Nuve Thermostat
Installation Guide

(Model Samo)

April 2026

ENERGY STAR® Certified

Table of Contents

Nuve is a smart home thermostat that optimizes your client's home comfort while monitoring their HVAC system's health. It directly connects you with your customers, allowing them to request your service with the touch of a button on the thermostat or by using the mobile application on a cell phone or mobile device.

What You Get

In the box, you will find the items shown in the following figure.

Item	Description
❶	Thermostat
❷	Screws/anchors
❸	Wall plate

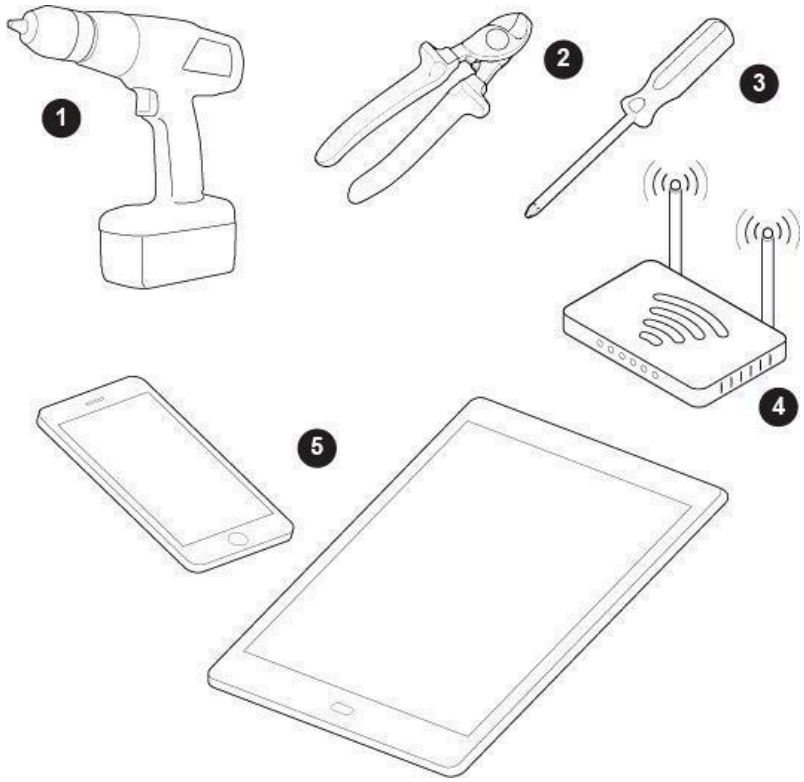
Report missing or damaged components to:

Nuve Controls LLC
4051 E. La Palma Ave, Suite A Anaheim, California 92807

info@nuvehome.com

What Else You Need

To complete the installation, you will need the items in the following figure.



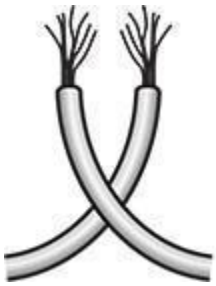
Item	Description
❶	Drill
❷	Electrical pliers
❸	Phillips screwdriver
❹	Wi-Fi network
❺	Smart device with internet browser

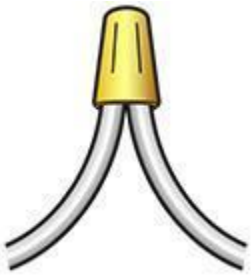
Before You Begin

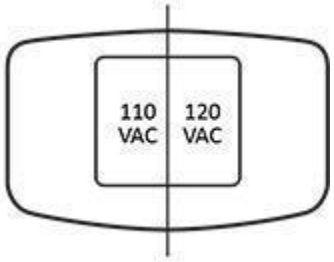
Make sure the heating and/or cooling system is working properly.

The Nuve smart thermostat is compatible with most 24-volt HVAC systems. Confirm that the HVAC unit is a 24-volt system by inspecting the existing thermostat, HVAC system wiring, or HVAC system documentation. If your existing thermostat has either of the following, the Nuve smart thermostat is **not** compatible with the HVAC system:

- Thick, stranded wires twisted together or connected with wire nuts
- A label inside the thermostat showing 110V or 120V







For compatible HVAC systems, do the following:

1. Read this product Installation Guide.
2. Confirm that the heating and cooling system is operating properly.
3. Observe cautions and warnings.
4. Go to the home's breaker box, and then turn off the breaker switch that controls the home HVAC system. This will protect it during installation. Alternatively, you can turn off the Main power switch at the breaker box.

Warning: Failing to turn off the power before working with wiring can lead to serious injury or death.

Step 1 - Mounting the Thermostat

To install the Nuve smart thermostat:

1. Confirm that power to the cooling and heating system is off. Change the temperature on the existing thermostat, and then verify that the system does not turn on.
2. Remove the existing thermostat or select a new mounting location.
3. Take a picture of the wire connections on the old thermostat. You may need to reference this photo later.
4. Pull the wires through the hole in the middle of the wall plate, and then attach the wall plate to the wall using the drywall anchors and screws provided.

   Connect the HVAC wires to the wall plate – see Step 2 for more details
5. Mount the thermostat to the wall plate.

6. Install the cosmetic plate over the thermostat and wall plate so that the Up label is on top. This is important for proper airflow to cool the thermostat.
7. At the breaker box, turn on the HVAC circuit breaker or Main switch.

Step 2 - Connecting the wires

Checkpoint: Do you have more than one R (red) wire? If yes, connect only the red wire that comes from the cooling transformer and leave the remaining red wires unconnected.

WARNING

NUVE is designed for 24V ac with up to 2A output current. Do not connect it to line (high) voltage or millivolt systems.

Connect the wires on the HVAC system according to the following instructions

Traditional Systems

See the wiring diagrams in Appendix 1

1H/1C System (Heating and cooling system with only stage 1)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24V ac Common	Blue
G	Fan relay	Green
Y1	Compressor	Yellow
W1	Heat relay	White
2H/2C System (Heating and cooling system that has stage 1 and stage 2)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24V ac Common	Blue
G	Fan relay	Green
Y1	Compressor stage 1	Yellow
Y2	Compressor stage 2	Yellow
W1	Heat relay stage 1	White
W2	Heat relay stage 2	White
1H/2C System (Heating and cooling system that has stage 1 heating and stage 1 and 2 cooling)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24V ac Common	Blue
G	Fan relay	Green
Y1	Compressor stage 1	Yellow
Y2	Compressor stage 2	Yellow
W1	Heat relay stage 1	White
3H/2C System (Heating and cooling system that has stage 1,2 and 3 heating and stage 1 and 2 cooling)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24V ac Common	Blue
G	Fan relay	Green
Y1	Compressor stage 1	Yellow
Y2	Compressor stage 2	Yellow
W1	Heat relay stage 1	White
W2	Heat relay stage 2	White
W3	Heat relay stage 3	White

Heat Pump Systems

1H/1C Heat pump System (Heating and cooling system with only stage 1)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24V ac Common	Blue
G	Fan relay	Green
Y1	Compressor	Yellow
O/B	Changeover valve	Orange or Brown
1H/1C Heat pump System with Aux heat stage 1 (Heat pump that has 1 stage for heating/ cooling and 1 stage for auxiliary (emergency) heating) **If W1(Aux 1) and W3(E) terminals driven together (1 wire for Aux)**		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24V ac Common	Blue
G	Fan relay	Green
Y1	Compressor stage 1	Yellow
W3 (E) or W1 (Aux1)	Emergency / Aux Heat relay	White
O/B	Changeover valve	Orange or Brown
1H/1C Heat pump System with Aux heat stage 1 (Heat pump that has 1 stage for heating/ cooling and 1 stage for auxiliary (emergency) heating) **If W1(Aux 1) and W3(E) terminals NOT driven together (2 wires for Aux)**		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24V ac Common	Blue
G	Fan relay	Green
Y1	Compressor stage 1	Yellow
W1 (Aux1)	Aux	White
W3 (E)	Emergency Heat relay	White
O/B	Changeover valve	Orange or Brown
2H/2C Heat pump System (Heating / cooling system that has stage 1 and stage 2)		
Terminal	**Wire**	**Color (mostly)**
R	Power	Red
C	24V ac Common	Blue
G	Fan relay	Green
Y1	Compressor stage 1	Yellow
Y2	Compressor stage 2	Yellow
O/B	Changeover valve	Orange or Brown

2H/2C Heat pump System with Aux heat stage 2 (Heat pump system that has 1 and 2 stages and 2 stages of Auxiliary (emergency) heating) If W1(Aux 1) and W3(E) terminals are driven together (2 wires for Aux)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24V ac Common	Blue
G	Fan relay	Green
Y1	Compressor stage 1	Yellow
Y2	Compressor stage 2	Yellow
W2 (Aux2)	Aux stage 2	White
W3 (E) or W1 (Aux1)	Emergency / Aux Heat relay	White
O/B	Changeover valve	Orange or Brown

Dual Fuel Heating

See the wiring diagrams in Appendix 1

2H/1C Heat pump with Auxiliary heating system (Heat pump with stage 1 and auxiliary heating with stage 1)		
Terminal	**Wire**	**Color (mostly)**
R	Power	Red
C	24Vac Common	Blue
G	Fan relay	Green
Y1	Compressor	Yellow
W1 (Aux1)	Auxiliary	White
O/B	Changeover valve	Orange or Brown
3H/1C Heat pump with Auxiliary heating system (Heat pump with stage 1 and auxiliary with stage 1 and 2)		
Terminal	**Wire**	**Color (mostly)**
R	Power	Red
C	24VAC Common	Blue
G	Fan relay	Green
Y1	Compressor stage 1	Yellow
W1 (Aux1)	Auxiliary stage 1	White
W2 (Aux2)	Auxiliary stage 2	White
O/B	Changeover valve	Orange or Brown

4H/2C Heat pump with Auxiliary heating system (Heat pump with stage 1 and 2 and auxiliary with stage 1 and 2)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24VAC Common	Blue
G	Fan relay	Green
Y1	Compressor stage 1	Yellow
Y2	Compressor stage 2	Yellow
W1 (Aux1)	Auxiliary stage 1	White
W2 (Aux2)	Auxiliary stage 2	White
O/B	Changeover valve	Orange or Brown

5H/2C Heat pump with Auxiliary System (Heating system that has stage 1 and 2 and auxiliary stage 1, 2 and 3)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24VAC Common	Blue
G	Fan relay	Green
Y1	Compressor stage 1	Yellow
Y2	Compressor stage 2	Yellow
W1 (Aux1)	Auxiliary stage 1	White
W2 (Aux2)	Auxiliary stage 2	White
W3	Auxiliary stage 3	White
O/B	Changeover valve	Orange or Brown

Cool Only Systems with Fan

1C Cool only System (Cooling system with only stage 1)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24VAC Common	Blue
G	Fan relay	Green
Y1	Compressor	White

2C Cool only System (Cooling system with stage 1 and stage 2)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24VAC Common	Blue
G	Fan relay	Green
Y1	Compressor stage 1	White
Y2	Compressor stage 2	White

Heat Only Systems with Fan

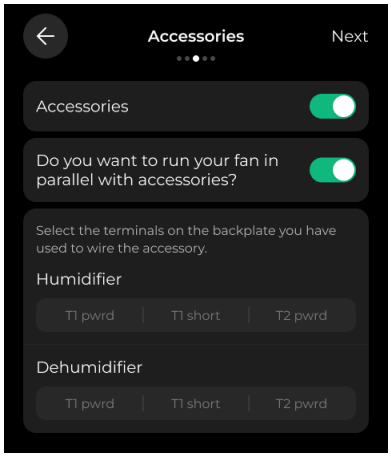
1H Heat only System (Heating system with only stage 1)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24VAC Common	Blue
G	Fan relay	Green
W1	Heat relay	White
1H Heat only System with Emergency heating (Heating system with only stage 1and emergency heating)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24VAC Common	Blue
G	Fan relay	Green
W1	Heat relay	White
W3	Emergency Heat relay	White
2H Heat only System (Heating system with stage 1 and stage 2)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24VAC Common	Blue
G	Fan relay	Green
W1	Heat relay stage 1	White
W2	Heat relay stage 2	White
2H Heat only System with Emergency heating (Heating system with stage 1 and stage 2 and emergency heating)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power	Red
C	24VAC Common	Blue
G	Fan relay	Green
W1	Heat relay stage 1	White
W2	Heat relay stage 2	White
W3	Emergency Heat relay	White

Dual (2) Transformer system

1H/1C Oil Furnace		
Terminal	**Wire**	**Color (mostly)**
Rc	Power - Air Handler	Red
Rh	Power - Oil Furnace	Red
C	24V ac Common	Blue
G	Fan relay	Green
Y1	Compressor stage 1	Yellow
W1	Oil Furnace	White

Hot water heat (Boiler) with Air-conditioning (or hot water coil)		
Terminal	**Wire**	**Color (mostly)**
Rc	Power - Air Handler	Red
Rh	Power - Boiler	Red
C	24V ac Common	Blue
G	Fan relay	Green
Y1	Compressor stage 1	Yellow
W1	Boiler	White

Connecting Accessories (Humidifier/Dehumidifier(ventilator))



Legend

T1P – Terminal 1 powered connector

T1N - Terminal 1 neutral (short) connector

T2 - Terminal 2 powered connector

Use terminals T1P with T1N, or T2 to connect accessories such as the humidifier or dehumidifier (ventilator)

Checkpoint: If the connected accessory device (such as a humidifier or ventilator) is powered by the HVAC internal transformer, use the T1P or T2 terminals (1 wire); otherwise, use both the T1P and T1N terminals (2 wires).

See the wiring diagrams in Appendix 1

Stage Activation and System Shutdown Thresholds.

1st stage turns ON when temperature difference is 0.9F and more

2nd stage turns ON when temp difference is 1.9F and more

3rd stage turns ON when temp difference is 2.9F and more

The system turns OFF when:

1. In cooling mode, the current temp gets lower than set temperature by 1F

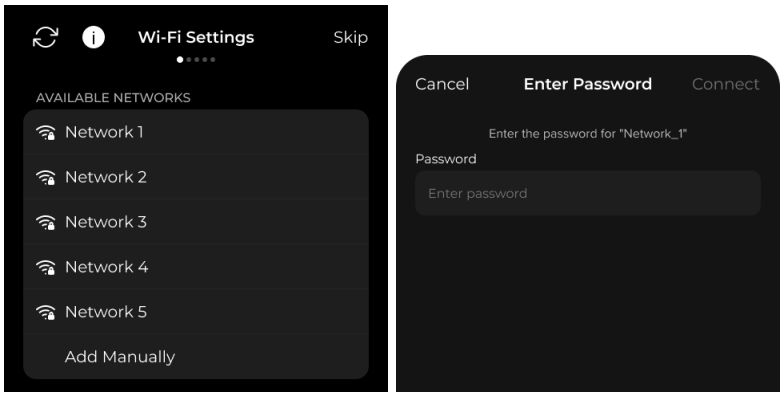
2. In heating mode, the current temp gets higher than set temperature by 1F

Step 3a – Connecting to the Network

When you apply power to the Nuve smart thermostat, the power-up sequence begins. The Backlight LEDs blink and you are navigated to the Wi-Fi settings page.

Note: In the unlikely event that the Nuve Smart Thermostat does not power up, confirm that power is present at the thermostat. If power is not present, troubleshoot the home electrical system. If power is present, contact the Nuve Support team.

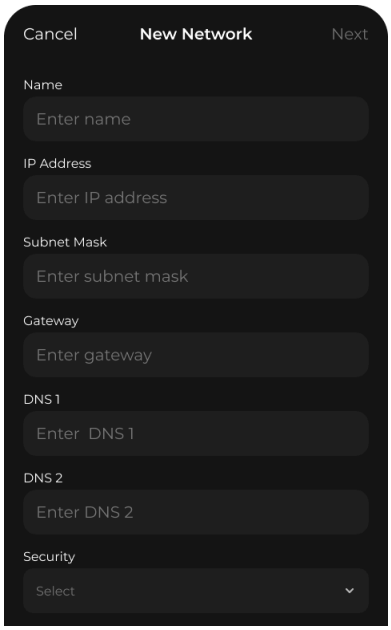
1. In the Wi-Fi Settings page, review the available networks. Ask the customers for the Wi-Fi network and password. In the Wi-Fi Settings page, select the network, input the corresponding password, and then tap **Connect**.



2. After successfully connecting to the network, tap the **Next** button at the top right corner to get navigated to the System Setup page – see Step 4 - Setting Up the System.

Connecting to an Unlisted Network

1. To connect to an unlisted network, tap **Add Manually**. In the Wi-Fi Settings page, enter the network settings, and then tap **Next**. You should now see the network on the Wi-Fi Settings page, Tap the network, and then tap **Connect** to proceed.

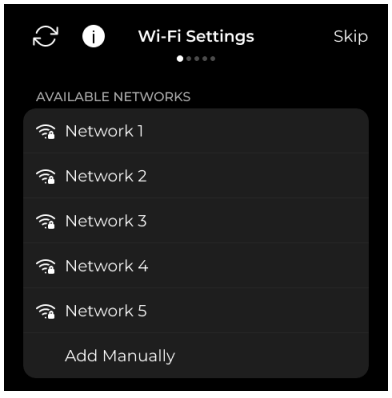


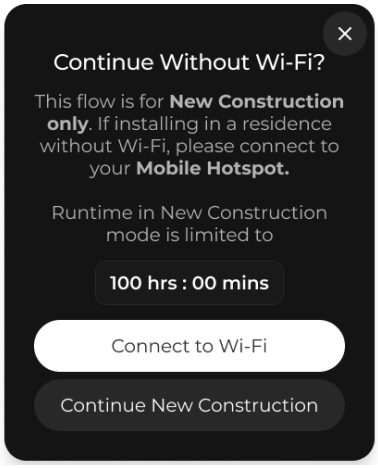
2. When prompted, enter the password required to connect to the Wi-Fi network you selected. For security, the system masks each password character with an asterisk (*). To unmask the password, tap the show password icon.

Step 3b - No Network Connection (No Wi-Fi) Flow

This step applies to scenarios where the device is installed in locations without internet access. It allows construction companies and similar entities to install Nuve thermostats in new buildings or other sites that lack internet connectivity or an end customer at the time of installation.

To prevent potential misuse of Nuve thermostats outside authorized control, the device operates with a 100-hour runtime limitation.

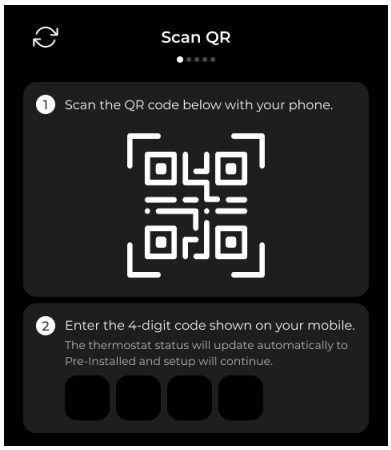


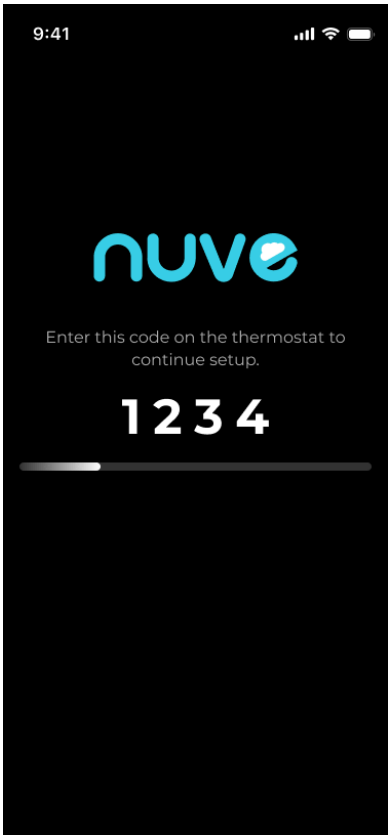


After mounting the thermostat, technicians can choose to skip the Wi-Fi connection setup by clicking the

Skip button located at the bottom-right corner of the screen.
Note: This flow is for New Construction only. If installing in a residence without Wi-Fi, please connect to your Mobile Hotspot.

Selecting the **Skip** button triggers an informational pop-up explaining the limitations of using the thermostat without an internet connection. To confirm and proceed with the installation at a later time, technicians must click the **Continue New Construction** button on the pop-up.
The system will open the Scan QR page, where Technicians need to scan the QR code via their Mobile device and input below the 4 digit pin code they see on their device. This action will automatically change the status of the device in the system to Pre-Installed

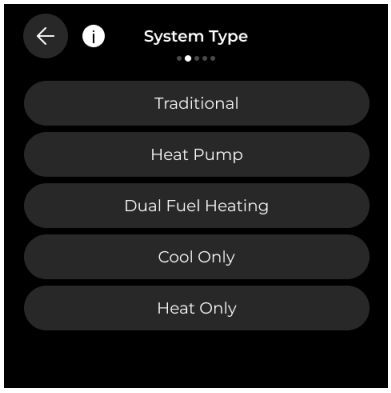




Using this flow the System will not ask to provide the email address and Zip code, those will be asked later when the user connects the thermostat to the Wi-Fi network.

Step 4 - Setting Up the System

1. In the System Setup page, tap **System Type**.

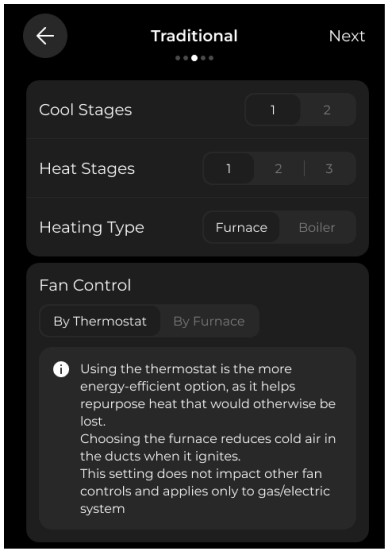


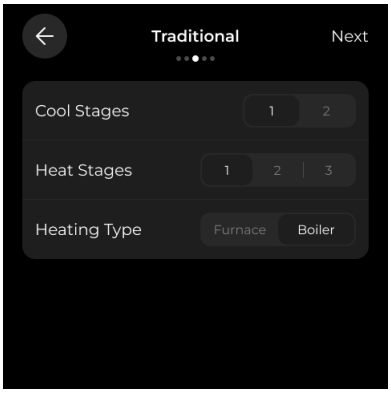
In the System Type page, tap the one of the following options that matches the system for which you are installing the thermostat:

Traditional

Choose this option for traditional HVAC systems with split systems for heating and cooling. In the Traditional page, select the appropriate values for Cool Stages and Heat Stages, and then tap :

- **Cool Stages**: Select either 1 or 2 cooling stages.
- **Heat Stages**: Select 1, 2, or 3 heating stages.
- **Heating Type selection**: Select either Furnace or Boiler
- **Fan Control selection**: Activated when Furnace is selected and contains the following options: By Thermostat and By Furnace





Heat Pump

Select this option for a single heat pump system which provides both heating and cooling. In the Heat Pump page, select the appropriate emergency heating in case your heat pump has such. Specify the heat pump stages 1 or 2, and select O/B on State to specify whether the reversing valve should energize on cool or on heat.

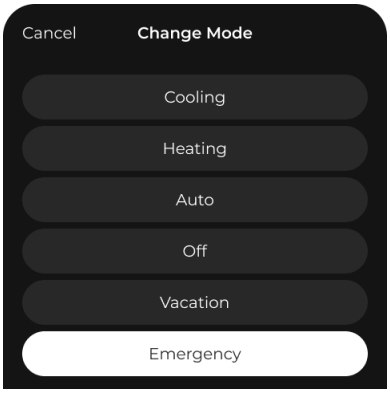
Thresholds for Heat Pump

- **Set Minimum Runtime for Auxiliary Heat**

  This allows to define the minimum time the auxiliary heat must run during a call for heat. Incorrect runtime settings can lead to system damage, so caution is advised. Default value - 2 mins.

- **Emergency Heat Activation**

  The emergency heat can manually be activated from the System Mode menu.



- **Auxiliary and Heat Pump Work in Parallel**

This refers to cases when a system uses a backup heating source (Aux), such as electric resistance heating, to supplement the heat pump when it cannot reach the desired temperature on its own—typically due to very cold outdoor conditions. If the **"Yes"** option is selected, the auxiliary heating will activate in parallel with the running heat pump if the heat pump cannot reach the set temperature within 10 to 20 minutes (depending on the heat pump type).

- **Run the air-handler fan alongside auxiliary heat**

If **“No”** is selected for *Auxiliary and Heat Pump Work in Parallel*, the system reveals this additional setting. It allows you to choose whether the fan should run with auxiliary heat in heat pump systems. This supports setups where certain auxiliary heat types (e.g., hydronic) do not require fan operation, improving compatibility and energy efficiency.

- **Heat Pump and Aux lockouts**

The system allows configuring outdoor temperature lockouts for both the heat pump compressor and the auxiliary heating. The Heat Pump Lockout disables the heat pump compressor when the outdoor temperature falls below the selected value, allowing the system to rely on auxiliary heating when the heat pump becomes inefficient in very cold conditions.

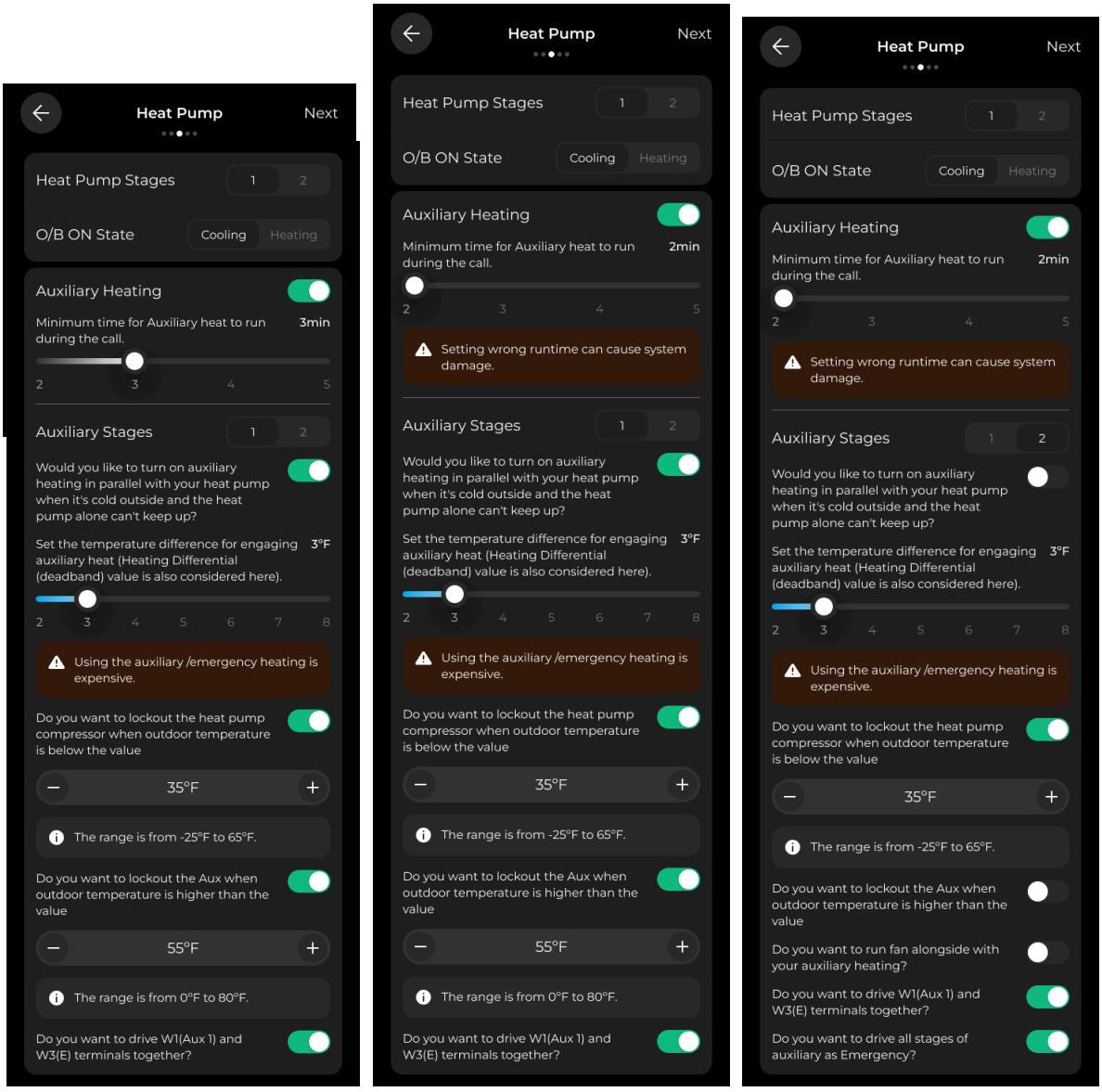
The Auxiliary Heat Lockout prevents auxiliary heating from operating when the outdoor temperature is above the configured threshold, ensuring the heat pump operates as the primary heating source and helping reduce energy costs. These settings optimize system efficiency and protect equipment from operating outside recommended conditions.

- **Driving W1(Aux) and W3 (Emergency) terminals together**

Select the “Yes” option in case you have connected the Aux and Emergency wires together and have 1 wire for both. Otherwise select “No” - See the Wiring list for Heat Pumps for more details

- **Driving all stages of auxiliary as Emergency**

If the HVAC system is equipped with 2 stage Auxiliary heating select the Auxiliary stage 2 and then select if you would like to energize the both stage 1 and stage 2 heating elements a Emergency when it is selected manually in the System Mode menu.



Dual Fuel Heating

A dual fuel heating system combines a heat pump with an auxiliary heating element (furnace, boiler or other). Specify the heat pump related parts by selecting the appropriate emergency heating in case your heat pump has such. Specify the heat pump stages 1 or 2, and select O/B on State to specify whether the reversing valve should energize on cool or on heat.

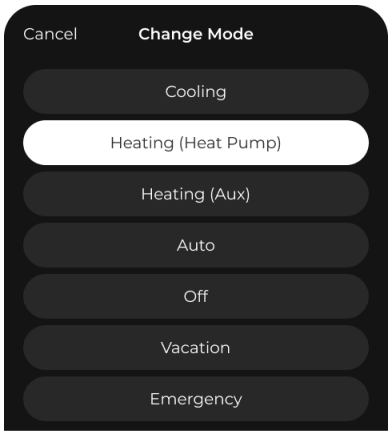
Set a temperature point to turn on the furnace for heating when the outdoor temp is below that.

Thresholds for Dual Fuel Heating

- **Heating Type selection**: Select either Furnace or Boiler
- **Fan Control selection**: Activated when Furnace is selected and contains the following options: By Thermostat and By Furnace

You are prompted to decide if they want the thermostat to automatically switch to auxiliary heat.

- **Yes**: The auxiliary heating system will automatically switch on when the primary heat pump is unable to maintain the desired temperature.
- **No**: The system will require manual intervention to activate auxiliary heat and also the option to select the heating type like Heat Pump or Auxiliary during Auto and Vacation modes.
  The selected heat type will stay as a default until manually changed from the system setup.



For "Yes" case:

- **When the automatic switch-over is selected, you can also set an outdoor temperature threshold (Compressor lockout)**.

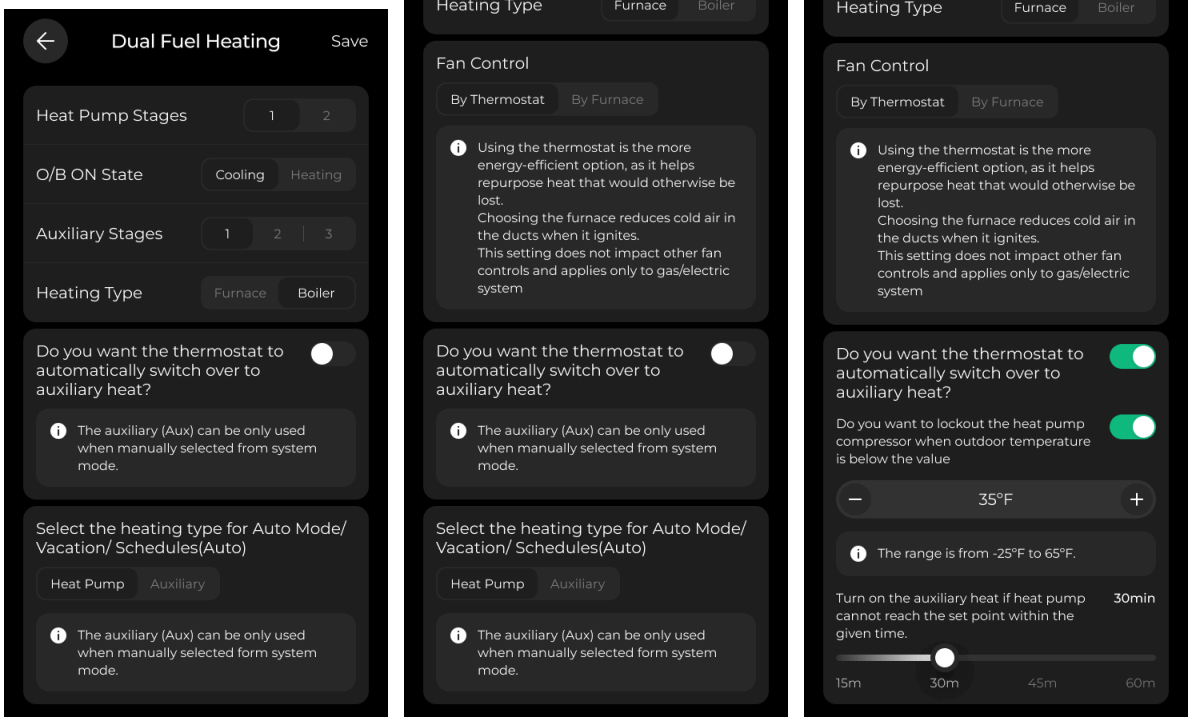
  This determines when the auxiliary heat should activate based on the outdoor temperature. The user can choose between -25°F and 65°F range or turn it **Off** when off is selected in the threshold.

- **Turn on the auxiliary heat if the heat pump cannot reach the set point within the given time**.

  If the **heat pump fails to raise the temperature** toward the set point within the defined time (default **30 minutes**, adjustable in **15-minute steps** from **15 to 60 minutes**), the system automatically switches to Aux heat. It helps maintain comfort during colder weather when the heat pump alone is not sufficient.

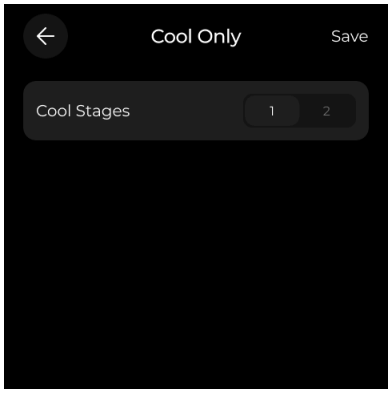
For "No" case:

- Please select the heating type for Auto Mode/Vacation/Schedules (Auto). This defines how heating will operate in above mentioned modes when the thermostat is in manual control.



Cool Only

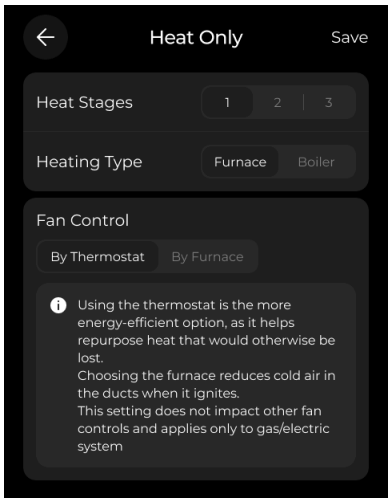
Select this option for air conditioning only systems. In the Cool Only page, select the appropriate stage.

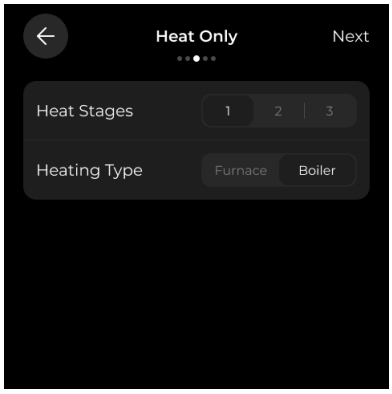


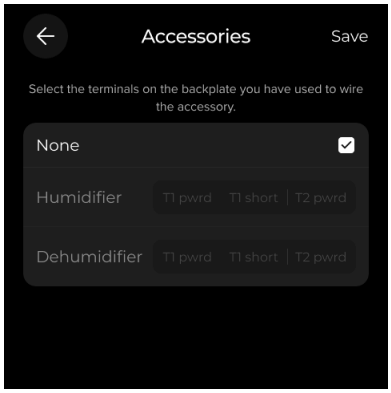
Heat Only

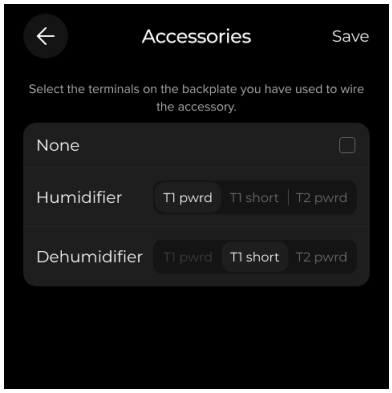
Select this option for heating-only systems. In the Heat Only page, select

- **Heat Stages**: Select 1, 2, or 3 heating stages.
- **Heating Type selection:** Select either Furnace or Boiler
- **Fan Control selection:** Activated when Furnace is selected and contains the following options: By Thermostat and By Furnace



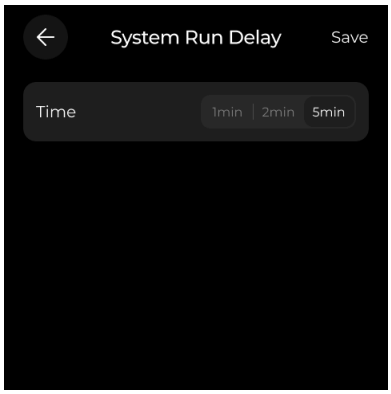






System Run Delay

To set a system run delay time, in the System Setup page, tap. In the System Run Delay page, tap the delay time: **1min**, **2min**, **5min**.

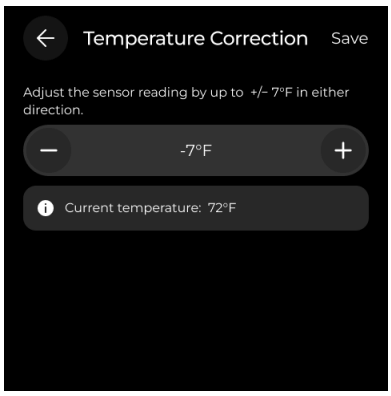


Note: If you need to adjust the temperature later, go to Menu > Settings > System Setup > General Threshold.

Temperature Correction

Allows users to manually adjust the thermostat's internal temperature reading by up to ±7°F. This is useful when the displayed temperature does not match the actual room temperature due to placement or airflow factors.

The feature is Located in Menu ⟶ Settings ⟶ System Setup ⟶ General Thresholds

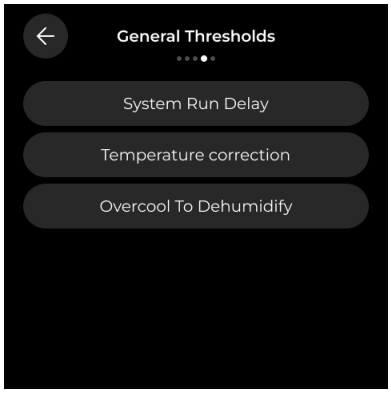


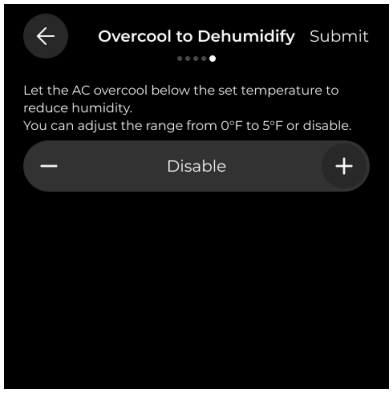
Overcool to Dehumidify

Allows the AC to overcool in order to reduce humidity.

This can be configured via Menu ⟶ Settings ⟶ System Setup ⟶ General Thresholds.

The range is from 'Disable' to 5°F, adjustable in 1°F increments



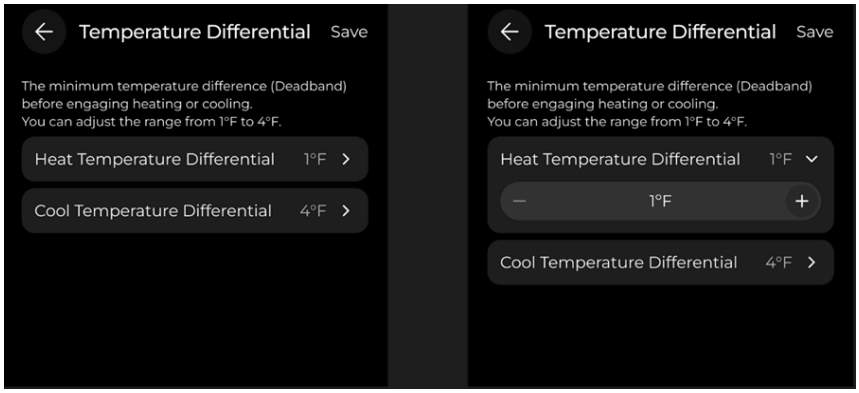


Differential temperature

Allows users to manually adjust the temperature differential for both Heat and Cool modes to better accommodate comfort preferences and equipment requirements.

- Users can now set a temperature differential within a range of 1°F to 4°F.
- Heat Temperature Differential and Cool Temperature Differential can be configured independently.

The selected differential is applied to determine when heating or cooling will engage.



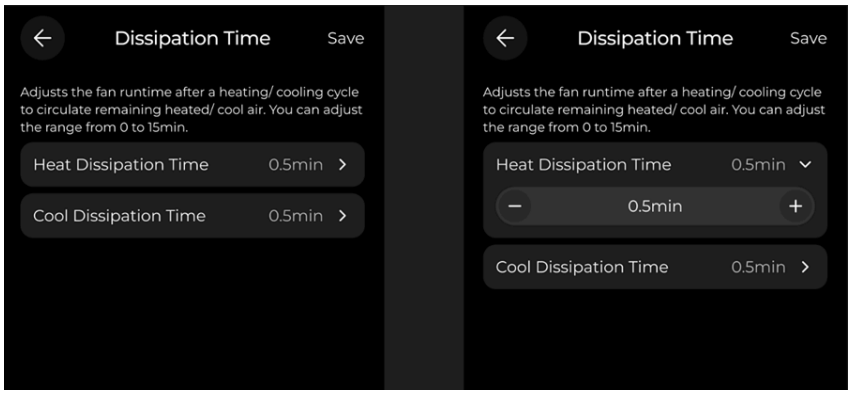
Dissipation Time

Enables to adjust the fan dissipation runtime after a heating or cooling cycle completes.

This feature improves energy efficiency by circulating remaining conditioned air before the system fully shuts down.

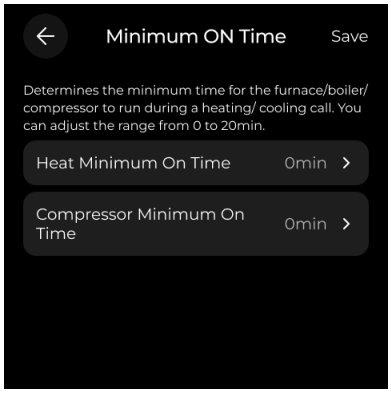
- Users can configure dissipation runtime from 0 to 15 minutes with 0.5-minute step
- Dissipation time can be set independently for Heat and Cool cycles.

New menu option added under system settings for better visibility and control.



Minimum ON time

Determines the minimum time for the furnace/boiler/compressor to run during a heating/ cooling call. You can adjust the range from 0 to 20min.



Step 5 – Authorizing the Device to Nuve System

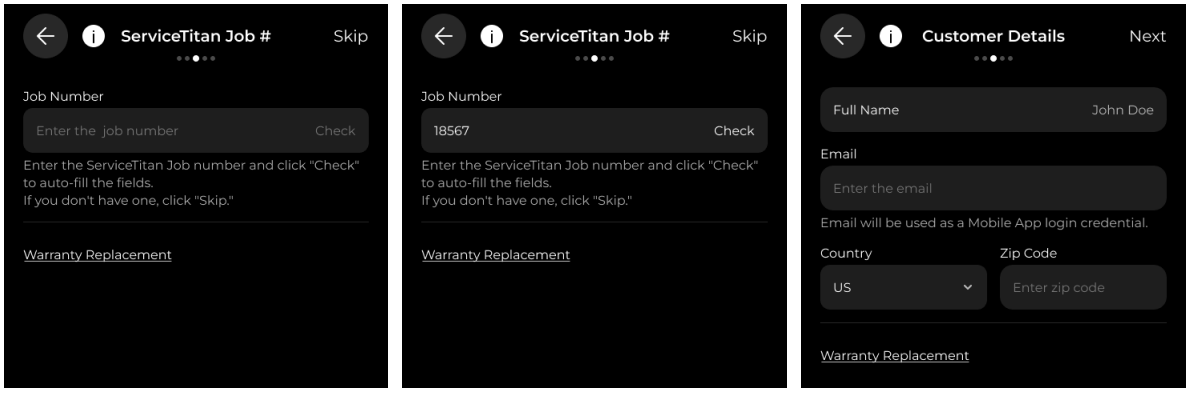
After System setup is finished, the Technician will be automatically navigated either to Job number input page or to Customer details manual input page

Contractors with active CRM System Integration

1. Contractors with an active CRM System integration with Nuve will be directed to the Job Number page to enter the CRM System Job Number. After entering the Job Number, they must click the 'Check' button. Using the CRM System Integration API, customer information such as email, zip code, and full name will be automatically populated on the device. Technicians have the option to edit both the email and zip code fields.

Note: Based on CRM System Integration API we also get the Address of the Customer and keep it in our DB for later reflection in the Web Application - Customers page

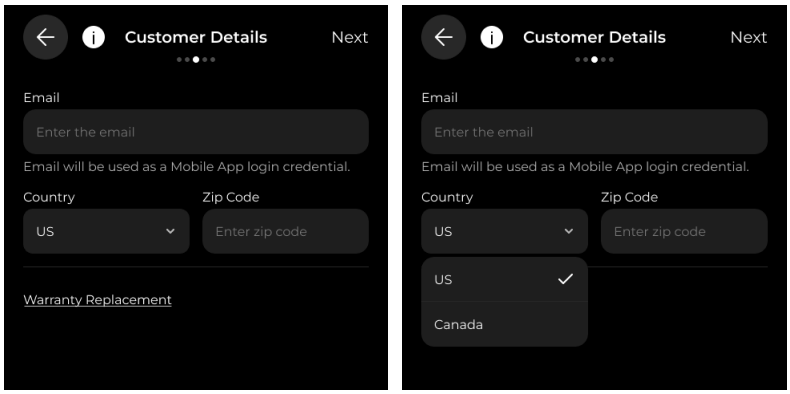
Alternatively, technicians can skip the Job Number entry by clicking the 'Skip' button, which will navigate them to the manual customer details input flow.



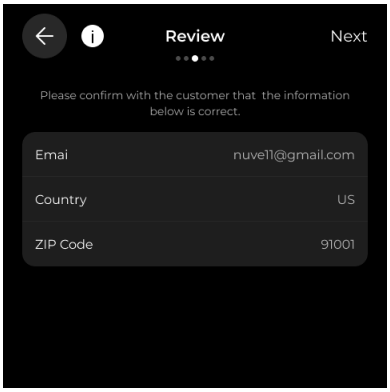
Note: Full Name of the Customer is not editable

Contractors with no CRM System Integration

2. If the contractor does not have an active CRM System integration with Nuve, they will be automatically directed to the Customer Details page, where they must select the country and manually input the customer's email and ZIP code.

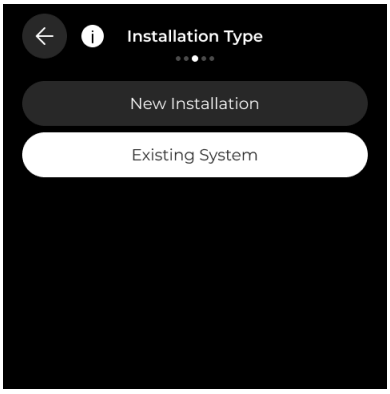


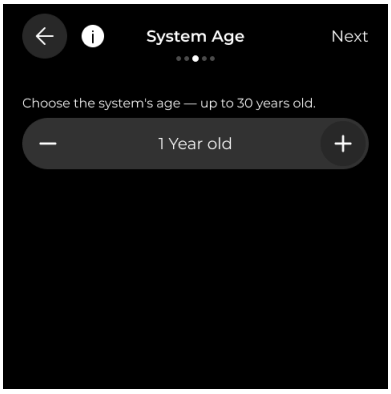
3. After providing the customer details, the technician clicks the 'Next' button to navigate to the Review page. Here, they can review the information with the customer and, if necessary, edit the email and ZIP code.



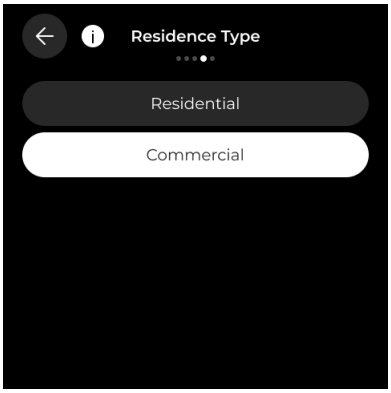
4. Once the customer details are confirmed, the technician is directed to the **Installation Type** page. Based on the selection — **New Installation** or **Existing System** — the technician may be required to indicate the approximate age of the HVAC system.

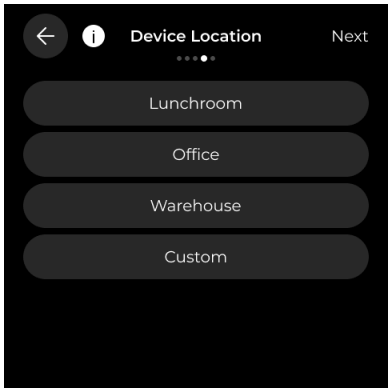
   If **New Installation** is selected, the system age will default to **0 years**, and the technician will not be prompted to select a value.

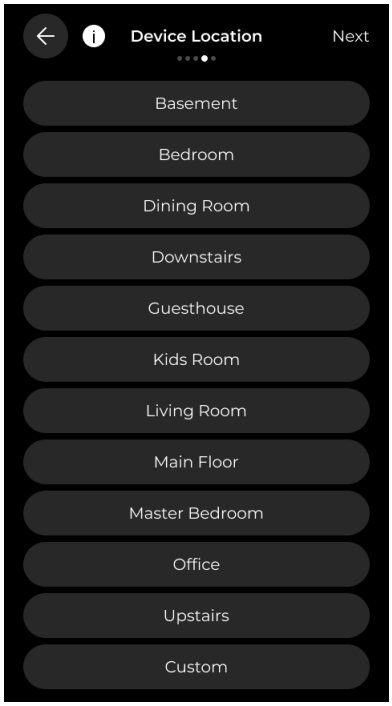




5. On the next step Technician should select the Residence Type page. Depending on the selected residence type, the technician is then directed to the corresponding Device Location page.

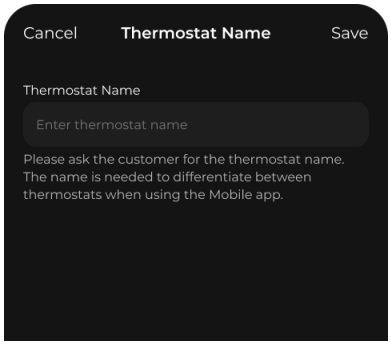




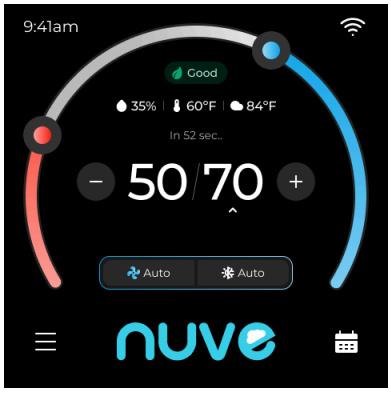


Note: Device location page (number of options) varies based on selected prior Residence Type (Residential or Commercial)

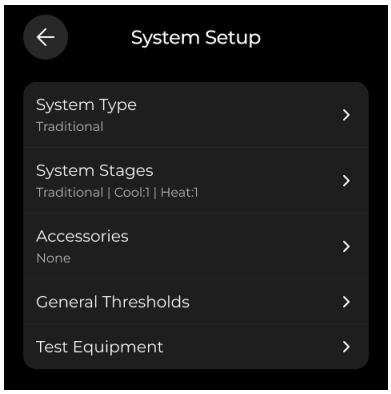
6. If the “Custom” option is selected on the Device Location page, the technician can enter a custom name for the thermostat. This name is required to differentiate between thermostats when using the mobile app.



7. After tapping the 'Submit' button, the main screen on the thermostat will appear, and an email with instructions to set up a password will be sent to the email address entered on the Customer Details page. Customers will use this password to log in and access the mobile application, allowing them to control the smart thermostat over the internet.

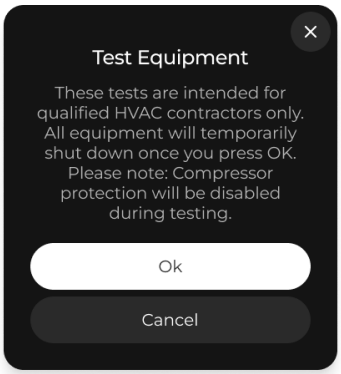


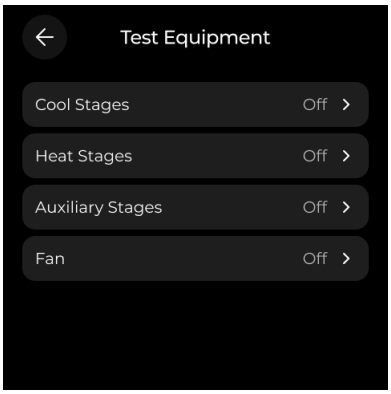
Step 6: Equipment testing



After installation, to test the HVAC equipment:

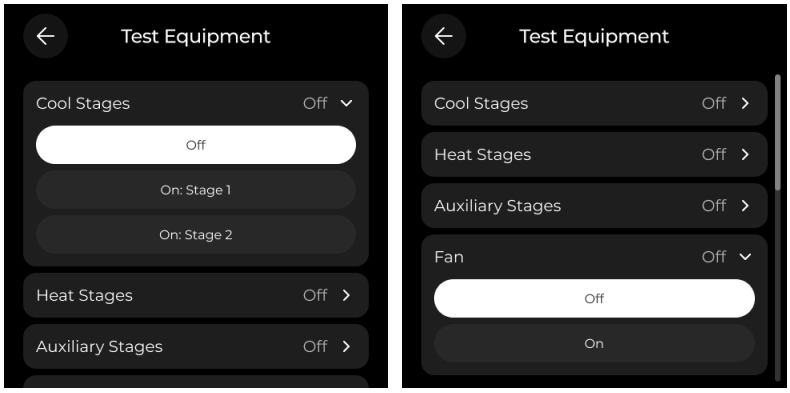
1. Navigate to Menu ⟶ Settings ⟶ System Setup.
2. Tap the Test Equipment button.
3. If you are qualified to perform the testing, tap OK, then select the equipment you want to test.





The maximal runtime of equipment under testing is 15minutes.

Note: The test will stop, and the selected equipment will turn off immediately when you exit the Test Equipment page on the thermostat.



Installing with C-Wire Adapter (CWA)

The C Wire Adapter allows for the installation of Nuve thermostat in homes without a C-wire, which is needed to power the thermostat.
The CWA essentially creates a C-wire connection by combining the functionality of the Y and G wires.

Power Down
Turn off power to the furnace or air handler at the breaker to ensure safety during installation.

Access the Control Board
Open the furnace or air handler's control panel to locate the control board and thermostat wiring.

Identify and Label Wires
Take a clear photo of the existing wiring for reference. Use wire labels (if available) to identify the **R, G, Y,** and **W** wires. Ignore any unused wires.

Disconnect Wires
Remove the **R, G, Y,** and **W** wires from the control board terminals. Do not disconnect any other wires.

Connect Wires to CWA
Connect the disconnected wires (R, G, Y, and W) to the corresponding input terminals on the **Nuve C-Wire Adapter (CWA)**. See the **Wiring Diagram** for more details

- R wire to **R**
- G wire to **C**
- Y wire to **CWA**
- W wire to **W**

Make sure each wire is securely fastened.

Connect CWA to Control Board
Take the wires coming from the CWA and connect them to the correct terminals on the HVAC control board: **R, C, G, Y,** and **W**.

Close the Control Panel

Carefully close the panel and secure it as needed.

Thermostat Wiring

At the thermostat location, connect the wires to the Nuve Smart Thermostat backplate terminals as follows:

- R wire to **R**
- G wire to **C**
- Y wire to **CWA**
- W wire to **W**

Install the Thermostat

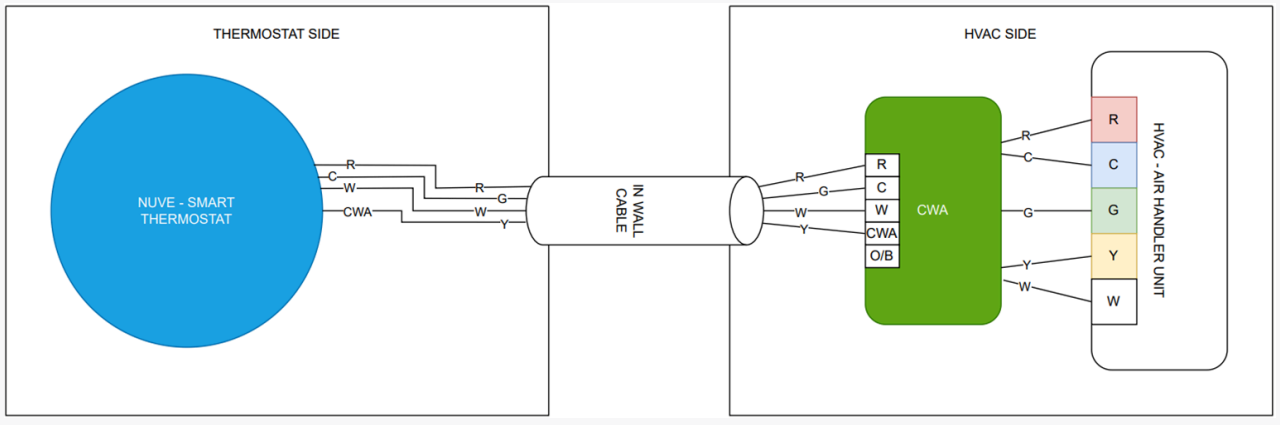
Attach the Nuve thermostat to its backplate, restore power at the breaker to turn the system back on.

Restrictions / Notes

Note that the CWA is not compatible with Dual Transformer systems, or Heat Only systems.

- If there's an unused wire at the thermostat, you may be able to repurpose it as a **C (common)** wire, avoiding the need to install a C-Wire Adapter (CWA).

Wiring Diagram



Need Assistance?

For wiring diagrams and other helpful instructions, please visit https://Nuvehome.com/installation_guide. You can also use the QR code under the packaging lid to go to the Nuve website.

Troubleshooting

In case you're experiencing difficulties with your thermostat, we've compiled a list of suggestions to help you troubleshoot the issue. The majority of problems can be swiftly and effortlessly rectified using these steps

Display is not showing information (black screen):

- Confirm the circuit breaker status and reset it if required.
- Ensure the power switch for the heating and cooling system is activated.
- Check that the furnace door is securely closed.

Lack of response from heating or cooling system:

- To activate the heating system, press the System Mode button in the Menu. Set the desired temperature higher than the current indoor temperature.
- To activate the cooling system, press the System Mode button (see the Setting the System Mode section). Ensure the desired temperature is set lower than the current indoor temperature.
- Examine the circuit breaker and perform a reset if necessary.
- Ensure the power switch for the heating and cooling system is turned on.
- Confirm the furnace door is securely closed.
- Allow a waiting period of 3 to 5 minutes for the system to initiate a response.

Inability to adjust temperature settings:

- Ensure that the heating and cooling temperature settings are within acceptable ranges.

Flashing " snowflake" or "sun" indicator on main screen:

- The compressor protection feature is engaged. Wait for 2-5 minutes to allow a safe restart of the system, preventing compressor damage.

Incorrect heating or cooling behavior:

- For heat pump systems, validate that wires are connected right. Refer to the "Wiring" Section in the NUVE Installation Guide (https://nuvehome.com/installation_guide)

If you still have questions, please contact the Nuve support team via https://Nuvehome.com/support.

Alerts and Notifications

Alerts and notifications appear on the Main screen of the thermostat to get more details about the alert or notification click info button.

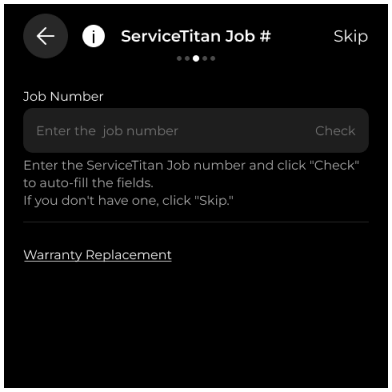
Alert	Definition	Resolution
Bad air quality	High CO2 equivalent detected.	Consider to ventilate the room
Temperature Sensor Malfunction	Sensor malfunction: inaccurate temperature data.	Ensure the thermostat is properly placed away from direct sunlight, heat sources, or drafts.
System Efficiency	The system efficiency alert triggers when the system is struggling to heat or cool the room. For example if there is a need to cool the room instead the temperature goes up or remains stable or the vice versa.	Check and replace your air filter if dirty Make sure vents are open and unobstructed Make sure you do not have open windows and doors to affect temperature rising or dropping If using a heat pump, consider switching to **Auxiliary Heat** during very cold weather Restart the thermostat or system if recently modified Contact your HVAC contractor for a system checkup
Humidity Sensor Malfunction	Sensor malfunction: inaccurate humidity data.	Verify that the thermostat is positioned correctly, avoiding areas prone to moisture or extreme dryness.
Air quality Sensor Malfunction	Sensor malfunction: inaccurate or no data was sent.	Ensure proper ventilation in the area to prevent CO2 buildup that might affect sensor readings.
Incorrect Wiring Connection	Wiring problem causing sensor malfunction.	Carefully inspect the thermostat's wiring connections to ensure they are correctly matched according to the wiring diagram provided in the installation manual. If any wires are found to be improperly connected, contact your service provider.
No Internet Connection	No internet connection available for thermostat.	Verify that the Wi-Fi network is functional and that the thermostat's network settings are correctly configured. Restart the router to ensure it's functioning properly and try connecting the thermostat again. If the problem persists, try resetting the thermostat's network settings and set up the connection again.

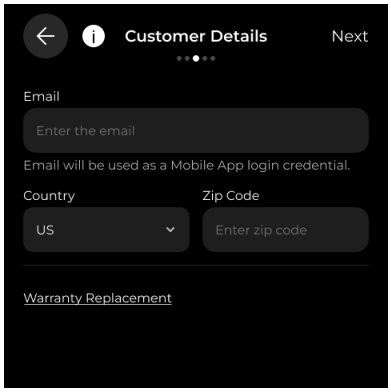
No Wi-Fi Connection	Thermostat lost Wi-Fi connection: needs reconnection.	Access the thermostat's settings to reconnect it to the Wi-Fi network by following the manufacturer's instructions. If the thermostat still doesn't connect, consider resetting the thermostat's network settings and setting up the Wi-Fi connection from scratch. Ensure that the thermostat is within range of a stable Wi-Fi signal.
Incorrect Password	Incorrect password entered, try again.	Ensure that you're entering the correct password for the thermostat. Pay attention to capitalization, special characters, and any possible typos.
High Temperature	High Temperature	To prevent home damage due to excessive heat you will be alerted if the temperature in the home is above this level.
Low Temperature	Low Temperature	To prevent home damage due to freezing you will be alerted if the temperature in the home is below this level.
High Humidity	High Humidity	Sets the percentage of relative humidity at which your thermostat will generate a Low/High Humidity Alert.
Low Humidity	Low Humidity	
Aux running too long	Auxiliary heating is running non stop for 1 hour, if this is normal for your HVAC system ignore the alert, otherwise please contact your Contractor	Alerts you if the Auxiliary heat source runs for more than 1 hour non stop it can mostly be a reason when HVAC is not working fine or because of cold weather outside.

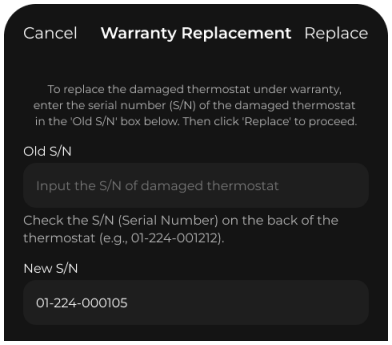
Warranty replacement

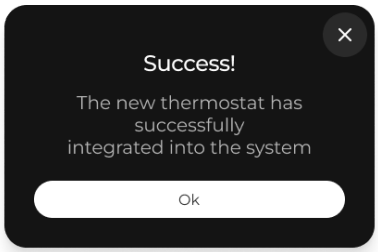
In the rare event that you need to replace your thermostat under warranty, follow these steps to clone a new Nuve thermostat:

1. After setting up the HVAC system (System Type, Stages, Accessories, and Run Delay Time), the technician is navigated either to the Job Number input page (for contractors with active CRM System integration) or to the Technician Details page (for contractors without CRM System integration).
2. Both the Job Number and Technician Details pages feature a 'Warranty Replacement' button, which directs the technician to a page where the device's serial number (S/N) is automatically populated in the 'New S/N' field.
3. To replace a damaged thermostat under warranty, the technician must enter the serial number (S/N) of the damaged thermostat in the 'Old S/N' box below. Afterward, they can click the 'Replace' button to proceed with cloning the old device's settings to the newly installed device.









Product Specifications

Temperature Ranges

Heat: 65 °F to 85 °F (18.3 °C to 29.4 °C)

Cool: 65°F to 85 °F (18.3 °C to 29.4 °C)

Working Ambient Temperature

39 °F to 120 °F (3.9C° to 48.9 °C)

Shipping Temperature

-20 °F to 120 °F (-28.9 °C to 48.9 °C)

Operating Relative Humidity

5% to 90% (non-condensing)

Physical Dimensions

4.68 inches (H) x 4.68 inches (W) x 1.53 inches (D)
119 mm (H) x 119 mm (W) x 39 mm (D)

Electrical Ratings

Terminal	Voltage	Running Current
W1 Heat relay stage 1	8 V ac - 40 V ac	0.02 A - 1.0 A
W2 Heat relay stage 2	8 V ac - 40 V ac	0.02 A - 1.0 A
W3 Heat relay stage 3	8 V ac - 40 V ac	0.02 A –0.5 A
Y1 Compressor Stage 1	8 V ac - 40 V ac	0.02 A - 1.0 A
Y2 Compressor Stage 2	8 V ac - 40 V ac	0.02 A - 1.0 A
G Fan	8 V ac - 40 V ac	0.02 A - 1.0 A
O/B Changeover	8 V ac - 40 V ac	0.02 A - 1.0 A
T1P Relay for accessories (powered)	8 V ac - 40 V ac	0.02 A –0.5 A
T1N Relay for accessories (neutral)	8 V ac - 40 V ac	0.02 A –0.5 A
T2 Relay for accessories (optional, powered)	8 V ac - 40 V ac	0.02 A –0.5 A

Regulatory/Compliance

ENERGY STAR® Certification

The Nuve Smart Thermostat (Model Samo) has earned the ENERGY STAR®. ENERGY STAR® certified connected thermostats deliver verified energy savings based on aggregated real-world field data from homes across the United States. Participation in qualifying utility rebate programs may require an ENERGY STAR certified device.

For more information, visit www.energystar.gov.

EMC Compliance

This device and accessories have demonstrated Electromagnetic Compatibility (EMC) compliance under conditions that included the use of compliant peripheral devices between system components. It is important that you use compliant peripheral devices between system components to reduce the possibility of causing interference to radios, televisions, and other electronic devices.

FCC Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operations.

Nuve Control LLC, located at 4051 E. La Palma Ave. Suite A Anaheim, CA 92807

, is responsible for FCC compliance. The Federal Communications Commission regulations provide that changes or modifications not expressly approved by Nuve could void your authority to operate this equipment.

Radio Frequency Exposure

Maintain a distance of 8 inches (20cm) from your body to be consistent with how the device is tested for compliance with RF exposure requirements.

Safety

This device contains a non-serviceable battery for the watch. Do not attempt to service or replace this battery. Contact your service contractor in case of issues.

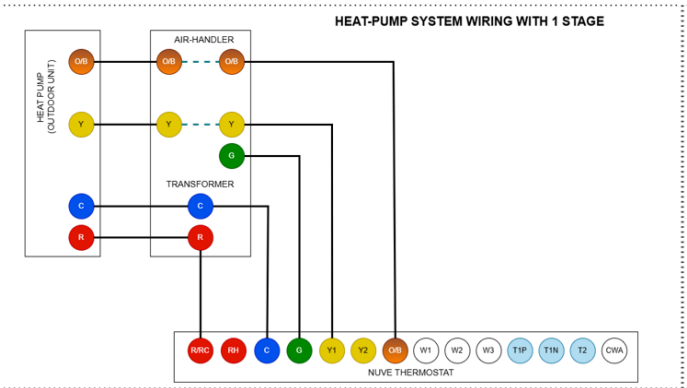
Warranty Information

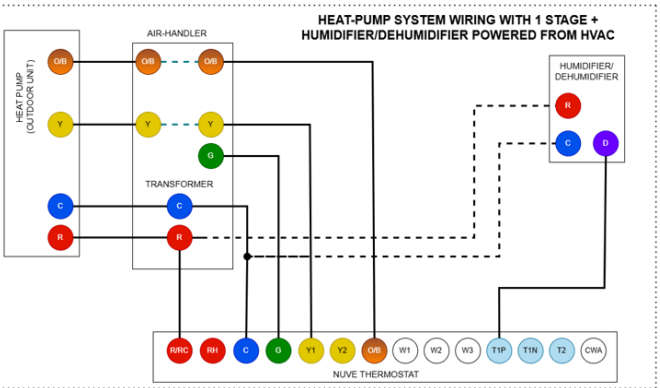
5-year limited warranty

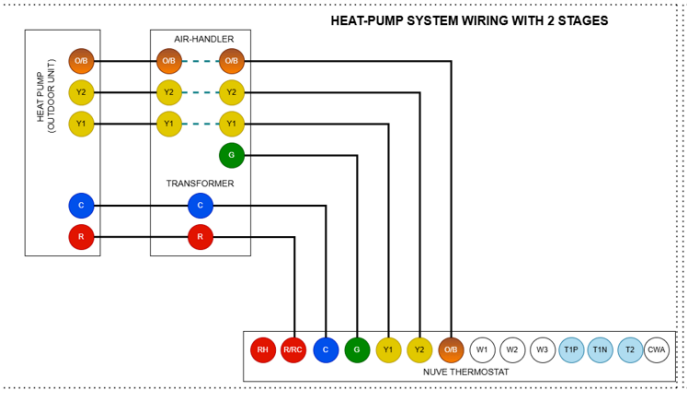
For detailed warranty information, please visit https://nuvehome.com/warranty

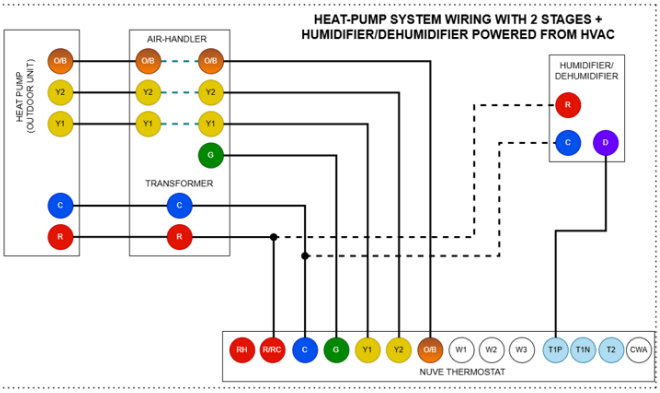
Appendix 1 - Wiring diagrams

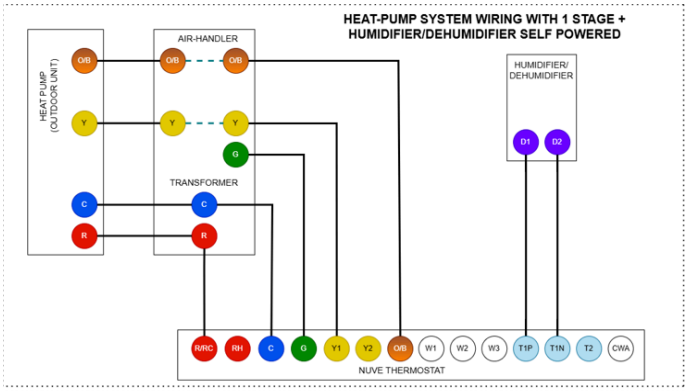
Heat-Pump Systems

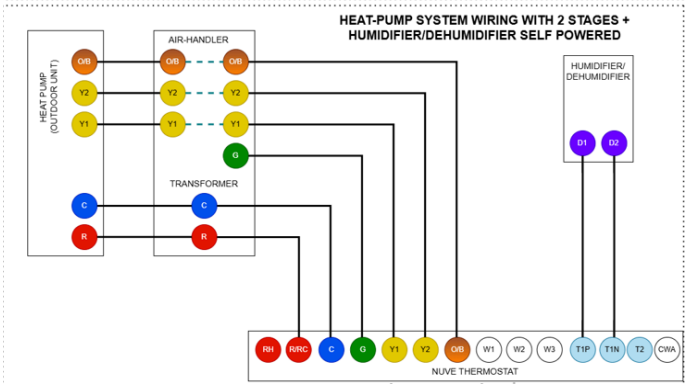




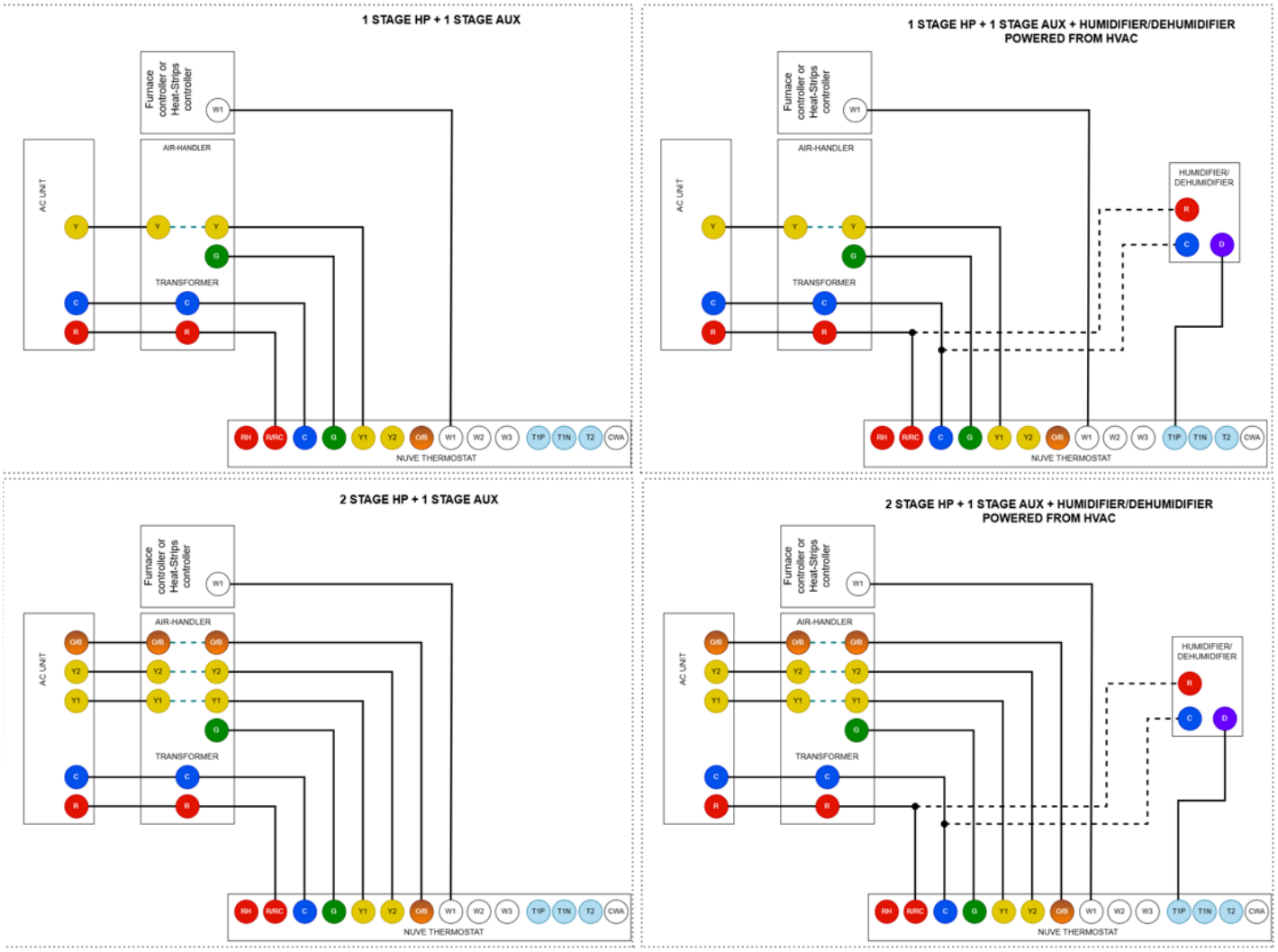


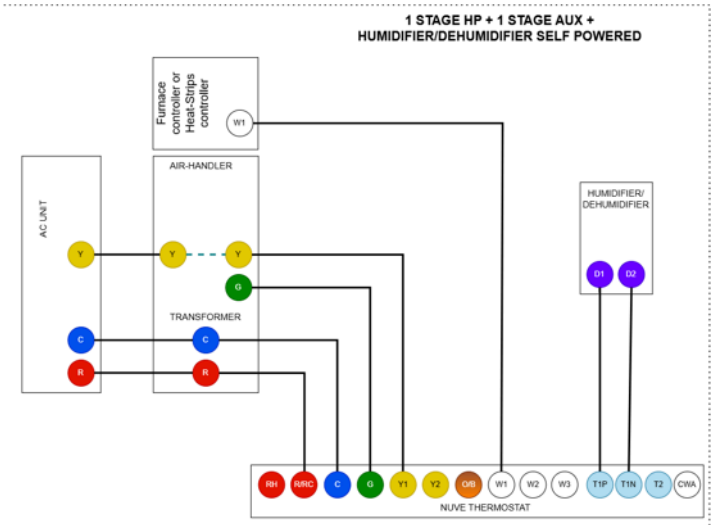


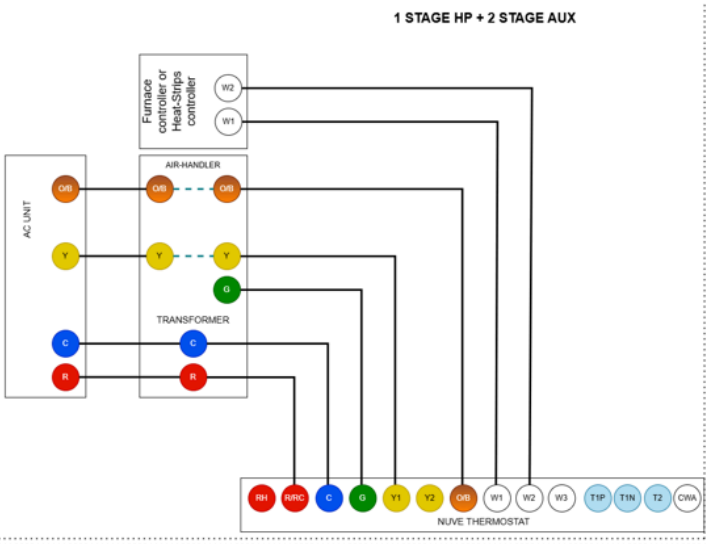


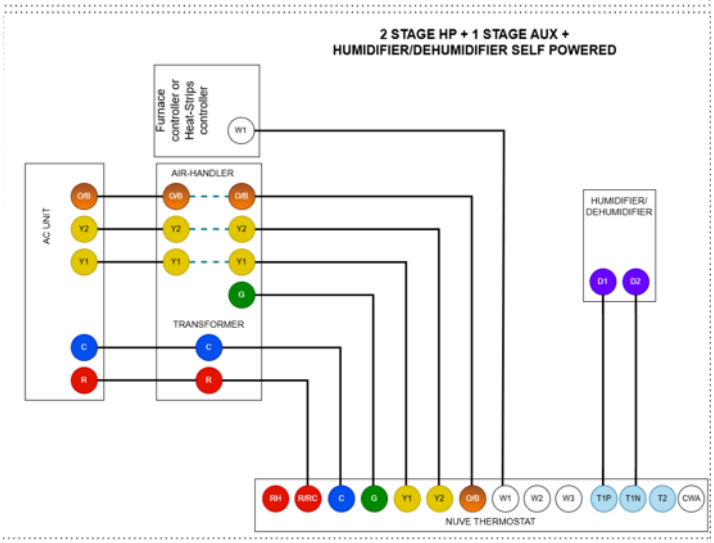


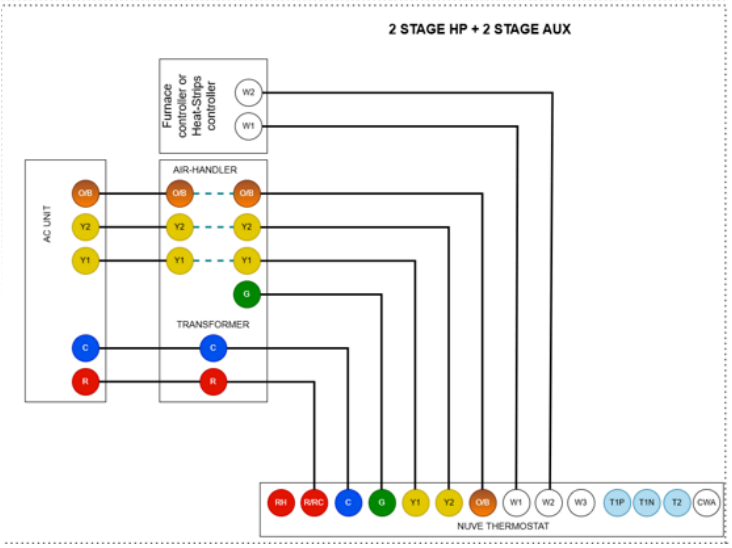
Heat-Pump + AUX Systems

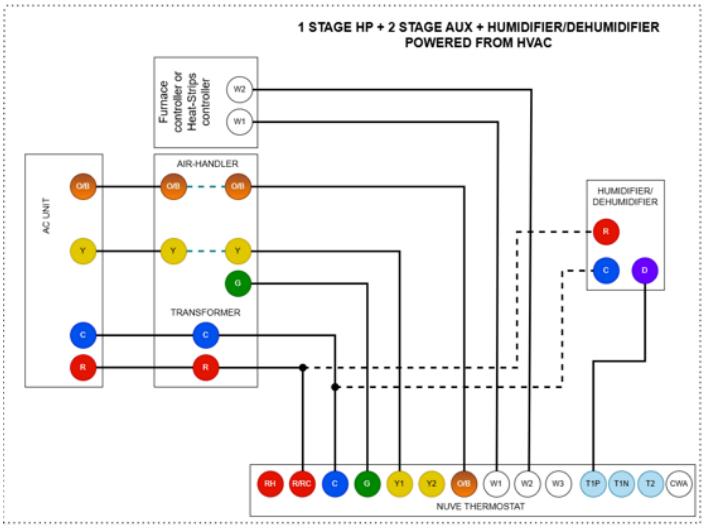


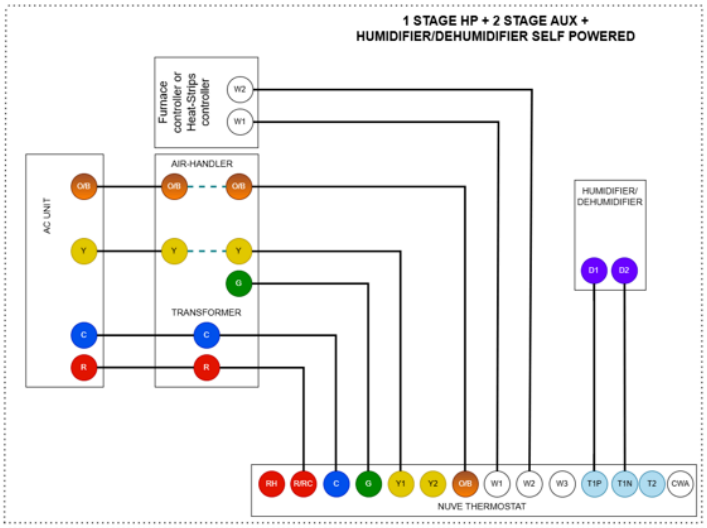

1 STAGE HP + 1 STAGE AUX +
HUMIDIFIER/DEHUMIDIFIER SELF POWERED
Furnace controller or Heat-Strips controller
W1
AIR-HANDLER
AC UNIT
HUMIDIFIER/ DEHUMIDIFIER
Y
G
TRANSFORMER
C
R
D1
D2
RH
R/RC
O/B
W2
W3
T1P
T1N
T2
CWA
NUVE THERMOSTAT

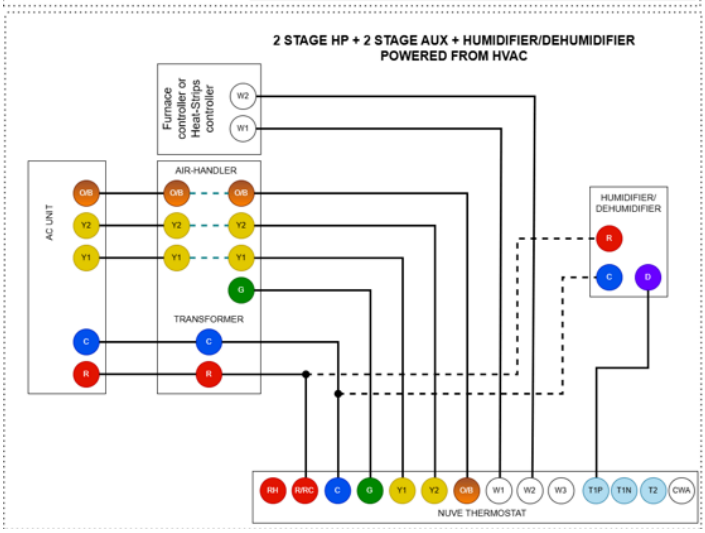

1 STAGE HP + 2 STAGE AUX
Furnace controller or Heat-Strips controller
W2
W1
AIR-HANDLER
AC UNIT
Y
G
TRANSFORMER
C
R
RH
R/RC
O/B
W3
T1P
T1N
T2
CWA
NUVE THERMOSTAT

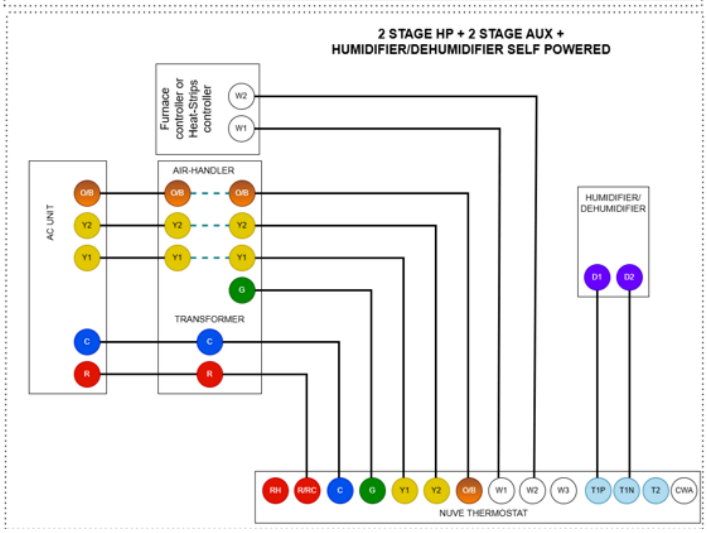

2 STAGE HP + 1 STAGE AUX +
HUMIDIFIER/DEHUMIDIFIER SELF POWERED
Furnace controller or Heat-Strips controller
W1
AIR-HANDLER
AC UNIT
HUMIDIFIER/ DEHUMIDIFIER
Y2
Y1
G
TRANSFORMER
C
R
D1
D2
RH
R/RC
O/B
W2
W3
T1P
T1N
T2
CWA
NUVE THERMOSTAT


2 STAGE HP + 2 STAGE AUX
Furnace controller or Heat-Strips controller
W2
W1
AIR-HANDLER
AC UNIT
Y2
Y1
G
TRANSFORMER
C
R
RH
R/RC
O/B
W3
T1P
T1N
T2
CWA
NUVE THERMOSTAT

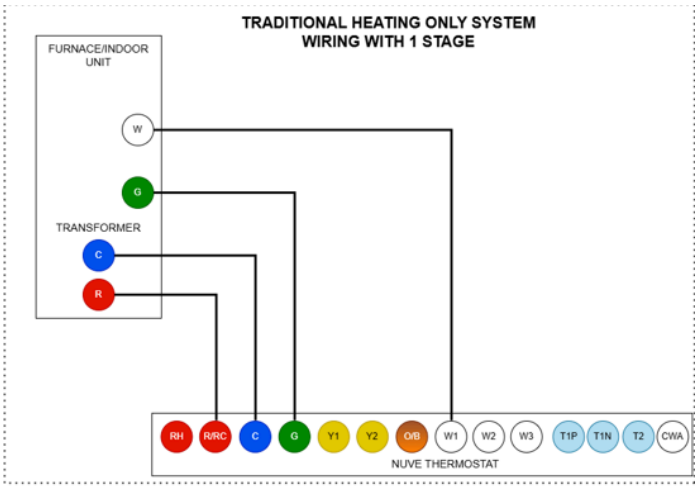

1 STAGE HP + 2 STAGE AUX + HUMIDIFIER/DEHUMIDIFIER
POWERED FROM HVAC
Furnace controller or Heat-Strips controller
W2
W1
AIR-HANDLER
AC UNIT
O/B
Y
G
TRANSFORMER
C
R
HUMIDIFIER/ DEHUMIDIFIER
D
RH
R/RC
Y1
Y2
W3
T1P
T1N
T2
CWA
NUVE THERMOSTAT

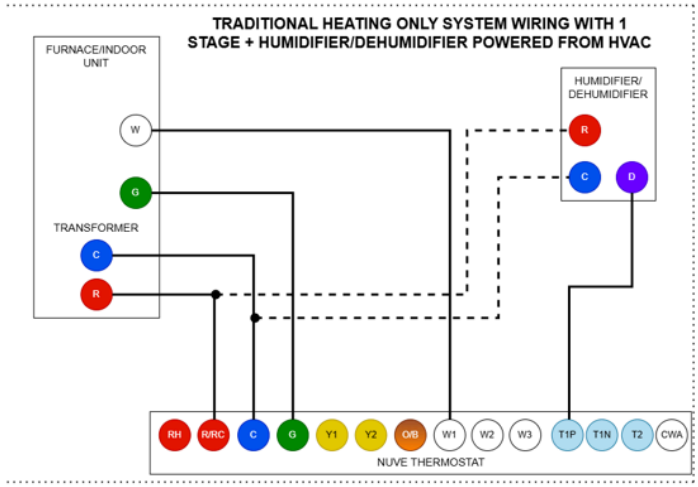

1 STAGE HP + 2 STAGE AUX +
HUMIDIFIER/DEHUMIDIFIER SELF POWERED
Furnace controller or Heat-Strips controller
W2
W1
AIR-HANDLER
AC UNIT
O/B
Y
G
TRANSFORMER
C
R
HUMIDIFIER/ DEHUMIDIFIER
D1
D2
RH
R/RC
Y1
Y2
W3
T1P
T1N
T2
CWA
NUVE THERMOSTAT

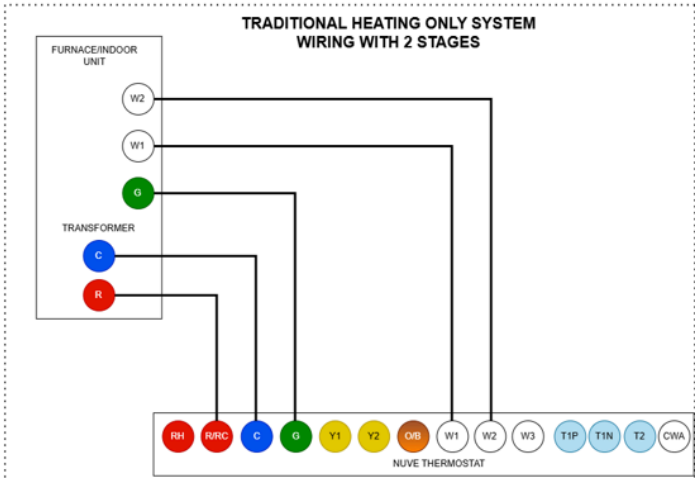

2 STAGE HP + 2 STAGE AUX + HUMIDIFIER/DEHUMIDIFIER
POWERED FROM HVAC
Furnace controller or Heat-Strips controller
W2
W1
AIR-HANDLER
AC UNIT
O/B
Y2
Y1
G
TRANSFORMER
C
R
HUMIDIFIER/ DEHUMIDIFIER
D
RH
R/RC
W3
T1P
T1N
T2
CWA
NUVE THERMOSTAT

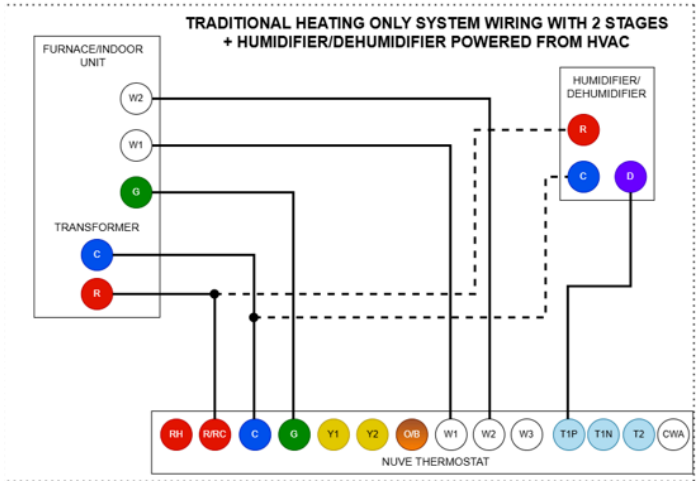

2 STAGE HP + 2 STAGE AUX +
HUMIDIFIER/DEHUMIDIFIER SELF POWERED
Furnace controller or Heat-Strips controller
W2
W1
AIR-HANDLER
AC UNIT
O/B
Y2
Y1
G
TRANSFORMER
C
R
HUMIDIFIER/ DEHUMIDIFIER
D1
D2
RH
R/RC
W3
T1P
T1N
T2
CWA
NUVE THERMOSTAT

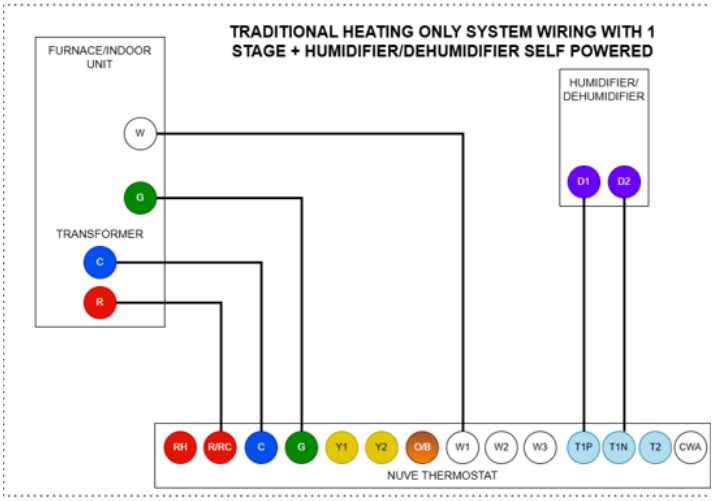
Traditional

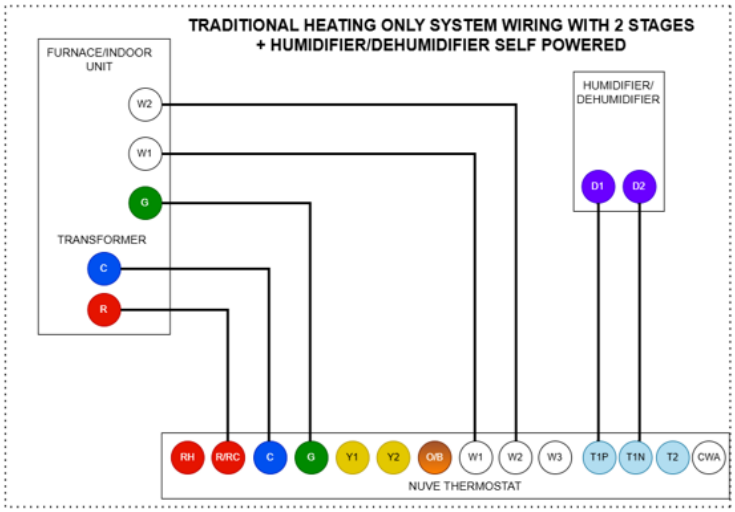


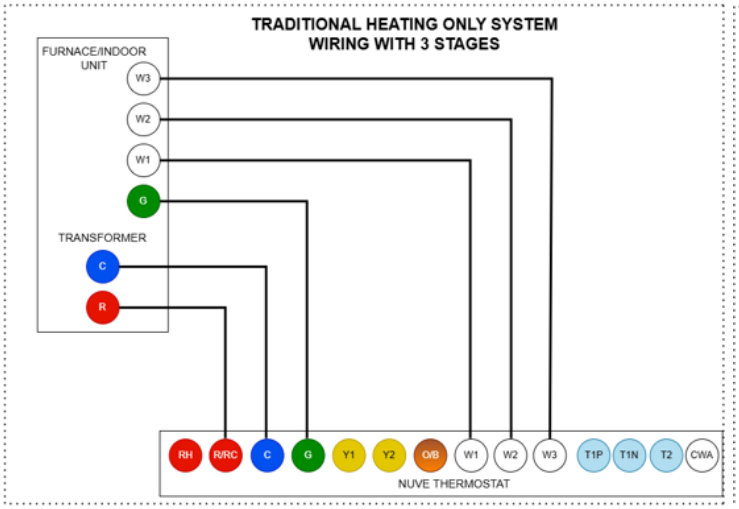


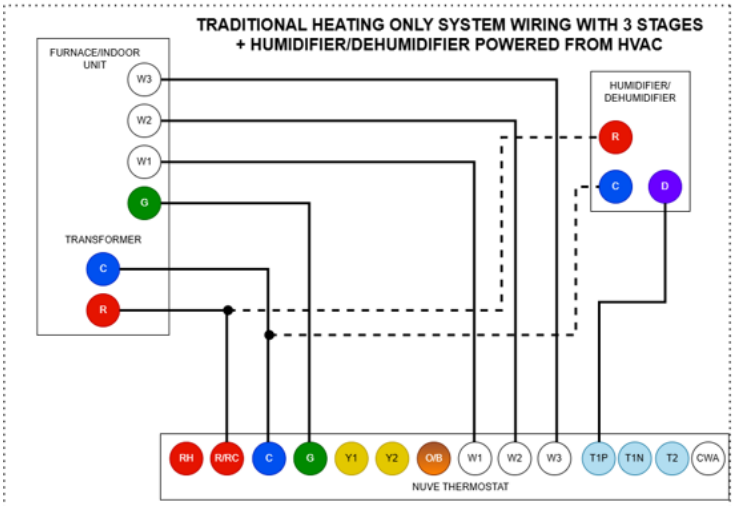


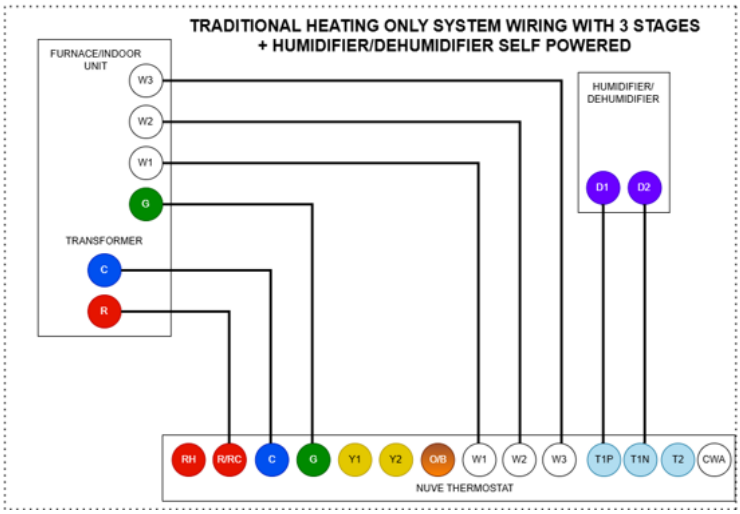


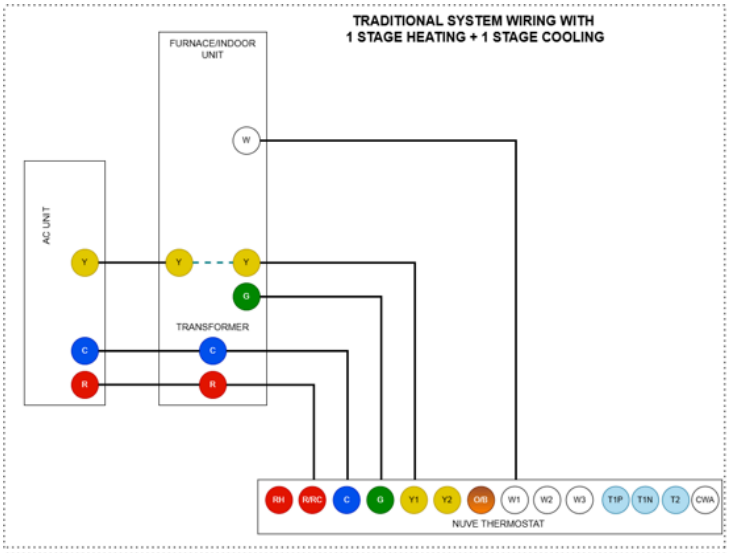


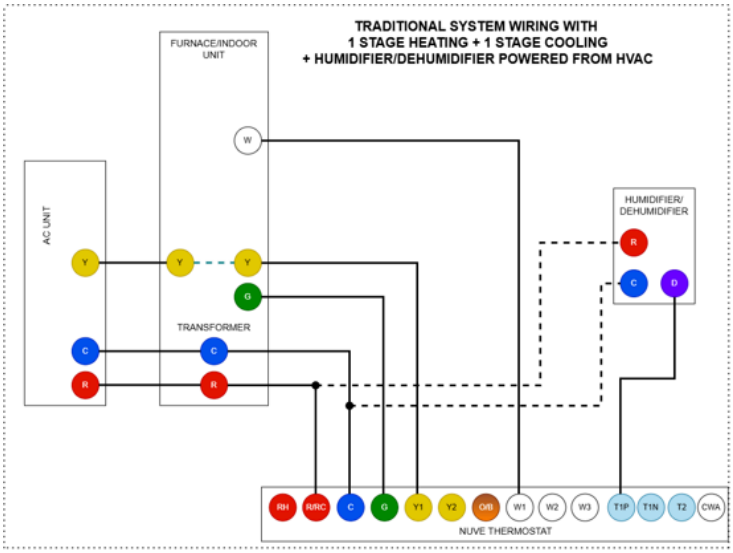


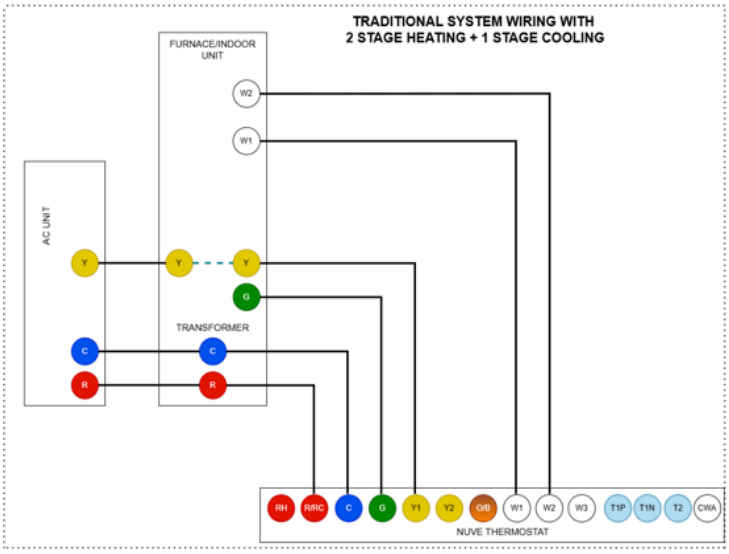

TRADITIONAL HEATING ONLY SYSTEM
WIRING WITH 3 STAGES
FURNACE/INDOOR UNIT
W3
W2
W1
G
TRANSFORMER
C
R
RH
R/RC
C
G
Y1
Y2
O/B
W1
W2
W3
T1P
T1N
T2
CWA
NUVE THERMOSTAT

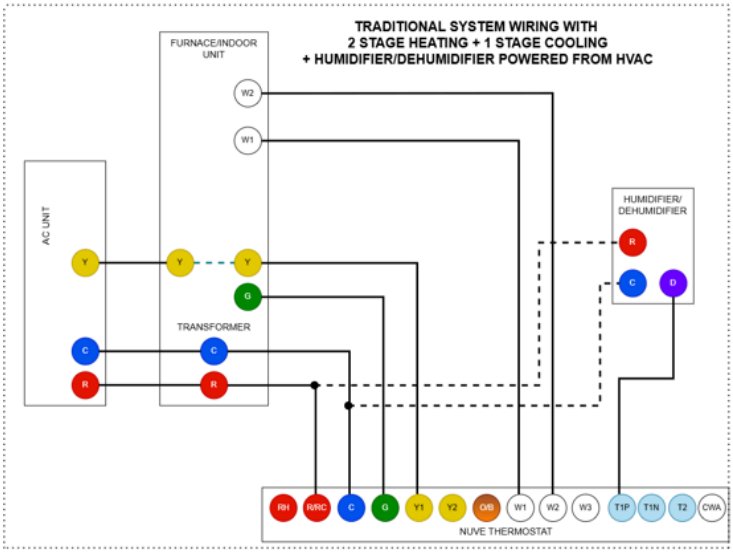

TRADITIONAL HEATING ONLY SYSTEM WIRING WITH 3 STAGES
+ HUMIDIFIER/DEHUMIDIFIER POWERED FROM HVAC
FURNACE/INDOOR UNIT
W3
W2
W1
G
TRANSFORMER
C
R
HUMIDIFIER/ DEHUMIDIFIER
R
C
D
RH
R/RC
C
G
Y1
Y2
O/B
W1
W2
W3
T1P
T1N
T2
CWA
NUVE THERMOSTAT

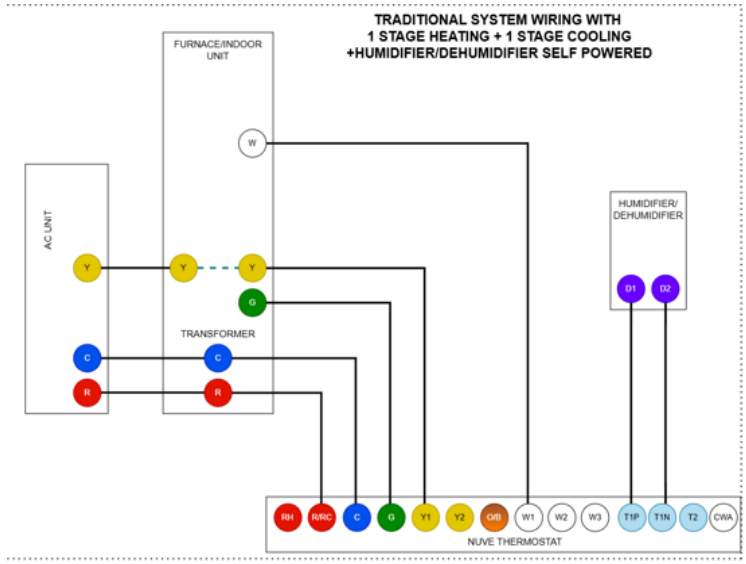

TRADITIONAL HEATING ONLY SYSTEM WIRING WITH 3 STAGES
+ HUMIDIFIER/DEHUMIDIFIER SELF POWERED
FURNACE/INDOOR UNIT
W3
W2
W1
G
TRANSFORMER
C
R
HUMIDIFIER/ DEHUMIDIFIER
D1
D2
RH
R/RC
C
G
Y1
Y2
O/B
W1
W2
W3
T1P
T1N
T2
CWA
NUVE THERMOSTAT

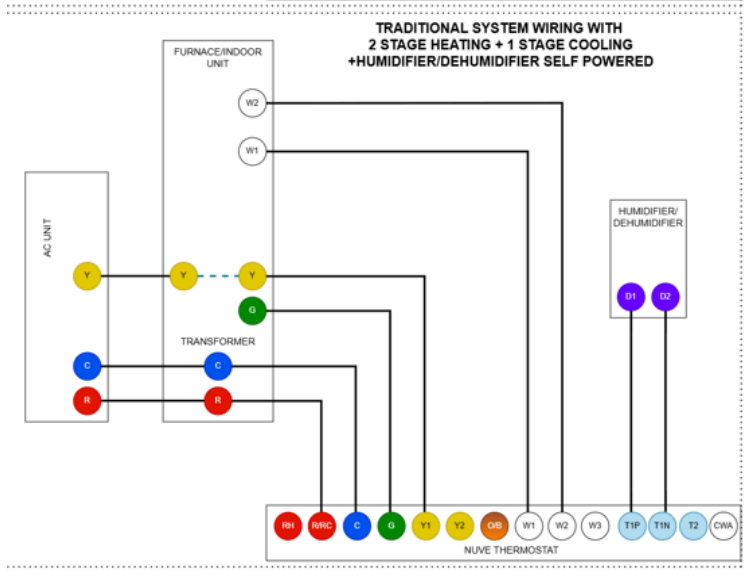

TRADITIONAL SYSTEM WIRING WITH
1 STAGE HEATING + 1 STAGE COOLING
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
NUVE THERMOSTAT

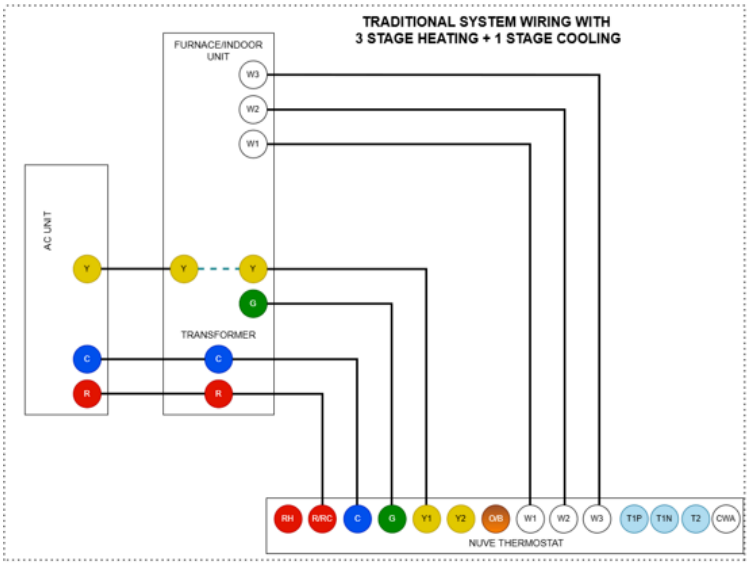

TRADITIONAL SYSTEM WIRING WITH
1 STAGE HEATING + 1 STAGE COOLING
+ HUMIDIFIER/DEHUMIDIFIER POWERED FROM HVAC
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
HUMIDIFIER/ DEHUMIDIFIER
NUVE THERMOSTAT

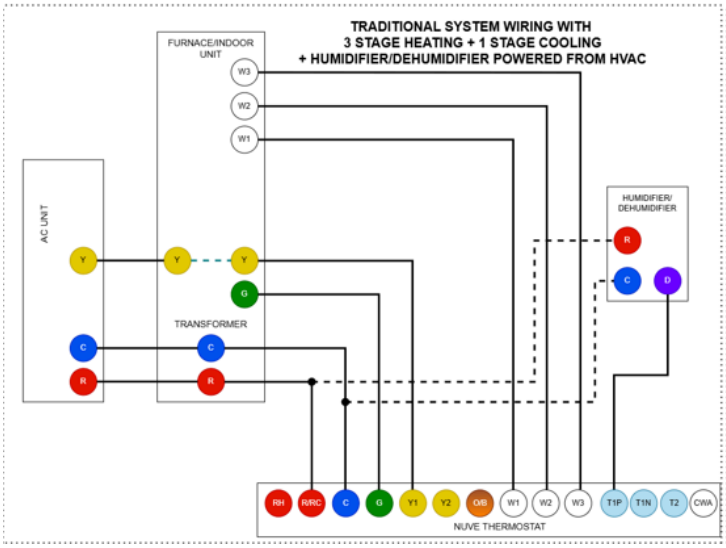

TRADITIONAL SYSTEM WIRING WITH
2 STAGE HEATING + 1 STAGE COOLING
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
NUVE THERMOSTAT

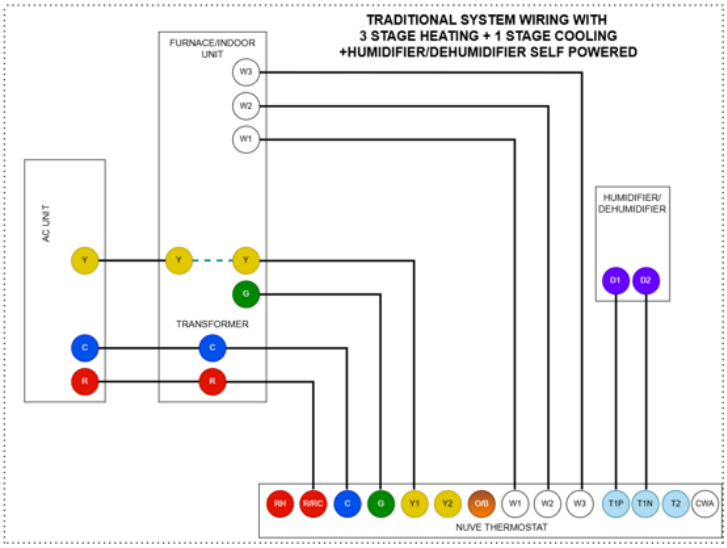

TRADITIONAL SYSTEM WIRING WITH
2 STAGE HEATING + 1 STAGE COOLING
+ HUMIDIFIER/DEHUMIDIFIER POWERED FROM HVAC
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
HUMIDIFIER/ DEHUMIDIFIER
NUVE THERMOSTAT

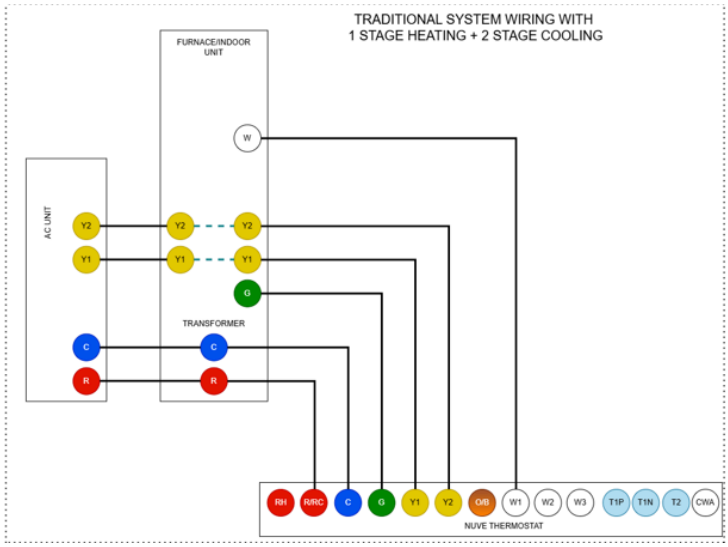

TRADITIONAL SYSTEM WIRING WITH
1 STAGE HEATING + 1 STAGE COOLING
+HUMIDIFIER/DEHUMIDIFIER SELF POWERED
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
HUMIDIFIER/ DEHUMIDIFIER
W
Y
G
C
R
D1
D2
RH
R/RC
O/B
W1
W2
W3
T1P
T1N
T2
CWA
NUVE THERMOSTAT

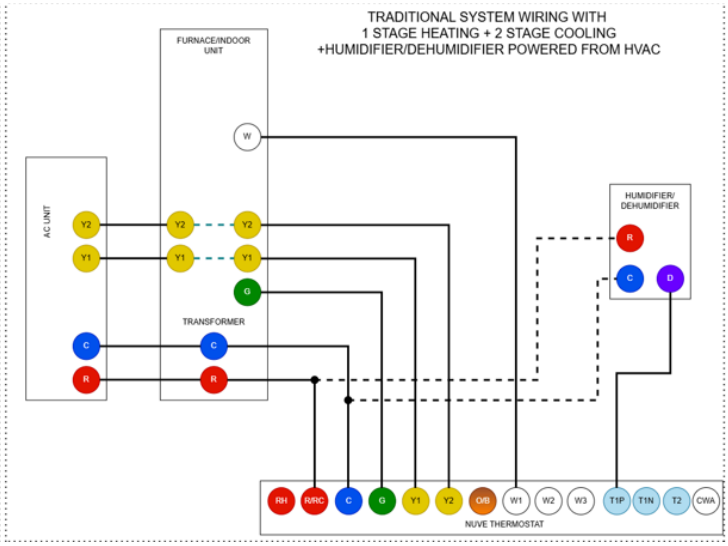

TRADITIONAL SYSTEM WIRING WITH
2 STAGE HEATING + 1 STAGE COOLING
+HUMIDIFIER/DEHUMIDIFIER SELF POWERED
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
HUMIDIFIER/ DEHUMIDIFIER
W2
W1
Y
G
C
R
D1
D2
RH
R/RC
O/B
W3
T1P
T1N
T2
CWA
NUVE THERMOSTAT

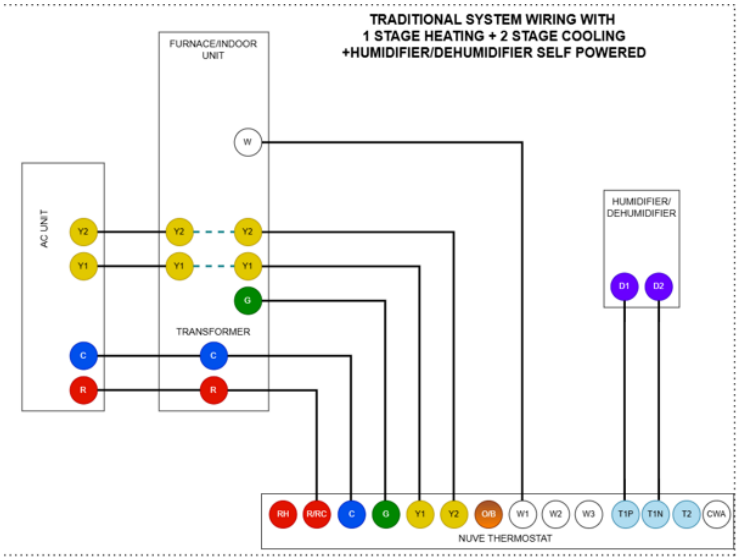

TRADITIONAL SYSTEM WIRING WITH
3 STAGE HEATING + 1 STAGE COOLING
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
W3
W2
W1
Y
G
C
R
RH
R/RC
O/B
T1P
T1N
T2
CWA
NUVE THERMOSTAT

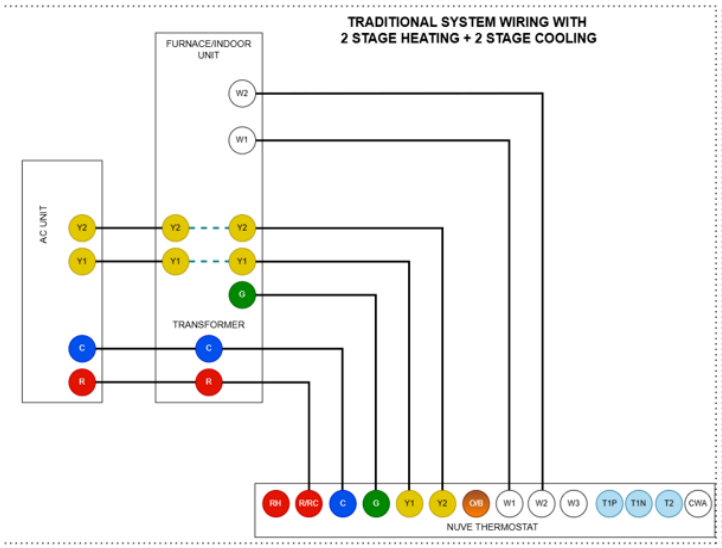

TRADITIONAL SYSTEM WIRING WITH
3 STAGE HEATING + 1 STAGE COOLING
+ HUMIDIFIER/DEHUMIDIFIER POWERED FROM HVAC
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
HUMIDIFIER/ DEHUMIDIFIER
NUVE THERMOSTAT

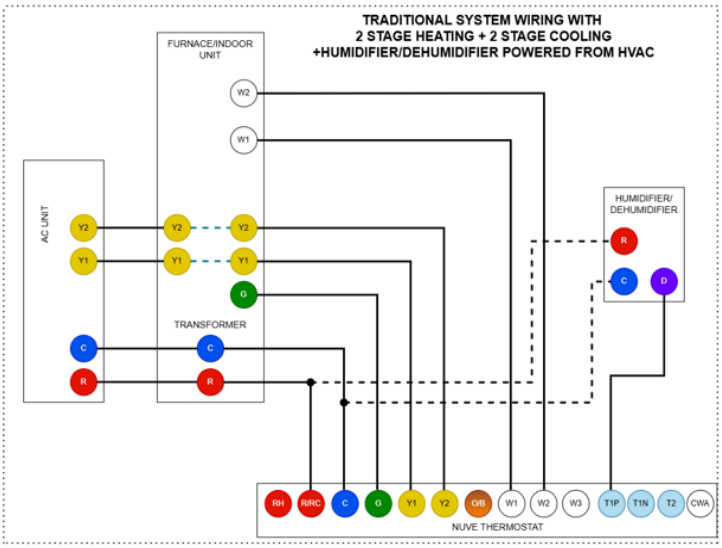

TRADITIONAL SYSTEM WIRING WITH
3 STAGE HEATING + 1 STAGE COOLING
+HUMIDIFIER/DEHUMIDIFIER SELF POWERED
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
HUMIDIFIER/ DEHUMIDIFIER
NUVE THERMOSTAT

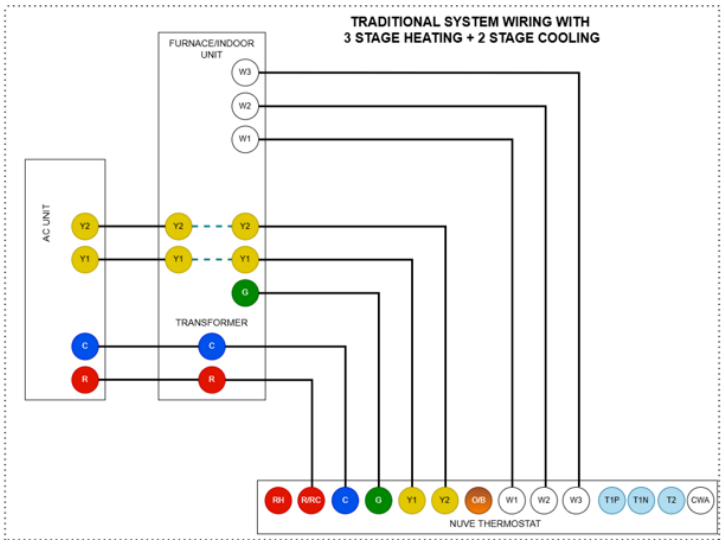

TRADITIONAL SYSTEM WIRING WITH
1 STAGE HEATING + 2 STAGE COOLING
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
NUVE THERMOSTAT

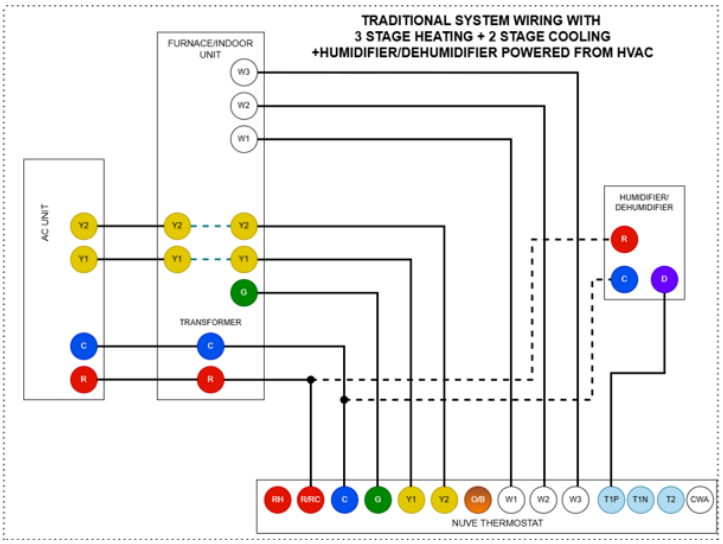

TRADITIONAL SYSTEM WIRING WITH
1 STAGE HEATING + 2 STAGE COOLING
+HUMIDIFIER/DEHUMIDIFIER POWERED FROM HVAC
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
HUMIDIFIER/ DEHUMIDIFIER
NUVE THERMOSTAT

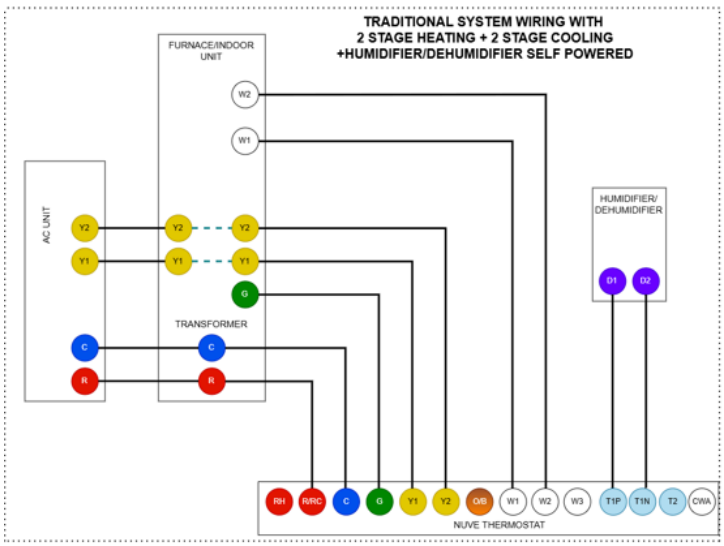

TRADITIONAL SYSTEM WIRING WITH
1 STAGE HEATING + 2 STAGE COOLING
+HUMIDIFIER/DEHUMIDIFIER SELF POWERED
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
HUMIDIFIER/ DEHUMIDIFIER
NUVE THERMOSTAT

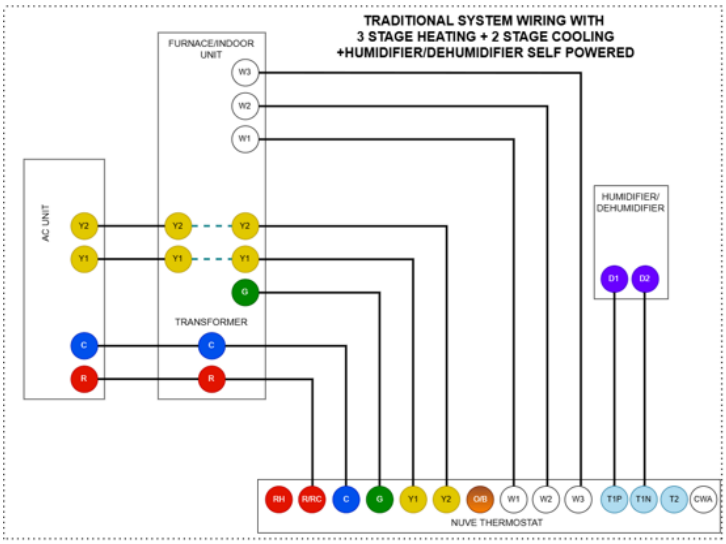

TRADITIONAL SYSTEM WIRING WITH
2 STAGE HEATING + 2 STAGE COOLING
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
NUVE THERMOSTAT


TRADITIONAL SYSTEM WIRING WITH
2 STAGE HEATING + 2 STAGE COOLING
+HUMIDIFIER/DEHUMIDIFIER POWERED FROM HVAC
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
HUMIDIFIER/ DEHUMIDIFIER
NUVE THERMOSTAT


TRADITIONAL SYSTEM WIRING WITH
3 STAGE HEATING + 2 STAGE COOLING
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
NUVE THERMOSTAT


TRADITIONAL SYSTEM WIRING WITH
3 STAGE HEATING + 2 STAGE COOLING
+HUMIDIFIER/DEHUMIDIFIER POWERED FROM HVAC
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
HUMIDIFIER/ DEHUMIDIFIER
NUVE THERMOSTAT


TRADITIONAL SYSTEM WIRING WITH
2 STAGE HEATING + 2 STAGE COOLING
+HUMIDIFIER/DEHUMIDIFIER SELF POWERED
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
HUMIDIFIER/ DEHUMIDIFIER
NUVE THERMOSTAT


TRADITIONAL SYSTEM WIRING WITH
3 STAGE HEATING + 2 STAGE COOLING
+HUMIDIFIER/DEHUMIDIFIER SELF POWERED
FURNACE/INDOOR UNIT
AC UNIT
TRANSFORMER
HUMIDIFIER/ DEHUMIDIFIER
NUVE THERMOSTAT

Systems with Dual (2) Transformers