C terminal.
4. Go to “Connect Your Wires” on page 11.

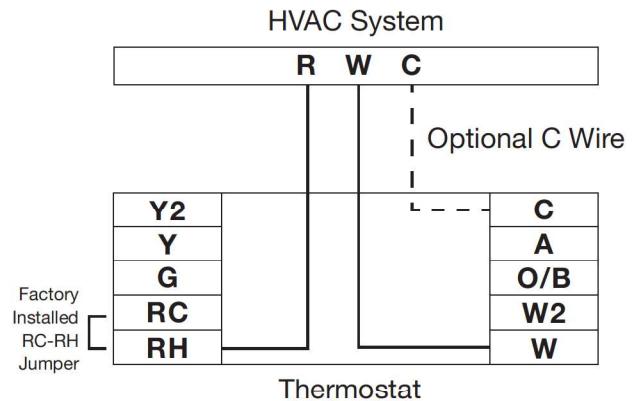


DIAGRAM 2

3 Wire Heat

1. Connect the R (or RH) wire to the RH terminal. This connects the heat power.
2. Connect the W wire to the W terminal. This connects the heat.
3. Connect the G wire to the G terminal. This connects the fan.
4. If available, connect the C wire to the C terminal.
5. Go to “Connect Your Wires” on page 11.

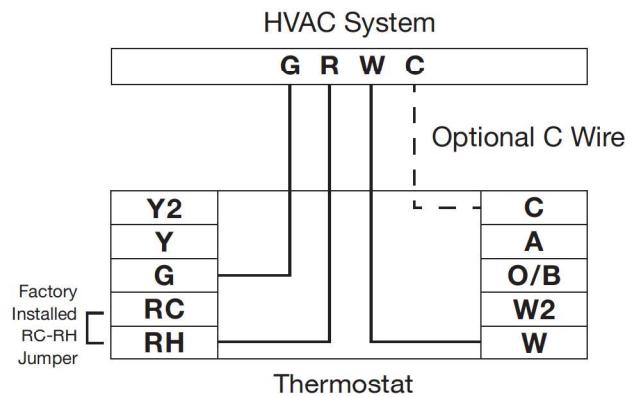


DIAGRAM 3

4 Wire Heat/Cool

1. Connect the W wire to the W terminal. This connects the heat.
2. Connect the Y wire to the Y terminal. This connects the cooling compressor.
3. Connect the RH or R wire to the RH terminal. This connects the power.
4. Connect the G wire to the G terminal. This connects the fan.
5. If available, connect the C wire to the C terminal.
6. Go to “Connect Your Wires” on page 11.

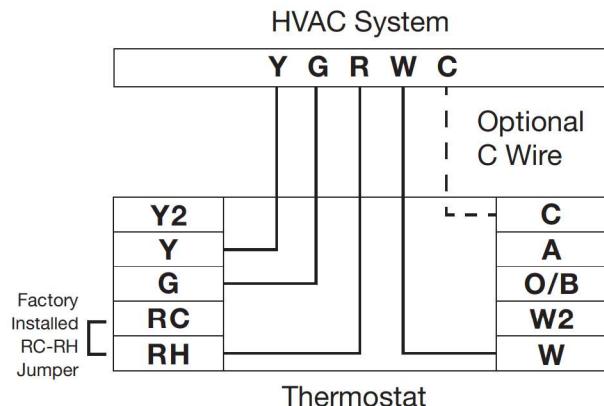
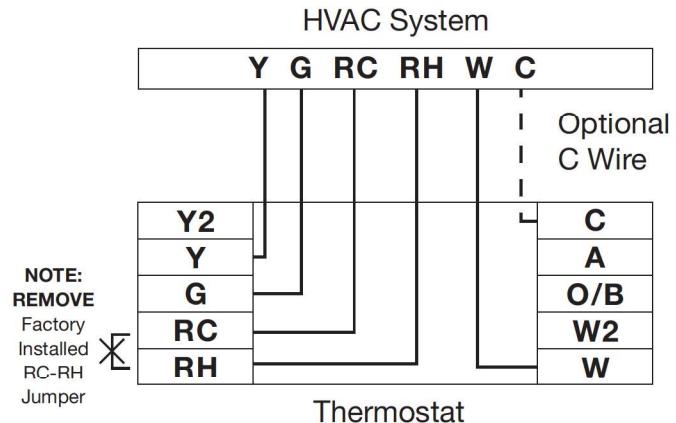


DIAGRAM 4

5 Wire Heat/Cool with separate Heating (RH) and Cooling (RC) Transformers

1. Connect the W wire to the W terminal. This connects the heat.
2. Connect the Y wire to the Y terminal. This connects to the cooling compressor.
3. Disconnect the RC and RH terminals by removing the Jumper Wire.
4. Connect the RH wire to the RH terminal and the RC wire to the RC terminal. This connects power.
5. Connect the G wire to the G terminal. This connects the fan.
6. If available, connect the C wire to the C terminal.
7. Go to “Connect Your Wires” on page 11.



Vivint Element Installation Guide

Wiring

DIAGRAM 5

Multi-stage Heat & Multi-Stage Cool

The Element can handle up to 2 stages of HEAT and 2 stages of COOL.

1. Connect the W and W2 wires to the W and W2 terminals. This connects the stages of HEAT.
2. Connect the Y and Y2 wires to the Y and Y2 terminals. This connects the stages of COOL.
3. Connect the RH or R wire to the RH terminal. This connects the power.
4. Connect the G wire to the G terminal. This connects the fan.
5. If available, connect the C wire to the C terminal.
6. Go to “Connect Your Wires” on page 11.

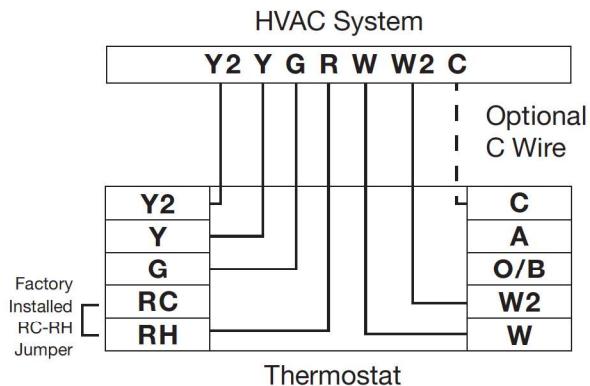


DIAGRAM 6

4 Wire Heat Pump (heat/cool) without Auxiliary Heat

1. Connect the O wire to the O terminal or the B wire to the B terminal. This connects the change-over valve. If you have both O and B, connect only the O wire to the O terminal and DO NOT connect B to B terminal (see the Wire Reference Table on page 23 for Trane terminal labels).
2. Connect the Y wire to the Y terminal. This connects the compressor.
3. Connect the R wire to the RH terminal. This connects the power.
4. Connect the G wire to the G terminal. This connects the fan.
5. If available, connect the C wire to the C terminal.
6. Go to “Connect Your Wires” on page 11.

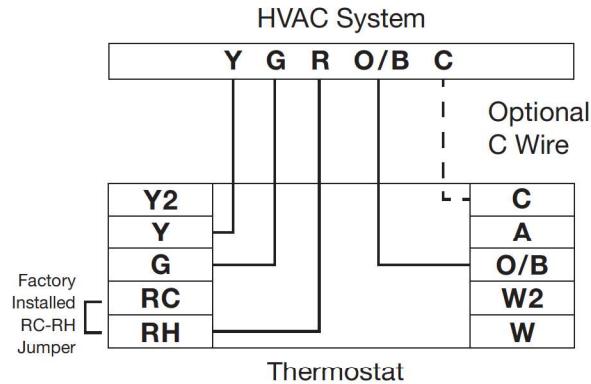
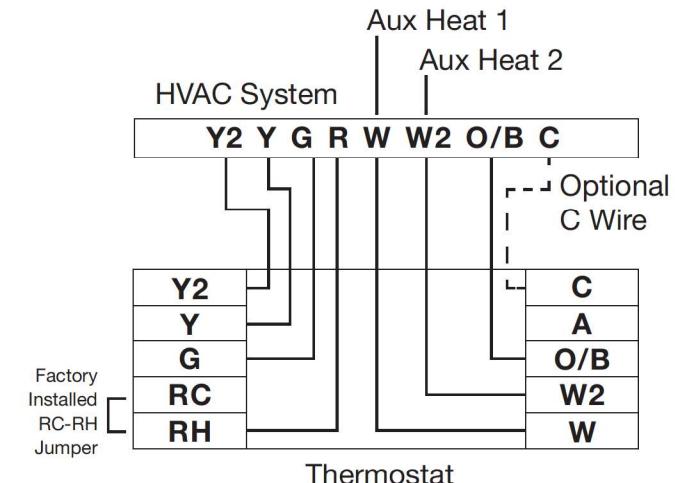


DIAGRAM 7

Multi-stage Heat Pump with Multi-Stage Aux Heat

The Element can handle up to 2 stages of Pump compression and 2 stages of AUX heat.

1. Connect O wire to the O terminal or the B wire to the B terminal. This connects the change-over valve. If you have both O and B, connect only the O wire to the O terminal and DO NOT connect B to B terminal (see Wire Reference Table on page X for Trane terminal labels.).
2. Connect the AUX 1 and AUX 2 wires to the AUX 1 and AUX 2 terminals. This connects the auxiliary heat.
3. Connect the Y and Y2 wires to the Y and Y2 terminals. This connects the compressor.
4. Connect the R wire to RH terminal. This connects the power.
5. Connect the G wire to the G terminal. This connects the fan.
6. If available, connect the C wire to the C terminal.
7. Go to “Connect Your Wires” on page 11.



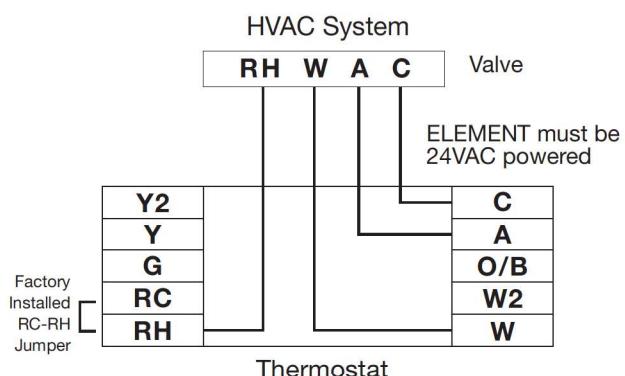
Accessory Wiring

Zoned Hot Water Heat Motor or Solenoid Valve

For Solenoid or Motor valves, connect the wires based on the diagrams to the correct terminal on the Element. When controlling a hydronic heating system, configure the thermostat as HVAC Type = Normal with Heat Type = Gas.

- USE ONLY IN HEAT MODE.
- The Element must be powered by 24v ac.

The third wire on your valve may be called 6, Y, or G (see the Wire Reference Chart on page 23).



Hydronic Heating Notes
Configure thermostat as HVAC type = Normal, with Heat Type = Gas. Use only in Heat Mode

Vivint Element Installation Guide

Wiring

Possible Wires	What They Control
R or V or VR	RH and RC Single power for HEAT and COOL
RH or 4	RH Power for HEAT (RH not connected to RC jumper clip removed)
RC	RC Power for COOL (RH not connected to RC jumper clip removed)
W	W 1st stage HEAT or 1st stage auxiliary heat
W2	W2 2nd stage HEAT or 2nd stage auxiliary heat
Y	Y COOL control or 1st stage compression for heat pump
Y2	Y2 2nd stage COOL control or 2nd stage compression for a heat pump
G or F	G FAN control
C or X	C 24VAC power (to power thermostat) NOTE: TRANE uses B for this connection
H	H External Humidifier
DH	DH External De-Humidifier
EX	EX external fresh air baffle
B	B Heat pump changeover (cool to heat, powered in heat) For more details see B/O
O	O Heat pump changeover (heat to cool, powered in cool) For more details see B/O
B/O	IMPORTANT: If there are both B and O wires (Trane and American Standard heat pump products) DO NOT CONNECT B to B terminal. Instead, connect B to C terminal. If not a Trane or American Standard product, tape off B.
E	n/a Emergency heat (do not connect, tape off)
L	n/a System monitor (do not connect, tape off)
T	n/a Outdoor sensor (do not connect, tape off)

Lennox Heat Pump	
V or VR or R	RH Power for HEAT
M or Y	Y COOL control
Y or W or W2	W2 2nd stage HEAT
F or G	G Fan control
R or O	O
X or X2 or C	C
Trane Products [American Standard]	
B	C 24VAC power (to power thermostat)
X2	Emergency heat. Do not connect, tape off.
Zoned Hot Water	
2 wire	
R	RH
W	W
Motor Driven Valves	
3 Wire	
R or 5	RH (power)
W or 4	W (heat ON)
Y or G or 6 (the 3rd wire)	A (heat OFF)
Solenoid Valves	
3 Wire	
R	RH (power)
W	A (heat ON)
Y or G (the 3rd wire)	W (heat OFF)

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