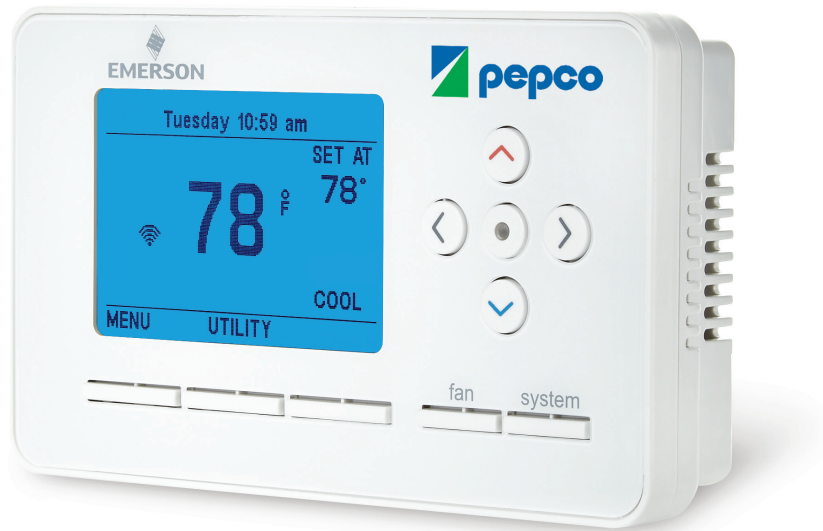


# Energy Wise Rewards<sup>TM</sup> Thermostat

## Business User Thermostat Manual



Installed by: \_\_\_\_\_

Number of Thermostats: \_\_\_\_\_

Date: \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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Your Pepco Energy Wise Rewards thermostat controls your central air conditioning system and your heating system. The types of compatible cooling and heating appliances include:

**Central Air Conditioners:**

- Single Stage
- Multi-Stage

**Heat Pump:**

- Single Stage
- Multi-Stage

**Furnaces:**

- Single Stage Gas or Oil
- Multi-Stage Gas or Oil
- Single Stage Electric
- Multi-Stage Electric

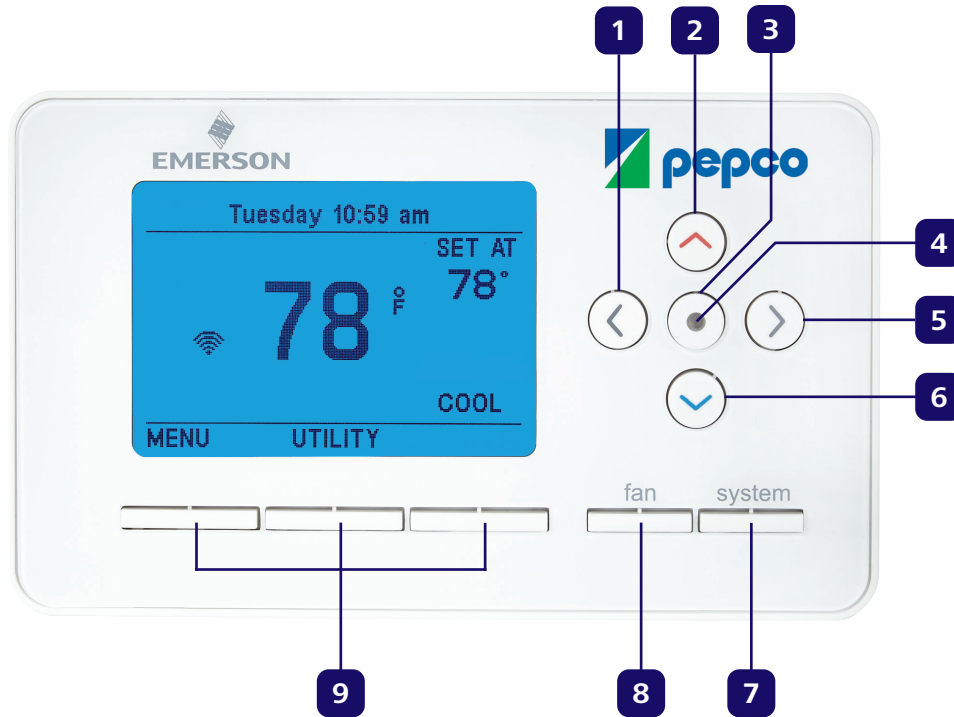
**Aux Heat:**

- Single Stage Electric
- Multi-Stage Electric

All compatible components are connected and configured by the Energy Wise Rewards technician during installation.

# Step 1: Getting Started

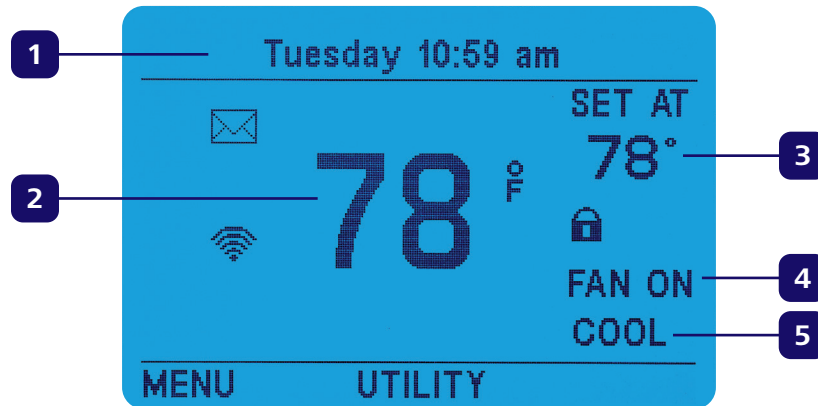
## A. Thermostat Buttons and Indicators



<b>1</b>	<b>Left Arrow</b>	Navigates menu items
<b>2</b>	<b>Up Arrow</b>	Raises temperature setpoint and changes selected menu item
<b>3</b>	<b>Action Button</b>	Selects action of selected menu item
<b>4</b>	<b>LED Light</b>	Indicates status of pending, active, or overridden conservation periods
<b>5</b>	<b>Right Arrow</b>	Navigates menu items
<b>6</b>	<b>Down Arrow</b>	Lowers temperature setpoint and changes selected menu item
<b>7</b>	<b>SYSTEM Button</b>	Changes system selection (OFF, COOL, HEAT, AUX [displayed on heat pump units only])
<b>8</b>	<b>FAN Button</b>	Changes fan setting (Auto/On)
<b>9</b>	<b>Soft Keys</b>	Performs action listed on display above the button

# Step 1: Getting Started

## B. Thermostat Display



<b>1</b>	<b>Messaging Area</b>	Displays day and time, thermostat, and Pepco-related messages. In the event of a power outage, the clock will maintain the correct time for 48 hours
<b>2</b>	<b>Temperature</b>	Displays current room temperature
<b>3</b>	<b>Setpoint Temperature</b>	Displays current desired temperature <ul style="list-style-type: none"><li>• Blank when user selects the <b>OFF</b> mode via the menu (turns system off)</li><li>• When system is <b>ON</b>, the words SET AT changes to HOLD AT when in temporary or permanent hold</li></ul>
<b>4</b>	<b>FAN Status</b>	Blank when in auto mode — displays <b>FAN ON</b> when fan is on continuously
<b>5</b>	<b>System Status</b>	Displays current operation mode according to system configuration as set by installer <ul style="list-style-type: none"><li>• <b>OFF</b> – system is OFF</li><li>• <b>COOL</b> – system is in COOL mode but no call for cool<ul style="list-style-type: none"><li><b>COOL1</b> – call for first stage of cool</li><li><b>COOL2</b> – call for second stage of cool (multi-stage units only)</li></ul></li><li>• <b>AUX</b> – system is in AUX heat mode but no call for heat (heat pump only)<ul style="list-style-type: none"><li><b>AUX1</b> – call for first stage of auxiliary heat (heat pump only)</li><li><b>AUX2</b> – call for second stage of auxiliary heat (multi-stage heat pump only)</li></ul></li><li>• <b>HEAT</b> – system is in HEAT mode but no call for heat<ul style="list-style-type: none"><li><b>HEAT1</b> – call for first stage of heat</li><li><b>HEAT2</b> – call for second stage of heat (multi-stage units only)</li><li><b>HEAT3</b> – call for first stage of auxiliary heat (heat pump only)</li><li><b>HEAT4</b> – call for second stage of auxiliary heat (multi-stage heat pump only)</li></ul></li></ul>
<b>6</b>	<b>Soft Key Display</b>	Actions to be performed when corresponding button is pressed











## Step 2: User Main Menu and Other Settings

### A. User Main Menu

The “User Programming Menu” table (next page) summarizes the configuration items that the user can change, and a convenient space to keep track of your settings. For more details on each user programming menu option, see “Description of User and Other Settings Menu Options” on page 8. To enter the User Programming Menu:

1. Ensure the thermostat is at the idle screen (display with the room temperature displaying).
  2. Press the **MENU** soft key. The display will show the first level of the User Programming Menu.
  3. While in the User Programming Menu:
    - The ⬆ and ⬇ scrolls the cursor up and down, respectively
    - The soft key labeled **HOME** exits the User Programming Menu back to the IDLE screen  
(**NOTE:** when the **HOME** soft key is pressed, any changes made on the current menu item are not saved)
    - The ⬇ button selects the highlighted menu item
    - The **BACK** soft key goes back one menu level
    - When changes are made to a menu item, the **BACK** soft key changes to **SAVE**. Press **SAVE** once after making a change (the screen goes back one menu level after a change is saved)
    - If a mistake is made during programming, press **SAVE** once, then return to the programming option and re-enter the information (press **SAVE** again, press **HOME** to exit)
  4. To exit the menu and return to the program operation, press **HOME** (when available).
- If no keys are pressed within two minutes, the thermostat will revert to normal operation.

## Thermostat Programming Menu















Menu Name	Submenu	Press  or  to Select Other Options (Defaults in BOLD)	Comments
Heat Programming	Mon–Fri	Default settings:	Use the   to scroll through items to change
	Sat–Sun	<b>Morning</b> 6:00 am 70° <b>Day</b> 8:00 am 62° <b>Evening</b> 5:00 pm 70° <b>Night</b> 10:00 pm 62°	Use   to raise/lower values
	7 Days		When complete, press <b>SAVE</b> to save settings or <b>GO TO COOL</b> to program cool settings
Cool Programming	Mon–Fri	Default settings:	Use the   to scroll through items to change
	Sat–Sun	<b>Morning</b> 6:00 am 78° <b>Day</b> 8:00 am 85° <b>Evening</b> 5:00 pm 78° <b>Night</b> 10:00 pm 82°	Use   to increment/decrement values
	7 Days		When complete, press <b>SAVE</b> to save settings or <b>GO TO HEAT</b> to program heat settings

## Keep Track of Your Thermostat Settings Below

Period		Weekdays		Weekend	
		Start Time	Temp	Start Time	Temp
HEAT	MOR				
	DAY				
	EVE				
	NGT				
COOL	MOR				
	DAY				
	EVE				
	NGT				

## Step 2: Thermostat Main Menu and Other Settings

### B. Other Settings

Menu Name	Submenu	Press  or  to Select Other Options (Defaults in BOLD)	Comments
Backlight: (Auto/On)		<b>Auto</b> On	Use   to change values When complete, press <b>SAVE</b>
Temperature Limits		Min Cool Set Point: <b>45°F</b>  Max Heat Set Point: <b>99°F</b>	Use the   to select setpoint to change  Use   to raise/lower value  When complete, press <b>SAVE</b> to save settings or <b>HOME</b> to exit without saving
Adjust Temperature Display		Current Room Temp (measured temp) Desired Offset 0°	Use   to increment/decrement value  When complete, press <b>SAVE</b> to save settings or <b>HOME</b> to exit without saving
Time Based Programming			Not Currently Used
Energy Management Recovery (see page 9)		<b>Off</b> <b>On</b>	Use   to change selection  When complete, press <b>SAVE</b> to save settings or <b>HOME</b> to exit without saving
°F/°C		°F °C	Use   to change selection  When complete, press <b>SAVE</b> to save settings or <b>HOME</b> to exit without saving

## Step 2: Thermostat Main Menu and Other Settings

### C. Description of Programming and Other Settings Menu Options

The following are detailed descriptions of your Energy Wise Rewards thermostat configuration menu options.

#### 1. Programming – Heat/Cool Programming

The Energy Wise Rewards thermostat can be programmed as a 7-day or 5/2 day thermostat. Using a 7-day programming profile, you can program each day of the week with its own individual setpoint profile. With a 5/2 day programming profile, Monday–Friday each has the same setpoint profile while Saturday–Sunday can be programmed with its own setpoint profile.

You can increase or decrease the temperature during the programming cycle, if desired.

#### 2. Other Settings – Backlight

This menu item controls the display backlight. You can choose either:

- **AUTO** – (Default) Backlight comes on when you press any key. Backlight goes off after a short delay when there is no button pressed
- **ON** – Backlight is always On.

#### 3. Other Settings – Temperature Limits

Temperature limits can be used to set limits on how high your heating temperature can be set and how low your cooling temperature can be set. The range for both values is from 45°F to 99°F.

- **Cool Setpoint** – 45°F (default)
- **Heat Setpoint** – 99°F (default)

#### 4. Other Settings – Adjust Temperature Display

This allows you to adjust the displayed temperature up to 5° higher or lower than the actual room temperature.

Your thermostat was accurately calibrated at the factory, but you have the option to change the display temperature to match your previous thermostat. The current or adjusted room temperature will be displayed on the left side of the display while your desired offset will be displayed on the right side of the display.

Options for this menu item include:

- **+1° through +5°** – Adjusts the displayed temperature the specified number of degrees higher than the measured room temperature.
- **0** – (Default) Displays the measured room temperature.
- **-1° through -5°** – Adjusts the displayed temperature the specified number of degrees lower than the measured room temperature.



## 5. Other Settings – Energy Management Recovery

Options for this menu item include:

- **OFF** – (Default) The system starts heating or cooling at the start time for the program period.
- **ON** – The system starts heating or cooling before the start time for the program period so that the room temperature reaches the program setpoint at the period start time.

Example: You select EMR ON and have your heat (conventional heating system) programmed to 65° at night and 70° at 7:00 AM (a difference of 5°). Allowing 7 minutes per degree, the thermostat will start calling for heat prior to the 7:00 AM period start time in an attempt to reach the 70° setpoint by 7:00 AM. With EMR OFF, the thermostat will wait until the 7:00 AM period start time to begin heating the facility.

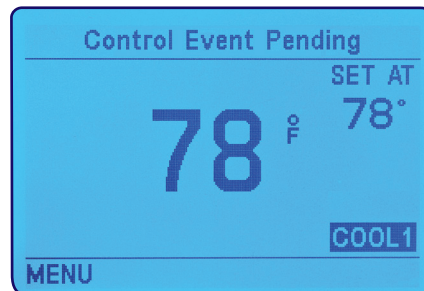
## 6. Other Settings – °F/°C

You can display temperature in either:

- °F – Fahrenheit (Default)
- °C – Celsius

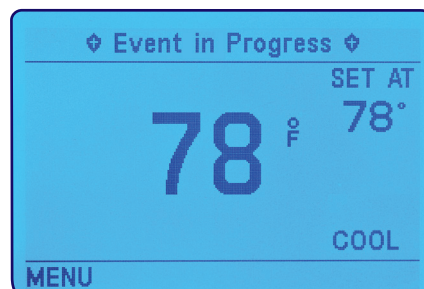
## 7. Other Settings – “Control Event Pending”

The phrase **Control Event Pending** will appear in the message rotation at the top of the display screen before an Energy Wise Rewards conservation period is set to begin. The LED at the center of the control arrows will flash until the event begins.



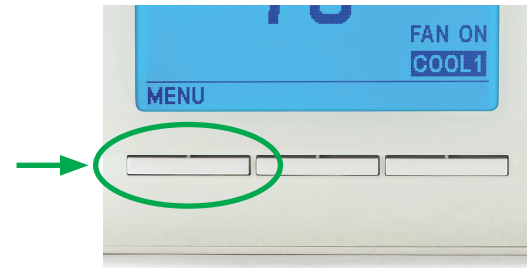
## 8. Other Settings – “Event in Progress”

When an Energy Wise Rewards conservation period is in progress, the phrase **Event in Progress** will be displayed in the message rotation at the top of the display screen. The LED at the center of the control arrows will maintain a steady light for the duration of the event.



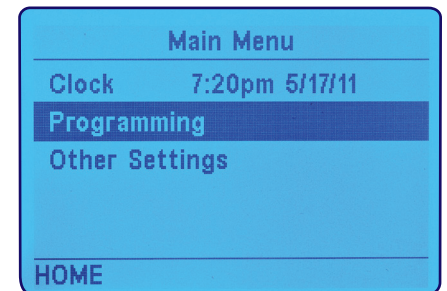
## Step 3: How to Program Your Pepco Energy Wise Rewards Thermostat

1. Press **MENU** to enter the Main Menu.

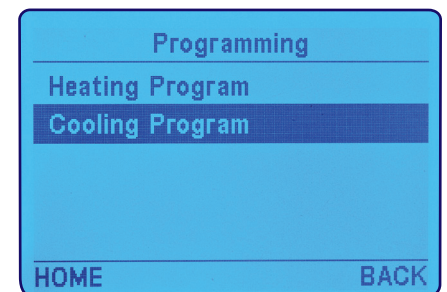


2. Press  $\uparrow$  or  $\downarrow$  to highlight the **Programming** menu item. Then press  $\odot$  (Action button) to enter the Programming Menu.

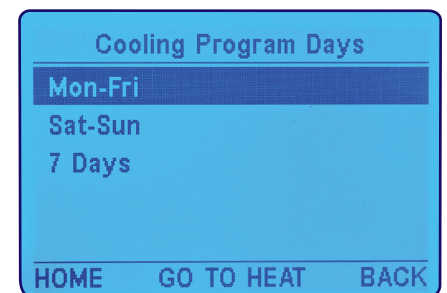
**NOTE:** If the **HOME** button is pressed at any point during the programming sequence, any changes made will not be saved and the thermostat will return to the **HOME** screen.



3. Press  $\uparrow$  or  $\downarrow$  to highlight **Heating Program** or **Cooling Program**, then press  $\odot$  (Action button).



4. Press  $\uparrow$  or  $\downarrow$  to highlight **Mon-Fri**, **Sat-Sun** or **7 Days**, then press  $\odot$  (Action button).
  - a. **Mon-Fri** sets all weekdays to the same operating schedule.
  - b. **Sat-Sun** sets the weekend days to the same operating schedule.
  - c. **7 Days** allows the user to program each day individually.



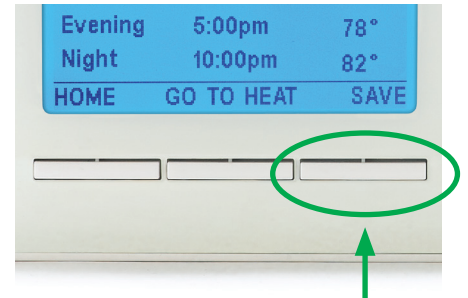
**NOTE:** If the **EXIT** key is pressed at any point while in the Time of Day (TOD) programming menu, the thermostat will return to the previous menu. If any changes are made to a TOD time period or setpoint, the **EXIT** key label will change to **SAVE**.

5. The Morning TOD **Starts At** time is highlighted. Press ⏪ or ⏩ to adjust the Morning TOD time period to the desired start time. Press ⏴ to highlight the Morning TOD setpoint.
  - a. For **Mon–Fri** or **Sat–Sun**, pressing **SAVE** will save the changes and return to the previous screen.
  - b. For **7 Days**, pressing **SAVE** on days Monday through Saturday will advance the thermostat to the next day, or Sunday it will save the settings and return to the previous menu.

Mon-Fri Cooling		
Period	Starts At	Cool To
Morning	6:00am	77°
Day	8:00am	85°
Evening	5:00pm	78°
Night	10:00pm	82°
HOME	GO TO HEAT	EXIT

**NOTE:** If no changes are made, there will not be a **SAVE** button. The button will be:

- **EXIT** for **Mon–Fri**, **Sat–Sun**, and only on Sunday for **7 Days**.
- **NEXT** for Monday through Saturday for **7 Days**.



6. The Morning **Heat To** or **Cool To** (depending on which mode is being programmed) is highlighted. Press ⏪ or ⏩ to adjust the Morning setpoint to the desired temperature. Press ⏴ to highlight the Day TOD **Starts At** time.

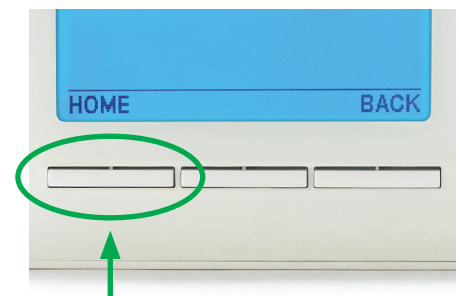
Mon-Fri Cooling		
Period	Starts At	Cool To
Morning	8:00am	77°
Day	8:00am	85°
Evening	5:00pm	78°
Night	10:00pm	82°
HOME	GO TO HEAT	EXIT

7. Repeat Steps 5–6 for the Day, Evening, and Night **Starts At** and **Heat To/Cool To** setpoints.

8. When changes are complete, press **SAVE**. (See 5a and 5b)

9. If programming a 7 Day schedule, repeat steps 5–8 for Tuesday through Sunday.

10. Press **HOME** after programming is complete and changes have been saved.



## PROGRAMMING TIPS:

- If you don't want to program a particular day, you can skip it. Press **NEXT** one or more times until you reach the desired day.
- If you want to similarly program days in a group with only slight differences, program as a group first, then program individual days as needed. The individual day program overrides the group program.
- While programming the heating or cooling schedule, press the **GO TO HEAT** or **GO TO COOL** button (choose for current schedule being programmed) to save any changes made and display the program schedule for that mode of operation.

## Step 4: Temporary Versus Permanent Hold

A temporary hold can be set when operating in any mode except for **OFF**. A temporary hold is set by pressing the ☺ or ☹ on the thermostat to adjust the desired temperature. The SET AT indication of the temperature setpoint will change to HOLD AT and a message will be cycled in the thermostat messaging display area to confirm that a temporary hold is set. A temporary hold setpoint will then be maintained until the start of the next programmed time period or the **RUN** soft key is pressed.

A permanent hold can be set when operating in any mode except for **OFF**. To set a permanent hold, change the temperature just like setting a temporary hold. When the desired setpoint is entered, the user will have approximately 4 seconds to press the **PERM HOLD** soft key to convert the temporary hold into a permanent hold. The SET AT by the setpoint will change to HOLD AT and a message will be cycled in the thermostat messaging display area to confirm that a permanent hold is set. If the **PERM HOLD** soft key is not pressed within 4 seconds, the hold will remain a temporary hold and the soft key will change to a **RUN** soft key.

A permanent hold setpoint will override the programmed setpoints and time periods and can only be ended by pressing the **RUN** soft key.

# Troubleshooting

## No Heat/No Cool/No Fan (Common Problems)

Possible Cause	Corrective Action
Blown fuse or tripped circuit breaker.	Replace fuse or reset breaker.
Furnace power switch set to <b>OFF</b> .	Turn switch to <b>ON</b> .
Furnace blower compartment door or panel is loose or not properly installed.	Replace door panel in proper position to engage safety interlock or door switch.

## No Heat or No Cool

Possible Cause	Corrective Action
Thermostat may be in an Energy Wise Rewards conservation period ("Event in Progress" displayed on top line of LCD).	Wait for the Energy Wise Rewards conservation period to end.
System switch is set to OFF.	Press the thermostat's <b>SYSTEM</b> button one or more times to select <b>HEAT</b> or <b>COOL</b> (as appropriate).

## Heat, Cool, or Fan Runs Constantly



Possible Cause	Corrective Action
Fan set to <b>ON</b> .	Change Fan to <b>AUTO</b> .

## Thermostat Setting and Thermometer Disagree

Possible Cause	Corrective Action
Thermostat thermometer setting requires adjustment.	The thermometer can be adjusted +/- 5 degrees. See Adjust Temperature Display on page 8.

# Troubleshooting

## No Heat

Possible Cause	Corrective Action
Pilot light not lit.	If it will not stay lit, call for service from your HVAC contractor.
System switch not set to <b>HEAT</b> .	Press the thermostat's <b>SYSTEM</b> button one or more times to select <b>HEAT</b> and press  to raise the temperature setpoint above room temperature.
Furnace Lock-Out Condition. Heat may also be intermittent.	Many furnaces have safety devices that shut down when a lock-out condition occurs. If the heat works intermittently, contact the furnace manufacturer or your HVAC contractor for assistance.
Heating system requires service or thermostat requires replacement.	To diagnose this condition: Press <b>SYSTEM</b> button to select <b>HEAT</b> and press  to raise the temperature setpoint above room temperature. Within a few seconds the thermostat should make a soft click sound. This sound usually indicates the thermostat is operating properly. If the thermostat does not click after being reset, contact Pepco Energy Wise Rewards for a replacement thermostat. If the thermostat does click, contact the furnace manufacturer or your HVAC contractor for a service visit to verify the heating is operating correctly.

## Furnace (Air Conditioner) Cycles Too Fast or Too Slow (Narrow or Wide Temperature Swing)

Possible Cause	Corrective Action
The location of the thermostat and/or the size of the heating system may be influencing the cycle rate.	Electronic thermostats, like this one, normally provide precise temperature control and may cycle faster than some older mechanical models. A faster cycle rate means the unit turns on and off more frequently to maintain the desired temperature, but runs for a shorter time so there is no increase in overall energy use.

# Troubleshooting

## No Cool

Possible Cause	Corrective Action
System switch not set to <b>COOL</b> .	Press <b>SYSTEM</b> button to select <b>COOL</b> and press ⌵ to lower the temperature setpoint below room temperature.
Outdoor unit disconnect or breaker tripped.	Verify the outdoor unit disconnect or breaker has not been tripped.
Cooling system requires service or thermostat requires replacement.	To diagnose this condition: Press <b>SYSTEM</b> button to select <b>COOL</b> and press ⌵ to lower the temperature setpoint below room temperature. Within a few seconds the thermostat should make a soft click sound. This sound usually indicates the thermostat is operating properly. If the thermostat does not click after being reset, contact your installing contractor for a replacement thermostat. If the thermostat clicks, contact the furnace manufacturer or HVAC contractor for a service visit to verify the cooling is operating correctly.

## Multi-stage Air Conditioner/Heat Pump Second, Third, and/or Fourth Stage Won't Come On

Possible Cause	Corrective Action
Your thermostat is designed to determine the optimum time to activate the second stage. Simply raising the temperature in heating or lowering it in cooling will not always force the thermostat to bring the second stage on quickly. There is a time delay from 0–30 minutes depending on the performance of the first stage of the system.	Wait for the second, third, and/or fourth stage to come on.

## Notes

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