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SmartThermostat with voice control

Thermostat Setup Guidelines for Heat Pumps with Gas Furnace Backup (Dual Fuel Heat Pumps)

from the

Palmetto Electric Cooperative, Inc.

Heat Pumps with Gas Furnace Backup (Dual Fuel Heat Pumps)

The ecobee SmartThermostat with voice control is a powerful tool that can help save energy and money while managing energy resources to best serve all cooperative members. To make sure you are getting the most out of your ecobee SmartThermostat, Advanced Energy offers the following recommendations, based on the presence of a heat pump with gas furnace backup system (dual fuel heat pump) and thermostat operating per manufacturers' instructions prior to the ecobee SmartThermostat installation.

Advanced Energy considers a heat pump with gas furnace backup to run on electricity and gas. The outdoor fan runs when in cooling mode and in heating mode during mild outdoor temperatures. When outdoor temperatures drop below 35˚F or so, the outdoor fan stops running and the gas furnace backup takes over and heats the home.

Read the ecobee installation materials carefully and only install the thermostat yourself if you are comfortable with electrical wiring and device setup. If you are not, seek a qualified HVAC contractor to complete installation and setup.

DANGER: Incorrect wiring can cause damage and expensive equipment repairs.

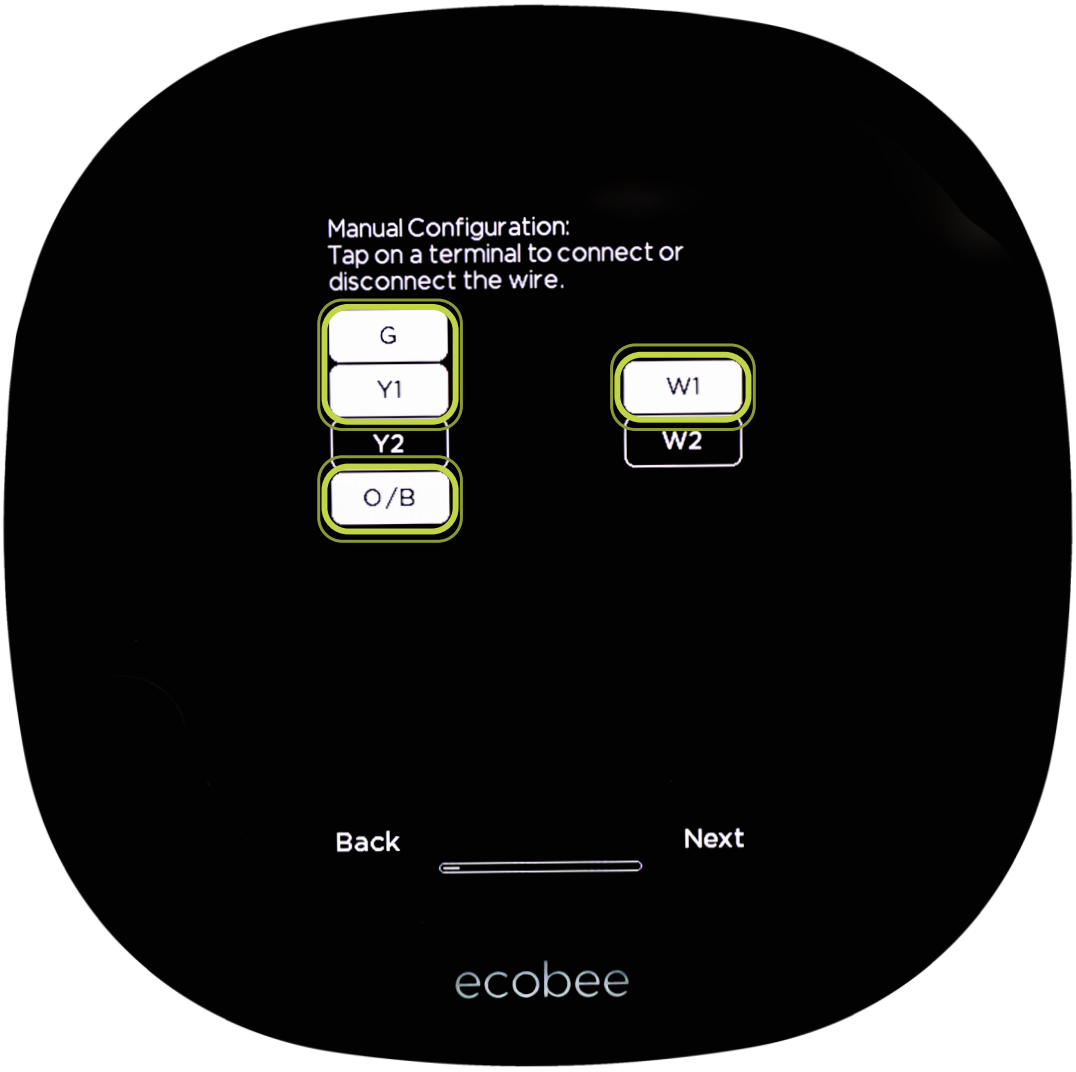
Part One

Step 1

When starting up the ecobee SmartThermostat, this should be the first prompt you see. Select Yes, only Rc is connected for one transformer (most HVAC systems); select Next.

If your HVAC system has two transformers installed, select No, Rc and Rh are connected.

Make sure the following icons are highlighted on the screen:
G Y1 W1 O/B; select Next.



It is important to follow the ecobee SmartThermostat installation documents to ensure your HVAC system is wired to maximize the thermostat's capabilities.

Step 3

Select Air to air; select Next.

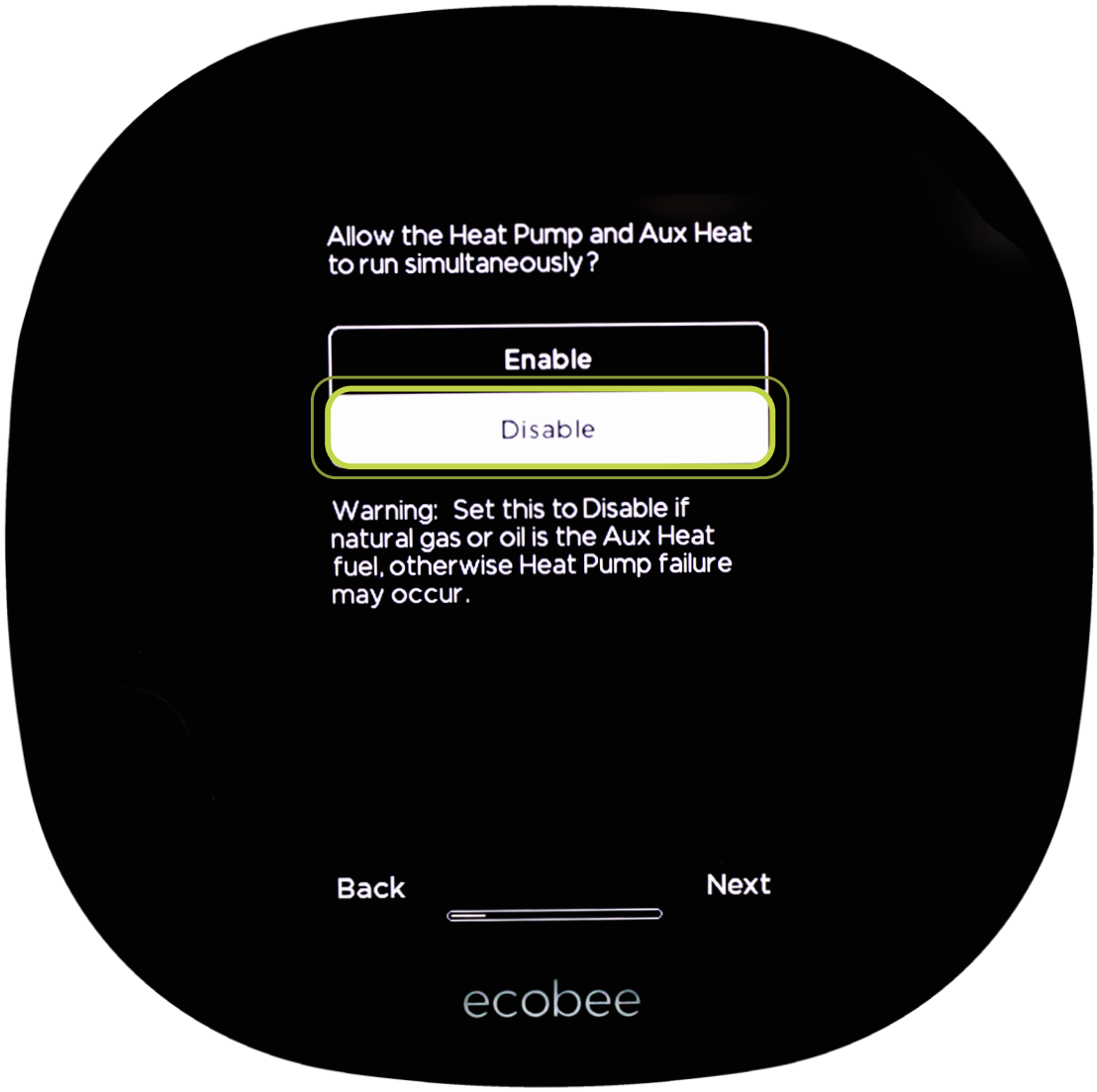
These are the recommended settings for an all-electric air to air heat pump. See the ecobee SmartThermostat installation documents if any other source of heating (geothermal, furnace, etc.) is present.

For Rheem and Ruud branded equipment only, select On heat; select Next. For all other equipment brands, select On cool; select Next.

This will maximize your system's capabilities with the new thermostat.

Step 5

Select Disable Aux Heat Simultaneous Operation; select Next.



This is the recommended setting to keep your heat pump from running at the same time as your gas furnace backup heat to maintain comfort at lower temperatures.

Select Compressor Min Outdoor Temperature; select between 25 and 40 degrees (and note selection for Part 2, Step 6); select Next.

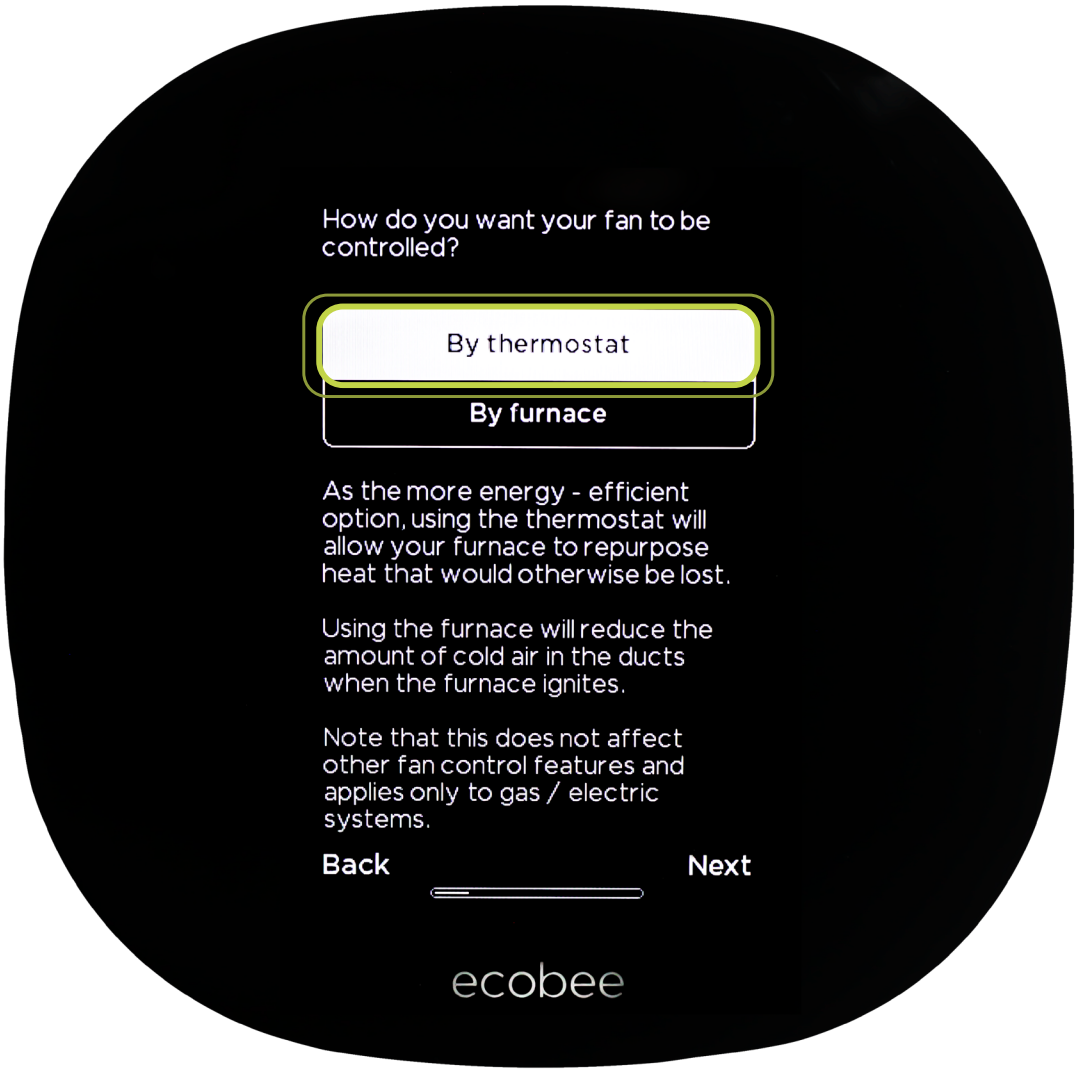
This is the outdoor temperature at which your dual fuel heat pump switches over to your gas furnace backup heat to maintain comfort at lower temperatures.

Step 7

Select Furnace; select Next.

This is to tell the thermostat that the heat source for your home comes from the same components as your cooling.

Select By thermostat; select Next.



It is important to follow the ecobee SmartThermostat installation documents to ensure your HVAC system is wired to maximize the thermostat's capabilities.

The next series of questions will allow you to customize the thermostat settings based on your preferences and location. Part 1 is complete.

Part Two

Your new ecobee SmartThermostat has been configured to work with your HVAC system. Select the following settings to maximize comfort and efficiency.

Step 1

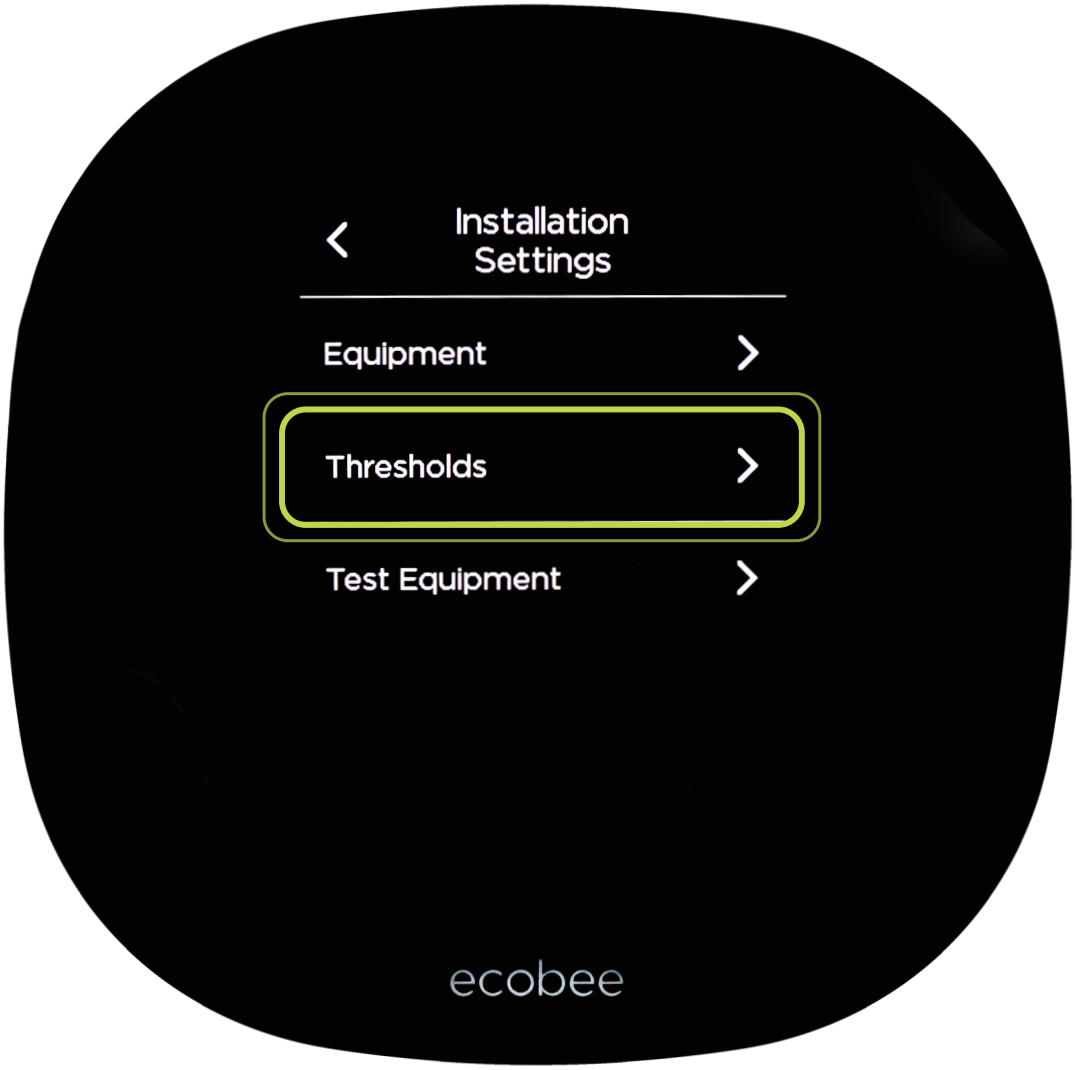
Once you are back on the home screen, select the Main Menu icon.

Scroll down, select Settings.

Step 3

Select Installation Settings.

Select Thresholds.



Step 5

Select Compressor Min Cycle Off Time; select 600 seconds.

This is a recommended setting to save energy and increase equipment durability. After the unit cycles off, it will not come back on for 10 minutes.

Select Aux Heat Max Outdoor Temperature; select between 30 and 45 degrees; select Save. *This must be at least 5 degrees higher than your selection in Part 1, Step 6.

The temperature range is recommended to maximize the efficiency of your dual fuel heat pump before gas furnace backup heat comes on to maintain comfort at lower temperatures.

Step 7

Select Heat Differential Temperature; select 1.0˚F.

A 1˚F heat differential temperature will turn the heat on after the indoor temperature drops 1˚F below setpoint. This setting should decrease energy usage and increase system durability through longer runtimes.

Select Heat Dissipation Time; select 60 sec.

60 seconds will maximize the distribution of remaining heat in the system but not circulate cool air.

Step 9

Select Aux Min On Time; select 1 min.

This setting regulates the backup heat runtime, which maximizes energy savings and increases system durability.

Select Cool Differential Temperature; select 1.0˚F.

A 1˚F cool differential temperature will turn the cooling on after the indoor temperature is 1˚F above setpoint. This setting should decrease energy usage and increase system durability through longer runtimes.

Step 11

Select Cool Dissipation Time; select 0 sec.

This maximizes the amount of humidity removed during cooling mode.

Select Compressor to Aux Temperature Delta; select 3˚F.

This is to maximize the efficiency of your dual fuel heat pump before gas furnace backup heat comes on to maintain comfort at lower temperatures.

Step 13

Select Compressor to Aux Runtime; select Disable.

This is to maximize the efficiency of your dual fuel heat pump before gas furnace backup heat comes on to maintain comfort at lower temperatures.

When complete, select the arrow symbol in the upper left corner to return to the main screen.

Congratulations, your new ecobee SmartThermostat should now be setup to maximize your HVAC system efficiency and home comfort.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SETUP QUICK GUIDE
For All-Electric Heat Pumps

Introduction

The ecobee SmartThermostat with voice control is a powerful tool that can help save energy and money while managing energy resources to best serve all cooperative members. To make sure you're getting the most out of your ecobee SmartThermostat, Advanced Energy offers the following recommendations for thermostat setup specific to your heat pump.

Please note: This information is only for heat pumps with auxiliary electric strip heat. If your heat pump has gas backup, this information does not apply. Please instead follow the ecobee SmartThermosat with voice control Thermostat Setup Guidelines for Heat Pumps with Gas Furnace Backup (Dual Fuel Heat Pumps).

Heating 101

When it starts to get cold outside, your heat pump works like an air conditioner in reverse — it pulls any warmth out of the outside air, puts it through a compressor to heat it further and blows it throughout your home.

Your compressor is the most efficient way to heat your home, but it alone does not always keep your home at a desired temperature. When outdoor temperatures drop, auxiliary heat from the heat pump kicks in to maintain your comfort and thermostat settings, but this uses more energy. To maximize your home's comfort and efficiency, you can set your ecobee SmartThermostat to perform best in all circumstances.

Suggested Settings to Maximize Energy Savings

The following settings can help you achieve your desired indoor temperature and save energy during the winter. These settings can be accessed with a few steps from your ecobee SmartThermostat.

Step 1

Main Menu icon

Step 2

Settings

Step 3

Installation settings

Step 4

Thresholds

Step 5

Compressor Min Cycle Off Time - 600 sec

Step 6

Heat Differential Temperature - 1.0˚F

Step 7

Heat Dissipation Time - 60 sec

Step 8

Cool Dissipation Time - 0 sec

Step 9

Compressor to Aux Temperature Delta - 3°F

Step 10

Compressor to Aux Runtime - 30 min

Step 11

Return to Installation Settings Menu

Congratulations, your new ecobee SmartThermostat should now be setup to maximize your HVAC system efficiency and home comfort.

Series of Guides

This guide is part of a series providing settings recommendations for using the ecobee3, ecobee3 lite and ecobee SmartThermostat thermostats with different heat pump systems.

Installation Precautions

These recommendations are based on the presence of a heat pump system and thermostat operating per manufacturers' instructions prior to the ecobee SmartThermostat installation.

Read the ecobee installation materials carefully and only install the thermostat yourself if you are comfortable with electrical wiring and device setup. If you are not, seek a qualified HVAC contractor to complete installation and setup.

Save Energy, Save Money

As a member-owned electric cooperative, we are committed to member comfort and satisfaction. With the right settings, the ecobee SmartThermostat can help get the job done.

If you need more information or have questions about the settings on your ecobee SmartThermostat, call ecobee customer support at 877-932-6233.

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Connect with Advanced Energy
919-857-9000
moreinfo@advancedenergy.org
www.advancedenergy.org

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Thermostat Setup Guidelines for All-Electric Heat Pumps

from the

Palmetto Electric Cooperative, Inc.

Single-Stage Heat Pumps

The ecobee SmartThermostat with voice control is a powerful tool that can help save energy and money while managing energy resources to best serve all cooperative members. To make sure you're getting the most out of your ecobee SmartThermostat, Advanced Energy offers the following recommendations, based on the presence of an all-electric heat pump system and thermostat operating per manufacturers' instructions prior to the ecobee SmartThermostat installation.

Advanced Energy considers a single-stage heat pump to have one outdoor compressor stage (speed). This is more common on older, original equipment.

Read the ecobee installation materials carefully and only install the thermostat yourself if you are comfortable with electrical wiring and device setup. If you are not, seek a qualified HVAC contractor to complete installation and setup.

DANGER: Incorrect wiring can cause damage and expensive equipment repairs.

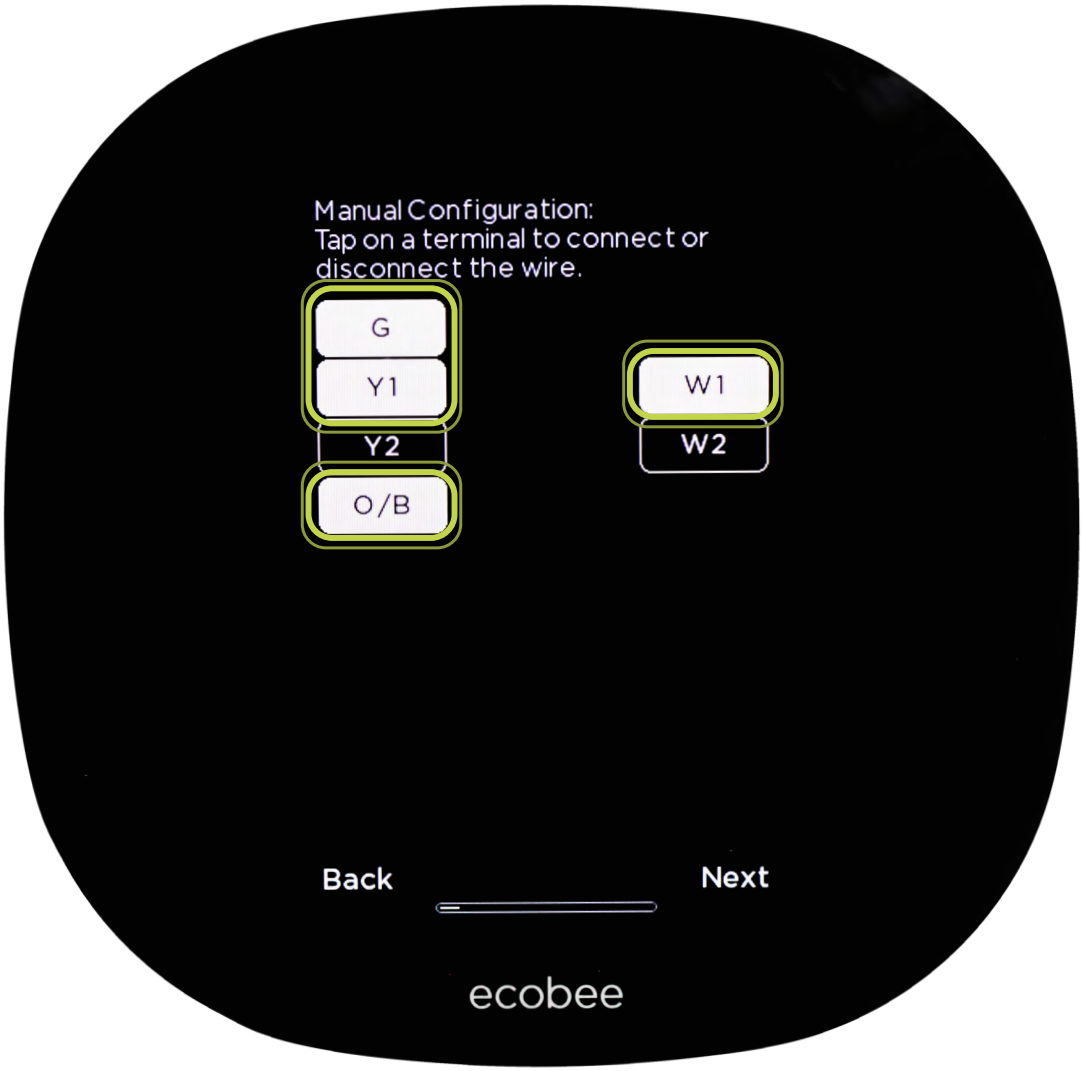
Part One

Step 1

When starting up the ecobee SmartThermostat, this should be the first prompt you see. Select Yes, only Rc is connected for one transformer (most HVAC systems); select Next.

If your HVAC system has two transformers installed, select No, Rc and Rh are connected.

Make sure the following icons are highlighted on the screen:
G Y1 W1 O/B; select Next.



It is important to follow the ecobee SmartThermostat installation documents to ensure your HVAC system is wired to maximize the thermostat's capabilities.

Step 3

Select Air to air; select Next.

These are the recommended settings for an all-electric air to air heat pump. See the ecobee SmartThermostat installation documents if any other source of heating (geothermal, furnace, etc.) is present.

For Rheem and Ruud branded equipment only, select On heat; select Next. For all other equipment brands, select On cool; select Next.

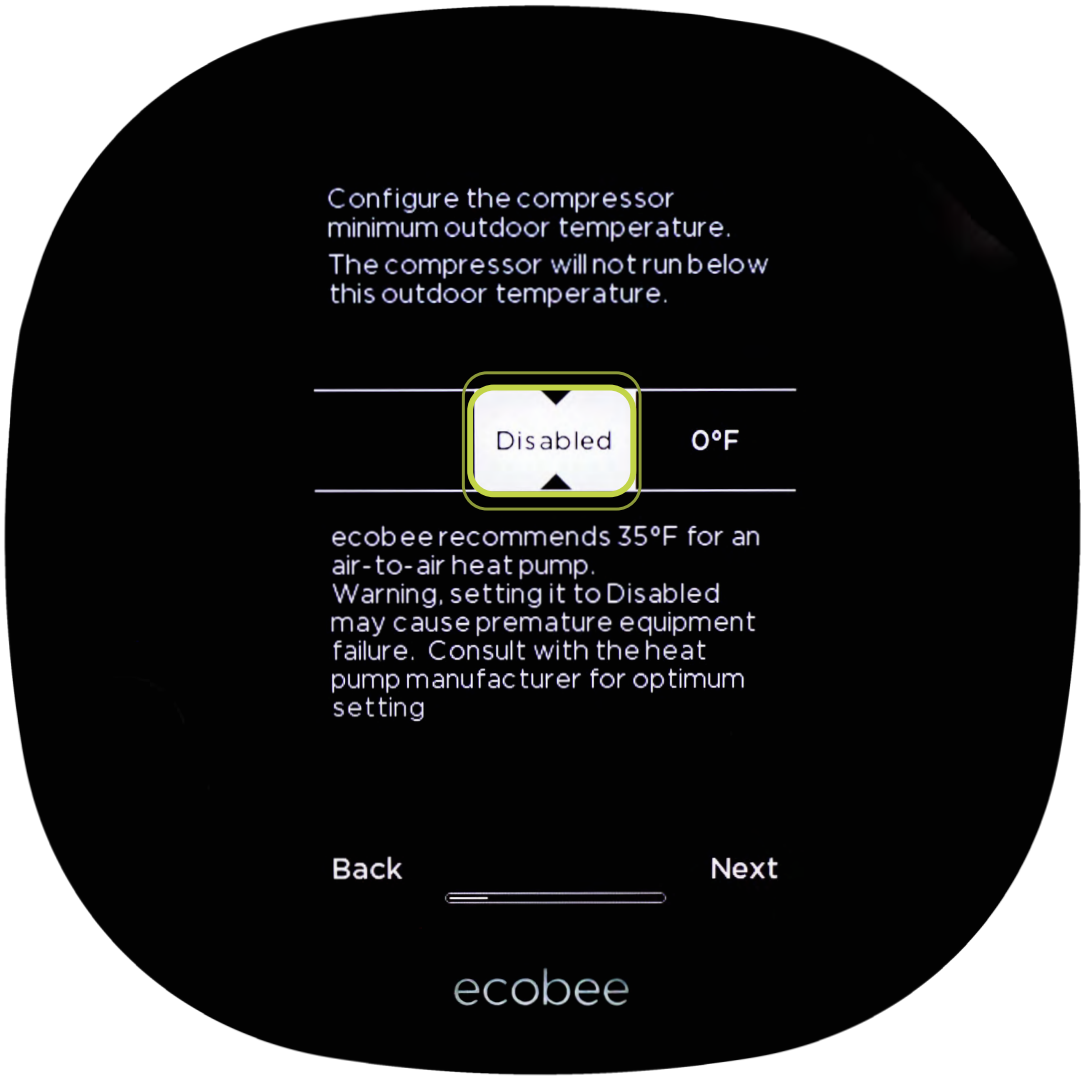
This will maximize your system's capabilities with the new thermostat.

Step 5

Select Enable Aux Heat Simultaneous Operation; select Next.

This is the recommended setting to maximize the efficiency of your air source heat pump before less efficient strip heat comes on to maintain comfort at lower temperatures.

Select Disabled for Compressor Min Outdoor Temperature; select Next.



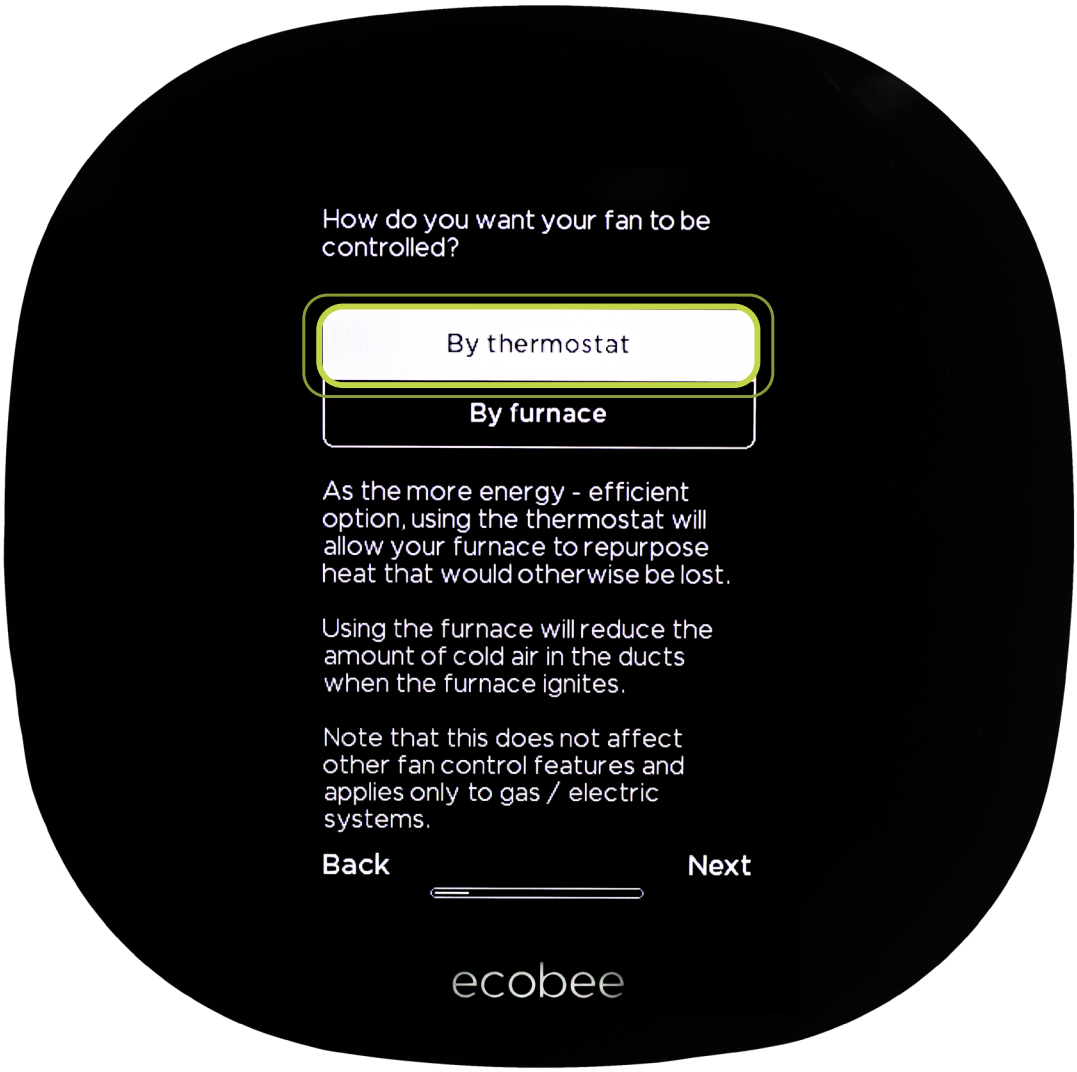
This maximizes the efficiency of your air source heat pump before less efficient strip heat comes on to maintain comfort at lower temperatures.

Step 7

Select Furnace; select Next.

This is to tell the thermostat that the heat source for your home comes from the same components as your cooling.

Select By thermostat; select Next.



It is important to follow the ecobee SmartThermostat installation documents to ensure your HVAC system is wired to maximize the thermostat's capabilities.

The next series of questions will allow you to customize the thermostat settings based on your preferences and location. Part 1 is complete.

Part Two

Your new ecobee SmartThermostat has been configured to work with your HVAC system. Select the following settings to maximize comfort and efficiency.

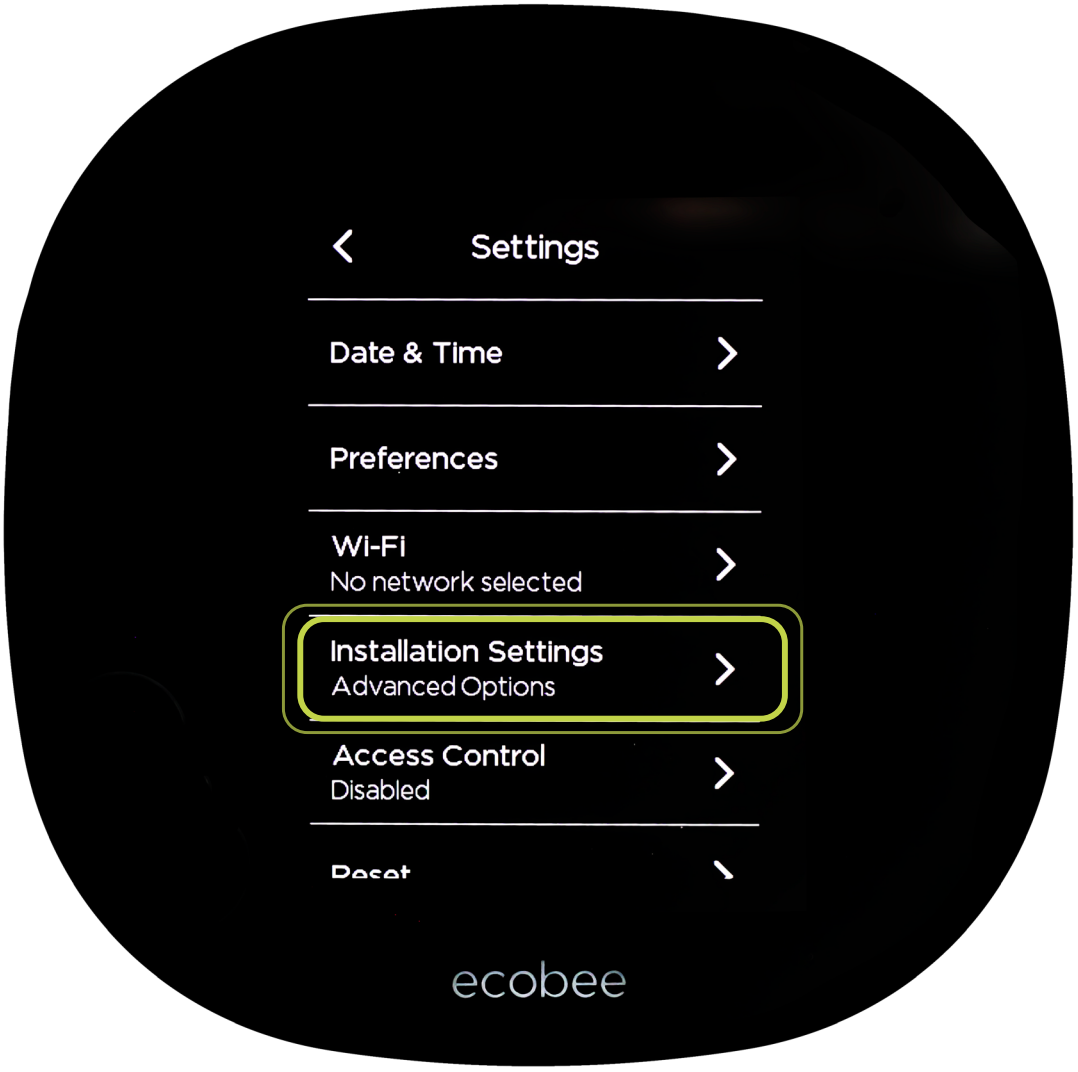
Step 1

Once you are back on the home screen, select the Main Menu icon.

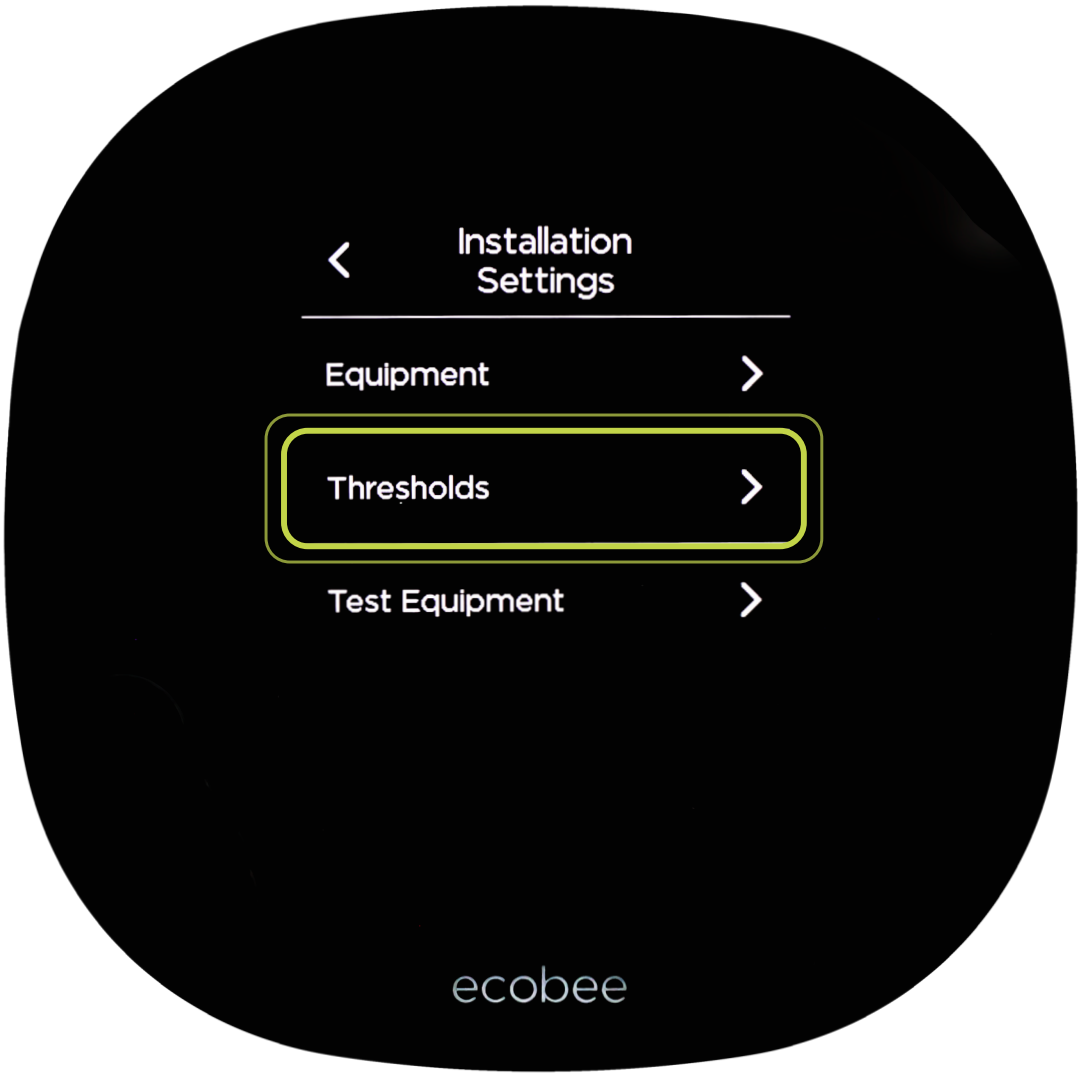
Scroll down, select Settings.

Step 3

Select Installation Settings.



Select Thresholds.



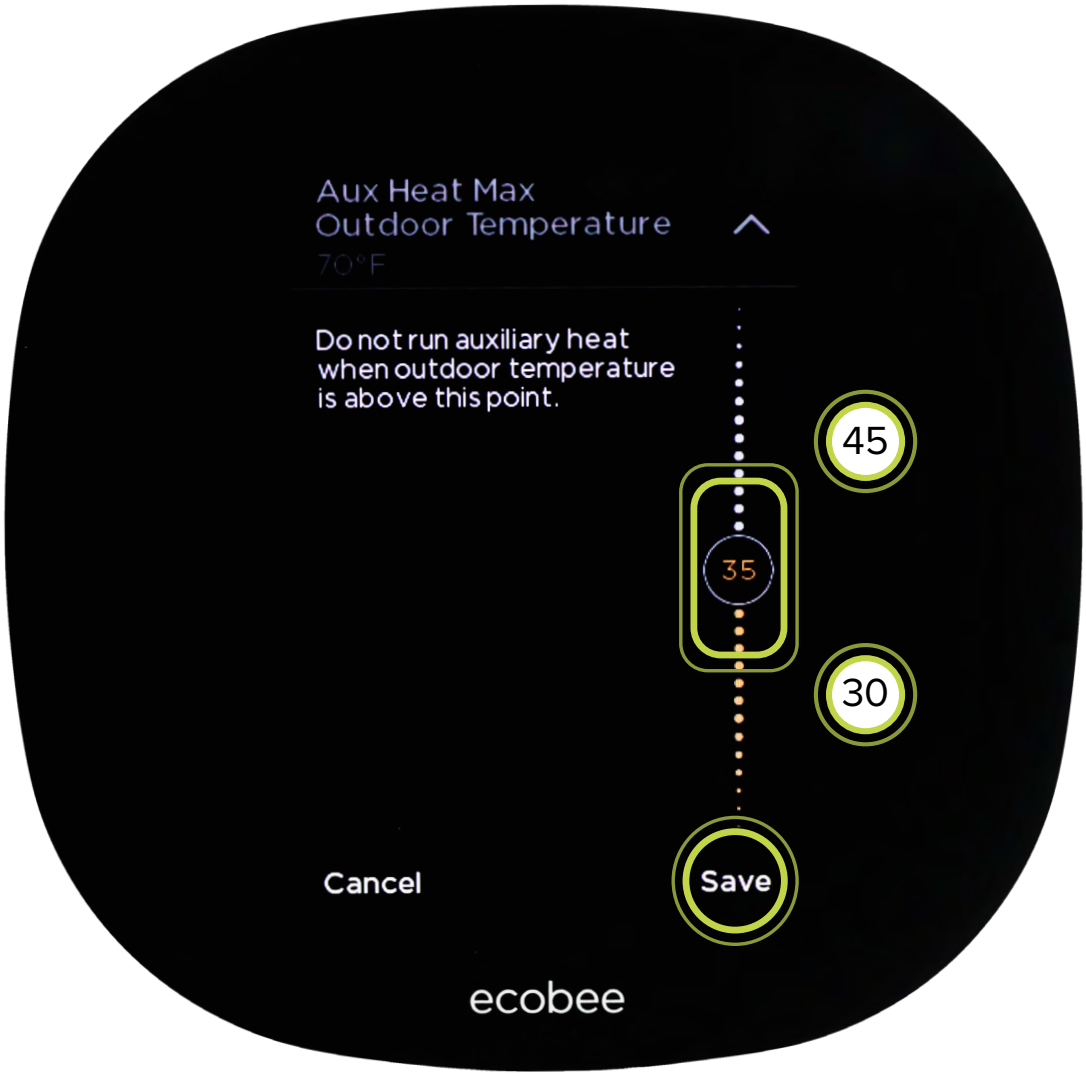
Step 5

Select Compressor Min Cycle Off Time; select 600 seconds.

This is a recommended setting to save energy and increase equipment durability. After the unit cycles off, it will not come back on for 10 minutes.

Step 6

Select Aux Heat Max Outdoor Temperature; select between 30 and 45 degrees; select Save.



This temperature range is recommended to maximize the efficiency of your air source heat pump before less efficient strip heat comes on to maintain comfort at lower temperatures.

Step 7

Select Heat Differential Temperature; select 1.0˚F.

A 1˚F heat differential temperature will turn the heat on after the indoor temperature drops 1˚F below setpoint. This setting should decrease energy usage and increase system durability through longer runtimes.

Select Heat Dissipation Time; select 60 sec.

60 seconds will maximize the distribution of remaining heat in the system but not circulate cool air.

Step 9

Select Aux Min On Time; select 1 min.

This setting regulates the electric heat runtime, which maximizes energy savings and increases system durability.

Select Cool Differential Temperature; select 1.0˚F.

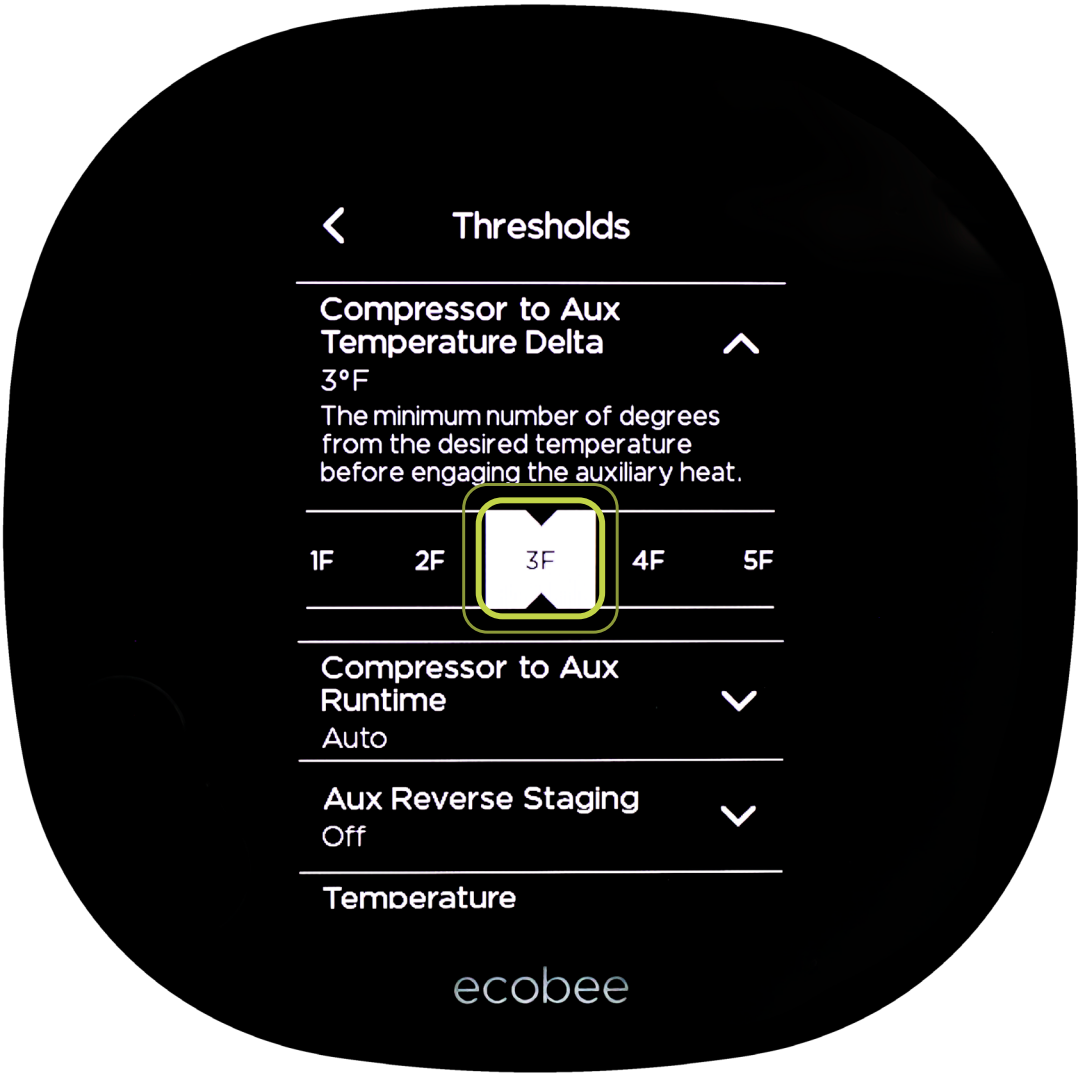
A 1˚F cool differential temperature will turn the cooling on after the indoor temperature is 1˚F above setpoint. This setting should decrease energy usage and increase system durability through longer runtimes.

Step 11

Select Cool Dissipation Time; select 0 sec.

This maximizes the amount of humidity removed during cooling mode.

Select Compressor to Aux Temperature Delta; select 3˚F.



This is to maximize the efficiency of your air source heat pump before less efficient strip heat comes on to maintain comfort at lower temperatures.

Step 13

Select Compressor to Aux Runtime; select 30 min.

This is to maximize the efficiency of your air source heat pump before less efficient strip heat comes on to maintain comfort at lower temperatures.

When complete, select the arrow symbol in the upper left corner to return to the main screen.

Congratulations, your new ecobee SmartThermostat should now be setup to maximize your HVAC system efficiency and home comfort.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Thermostat Setup Guidelines for All-Electric Heat Pumps

from the

Palmetto Electric Cooperative, Inc.

Two-Stage Heat Pumps

The ecobee SmartThermostat with voice control is a powerful tool that can help save energy and money while managing energy resources to best serve all cooperative members. To make sure you're getting the most out of your ecobee SmartThermostat, Advanced Energy offers the following recommendations, based on the presence of an all-electric heat pump system and thermostat operating per manufacturers' instructions prior to the ecobee SmartThermostat installation.

Advanced Energy considers a two-stage heat pump to have two outdoor compressor stages (speeds). This is more common on newer, high-efficiency equipment.

Read the ecobee installation materials carefully and only install the thermostat yourself if you are comfortable with electrical wiring and device setup. If you are not, seek a qualified HVAC contractor to complete installation and setup.

DANGER: Incorrect wiring can cause damage and expensive equipment repairs.

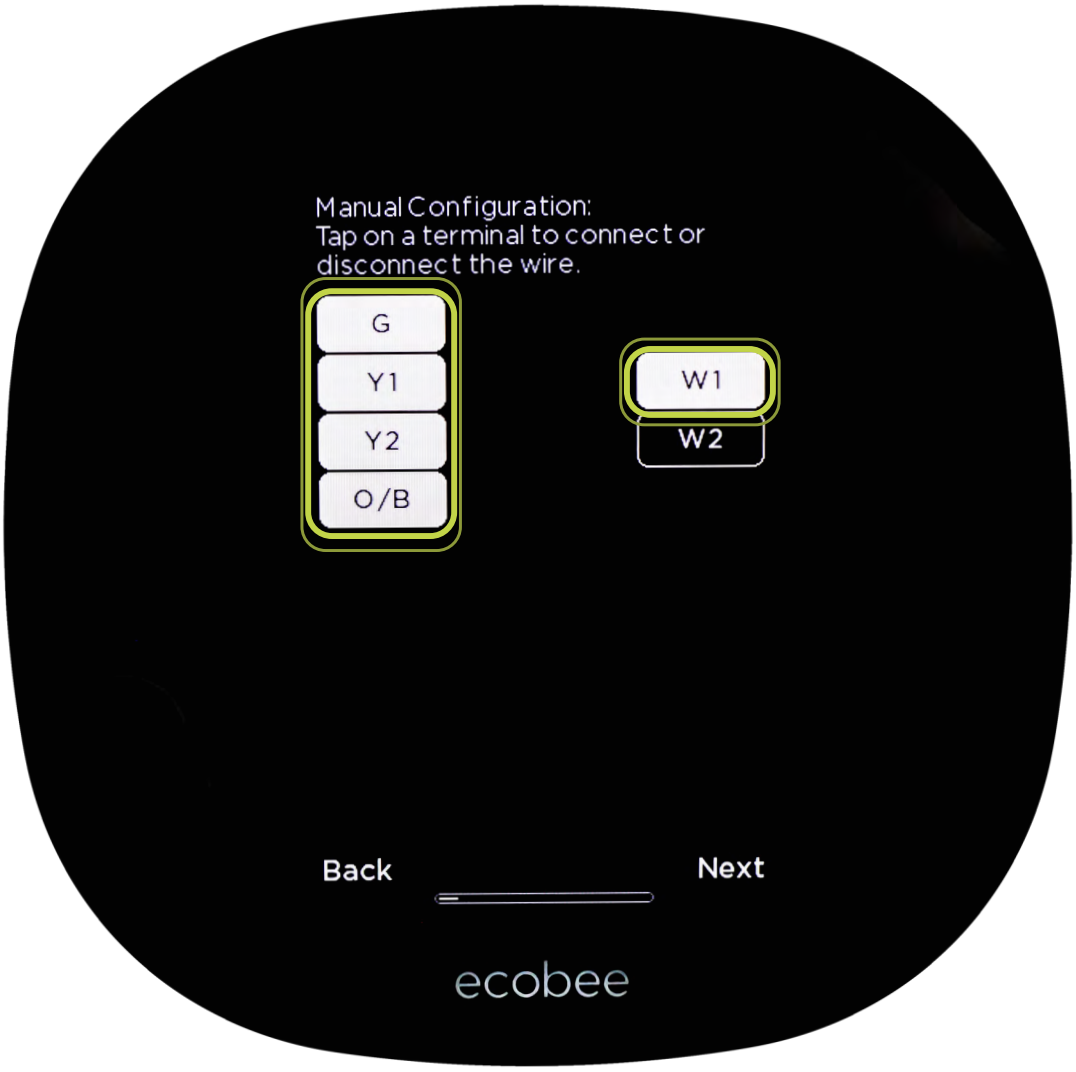
Part One

Step 1

When starting up the ecobee SmartThermostat, this should be the first prompt you see. Select Yes, only Rc is connected for one transformer (most HVAC systems); select Next.

If your HVAC system has two transformers installed, select No, Rc and Rh are connected.

Make sure the following icons are highlighted on the screen:
G Y1 Y2 W1 O/B; select Next.



It is important to follow the ecobee SmartThermostat installation documents to ensure your HVAC system is wired to maximize the thermostat's capabilities.

Step 3

Select Air to air; select Next.

These are the recommended settings for an all-electric air to air heat pump. See the ecobee SmartThermostat installation documents if any other source of heating (geothermal, furnace, etc.) is present.

For Rheem and Ruud branded equipment only, select On heat; select Next. For all other equipment brands, select On cool; select Next.

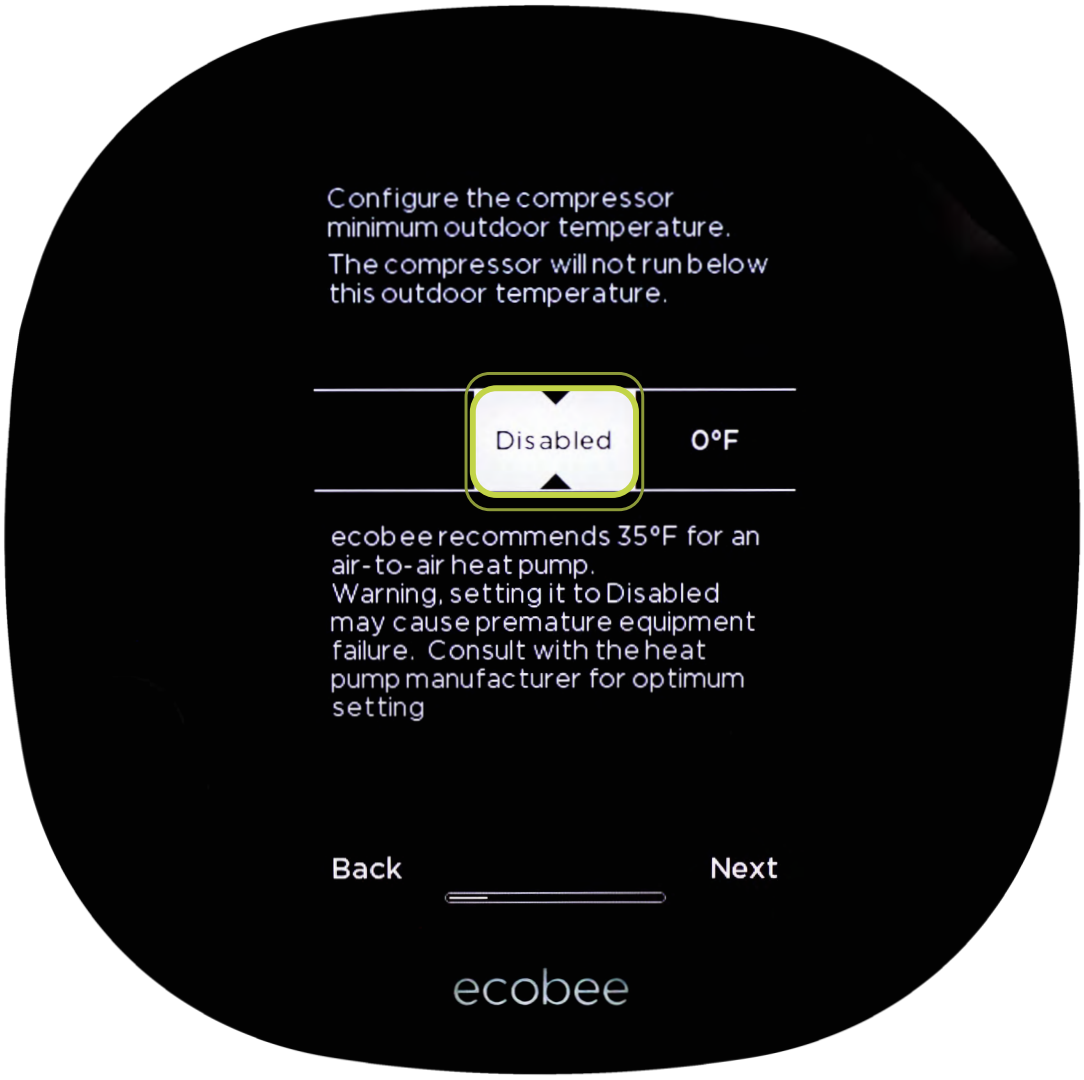
This will maximize your system's capabilities with the new thermostat.

Step 5

Select Enable Aux Heat Simultaneous Operation; select Next.

This is the recommended setting to maximize the efficiency of your air source heat pump before less efficient strip heat comes on to maintain comfort at lower temperatures.

Select Disabled for Compressor Min Outdoor Temperature; select Next.



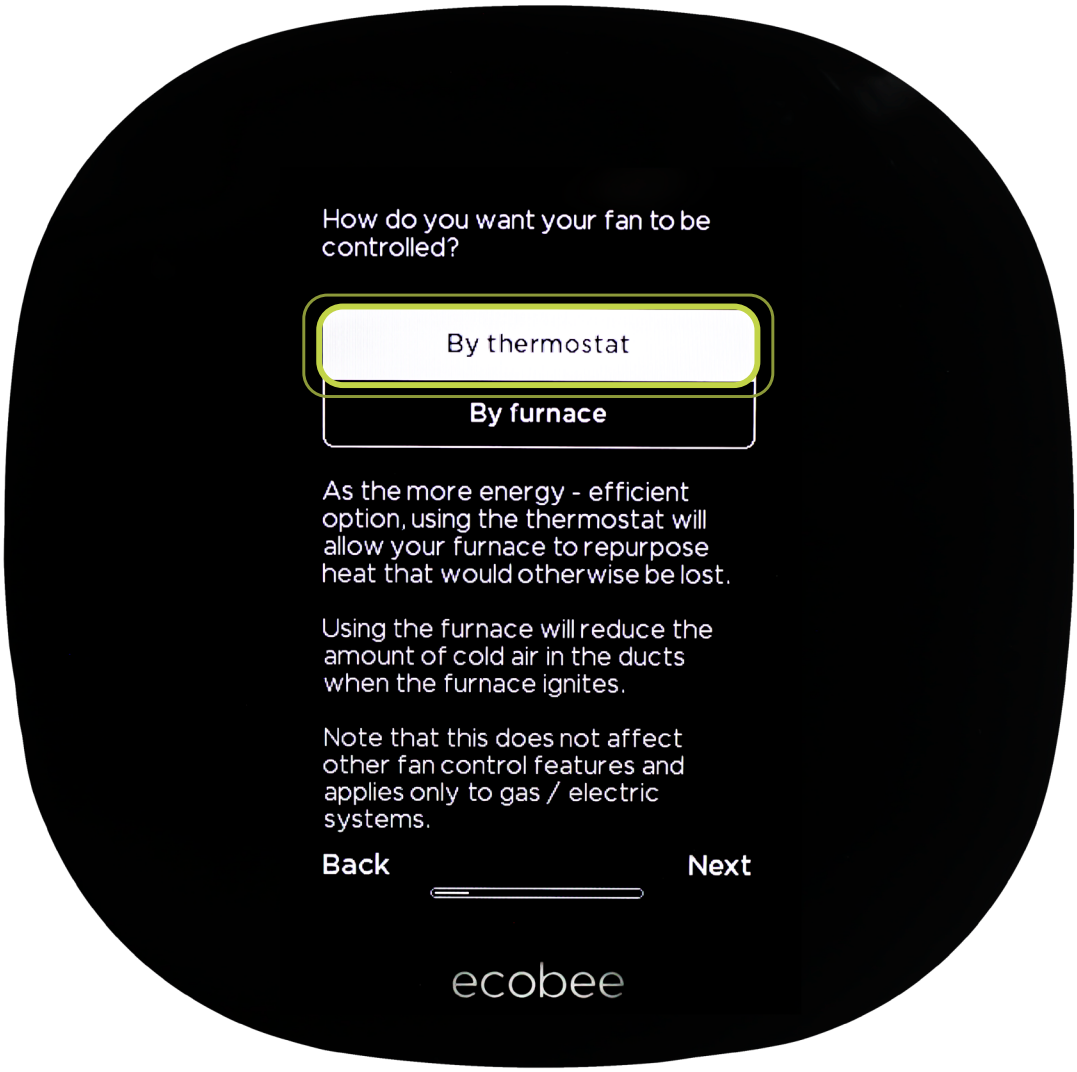
This maximizes the efficiency of your air source heat pump before less efficient strip heat comes on to maintain comfort at lower temperatures.

Step 7

Select Furnace; select Next.

This is to tell the thermostat that the heat source for your home comes from the same components as your cooling.

Select By thermostat; select Next.



It is important to follow the ecobee SmartThermostat installation documents to ensure your HVAC system is wired to maximize the thermostat's capabilities.

The next series of questions will allow you to customize the thermostat settings based on your preferences and location. Part 1 is complete.

Part Two

Your new ecobee SmartThermostat has been configured to work with your HVAC system. Select the following settings to maximize comfort and efficiency.

Step 1

Once you are back on the home screen, select the Main Menu icon.

Scroll down, select Settings.

Step 3

Select Installation Settings.

Select Thresholds.

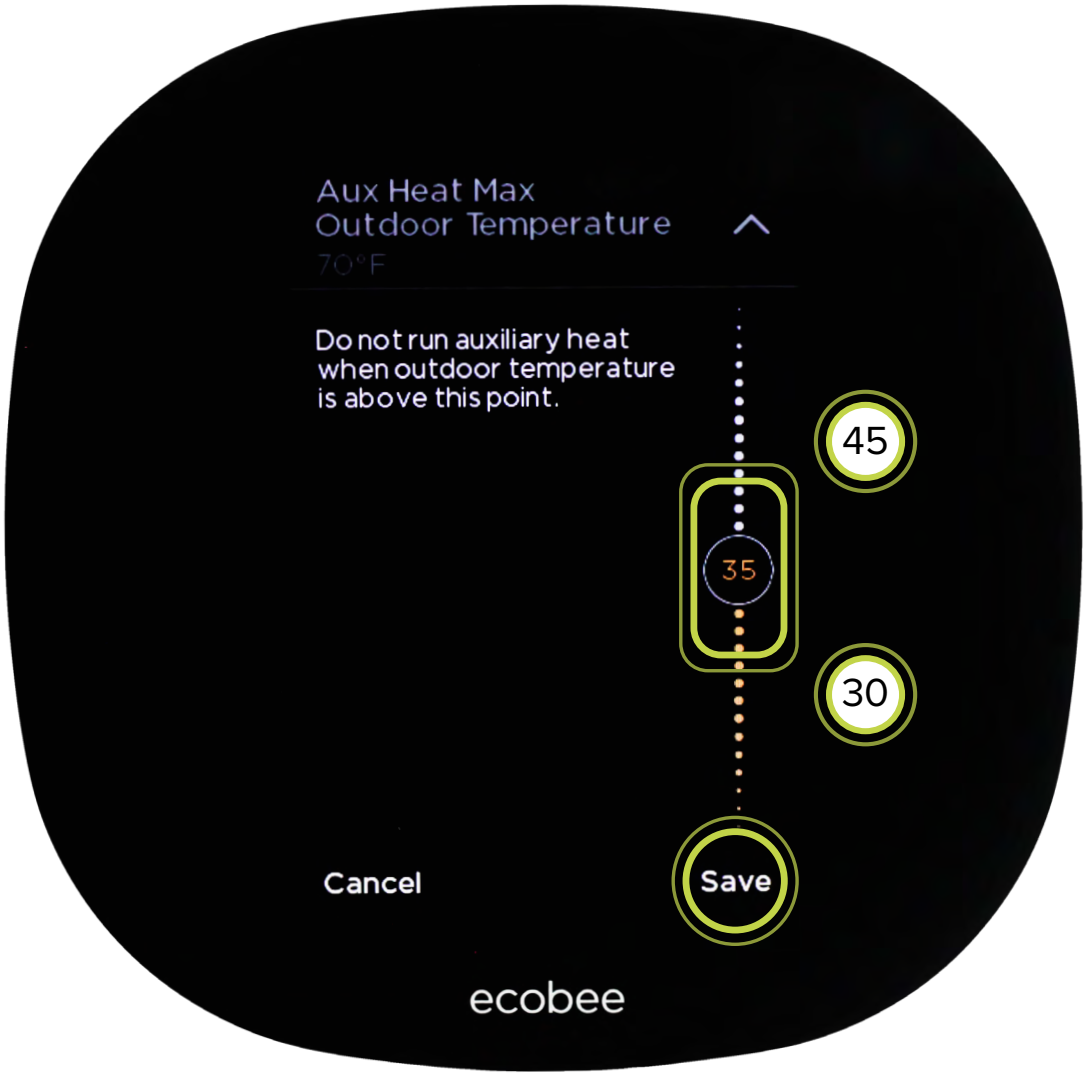
Step 5

Select Compressor Min Cycle Off Time; select 600 seconds.

This is a recommended setting to save energy and increase equipment durability. After the unit cycles off, it will not come back on for 10 minutes.

Step 6

Select Aux Heat Max Outdoor Temperature; select between 30 and 45 degrees; select Save.



This temperature range is recommended to maximize the efficiency of your air source heat pump before less efficient strip heat comes on to maintain comfort at lower temperatures.

Step 7

Select Heat Differential Temperature; select 1.0˚F.

A 1˚F heat differential temperature will turn the heat on after the indoor temperature drops 1˚F below setpoint. This setting should decrease energy usage and increase system durability through longer runtimes.

Select Heat Dissipation Time; select 60 sec.

60 seconds will maximize the distribution of remaining heat in the system but not circulate cool air.

Step 9

Select Aux Min On Time; select 1 min.

This setting regulates the electric heat runtime, which maximizes energy savings and increases system durability.

Select Cool Differential Temperature; select 1.0˚F.

A 1˚F cool differential temperature will turn the cooling on after the indoor temperature is 1˚F above setpoint. This setting should decrease energy usage and increase system durability through longer runtimes.

Step 11

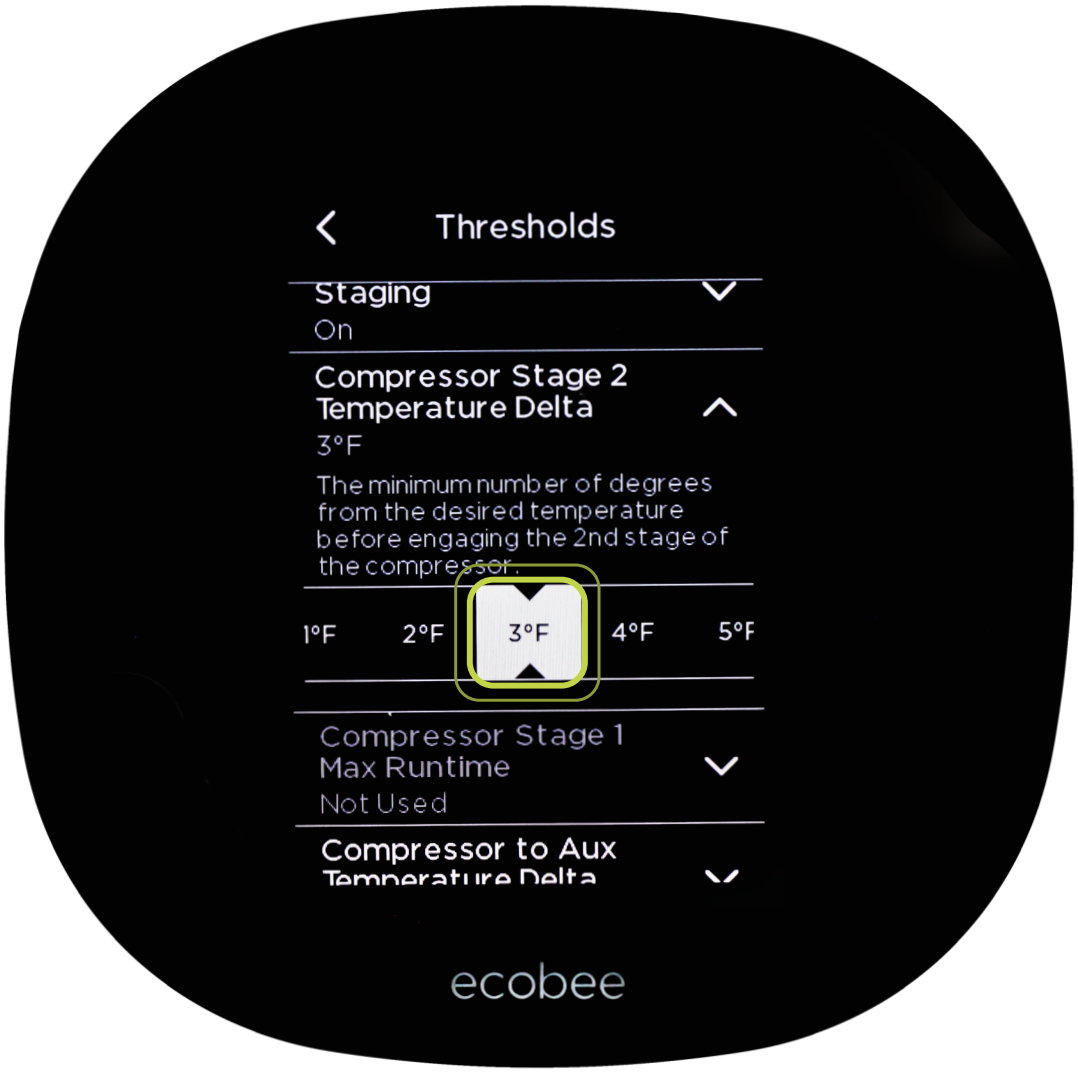
Select Cool Dissipation Time; select 0 sec.

This maximizes the amount of humidity removed during cooling mode.

Select Compressor Reverse Staging; select On.

Step 13

Select Compressor Stage 2 Temperature Delta; select 3°F.



Select Compressor to Aux Temperature Delta; select 6˚F.

This is to maximize the efficiency of your air source heat pump before less efficient strip heat comes on to maintain comfort at lower temperatures.

When complete, select the arrow symbol in the upper left corner to return to the main screen.

Congratulations, your new ecobee SmartThermostat should now be setup to maximize your HVAC system efficiency and home comfort.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