



Advanced Installation and Configuration Instructions

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How to Use This Document

The advanced installation and configuration instructions are intended to supplement the standard installation instructions shipped with the thermostat or available for download on www.HVACpartners.com. The advanced settings and configuration options detailed in this document are intended for professional installers only. Incorrect configuration may lead to improper operation and equipment damage.

Each section of this document is outlined in the following structure:

Section Title

- Location of this section within the thermostat menus
- Image showing available features in this section on the thermostat

Feature Title

Feature Description

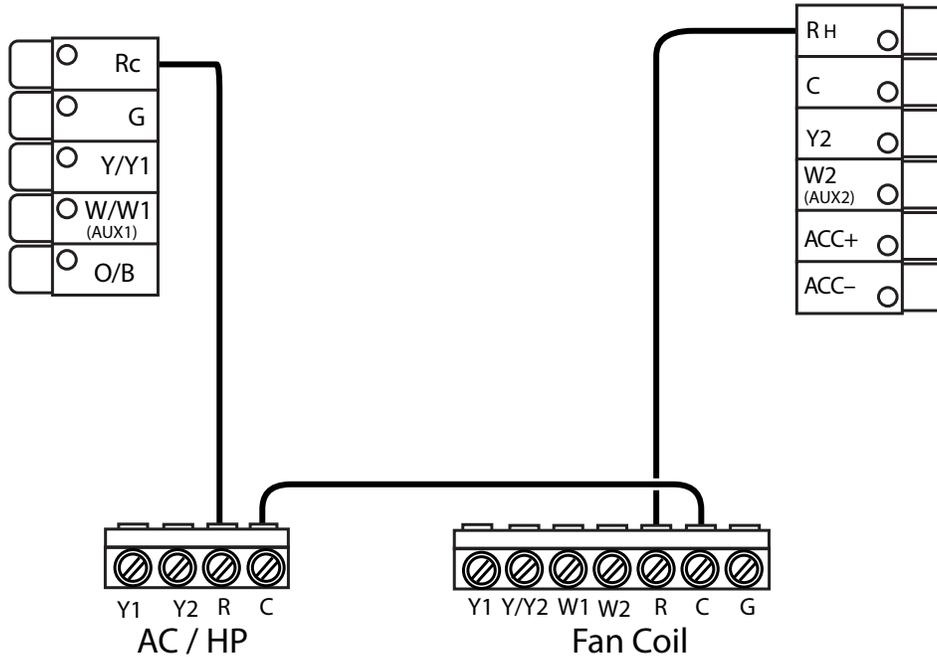
- Default Configuration
- Configuration Options

Image showing screen on the thermostat

Wiring Diagrams

The following pages provide wiring diagrams for multiple heating and cooling equipment configurations.

Dual Transformer Installations

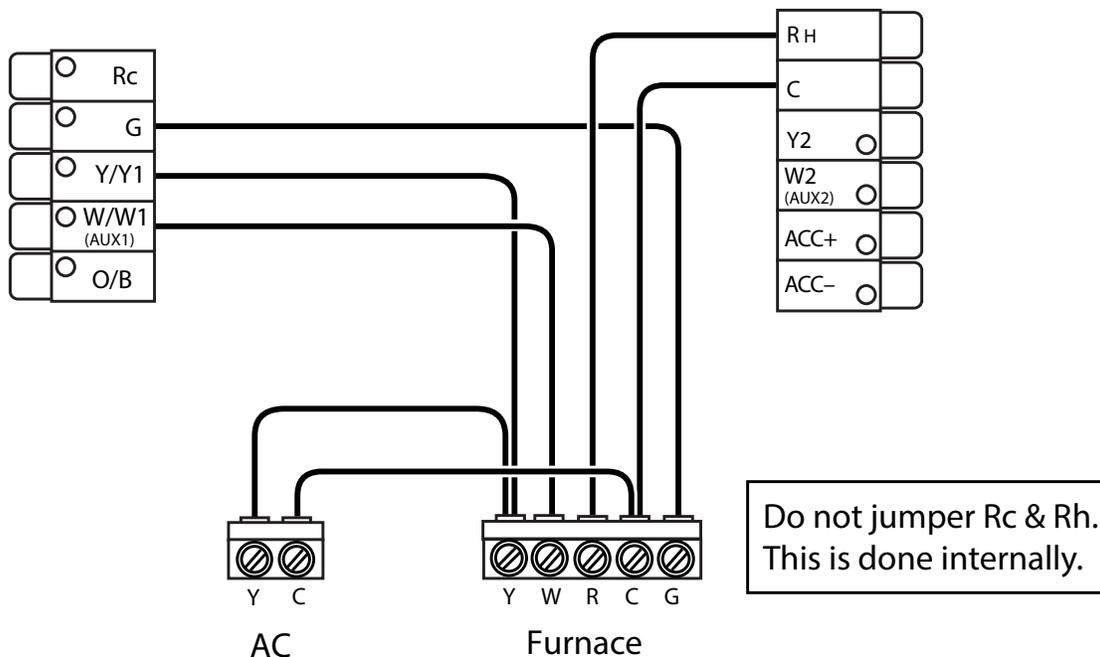


A150309

During the Guided Setup process, you will need to configure the thermostat for two transformers. This removes the internal jumper between Rc and Rh.

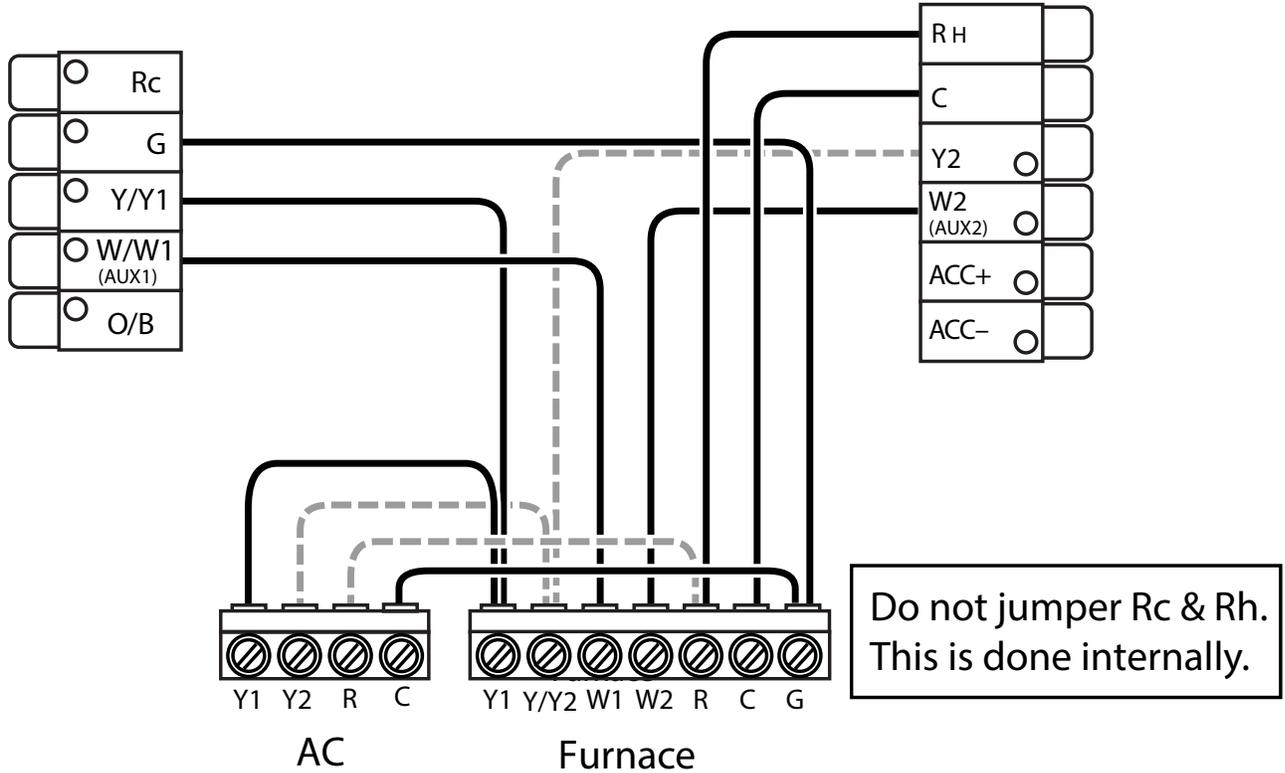
NOTE: The remaining diagrams show single transformer installations for simplicity but all can be setup for dual transformer by setting up Rc, Rh, and C as outlined in the above diagram.

Single Stage Furnace or Fan Coil with Single-Stage A/C



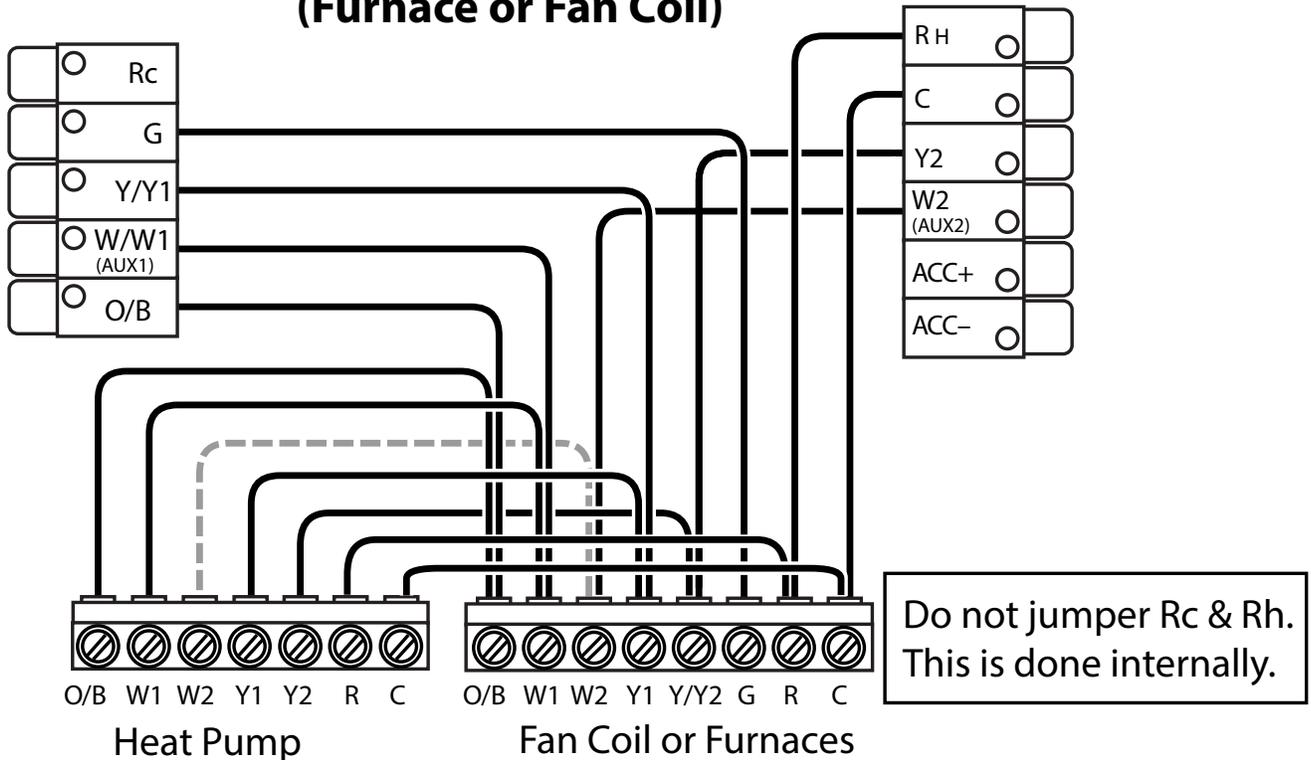
A150310

Two-Stage Furnace or Fan Coil with Single or Two-Stage A/C



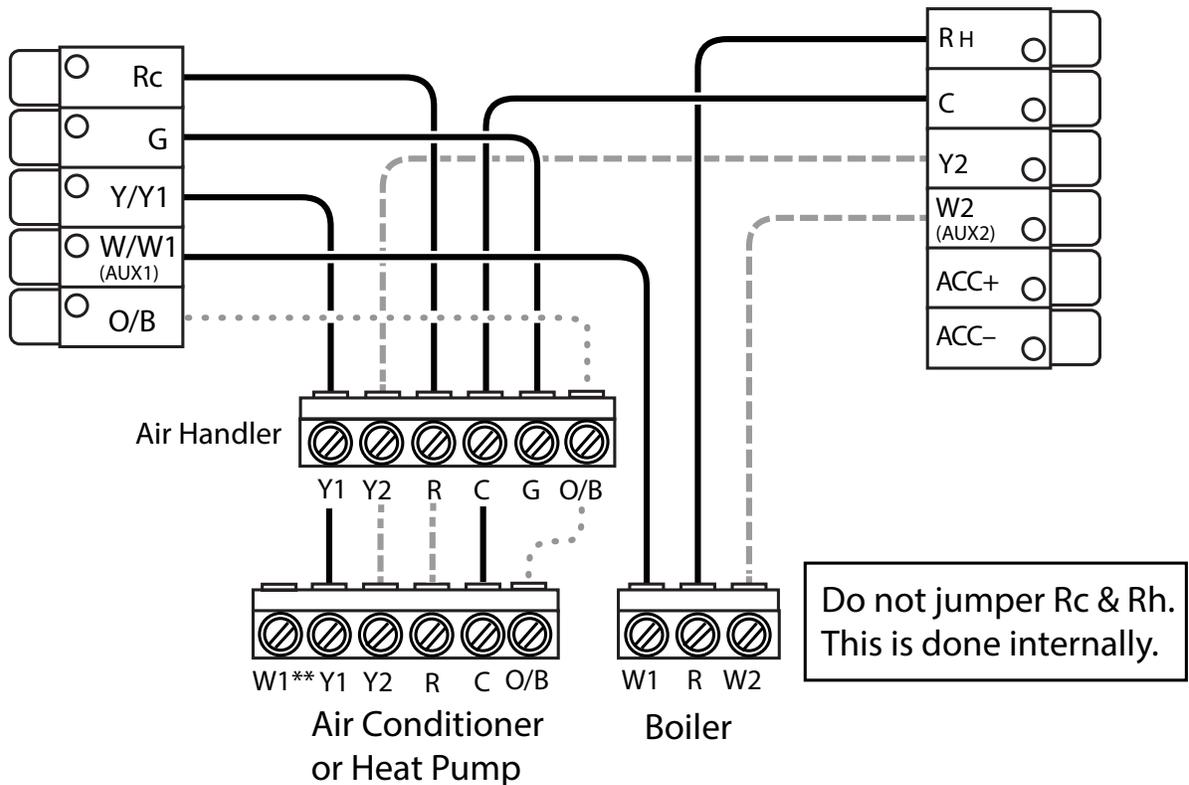
A150311

Two-Stage Heat Pump with Two stages of Aux Heat (Furnace or Fan Coil)



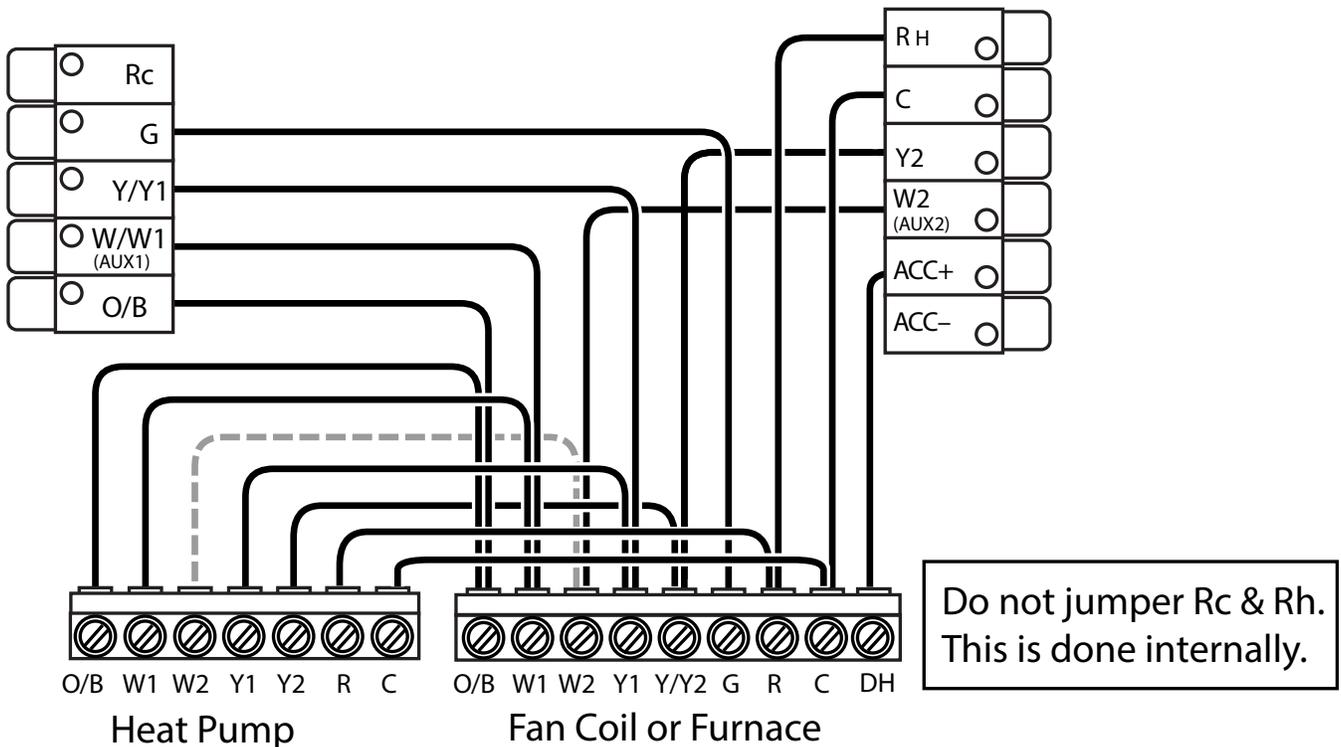
A150312

Boiler or Radiant System with Fan Coil and A/C or Heat Pump



A150313

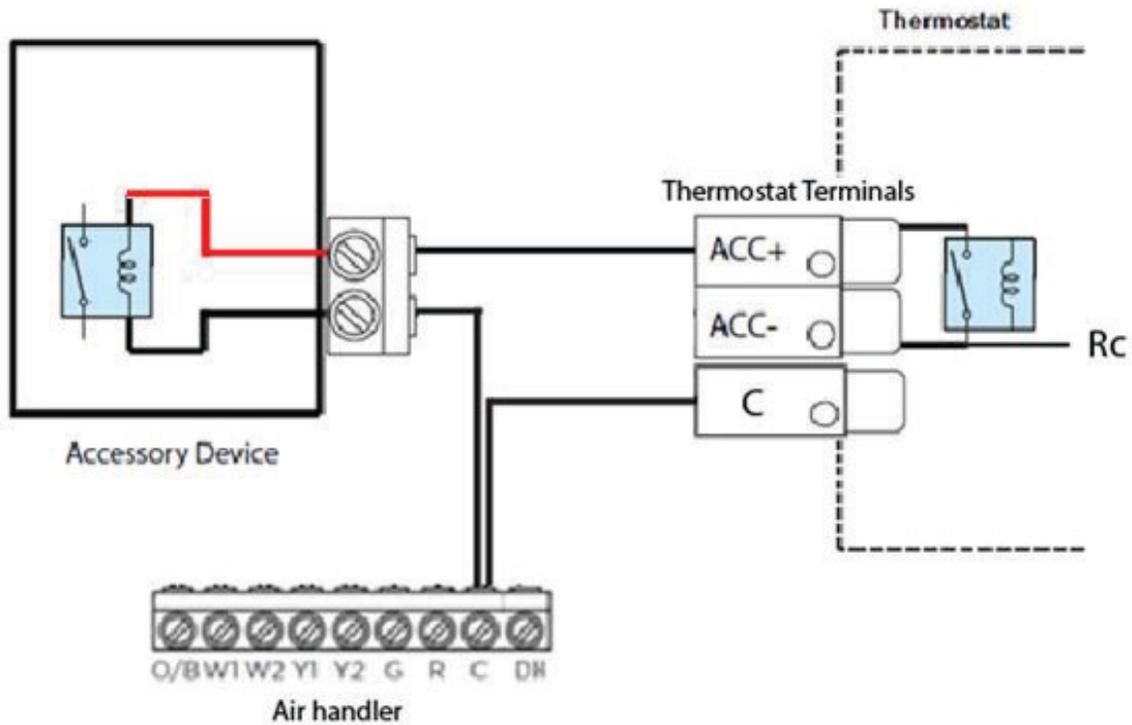
Accessory Connection for Dehumidify Operation



A150314

*For FV fan coils, jumper J1 on fan coil board will need to be removed.
J2 will need to be removed for two-stage heating (W1, W2).

Accessory Connection with Power from Thermostat



A150315

Per the diagram above, the accessory is powered using Rh/Rc. During the Guided Setup process, you can configure the accessory power source. When you select Yes, the internal relay on the thermostat will close.

Accessory Power Source

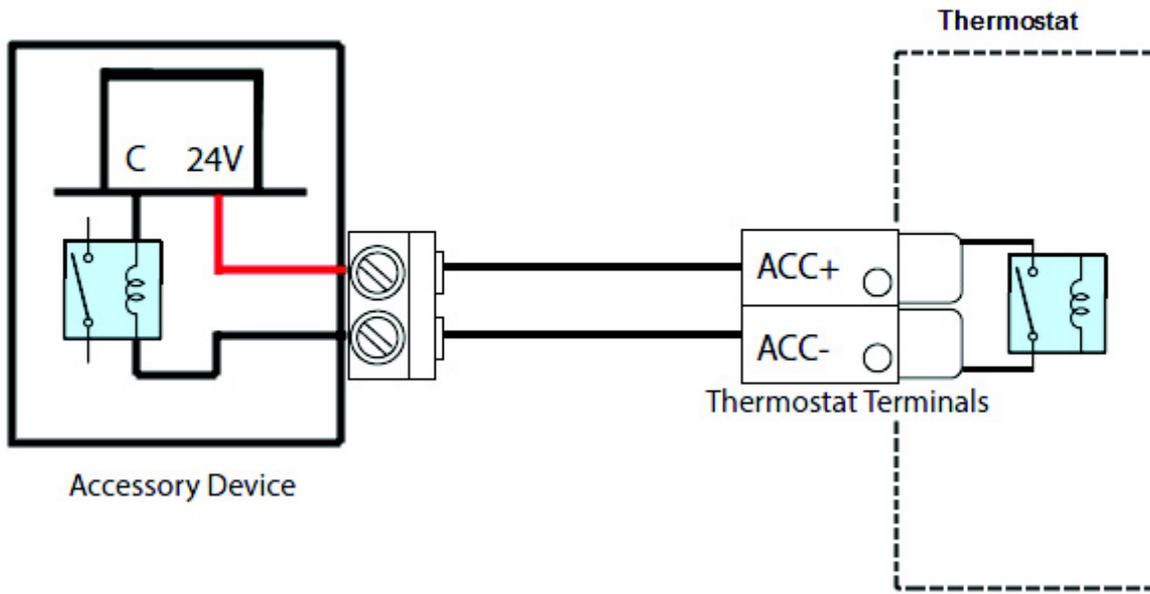
Is the accessory control power the same as the thermostat?

Yes The thermostat provides the control power using Rh/Rc

No

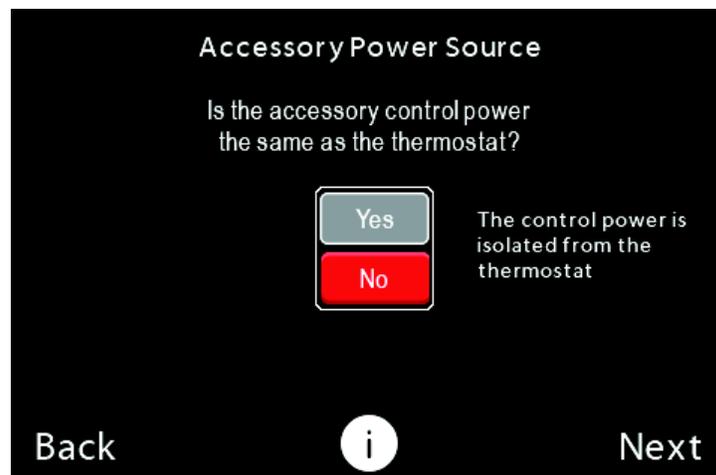
Back **i** Next

A150316



A150317

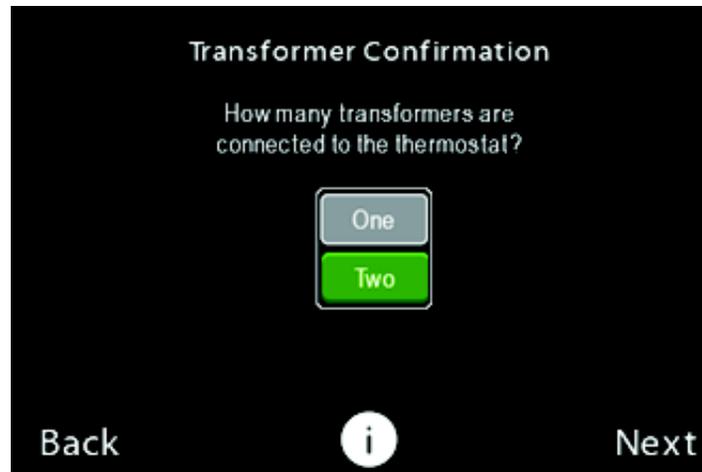
Per the diagram above, the accessory is self-powered. During the Guided Setup process, you can configure the accessory power source. When you select No, the internal relay on the thermostat will open.



A150318

Single Transformer versus Dual Transformer Installations

This thermostat does not need a physical jumper wire between Rc and Rh. Software in the thermostat allows you to configure this connection. During the Guided Setup process you will need to specify how many transformers are connected to the thermostat. When you select One, Rc and Rh are internally jumpered. When you select Two, Rc and Rh require their own transformer. If you connected wires to Rh and Rc during installation, select Two. If not, select One.



A150319

Installations without a Common (C) Wire

If your current thermostat does not have a wire connected to C, the following options are available:

1. Repurpose the G wire as a C wire per instructions below.
2. Use a Power Extender Kit (TS-2PE01). Power Extender Kit installation instructions for Bryant contractors are available on www.HVACpartners.com.
3. Run an additional wire from your equipment to the thermostat.

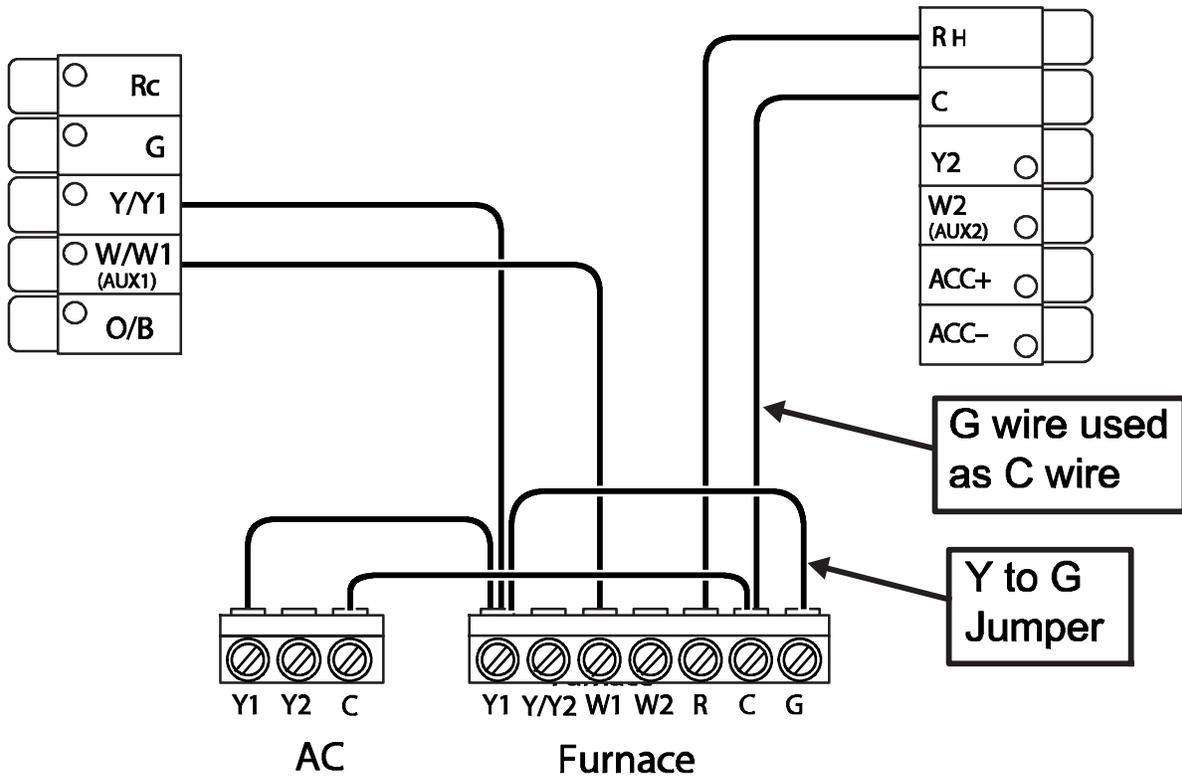
Repurposing the G wire for the C wire – Single Stage Equipment

Repurposing G wire for the C wire will result in the loss of continuous fan operation and air circulation features of the thermostat.

WARNING! This is only recommended on single stage Gas, Oil or Propane Furnace equipment applications with 4 wires running to the thermostat (R, W, Y, G) and Bryant fan coils.

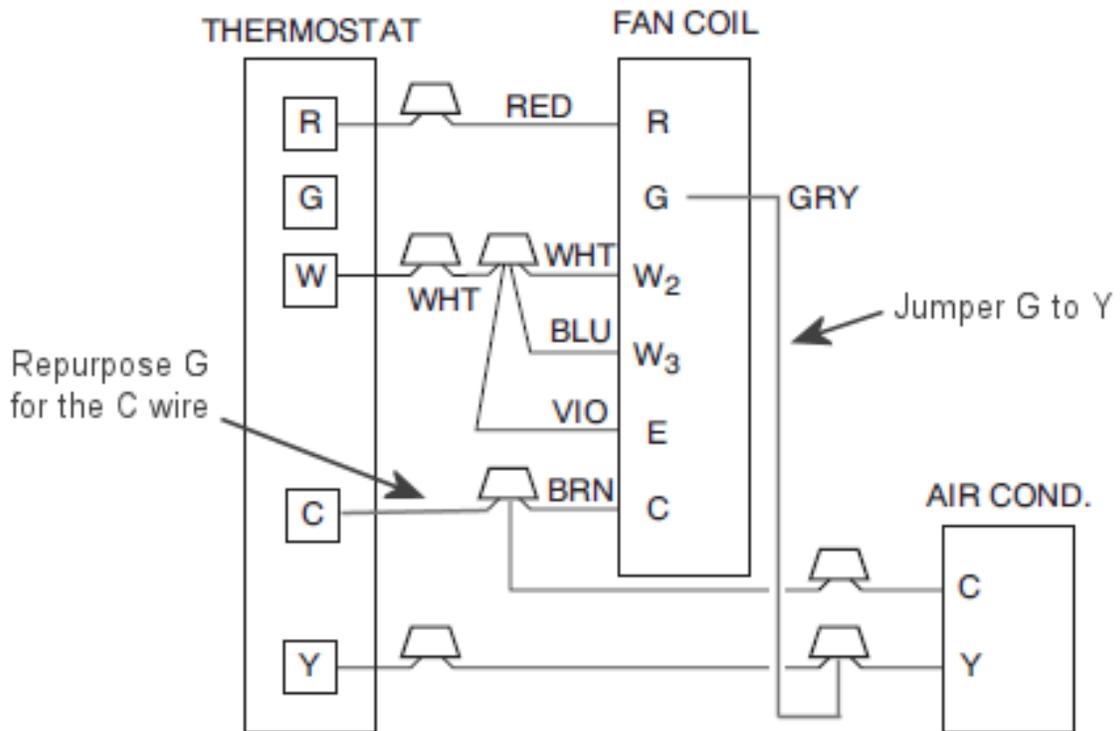
1. Use the G wire for the C wire at the equipment
2. Add a jumper wire from Y (or Y1) to G on the furnace board or fan coil wiring to allow the blower to turn on during cooling operation.

Wiring Diagram- Furnace and AC



A150320

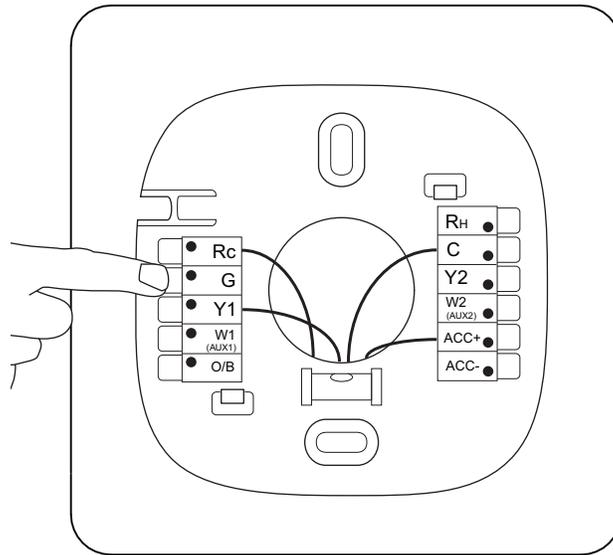
Wiring Diagram - Fan Coil



A150321

3. Connect Repurposed Wire to the Thermostat

- a. When you're ready to connect the wires to your new thermostat, connect the G wire to the C connector block on the thermostat

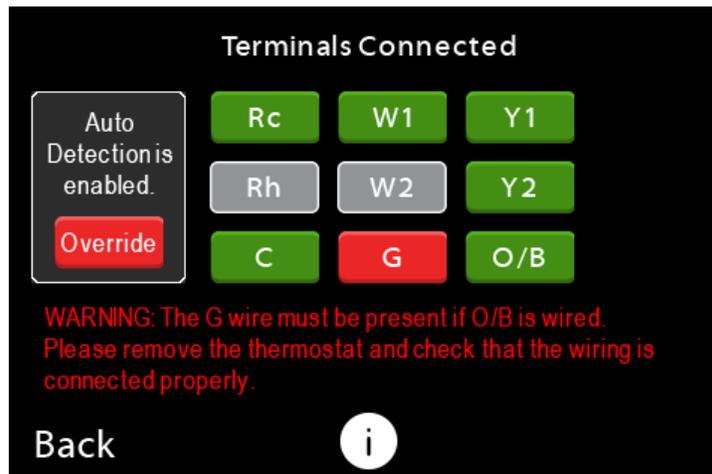


A150322

NOTE: There will no longer be a wire connected to the G terminal at the thermostat.

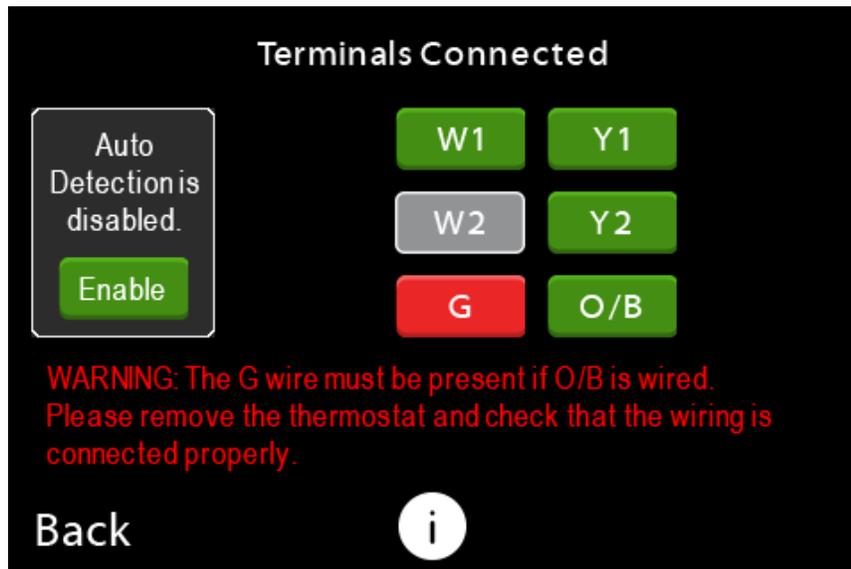
4. Guided Setup

- a. The thermostat automatically detects the wires you've connected
- b. You will receive a warning the G wire is not connected. You must disable Auto Detection by touching the red Override button then touch Yes.

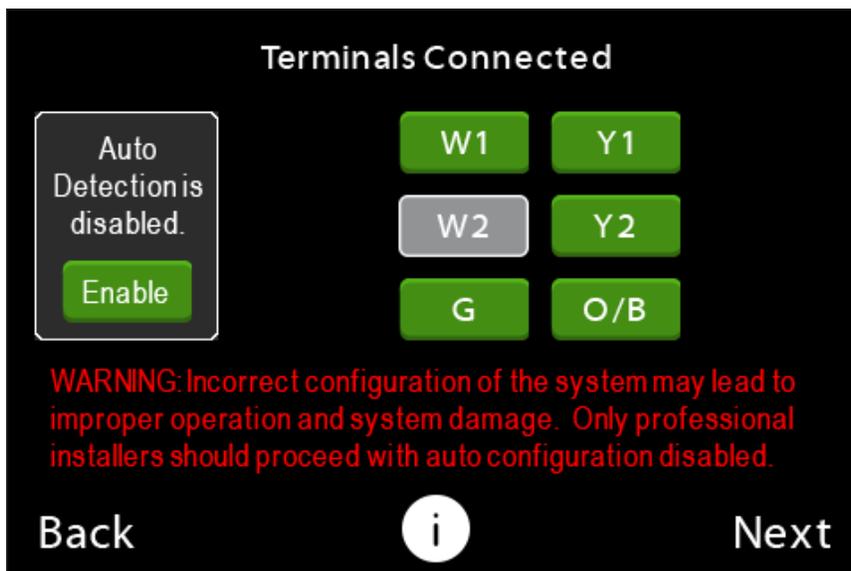


A150323

c. Touch G to turn box green then touch Next



A150324



A150325

d. Follow standard installation instructions to complete installation.

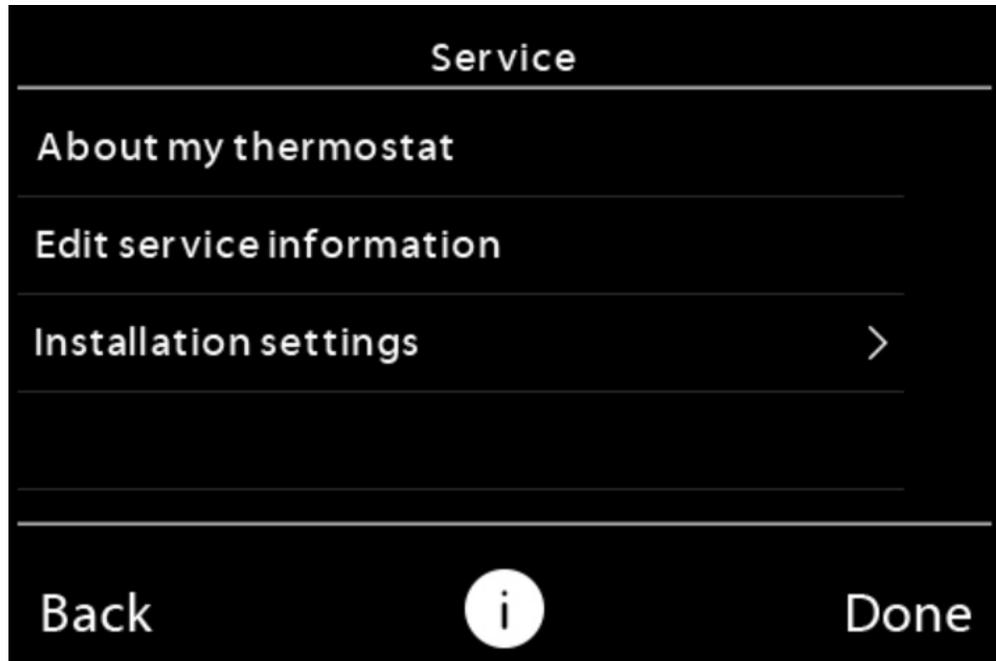
Equipment Configuration

WARNING! Advanced settings and configuration options are located in the service menus. These settings are intended for professional installers only. Incorrect configuration of the system may lead to improper operation and system damage.

Accessing the Service Menus

On Thermostat:

1. Touch Menu
2. Touch and hold Service Icon (about 10 seconds) until the service menu with Installation Settings shows.



A150326

Edit Service Information

Insert your contact information under Edit Service Information. This will ensure the customer has your contact information under the Service icon as well as displayed on all alerts and reminders. The default displays contact information for Bryant Customer Support.

On Thermostat:

1. Touch Menu > (hold) Service > Edit Service Information
2. Touch the information you would like to edit
3. Use the keyboard to input your information
4. Touch Save
5. Repeat until all fields are updated
6. Touch Done

Installation Settings

Equipment Setup

This menu gives you access to your equipment configuration settings for the thermostat. Only options relevant to the current configured equipment will be available.

On Thermostat:

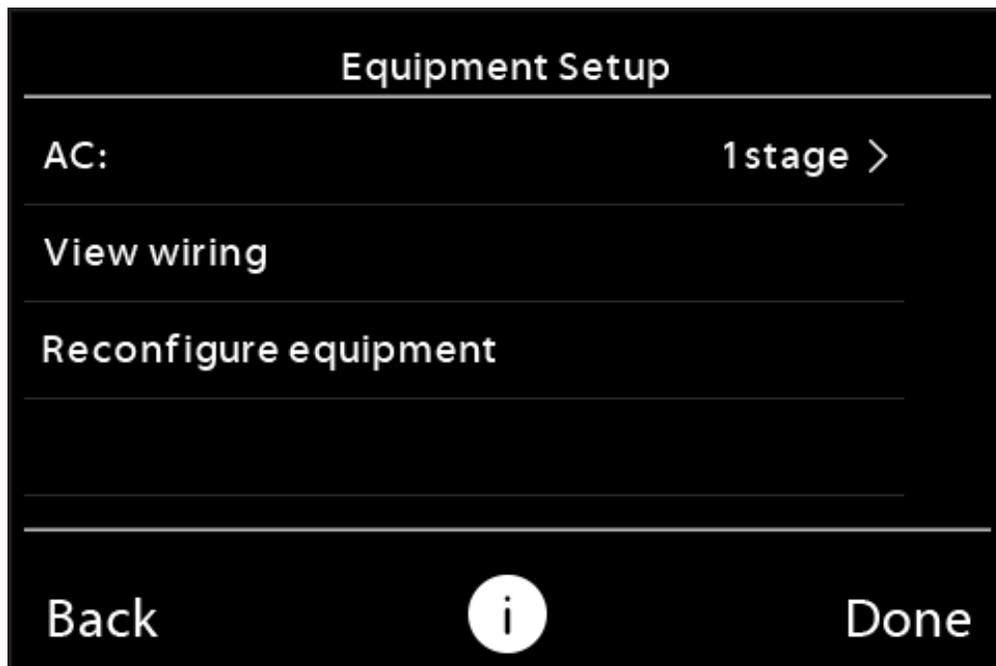
Select Menu > (hold) Service > Installation settings > Equipment Setup

Air Conditioner (AC) Configuration Options

NOTE: This menu is only available for Air Conditioner (AC) applications.

On Thermostat:

Select Menu > (hold) Service > Installation settings > Equipment Setup > AC



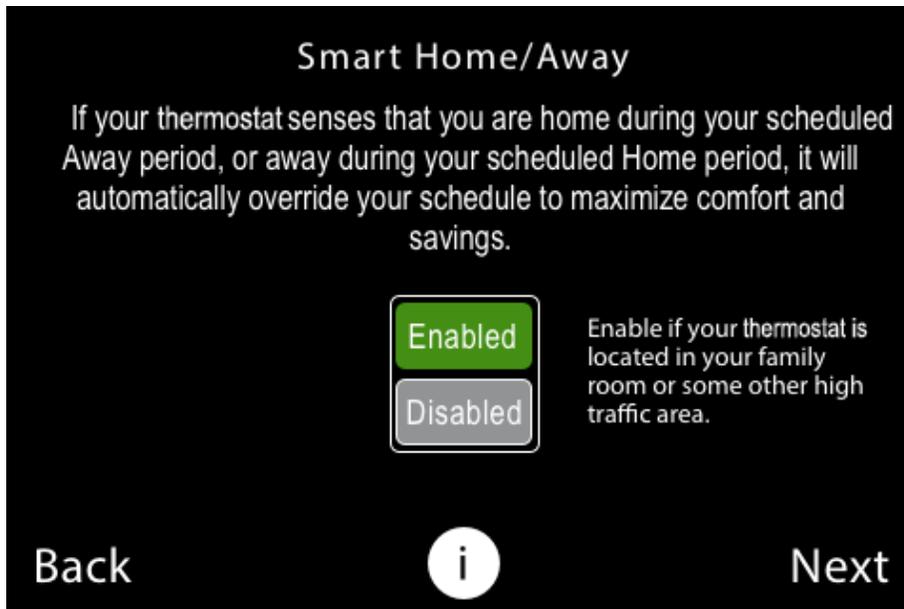
A150327

Smart Home / Away Setting

When enabled, the Smart Home / Away feature uses the occupancy sensor in conjunction with a homeowner's schedule settings. This feature adjusts to the setting it senses (i.e., Home or Away). The embedded occupancy sensor will trigger Smart Away mode if occupancy is not detected for 2 hours. It will trigger Smart Home mode if occupancy is detected at an Away programmed schedule period.

Be cognizant of location of the thermostat upon installation. If the thermostat is in a secluded area, disable this feature upon installation.

- Default: Enabled
- Options: Enabled, Disabled



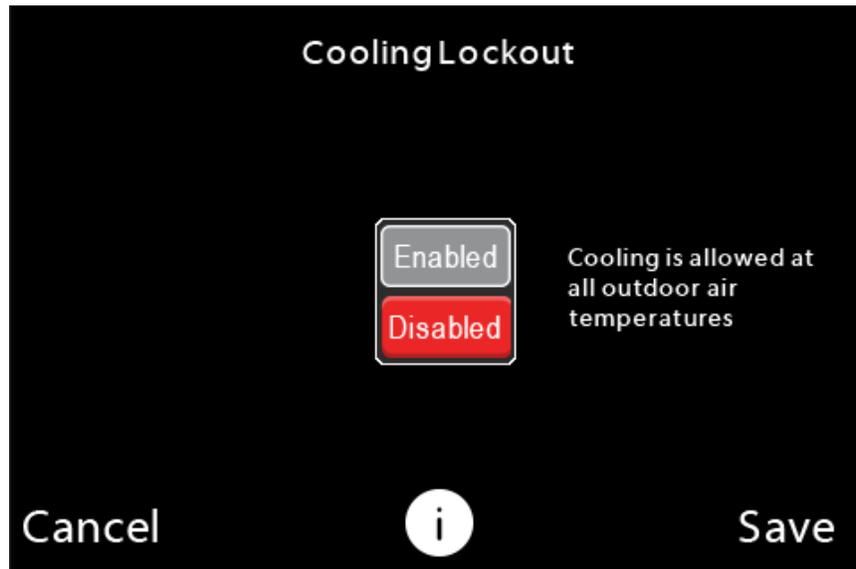
A170289

Cooling Lockout

NOTE: An Internet connection is required for this feature to operate properly.

Running the air conditioner below a certain temperature could cause damage to the equipment. Enabling the feature will prevent the air conditioner from cooling when the outdoor temperature drops below 55°F. Consult your equipment's user manuals to determine if it can be operated safely below 55°F.

- Default: Disabled
- Options: Enabled, Disabled



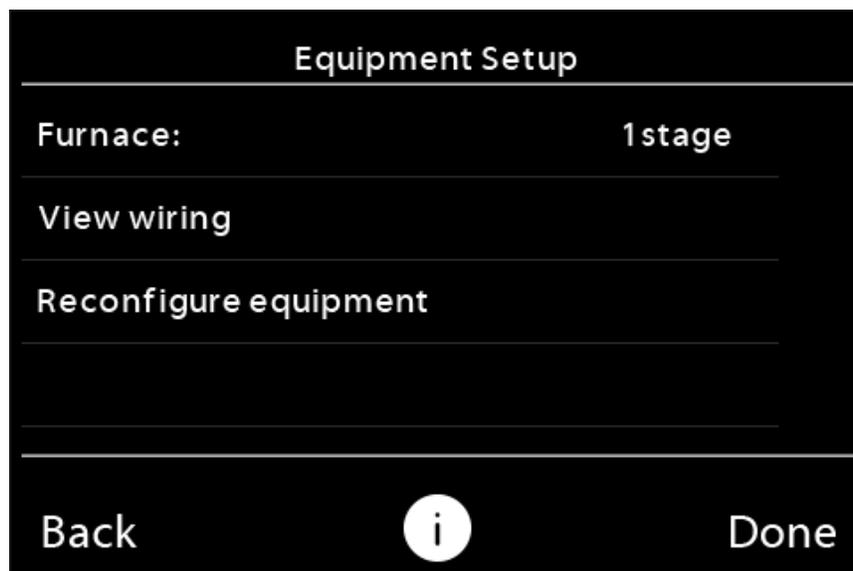
A150328

Furnace Configuration Options

NOTE: This menu is only available for furnace applications.

On Thermostat:

Select Menu > (hold) Service > Installation settings > Equipment Setup > Furnace

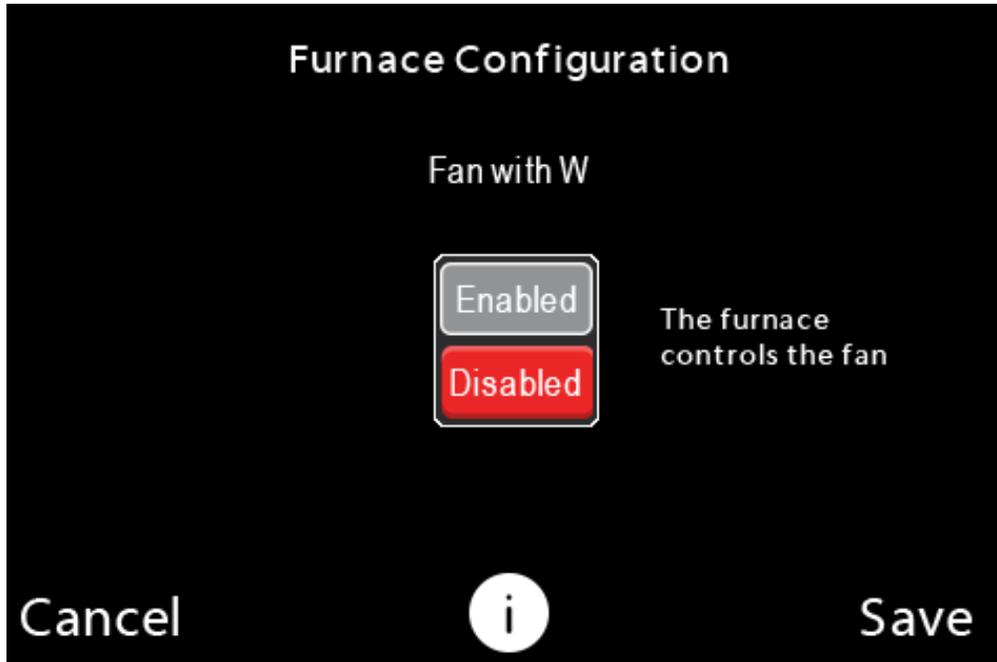


A150363

Fan with W

When enabled, the fan (or G) output on the thermostat will be activated during a call for heat. When disabled, the fan (or G) output on the thermostat will not be activated during a call for heat. Disable this feature if you want the furnace board to control the fan. Enable this feature if you want the thermostat to control the fan.

- Default: Disabled for furnace applications
- Options: Enabled, Disabled



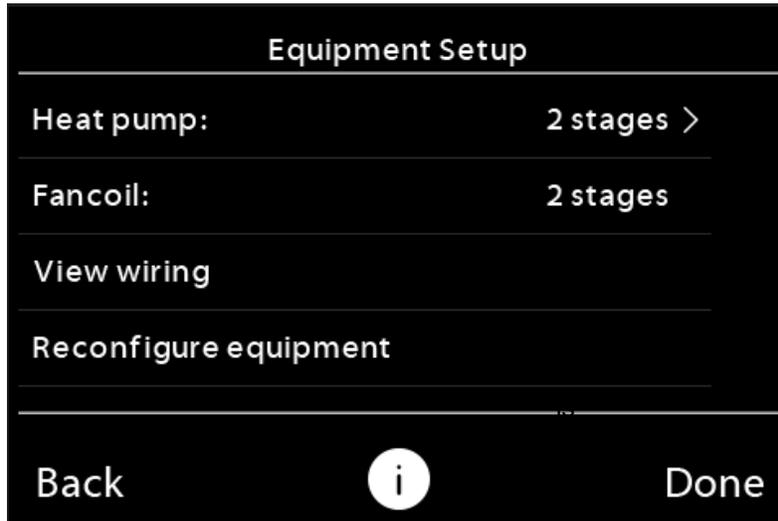
A150329

Heat Pump Configuration Options

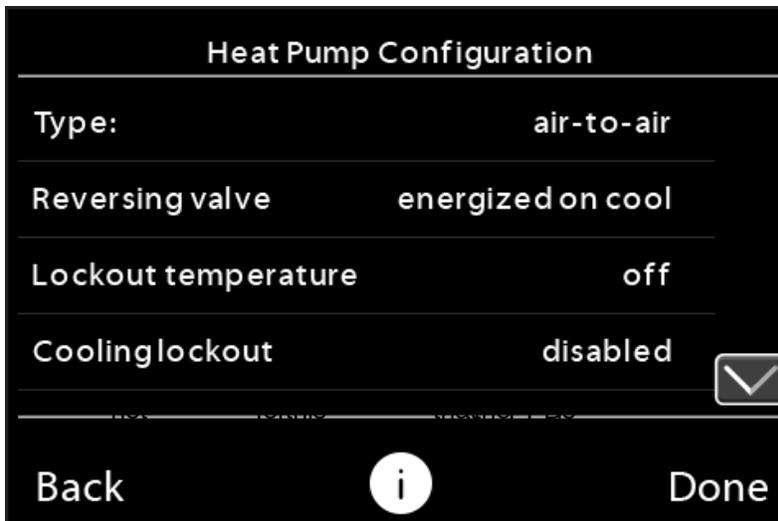
NOTE: This menu is only available for heat pump applications.

On Thermostat:

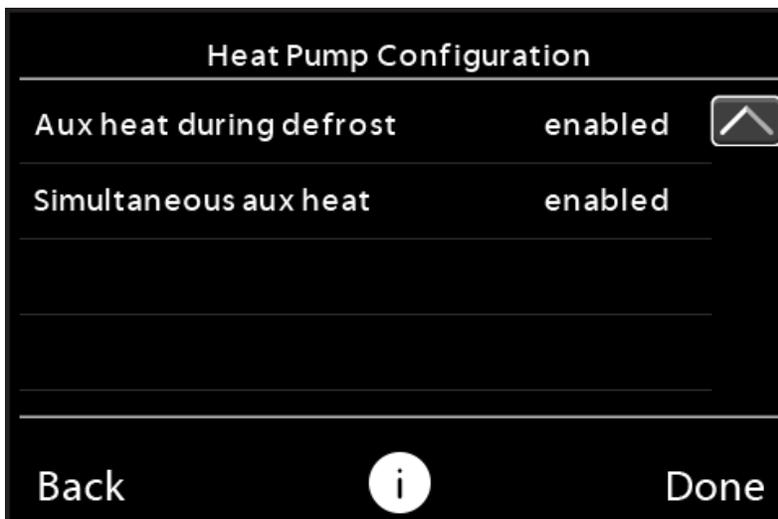
Select Menu > (hold) Service > Installation settings > Equipment Setup > Heat Pump



A150330



A150331

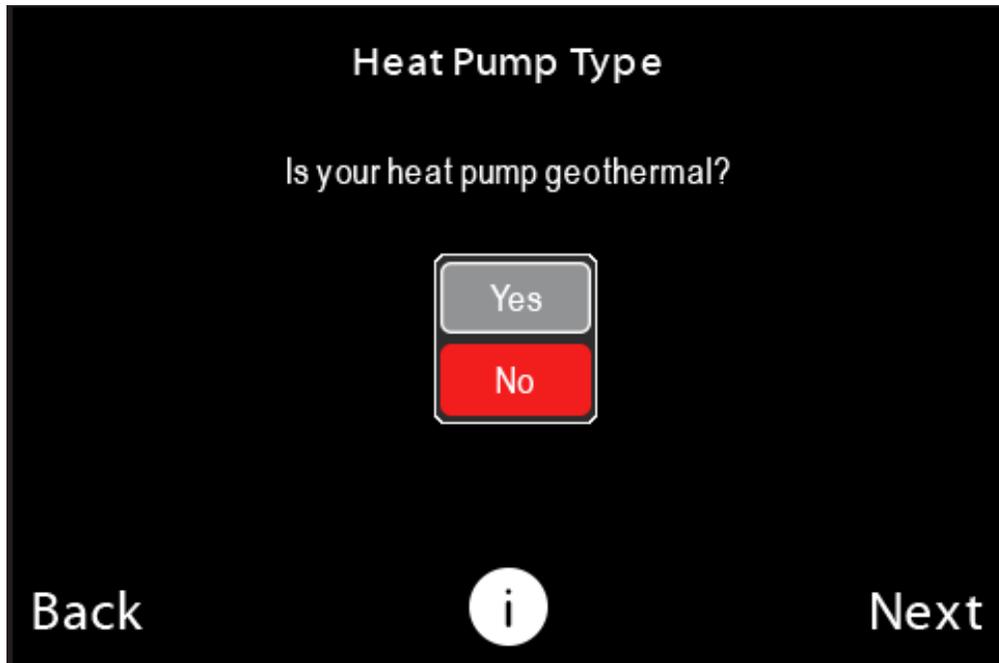


A150332

Type

This setting helps the thermostat determine the optimum performance and default settings for your heat pump based on whether it is air-to-air or geothermal.

- Default: No
- Options: Yes, No

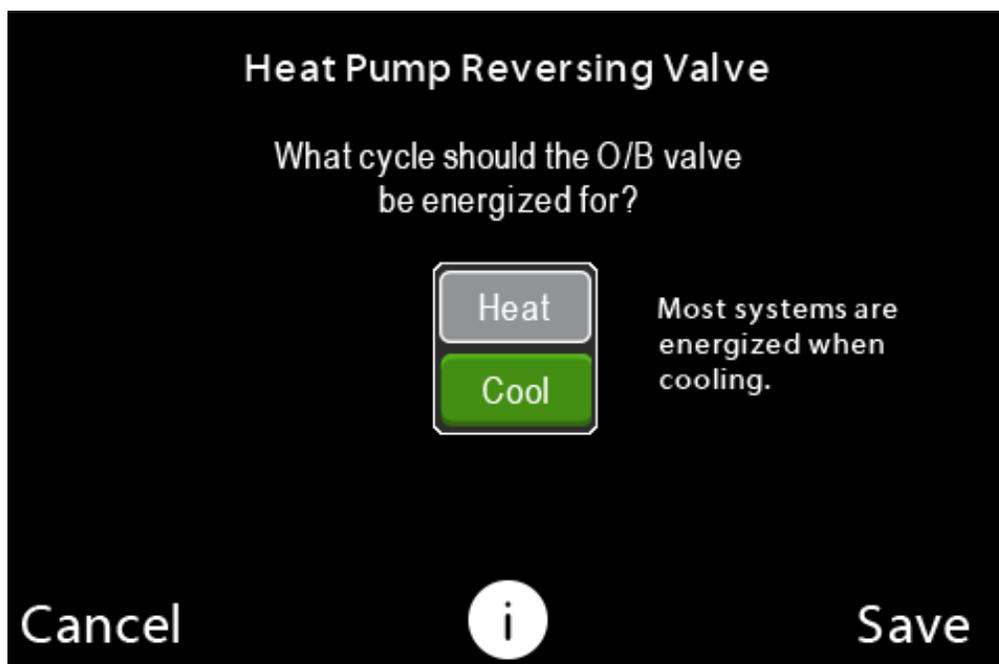


A150333

Reversing Valve

Select Energized on Cool to activate the reversing valve output (O/B terminal) when there is a call for cooling. Select Energized on Heat to activate the relay when there is call for heat.

- Default: Cool
- Options: Heat, Cool



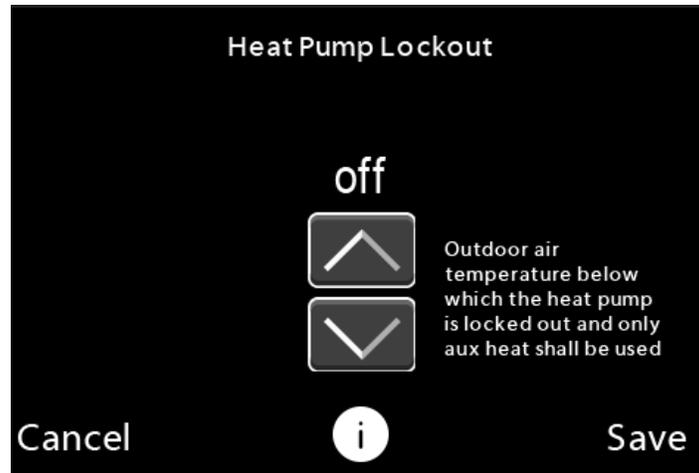
A150334

Lockout Temperature

NOTE: An Internet connection is required for this feature to operate properly. When weather data is not available the thermostat will go through its normal staging sequence of operation.

The heat pump lockout temperature can be used to force a switch from heat pump operation to auxiliary heating. When the outdoor temperature drops below this setting, the thermostat will stop using the heat pump for heating and only use the auxiliary heat. This feature is especially useful for Hybrid Heat® dual fuel applications where the auxiliary heat source usually has a higher capacity than the heat pump at low temperature and can therefore help maintain comfort.

- Default: Off
- Options: Off, 5°F, 10°F, 15°F, 20°F, ..., 50°F, 55°F



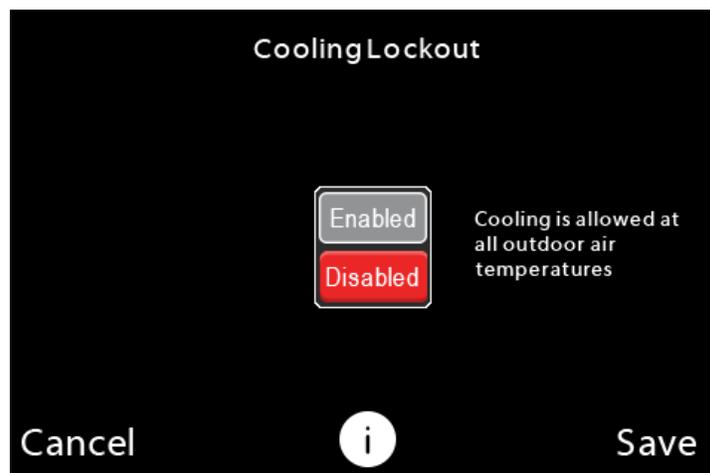
A150335

Cooling Lockout

NOTE: An Internet connection is required for this feature to operate properly.

Running the heat pump compressor in cooling below a certain temperature could cause damage to the equipment. By default the thermostat enables this lockout setting to protect the equipment. Disabling the feature will allow the air conditioner to run when the outdoor temperature drops below 55°F.

- Default: Disabled
- Options: Enabled, Disabled

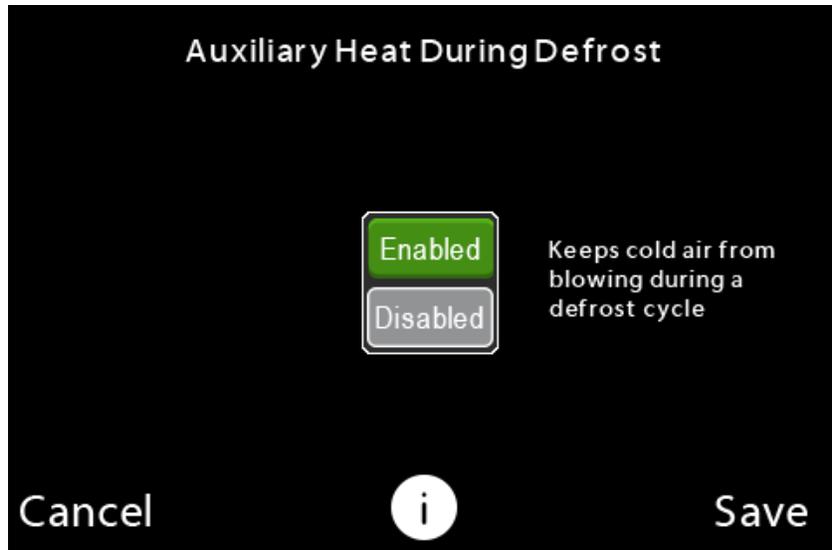


A150328

Auxiliary Heat During Defrost

When the heat pump goes into a defrost cycle it can cause cold air to come out of the vents potentially causing discomfort. When enabled, the thermostat will turn on the auxiliary heat when the heat pump is defrosting to help reduce this discomfort.

- Default: Enabled
- Options: Enabled, Disabled

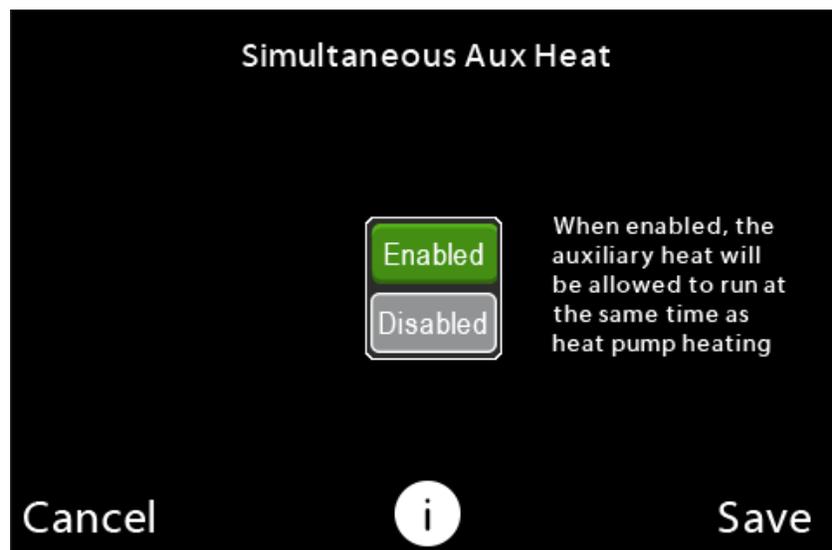


A150336

Simultaneous Auxiliary Heat

When enabled, the thermostat will allow the auxiliary heat to be used at the same time as the heat pump. The default value changes depending on the type of auxiliary heating that is used. For non-dual fuel applications (electric resistance auxiliary heating), the default setting is enabled. For dual fuel applications (fossil fuel auxiliary heating), the default setting is disabled.

- Default: Enabled for electric resistance auxiliary heating applications
Disabled for Hybrid Heat® dual fuel applications
- Options: Enabled, Disabled



A150337

NOTE: The auxiliary heating type is set and can only be changed in the Guided Setup or reconfigure equipment processes.

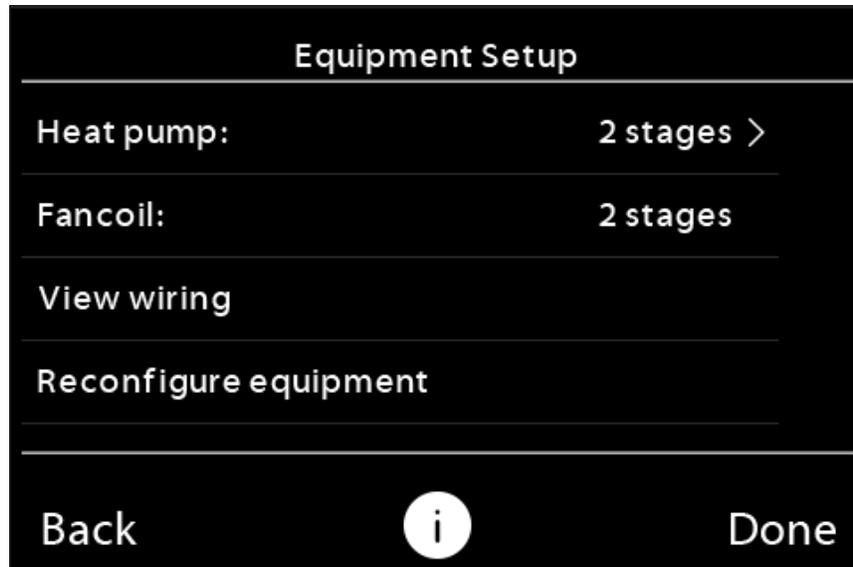
Fan Coil Configuration Options

NOTE: This menu is only available for heat pump applications.

The fan coil configuration menu allows you to change equipment settings for your fan coil.

On Thermostat:

Select Menu > (hold) Service > Installation settings > Equipment Setup > Fancoil



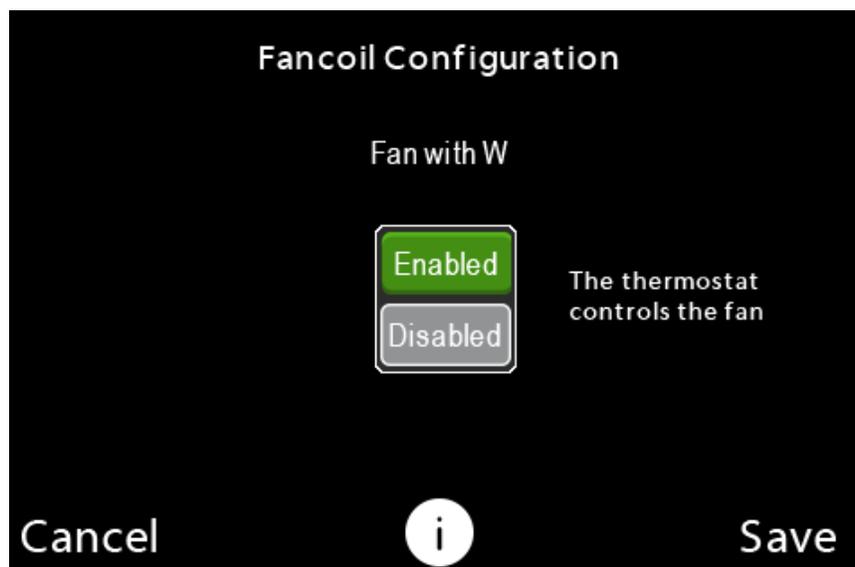
A150330

Fan with W

When enabled, the fan (or G) output on the thermostat will be activated during a call for heat. When disabled, the fan (or G) output on the thermostat will not be activated during a call for heat.

Disable this feature if you want the fan coil board to control the fan. Enable this feature if you want the thermostat to control the fan.

- Default: Disabled for fan coil applications
- Options: Enabled, Disabled



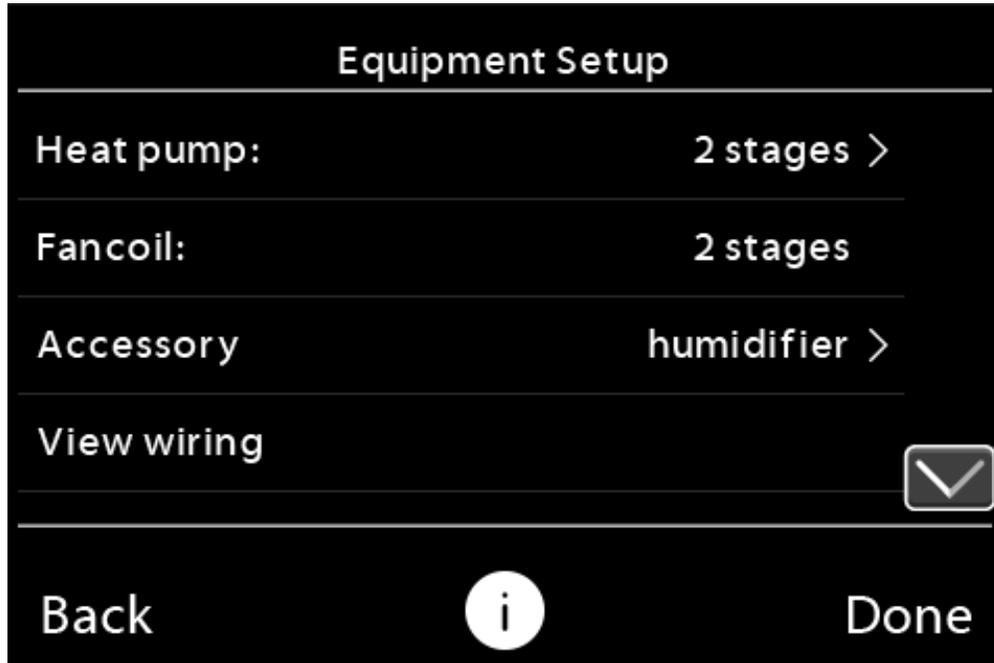
A150338

Humidifier Configuration Options

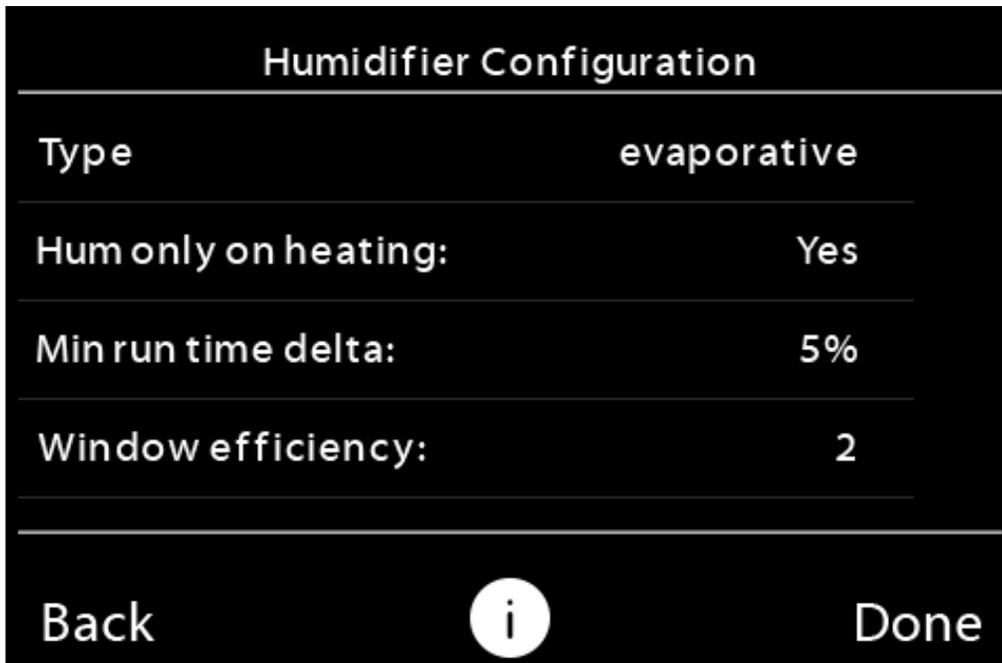
NOTE: This menu is only available for applications with a humidifier configured as an accessory.

On Thermostat:

Select Menu > (hold) Service > Installation settings > Equipment Setup > Accessory



A150339

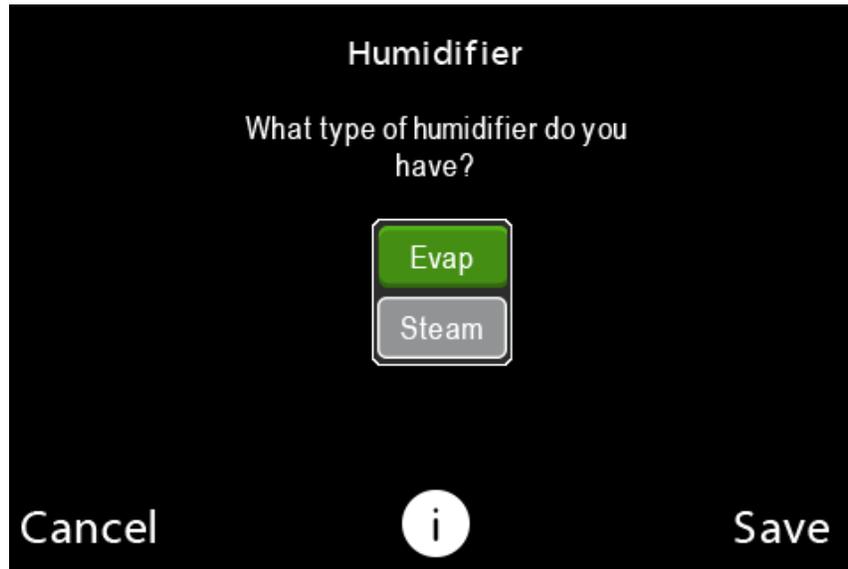


A150340

Type

Optimizes the humidifier operation for either evaporative or steam type humidifiers.

- Default: Evaporative
- Options: Evaporative, Steam

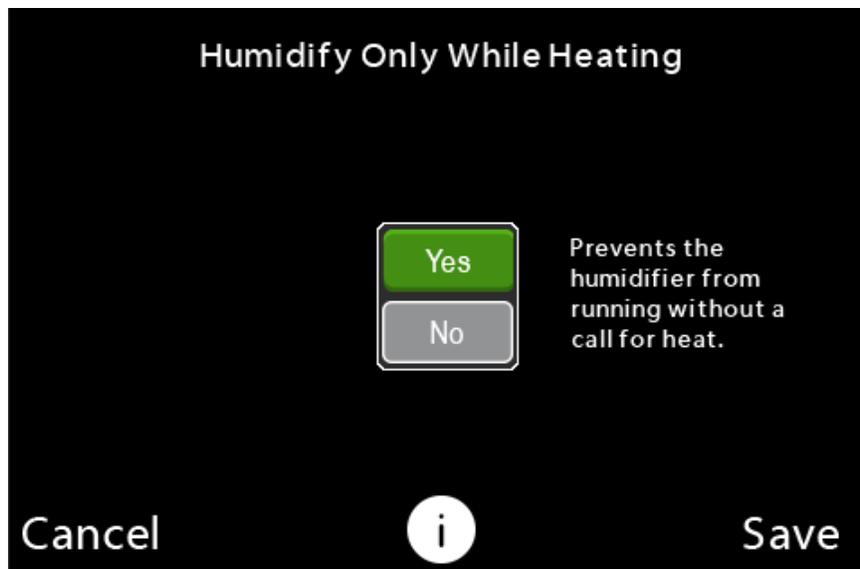


A150341

Humidify Only While Heating (e.g. Humidify with Fan Only)

Determines whether the thermostat should run the humidifier only when it is calling for heat or not. Many evaporative type humidifiers require the warm air from the heating cycle to help evaporate moisture.

- Default: Yes for evaporative type humidifiers
No for steam type humidifiers
- Options: Yes, No

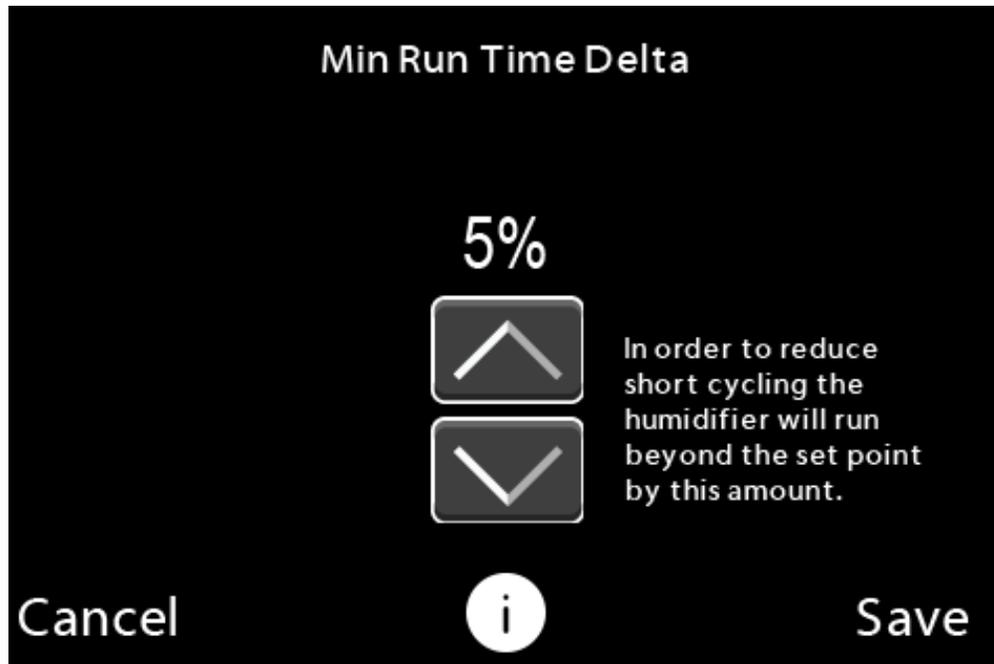


A150342

Minimum Run Time Delta

The minimum run time delta helps reduce short cycling of the humidifier by running the humidifier beyond the setpoint by the selected amount. For example, if your minimum run time delta is 5% and your humidity comfort profile is 40%, then thermostat will run the humidifier until the indoor humidity reaches 45%.

- Default: 5%
- Options: 2, 3, 4, 5, 6, 7, 8, 9, 10%

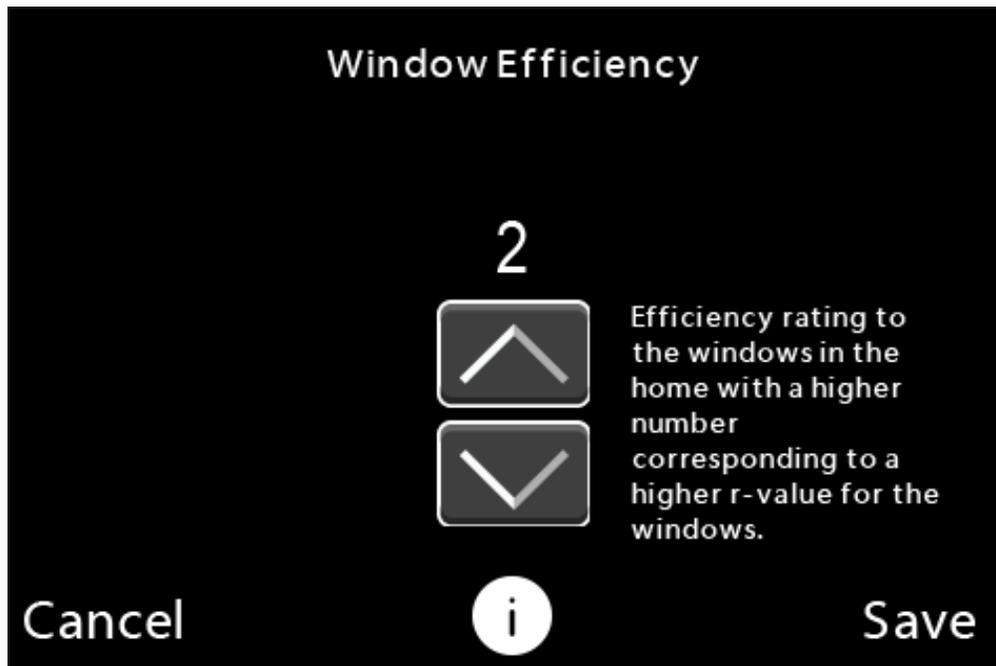


A150343

Window Efficiency

The window efficiency setting is used as an input into the Window Protect smart feature that automatically adjusts humidity levels based on indoor and outdoor temperatures to avoid frost and condensation build-up on your windows. If you notice condensation or frost on the windows adjust reduce this setting by 1 and continue to observe the windows for a few days. Repeat the process until no condensation or frost is observed on the windows.

- Default: 5
- Options: 1, 2, 3, 4, 5, 6, 7



A150344

The homeowner can also access the Window Protect smart feature through the thermostat, smartphone app, and web portal.

On the Thermostat and Smartphone App:

1. Touch Menu > Profiles > Humidity Profiles > Humidification Setpoint
2. Touch Window Protect then use the up or down arrows to select the desired level between 1 - 7, with 7 being for the most efficient windows.
3. Touch Save

On the Web Portal:

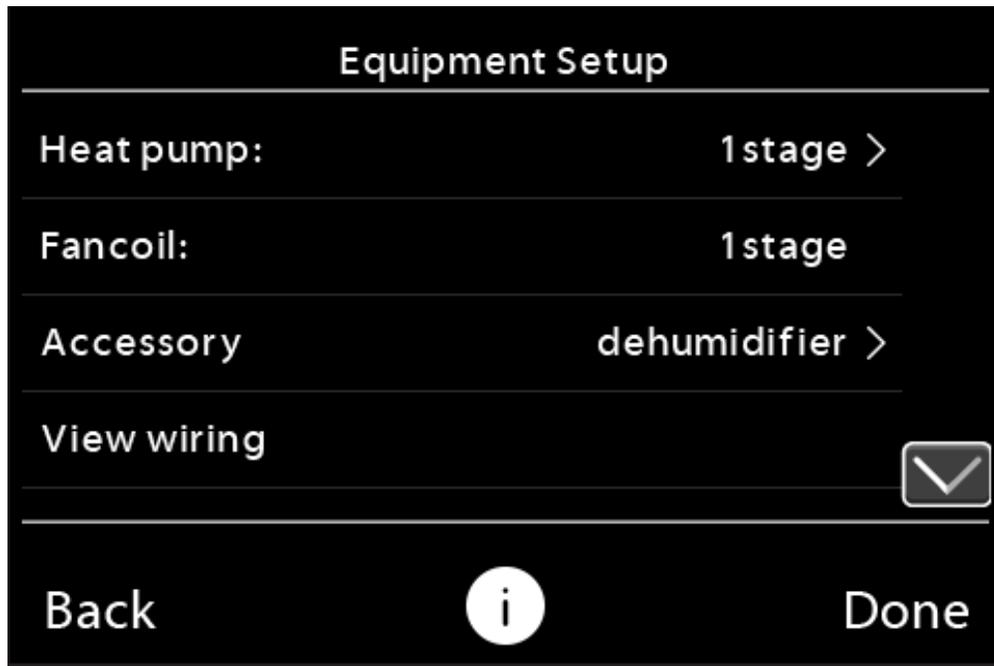
1. Select the My System tile
2. Select Humidifier
3. To use Window Protect, touch Window Protect then use the slider to select the desired level between 1 - 7, with 7 being for the most efficient windows.
4. Touch the X in the upper right corner to close the window

Dehumidifier Configuration Options

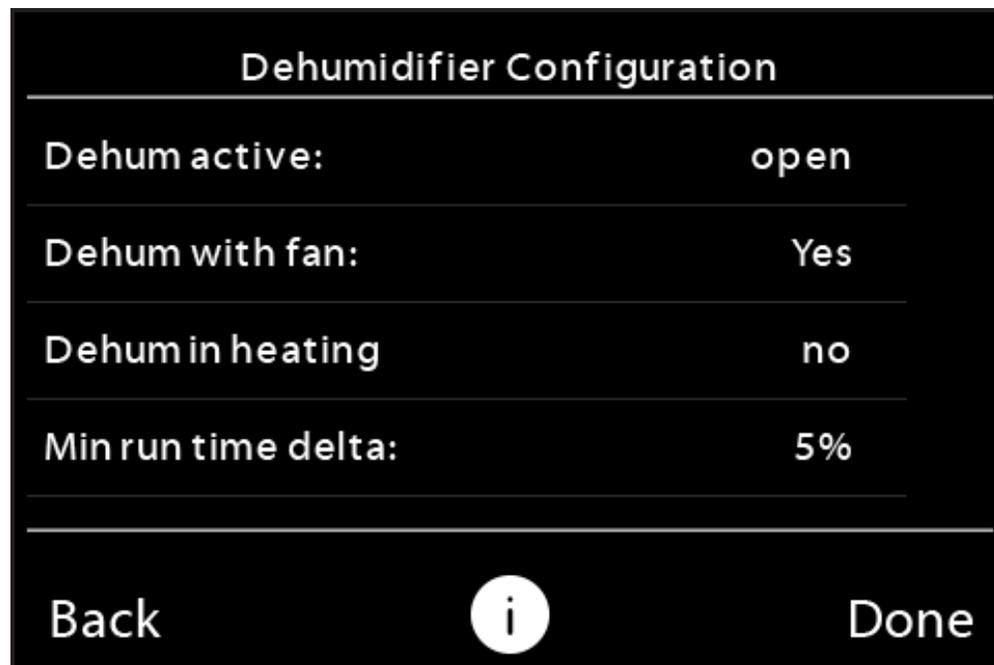
NOTE: This menu is only available for applications with a dehumidifier configured as an accessory.

On Thermostat:

Select Menu > (hold) Service > Installation settings > Equipment Setup > Accessory



A150345

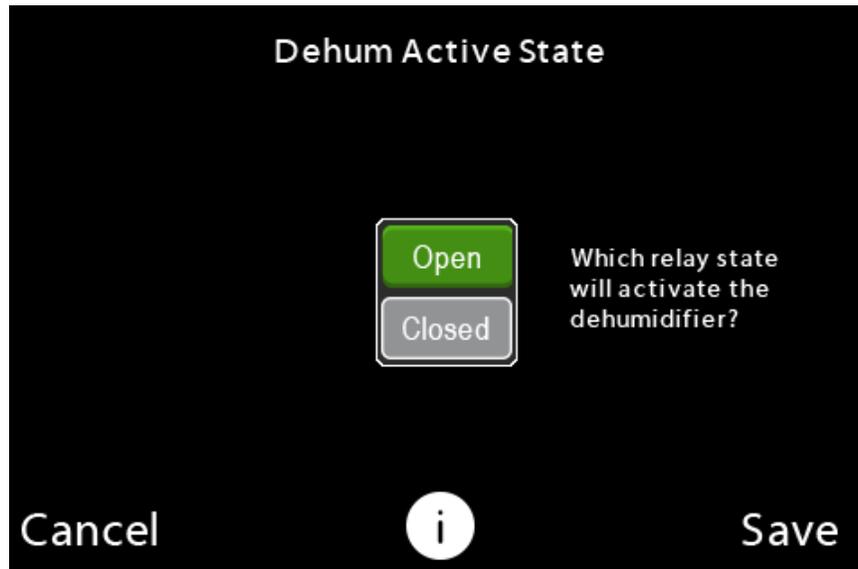


A150346

Dehum Active

The dehumidifier active state setting determines whether the accessory terminals should be open or closed in order to dehumidify. When set to active Open (also referred to as active low), the thermostat will open the output contacts removing voltage from the terminal when it calls for dehumidification. When set to active Closed (also referred to as active high), the thermostat will close the output contacts applying voltage to the ACC+ terminal when it calls for dehumidification.

- Default: Open
- Options: Open, Closed

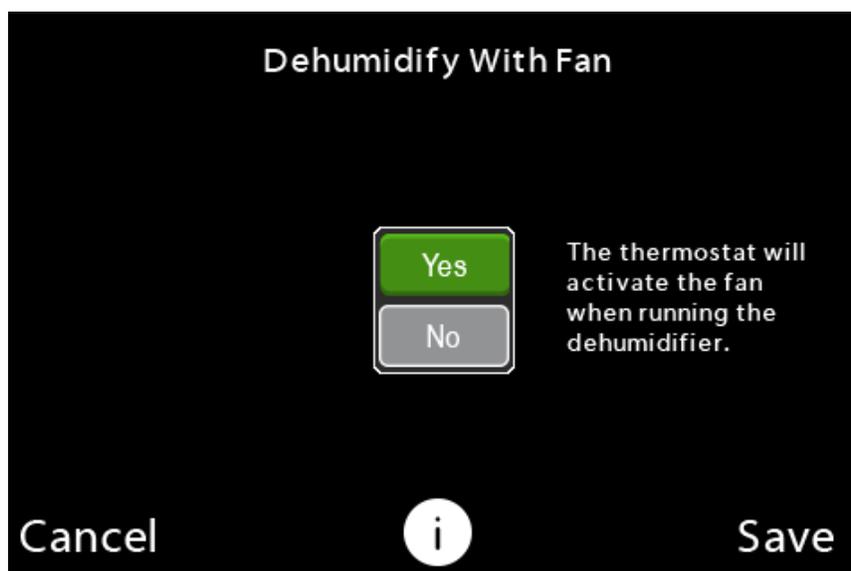


A150347

Dehumidify with Fan

The thermostat will activate the fan output (G) when running the dehumidifier.

- Default: Yes
- Options: Yes, No

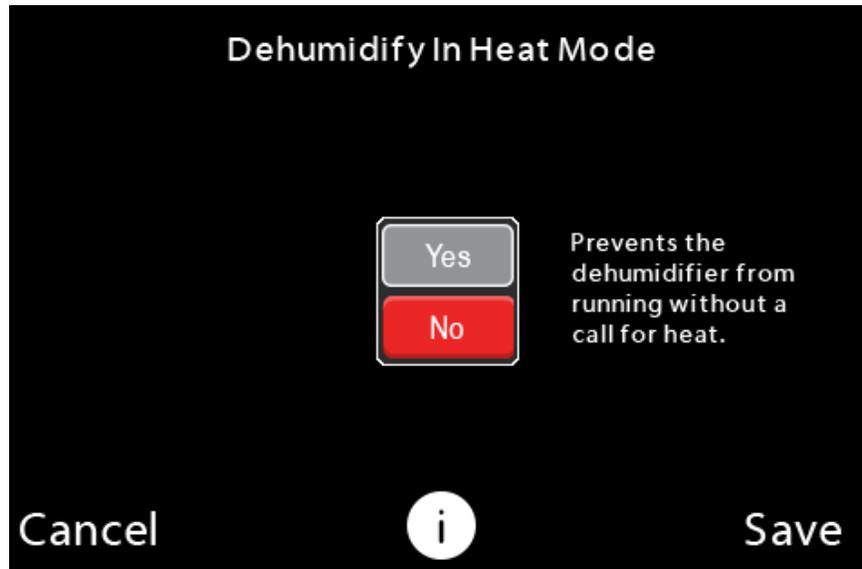


A150348

Dehumidify in Heating

By default the dehumidifier will not be run if there is a dehumidification demand while the thermostat is heating. Selecting Yes will allow the thermostat to dehumidify when heating.

- Default: No
- Options: Yes, No



A150349

Minimum Run Time Delta

The minimum run time delta helps reduce short cycling of the dehumidifier by running the dehumidifier beyond the setpoint by the selected amount. For example, if your minimum run time delta is 5% and your dehumidification setpoint is 50%, then thermostat will run the dehumidifier until the indoor humidity reaches 45%.

- Default: 5%
- Options: 2, 3, 4, 5, 6, 7, 8, 9, 10%



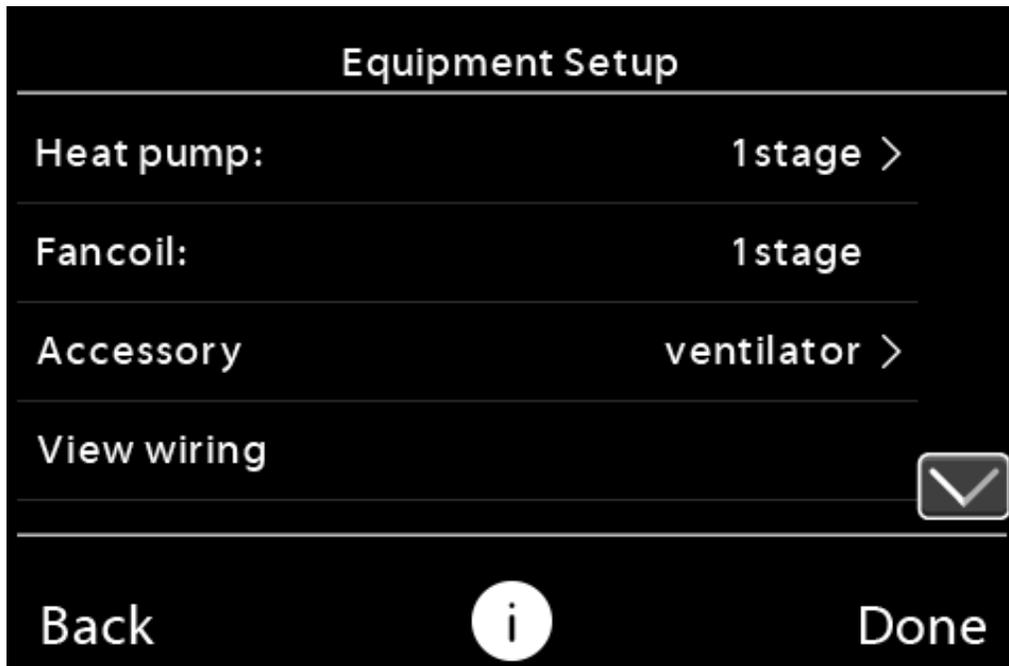
A150343

Ventilator Configuration Options

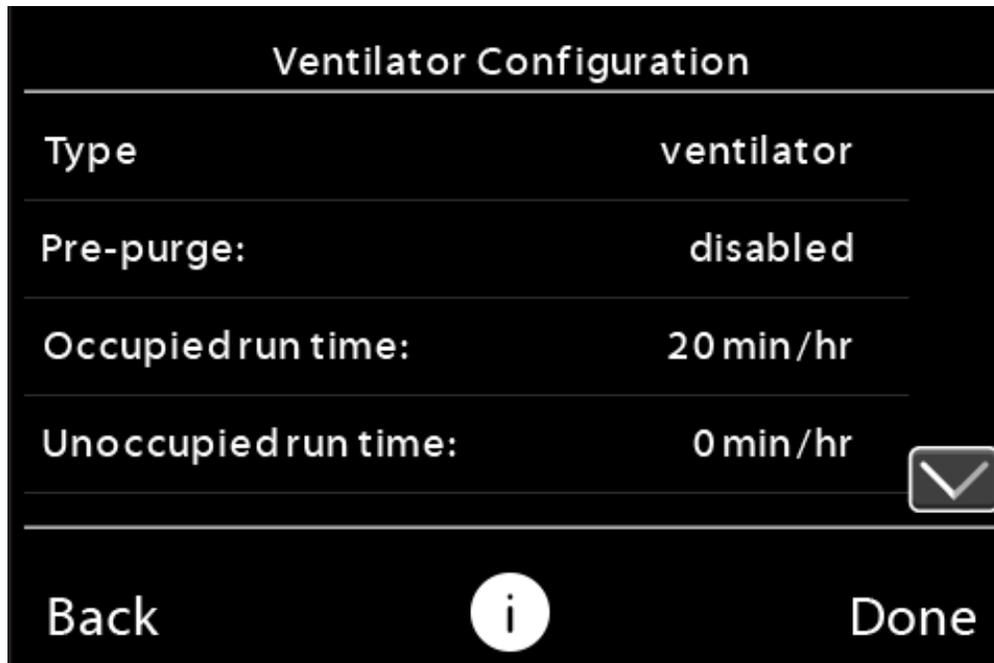
NOTE: This menu is only available for applications with a ventilator configured as an accessory.

On Thermostat:

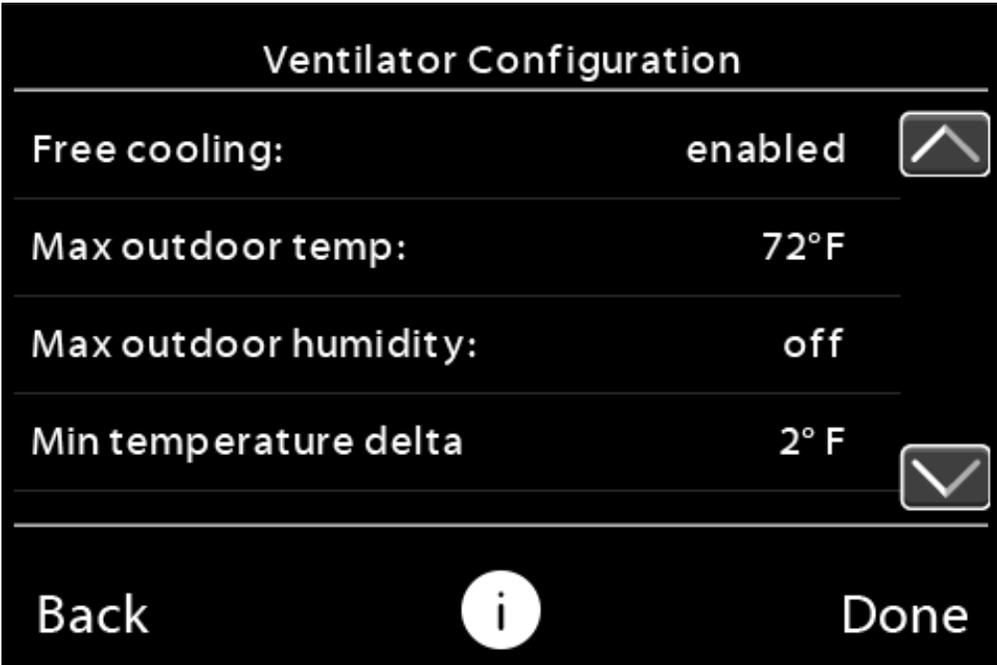
Select Menu > (hold) Service > Installation settings > Equipment Setup > Accessory



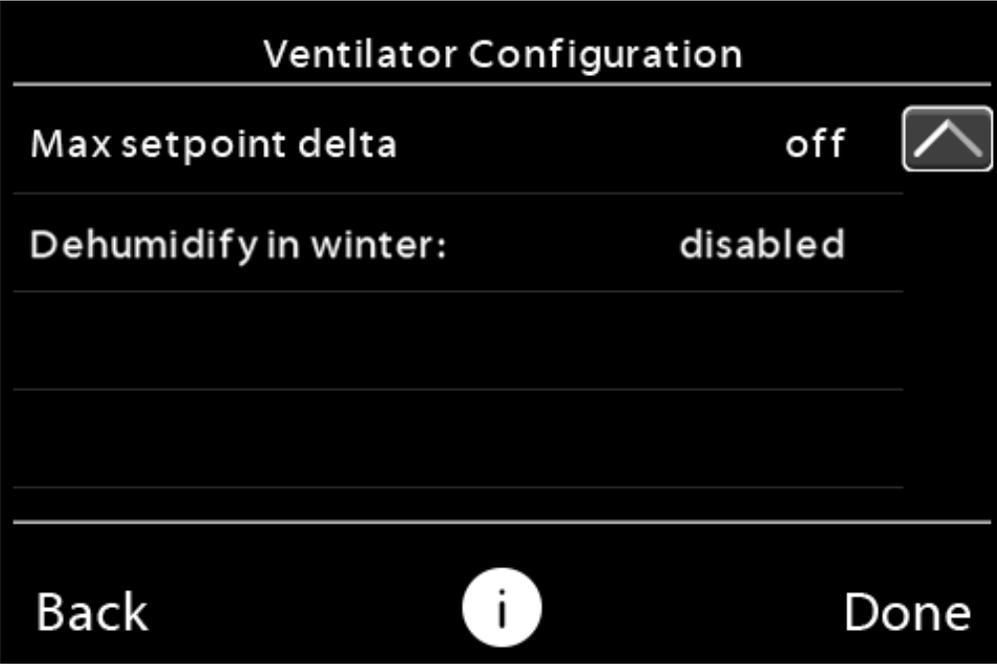
A150350



A150351



A150352

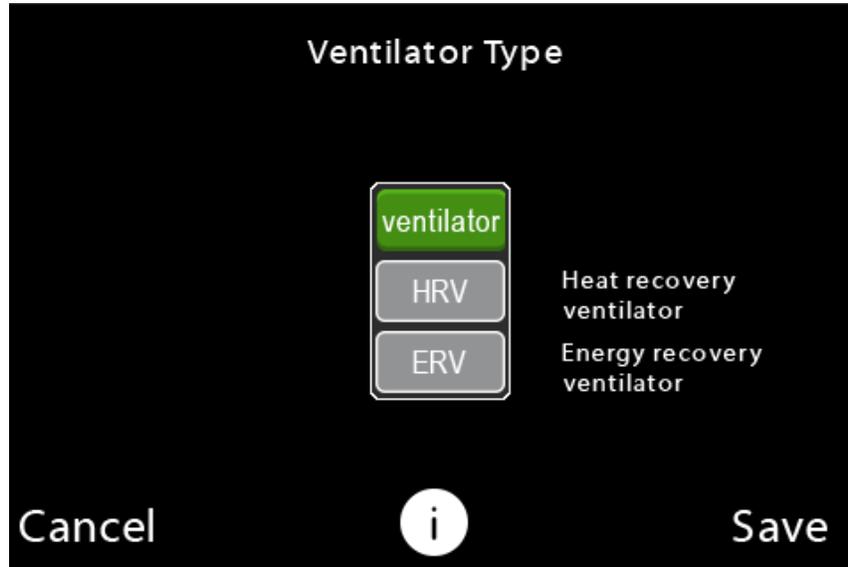


A150353

Type

The thermostat optimizes the ventilator operation based on the type of ventilator that is specified by this setting.

- Default: Ventilator
- Options: Ventilator, HRV, ERV

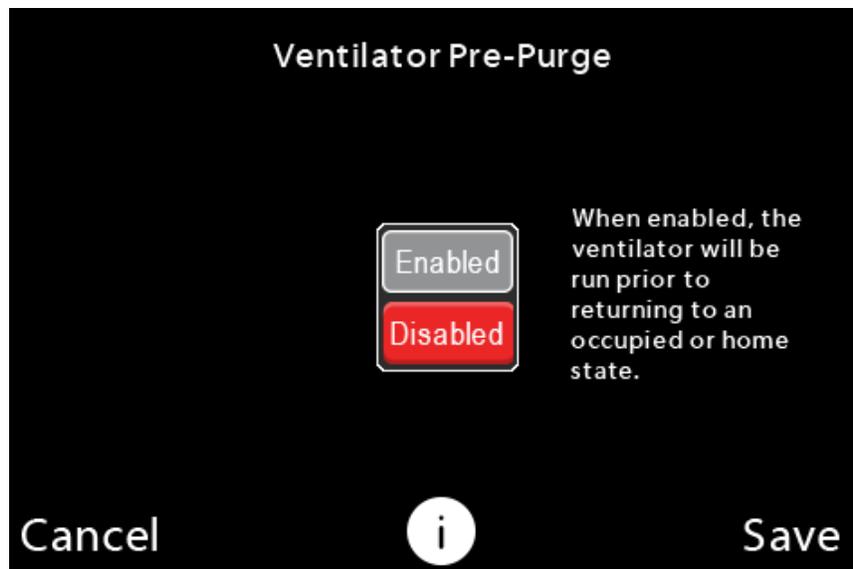


A150354

Pre-purge

Pre-purge will run the ventilator for 1 hour prior to returning to an occupied comfort profile (home, sleep, wake) from an unoccupied profile (away) in order to bring fresh air into the home.

- Default: Disabled
- Options: Enabled, Disabled

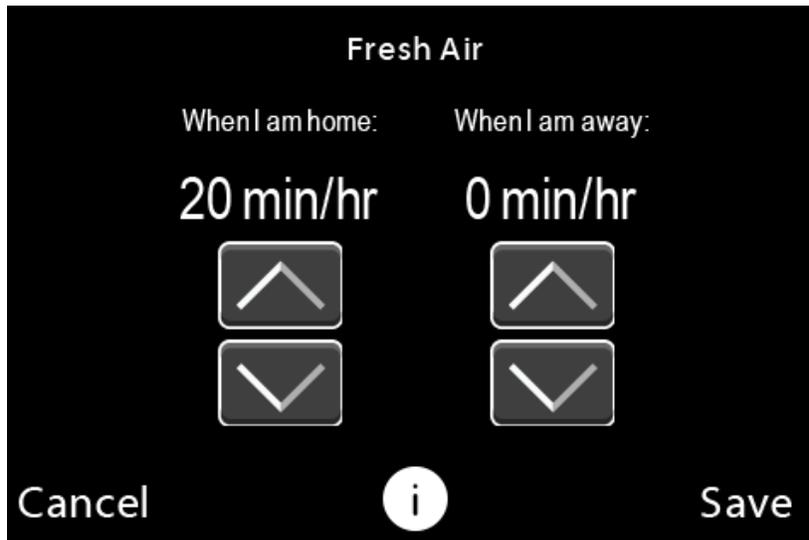


A150355

Occupied & Unoccupied Runtime

The occupied and unoccupied runtimes will determine the amount of time the thermostat will run the ventilator every hour for different comfort profiles. The home, wake, and sleep comfort profiles are considered to be occupied profiles and the away comfort profiles are considered to be an unoccupied profile.

- Default: 20 min/hr for occupied comfort profiles
0 min/hr for unoccupied comfort profiles
- Options: 0, 5, 10, 15, 20, ..., 50, 55 min/hr



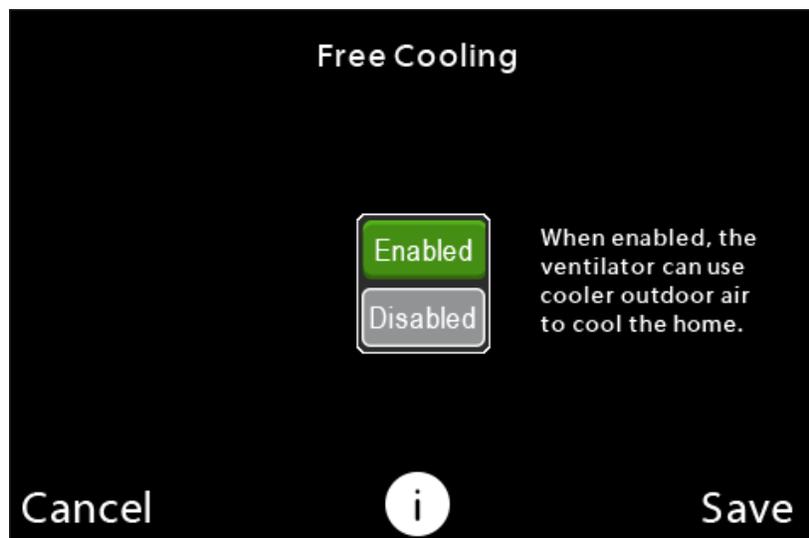
A150356

Free Cooling Enable

NOTE: This menu is not available for heat recovery (HRV) or energy recovery ventilator (ERV) types.

Free cooling takes advantage of the outdoor weather conditions to provide to help cool your home without using your AC or heat pump. When the outdoor conditions are right, the thermostat will use the ventilator to bring in outdoor air to cool your home.

- Default: Enabled
- Options: Enabled, Disabled



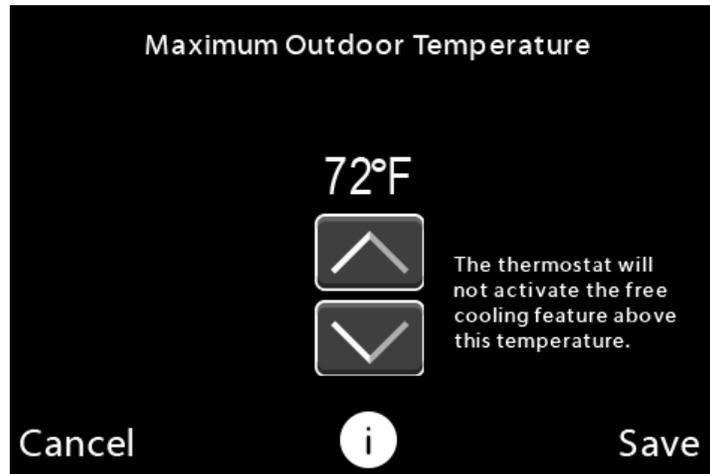
A150357

Free Cooling Max Outdoor Temp

NOTE: This menu is not available for heat recovery (HRV) or energy recovery ventilator (ERV) types.

When Free Cooling is enabled, the maximum outdoor temperature setting will put an upper limit on the free cooling algorithm based on the outdoor temperature. If the outdoor temperature is above this setting the thermostat will not engage free cooling even if the indoor temperature is higher than the cool to setpoint.

- Default: 72°
- Options: 0, 1, 2, 3, 4, ..., 88, 89, 90°F



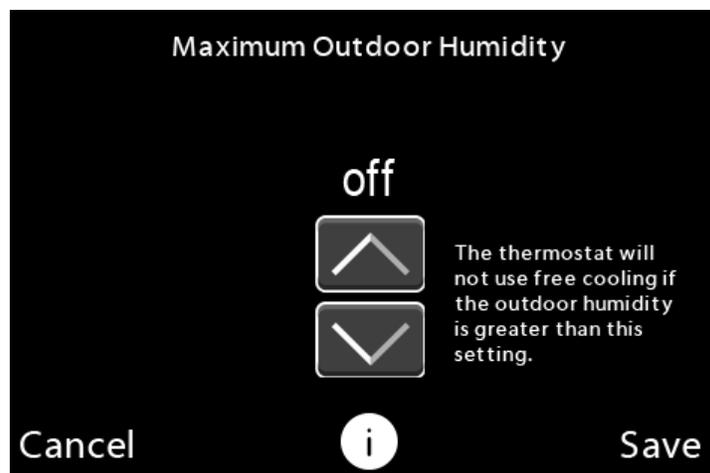
A150358

Free Cooling Max Outdoor Humidity

NOTE: This menu is not available for heat recovery (HRV) or energy recovery ventilator (ERV) types.

When Free Cooling is enabled, the maximum outdoor humidity setting will put an upper limit on the free cooling algorithm based on the outdoor humidity. If the outdoor humidity level is above this setting the thermostat will not engage free cooling even if the indoor temperature is higher than the cool to setpoint.

- Default: Off
- Options: Off, 5, 10, 15, 20, ..., 90, 95%



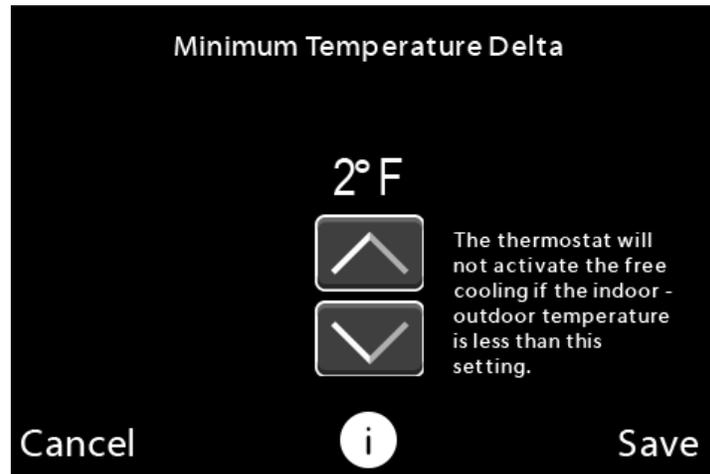
A150359

Free Cooling Temperature Delta

NOTE: This menu is not available for heat recovery (HRV) or energy recovery ventilator (ERV) types.

When Free Cooling is enabled, the minimum temperature delta will put a lower limit on engaging Free Cooling based on the difference between the indoor temperature and the cool to setpoint. If the different between the indoor temperature and setpoint is less than this setting then Free Cooling will not be engaged.

- Default: 2°F
- Options: 1, 2, 3, 4, ..., 9, 10°F



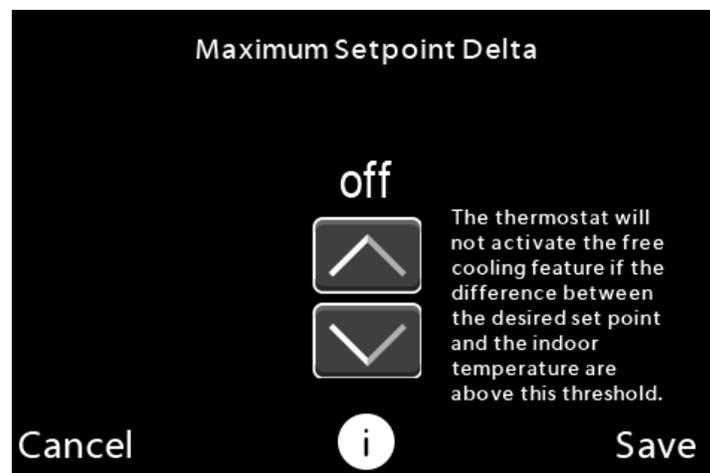
A150360

Maximum Setpoint Delta

NOTE: This menu is not available for heat recovery (HRV) or energy recovery ventilator (ERV) types.

When Free Cooling is enabled, the maximum setpoint delta will put an upper limit on engaging Free Cooling based on the difference between the indoor temperature and the cool to setpoint. If the different between the indoor temperature and setpoint is greater than this setting then Free Cooling will not be engaged.

- Default: Off
- Options: Off, 2, 3, 4, 5, ..., 15, 16°F



A150361

Dehumidify in Winter

NOTE: This menu is only available for heat recovery ventilators (HRV).

When enabled, if the outdoor conditions are right then the thermostat will use the heat recovery ventilator to dehumidify the house during heating.

- Default: Disabled
- Options: Enabled, Disabled



A150362

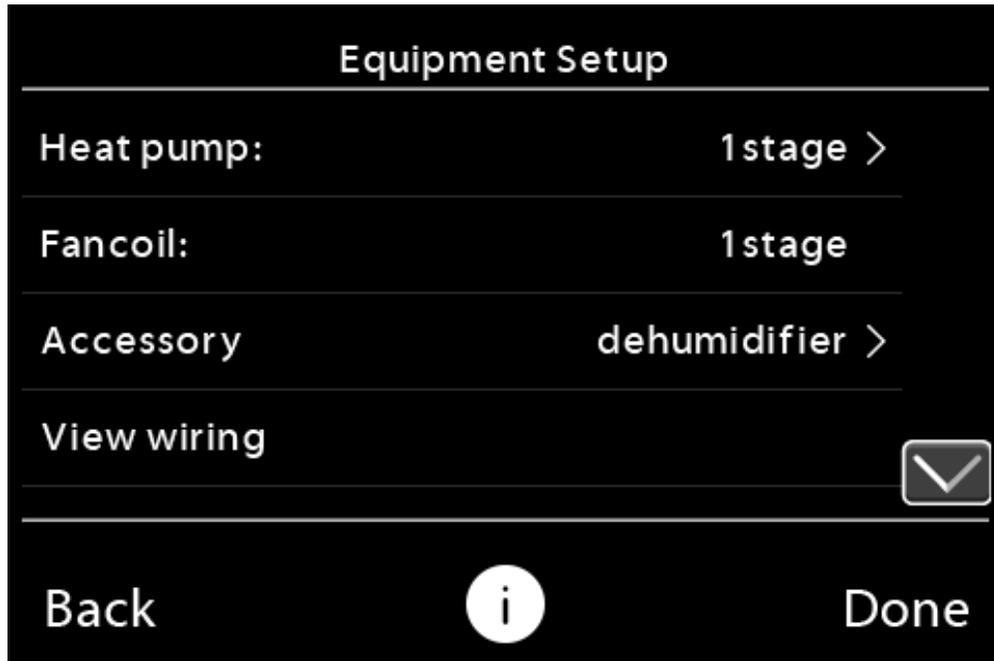
View Wiring

The View Wiring screen displays all the connections the thermostat is currently configured to control, including accessories.

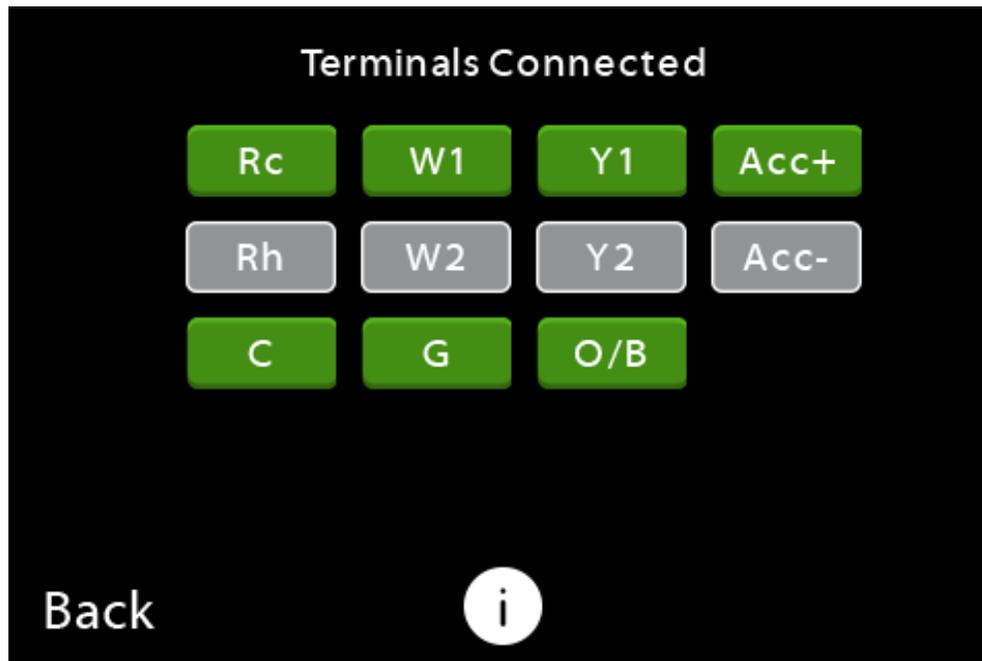
On Thermostat:

Select Menu > (hold) Service > Installation settings > Equipment Setup > View Wiring

The example below shows a single-transformer (Rc only), single-stage heat pump (Y1) with single stage auxiliary heat (W1) and a thermostat powered accessory is connected (ACC+ only).



A150345



A150364

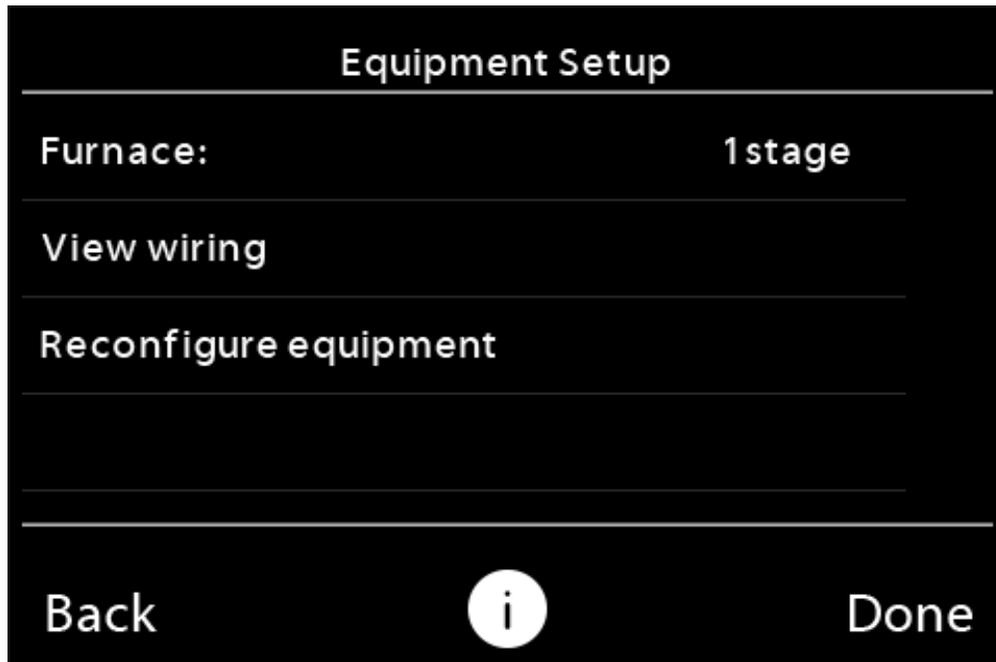
Reconfigure Equipment

Reconfigure Equipment can be used to reconfigure the equipment connected to the thermostat without resetting your account or the thermostat preferences. This can be useful in the event that an accessory has been added to your system or you have moved and taken the thermostat with you.

WARNING! The Reconfigure Equipment option does not modify all of the existing settings within the installation settings for Equipment Setup & Operating Thresholds. It is important that each setting be reviewed and updated if necessary for your new equipment. If you are unsure, it is best to perform a Reset All to reset all of the settings in the thermostat back to default. To perform a Reset All on the thermostat go to Menu > Settings > Reset > Reset All.

On Thermostat:

Select Menu > (hold) Service > Installation settings > Equipment Setup > Reconfigure equipment



A150363

Please wait a moment.

..

Transformer Confirmation

How many transformers are
connected to the thermostat?

 One
 Two

Back



Next

A150365

Thresholds

This menu lets you configure the temperature and time thresholds associated with the heating and cooling equipment's sequence of operation. You must configure Equipment Setup (see Pg. 14) before setting the thresholds. Depending on your system's equipment, not all options may be available.

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds

Auto Change Over and Deadband

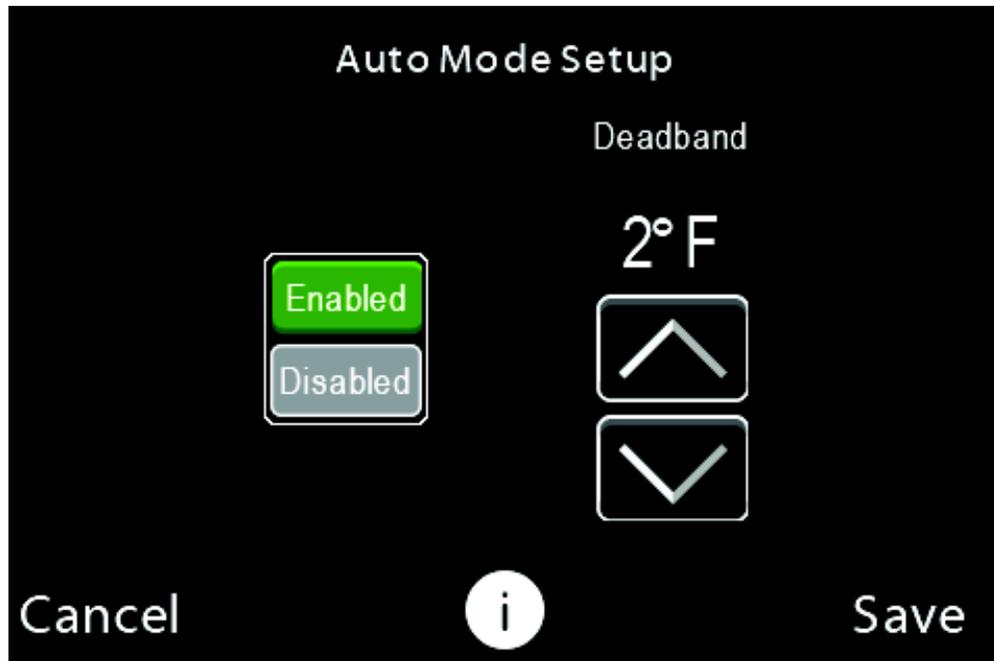
Enable or disable the auto change-over between heating and cooling modes. Enabling this option allows you to select auto change-over as a system mode. The auto changeover feature enables the thermostat to automatically change between heating and cooling modes as needed. This keeps the home above the "Heat To" temperature and below the "Cool To" temperature you have selected.

The deadband temperature is the minimum difference allowed between the "Cool To" and the "Heat To" temperature setpoints when in auto mode. Adjusting the cooling setpoint downward will "push" the heating setpoint downward and vice versa to enforce the deadband. For example, if the Cool To setting 75°F, the Heat To setting is 72°F, and the deadband setting is 3°F, then decreasing the Cool To setting to 74°F will force the Heat To setting to 71°F.

- Default: Enabled, 2°F
- Options: Enabled, Disabled; adjustable between 2°F and 6°F

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > Auto Change Over



A150366

Compressor Configurations

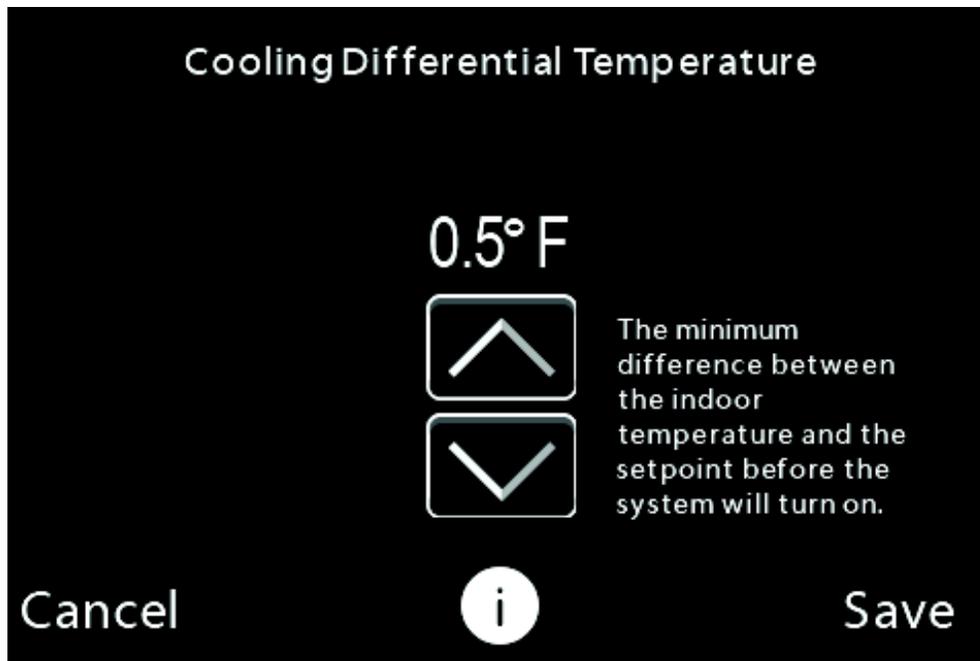
Cooling Differential Temperature

The minimum difference between the indoor temperature and the cooling setpoint before the system will turn on for all occupied comfort profiles (Home, Wake, & Sleep). A setpoint of 70°F with a cooling differential temperature setting of 0.5°F, will energize cooling at 70.5°F. As part of the energy savings algorithms, this differential temperature setting is relaxed by 1°F for unoccupied comfort profiles (Away). In the example above, if the thermostat is in the away mode, then the system will delay energizing cooling until the indoor temperature reaches 71°F.

- Default: 0.5°F
- Options: Between 0.5°F and 3°F in half degree increments

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > Compressor Configurations > Cooling Differential Temperature



A150367

Heating Differential Temperature

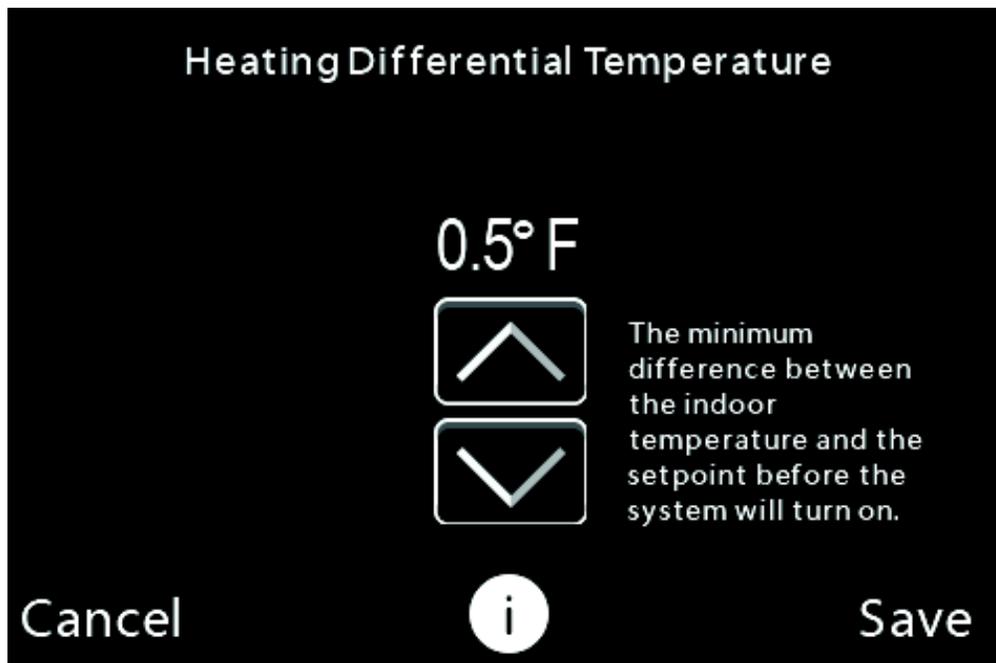
NOTE: For non-heat pump applications this setting is found in the Heating Configuration menu.

The minimum difference between the indoor temperature and the heating setpoint before the system will turn on in an occupied comfort profile (Home, Wake, & Sleep). A setpoint of 70°F with a heating differential temperature setting of 0.5°F, will energize heating at 69.5°F. As part of the energy savings algorithms, this differential temperature setting is relaxed by 1°F for unoccupied comfort profiles (Away). In the example above, if the thermostat is in the away mode, then the system will delay energizing heating until the indoor temperature reaches 69°F.

- Default: 0.5°F
- Options: Between 0.5°F and 3°F in half degree increments

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > Compressor Configurations > Heating Differential Temperature



A150368

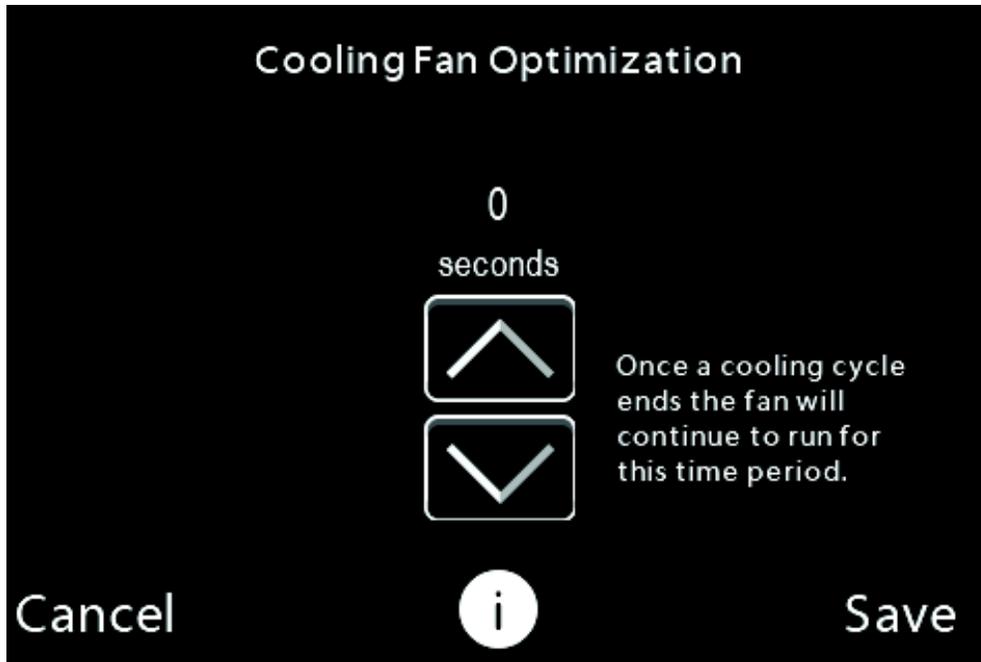
Cooling Fan Optimization (Blower Off Delay)

Once a cooling cycle ends the fan will continue to run for this time period. This is also known as the blower off delay for cooling. The longer the time, the more cooling is pulled out of the coil but the warmer the temperature is at the end of the cycle. The actual blower off delay will always be the longest of the equipment setting or the thermostat setting.

- Default: 0 seconds
- Options: Between 0 and 900 seconds

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > Compressor Configurations > Cooling Fan Optimization



A150369

Heating Fan Optimization (Blower Off Delay)

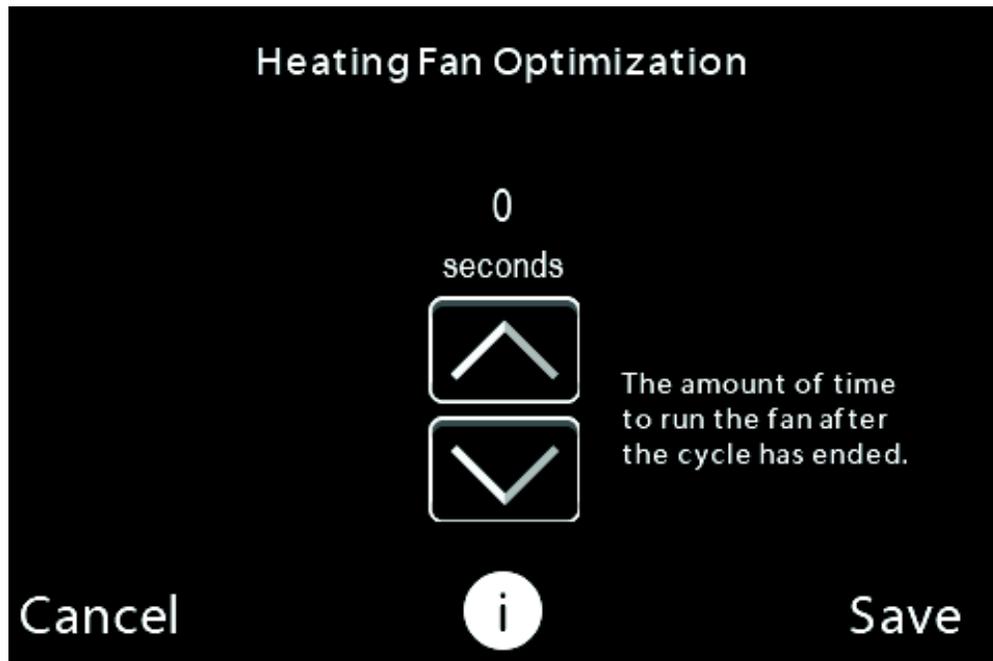
NOTE: For non-heat pump applications this setting is found in the Heating Configuration menu.

Once a heating cycle ends the fan will continue to run for this time period. This is also known as the blower off delay, for heating. The longer the time, the more heat is pulled out of the heat exchanger but the cooler the temperature is at the end of the cycle. The actual blower off delay will always be the longest of the equipment setting or the thermostat setting.

- Default: 0 seconds
- Options: Between 0 and 900 seconds

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > Compressor Configurations > Heating Fan Optimization



A150370

Compressor Minimum On Time

Once a cooling cycle is started it will run a minimum of this amount of time regardless of the demand. This setting is used to prevent the equipment from short cycling.

- Default: 5 minutes
- Options: Between 1 and 20 minutes

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > Compressor Configurations > Compressor Minimum On Time



A150371

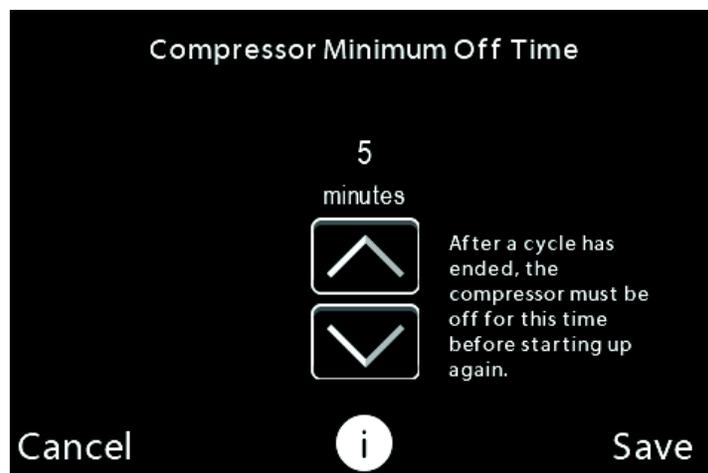
Compressor Minimum Off Time

After a cycle has ended, the compressor must be off for this time before starting up again. This setting is used to allow the refrigerant pressures to equalize in the system so the compressor is not started up under load, which can cause thermal limit trips.

- Default: 5 minutes
- Options: Between 5 and 15 minutes

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > Compressor Configurations > Compressor Minimum Off Time



A150372

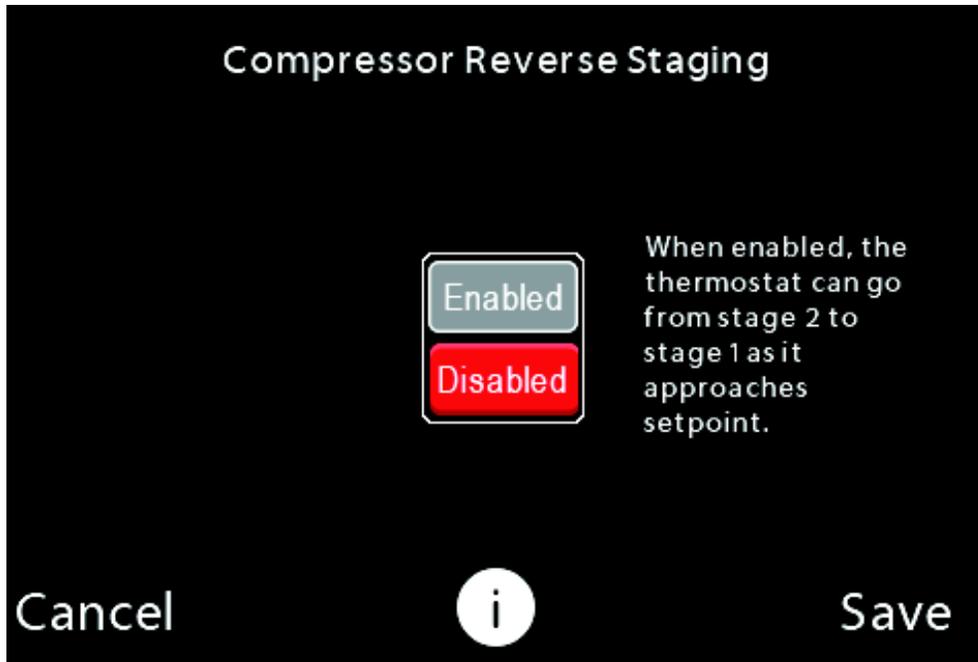
Compressor Reverse Staging

When enabled, the thermostat can go from stage 2 to stage 1 as it approaches setpoint. This setting allows the compressor to run longer cycles at stage 1 for greater efficiency. If it is desired that the system not switch back and forth from stage 1 to stage 2 then back the stage 1 before turning off, this setting should be disabled.

- Default: Disabled
- Options: Enabled, Disabled

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > Compressor Configurations > Compressor reverse staging



A150373

Compressor Stage 2 Temperature Delta

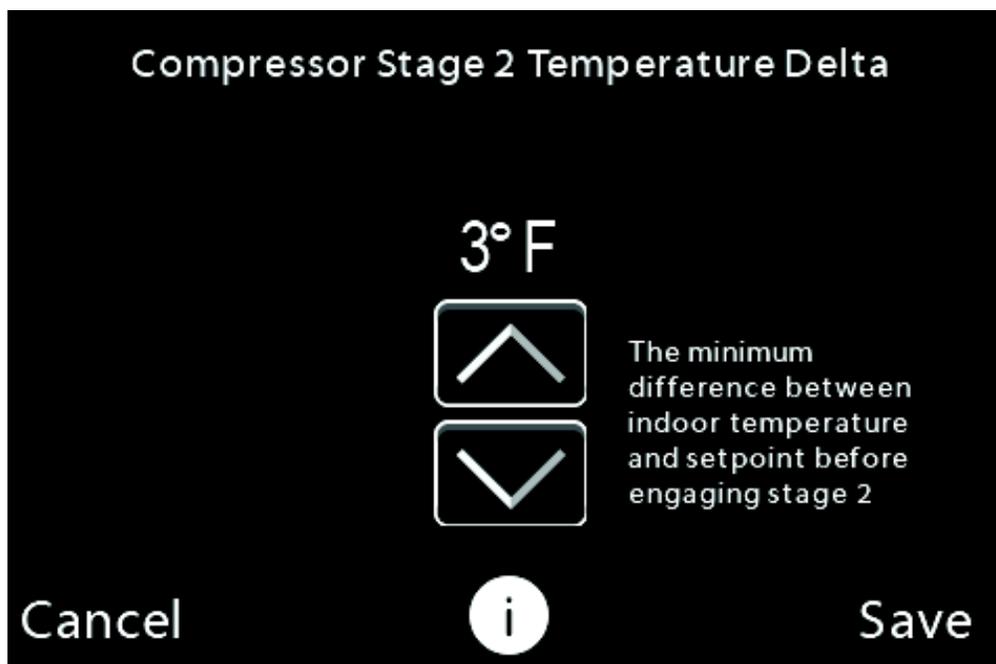
When the difference between the indoor temperature and setpoint is greater than this value the thermostat will automatically engage compressor stage 2. This ensures enough demand is required to engage more equipment capacity.

The default setting of 3°F prioritizes comfort over efficiency. When set to Auto, the Bryant control algorithms decide when to stage, prioritizing efficiency over comfort. In Auto, Bryant control algorithms may not engage high stage for up to 10 minutes after a manual setpoint adjustment.

- Default: 3°F
- Options: Between 1°F and 10°F or Auto

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > Compressor Configurations > Compressor stage 2 temperature delta



A150374

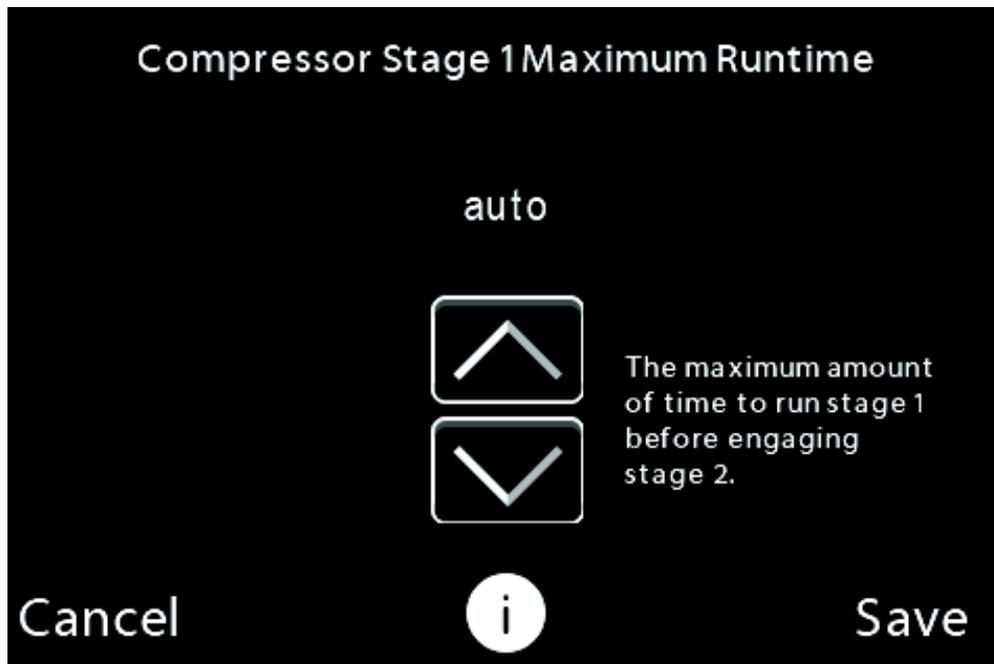
Compressor Stage 1 Maximum Runtime

The maximum amount of time to run stage 1 before engaging stage 2. This prevents stage 1 from running for an excessive amount of time before compressor stage 2 is engaged. When set to Auto, the Bryant control algorithms decide when to stage.

- Default: Auto
- Options: Between 10 and 120 minutes or Auto

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > Compressor Configurations > Compressor stage 1 maximum runtime



A150375

Auxiliary Heat Configuration (Heat Pumps)

Auxiliary heat configuration manages the settings for the heat pumps auxiliary heating terminals (W1 and W2).

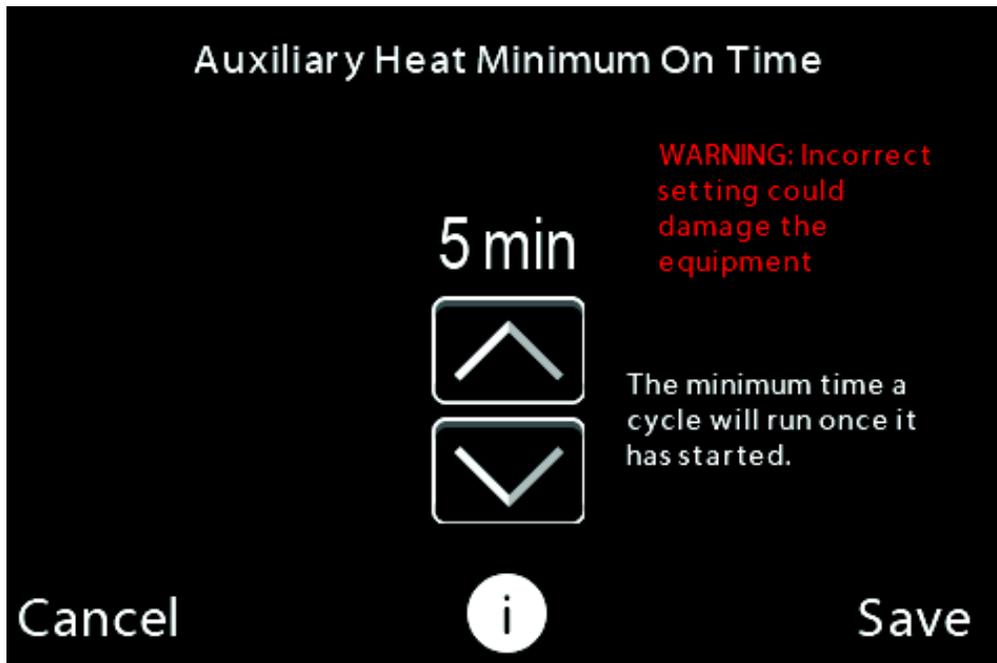
Auxiliary Heat Minimum On Time (Heat Pumps)

This will require the system to operate the auxiliary heat for a minimum time once it has started regardless of demand in order to prevent short cycling. This controls the W1 and W2 terminals.

- Default: 5 minutes
- Options: Between 1 and 20 minutes

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds > Auxiliary Heat Configuration > Auxiliary heat minimum on time



A150376

Fancoil Staging (Heat Pumps)

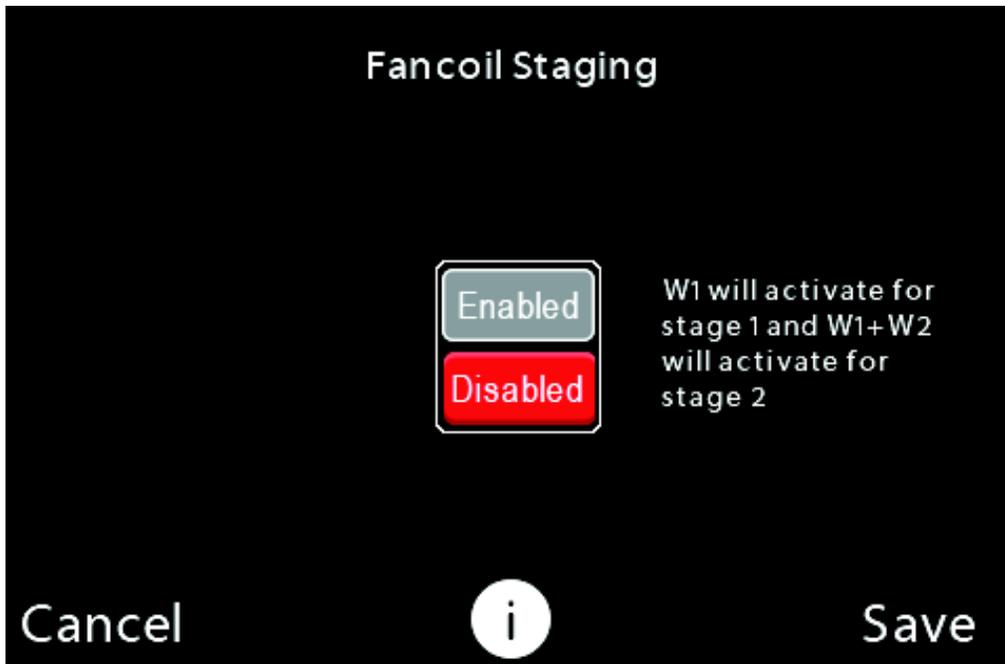
This is for heat pump systems that have three stages of electric resistance heat using W1 and W2. When enabled, the thermostat will control the fan coil's electric heaters activating only W1 for stage 1, only W2 for stage 2, and both W1+W2 for stage 3.

WARNING! The fan coil staging feature should only be used with compatible equipment.

- Default: Disabled
- Options: Enabled/Disabled

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds > Auxiliary heat Configuration > Fancoil Staging



A150377

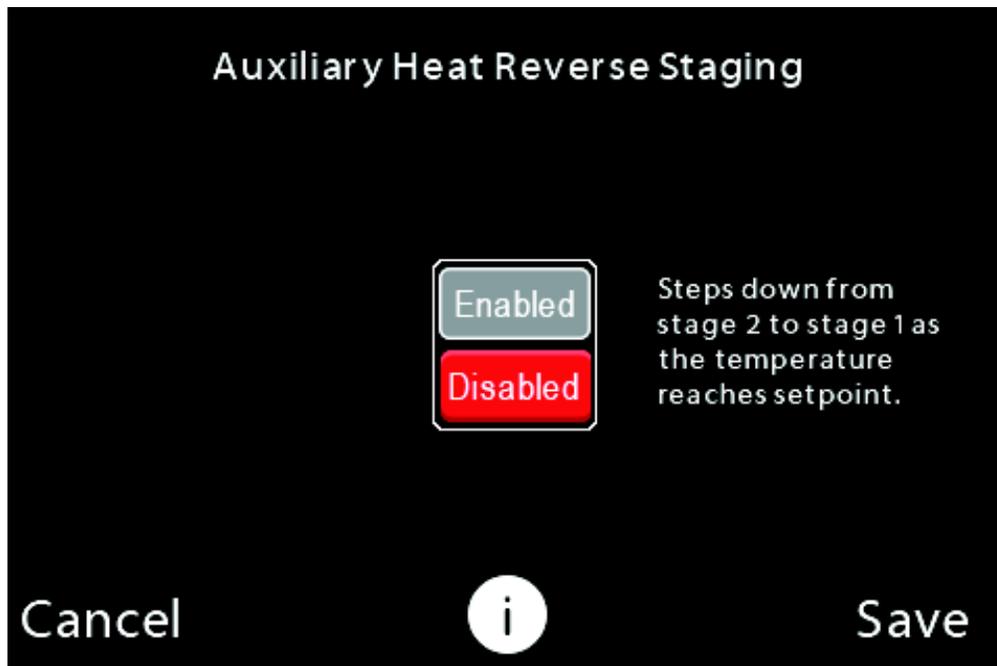
Auxiliary Heat Reverse Staging (Heat Pumps)

On a 2 stage Heat Pump, the auxiliary heat reverse staging setting controls the reverse staging of the auxiliary heat terminals W1 and W2. Steps down from stage 2 to stage 1 as the temperature reaches setpoint.

- Default: Disabled
- Options: Enabled/Disabled

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds > Auxiliary heat Configuration > Auxiliary Heat Reverse Staging



A150378

Auxiliary Heat Stage 2 Temperature Delta (Heat Pumps)

The auxiliary heat stage 2 temperature delta setting controls the staging for auxiliary heat terminals W1 and W2. The system steps from stage 1 to stage 2 and vice versa.

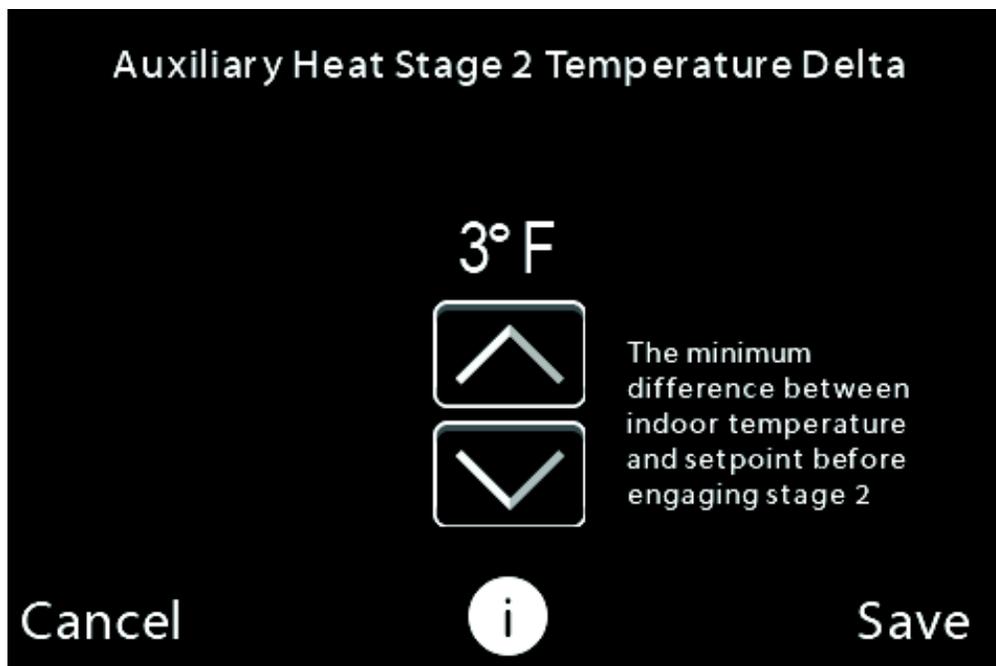
The default setting of 3°F prioritizes comfort over efficiency. When set to Auto, the Bryant control algorithms decide when to stage, prioritizing efficiency over comfort. In Auto, Bryant control algorithms may not engage high stage for up to 10 minutes after a manual setpoint adjustment.

WARNING! Reducing this temperature will increase auxiliary heat run time.

- Default: 3°F
- Options: Between 1°F and 10°F or Auto

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds > Auxiliary heat Configuration > Auxiliary Heat Stage 2 Temperature Delta



A150379

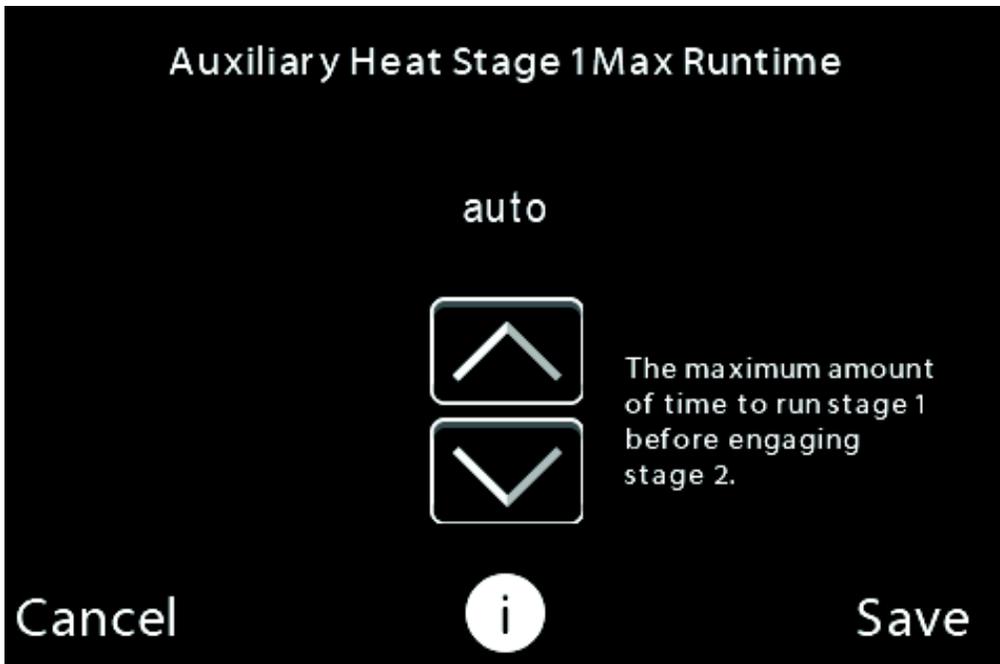
Auxiliary Heat Stage 1 Max Runtime (Heat Pumps)

The auxiliary heat stage 1 maximum runtime setting controls the stage timer for auxiliary heat terminals W1 and W2. The maximum amount of time to run stage 1 before engaging stage 2. The factory default is Auto, which uses Bryant control algorithms to decide when to engage auxiliary heat.

- Default: Auto
- Options: Between 10 and 120 minutes or Auto

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds > Auxiliary heat Configuration > Auxiliary Heat Stage 1 Max Runtime



A150380

Auxiliary Heat Lockout Temperature (Heat Pumps)

NOTE: An Internet connection is required for this feature to operate properly.

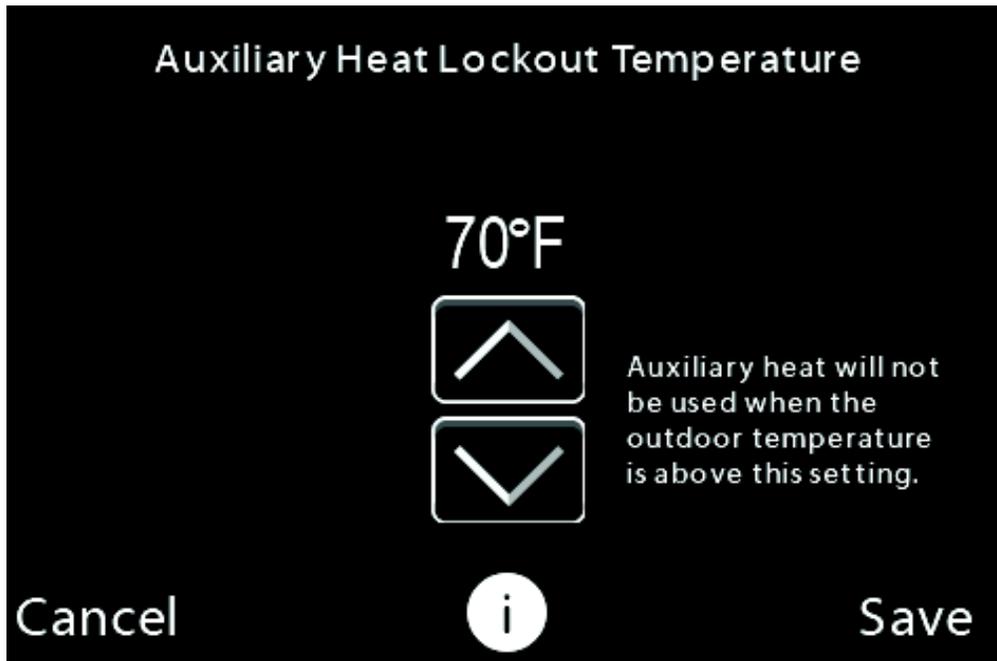
Auxiliary heat will not be used when the outdoor temperature is above this setting.

The auxiliary heat lockout temperature defines the maximum outdoor temperature where the thermostat can engage auxiliary heat. For instance, if the setting is 70°F and the outdoor temperature is 75°F then the thermostat will not engage auxiliary heat regardless of demand.

- Default: 70°F
- Options: Between 5°F and 80°F

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds > Auxiliary heat Configuration > Auxiliary Heat Lockout Temperature



A150381

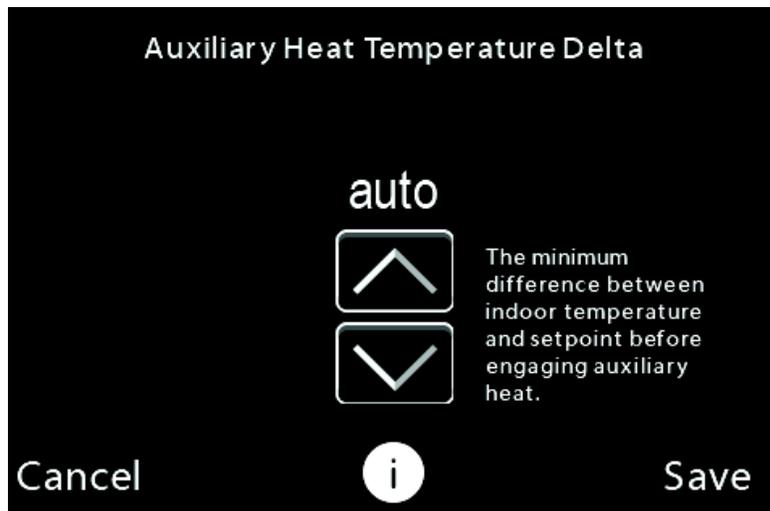
Auxiliary Heat Temperature Delta (Heat Pumps)

Sets the minimum difference between the indoor temperature and setpoint before engaging auxiliary heat. The factory default is Auto, which uses Bryant control algorithms to decide when to engage auxiliary heat.

- Default: Auto
- Options: Between 1°F and 10°F or Auto

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds > Auxiliary heat Configuration > Auxiliary Heat Temperature Delta



A150382

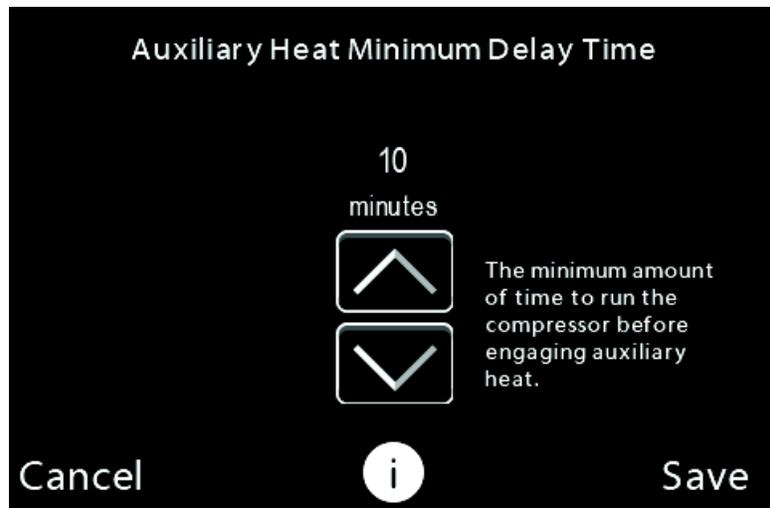
Auxiliary Heat Minimum Delay Time (Heat Pumps)

Sets the minimum amount of time to run the compressor before turning on auxiliary heat.

- Default: 10 Minutes
- Options: Between 10 and 120 minutes

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds > Auxiliary heat Configuration > Auxiliary Heat Minimum Delay time



A150383

Heat Configuration (Furnace)

The settings in this menu set will manage the thresholds for your heating terminals W1 and W2 on a heating system that has a furnace.

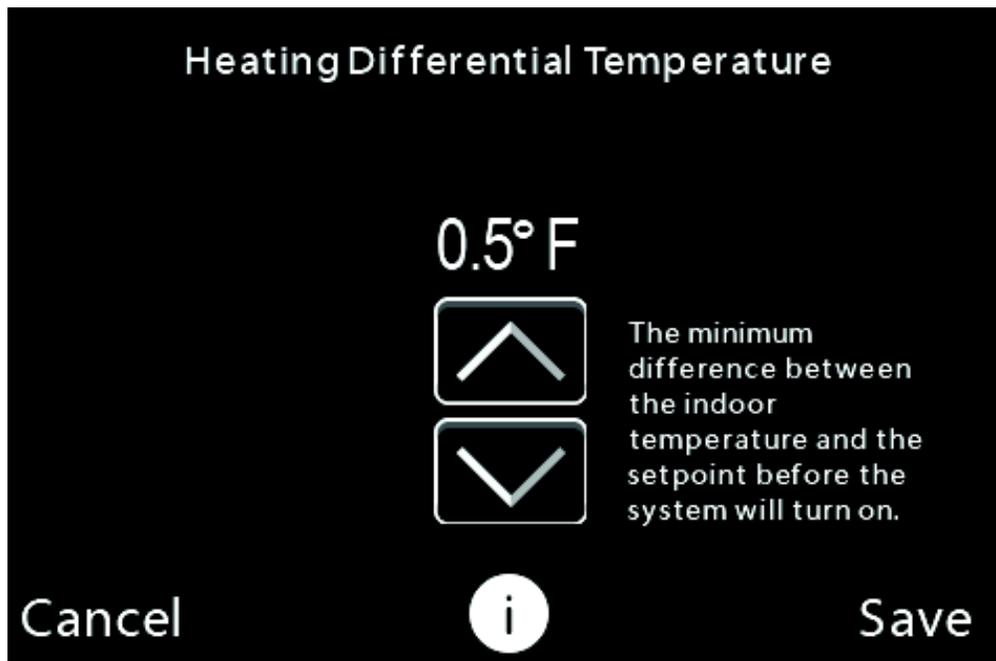
Heat Differential Temperature (Furnace)

The minimum difference between the indoor temperature and the heating setpoint before the system will turn on in an occupied comfort profile (e.g. Home, Wake, Sleep). A setpoint of 70°F with a heating differential temperature setting of 0.5°F degrees, will energize heating at 69.5°F. As part of the energy savings algorithms, this differential temperature setting is relaxed by 1°F for unoccupied comfort profiles (Away). In the example above, if the thermostat is in the away mode, then the system will delay energizing heating until the indoor temperature reaches 69°F.

- Default: 0.5°F
- Options: Between 0.5°F and 3.0°F

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds > Heat Configuration > Heating Differential Temperature



A150368

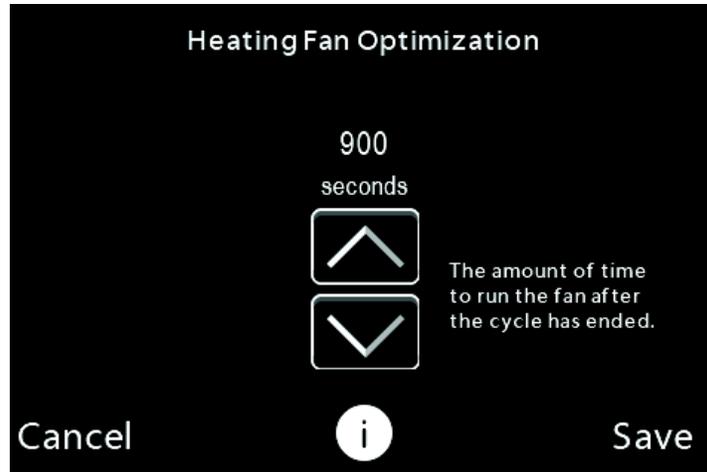
Heating Fan Optimization (Furnace)

Once a heating cycle ends the fan will continue to run for this time period. This is also known as the blower off delay, for heating. The longer the time, the more heat is pulled out of the heat exchanger but the cooler the temperature is at the end of the cycle. The actual blower off delay will always be the longest of the equipment setting or the thermostat setting.

- Default: 0
- Options: Between 0 and 900 seconds

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds > Heat Configuration > Heating Fan Optimization



A150384

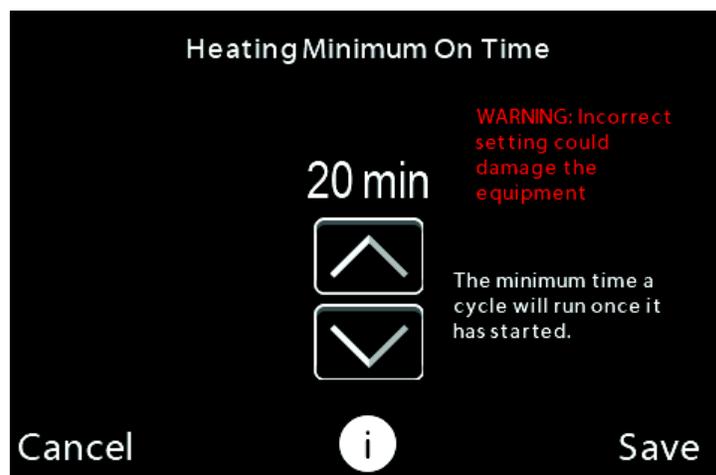
Heating Minimum on Time (Furnace)

This will require the system to operate the heat for a minimum time once it has started regardless of demand in order to prevent short cycling. This controls the W1 and W2 terminals.

- Default: 5 minutes
- Options: Between 1 and 20 minutes

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds > Heat Configuration > Heating Minimum On Time



A150385

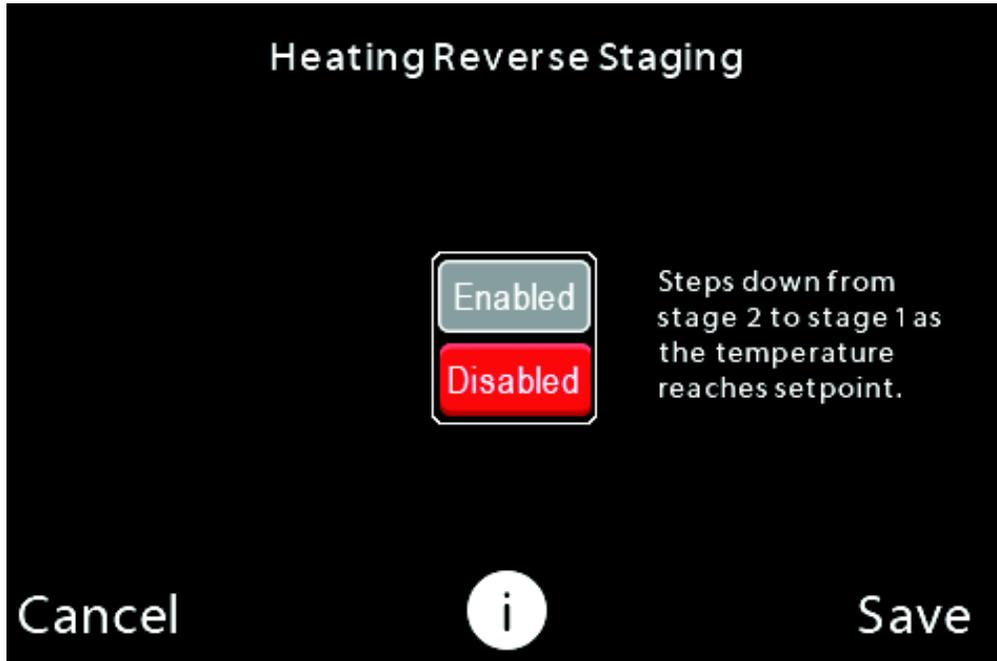
Heating Reverse Staging (2 Stage Furnace)

On a 2 stage furnace the heating reverse staging setting controls the heating terminals of W1 and W2. The system steps down from stage 2 to stage 1 as the temperature reaches setpoint.

- Default: Disabled
- Options: Enabled/Disabled

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds > Heat Configuration > Heating Reverse Staging



A150386

Heat Differential Temperature (Furnace)

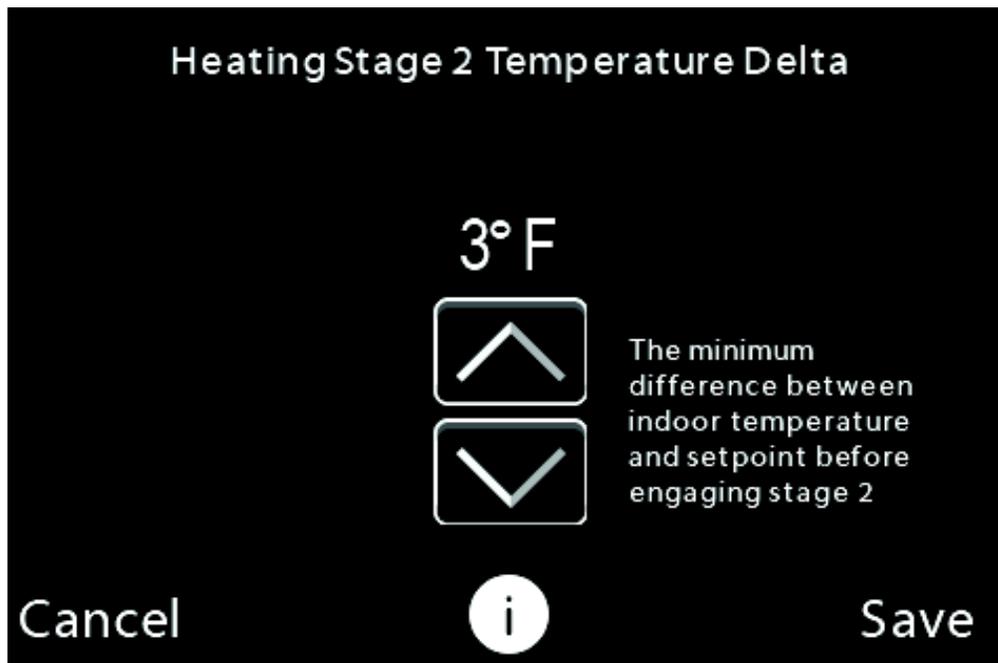
The heating stage 2 temperature delta setting controls the staging for the heating terminals W1 and W2.

The default setting of 3°F prioritizes comfort over efficiency. When set to Auto, the Bryant control algorithms decide when to stage, prioritizing efficiency over comfort. In Auto, Bryant control algorithms may not engage high stage for up to 10 minutes after a manual setpoint adjustment.

- Default: 3°F
- Options: Between 1°F and 10°F or Auto

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds > Heat Configuration > Heating Stage 2 Temperature Delta



A150387

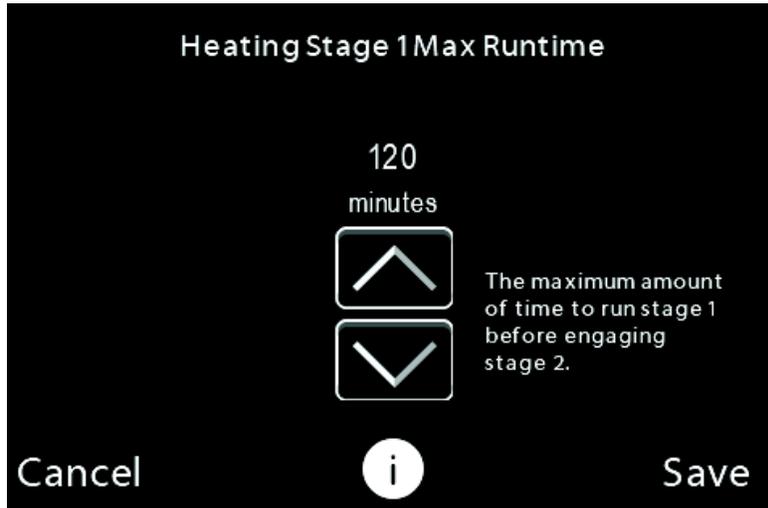
Heating Stage 1 Maximum Runtime (2 Stage Furnace)

The stage 1 maximum runtime setting controls the stage time for the heating terminals W1 and W2. When set to Auto, the Bryant control algorithms decide when to stage.

- Default: Auto
- Options: Between 10 and 120 minutes or Auto

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Operating Thresholds > Heat Configuration > Heating Stage 1 Maximum Runtime



A150388

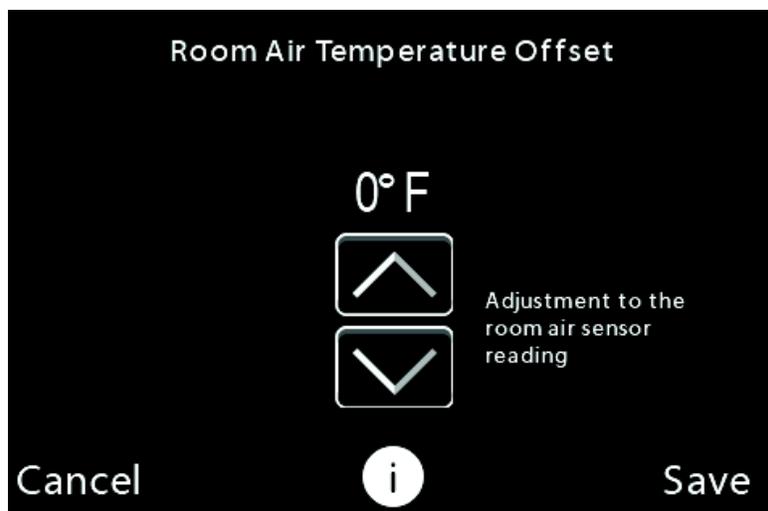
Temperature Offset

The temperature offset setting can be used for calibration of the indoor temperature reading of the thermostat. For instance, if the thermostat is reading 71°F and the calibration equipment is reading 70°F, then setting this value to -1°F will shift the thermostat reading to 70°F.

- Default: 0°F
- Options: Between -5°F and 5°F

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > Temperature Offset



A150389

NOTE: Temperature sensors used in modern thermostats have defined tolerance intervals of normal temperature readings. This means if multiple of the same thermostat model were installed side-by-side, it would be normal for different current temperatures to be displayed (e.g. one at 72°F and one at 71°F). However, there are product features and installation steps you can take to help ensure a comfortable environment.

Installation best practices for temperature accuracy:

1. Minimize the effect of air leakage, excess wiring should be pushed into the wall and the hole should be sealed to prevent air leakage.
2. Leave the thermostat installed & powered on for at least 30 minutes before checking calibration.

If the thermostat reading still needs adjusting after these two installation steps, adjust the Room Air Temperature Thermostat Offset.

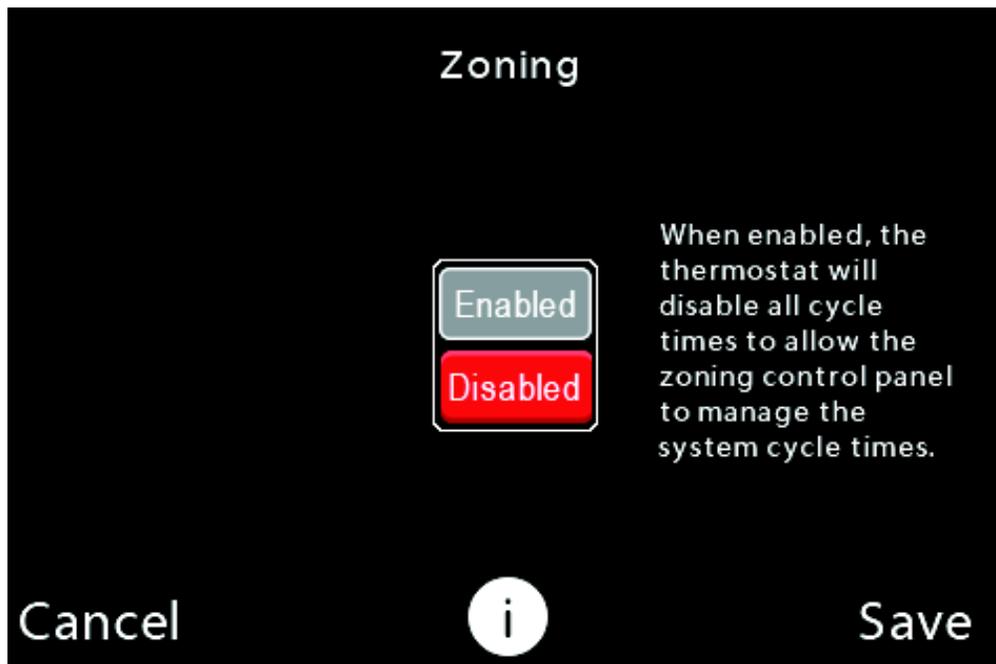
Zoning Enabled

When enabled. The thermostat will disable all cycle times to allow the zoning control panel to manage the system cycle times.

- Default: Disabled
- Options: Enabled/Disabled

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > zoning Enabled



A150390

Variable Speed Blower

WARNING! Only compatible Bryant variable speed furnaces or fan coils should use the settings in the menu. Using other brands with these settings may damage the equipment.

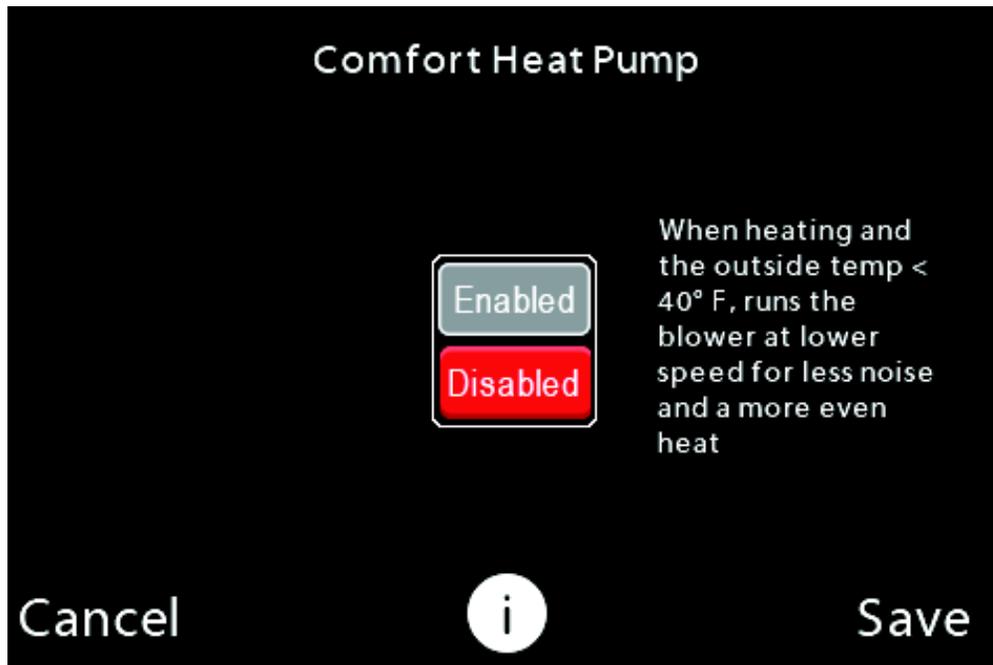
Comfort Heat Pump

When heating and the outside temperature is less than 40°F, the thermostat will run the blower at a lower speed delivering noticeably warmer air, reducing uncomfortable draft, providing more consistent temperatures, and quieter operation.

- Default: Disabled
- Options: Enabled/Disabled

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > Variable Speed Blower > OK > Comfort Heat Pump



A150391

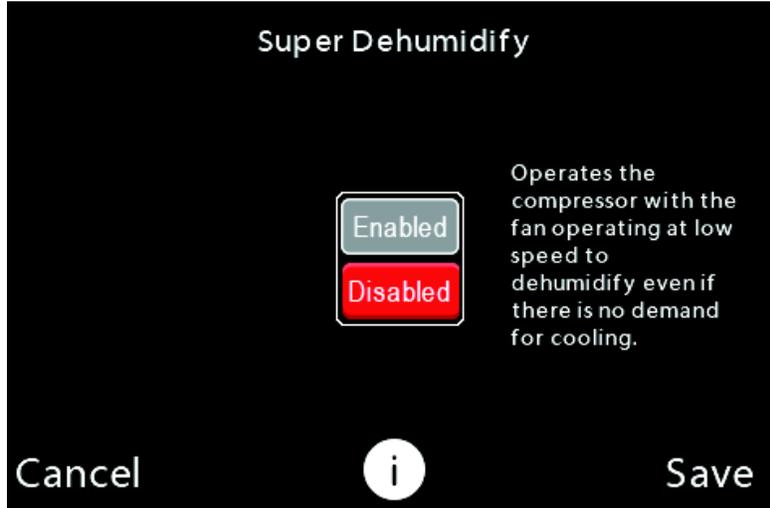
Super Dehumidification

This option is only available when the thermostat accessory terminal (ACC+) is configured for dehumidifier that is active open (see Pg. 33) and thermostat powered.

- Default: Disabled
- Options: Enabled/Disabled

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > Variable Speed Blower > OK > Super dehumidify



A150392

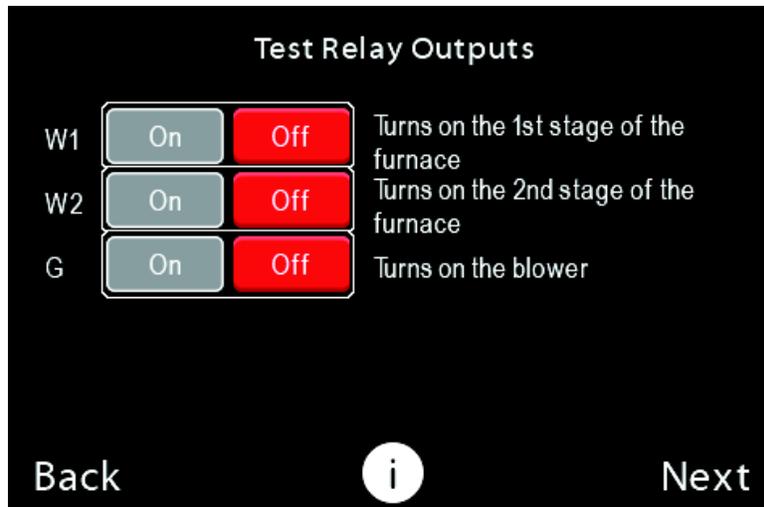
Test Equipment

This menu lets you test the wiring and connections of the devices connected to the thermostat by turning them on or off.

WARNING! Relay tests should only be performed by a qualified HVAC contractor. Compressor protection and minimum run-time features are not enforced while in this mode. The equipment will turn off when you exit the menu.

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Test Equipment >Next



A150393

Dehumidification Options

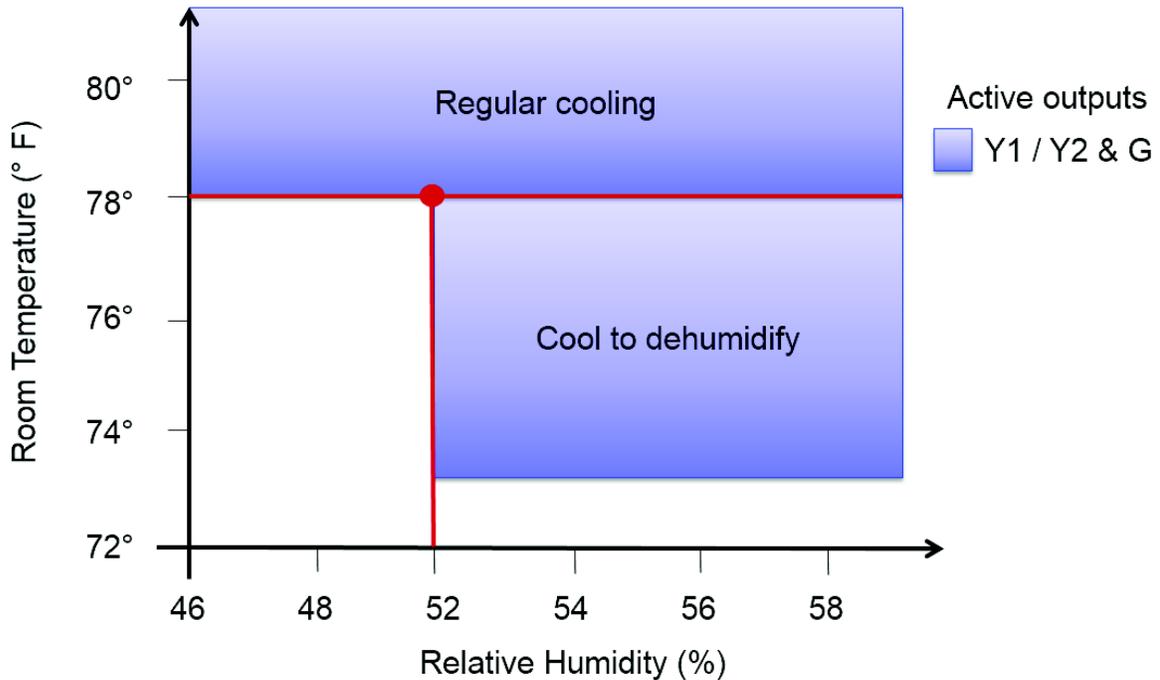
Dehumidification Options for Most Cooling Equipment

Cool to Dehumidify

Cool to dehumidify can be used on any product. This feature simply over cools until there is no longer a call to dehumidify or until the indoor temperature reaches a user selected over cool temperature setpoint (1°F – 5°F). It does not have the Perfect Humidity® System technology algorithm that adjusts humidity based on temperature. This feature is disengaged if Super Dehumidification is engaged.

Below is a graph showing Cool to Dehumidify operation without a dehumidification accessory (e.g. whole home dehumidifier).

Set point = 78°F & 52% RH



A150394

On Thermostat:

Select Menu > Profiles > Humidity Profiles > Dehumidification Setpoint

- Default: Disabled
- Options: Overcool temperature between 0.5°F and 5°F or disabled
Humidity setpoint between 46% and 58%

Dehumidification Options with Variable Speed Bryant Equipment

NOTE: See below for capable equipment.

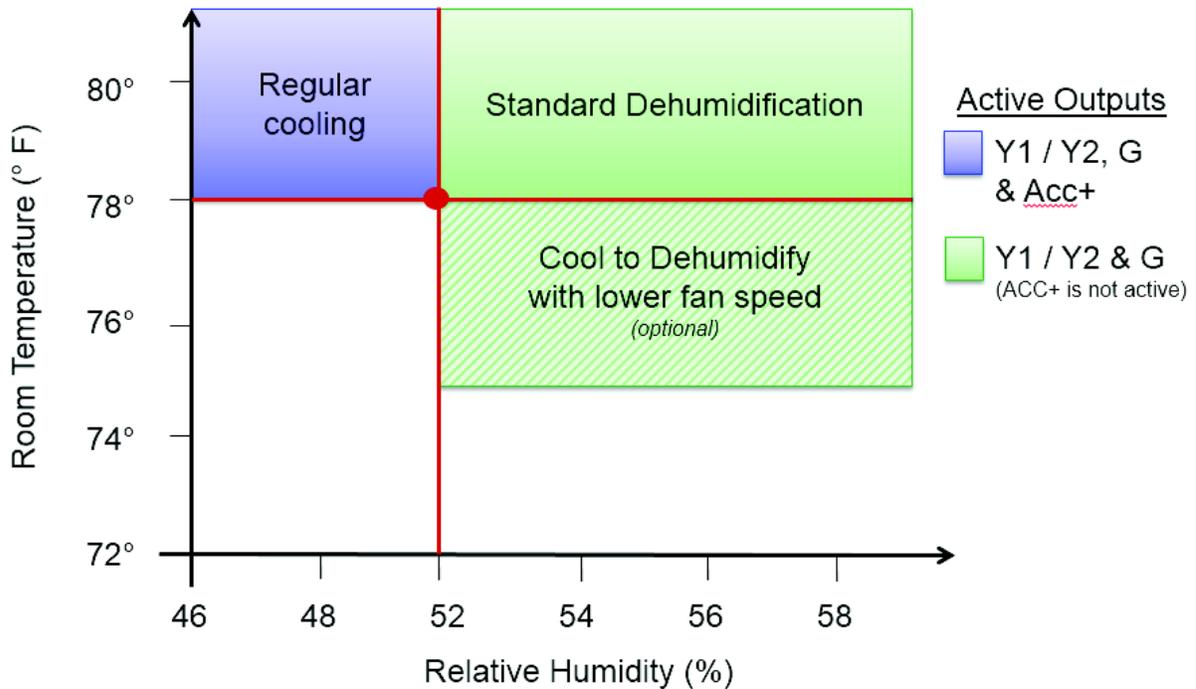
Standard Dehumidification

This feature uses the Dehum terminal on the indoor control board to slow the fan speed down (80% to 90%) when there is a call for dehumidification. This feature is engaged by connecting the Dehum terminal on the indoor unit to the ACC+ terminal on the thermostat. The Guided Setup process installation screens will then be used to make the ACC+ terminal work with the equipment Dehum feature. Specific installation instructions can be found in each indoor product section below.

Standard Dehumidification can also be configured to extend below setpoint to overcool at the slower speed for moisture removal.

Below is a graph showing both standard dehumidification and Cool to Dehumidify when Dehum is installed.

Set point = 78°F & 52% RH



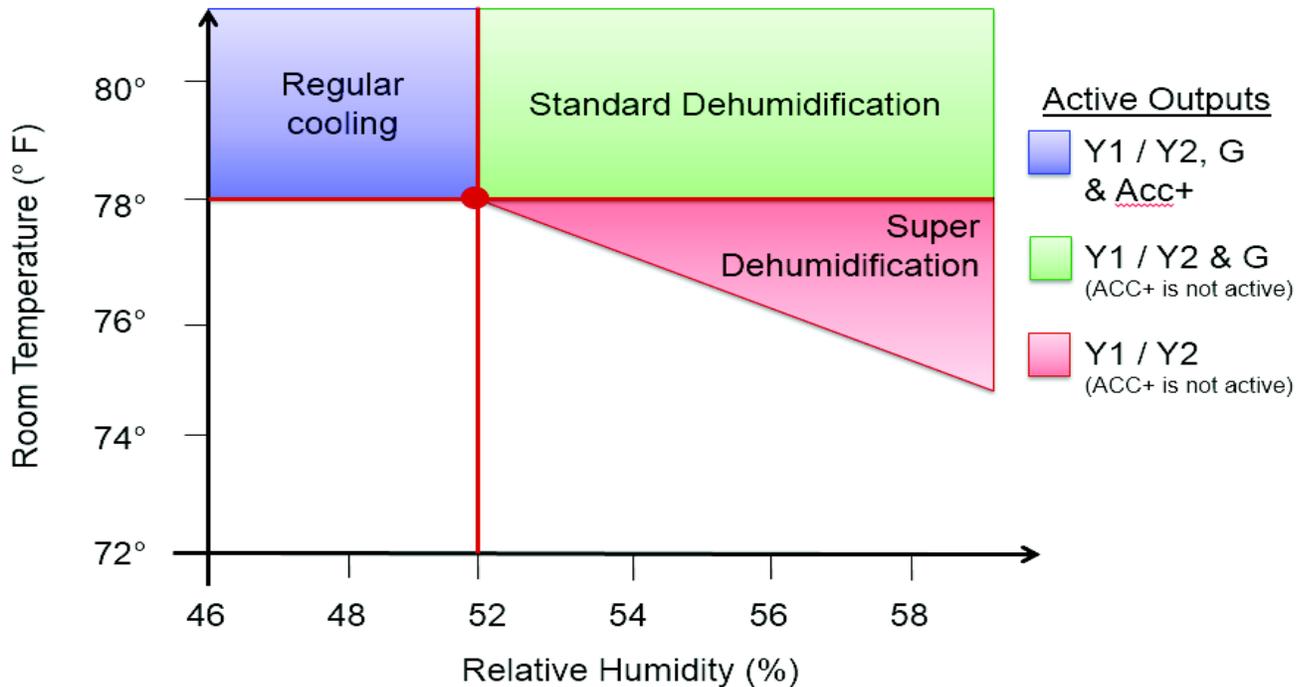
A150395

Perfect Humidity® System Technology **(Standard Dehumidification + Super Dehumidification)**

This feature takes advantage of the intelligence within the Bryant equipment to increase the dehumidification of the cooling cycle. When there is a demand for cooling and not humidity, the system runs normal.

NOTE: Perfect Humidity® System Technology only works with Evolution® furnace / fan coils and the FV fan coil.

Set point = 78°F & 52% RH



A150396

Perfect Humidity® System Technology consists of 3 unique modes to remove humidity:

1. Standard Dehumidification – Outlined above
2. Super Dehumidification – When there is a demand for dehumidification without a demand for cooling, the thermostat will run the equipment in cooling mode at 50-65% of cooling speed (dependent on the equipment).
3. SmartEvap™ – The blower will shut down within 5 seconds after a cooling cycle to prevent re-evaporation of the water on the coil. When in continuous fan, the blower will start again after 5 min.

NOTE:

- Some equipment has a time limit on Super Dehumidification operation.
- When Super Dehumidification is enabled, this feature cannot be overridden by changing the Cool to Dehumidify to 0°F.

WARNING! Super Dehumidification may cause the system/duct work to sweat in some unconditioned installations in high humidity areas.

Perfect Humidity® System Technology with FK/FV Fan Coils

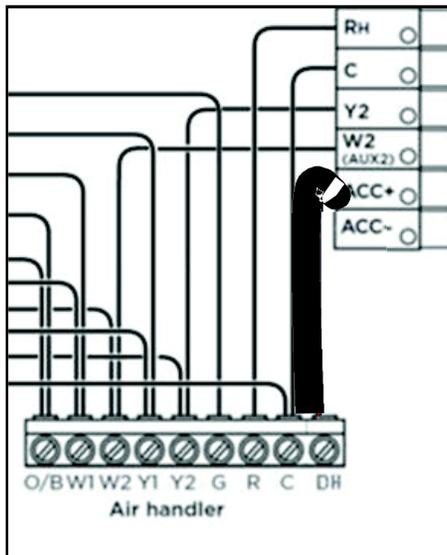
Standard Dehumidification: When there is a call for cooling and a call for dehumidification, the fan coil delivers airflow which is approximately 80% of the nominal cooling airflow to increase the latent capacity of the system.

Super Dehumidification: When there is no call for cooling but a call for dehumidification, airflow is reduced to 50% of the cooling airflow set up and the unit is automatically set to overcool up to 3°F.

The blower delay needs to be set to zero off delay to prevent re-evaporation of the water on the coil. It is advisable to always set the off delay to zero and allow the thermostat to control the off delay.

Set up Perfect Humidity® System Technology on an FK/FV fan coil:

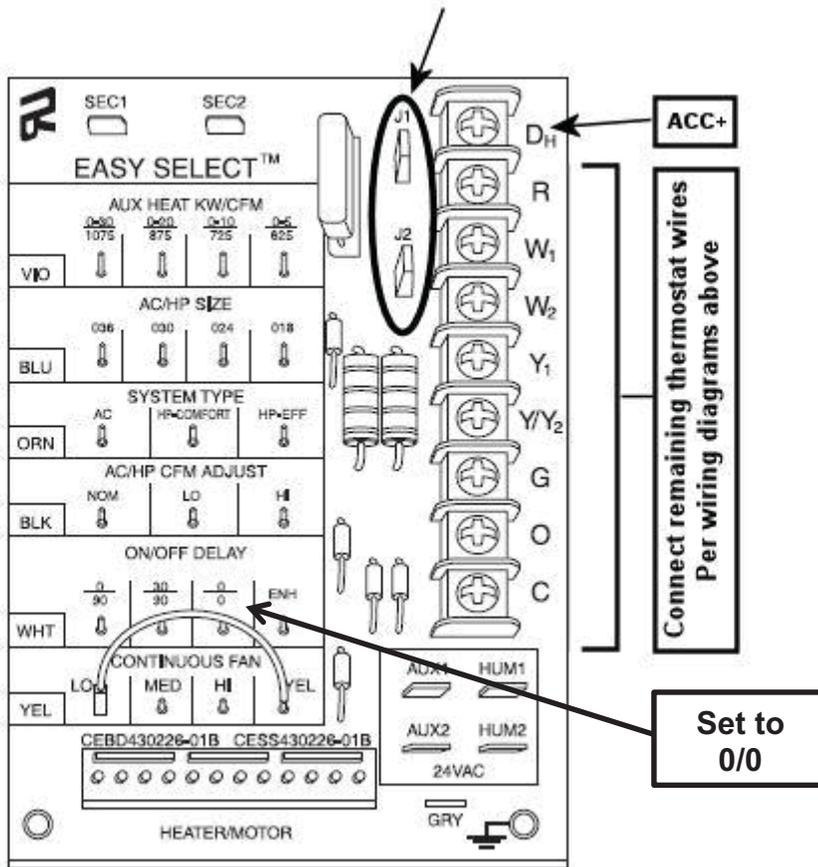
1. ACC+ should be connected to the DH terminal



A150397

2. Remove jumper on easy-select board.
 - a. Remove J1 jumper to allow for standard dehumidification control.
 - b. Remove J1 and J2 for applications where two stages of heating are configured on the thermostat (W1 and W2).
3. Set the blower delay to 0/0. This turns blower off immediately at the end of each cooling cycle to prevent re-evaporation of water on the coil.

Always remove jumper J1 to allow for standard dehumidification control.
 Only remove jumper J2 when Two Stage Heat is configured on the thermostat (W1 & W2)



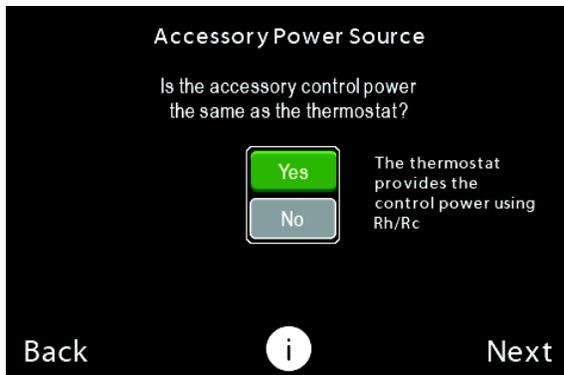
A150398

4. During the Guided Setup process you will be asked the following three questions:
- Press Yes



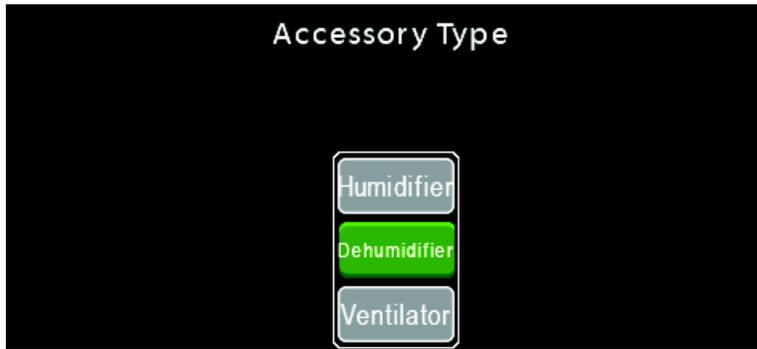
A150399

- Press Yes



A150316

c. Press *Dehumidifier*



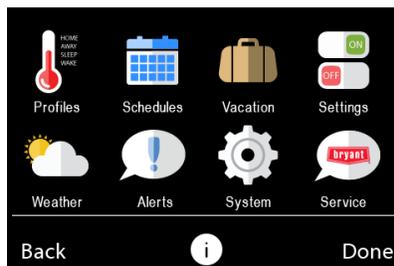
A150400

NOTE: The DHUM on fan coil board is active in the open state. The ACC+ terminal for dehumidifiers is defaulted to active open. So, no other changes are necessary. You can double check this setting on the thermostat:

Menu > (hold) Service > Installation Settings > Equipment Setup > Accessory > Dehum open

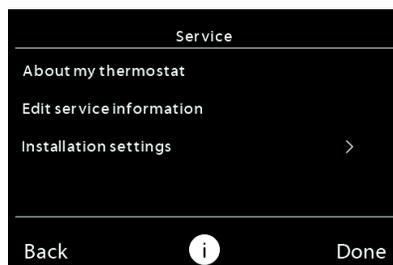
5. Complete the Guided Setup installation process.
6. Configure Super Dehumidification. For quick reference, you will take the following steps:
 - a. Press and hold the Service icon until the screen changes (about 10 sec)
 - b. Press Installation settings
 - c. Press Operating thresholds
 - d. Scroll down to Variable speed blower and press Variable speed blower
 - e. Press OK on warning screen
 - f. Press Super dehumidify
 - g. Press Enabled and Save

- a. Press and hold the Service icon until it changes screens, about 10 sec.



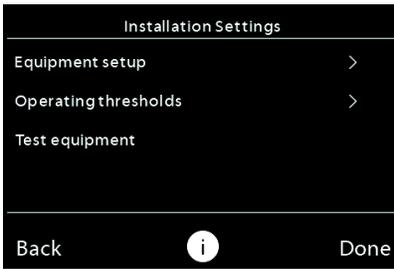
A150401

b. Press installation settings



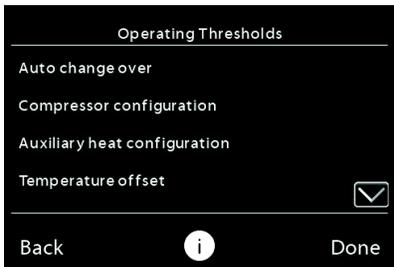
A150403

c. Press Operation thresholds



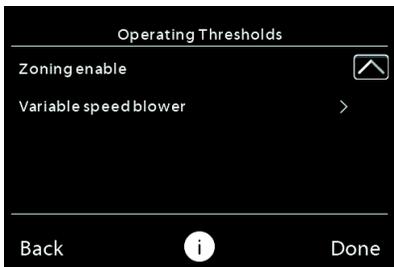
A150404

d. Scroll down



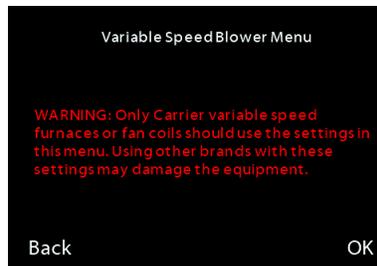
A150405

e. Press Variable speed



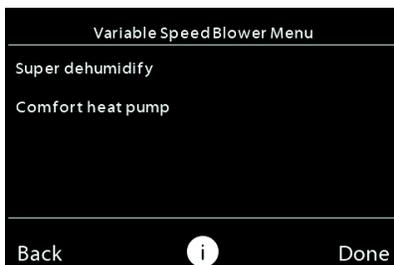
A150406

f. Warning will appear, press OK



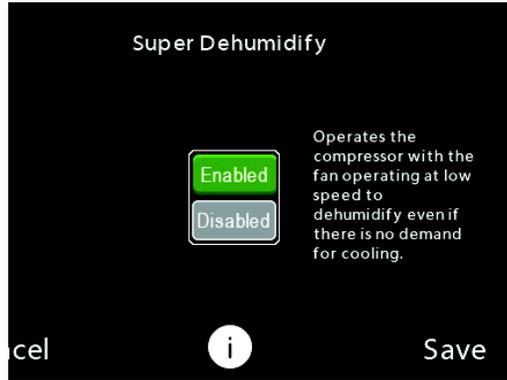
A150407

g. Press Super Dehumidify



A150408

h. Press Enabled and Save



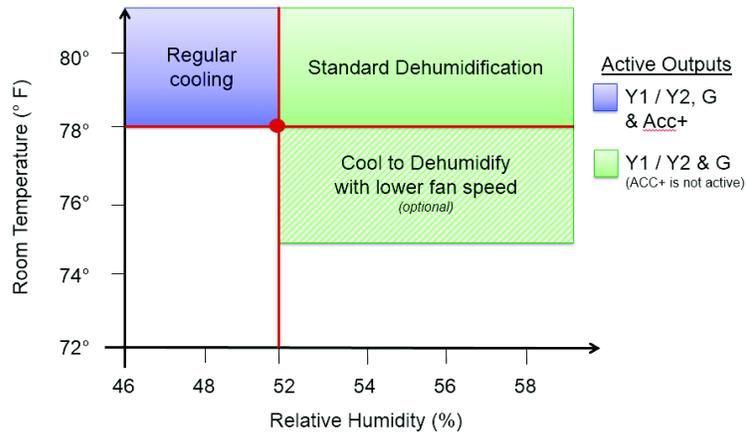
A150410

7. Congratulations, the fan coil, air conditioner or heat pump and thermostat will now work together to bring you all the benefits of Perfect Humidity® System Technology.

Standard Dehumidification with FV/FK Fan Coils

Enhanced dehumidification is achieved by reducing the blower speed to 80% of the cooling blower speed during a call for dehumidification. You can also choose to use Cool to Dehumidify and set the cooling off delay to 0 to prevent re-evaporating water on the coil after a cooling cycle.

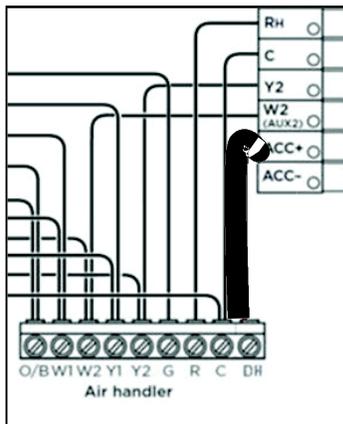
Set point = 78°F & 52% RH



A150395

Set Up Standard Dehumidification on an FK/FV Fan Coil

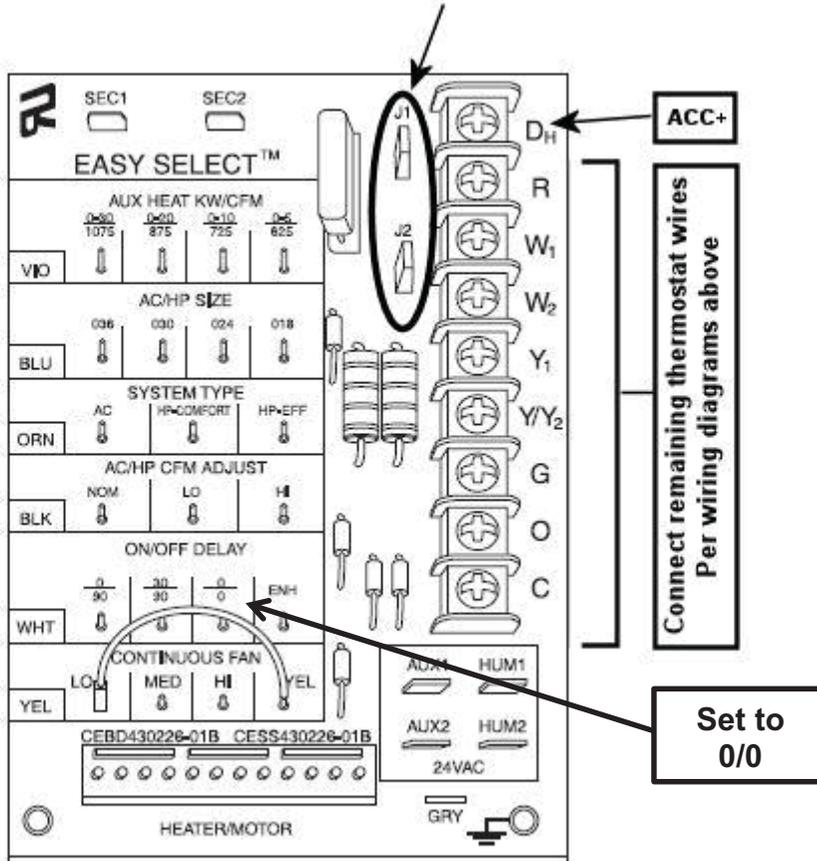
1. ACC+ should be connected to the DH terminal



A150397

2. Remove jumper on easy-select board.
 - a. Remove J1 jumper to allow for standard dehumidification control.
 - b. Remove J1 and J2 for applications where two stages of heating are configured on the thermostat (W1 and W2).
3. If you want no off delay, set the blower delay to 0/0. This turns blower off immediately at the end of each cooling cycle to prevent re-evaporation of water on the coil.

**Always remove jumper J1 to allow for standard dehumidification control.
 Only remove jumper J2 when Two Stage Heat is configured on the thermostat (W1 & W2)**



A150398

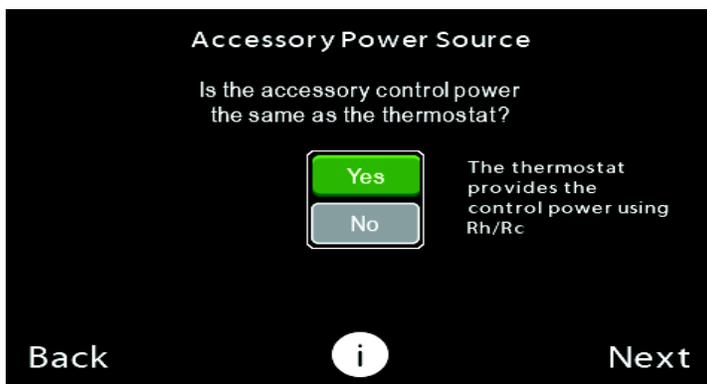
4. During the Guided Setup process you will be asked the following three questions:

a. Press Yes



A150399

b. Press Yes



A150316

c. Press *Dehumidifier*



A150400

NOTE: The DHUM on fan coil board is active in the open state. The ACC+ terminal for dehumidifiers is defaulted to active open. So, no other changes are necessary. You can double check this setting on the thermostat:

Menu > (hold) Service > Installation Settings > Equipment Setup > Accessory > Dehum open

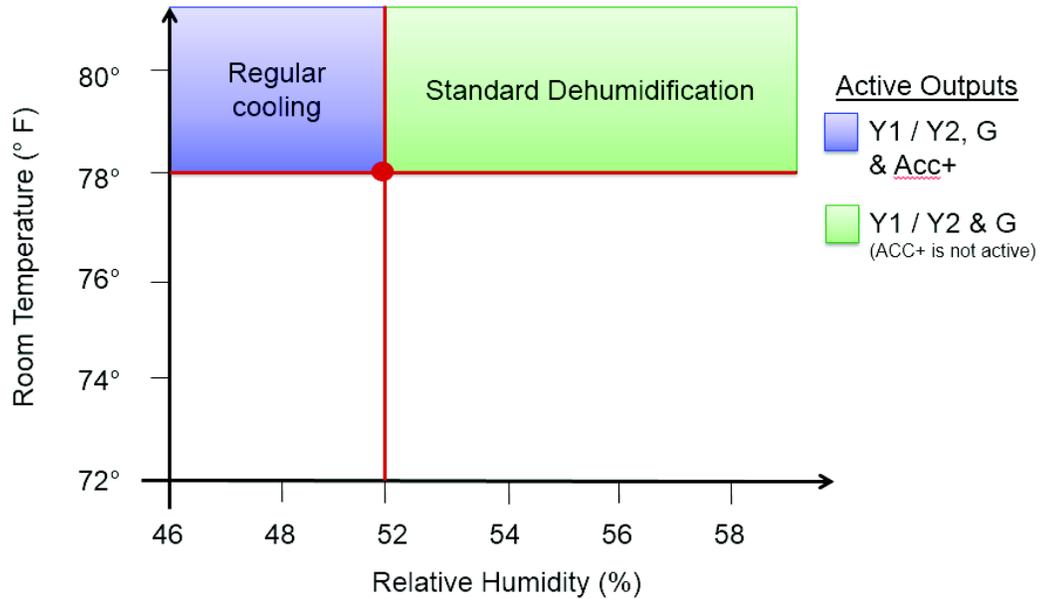
5. Complete the Guided Setup installation process.

6. (Optional) Configure Cool to Dehumidify

- a. Select Menu > Profiles > Humidity Profiles > Dehumidification Setpoint
- b. Default: Disabled
- c. Options: Overcool temperature between 0.5°F and 5°F or disabled
Humidity setpoint between 46% and 58%

If Cool to Dehumidify is disabled, you will get the following operation

Set point = 78°F & 52% RH



A150416

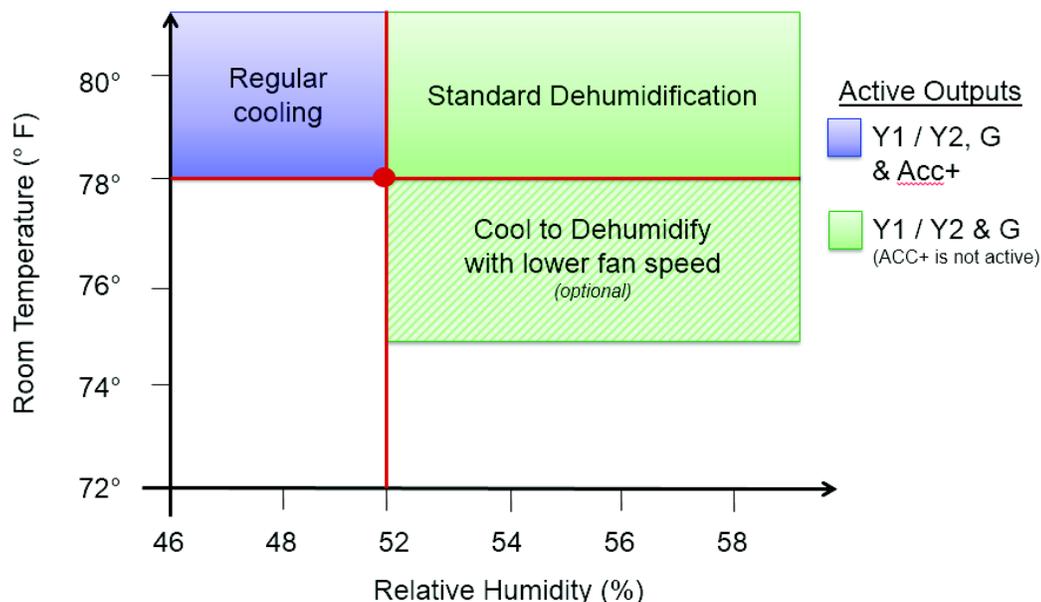
7. Congratulations, you have now set-up the system for dehumidification.

Standard Dehumidification with FX4 Multi-tap ECM Fan Coils

For better dehumidification, the ACC+ terminal on the thermostat can be used to control a speed tap when there is a No call for dehumidification. The G terminal will be used to control a speed tap when there is a call for dehumidification. The ACC+ terminal will need to be set up properly for dehumidification through the thermostat control screens.

NOTE: Multi-Tap ECM motors have multiple speed taps that need to be set properly when commissioning a system. It is the responsibility of the installation/service technician to ensure the equipment is maintaining a minimum of 315 CFM per ton. See the Fan Coil installation instructions for setting the speed taps correctly.

Set point = 78°F & 52% RH



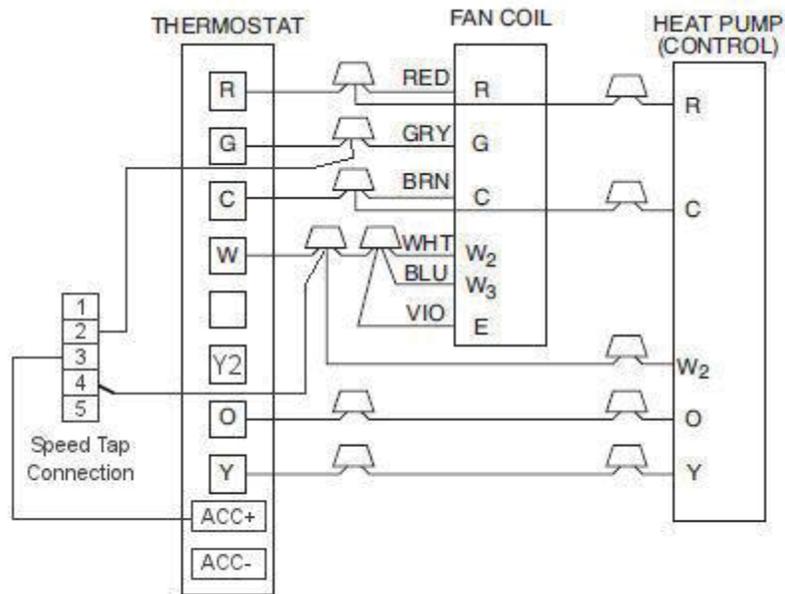
A150395

Set Up Standard Dehumidification on an FX4 Fan Coil

1. Connect the ACC+ terminal to the speed tap designed for cooling when there is NO demand for dehumidification. Recommended minimum of 350 CFM/ton (i.e. "Cooling speed" tap).
2. The G terminal should be connected to the "Dehumidification speed" tap. (Required Minimum of 315 CFM/ton)

For example: ACC+ will be set to active open and can be connected to speed tap 3. When there is no demand for dehumidification, then ACC+ will supply 24V to tap 3 causing the motor to run at the tap 3 CFM. When there is a dehumidification demand ACC+ will remove 24V from speed tap 3 and since G is active already (in cooling) the Fancoil will run at the speed tap connected to G likely speed tap 2 CFM.

NOTE: on FX fan coils, when two speed taps are energized at once, the higher of the two tap number is used. Therefore; when Y1/Y2 & G & ACC+ are energized during a call for cooling, ACC+ is used.



**FX Wiring Layout, Heat Pump Unit
(Cooling and 2-Stage Heat, Dehumidification)**

A15039

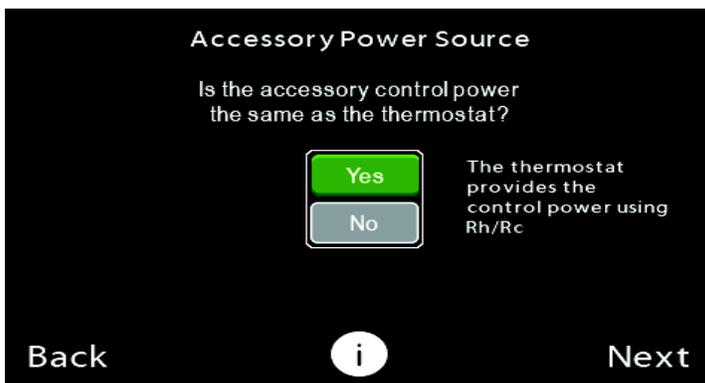
NOTE: Nothing needs to be connected to the ACC- Terminal.

3. During the Guided Setup process you will be asked the following three questions:
 - a. Press Yes



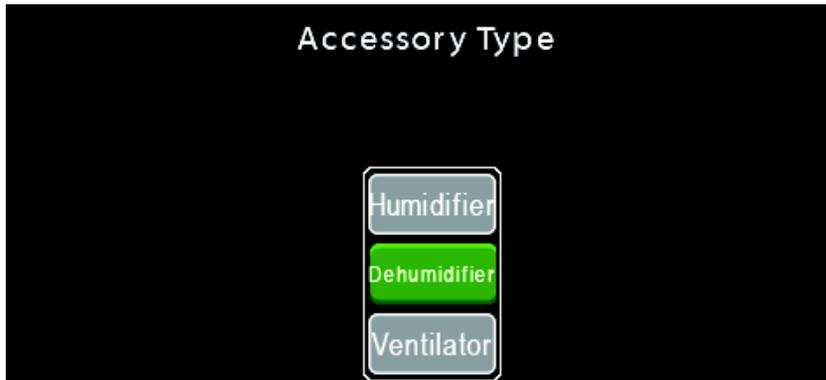
A150399

- b. Press Yes



A150316

c. Press *Dehumidifier*



A150400

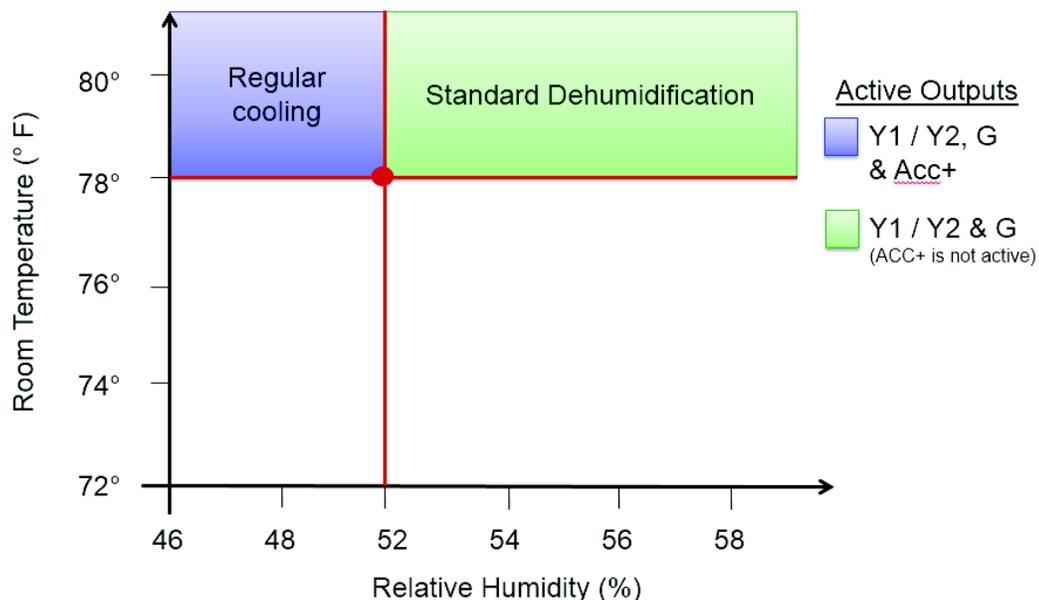
NOTE: The DHUM on fan coil board is active in the open state. The ACC+ terminal for dehumidifiers is defaulted to active open. So, no other changes are necessary. You can double check this setting on the thermostat:

Menu > (hold) Service > Installation Settings > Equipment Setup > Accessory > Dehum open

4. Complete the Guided Setup installation process.
5. (Optional) Configure Cool to Dehumidify
 - a. Select Menu > Profiles > Humidity Profiles > Dehumidification Setpoint
 - b. Default: Disabled
 - c. Options: Overcool temperature between 0.5°F and 5°F or disabled
Humidity setpoint between 46% and 58%

If Cool to Dehumidify is disabled, you will get the following operation

Set point = 78°F & 52% RH



A150416

6. Congratulations, you have now set-up the system for dehumidification.

Perfect Humidity® System Technology with Evolution® Furnaces

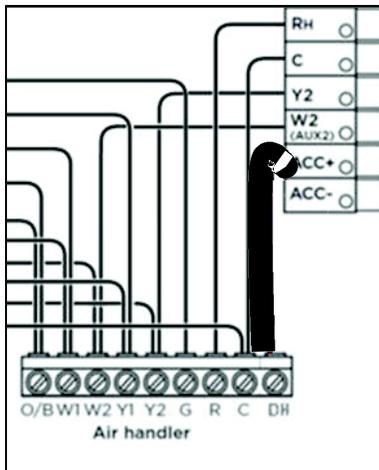
Evolution® units are capable of full Perfect Humidity® System Technology which includes Super Dehumidification.

1. Dehumidification: When there is a call for cooling and a call for dehumidification, the furnace delivers airflow which is 86% of the nominal cooling.
2. Super Dehumidification: When there is a demand for dehumidification without a demand for cooling, the furnace will run at 65% of the nominal cooling speed for a maximum of 10 min per cycle. After 10 min, the furnace blower speed will revert back to the dehumidification speed of 86%. Normal staging algorithms between low-stage and high-stage cooling are applied during super-dehumidification. Super dehumidification setting automatically over cools up to 3°F.
3. SmartEvap™: The blower will shut down within 5 seconds after a cooling to prevent re-evaporation of the water on the coil.

NOTE: When Super Dehumidification is enabled, this feature cannot be overridden by changing the Cool to Dehumidify to 0°F.

Set Up Perfect Humidity® System Technology on an Evolution® Furnace

1. ACC+ should be connected to the DH terminal on the furnace control. Nothing will be connected to ACC-.



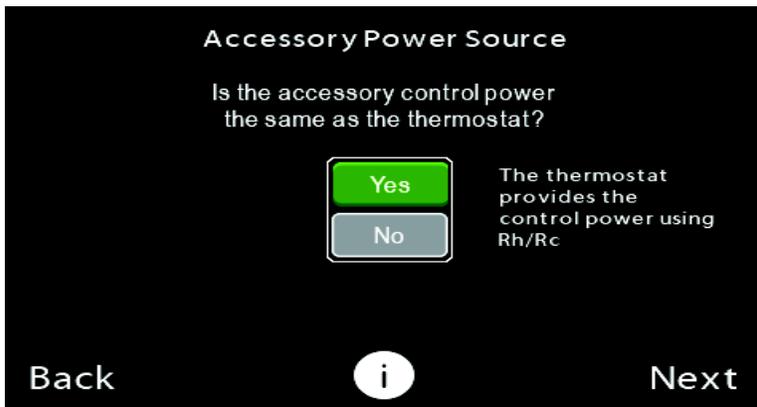
A150397

2. During the Guided Setup process you will be asked the following three questions:
 - a. Press Yes



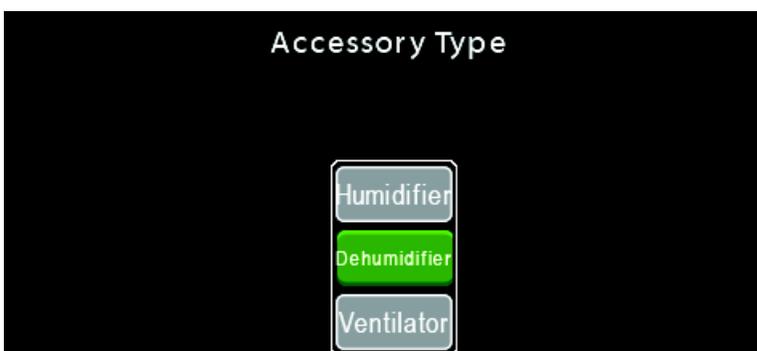
A150399

b. Press Yes



A150316

c. Press *Dehumidifier*



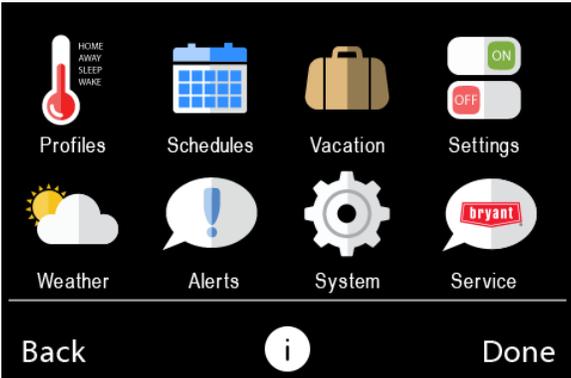
A150400

NOTE: The DHUM on fan coil board is active in the open state. The ACC+ terminal for dehumidifiers is defaulted to active open. So, no other changes are necessary. You can double check this setting on the thermostat:

Menu > (hold) Service > Installation Settings > Equipment Setup > Accessory > Dehum open

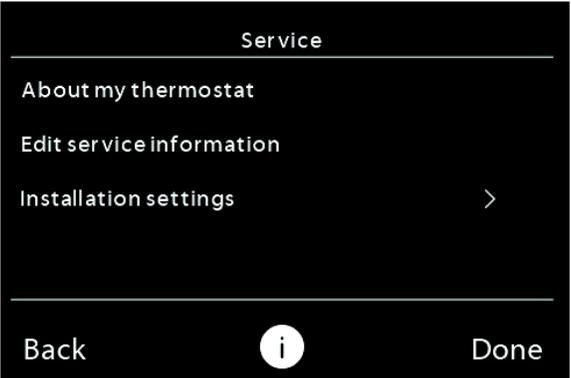
3. Complete the Guided Setup installation process.
4. Configure Super Dehumidification. For quick reference, you will take the following steps:
 - a. Press and hold the Service icon until the screen changes (about 10 sec)
 - b. Press Installation settings
 - c. Press Operating thresholds
 - d. Scroll down to Variable speed blower and press Variable speed blower
 - e. Press OK on warning screen
 - f. Press Super dehumidify
 - g. Press Enabled and Save

a. Press and hold the Service icon until it changes screens, about 10 sec.



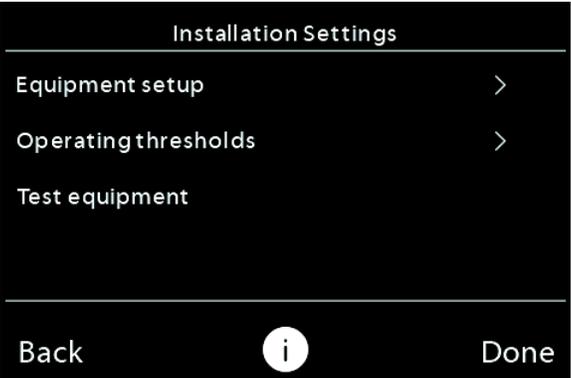
A150401

b. Press installation settings



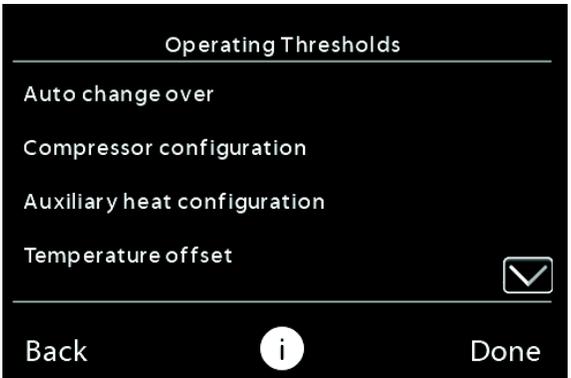
A150403

c. Press Operation thresholds



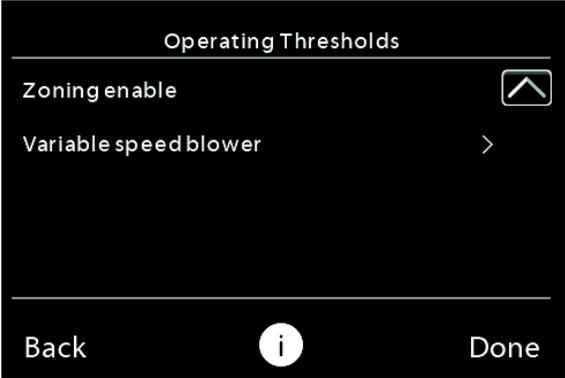
A150404

d. Scroll down



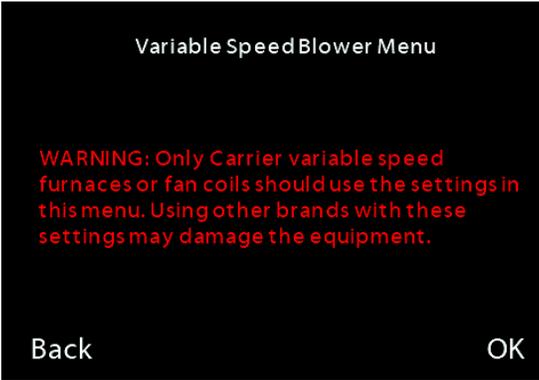
A150405

e. Press Variable speed



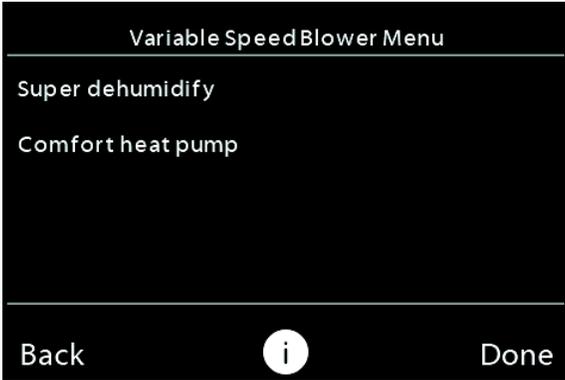
A150406

f. Warning will appear, press OK



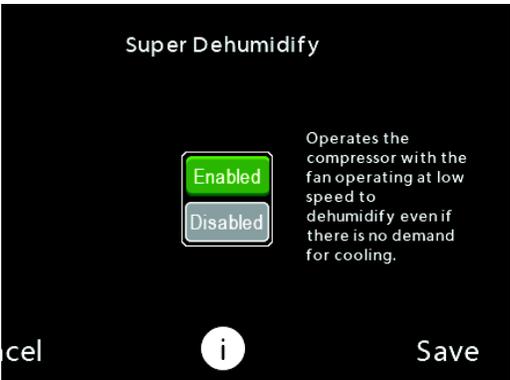
A150407

g. Press Super Dehumidify



A150408

h. Press Enabled and Save



A150410

5. Congratulations, the fan coil, air conditioner or heat pump and thermostat will now work together to bring you all the benefits of Perfect Humidity® System Technology.

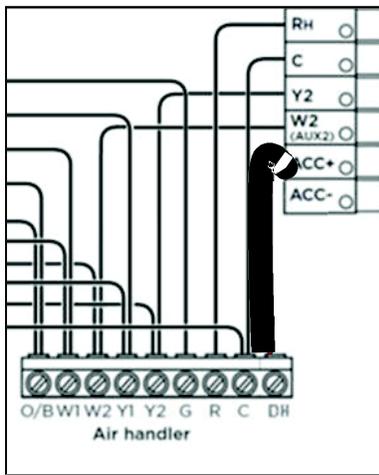
Furnace Dehumidification with Preferred™ Series Furnaces

Enhanced dehumidification is achieved by reducing the blower speed to 90% of the cooling blower speed during a call for dehumidification. You can also choose to use Cool to Dehumidify and set the cooling off delay to 0 to prevent re-evaporating water on the coil after a cooling cycle.

When the call for cooling is satisfied and there is a demand for dehumidification, the cooling blower-off delay is decreased from 90 seconds to 5 seconds. If unit is in continuous fan, there will not be an off delay.

Set Up Standard Dehumidification on an FK/FV Fan Coil

1. ACC+ should be connected to the DH terminal on the furnace control. Nothing will be connected to ACC-.



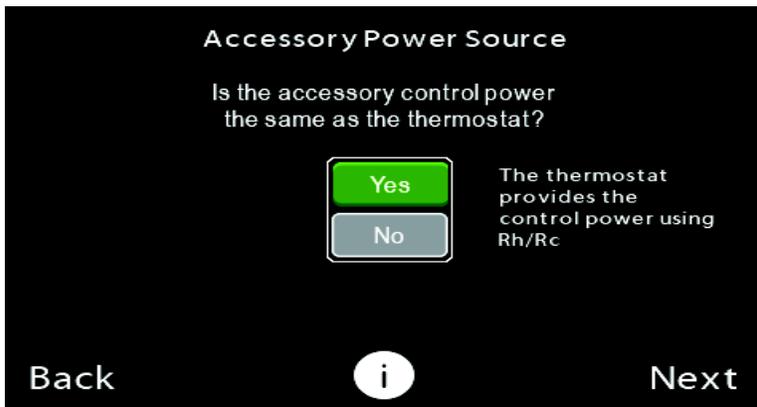
A150397

2. During the Guided Setup process you will be asked the following three questions:
 - a. Press Yes



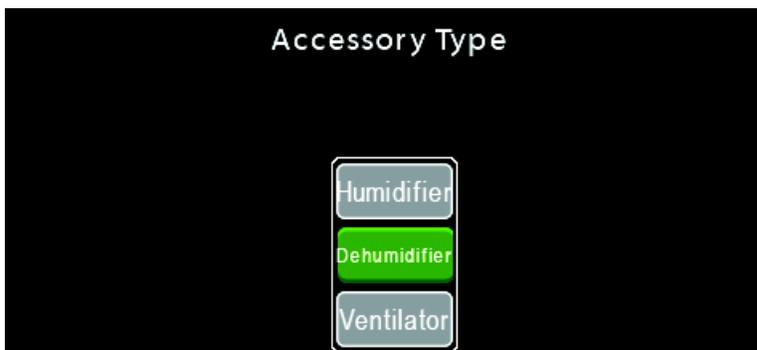
A150399

b. Press Yes



A150316

c. Press *Dehumidifier*



A150400

NOTE: The DHUM on fan coil board is active in the open state. The ACC+ terminal for dehumidifiers is defaulted to active open. So, no other changes are necessary. You can double check this setting on the thermostat:

Menu > (hold) Service > Installation Settings > Equipment Setup > Accessory > Dehum open

3. Complete the Guided Setup installation process.

4. (Optional) Configure Cool to Dehumidify

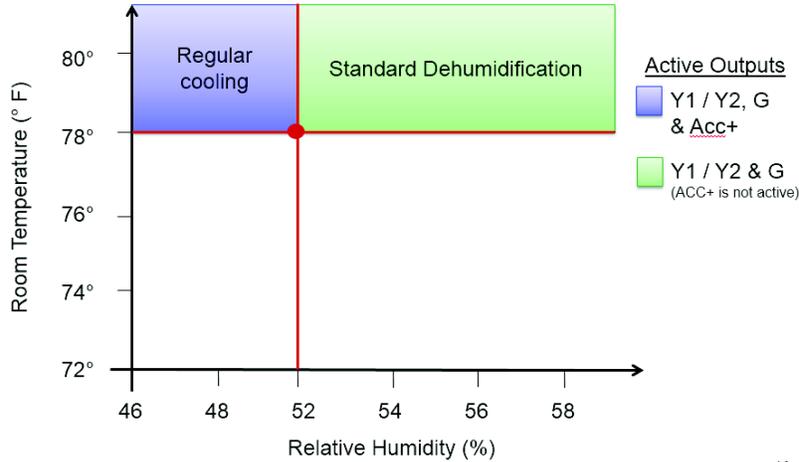
a. Select Menu > Profiles > Humidity Profiles > Dehumidification Setpoint

b. Default: Disabled

c. Options: Overcool temperature between 0.5°F and 5°F or disabled
Humidity setpoint between 46% and 58%

If Cool to Dehumidify is disabled, you will get the following operation

Set point = 78°F & 52% RH



A150416

5. Congratulations, you have now set-up the system for dehumidification.

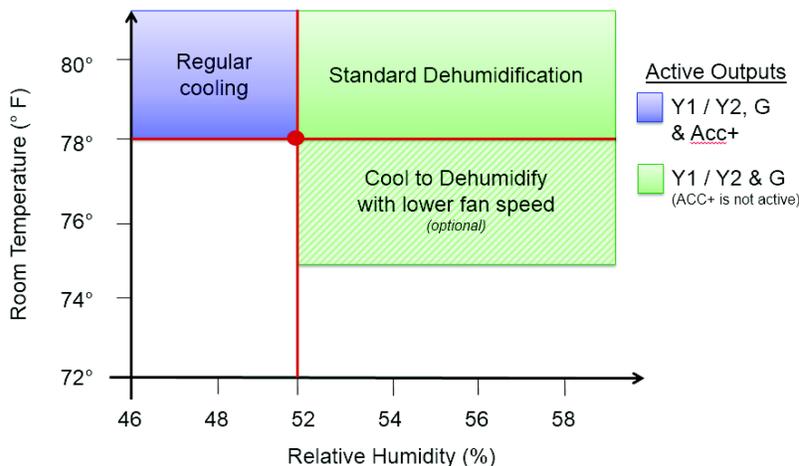
Furnace Dehumidification with Tapped ECM Motors

Dehumidification on these furnaces is enabled by dropping the blower motor speed from COOL to HEAT for a maximum of 10 minutes before reverting back to COOL speed. If there is still a demand for dehumidification after 20 minutes, the blower motor will revert back to HEAT speed. This alternating 10 minute cycle will continue as long as there is a call for cooling and dehumidification. If Cool to dehumidify is being engaged, the blower continues to alternate until thermostat humidity is satisfied or the “over cool” setpoint is reached. When the “call for cooling” is satisfied and there is still a demand for dehumidification, the cooling blower –off delay is decreased to 5 sec.

On two-stage outdoor units, dehumidification is not active during low stage cooling. Low stage cooling speed is also the HEAT speed and the high stage Dehum speed.

NOTE: It is important that the installer set the proper airflow. Some speed taps now serve dual purposes and the airflow must be adequate for both purposes. The HEAT speed tap is also used for dehumidification speed and low stage cooling. Therefore; this tap must be within the heating rise range and adequate for low stage cooling and high stage dehumidification (315 CFM/Ton).

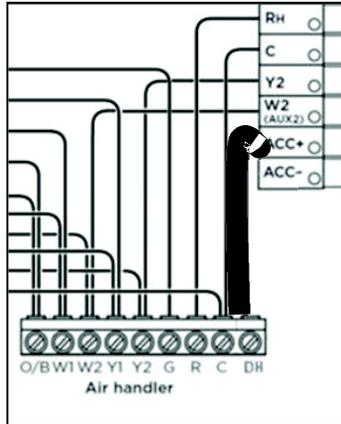
Set point = 78°F & 52% RH



A150395

Set Up Standard Dehumidification on an FK/FV Fan Coil

1. ACC+ should be connected to the DH terminal on the furnace control. Nothing will be connected to ACC-.



A150397

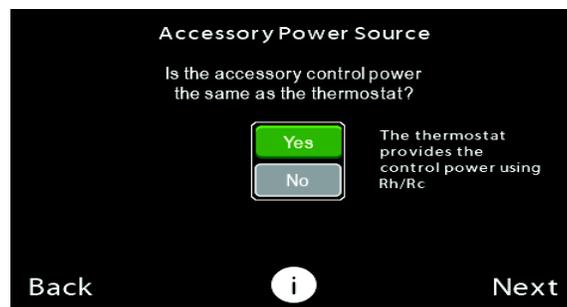
2. During the Guided Setup process you will be asked the following three questions:

- a. Press Yes



A150399

- b. Press Yes



A150316

- c. Press *Dehumidifier*



A150400

NOTE: The DHUM on fan coil board is active in the open state. The ACC+ terminal for dehumidifiers is defaulted to active open. So, no other changes are necessary. You can double check this setting on the thermostat:

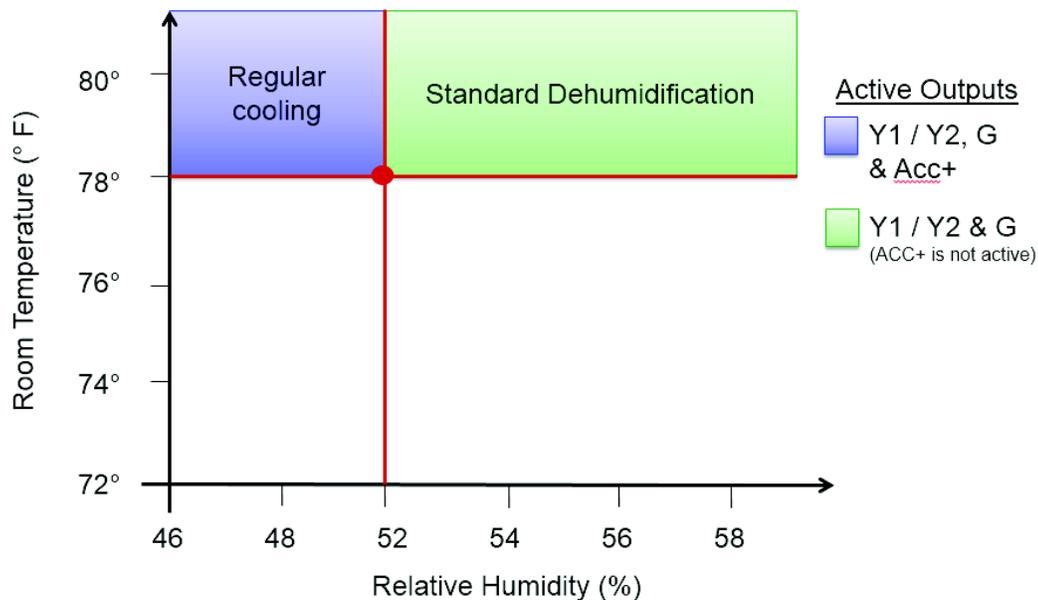
Menu > (hold) Service > Installation Settings > Equipment Setup > Accessory > Dehum open

3. (Optional) Configure Cool to Dehumidify

- a. Select Menu > Profiles > Humidity Profiles > Dehumidification Setpoint
- b. Default: Disabled
- c. Options: Overcool temperature between 0.5°F and 5°F or disabled
Humidity setpoint between 46% and 58%

If Cool to Dehumidify is disabled, you will get the following operation

Set point = 78°F & 52% RH



A150416

4. Congratulations, you have now set-up the system for dehumidification.

Furnace Dehumidification with 312A(J), 311A(J) Models

These furnaces are equipped with the Dehum terminal on the control board. However; they are equipped with PSC motors. These motors do not hold CFM with high static like the ECM motors. Therefore, it is critical to get the blower motor speed taps correct. See furnace installation for motor performance.

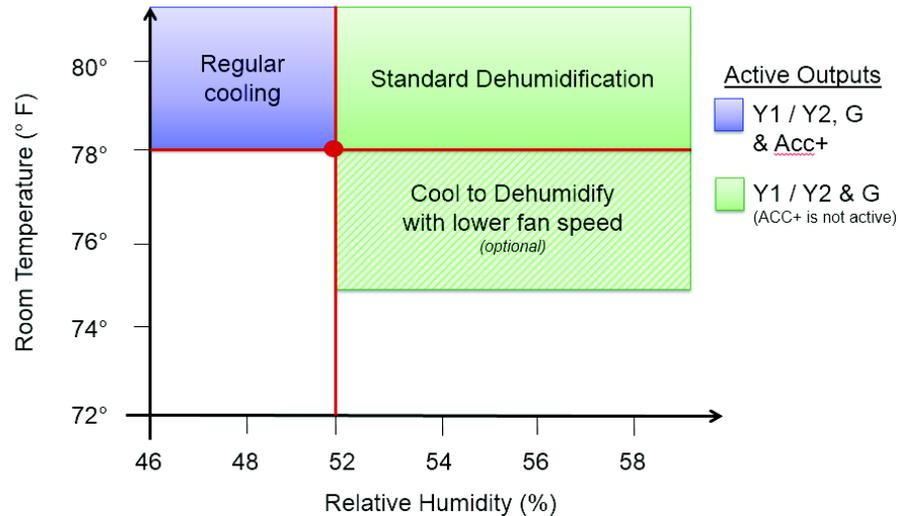
Some places with very low humidity like to run AC units at high airflow. This high airflow limits the amount of moisture removed by the air conditioner. Under most conditions, this is OK. However; sometimes when people are boiling water, etc. humidity can become an issue. This furnace allows you to run high airflow when no moisture removal is preferred and normal or lower airflow under high humidity conditions.

Setup and operation sequence for this furnace is the same as the setup for the Preferred™ Series furnace. Follow those instructions once speed tap selections are chosen.

Standard Dehumidification with Geothermal

Perfect Humidity® System Technology and Super dehumidification are not available on Geothermal at this time. However; extra dehumidification is available by slowing the fan speed (70 – 80%) when there is a call for cooling and dehumidification. Cool to dehumidify is also available.

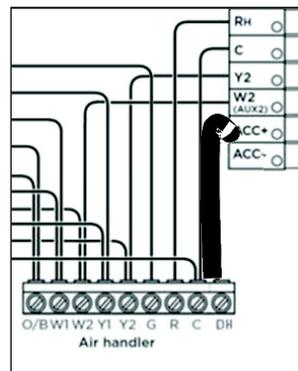
Set point = 78°F & 52% RH



A150395

Set Up Dehumidification on Geothermal Systems

1. ACC+ should be connected to the DH terminal



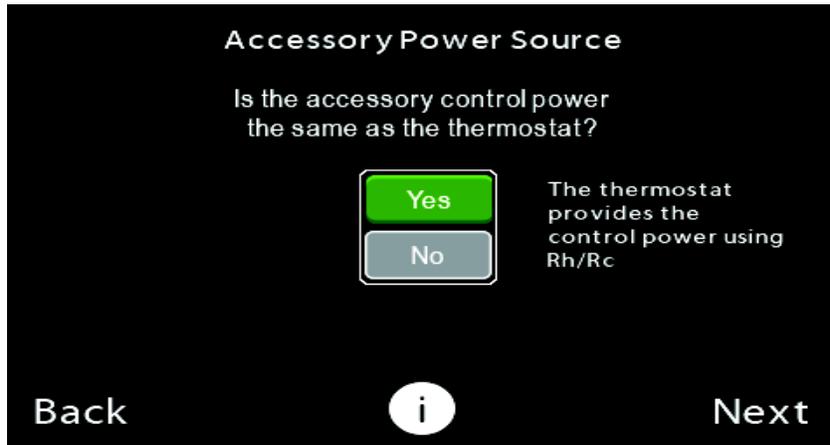
A150397

2. During the Guided Setup process you will be asked the following three questions:
 - a. Press Yes



A150399

b. Press Yes



A150316

c. Press *Dehumidifier*

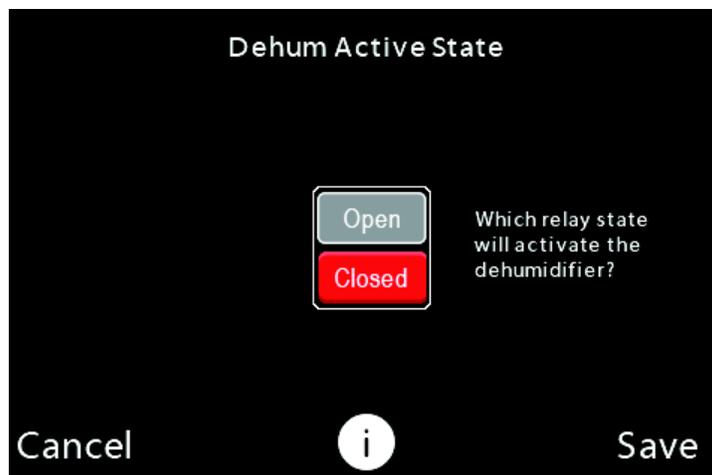


A150400

3. Complete the Guided Setup installation process.

4. Set dehum active state: By default the thermostat will configure the dehumidifier output (ACC+) as active Open. For geothermal heat pumps configuration setting will need to be changed to active Closed.

The setting can be changed on the thermostat by going to: Menu > (hold) Service > Installation Settings > Equipment Setup > Accessory > Dehum Active



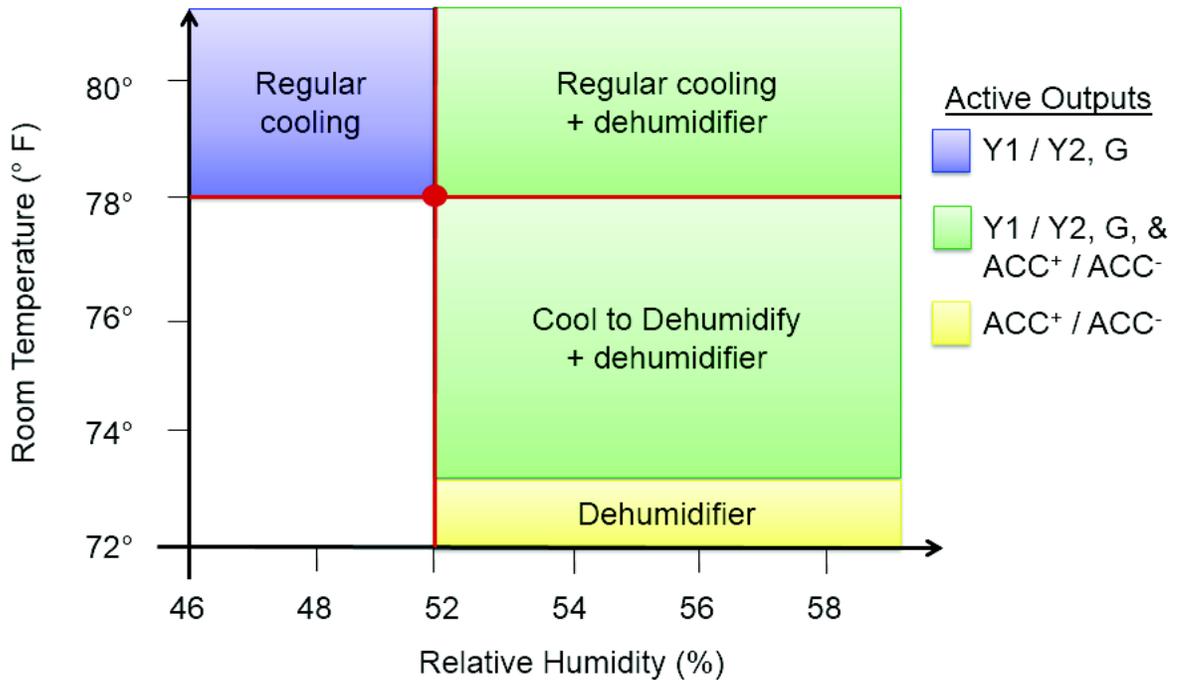
A150426

5. Congratulations, you have now set-up the system for dehumidification.

Dehumidification with an Accessory Dehumidifier

When using an accessory dehumidifier, only the Cool to Dehumidify feature is available from the equipment.

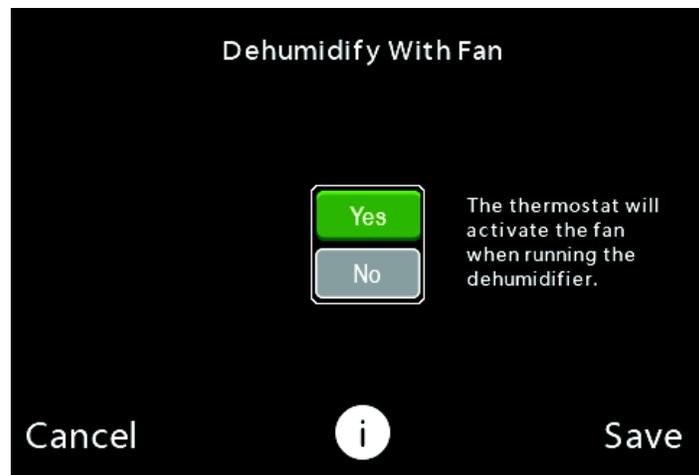
Set point = 78°F & 52% RH



A150427

If you do not engage the Cool to Dehumidify feature, only the fan and the dehumidifier will engage if there is a call for humidity removal without a call for cooling.

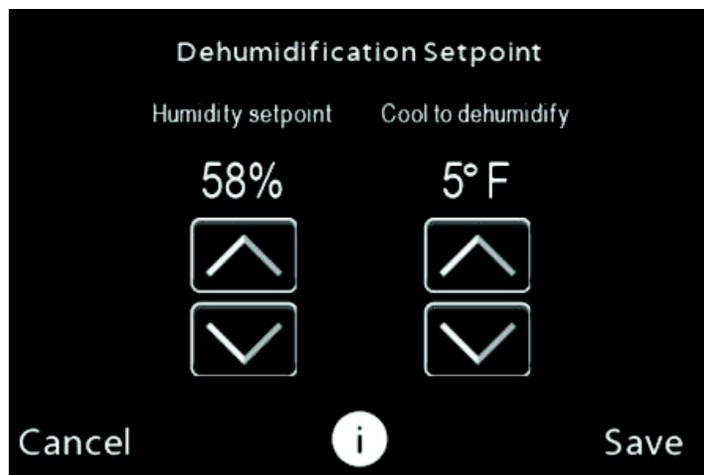
The equipment may need to be set to dehumidify with the fan. To select this option, press and hold the Service button until the screen changes (~10 sec), press Equipment setup, then dehumidifier, then set dehum with fan to Yes. Finally Save



A150428

Vacation Dehumidification

The dehumidification settings works during all modes: home, sleep, awake, away and vacation. In humid climates, humidity may rise above the humidity setpoint. However; the thermostat will not turn on the air conditioner until it reaches the Cool to Dehumidify temperature differential. In the case below, the air conditioning will turn on 5°F below the vacation temperature setpoint to dehumidify. Dehumidification and Perfect Humidity® System Technology are active during vacation modes.



A150429

Frequently Asked Questions

What does Auto Staging do?

Our 'auto' algorithms do the work for you by optimally deciding which stage to engage for highest efficiency while preventing short cycling and the use of costly auxiliary heat. When there is a call for heating or cooling, the system computes how long it would take for the system to reach the desired setpoint while running the equipment for at least 10 minutes.

For heat pumps with auxiliary heat, the operation of the auxiliary heat will depend on the configuration of the Allow heat pump and auxiliary heat to run simultaneously (see Pg. 24).

Does this thermostat have an input for an outdoor air temperature sensor?

No, not at this time. The thermostat uses an Internet based weather data to generate its outdoor air temperature based on the home's address.

Will the thermostat still work without an Internet connection?

Yes. The thermostat will continue to control the equipment without an Internet connection, although some of its advanced features may be impacted.

What happens when weather data is not available?

This thermostat uses Internet based weather data to generate an outdoor air temperature reading for your home's location. Outdoor air temperature is used as an input for a few features (listed below).

If the Internet connection to the thermostat is lost, it can continue to operate the equipment normally for up to 8 hours from its last downloaded temperature and weather forecast.

Without weather data, the equipment will operate as follows:

- Smart Setback – determines the optimal setback and ramp time between each change in your schedule based on indoor temperature delta and historical performance.
- Auxiliary Heat Temperature– the system will return to normal staging. Staging is dependent on the Compressor minimum on-time, Compressor stage 2 temperature delta,

Compressor stage one maximum run-time, auxiliary heat temperature delta and auxiliary heat minimum delay time

- Cooling Lockout – unit will try to run whenever there is a call for cooling

Can I calibrate the thermostat's temperature reading?

Temperature sensors used in modern thermostats have defined tolerance intervals of normal temperature readings. This means if multiples of the same thermostat model were installed side-by-side, it would be normal for different current temperatures to be displayed (e.g. one at 72°F and one at 71°F). However, there are product features and installation steps you can take to help ensure a comfortable environment.

Installation best practices for temperature accuracy:

1. Minimize the effect of air leakage, excess wiring should be pushed into the wall and the hole should be sealed to prevent air leakage.
2. Leave the thermostat installed & powered on for at least 30 minutes before checking calibration.

If the thermostat reading still needs adjusting after these two installation steps, adjust the Room Air Temperature Thermostat Offset. The thermostat is adjustable between 0°F and 5°F.

On Thermostat:

Select Menu > (hold) Service > Installation Settings > Thresholds > Temperature Offset

Why does the thermostat not engage heating / cooling until the indoor temperature drops 2°F below setpoint?

The thermostat's Temperature Differential Settings for heating & cooling determine what indoor temperature to engage the equipment. By default the thermostat is set to run when the difference between setpoint and indoor temperature is more than 0.5°F for occupied comfort profiles (Home, Wake, Sleep). As part of the energy saving algorithms, the thermostat relaxes this setting by an additional 1°F for unoccupied comfort profiles (Away). Thus by default, when in the away mode the thermostat is set to run when the difference between setpoint and indoor temperature is more than 1.5°F. The occupied comfort profile Differential Settings are adjustable.

Why is the thermostat generating an auxiliary heat alert?

The thermostat can be configured to generate alerts when auxiliary heat has been running for a long time or when auxiliary heat is running above a given outdoor temperature. These alerts are intended to be informative and can be adjusted or disabled at any time on the thermostat under Menu > Alerts > Preferences.

Auxiliary heat can be engaged at high outdoor temperatures when the indoor temperature setpoint is manually increased above the Auxiliary Heat Temperature Delta.

The Auxiliary Heat Runtime Alert will be generated if the auxiliary heat has run for more than the Auxiliary Heat Runtime Setting within a single day. For instance, if the alert is set to 3 hours, an alert will be generated if the auxiliary heat has run for more than 3 hours that day.