

**FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLING OR OPERATING THIS CONTROL COULD CAUSE PERSONAL INJURY AND/OR PROPERTY DAMAGE.**

## DESCRIPTION

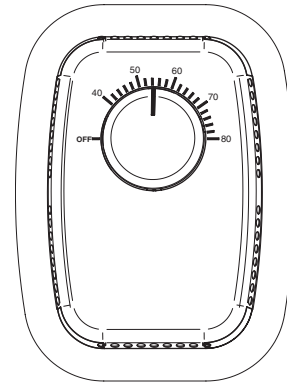
The B50 Electric Heat Thermostat is designed for use on all types of electrical heating installations such as cable heat, baseboards, wall insert heaters, etc.

The B50 thermostat is intended for use on 240 or 277 VAC where local codes require that a double line disconnect thermostat be used. This thermostat can also be used on 120 VAC. (See specific wiring information for 120 VAC.)

**Dial Setting:** This thermostat may be set anywhere between 40° and 80°F by simply turning the knob so the indicator on knob points to the desired setting.

The knob may be turned past 40° to the “OFF” position to obtain temporary shutdown of the heating equipment for short periods of time such as on weekends, vacation, etc. Turning knob to “OFF” position will break both sides of line.

**NOTE:** Only one side of line is broken during normal cycling of this thermostat.



This Thermostat includes:

- Wall cover plate (required when thermostat will not hide wall imperfections behind old thermostat)
- Two cover mounting screws
- Three Temperature Limiting Pins

## PRECAUTIONS

This control is a precision instrument, and should be handled carefully. Rough handling or distorting components could cause the control to malfunction. **Take care not to push or damage the internal bimetal sensing element during installation.**

### ⚠ 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.**

All wiring must conform to local and national electrical codes and ordinances.

### ⚠ WARNING

**Do not use on circuits exceeding specified voltages. Higher voltages will damage control and could cause shock or fire hazard.**

**Do not use on inductive loads. Inductive (motor) loads will damage control and could cause shock, fire hazard or failure of thermostat.**

## SPECIFICATIONS

**Switch Rating:** Non-Inductive  
22A (5000W) 240VAC  
19A (5000W) 277VAC  
22A (2500W) 120VAC

**Temperature Range:** 40° to 80°F

**Differential:** 3.0°F

**Switch Action:** Open on rise

**Contact Structure:** Double Line Disconnect - DPST

# INSTALLATION

If the heating equipment manufacturer has made provisions or recommendations for the location of this control, then follow those instructions. If not, the following suggestions should be observed.

1. The control should be mounted in the wall, approximately five feet from the floor, as near as possible to the center of the controlled area.
2. It should be mounted on a partitioning wall, not on an outside wall.

3. It should be mounted as far as possible from undesirable sources of heat and cold such as:
  - a. Windows and doors
  - b. Direct rays from sun
  - c. Hot water or cold water pipes
  - d. Adjoining outside walls

# WIRING

**All wiring must conform to local and national electrical codes and ordinances.**

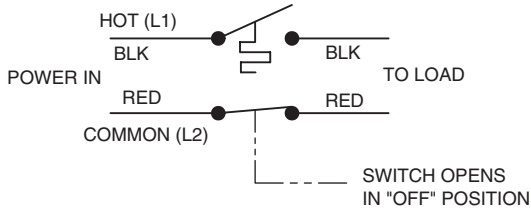
The thermostat can be mounted in any standard 2" x 4" electrical outlet box. For ease of installation use a deep type box.

## CAUTION

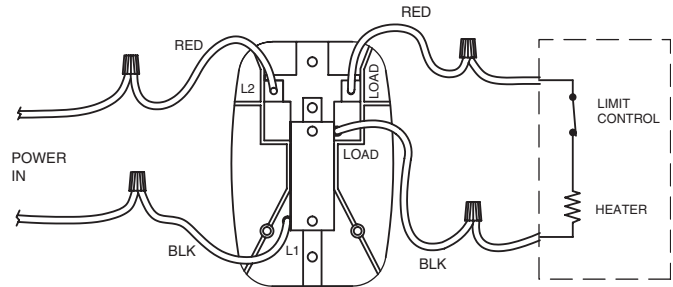
**USE WITH COPPER CONDUCTORS ONLY. Use approved wire connectors for 12 AWG only.**

1. Disconnect electrical power to the system at main fuse or circuit box.
  2. Make electrical connection to thermostat leads with wire nuts or other local code approved devices. All connections must be tight.
  3. Push the lead wires into the outlet box.
  4. Remove thermostat cover. Push thermostat case into junction box and secure with screws provided.
- Take care not to push or damage the bimetal sensing element during installation.**
5. Install thermostat cover and turn knob to desired setting.

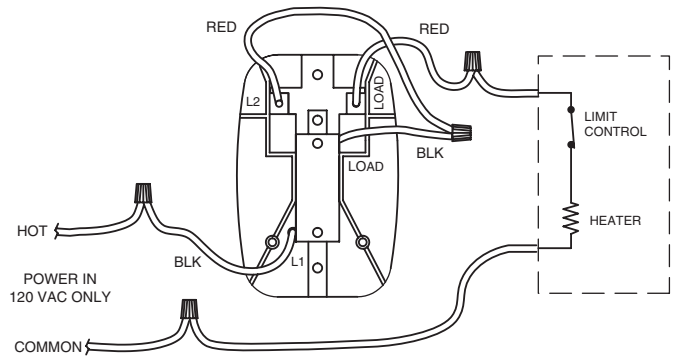
### Schematic Diagram



### 240/277 VAC Wiring Diagram



### 120 VAC Wiring Diagram

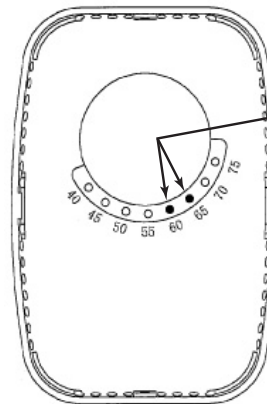


### Temperature Limiting Pins

Temperature Limiting Option is for applications where the temperature setting of the control is to be set and "protected" from unauthorized adjustment. To limit the temperature range, follow the directions below:

1. Remove cover from thermostat.
2. On inside of cover, firmly press small tapered end of a pin into the approximate maximum and minimum temperature positions.
3. After pressing pins into place on inside of cover, rotate temperature knob to be sure the knob is between the pins.
4. Replace cover on thermostat. Check that knob rotation is limited in travel as set by the pins. If rotation of knob is outside of limits, check that the pins are installed properly.
5. Install supplied screws at top and bottom of thermostat to secure cover.

### Inside of cover



Pins are shown installed at 60 and 65°. The temperature setting range is limited between these two temperatures.

The third pin is supplied as a spare in case of accidental loss.

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