



# Installation of Hunter® Heat Pump Thermostat Model 40080

## Specifications

### Thermal Data

Temperature Range: 50°F to 90°F (10°C to 32°C)  
Differential: Stage 1 Heat - 1 1/4°F  
Stage 2 Heat - 0.1 to 1.2 Amps  
Cooling - .2 to 1.0 Amp

### Electrical Data

Switch Rating: 24 volts A.C. (30 VAC max.)  
Stage 1 Heat - .2 to 1.2 Amps  
Stage 2 Heat - 0.1 to 1.2 Amps  
Cooling - .2 to 1.0 Amps  
Switch Action: Sealed Mercury Switches  
Stage 1 Heat & Cool - SPDT  
Stage 2 Heat - SPST

Anticipator Rating: Stage 1 Heat - 24 volts A.C. fixed  
Stage 2 Heat - 0.1 to 1.2 Amps adjustable  
Cooling - 24 volts A.C. fixed

## Safety

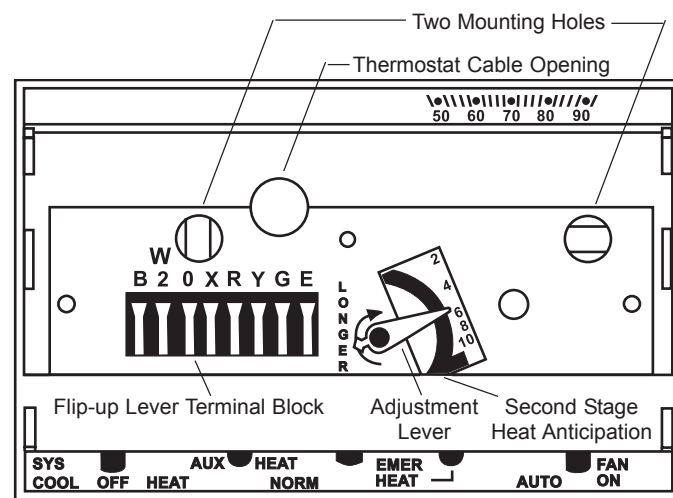
This thermostat is a precision instrument, and should be handled carefully. Rough handling or distorting components could cause the control to malfunction.

**CAUTION:** To prevent electrical shock and/or equipment damage, disconnect electric power to system, at main fuse or circuit breaker box, until installation is complete.

**WARNING:** Do not use on circuits exceeding 30 volts. Higher voltage will damage control - could cause shock or fire hazard. Do not exceed the specification ratings.

## Installation

1. Remove the thermostat cover by carefully pulling outward until it snaps free.
2. Carefully remove and discard any packing which protects the thermometer and the mercury switches during shipment.
3. If a thermostat is being replaced and it is in a satisfactory location and the wiring is in good condition, use the existing wiring. If in doubt, have an electrician or HVAC professional replace the wiring.
4. If replacing an existing thermostat, place enclosed wire labels on each wire to match the terminals on the old thermostat. Refer to the wiring chart to help match the old terminals to the Hunter terminals. Ignore the color of the wires, as they do not always match the standard.



## Attaching Thermostat to Wall

1. Pull about 4 inches of thermostat wire through the wall opening and lead through the large opening near the center of the thermostat.
2. Attach the thermostat directly to the wall with screws and anchors provided or to a standard horizontal outlet box using the two elongated mounting holes.
3. Level the thermostat. Use a level placed on top of the thermostat for best results. Minor adjustments can be made using the elongated holes. Securely tighten mounting screws.  
**IMPORTANT:** This thermostat was calibrated at true level. Any inaccuracy in level will cause control point deviation. Care must be taken to mount the thermostat in a true level position.

## Disposal Information

This product contains mercury in a sealed tube. DO NOT place this control in the trash at the end of its useful life. If this product is replacing a control that contains mercury, DO NOT place the old product in the trash. Contact your local waste management authority for instructions regarding recycling and the proper disposal of this product, or of and for any old control containing mercury in a sealed tube.

## Attaching Thermostat Wire

1. Strip wires 1/4 inch.
2. Raise levers on terminal block. (Accepts 16 awg. stranded, 18-24 awg. solid or stranded)
3. Place leads into hole in terminal block under appropriate terminal designation on circuit board and tightly close lever by pushing downward. (Refer to wiring diagrams for proper system hook-up.)
4. Push excess wire into wall or outlet box and plug up the hole to prevent drafts from affecting thermostat operation.

## Wiring Diagram

Failure to read and follow all instructions carefully, before installing or operating this thermostat, could cause personal injury and/or property damage.

**NOTE:** The "Y" terminal activates the compressor contactor for first stage HEAT and first stage COOL.

The changeover relay valve is activated in either the COOLING or the HEATING mode on all models. By connecting the relay to the "O" terminal, the relay is activated by moving the system switch to COOL. By connecting the relay to the "B" terminal the relay is activated by moving the system to HEAT. Check your owners manual for the appropriate connection for your system.

**Common wire "X" must be connected for proper operation.**  
**GREEN LIGHT (AUXiliary HEAT)** - This light indicates auxiliary heaters are assisting the heat pump in normal system operation. The aux. light will cycle with second stage heat in either "NORMAL HEAT" or "EMERGENCY HEAT" switch positions.

**RED LIGHT (EMERGENCY HEAT)** - This light will glow when the emergency heat switch has been moved to the "EMER HEAT" position. DO NOT use this switch for normal heating operations. The switch will bring on electric or gas auxiliary heat and at the same time prevent the heat pump from operating.

With a jumper installed between "E" and "W2" terminals the

auxiliary heat strips will be activated for use as emergency heat strips. See operation chart.

## Heating Anticipation

This thermostat is equipped with fixed anticipators for stage one heat and cooling which do not require adjustment. Stage 2 (or AUXiliary) heat has an adjustable anticipator. Additional adjustments, if necessary, may be made as follows:  
Heat cycles too long - Set adjustable heater to a slightly lower dial setting (1/2 division).  
Heat cycles too short - Set adjustable heater to a slightly higher dial setting (1/2 division).

## Operation and System Check

The chart shows the different system functions with switches in various positions. Some models may not have certain system functions.

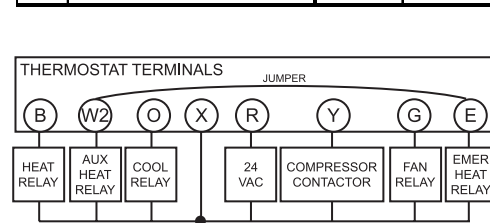
SWITCH POSITIONS							SYSTEM FUNCTION						COMPONENT OPERATION
SYSTEM		Emer Heat		FAN			Fan Relay	Rev Valve	Compr. Contact	Aux Heat	Emer Heat	Aux Light	
Cool	Off	Heat	Norm	Emer	Auto	On							
	■		■		■								No Heating, No Cooling, No Fan, No Lights.
■			■		■		■	O	■				Cooling Mode - Compressor contactor and fan relay cycle from thermostat.
		■	■		■		■	B	■				Heat Mode - Stage 1 Only - Compressor contactor and fan relay cycle from thermostat.
		■	■		■		■	B	■	■	☒	■	Heat Mode - Both Stages - Compressor contactor, fan relay, auxiliary heat relays, and aux. light on.
		■		■	■		■	B		☒	■		Emergency Heat Mode - Stage 1 Only - Fan and emergency heat relay energized. Compressor locked out at thermostat. Emer. light on.
		■		■	■		■	B		■	■	■	Emer. Heat Mode - Both Stages - Fan, emergency heat, and auxiliary heat relays energized. Compressor locked out at thermostat. Emer. and aux. lights on.
						■							Fan runs continuously regardless of system switch position.

■ Shows Position of Switch and System Function in Operation  
☒ This System Function will operate if jumper from E to W2 is connected. (Optional)  
O Reversing valve energized if connected to "O" terminal  
B Reversing valve energized if connected to "B" terminal

## Wiring Chart and Diagram

Use the chart below to match the wires on your current system or thermostat. Most heat pumps will have connections like one of these. **NOTE:** Remove the factory installed jumper if your heat pump has separate wires for E and W2.

Hunter Connection Labels	Carrier	Coleman	Comfortmaker	Bryant, Payne	Rheem-Ruud	Weathertron	York	Lennox (1)	Lennox (2)
R 24 VAC	R	R	R	R	R	R	R	R	V-VR
Y Compressor	Y or Y1	Y	Y	Y	Y	Y	Y	Y	M
O Reversing valve - Cool	O		O	O		O	O	O	R
B Reversing valve - Heat		B			B				
G Fan	G	G	G	G	G	G	G	G	F
E Emergency Heat	E	E	jumper to W2	E	E	jumper to W2	jumper to W2	E	E
W2 Auxillary Heat	W2	W2	W1	W2	W2	W-U	W	W1	Y
X Common	C	X	C	C, C1, X1	X	B	B	C	X



Note: W2 & X wires no connection

Note: X2 & T wires no connection

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