



ecobee

SmartThermostat with voice control

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

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**.

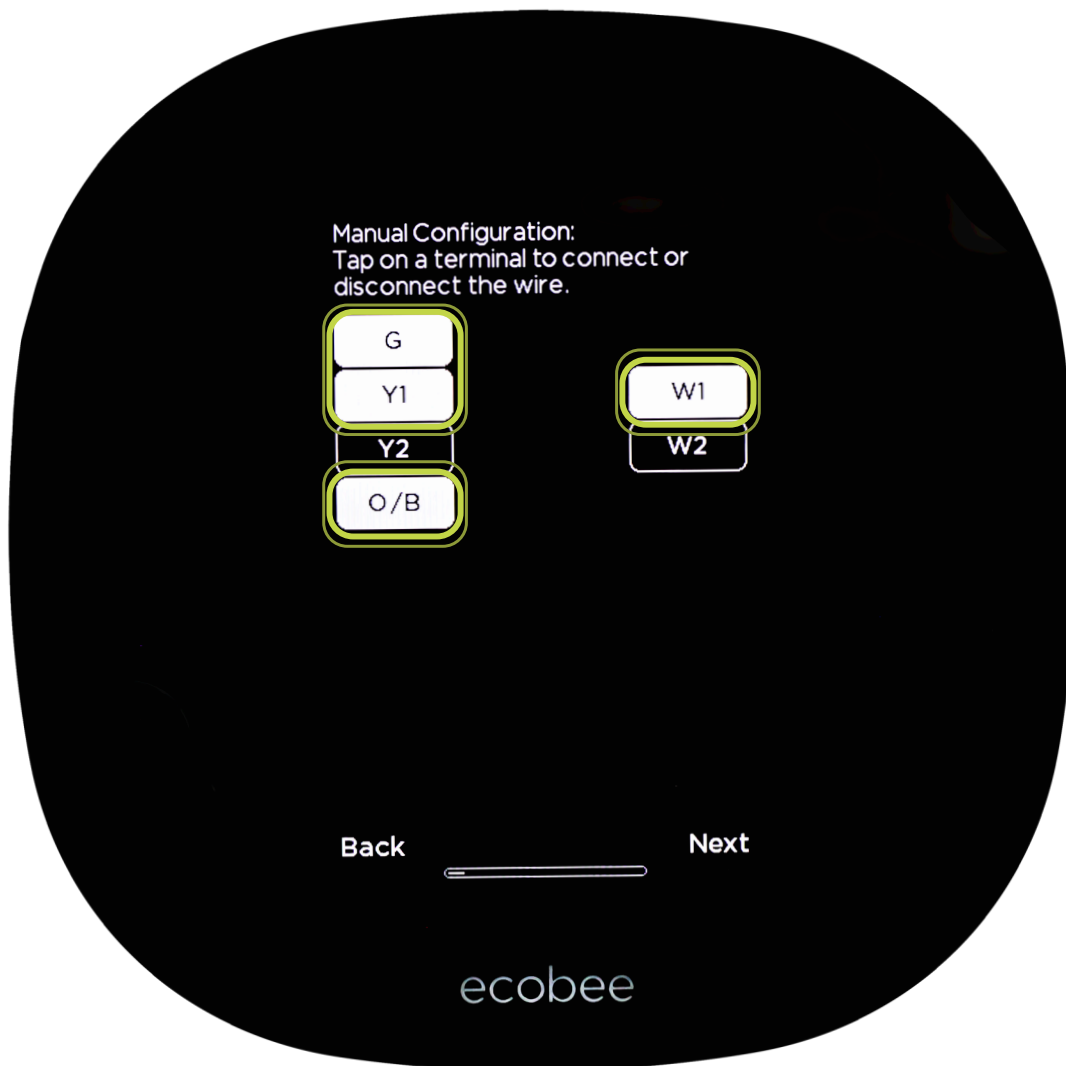


If your HVAC system has two transformers installed, select **No, Rc and Rh are connected**.



Step 2

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.



Step 4

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

How is your O/B Reversing Valve energized?

On cool

On heat

Refer to your heat pump owner's manual.

If you are still not sure, choose On cool. After installation, turn on the equipment. If cool air comes on when you turn on the heat, change this setting to On heat in Settings > Installation Settings > Equipment > Heat Pump.

This will not damage your equipment.

Back **Next**

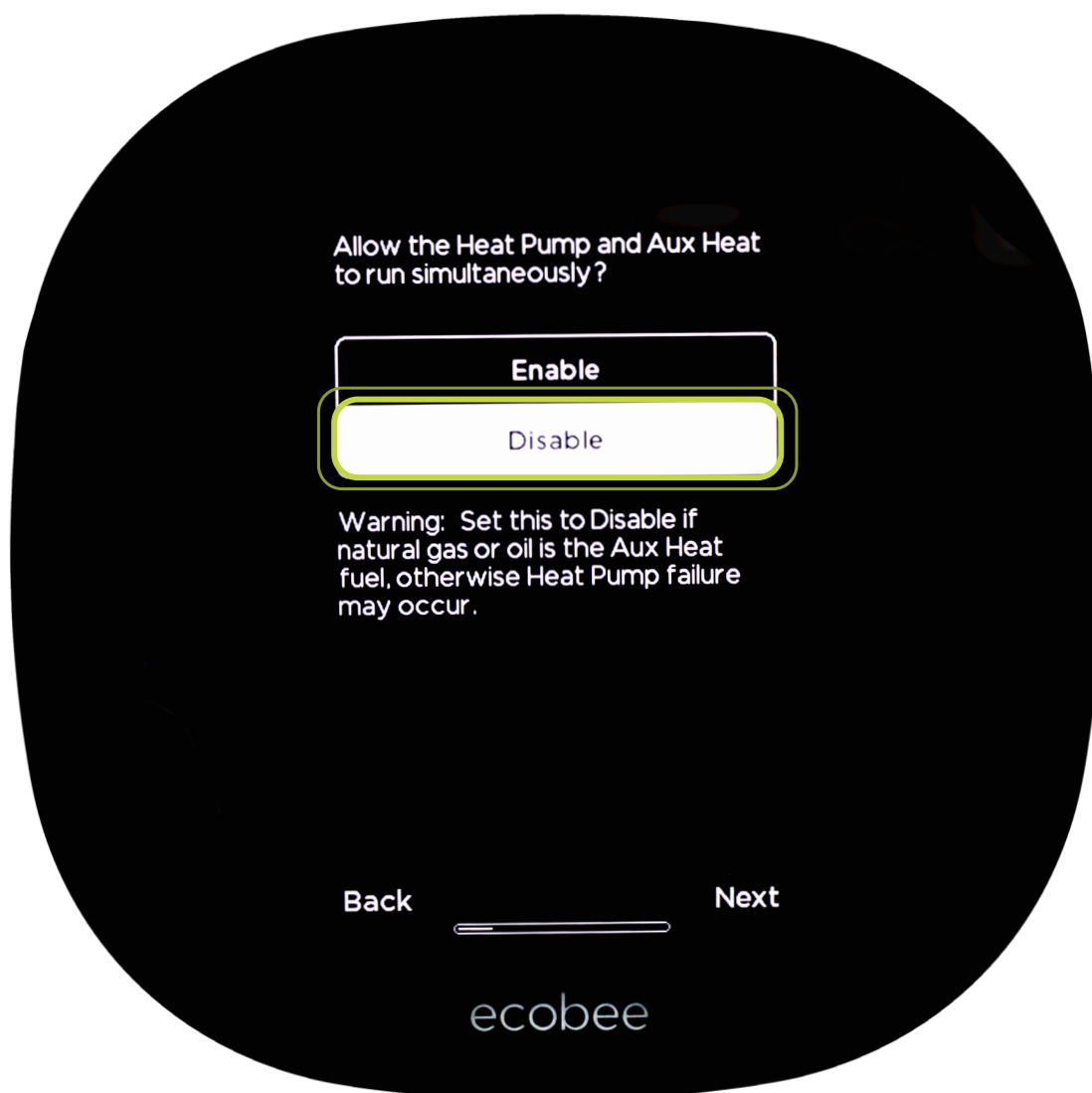
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This will maximize your system's capabilities with the new thermostat.

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.



Step 6

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



We recommend setting the minimum compressor at 30 degrees to maximize efficiency. 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**.





Step 2

Scroll down, select **Settings**.



Step 3

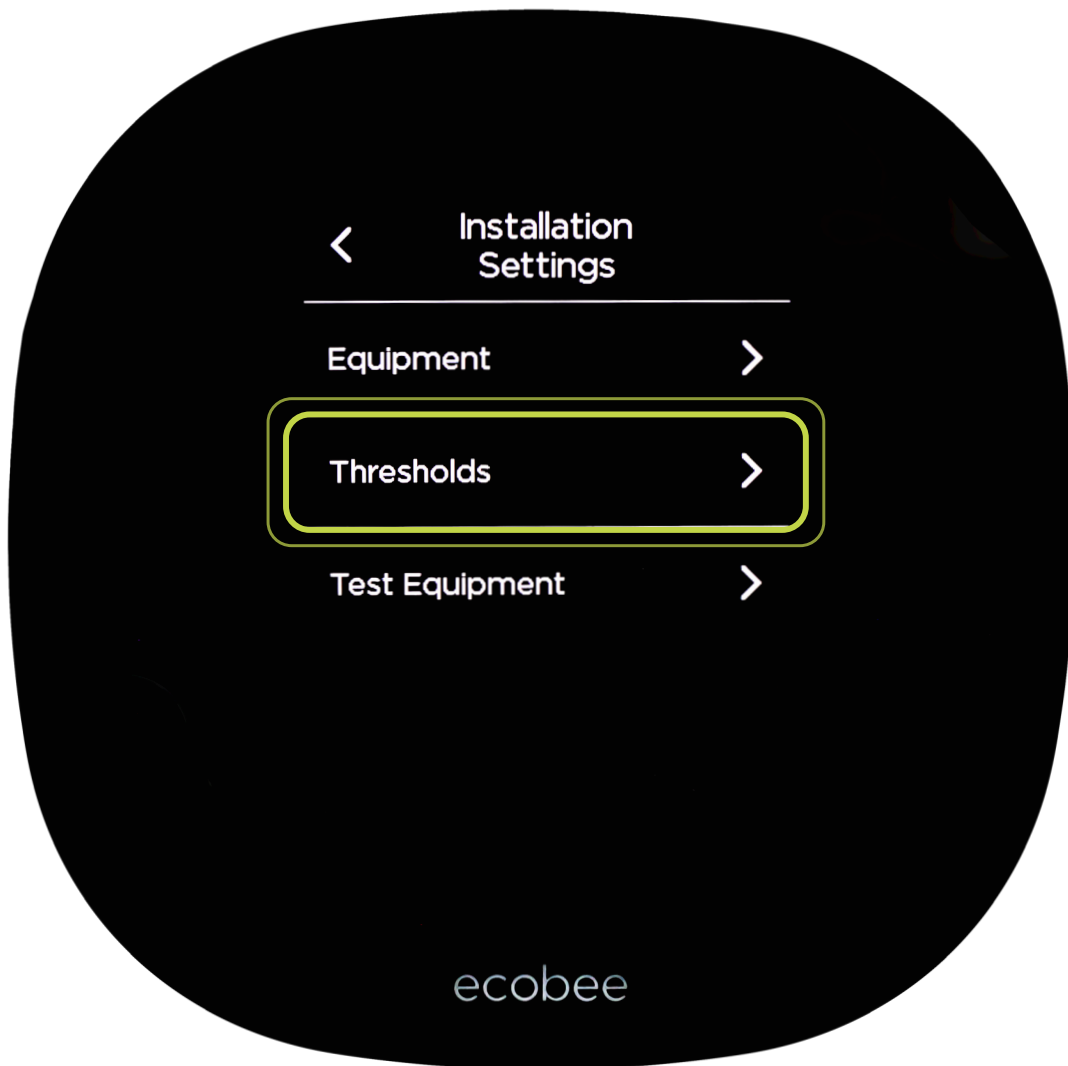


Select **Installation Settings**.





Select **Thresholds**.



Step 5



Select **Compressor Min Cycle Off Time**; select **600 seconds**.

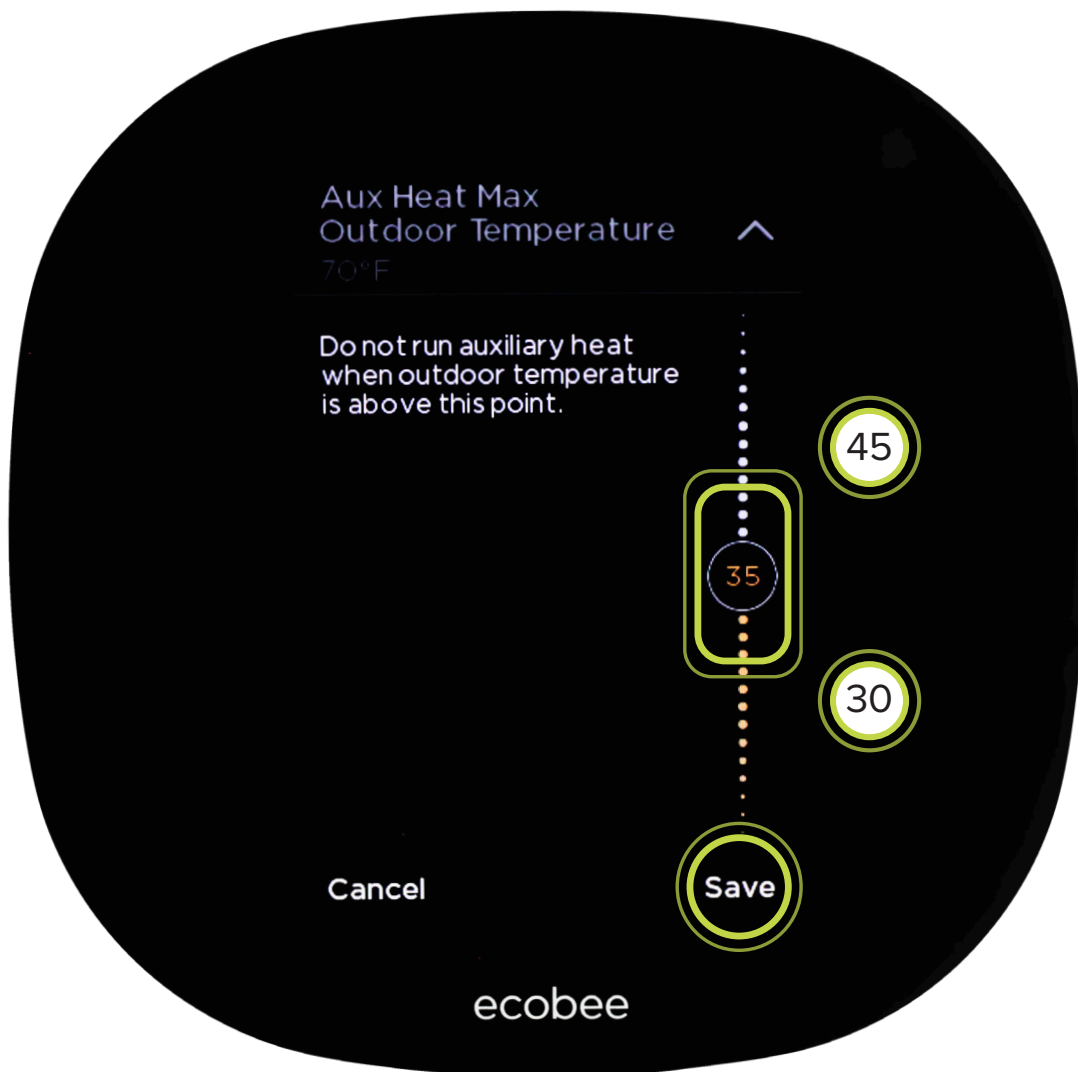


This is a recommended setting to save energy and increase equipment durability. After the unit cycles off, it will not come back on for 10 minutes.



Step 6

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



We recommend setting the Aux Heat Outdoor Temperature at 40 degrees 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



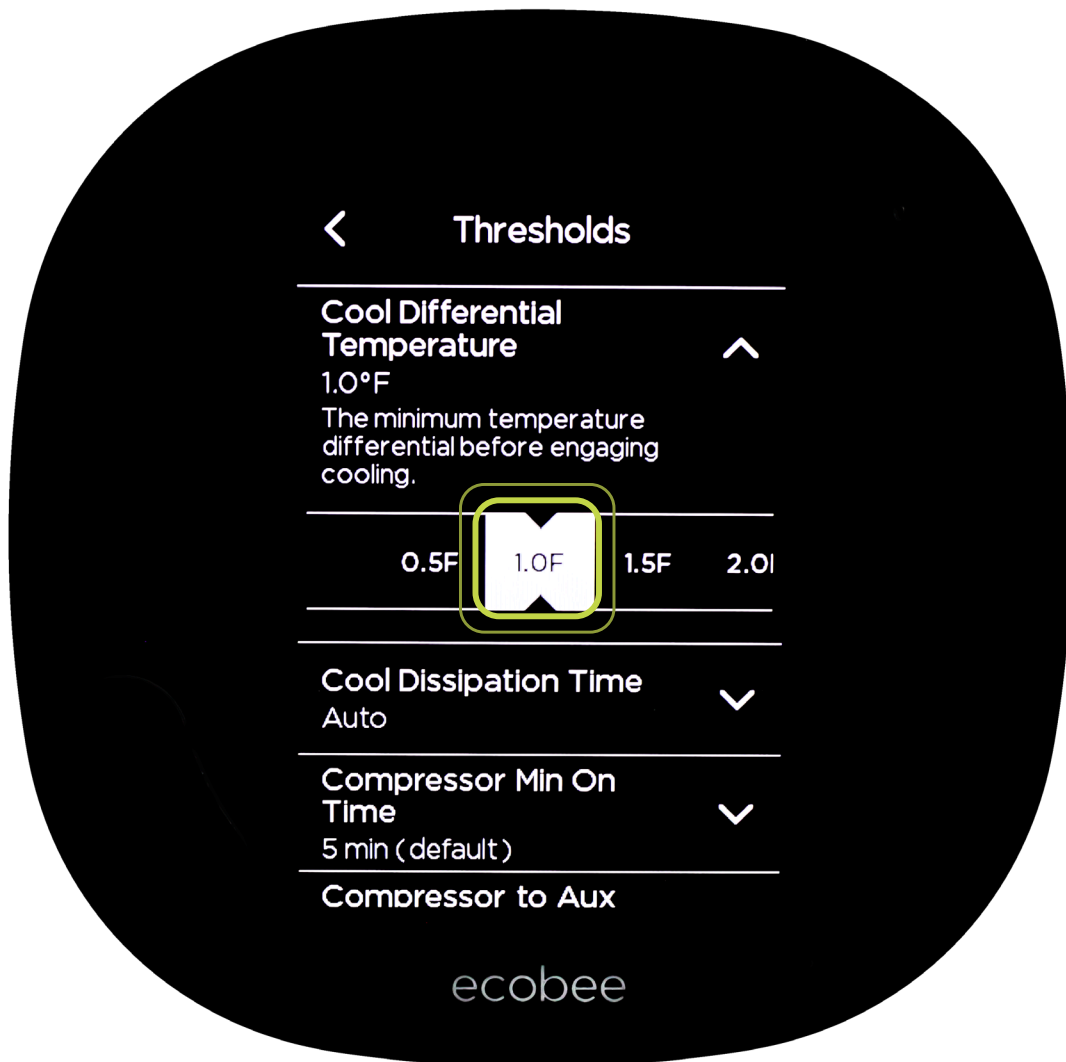
Select **Aux Min On Time**; select **1 min**.



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



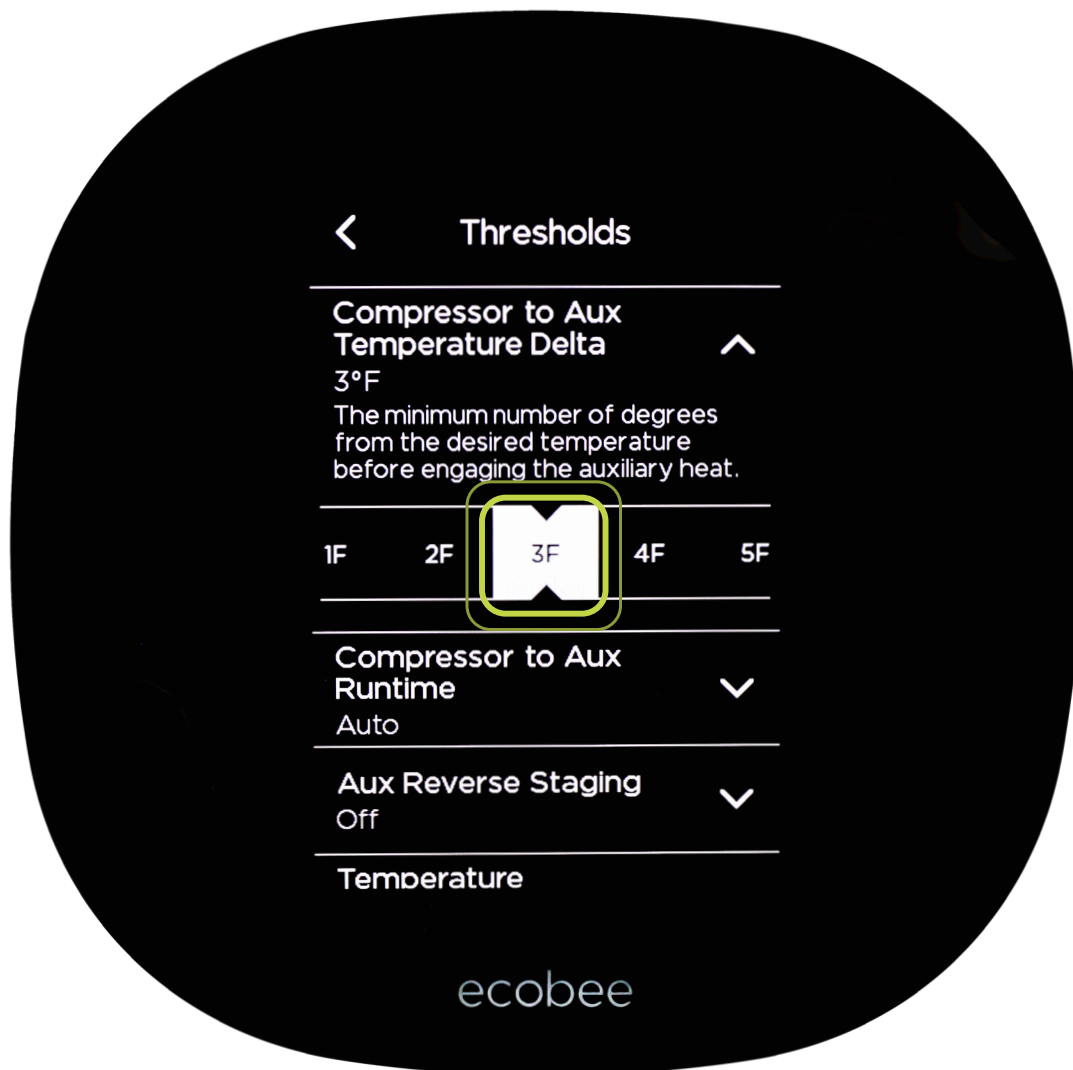
Select **Cool Dissipation Time**; select **0 sec**.



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.



