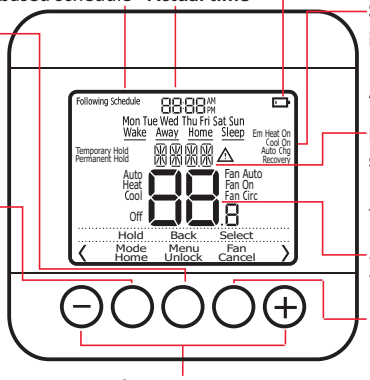
107403 / 107404
Programmable Thermostat

Thermostat controls



Schedule information
Following time based schedule **Actual time**

Menu
Press to display options.
Start here to set a program schedule

Mode
Select system mode Heat/ Off/Cool/Auto/ EM Heat (emergency heat)

Low battery warning appears

System status information : Heat On / Em Heat On / Cool On / Auto Chg / Recovery

Indoor temperature setpoint
Press + or – to change temperature setting

Actual indoor temperature

Fan
Select Fan mode Auto/On/Circulate

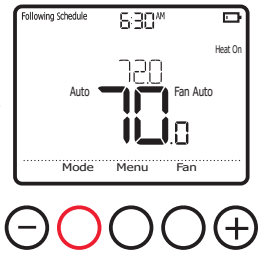
Temperature/Navigation buttons
Press to increase or decrease temperature setpoint and to navigate menus and menu options

The screen will wake up by pressing any of the five buttons. Depending on how your thermostat was installed, the screen light may always be on.

System operation settings

1 Press the **Mode** button to cycle to the next available System mode.
2 Cycle through the modes until the required System mode is displayed and leave it to activate.

System modes:
– Auto:Thermostat selects heating or cooling as needed.
– Heat: Thermostat controls only the heating system.
– Cool: Thermostat controls only the cooling system.
– Em Heat: (107403 only) (only for heat pumps with auxiliary heat)
– Off: Heating and cooling system is off. Fan will still operate if fan is set to On.

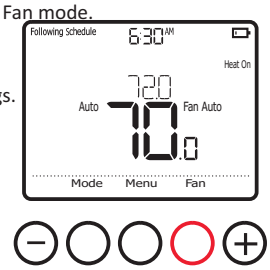


FAN operation settings

1 Press the **Fan** button to cycle to the next available Fan mode.
2 Cycle through the modes until the required Fan mode is displayed and leave it to activate.

NOTE: Available Fan modes vary with system settings.

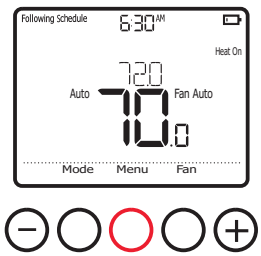
Fan modes:
– Auto: Fan runs only when the heating or cooling system is on.
– On: Fan is always on.
– Circ: Fan runs randomly about 33% of the time.



Set the time and date

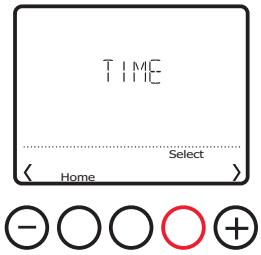
Time

1 Press **Menu** on your thermostat.
2 Press + or - to go to TIME. Press Select.
3 Press + or - to choose between 12 or 24 hour. Press Select.
4 Use + or - to adjust the hour. Press Select.
5 Use + or - to adjust the minutes. Press Select to exit Time menu.



Date

1 If previously setting time, continue to Step
2. If at the Home screen, press Menu on your thermostat.
2 Press + or - to go to DATE. Press Select.
3 Use + or - to adjust year. Press Select.
4 Use the + or - to adjust month. Press Select.
5 Use the + or - to adjust day. Press Select to save and exit Date menu.



Program Schedule

You can program four time periods each day, with different settings for weekdays and weekends. We recommend the pre-sets (shown in the table below), since they can reduce your heating/cooling expenses.

Wake - Set to the time you wake up and the temperature you want during the morning, until you leave for the day.

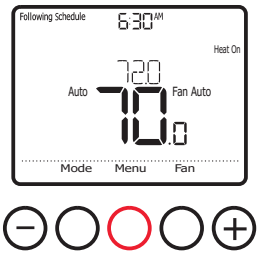
Away - Set to the time you leave home and the temperature you want while you are away (usually an energy-saving level).

	Heat	Cool
Wake [6:00 am]	70°	78°
Away [8:00 am]	62°	85°
Home [6:00 pm]	70°	78°
Sleep [10:00 pm]	62°	82°

Home - Set to the time you return home and the temperature you want during the evening, until bedtime.

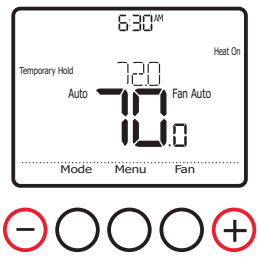
Sleep - Set to the time you go to bed and the temperature you want overnight (usually an energy-saving level).

To adjust program schedules



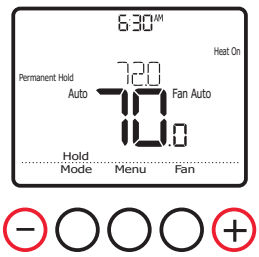
1 Press Menu on your thermostat.
2 PROG is displayed. Press Select. Then ON is displayed. (If you do not want to use a schedule, press + or - to display OFF. Press Select.) Press Select.
3 Press + or - to select day or set of days to edit. Press Select.
4 Press + or - to select a schedule period to edit (Wake, Away, Home, and Sleep). Press Select.
5 ON is displayed. Press Select to keep the schedule period on. Or press + and then Select to turn off the schedule period.
6 Time starts blinking. Press + or - to adjust the schedule period start time. Press Select.
7 Temperature starts blinking. Press + or - to adjust the "Heat" setpoint temperature. Press Select. Press + or - to adjust the "Cool" temperature setpoint. Press Select.
8 Repeat steps 4 through 7 for the remaining schedule periods.
9 Press Home when you're finished to save and return to the home screen.
10 Schedule can be adjusted and turned ON or OFF by returning to Menu and following the steps provided above.

Program schedule override (temporary)



1 Press + or - to adjust the temperature.
2 Once at the desired setpoint temperature, no further action is needed. The new setpoint temperature will be held until the next scheduled time period begins.
3 To cancel the Temporary Hold, Press + or - and then press Cancel.

Program schedule override (permanent)



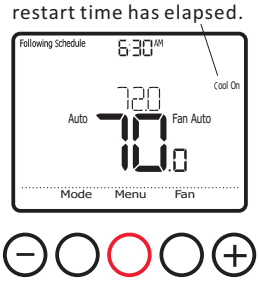
1 Press + or - to adjust the temperature.
2 TEMPORARY HOLD is displayed and the setpoint temperature flashes. While it's flashing, press Hold (Mode) to change to Permanent Hold.
3 To cancel the Permanent Hold, press + or - and then press Cancel.

Built-in compressor protection

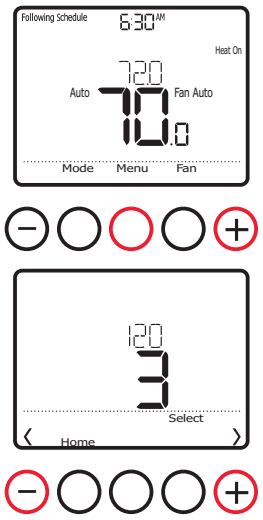
Damage can occur if the compressor is restarted too soon after shutdown. This feature forces the compressor to wait for a few minutes before restarting.

During the wait time, the display will flash the message Cool On (or Heat On if you have a heat pump). When the safe wait time has elapsed, the message stops flashing and the compressor turns on.

Message flashes until safe restart time has elapsed.



Installer setup (ISU)



1 Press and hold CENTER and buttons + for approximately 3 seconds to enter advanced menu.

2 Press Select to enter ISU.

3 Press Select to cycle through menu setup options.

4 Press + or - to change values or select from available options.

5 Press Select and confirm your settings or press Back to ignore changes and return to ISU menu screen to continue editing another setup option.

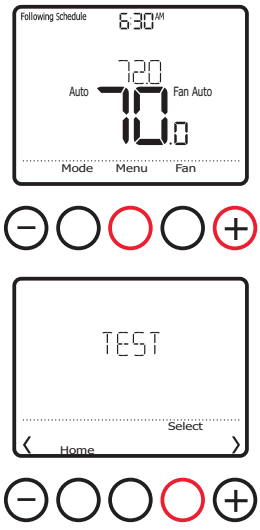
6 To finish setup process and save your setting, press Home and return to Home screen.

NOTE: A complete list of all setup (ISU) parameters and options starts below .

Advanced setup options (ISU)

#ISU	ISU Name	ISU Options (factory default in bold)
120	Scheduling Options	0 = Non-Programmable 2 = 5-2 Programmable **3 = 5-1-1 Programmable** 4 = 7-Day Programmable
125	Temperature Indication Scale	**0 = Fahrenheit** 1 = Celsius
200	Heating System Type	**1 = Conventional Forced Air Heat** 2 = Heat Pump 3 = Radiant Heat 5 = None (Cool Only)
205	Heating Equipment Type	*Conventional Forced Air Heat:* 1 = Standard Efficiency Gas Forced Air **2 = High Efficiency Gas Forced Air** 3 = Oil Forced Air 4 = Electric Forced Air 5 = Hot Water Fan Coil *Heat Pump:* **7 = Air to Air Heat Pump** 8 = Geothermal Heat Pump *Radiant Heat:* **9 = Hot Water Radiant Heat** 12 = Steam
218	Reversing Valve O/B	**0 = O (O/B in Cool)** 1 = B (O/B in Heat)
220	Cool Stages / Compressor Stages 200=Conv/200=HP	0, **1**, 2 *Note: Only 1 compressor stage available on it.*
221	Heat Stages / Backup Heat Stages	Heat Stages: **1**, 2 Backup Heat Stages: 0, **1**
230	Fan Control in Heat	1 = Equipment Controls Fan **2 = Thermostat Controls Fan**
300	System Changeover	**0 = Manual** 1 = Automatic
303	Auto Changeover Differential	**0 °F** to 5 °F **0.0 °C** to 2.5 °C *Note: Differential is NOT deadband. Resideo uses an advanced algorithm that fixes deadband at 0 °F. The differential setting is the minimum number of degrees from set-point needed to switch from the last mode running (heat or cool) to the oppositemode when the thermostat isin auto-changeover.*
340	Backup Heat Droop (107403 only)	**0 = Comfort** 2 = 2 °F 3 = 3 °F 4 = 4 °F 5 = 5 °F 6 = 6 °F 7 = 7 °F 8 = 8 °F 9 = 9 °F 10 = 10 °F 11 = 11 °F 12 = 12 °F 13 = 13 °F 14 = 14 °F 15 = 15 °F *Note: 0 (comfort) setting only available if backup heat (ISU 255)is set to electric.*
350	Upstage Timer for Backup Heat (107403 only)	**0 = Off** 1 = 30 minutes 2 = 45 minutes 3 = 60 minutes 4 = 75 minutes 5 = 90 minutes 6 = 2 hours 7 = 3 hours 8 = 4 hours 9 = 5 hours 10=6hours 11=8hours 12=10hours 13=12hours 14=14hours 16 = 16 hours
365	Compressor Cycle Rate (Stage 1)	1 - 6
370	Heating Cycle Rate (Stage 1)	1 - 12
375	Heating Cycle Rate Auxiliary Heat (107403 only)	1 - 12
387	Compressor Protection	0 = Off 1 - **5** minutes
425	Adaptive Intelligent Recovery	0 = No **1 = Yes** *Note:Adaptive Intelligent Recovery (AIR) is a comfort setting. Heating or cooling equipment will turn on earlier, ensuring the indoor temperature will match the setpoint at thescheduled time.*
430	Minimum Cool Setpoint	50 °F to 99 °F **(50 °F)** 10.0 °C to 37.0 °C **(10.0 °C)**
431	Maximum Heat Setpoint	40 °F to 90 °F **(90 °F)** 4.5 °C to 32.0 °C **(32.0 °C)**
435	Keypad Lockout	*Series 0-6 (setting on original T6 models):* **0 = None** 1 = Partial 2 = Full *Series 7 (setting current T6 models):* **0 = Disabled** 1 = Enabled *Note:Due to customer feedback this feature was changed. On series 0-6 thermostats, you can lockout the thermostat from the ISU the same as you can from menu lockout.* *For series 7 or later, this setting allows the contractor to enable or disable the lockout feature. When disabled,there is no lockout option under menu.*
702	Number of Air Filters	**0** - 2
711	Air Filter 1 Replacement Reminder	**0 = Off** 1 = 10 Run Time Days 2 = 20 Run Time Days 3 = 30 Run Time Days 4 = 45 Run Time Days 5 = 60 Run Time Days 6 = 90 Run Time Days 7 = 120 Run Time Days 8 = 150 Run Time Days 9 = 30 Calendar Days 10 = 45 Calendar Days 11 = 60 Calendar Days 12 = 75 Calendar Days 13 = 3 Calendar Months 14 = 4 Calendar Months 15 = 5 Calendar Months 16 = 6 Calendar Months 17 = 9 Calendar Months 18 = 12 Calendar Months 19 = 15 Calendar Months
712	Air Filter 2 Replacement Reminder	**0 = Off** 1 = 10 Run Time Days 2 = 20 Run Time Days 3 = 30 Run Time Days 4 = 45 Run Time Days 5 = 60 Run Time Days 6= 90 Run Time Days 7 = 120 Run Time Days 8 = 150 Run Time Days 9 = 30 Calendar Days 10 = 45 Calendar Days 11 = 60 Calendar Days 12 = 75 Calendar Days 13 = 3 Calendar Months 14 = 4 Calendar Months 15 = 5 Calendar Months 16 = 6 Calendar Months 17 = 9 Calendar Months 18 = 12 Calendar Months 19 = 15 Calendar Months
1400	Backlighting	**0 = On Demand** 1 = Continuous *Note: Common wire needed for continuous.*
1410	Clock Format	**12** / 24
1420	Temperature Display Offset	-3 to 3F **(0)** -1.5 to 1.5C**(0)**

Installer system test



To perform a System Test:

1 Press and hold CENTER and + buttons for approximately 3 seconds to enter advanced menu.

2 Use + to go to TEST. Press Select to enter System Test.

3 Use + to change between Heat, Cool, Fan, Em Heat, or Ver (thermostat version information). Press Select.

4 Press + to turn stages on one at a time, and press - to turn them off.

5 Use the Home button to exit the System Test.

System test		System status
Fan	0	Fan Off
	1	Fan On
Heat	0	All Off
	1	Heat Stage 1 on
	2	Heat Stage 2 also on
Cool	0	All Off
	1	Cool Stage 1on
ALL	0	All Off
	1	All on

Adjusting keypad lockout

1 Press Menu on the thermostat.
2 Press + or - to go to LOCK. Press Select.
3 Press + or - to go to OFF, PART, or ON, and then press Select.
OFF: Unlocked, and full access allowed.
PART: Partial lockout, allowing only the temperature to be changed.
ON: No access allowed.
4 To unlock the keypad, press the CENTER button and then enter the password "1234". To enter the password, press or to change the first digit of the number. Then press Select. Repeat this process to enter the second through fourth digits of the number. Once all four numbers have been entered, press Select again.
5 This will unlock the keypad.
6 If the code is incorrect, the screen will flash the lines "--".
7 Press Back to go back a step to enter the correct number and press Select.

Battery replacement

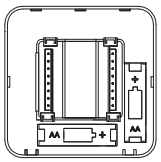
Batteries are optional (to provide backup power) if your thermostat was wired to run on AC power when installed. If your thermostat was not wired to run on AC power, then batteries are required.

Install fresh batteries immediately when the low battery icon appears. The icon appears about two months before the batteries are depleted.

Even if the low battery icon does not appear, you should replace batteries once a year, or before leaving home for more than a month.

NOTE: When replacing batteries, alkaline batteries are recommended.

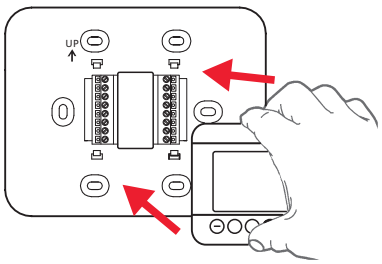
When the low battery warning appears, press gently to loosen the thermostat and then carefully pull it from the wall mount.



Insert fresh alkaline AA batteries and reinstall thermostat.

Thermostat mounting

1. Secure the base plate to the wall with screws and try to keep it level.
2. Correctly connect wires and push the excess wire back to the wall opening
3. Pin the pinhole on the base plate with the thermostat and push gently until the thermostat is captured in place.
4. Turn on the power at the circuit breaker box or switch.



Cover Plate installation

1 Before starting, turn the power off at the breaker box or switch.
2 Pull wires through wire hole of the cover plate.
3 Make sure the cover plate is horizontal and note the mark UP.See Figure 3.
4 Drill holes at marked positions as shownbelow, then tap in supplied wall anchors
5 Use any three of the six screw holes to mount the cover plate to the wall or the electric box. Place cover plate over anchors, insert and tighten mounting screws.

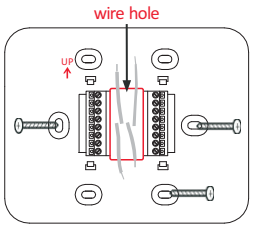
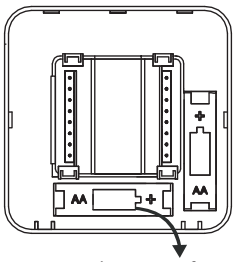


Figure 3

Power options

Insert R and C wires into designated terminals for primary AC power (C terminal is optional if batteries are installed, but it is recommended). Remove wires by depressing the terminal tabs.



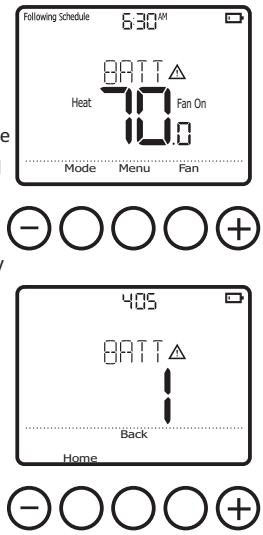
Insert AA batteries for primary or backup power.

Alerts

If there is an alert or reminder, the alert icon ⚠ appears on the Home screen.

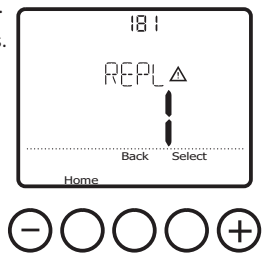
Low Battery Warning

1 The batteries need to be replaced when BATT, the alert icon ⚠, and the battery icon are displayed on the Home screen.
2 When the battery power is very low, the thermostat's backlight is disabled to save battery power.
3 When battery power is critically low, only BATT, the alert icon ⚠, and the battery icon are displayed.



Air Filter Reminder

1 The alert icon ⚠ appears on the Home screen.
2 Press Menu, and then press + until display shows ALRT.
3 Press Select to display which alert(s) are present.
4 The message REPL (REPLACE AIR FILTER) appears.
5 The reminder can be check + or cleared -.
Recommends changing the air filter before clearing the reminder.
6 To clear, press -, and then message AIR FILTER RESTORE.
7 Press Back to Home.



Electrical Ratings

Terminal	Voltage (50/60Hz)	Running Current
W Heating	20 Vac - 30 Vac	0.02A - 1.0 A
W2 (Aux) Heating	20 Vac - 30 Vac	0.02A - 1.0 A
E Emergency Heat	20 Vac - 30 Vac	0.02A - 0.5 A
Y Compressor Stage 1	20 Vac - 30 Vac	0.02A - 1.0 A
G Fan	20 Vac - 30 Vac	0.02A - 0.5 A
O/B Changeover	20 Vac - 30 Vac	0.02A - 0.5 A
L/A Input	20 Vac - 30 Vac	0.02A - 0.5 A

Note: **W2** and **E** only for 107403

Specifications

Temperature Ranges:
Heat: 32 °F to 90 °F (0 °C to 32.0 °C)
Cool: 50 °F to 99 °F (10.0 °C to 37.0 °C)

Operating Ambient Temperature:
32 °F to 102 °F (0 °C to 38.9 °C)

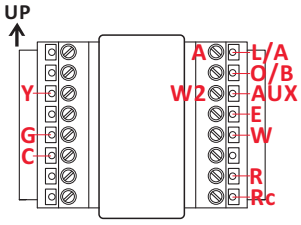
Shipping Temperature:
-20 °F to 120 °F (-28.9 °C to 48.9 °C)

Operating Relative Humidity:
5% to 90% (non-condensing)

Physical Dimensions in inches (mm) (H x W x D):
4-1/16" H x 4-1/16" W x 1-5/32" D
103.5 mm H x 103.5 mm W x 29 mm D

Wiring terminal designations

- **Y** — Compressor contactor (stage 1)
- **G** — Fan Relay
- **C** — 24VAC common. For 2 transformer systems, use common wire from cooling transformer.
- **L/A -A** — Heat Pump fault input (Common C wire required for LA/A 107403 only)
- **O/B** — Changeover Valve
- **AUX-W2** — Auxiliary heat Heat (107403 only)
- **E** — Emergency Heat (107403 only)
- **W** — Heat relay (stage 1)
- **R** — 24VAC power from heating transformer
- **Rc** — 24VAC power from cooling transformer



Note: Not all terminals may be used, depending on the system type that is being wired. The most commonly used terminals are shaded.

Wiring conventional systems: forced air and hydronics

1H/1C System (1transformer)

- R Power [1]
- Rc [R+Rc by jumper]
- Y Compressor contactor
- C 24VAC common [3]
- W Heat relay
- G Fan relay

1H/1C System (2transformers)

- R Power (heating transformer) [1]
- Rc Power (cooling transformer) [1]
- Y Compressor contactor
- C 24VAC common [3, 4]
- W Heat relay
- G Fan relay

Heat-only System

- R Power [1]
- Rc [R+Rc by jumper]
- C 24VAC common [3]
- W Heat relay

Heat-only System with Fan

- R Power [1]
- Rc [R+Rc by jumper]
- C 24VAC common [3]
- W Heat relay
- G Fan relay

Cool-only System

- R Power [1]
- Rc [R+Rc by jumper]
- Y Compressor contactor
- C 24VAC common [3]
- G Fan relay

Heat-only System (Series 20)[5]

- R Series 20 valve terminal "R" [1]
- Rc [R+Rc by jumper]
- Y Series 20 valve terminal "W"
- C 24VAC common [3]
- W Series 20 valve terminal "B"

Heat-only System (Power open zone valve) [5]

- R Power [1]
- Rc [R+Rc by jumper]
- W Valve
- C 24VAC common [3]

Wiring heat pump systems

1H/1C Heat Pump System

- R Power [1]
- Rc [R+Rc by jumper]
- Y Compressor contactor
- C 24VAC common [3]
- O/B Changeover valve [7]
- G Fan relay
- W **Do not use this terminal for heat pump applications!**

2H/1C Heat Pump System [8] Only for 107403

- R Power [1]
- Rc [R+Rc by jumper]
- Y Compressor contactor
- C 24VAC common [3]
- O/B Changeover valve [7]
- G Fan relay
- **Aux** Auxiliary heat
- **E** Emergency heat
- **L** Heat pump fault input
- W **Do not use this terminal for heat pump applications!**

NOTES

Wire specifications: Use 18- to 22-gauge thermostat wire. Shielded cable is not required.

[1] Power supply. Provide disconnect means and overload protection as required.

[3] Optional 24VAC common connection.

[4] Common connection must come from cooling transformer.

[5] In ISU set Heat system type to Radiant Heat. Set number of cool stages to 0.

[7] In Installer Setup, set changeover valve to O (for cool changeover) or B (for heat changeover).

[8] In ISU set Heat system type to Heat pump. 1 com- pressor and 1 stage of backup heat.

Troubleshooting

If you have difficulty with your thermostat, please try the following suggestions. Most problems can be corrected quickly and easily.

Display is blank	• Check circuit breaker and reset if necessary. • Make sure power switch for heating & cooling system is on. • Make sure furnace door is closed securely. • Make sure fresh AA alkaline batteries are correctly installed。
Heating or cooling system does not respond	• Press Mode button to set system Heat. Make sure the desired temperature is set higher than the inside temperature. • Press Mode button to set system Cool. Make sure the desired temperature is set lower than the inside temperature. • Check circuit breaker and reset if necessary. • Make sure power switch for heating & cooling system is on. • Make sure furnace door is closed securely. • Wait 5 minutes for the system to respond.
Temperature settings do not change	Make sure heating and cooling temperatures are set to acceptable ranges: • Heat: 40 °F to 90 °F (4.5 °C to 32.0 °C) • Cool: 50 °F to 99 °F (10.0 °C to 37.0 °C)
"Cool On" or "Heat On" is flashing	• Compressor protection feature is engaged. Wait 5 minutes for the system to restart safely, without damage to the compressor.
Aux heat runs in cooling	• For heat pump systems, verify there is not a wire attached to W, W do not use this terminal for heat pump applications.
Cool runs with a call for heat	• For heat pump systems, verify there is not a wire attached to W, W do not use this terminal for heat pump applications.

CAUTION: ELECTRICAL HAZARD

Can cause electrical shock or equipment damage. Disconnect power before beginning installation.

CAUTION: EQUIPMENT DAMAGE HAZARD

Compressor protection is bypassed during testing. To prevent equipment damage, avoid cycling the compressor quickly.

CAUTION: MERCURY NOTICE

If this product is replacing a control that contains mercury in a sealed tube, do not place the old control in the trash. Contact your local waste management authority for instructions regarding recycling and proper disposal.

CAUTION: ELECTRONIC WASTE NOTICE

The product and batteries should not be disposed of with other household waste. Check for the nearest authorized collection centers or authorized recyclers. The correct disposal of end-of-life equipment will help prevent negative consequences for the environment and human health.