



Amana® 2246003

Non-Programmable Electronic Thermostat

Electric Heat or HP, Manual Changeover, Hardwired

- Configurable
- 2-Stage Heat Pump Systems
- 1-Stage Electric Heat
- Backlit Display
- Field Calibration Feature
- Relay Outputs (minimum voltage drop in thermostat)
- Ideally Suited for:
 - Residential (New Construction/Replacement)
 - Light Commercial

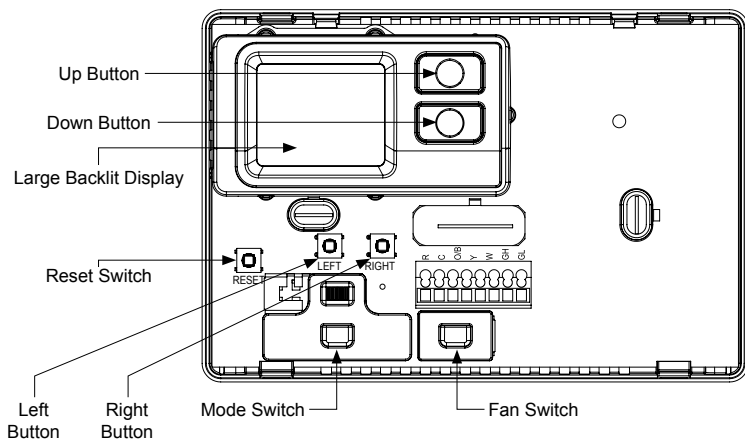


Installation, Operation & Application Guide

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Parts Diagram



Specifications

Electrical rating: • 24 VAC (18-30 VAC)

- 4 amp maximum total load
- 1 amp maximum per terminal

Temperature control range: 45°F to 90°F (7°C to 32°C) **Accuracy:** ± 1°F (± 0.5°C)

System configurations: 2-stage heat & 1-stage cool heat pump, 1-stage electric heat

Timing: Anti-short Cycle: 4 minutes

Backlight Operation: 10 seconds

Terminations: R, C, O/B, Y, W, GH, GL

Important Safety Information

WARNING: Always turn off power at the main power supply before installing, cleaning, or removing thermostat.

- This thermostat is for 24 VAC applications only; do not use on voltages over 30 VAC
- All wiring must conform to local and national electrical and building codes
- Do not use air conditioning when the outdoor temperature is below 50 degrees; this can damage your A/C system and cause personal injuries
- Use this thermostat only as described in this manual

Package Contents/Tools Required

Package includes: Amana® 2246003 thermostat on base, thermostat cover, wiring labels, screws and wall anchors, Installation, Operation and Application Guide

Tools required for installation: Drill with 3/16" bit, hammer, screwdriver

To Remove Existing Thermostat



ELECTRICAL SHOCK HAZARD – Turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker to the OFF position before removing the existing thermostat.

1. Turn off power to the heating and cooling system by removing the fuse or switching the appropriate circuit breaker off.
2. Remove cover of old thermostat. This should expose the wires.
3. Label the existing wires with the enclosed wire labels before removing wires.
4. After labeling wires, remove wires from wire terminals.
5. Remove existing thermostat base from wall.
6. Refer to the following section for instructions on how to install this thermostat.

To Install Thermostat



ELECTRICAL SHOCK HAZARD – Turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker to the OFF position before removing the existing thermostat.

IMPORTANT: Thermostat installation must conform to local and national building and electrical codes and ordinances.

⚠ **Note:** Mount the thermostat about four feet above the floor. Do not mount the thermostat on an outside wall, in direct sunlight, behind a door, or in an area affected by a vent or duct.

1. Turn off power to the heating and cooling system by removing the fuse or switching the appropriate circuit breaker off.
2. To remove cover, insert and twist a coin or screwdriver in the slots on top of the thermostat.
3. Put thermostat base against the wall where you plan to mount it (Be sure wires will feed through the wire opening in the base of the thermostat).
4. Mark the placement of the mounting holes.
5. Set thermostat base and cover away from working area.
6. Using a 3/16" drill bit, drill holes in the places you have marked for mounting.
7. Use a hammer to tap supplied anchors in mounting holes.
8. Align thermostat base with mounting holes and feed the control wires through wire opening.
9. Use supplied screws to mount thermostat base to wall.
10. Insert stripped, labeled wires in matching wire terminals. See "Wiring Diagrams" section of this manual.
- CAUTION!** Be sure exposed portion of wires does not touch other wires.
11. Gently tug wire to be sure of proper connection. Double check that each wire is connected to the proper terminal.
12. Seal hole for wires behind thermostat with non-flammable insulation or putty.
13. Replace cover on thermostat by snapping it in place.
14. Turn on power to the system at the main service panel.
15. Test thermostat operation as described in "Testing the Thermostat".

Terminal Designator Descriptions

R – 24 VAC hot
C – 24 VAC common
O/B – Reversing valve
Y – 1st stage cool, 1st stage HP heat for HP
W – 2nd stage heat for HP, 1st stage electric heat
GH – Fan High
GL – Fan Low

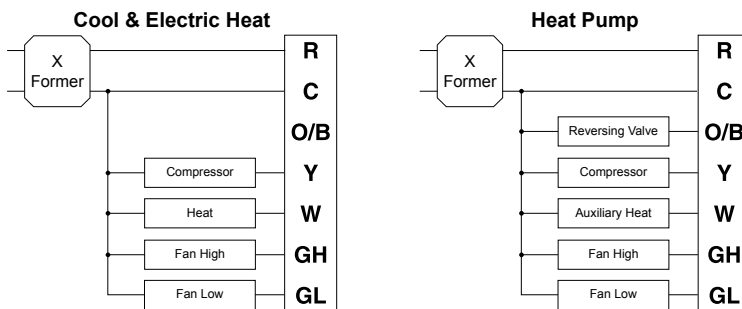
Output Chart

HSO = Heat Pump (cool active reversing valve)
HSb = Heat Pump (heat active reversing valve)
HSE = Electric Heat

1 ST Cool	1 ST Heat	2 ND Heat
Y, GL, O	Y, GL	Y, GL, W
Y, GL	Y, GL, B	Y, GL, B, W
Y, GL	W, GL	W, GL

⚠ **Note:** GL will be on during heating and cooling cycle when fan switch is set to Auto

Wiring Diagram Conversions



Configuration Mode

The configuration mode is used to set the **Amana® 2246003** to match your heating/cooling system.

To configure the **Amana® 2246003**, perform the following steps:

1. Slide the **Mode** switch to the **OFF** position.
2. Remove the cover of the thermostat by gently pulling on one of the corners.
3. Simultaneously hold the **LEFT & RIGHT** buttons in for 2 seconds while the **Amana® 2246003** is in **OFF** mode.
4. Press the **down** or **up** button to change settings within each screen.
5. Press the **RIGHT** button to advance to the next screen.
⚠ **Note:** The **LEFT** button will return you to the previous screen.
6. To exit configuration mode, slide the **Mode** switch to **Heat** or **Cool**.

Configuration Mode Settings

The setup screens for Configuration Mode are as follows:

1. **Temperature Scale (F or C)** – Choose Fahrenheit or Celsius.
Press the **down** or **up** button to select.
Press the **RIGHT** button to advance to the next screen.



2. Heating System

HSO – Heat pump, cool active reversing valve



HSb – Heat pump, heat active reversing valve



HSE – Electric heat system



3. **Temperature Differential – Stage 1** – (1°F to 5°F) (0.5°C to 2.5°C)
Set the number of degrees between your “setpoint” temperature and your “turn on” temperature for first stage.
Press the **down** or **up** button to set differential value.
Press the **RIGHT** button to advance to the next screen.



4. **Temperature Differential – Stage 2** – (1°F to 5°F) (0.5°C to 2.5°C) (shows only for HP)
Set the number of degrees between when stage 1 turns on and stage 2 turns on.
Press the **down** or **up** button to set differential value.
Press the **RIGHT** button to advance to the next screen.



5. **Staged Off Outputs** (shows only for HP)
Select whether the outputs for heating and cooling are staged off independently or are satisfied simultaneously.
1 = Economy Mode – Outputs are staged on and off in accordance with set point and differential.
0 = Comfort Mode – Outputs are staged on and all stages cycle off simultaneously when set point is satisfied.
Press the **down** or **up** button to select.
Press the **RIGHT** button to advance to the next screen.



6. **Maximum Heat Setpoint** (45°F to 90°F) (7.0°C to 32.0°C)
Adjust to control the maximum Heat set temperature allowed.
Press the **down** or **up** button to select.
Press the **RIGHT** button to advance to the next screen.



7. **Minimum Cool Setpoint** (45°F to 90°F) (7.0°C to 32.0°C)
Adjust to control the minimum Cool set temperature allowed.
Press the **down** or **up** button to select.
Press the **RIGHT** button to advance to the next screen.



8. **Room temperature offset** (+9°F to -9°F) (+4.5°C to -4.5°C)
Adjust to calibrate displayed room temperature to match actual room temperature.
⚠ **Note:** When not set to 0, **ROOM** will display.
Press the **down** or **up** button to select.
Slide **Mode** switch to **Heat** or **Cool** to exit configuration mode..



Starting the Thermostat

CAUTION! Do not use air conditioning when the outdoor temperature is below 50 degrees. This can damage your air conditioning system and cause personal injuries.

1. Move the **High/Auto/Low** switch to the **Auto** position.
2. Move the **Cool/Off/Heat** switch to **Heat** or **Cool**, depending on the season.



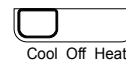
Testing the Thermostat

Once the thermostat is installed, it should be thoroughly tested.

CAUTION! Do not energize the air conditioning system when the outdoor temperature is below 50 degrees. It can result in equipment damage or personal injury.

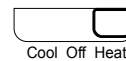
Cool Test

1. Slide **Mode** switch to **Cool** mode.
2. Adjust set temperature so it is 5 degrees below room temperature.
3. Air conditioning should come on within a few seconds.
4. Adjust the set temperature 2 degrees above the room temperature and the A/C should turn off. There may be a fan delay on your system.
⚠ **Note:** There is a four minute time delay to protect the compressor after it turns off. To temporarily bypass the four minute delay, slide the **Mode** switch to **OFF** for 2 seconds and then back to **Cool**.



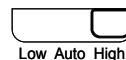
Heat Test

1. Slide **Mode** switch to **Heat** mode.
2. Adjust the set temperature so it is 5 degrees above the room temperature.
3. Heat should come on within a few seconds.
4. Adjust the set temperature so it is 2 degrees below the room temperature and the heat should turn off. There may be a fan delay on your system.
⚠ **Note:** For Heat pumps, there is a four minute time delay to protect the compressor after it turns off. To temporarily bypass the four minute delay, slide the **Mode** switch to **OFF** for 2 seconds and then back to **Heat**.

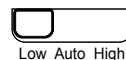


Fan Test

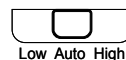
1. Slide **Fan** switch to **High** position.
2. Indoor fan turns on in high speed.



3. Slide **Fan** switch to **Low** position.
4. Indoor fan turns on in low speed.



5. Slide **Fan** switch to **Auto** position.
6. Indoor fan turns off.



Mode of Operation

The **Amana® 2246003** is a thermostat for 24 VAC systems.

Heat Pump Operation

The thermostat activates the heat pump when the room temperature is below the heat set temperature (by the differential temperature). Auxiliary heat will be activated if the room temperature continues to drop. The heat outputs are staged off (configurable, setting 5) as the room temperature increases. The thermostat will not let the compressor come on for four minutes after it turns off. This protects your compressor.

Electric Heat Operation

The thermostat activated the electric heat when the room temperature is below the heat set temperature (by the differential temperature). The heat is turned off when the room temperature raises to one degree above the heat set point temperature.

When the room temperature is greater than the cool set temperature (by the differential temperature), the cooling device is activated. The thermostat will not let the compressor come on for four minutes after it turns off. This protects your compressor.

The **Amana® 2246003** has the following operating modes: **Cool**, **Off**, **Heat**. In **OFF** mode, the thermostat will not turn on heating or cooling devices. In the **Heat** mode, the thermostat controls the heating system. In the **Cool** mode, the thermostat controls the cooling system. The indoor fan can be turned on in all operating modes using the **Fan** switch.

- **Set fan to HIGH:** for continuous high speed operation
- **Set fan to LOW:** for continuous low speed operation
- **Set fan to AUTO:** for low speed fan operation only during a heat or cool cycle

Troubleshooting

Symptom	Remedy
No display	Check for 24 VAC at thermostat; display is blank when 24 VAC is not present
System fan does not come on properly	Verify wiring is correct
Thermostat turns on and off too frequently	Adjust temperature differential (see "Temperature Differential," Stage 1, Step 3)
Fan runs continuously	Check fan Low/Auto/High switch. Low or High position runs indoor fan continuously
Room temperature is not correct	Verify wall hole is plugged with putty or insulation; calibrate thermostat (see "Configuration," Step 8)
ROOM displays	Room temperature offset is not zero (see "Configuration," Step 8)
Auxiliary heat not on soon enough	Adjust differential for 2nd stage heating if required (see Configuration, Steps 3 & 4)
Problem not listed above	Press the Reset button once; display will be refreshed