Nuheat

Conductor

Smart Electric
Floor Heating Thermostat
User Manual



Nuheat.com

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1. INTRODUCTION

Thank you for choosing the Nuheat Conductor Thermostat. We hope you enjoy the sophisticated style, touch-sensitive vanishing display, intuitive app control, and smart device integration.

Quick adjustments

The capacitive, touch-sensitive display requires only a gentle touch to make quick changes to the device's function. In many cases a scrolling text message will explain the change.

Get connected

This WIFI and Bluetooth enabled thermostat allows users to setup, monitor and control it remotely with their mobile device.

Forgot to set your system to vacation mode? Just connect remotely and make the necessary changes.

Download the Nuheat Conductor app from Google Play or Apple App Store to get started.

Apple App Store

Google Play

Tips for energy saving

Lower the temperature while your home is unoccupied to reduce energy costs.

Set up your thermostat to turn on your heating system during times of use to improve comfort. Users can easily use or customize one of the pre-defined schedules, or create their own schedule from scratch.

Comfort and intelligence

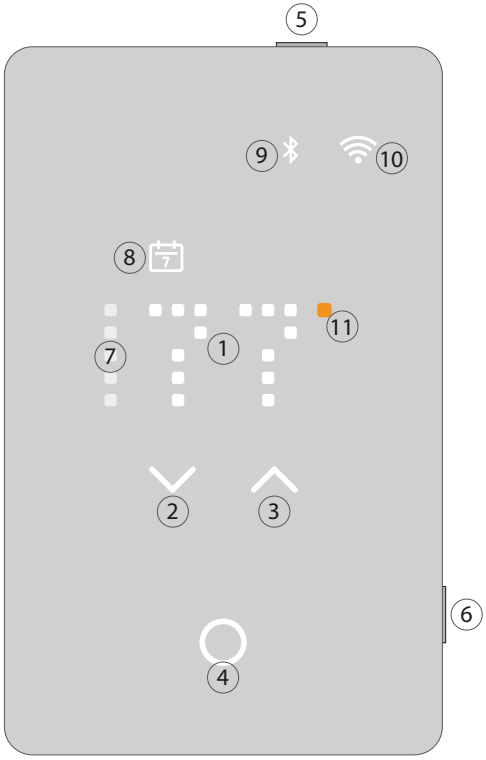
Conductor's Auto-Adaptive Scheduling feature automatically adjusts heating start times to ensure the setpoint temperature is reached at the specified start time. This intelligent feature learns constantly and adapts the heating start time based on recent performance, taking current conditions into account.

Talk to your thermostat

Make it even easier to adjust your thermostat by enabling integration with a smart home or home automation system. Conductor works with Google Assistant, Amazon Alexa, Apple Home, and more! Connect Conductor to these systems and it will respond to voice commands given to the smart device.

For the latest information on available integrations and how to set them up, go to http://www.nuheat.com/connected-home.

2. DESCRIPTION OF BUTTONS AND FUNCTIONS



Touch areas

1. Information area
2. Adjust and navigate down
3. Adjust and navigate up
4. Select and accept

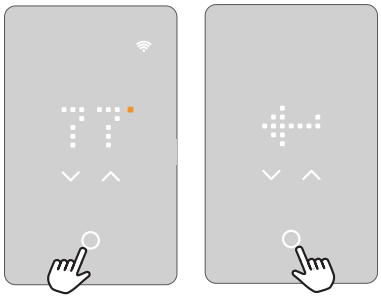
Buttons

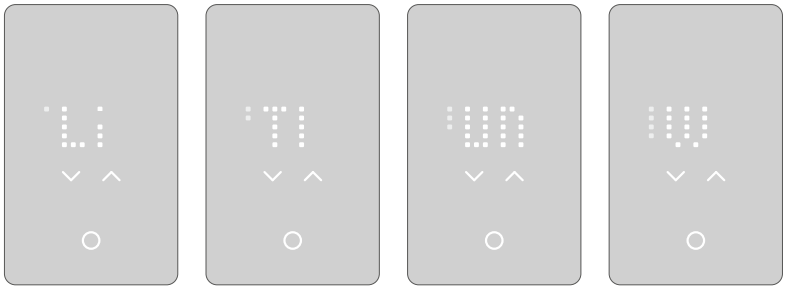
5. GFCI test button
6. Multifunctional button:
   - Press once to enter standby mode or turn on the thermostat.
   - When on, hold for 15 seconds to perform factory reset.
   - Reset/confirm GFCI test mode.
   - When in standby mode, press once to activate Bluetooth pairing.

Indicators

7. Menu navigation
8. Schedule mode
9. Bluetooth connection
10. WIFI connection
11. Heating indicator (orange when heating)

2.1 How to enter the settings menu





Li – Light **TI** – Time **Un** – Unit **W** – WAC

To activate the settings menu:

1. Touch any touch area to wake up the thermostat.
2. Touch the select/accept button for 3 seconds to enter the setup menu.

To exit the setting menu:

1. After 30 sec. the screen saver “activates”. This exits the menu.

   OR:
2. With the arrow up or arrow down buttons go to the Exit icon and press the select/accept button.

In the settings menu users have four options.

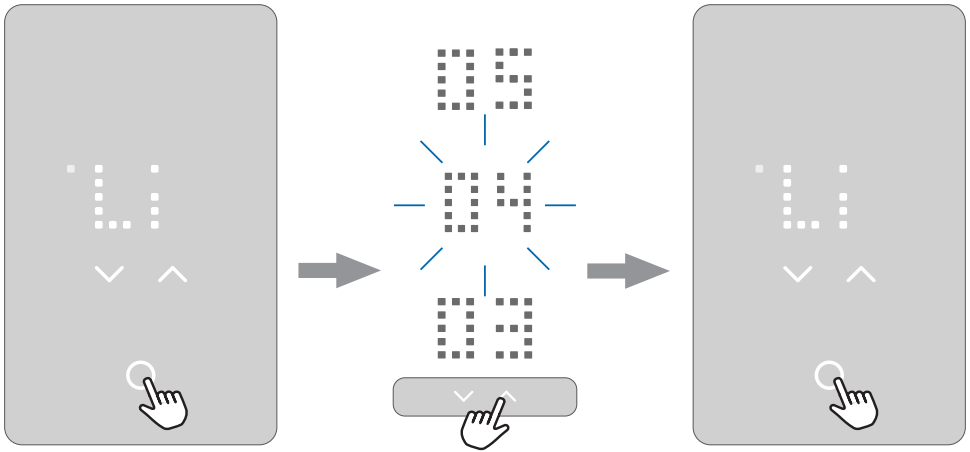
The dots in the left column indicate the settings number.

If the user is in doubt about what the text on the screen means, they can touch the menu abbreviations and an explanatory text will scroll over the screen. The text scrolling can be interrupted by pressing the scrolling text once.

More settings are available in the app.

2.1.1 Changing the backlight level

In the light setting, the user can set the brightness of the screen backlight when the screensaver is active.



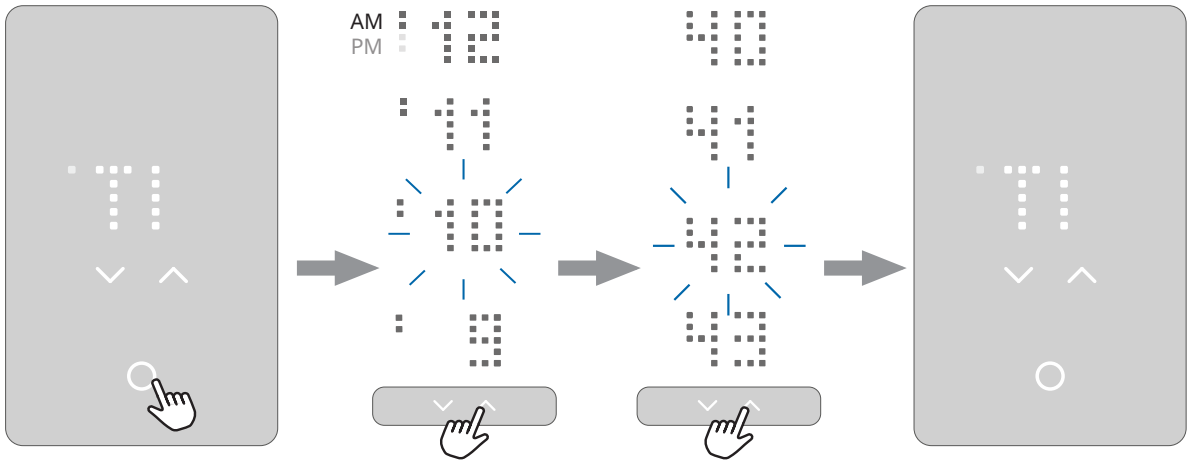
Press the select/accept button to go to the light setting.

Press arrow up or arrow down to adjust the setting.

Press the select/accept button to confirm. The screen will return to setting options.

2.1.2 How to set the time

If the device is not connected to the internet, the user can set the time in the Time setting. The clock is in 12h format. The two small dots on the left indicate if it's AM or PM (upper dots for AM, lower dots for PM).



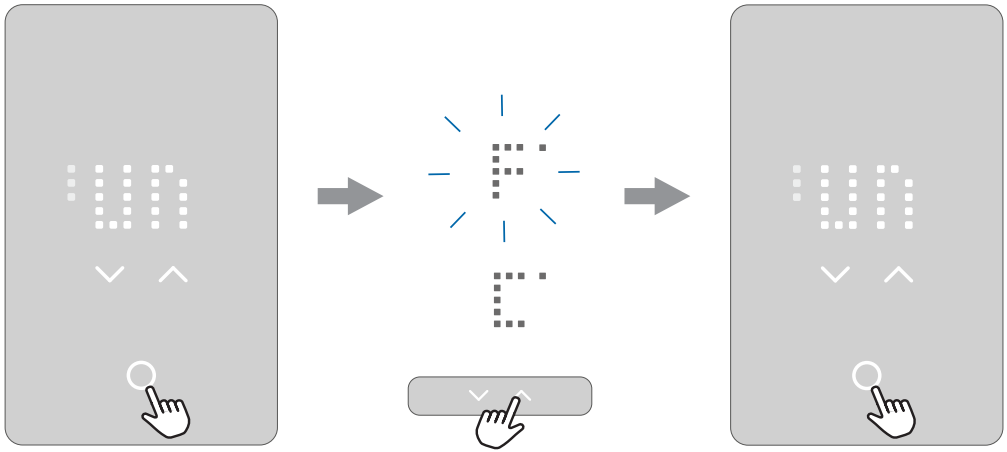
Press the select/accept button to change the setting.

Press arrow up or arrow down change the hour. Press the select/accept button to confirm. AM or PM will scroll from the right, followed by the hours. The process is the same when setting the minutes.

The screen returns to the setting options.

2.1.3 How to change the temperature unit

In the Unit setting, the temperature unit can be set to F (Fahrenheit) or C (Celsius).



Press the select/accept button to change the setting.

Press arrow up or arrow down to set the temperature unit to Fahrenheit or Celsius.

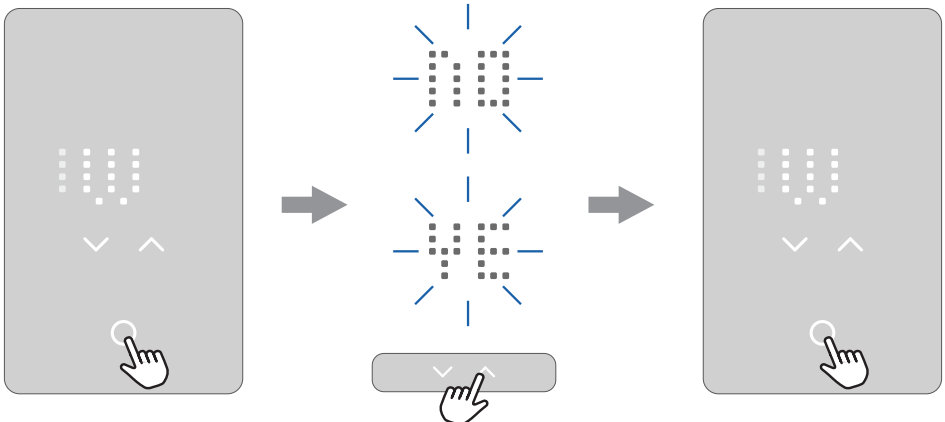
Press the select/accept button to confirm the setting.

2.1.4 How to activate WAC mode for Apple Home connections

To enable Apple Home devices to find and connect with the Conductor thermostat, set the WAC (Wireless Accessory Configuration) mode to “ON”.

Note that WAC mode will time out after 10 minutes and the thermostat will revert to the previous network connection.

WAC mode is always active the first 10 minutes after power on, so WAC mode is only needed when the thermostat has previously been setup on another network.



W – WAC

Press the select/accept button to change the setting.

Press arrow up or arrow down to set the WAC mode OFF (“NO”) or ON (“YES”). This will activate the Wireless Accessory Configuration mode for Apple Home.

Press the select/accept button to confirm the setting.

3. STARTUP WIZARD

The Startup Wizard will run when Conductor is installed and turned on for the first time, and after a factory reset. The Wizard guides the user through a basic setup routine to ensure that the device is set up as intended and ready to control the heating system.

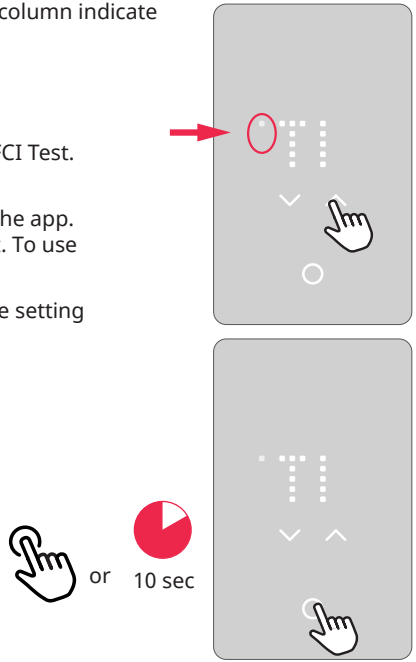
The Startup Wizard allows the user to adjust two settings. The dots in the left column indicate the steps in the process as follows...

1. Time
2. Protection

After completing the Protection setting, the user is instructed to perform a GFCI Test. If passed, the thermostat is ready to use.

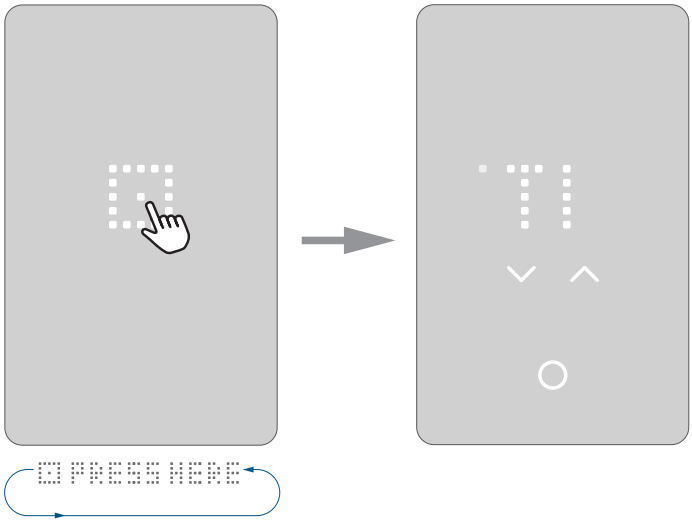
The user can choose to complete the Startup Wizard on the thermostat or in the app. This manual describes how to complete the Startup Wizard on the thermostat. To use the app for this process, skip to Section 9 - How to Connect with Bluetooth.

To view the description of the setting, tap the text or wait 10 sec. The complete setting name and its value will scroll across the screen.



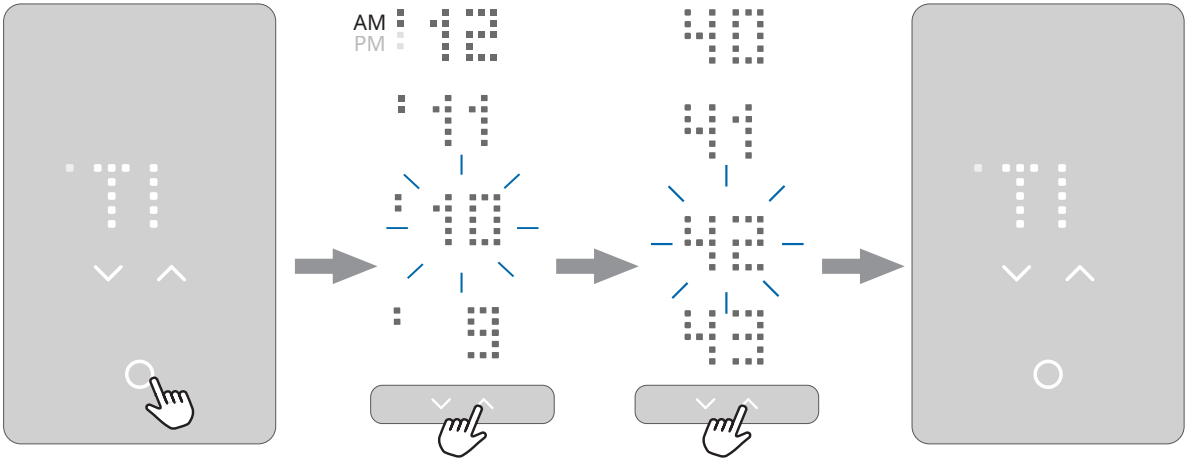
3.1 Startup wizard – Power-up

At Power-up, a pulsating select/accept will appear followed by the text “Press Here”. When the area is pressed, the start-up Wizard starts.



3.2 Startup wizard – Step 1: Time

The first setting option is **TI**ME. The clock is in 12h format. The two small dots on the left indicate if it's AM or PM by showing the upper 2 dots for AM or the lower 2 dots for PM.



Press the select/accept button to change the setting.

Press arrow up or arrow down change the hour. Press the select/accept button to confirm. AM or PM will scroll from the right, followed by the hours. The process is the same when setting the minutes.

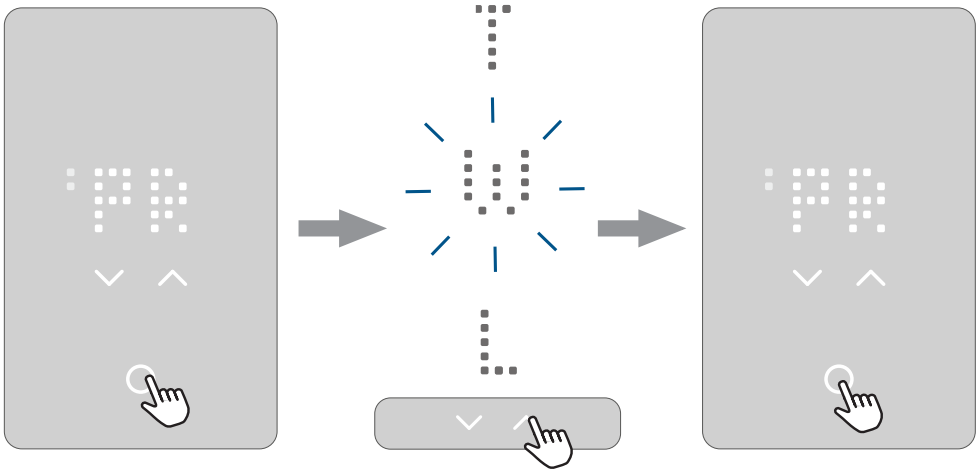
The screen returns to setting options.

3.3 Startup wizard – Step 2: Protection

The second setting option, **PR**OTECTION, allows the user to set the maximum temperature for the floor sensor, according to your floor covering type. The options are Tile (max 40°C / 104°F), Laminate (max 28°C / 82°F, can also be used for luxury vinyl flooring), and Wood (max 27°C / 80°F).

There is also a Custom setting that is only available in the app. This setting allows the user to manually define the maximum and minimum temperature according to preference or the floor covering manufacturer's specifications.

Once the floor type is selected and the setup wizard has been completed, it can only be changed in the app, or by completing a factory reset.



Press the select/accept button to change the setting.

Press arrow up or arrow down to scroll through the protection options.

Press the select/accept button to confirm the setting.

3.3.1 Floor & temperature limits

There are two types of temperature limits:

Floor protection limits: This will override the heating/regulation if the measured temperature using the floor sensor goes
outside the limits. When temperature falls below minimum, the heating is forced on; when temperature rises above maximum, the heating is forced off. This limit feature is only active in “Floor” and “Room with Floor limits” mode.

Floor protection limits	**°C**		**°F**	
	Min.	Max.	Min.	Max.
Disabled (floor protection is disabled)	-	-	-	-
Wood (default)	5°C	27°C	41- °F	80- °F
Laminate	5°C	28°C	41- °F	82- °F
Tiles	5°C	40°C	41- °F	104- °F
Custom	5–25°C	10–40°C	41–77°F	50–104°F

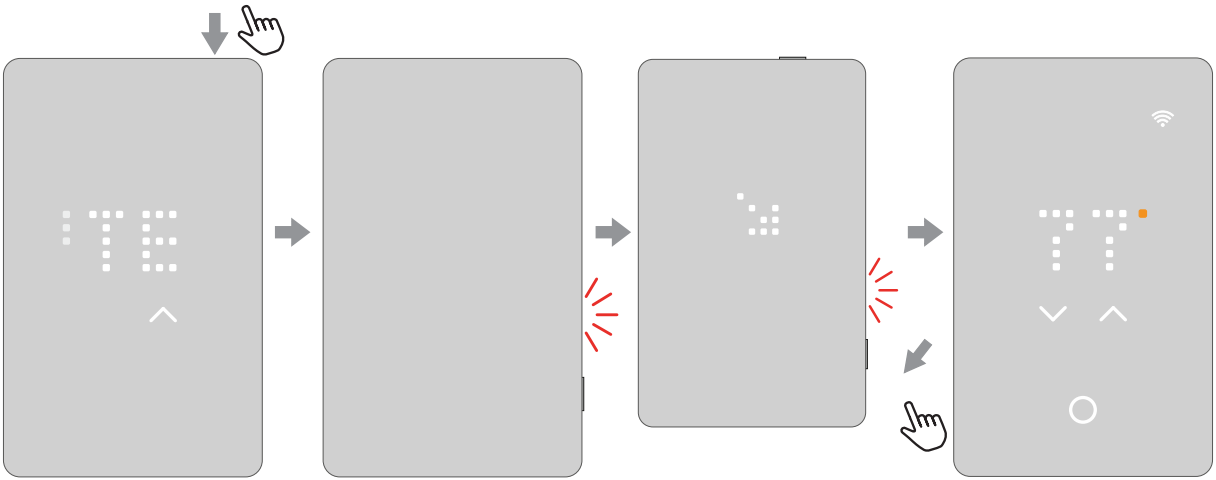
Temperature limits (setpoint range)*: This will limit the setpoint the user can set on the thermostat. These limits can be only be modified using the mobile app.

	Min.	**Max.**
°C	5–25°C	10–40°C
°F	41–77°F	50–104°F

*Regardless the temperature chosen as the setpoint, the thermostat will never regulate higher or lower than the floor protection limits.

3.4 Startup wizard – Step 3: GFCI Test

The Conductor Thermostat includes a built-in Class A Ground Fault Circuit Interrupter (GFCI). The GFCI protects against electric shocks and fire by interrupting power if a difference in expected current is detected, which could indicate an unintentional path to ground. The GFCI test ensures the device is working correctly and is ready for safe use.



Push the top button to test the GFCI relay.

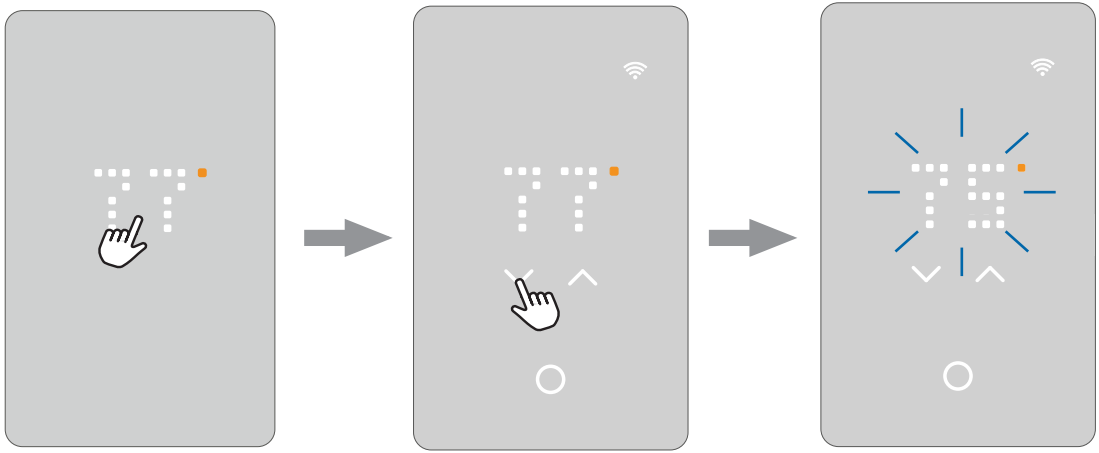
A red light at the right side flashes and the text ↘ GFCI TRIPPED PRESS TO RESET scrolls over the screen.

When the arrow flashes, press the side button.

A dot will rotate until the thermostat restarts. The thermostat is ready for use.

4. HOW TO CHANGE THE TEMPERATURE

The current temperature can be manually adjusted on the device as shown below. If a schedule is active, Conductor will maintain the manually adjusted temperature until the next scheduled temperature change. To set the high and low temperature limits, see Section 3.3.1 – Floor & Temperature Limits.



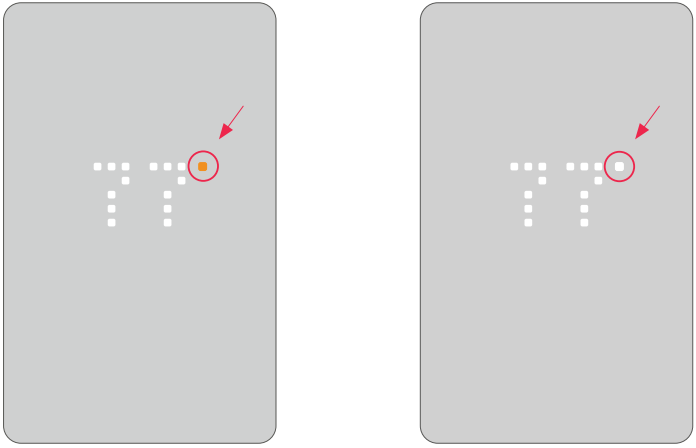
From screen saver mode, touch the temperature area to wake up the thermostat. The home screen becomes visible.

Use arrow up and arrow down to adjust the temperature.

The number will blink 4 times, and the screen returns to screensaver. The temperature is now set.

4.1 Heating status

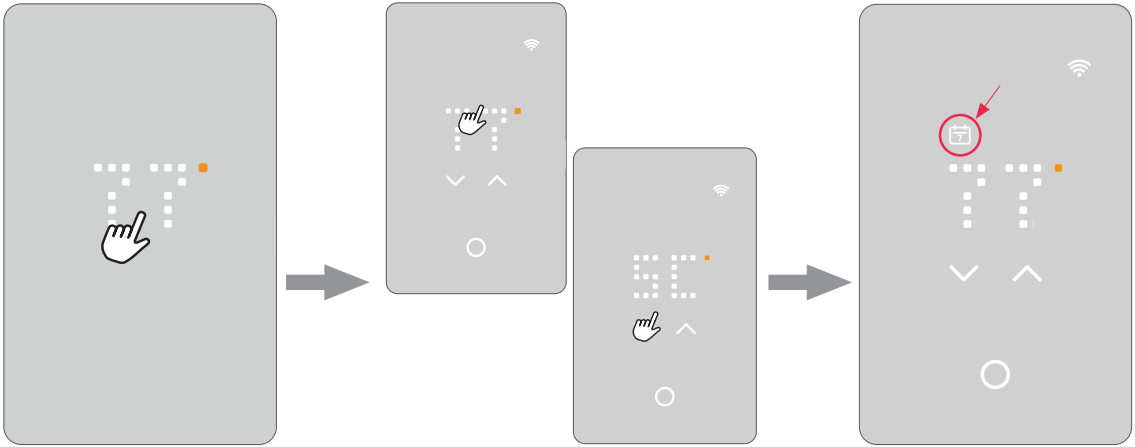
When heating is on, the white degree indicator will turn orange. This is visible in the screensaver, the home screen, and when adjusting the temperature. The orange dot is also visible on the standby screen when frost protection is enabled and active.
To read more about frost protection, go to Section 8 – Standby & Frost Protection.



5. HOW TO TURN THE SCHEDULE ON & OFF

If the thermostat is operating according to a set schedule, the schedule icon is visible on the home screen. .

If the temperature is adjusted on the thermostat while a schedule is active, the manually adjusted temperature will be maintained until the next scheduled temperature change. The schedule can be activated or deactivated on the thermostat as shown below.



From the screen saver mode, touch the temperature area to wake up the thermostat. The home screen becomes visible.

Press and hold the temperature area for 3 seconds and the schedule logo will turn on and the screen will scroll the text: SCHEDULE ON.

Now the thermostat will follow the schedule, and the schedule icon is visible.

To disable the schedule, follow the same procedure and the schedule icon will turn off and screen will say SCHEDULE OFF.

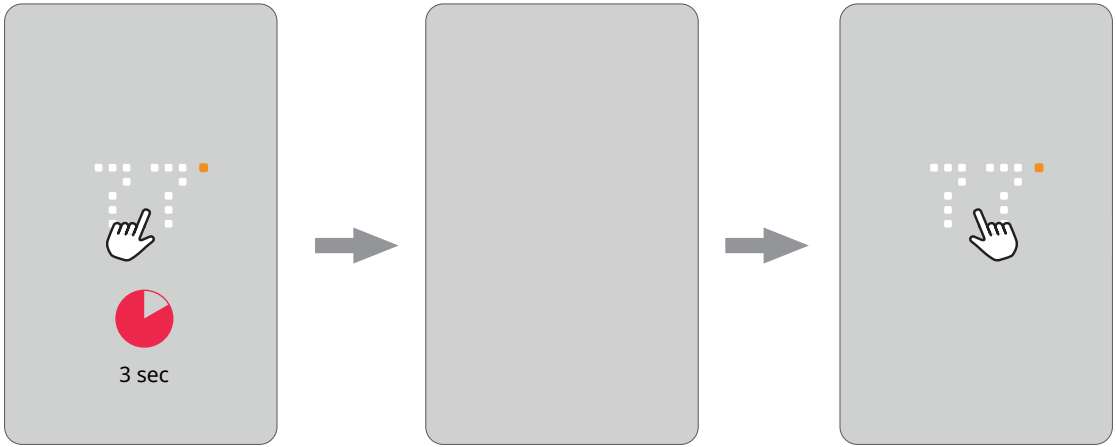
5.1 Preset schedule

The schedule is preset based on which sensor is selected. The schedule can be altered in the app.

Preset schedule		
Monday – Friday	**Room sensor**	**Floor sensor or room sensor with floor limit**
06:00 am – 09:00 am	21°C/70°F	28°C/82°F
09:00 am – 05:00 pm	16°C/62°F	23°C/74°F
05:00 pm – 11:00 pm	21°C/70°F	28°C/82°F
11:00 pm – 06:00 am	16°C/62°F	23°C/74°F
Saturday – Sunday	**Room sensor**	**Floor sensor or room sensor with floor limit**
08:00 am – 11:00 pm	21°C/70°F	28°C/82°F
11:00 pm – 08:00 am	16°C/62°F	23°C/74°F

6. HOW TO TURN OFF THE DISPLAY

From screensaver mode, the light in the display can be turned completely off. This can only be done from screensaver mode.

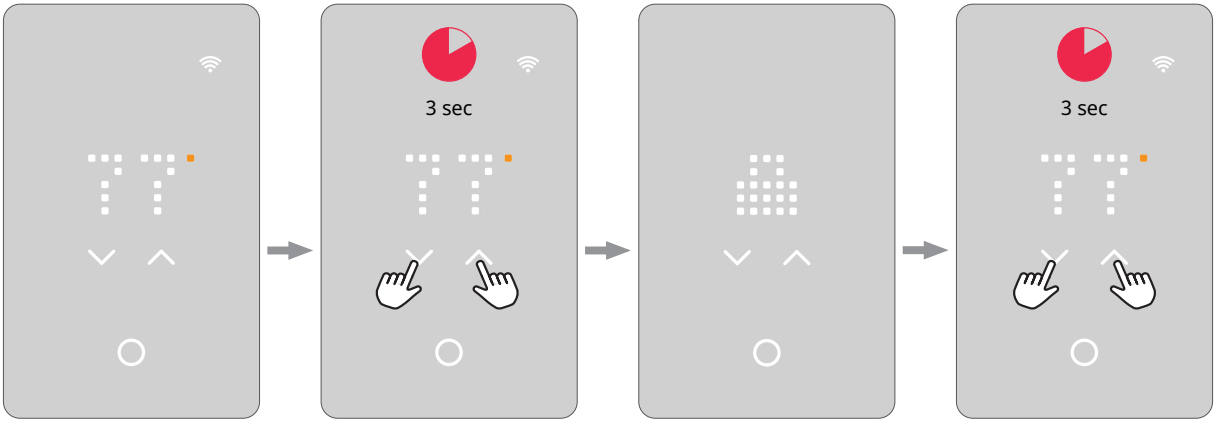


From the screen saver mode, press the temperature area for 3 seconds and the screen will turn off.

Touch the screen to turn on the display light in the screen saver.

7. HOW TO LOCK THE SCREEN

The screen lock prevents children or others from tampering with the thermostat and changing the settings.



From the screen saver mode, touch the temperature area to wake up the thermostat. The home screen becomes visible.

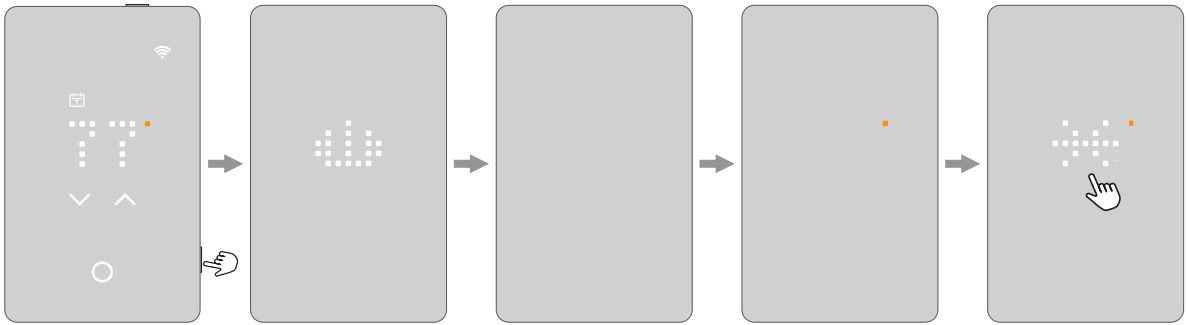
Press both arrows simultaneously for 3 seconds to lock the screen.

The screen shows a lock icon and returns to screensaver mode.

Unlock the screen by repeating the process

8. STANDBY & FROST PROTECTION

You have the option of setting the thermostat in standby mode so that only frost protection is activated. All other functions in the thermostat are switched off. Frost protection means that the thermostat activates the heating when the sensor measures a temperature at the minimum limit.



Press the side button to activate standby mode.

The thermostat will show the standby icon for 3 seconds and the icon will fade out and the thermostat is in standby.

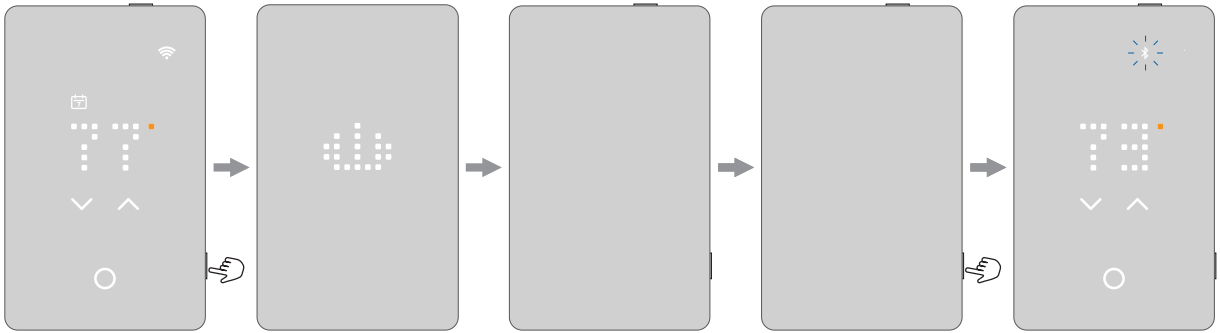
Standby and frost protection is active*.The orange dot is visible on the standby screen when frost protection is enabled and active.

*Frost protection is enabled in the app.

If frost protection is enabled and active, and the user touches one of the touch areas, the screen will show a snowflake for a few seconds followed by the text FROST PROTECED and then followed by the standby icon. This will fade out and go back to standby mode.

9. HOW TO CONNECT WITH BLUETOOTH

Conductor can be operated via Bluetooth connection to a mobile device with the Nuheat Conductor app. Bluetooth pairing mode is activated by following the steps shown below. Once a Bluetooth connection is established, follow the instructions in the Conductor app to control the thermostat.



Press the side button to activate standby mode.

The thermostat will show the standby icon for 3 seconds and the icon will fade out and the thermostat is in standby.

Press the side button to deactivate standby mode and activate Bluetooth pairing mode.

Bluetooth pairing mode is now activated and setup can continue in the app.

10. THE APP

The Nuheat Conductor app is intended to be the main source of control, allowing users to optimize the heating system effortlessly. From anywhere, the user can easily view and set temperatures, customize the heating schedule, put the system in vacation mode, and track energy usage. Users can save money on heating costs and enjoy maximum comfortable with this intuitive, user-friendly app.

Download the Conductor app from Google Play and Apple App Store to get started.

Apple App Store

Google Play



First use of the app

After downloading the app for the first time, a new user will be guided through the setup process, creating a user account, adding the thermostat via Bluetooth and connecting it to a WIFI network, if available.

Log in with existing account

Existing users can log in, control existing thermostats and add new thermostats by clicking here.

Installers can log in to their account, connect to the thermostat via Bluetooth, and set it up for their customer without connecting to WIFI.

Tiles/Zones

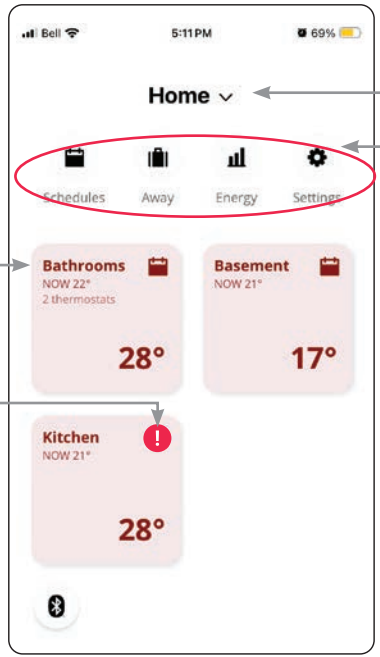
Each red tile displays an overview of the thermostats that are in the group. Click to see additional setting for the zone or thermostat(s).

- See the current temperature
- See the selected temperature
- See if the schedule is activated
- See if there are notifications

Notification for update or error

The exclamation mark indicates one of two things:

- There is a software update available. Follow the guide in the app to install the update.
- The thermostat has an error. Click to see the error code and go to Section 13 – Errors for more details.



Thermostat group

Select the thermostat group to display in this view (e.g. home, cabin, rental unit, etc.).

Schedules

Setup the thermostat to turn on the heating system during predetermined periods. The user can easily adopt or customize a pre-defined schedule, or can create their own from scratch.

Away (Vacation mode)

Remotely activate Away mode to avoid wasting energy when the space is unoccupied.

Energy

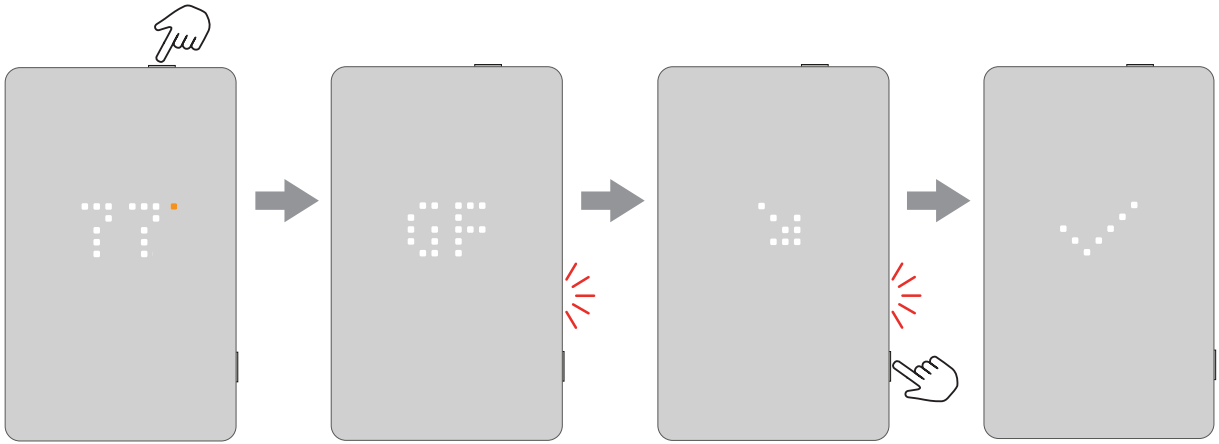
Access an overview of the system's energy consumption and compare energy use across devices and groups.

Settings

Change settings for the app, the thermostats, or the user profiles. Access notifications, firmware updates for the thermostats, and software updates for the app.

11. GFCI TEST

The GFCI should be tested at least monthly and/or in accordance with applicable electrical codes.



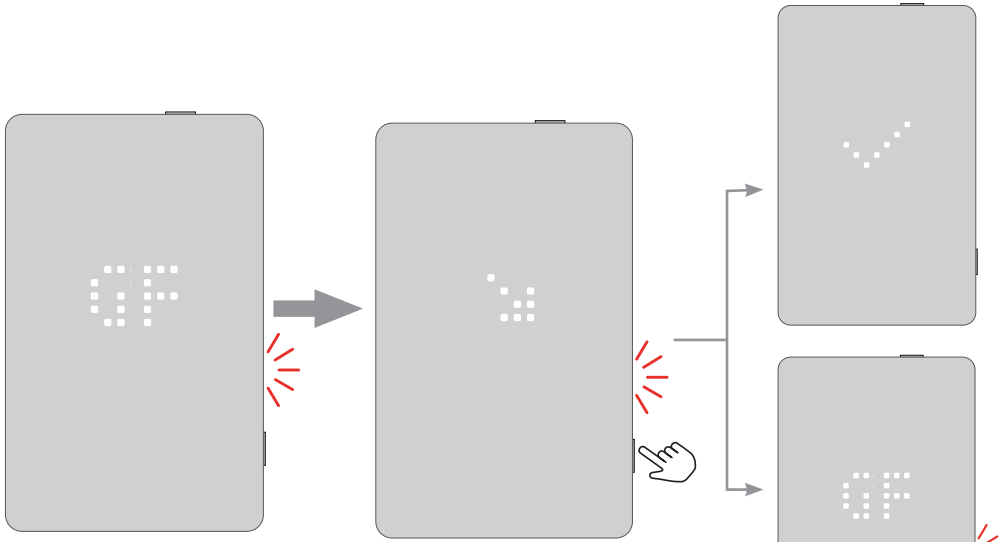
Press the top button to test the GFCI relay.

The red light on the side will flash and the text ↘ GFCI TRIPPED PRESS TO RESET scrolls over the screen. Press the side button to reset.

A check mark is visible to show that the GFCI is reset and works correctly. Normal operation is then continued.

11. GFCI TEST – RELAY TRIPPED

When the GFCI relay has been triggered due to an electrical fault, the red light at the side will flashes and the text GFCI TRIPPED PRESS ↘ TO RESET will be displayed.



The red light at the side flashes and the text ↘ GFCI TRIPPED PRESS TO RESET scrolls over the screen.

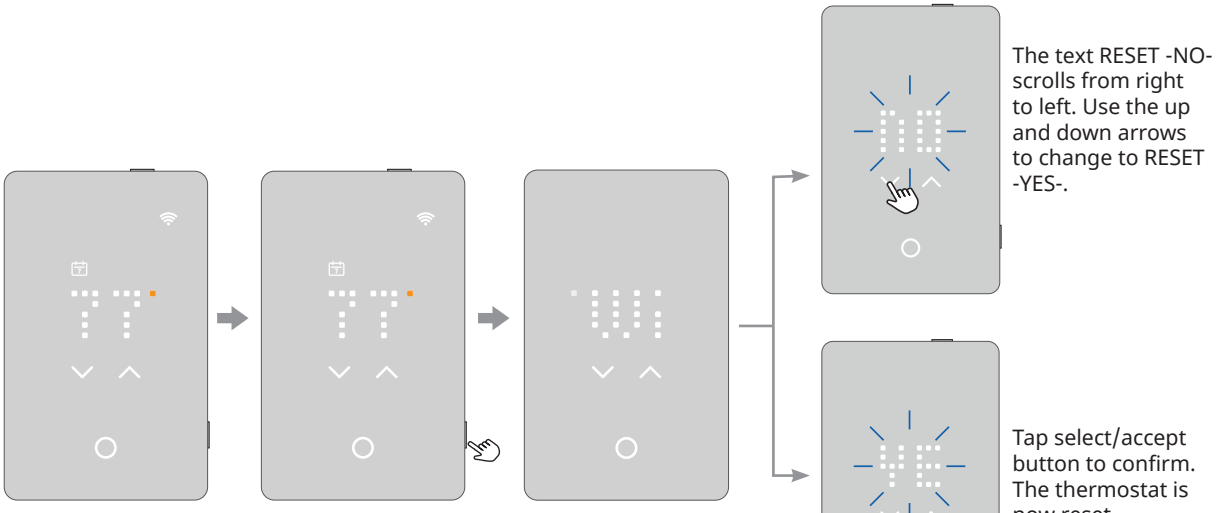
Press the side button to reset.

A check mark is visible to show that the GFCI is reset and works correctly if no fault is detected.

If the test fails, the screen will return to the ↘ GFCI TRIPPED PRESS TO RESET screen. This will continue if the reason for the tripped relay has not been resolved. Go to Section 13 – Errors or refer to the app for further details.

12. HOW TO RESET THE THERMOSTAT

There are 2 types of Resets: the WiFi only Reset or the complete Factory Reset.
NOTE: These actions cannot be undone and all of your personal settings will be lost.



From the screen saver mode, touch the temperature area to wake up the thermostat. The home-screen becomes visible.

Press side button for 15 seconds.

Wi = Reset Wi-Fi

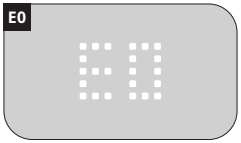
FA = Factory reset

The text RESET -NO- scrolls from right to left. Use the up and down arrows to change to RESET -YES-.

Tap select/accept button to confirm. The thermostat is now reset.

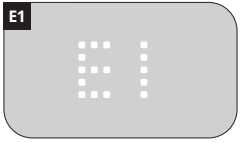
13. ERRORS

E0



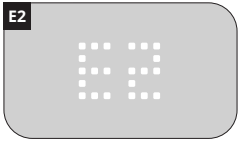
Internal failure, thermostat must be replaced. Contact the electrical installer or Nuheat Technical Support

E1



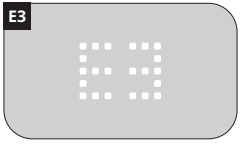
Internal temp sensor failure, thermostat must be replaced. Contact the electrical installer or Nuheat Technical Support.

E2



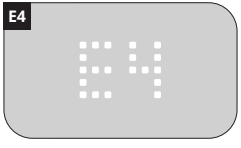
External wired floor sensor disconnected, defective, or short-circuited. Contact the electrical installer or Nuheat Technical Support.

E3



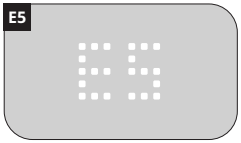
Internal compensation sensor failure, thermostat must be replaced. Contact the electrical installer or Nuheat Technical Support.

E4



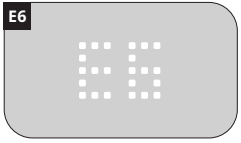
Bootloader error / update failure, thermostat must be replaced. Contact the electrical installer or Nuheat Technical Support.

E5



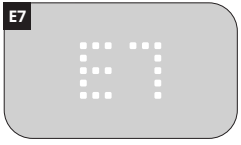
Internal overheating detected. If problem persists, contact the electrical installer to have the installation inspected.

E6



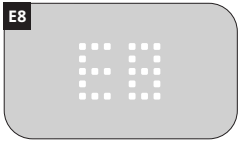
Communication error / wireless chip failure, thermostat must be replaced. Contact the electrical installer or Nuheat Technical Support.

E7



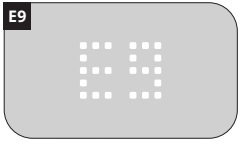
GFCI triggered. Refer to Section 11 - GFCI Test.

E8



WIFI connection interrupted. Check WIFI network.

E9



WIFI connection active but cloud connection interrupted. If WIFI network is working as expected, try again later. If problem persists, check nuheat.com or Nuheat social media accounts for network interruption notices.

14. ERRORS AND INDICATIONS

Turned off
Not connected to WiFi



Turned on
Connected to WiFi



Blinking slowly
WiFi router not available. See error E8



Blinking quickly
Cloud system not available. See error E9



Blinking twice, then pausing and repeating Authentication to cloud failed

Turned off
Bluetooth not paired



Turned on
Bluetooth connected



Blinking slowly
Bluetooth pairing mode





Both blinking quickly
Wireless chip broken. See error E6





Both blinking twice, then pausing and repeating
Firmware update in progress

15. TROUBLESHOOTING

I can't connect to my wireless network	
Problem	**Solution**
Insufficient WIFI signal	Try connecting another device, such as a mobile phone, to the wireless network. Stand next to the thermostat and access the phone's wireless network settings. If the wireless network signal cannot be detected by the phone, or if the signal is very weak, other devices may also have trouble connecting to the network from that area. Consider installing a wireless signal repeater or wireless signal booster.
The WIFI router has insufficient security	With so many home devices now connected to the Internet, modern security is required to prevent hackers from gaining access to devices in the home. WIFI routers utilize two main types of protective encryption: WEP and WPA. WEP is the original form of encryption, and it offers very little security. WEP encryption was replaced by WPA encryption in 1999 and WPA2 in 2006. WPA is a security protocol that makes it much more difficult to break into networks. Conductor supports WPA and WPA2 encryption only. If the router was manufactured after 2003, it should be able to be configured for WPA encryption by following the steps described here: http://www.tech-faq.com/how-to-change-wep-to-wpa.html. If the router cannot be configured for WPA encryption, a replacement router can be installed or Conductor can be setup and controlled locally using a Bluetooth connection, but it will not be able to be accessed remotely. Nuheat recommends that users upgrade to equipment that supports the latest security protocols for safety and ideal operation of the Conductor thermostat.

15. TROUBLESHOOTING

I can't connect to my wireless network	
Problem	**Solution**
I cannot connect to my WIFI router even though there is a good signal	Restart the wireless router. This can likely be accomplished by unplugging it for 30 seconds and then plugging it back in. If the router cannot be restarted by being unplugged and plugged back in, refer to the router's documentation for specific instructions. If restarting the router does not solve the problem, it may be because the network cannot accept any more wireless connections as presently configured. Some WIFI routers limit the number of wireless devices that can connect to the Internet. To test whether this is the problem, shut down one of the other WIFI-enabled devices in the home. Once that device is completely shut down, try once again to connect the Conductor thermostat to the network. If Conductor connects successfully, 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. If the network cannot be configured to allow more connections, an upgraded router can be installed or Conductor can be setup and controlled locally using a Bluetooth connection, but it will not be able to be accessed remotely. If restarting the router does not solve the problem and the network is not at maximum capacity for the number of connected devices, contact your ISP or the router manufacturer for instructions on how to update the firmware of the router. Outdated firmware may be preventing additional Conductor from connecting.
Other devices are interfering with the wireless signal	Try turning off other wireless devices (Bluetooth, WIFI, wireless phones/cameras) that may cause interference and try the connection procedure again.
The WIFI network has no identifiable problems and the Conductor thermostat still will not connect.	Perform a factory reset of the Conductor thermostat. Refer to Section 12 – How to Reset the Thermostat.

15. TROUBLESHOOTING

Other errors	
The floor is warming up, but more slowly than expected.	The Floor Protection setting may be preventing the heating system from achieving the desired temperature. Refer to Section 3.3.1 – Floor & Temperature Limits.

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