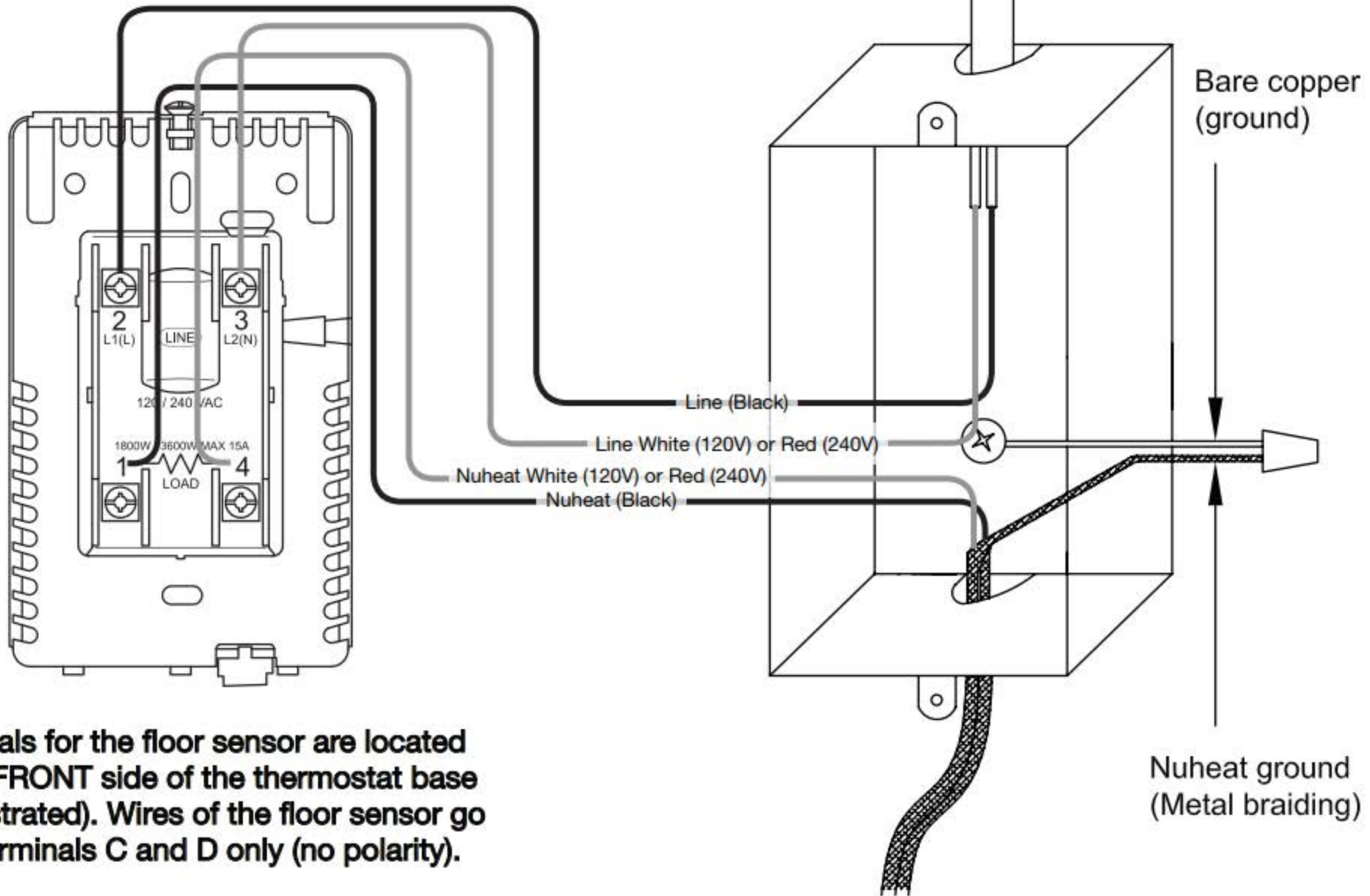




NVENT NUHEAT SIGNATURE THERMOSTAT

Operating Manual

Wiring Diagram for Nuheat SIGNATURE, HOME & Element Thermostats



Terminals for the floor sensor are located on the FRONT side of the thermostat base (not illustrated). Wires of the floor sensor go into terminals C and D only (no polarity).

NUHEAT INDUSTRIES LTD. ASSUMES NO RESPONSIBILITY FOR FIELD WIRING. PLEASE CONSULT A CERTIFIED ELECTRICIAN FOR FURTHER INSTRUCTION IF NEEDED. WIRING MUST BE IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES. WIRING METHODS MAY DIFFER FOR EACH CONTROL, PLEASE CONSULT MANUFACTURER'S INSTRUCTIONS FOR ACTUAL SPECIFICATIONS.

**Nuheat mat(s)
15.0 Amp maximum per thermostat
(without use of relay switch)**

TABLE OF CONTENTS

INTRODUCTION	4
SYSTEM TESTS	5
SETUP WIZARD	5
GFCI	5
SECTION 1: HOME SCREEN	6
1.1 Temporary Bypass and Hold Options	7
1.2 Energy Use	8
1.3 Settings	8
SECTION 2: SETUP/PREFERENCES	9
2.1 Language	9
2.2 Date	9
2.3 Time	9
2.4 Unit	10
2.5 Operating Mode	10
2.6 Temperature Control	11
2.7 Temperature Display	12
2.8 Floor Type	12
2.9 Early Start	12
2.10 Floor Limit	13
2.11 Screen Brightness	13
2.12 Screensaver	13
SECTION 3: PROGRAM/SCHEDULE	14
SECTION 4: WIFI SETTINGS	15
SECTION 5: WEATHER SETTINGS	16
SECTION 6: THERMOSTAT INFORMATION	17
SECTION 7: FACTORY RESET	18
SECTION 8: WIFI TROUBLESHOOTING	19
SECTION 9: CONNECTING TO NEST, GOOGLE ASSISTANT, AMAZON ALEXA, OR IFTTT ..	22

INTRODUCTION



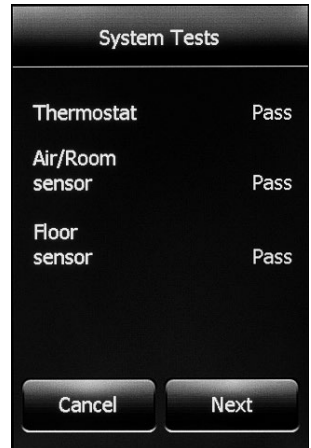
Thank you for choosing nVent NUHEAT Signature!

You have chosen the most advanced thermostat to control your nVent NUHEAT Electric Floor Heating System. This manual will cover each of the features of the Signature thermostat.

SYSTEM TESTS

The Signature thermostat features a series of diagnostic tests to confirm the thermostat is installed and functioning properly.

The **System Tests** option is available the first time the thermostat is connected to power or after a factory reset is initiated.



SETUP WIZARD

The Signature thermostat features a **Setup Wizard** to guide you through the basic setup process.

The **Setup Wizard** is available the first time the thermostat is connected to power or after a factory reset is initiated. Refer to section 6 on page 17.

GFCI

The Signature thermostat has a built-in GFCI (Ground Fault Circuit Interrupter). The GFCI protects against risks of electrocution caused by a current leakage. If the current leakage exceeds 5 mA, the GFCI will automatically be triggered, thus cutting power to the floor heating system. To indicate the fault, a message will appear on the screen informing you of the fault. To reset the GFCI, press the button on the right side of the thermostat. If problem persists, contact nVent NUHEAT at 1.800.778.WARM(9276).

SECTION 1: HOME SCREEN



1. Change date and time
2. Access WiFi settings
3. Access weather forecast (WiFi connection required)
4. Current temperature
5. Target temperature or setpoint
6. Operating mode - Auto* means the thermostat is following the program/schedule. Manual means the thermostat is NOT following the program/schedule and is being controlled manually. Refer to section 2.5 on page 10.
7. Increase the temperature
8. Decrease the temperature
9. Heating indicator - when visible, system is heating
10. Access Energy Use data
11. Access Settings menu

*When thermostat is in **Auto** mode:

Resume Programmed Schedule - only appears if thermostat is in **Auto** mode and temperature is manually increased/decreased

Hold Options - only appears if thermostat is in **Auto** mode and temperature is manually increased/decreased. Refer to section 1.1 on page 7.

SECTION 1: HOME SCREEN



SECTION 1.1 TEMPORARY BYPASS AND HOLD OPTIONS

If the thermostat is following the program/schedule (in **Auto** mode), you can temporarily bypass the programmed temperature by pressing the ▲ or ▼ button until the desired **Set To** temperature is displayed. The thermostat will maintain this temperature until the start of the next period.

Press **Resume Program** to cancel the temporary bypass.

Press **Hold Options** to access more options.

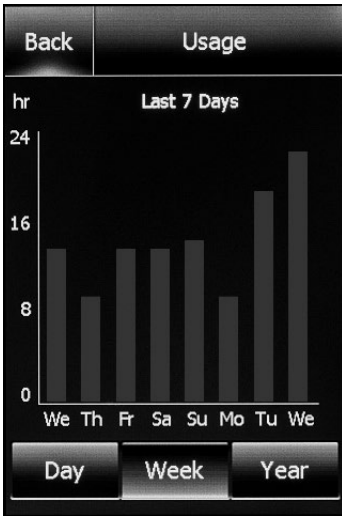
Hold Options

The Signature thermostat allows you to set the duration you want to hold the temporary bypass temperature. Change the duration of the hold time by pressing the ▲ or ▼ arrows. Alternatively, press **Permanent Hold** to hold the temporary bypass temperature indefinitely.

Press **Cancel** to ignore the change or press **Save** to confirm.

On the home screen, press **Resume Program** to cancel the temporary bypass.

SECTION 1: HOME SCREEN



SECTION 1.2 ENERGY USE

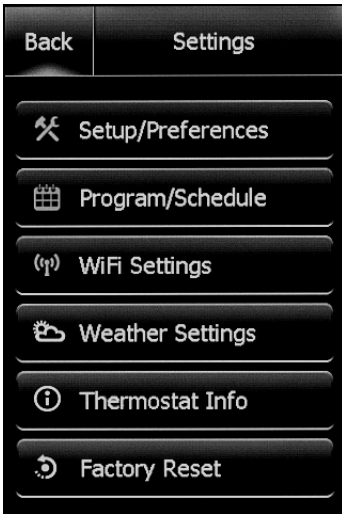
The Signature thermostat tracks the amount of time your floor heating system has been heating.

Press **Day/Week/Year** to view the different time ranges.

Press **Back** to return to the home screen.

NOTE: The thermostat cycles the heating on and off to maintain the desired setpoint temperature. Actual heating time is normally a percentage of the scheduled ON time.

Example: Thermostat is programmed to turn on at 5:00pm and turn off at 8:00pm. The total ON time is 3 hours but the number of hours the system is actually HEATING may be a percentage of the total ON time.



SECTION 1.3 SETTINGS

The following options are available under the **Settings** menu:

- Setup/Preferences
- Program/Schedule
- WiFi Settings
- Weather Settings
- Thermostat Info
- Factory Reset

SECTION 2: SETUP/PREFERENCES

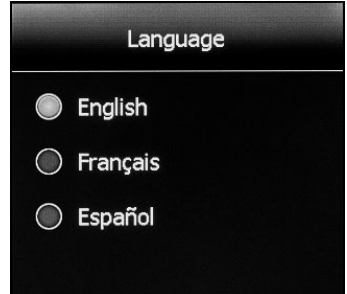
From the home screen, access the **Setup/Preferences** menu by pressing **Settings>Setup/Preferences**. Press the ◀ or ▶ arrows at the top to view both pages of **Setup/Preferences**.

SECTION 2.1 LANGUAGE

Choose between

English/Français/Español.

Press **Cancel** to ignore the change or press **Save** to confirm.



SECTION 2.2 DATE

Set the current month/date/year. Select whether to enable/disable daylight savings time based on your region.

Press **Cancel** to ignore the change or press **Save** to confirm.



SECTION 2.3 TIME

Set the current time. Select whether you would like the time to sync with the network time once the thermostat is connected to your WiFi network.

Press **Cancel** to ignore the change or press **Save** to confirm.



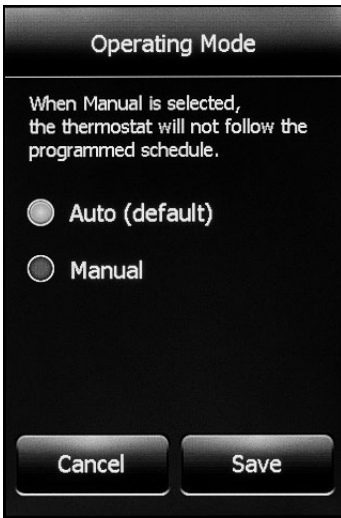
SECTION 2: SETUP/PREFERENCES



SECTION 2.4 UNIT

Choose between **Fahrenheit** or **Celsius**.

Press **Cancel** to ignore the change or press **Save** to confirm.



SECTION 2.5 OPERATING MODE

The thermostat has two operating modes:

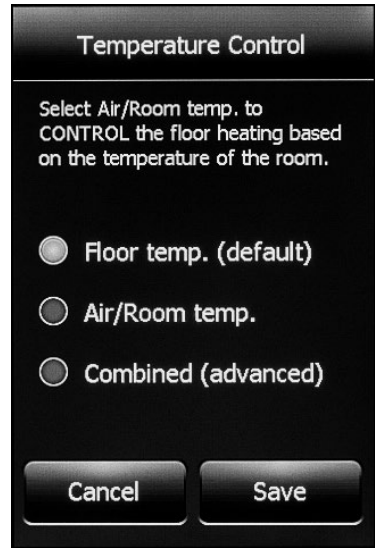
1. Auto - Use **Auto (default)** mode if you want the thermostat to follow a programmed heating schedule. Refer to section 3 on page 14.
2. Manual - In **Manual** mode, the programmed schedule is not followed. Use this mode if you always want to set the temperature manually. The thermostat will maintain the set temperature until it is manually changed or until you switch to another operating mode.

Press **Cancel** to ignore the change or press **Save** to confirm.

SECTION 2: SETUP/PREFERENCES

SECTION 2.6 TEMPERATURE CONTROL

The thermostat can be configured to control the floor temperature, air/room temperature, or a combination of floor and air/room temperature.



TEMPERATURE CONTROL SETTING	DESCRIPTION
Floor temp. (default)	The thermostat controls the floor temperature.
Air/Room temp.	The thermostat controls the air/room temperature. This setting disables the floor sensor and is useful if the floor sensor is damaged or not installed.
Combined (advanced)	For advanced users only - This setting allows control of the floor heating system based on air/room temperature but will not turn on the floor heating system if the floor temperature is above the floor limit.

Press **Cancel** to ignore the change or press **Save** to confirm.

SECTION 2: SETUP/PREFERENCES

Temperature Display

Select Air/Room temp. to DISPLAY the temperature of the room.

- Floor temp. (default)
- Air/Room temp.

SECTION 2.7 TEMPERATURE DISPLAY

The thermostat can display either of the following temperatures on the home screen and screensaver:

- **Floor temp. (default)**
- **Air/Room temp.**

Press **Cancel** to ignore the change or press **Save** to confirm.

Floor Type

When Engineered/Laminate is selected, the floor temperature will be limited to 82 °F.

- Tile/Stone
- Engineered/Laminate

SECTION 2.8 FLOOR TYPE

Set according to your flooring type. When **Engineered/Laminate** is selected, the floor temperature will be limited to 82°F / 28°C.

NOTE: This setting is not available if **Temperature Control** is set to **Air/Room temp.** Refer to section 2.6 on page 11.

Press **Cancel** to ignore the change or press **Save** to confirm.

Early Start

The Early Start feature will automatically adjust the heating start-up time to ensure your floor reaches the desired temperature at the scheduled time.

- On (default)
- Off

SECTION 2.9 EARLY START

Early Start calculates the optimal time to start heating to ensure your floor reaches the desired temperature at the scheduled time in your program/schedule. It only applies if your thermostat is following a programmed schedule (ie. thermostat is in **Auto** mode).

Press **Cancel** to ignore the change or press **Save** to confirm.

SECTION 2: SETUP/PREFERENCES

SECTION 2.10 FLOOR LIMIT

Set the maximum temperature you want the floor to reach. The floor heating will not turn on if the floor temperature is above the set floor limit. If the floor limit is set too low, your floor heating system will not turn on. nVent NUHEAT suggests leaving the floor limit at the default factory temperature setting.

NOTE: This setting is not available if **Temperature Control** is set to **Air/Room temp.** Refer to section 2.6 on page 11.

Press **Cancel** to ignore the change or press **Save** to confirm.



SECTION 2.11 SCREEN BRIGHTNESS

Set the desired screen brightness.

Press **Cancel** to ignore the change or press **Save** to confirm.



SECTION 2.12 SCREENSAVER

The thermostat will display the screensaver after two minutes of inactivity. You can choose what information to display on the screensaver.

NOTE: Weather information is only available if the thermostat is connected to your WiFi network.

Press **Cancel** to ignore the change or press **Save** to confirm.



SECTION 3: PROGRAM/SCHEDULE

SECTION 3.1 PROGRAM/SCHEDULE

From the home screen, access the **Program/Schedule** menu by pressing **Settings>Program/Schedule**.

Below is the default schedule of the Signature thermostat:

WEEKDAY

PERIOD	START TIME	FLOOR TEMPERATURE	
		TILE	WOOD
Wake	6:00 am	88°F (31°C)	82 °F (28°C)
Leave	9:00 am	74°F (23°C)	74 °F (23°C)
Return	5:00 pm	88°F (31°C)	82 °F (28°C)
Sleep	11:00 pm	74°F (23°C)	74 °F (23°C)

WEEKEND

PERIOD	START TIME	FLOOR TEMPERATURE	
		TILE	WOOD
Wake	8:00 am	88 °F (31°C)	82°F (28°C)
Sleep	11:00 pm	74 °F (23°C)	74 °F (23°C)

To adjust the setpoint(s):

1. Use the ◀ or ▶ arrows to toggle between weekdays and weekend days.
2. Select the period that you want to adjust.
3. Using the ▲ or ▼ arrows, adjust the time and temperature of the setpoint.
4. Press **Cancel** to ignore the change or press **Save** to confirm.

To set a new program/schedule, Press **New Program** at the bottom of the screen:



1. Select the days that share the same schedule.
2. Press **Next**.
3. Select the period that you want to adjust.
4. Using the ▲ or ▼ arrows, adjust the time and temperature of the setpoint.
5. Press **Cancel** to ignore the change or press **Save** to confirm.
6. Press **Next**.
7. Repeat steps 1 to 6 until all days have been programmed.
8. Press **Done** to save the program/schedule.

SECTION 4: WIFI SETTINGS

SECTION 4.1 WIFI SETTINGS

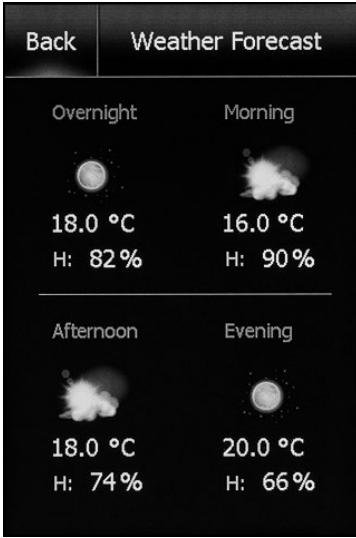
From the home screen, access the **WiFi Settings** menu by pressing **Settings>WiFi Settings**.

To connect your Signature thermostat to your WiFi network:

1. Select your WiFi network from the list of available networks detected by the Signature thermostat. If the network name does not appear, refer to section 8 on page 19 for WiFi troubleshooting.
2. Enter the password for your WiFi network. Note upper/lower case letters, special characters, and numbers in your password. Numbers and special characters can be accessed by pressing the  button.
3. Press **Join**.
4. The thermostat will now attempt to connect to your WiFi network. If this fails, check your WiFi router and repeat steps 1 to 3. If problems persists, refer to section 8 on page 19 for WiFi troubleshooting.
5. Press **Next** once the screen says **Connected**.
6. Enter a name for your thermostat (eg. **“master bathroom”**).
7. Press **Next**.
8. Review the privacy policy available at Nuheat.com and press **Next**.
9. Enter an email address where an activation email may be sent. Note upper/lower case letters, special characters, and numbers in your email address. Numbers and special characters can be accessed by pressing the  button.
10. An activation email/link will be sent to the email address provided. Press **OK**.
11. Press **Back** to return to the home screen.

After 1-2 minutes, you will notice the WiFi icon turn on at the top of the home screen. This means your Signature thermostat is now connected to your WiFi network. If you cannot connect to your WiFi network, refer to section 8 on page 19 for WiFi troubleshooting.

SECTION 5: WEATHER SETTINGS



SECTION 5.1 WEATHER SETTINGS

From the home screen, access the **Weather Settings** menu by pressing **Settings>Weather Settings**.

NOTE: You must complete WiFi setup in order to display weather information on your Signature thermostat.

Refer to section 4 on page 15.

To setup weather information to be displayed on your Signature thermostat:

1. After you have completed the WiFi setup. Refer to section 4 on page 15. Press **Change** on the Weather Location screen.
2. Enter the **ZIP/Postal Code** for your area.
3. Press **Search**.
4. After a few seconds, your city name should appear on the screen.
5. Press **Next**.
6. Press **OK**.
7. Press **Back** to return to the home screen.

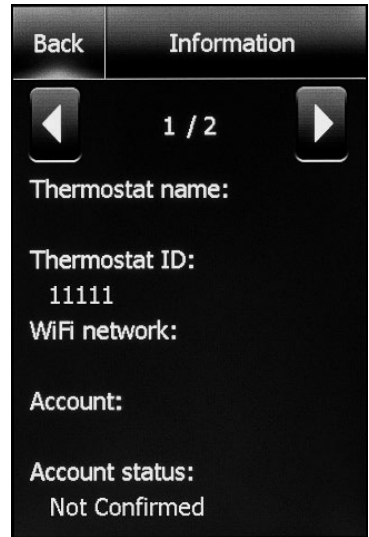
After 1-2 minutes, you will notice the weather information appear on the top right corner of the Home Screen. Press the weather icon to access the weather forecast.

SECTION 6: THERMOSTAT INFORMATION

SECTION 6.1 THERMOSTAT INFORMATION

From the home screen, access the **Thermostat Info** items by pressing **Settings>Thermostat Info**.

Press the ◀ or ▶ arrows at the top to view both pages of thermostat information:



- **Thermostat name** - Name that was entered during the **WiFi Settings** setup. Refer to section 4 on page 15.
- **Thermostat ID** - Unique serial number assigned to the thermostat during manufacturing.
- **WiFi network** - Name of the WiFi network to which the thermostat is connected.
- **Account** - Email address that was entered during the **WiFi Settings** setup. Refer to section 4 on page 15. This is the email where the activation/verification email was sent.
- **Account status** - Reports whether thermostat has been confirmed or not. Your MyNUHEAT.com account must be setup in order for the thermostat to be confirmed to your account.
- **Server status** - Status of the MyNUHEAT server.
- **Floor sensor** - Status of the floor sensor.
- **Air/Room sensor** - Status of the built-in air/room temperature sensor.
- **GFCI** - Status of the GFCI. If ? appears, it means the GFCI has not been tested. Refer to GFCI Section on page 5.
- **GFCI tested** - Date that the GFCI was last tested.
- **Appl. version** - Firmware version number (for internal use during manufacturing).
- **WiFi version** - WiFi version number (for internal use during manufacturing).

SECTION 7: FACTORY RESET



SECTION 7.1 FACTORY RESET

From the home screen, access the **Factory Reset** by pressing **Settings>Factory Reset**.

Factory Reset allows you to reset the thermostat back to factory default settings. This can be used to reset the thermostat for a new owner or for troubleshooting purposes.

WARNING - Factory Reset will delete all information stored on the thermostat including energy usage data.

SECTION 8: WIFI TROUBLESHOOTING

SECTION 8.1 WIFI TROUBLESHOOTING

I CAN'T CONNECT TO MY WIFI NETWORK

CAUSE	SOLUTION
Wrong password	Try entering your password again. Be careful to enter uppercase and lowercase letters, numbers and symbols as needed. The Signature thermostat can switch between three different keyboards to enter these characters.
Your network name is hidden	If you have another device connected to your WiFi network such as your mobile phone, stand next to your Signature thermostat and go into your phone's WiFi settings to see if the network name is appearing. If you do not see the network, it could mean that your network name is hidden. If your wireless network is hidden, it means you've chosen to not have the network name broadcasted to devices. In the WiFi Settings on the Signature thermostat, select Other at the bottom and type in the name of your network (aka SSID). Then enter your password when you are prompted.
Thermostat is too far from WiFi router	Try connecting another device such as your mobile phone to your WiFi network. Standing next to your Signature thermostat, go into your phone's WiFi settings. If the WiFi signal cannot be detected or is very weak on your phone, it means other devices may have trouble connecting to the network from that area of the home. This means you may be too far away from your WiFi router or there may be a problem with it. If your WiFi router is too far, you can purchase a WiFi signal repeater which will improve the range of the WiFi signal in your home for all devices.

SECTION 8: WIFI TROUBLESHOOTING

I CAN'T CONNECT TO MY WIFI NETWORK

CAUSE	SOLUTION
Insufficient security settings on your WiFi router	<p>With so many home devices now connected to the Internet, we want to make sure our Signature thermostats are connected to secured networks so that hackers cannot gain control of devices in the home. There are two main types of encryption or protection available through wireless routers; WEP and WPA. WEP is the original form of wireless security which offers very minimal security. Hackers can very easily break into your wireless network if your router is setup with WEP encryption. It was replaced with WPA encryption in 1999 and WPA2 in 2006. WPA is a security protocol that makes it much more difficult to break into the networks. The Signature thermostat currently supports WPA and WPA2 encryption only. nVent NUHEAT is releasing a version of the Signature that will support WEP in the coming months. If your router was manufactured after 2003, you should be able to change the setting from WEP to WPA (http://www.tech-faq.com/how-to-change-wep-to-wpa.html). Without a WiFi connection, the Signature thermostat can still control your floor heating system. nVent NUHEAT recommends the best course of action is to upgrade your security settings to properly protect your network from hackers. If that is not an option, please contact nVent NUHEAT at 1.800.778.WARM(9276).</p>
Too many wireless devices connected to your network	<p>Some WiFi routers have a limit on the number of wireless devices that can connect to the Internet. To test if this is your issue, shut down one of the WiFi enabled devices in your home. Once that device is completely shut down, try again to connect to the network with the Signature thermostat. If the Signature thermostat successfully connects, consult the documentation for your access point or contact your Internet Service Provider (ISP) to find out if you can increase the number of simultaneous connections to your WiFi network.</p>

SECTION 8: WIFI TROUBLESHOOTING

I CAN'T CONNECT TO MY WIFI NETWORK

CAUSE	SOLUTION
WiFi router requires a restart/reboot	The problem might be with your router (even if your other wireless devices are still connected). A simple restart of the router will usually resolve these types of issues. While most routers just need to be unplugged and plugged back into their power source to restart them, you should refer to your router's documentation for specific instructions.
WiFi router firmware needs to be updated	Contact your ISP or the router manufacturer for instructions on how to update the firmware.
Presence of wireless interference	Try turning off other wireless devices (Bluetooth, WiFi, wireless phones/cameras) that may cause interference then test the Signature thermostat's network connection.
Signature thermostat needs a factory reset	Restart your Signature thermostat. To restart the Signature thermostat, go to Settings>Factory Reset and select Reset. Once your Signature thermostat has restarted, go to Settings>WiFi Settings to try to connect again.

SECTION 9: CONNECTING TO NEST, GOOGLE HOME, AMAZON ALEXA, OR IFTTT

The nVent NUHEAT Signature thermostat now works with popular home assistants and home automation products and services such as Google Assistant®, Amazon Alexa®, Nest®, IFTTT® and more.



WORKS WITH AMAZON ALEXA®

The Signature thermostat can be controlled using any Alexa device including Amazon Echo, Echo Dot, or Echo Plus.



WORKS WITH THE GOOGLE ASSISTANT®

Control the Signature thermostat with any Google Assistant® enabled device such as Google Home® and Google Home Mini®.

SECTION 9: CONNECTING TO NEST, GOOGLE HOME, AMAZON ALEXA, OR IFTTT



WORKS WITH NEST®

Save energy by using the occupancy sensors built into Nest products to turn off your floor heating system when no one is home.



IFTTT®

The Signature thermostat is part of this popular free service that enables you to automatically trigger actions for your floor heating system based on other apps, web services and devices.

Automatically turn off the floor heating system every time you lock your front door or get a text message whenever your floor drops below a certain temperature. All this is possible via IFTTT.

Look for Nuheat applets in the IFTTT app or website!

For setup information, please visit our interactive website resource at www.nuheat.com/connected-home.

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Nuheat-IM-H59344-SignatureThermostat-EN 18/10