

## T4098A,B Deluxe Electric Heat Thermostats

### PRODUCT DATA



### GENERAL

The T4098A,B Deluxe Electric Heat Thermostats provide high performance line voltage direct control of resistance-rated electric heating equipment.

### FEATURES

- Controls both fan-forced and baseboard electric heaters.
- Temperature-responsive, vapor-filled dual diaphragm sensing element provides 2°F (1°C) sensitivity with minimum droop.
- Replaces virtually all standard wall-mounted line voltage thermostats.
- Includes long-lasting Micro Switch™ mechanism.
- Color-coded leads allow easy installation.
- Protective cover door opens to provide access to setpoint knob.
- Attractive sloped faceplate allows easy viewing of temperature.
- Classic styling.

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## SPECIFICATIONS

### IMPORTANT

*The Specifications given in this publication do not include normal manufacturing tolerances. Therefore, this unit may not exactly match the listed specifications. Also, this product is tested and calibrated under closely controlled conditions, and some minor differences in performance can be expected if those conditions are changed. For exact engineering specifications, contact your Honeywell sales representative.*

## TRADELINE® Models

TRADELINE® models are selected and packaged to provide ease of stocking and handling and also maximum replacement value. See Table 1 for TRADELINE® model specifications.

**Table 1. Thermostat Specifications.**

Model Number	Switching	Temp. Rating F° (C°)	Finish	Includes
T4098A	Spst; makes single line break on temperature fall.	50° to 90° (10° to 30°)	Classic beige or Premier White™	Cover thermometer, temperature range stops, and locking cover.
T4098B	Dpst; makes double line break with setting knob in OFF position.	50° to 90° (10° to 30°)	Classic beige or Premier White™	Cover thermometer, temperature range stops, and locking cover.

### Electrical Ratings (Noninductive Resistive Loads):

22A at 120/208/240 Vac, 60 Hz.  
19A at 277 Vac, 60 Hz.

### Wiring Connections:

6 in. (150 mm) leads suitable for connecting to aluminum wiring if approved special service CO/ALR connectors are used.

### Sensing Element:

Vapor-filled dual diaphragm.

### Setpoint Adjustment:

Knurled knob on front of thermostat.

### Differential:

2°F (1°C), nonadjustable.

### Dimensions:

See Figs. 1 and 2.

### Mounting:

Mount directly on vertical 2 x 4 in. outlet box, or on 4 x 4 in. outlet box using ring adapter (ordered separately).

### Approvals:

Underwriters Laboratories Listed: File No. E47434, Guide No. XAPX.  
Canadian Standards Association Listed: File No. LR1322.  
Canadian Standards Association Performance Certified: C273.4.

### Accessories:

272804A Range Stop and Locking Screw Assembly. Includes locking cover screws, Tinnerman clips, wrench, and range stops—two plastic pins to insert inside cover for field-selection of minimum and maximum temperature settings.

## ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number or specify.

1. Model number.
2. Switching.
3. Type of finish.

If you have additional questions, need further information or would like to comment on our products or services, please write or phone:

1. Your local Honeywell Home and Building Control Sales Office (check white pages of your phone directory).
2. Home and Building Control Customer Relations  
Honeywell, 1885 Douglas Drive North  
Minneapolis, Minnesota 55422-4386

In Canada—Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Scarborough, Ontario M1V 4Z9. International sales and service offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.

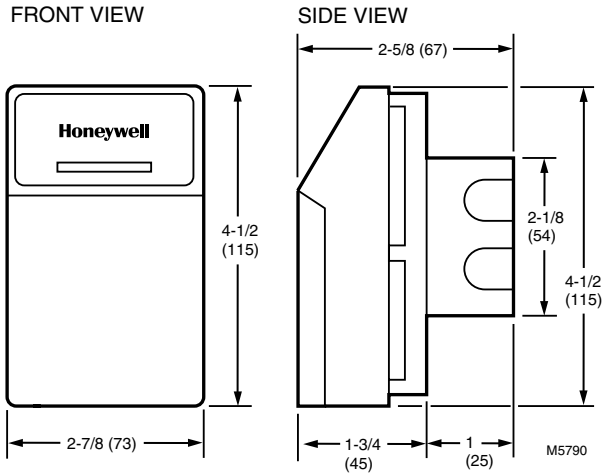


Fig. 1. T4098 dimensions in in. (mm).



## RECYCLING NOTICE

If this control is replacing a control that contains mercury in a sealed tube, do *not* place your old control in the trash.

Contact your local waste management authority for instructions regarding recycling and the proper disposal of an old control containing mercury in a sealed tube.

## INSTALLATION

### When Installing this Product...

1. Read these instructions carefully. Failure to follow these instructions could damage the product or cause a hazardous condition.
2. Check the ratings on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.



## WARNING

### HIGH VOLTAGE CONTROL. ELECTRICAL SHOCK HAZARD.

Follow local codes and ordinances when installing this thermostat. Improper handling can cause serious injury or death.



## CAUTION

1. Disconnect power supply to prevent electrical shock or equipment damage.
2. If connecting with aluminum conductors, use CO/ALR solderless wire connectors to avoid fire hazard.
3. Do not remove thermostat cover until wiring is complete to avoid damaging the sensing element.

### Location

Install a vertical outlet box that is used to mount the thermostat about 5 ft (1.5m) above the floor in an area with good air circulation at room temperature.

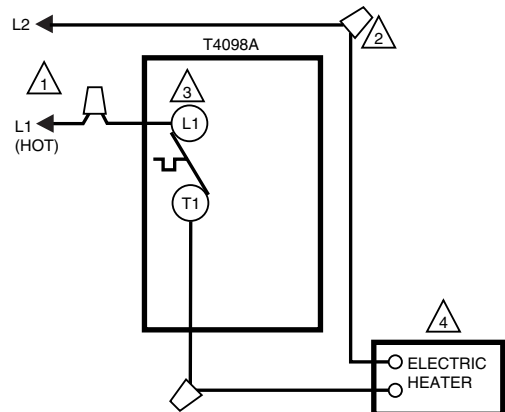
- Do not install the thermostat where it may be affected by:
- drafts or dead spots behind doors, in corners or under cabinets.
  - hot air from convectors.
  - radiant heat from sun or appliances.
  - concealed pipes and chimneys.
  - unheated (uncooled) areas such as an outside wall behind the thermostat.

### Wiring and Mounting



## CAUTION

1. Handle the thermostat with care to avoid damaging the sensing element or control.
2. Use a separate limit control in the heating appliance.



- 1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
- 2 USE SPECIAL SERVICE CO/ALR SOLDERLESS CONNECTORS WHEN CONNECTING ALUMINUM CONDUCTORS OR A FIRE HAZARD MAY RESULT.
- 3 BREAKS AND REMAKES BELOW -31°F(-35°C); NORMALLY THERMALLY ACTIVATED. BREAKS ON A TEMPERATURE RISE; MAKES ON A TEMPERATURE FALL.
- 4 USE A SEPARATE LIMIT CONTROL IN THE HEATING APPLIANCE.

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Fig. 2. Typical wiring connections for T4098A.

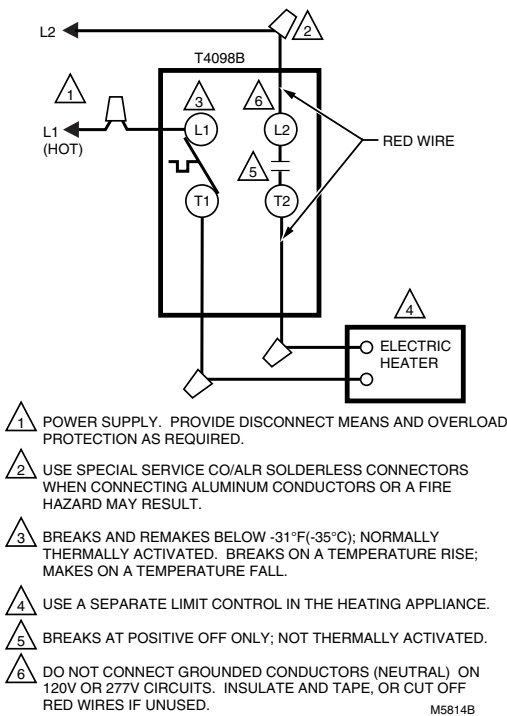


Fig. 3. Typical wiring connections for T4098B.

**IMPORTANT**

If locking cover feature is desired, insert the locking cover clip in the thermostat base before mounting the thermostat on the wall. See Fig. 7.

**Replacement Applications**

- 1 Disconnect power to thermostat to prevent electrical shock or equipment damage. All wiring must comply with local electrical codes and ordinances.
- 2 Remove the old thermostat from the wall; be careful not to damage the wiring insulation.
- 3 Check the old wire insulation for cracks, nicks or fraying. Apply approved electrical tape to insulate wires or replace wires as necessary.
- 4 Do not remove T4098 Thermostat Cover. Using wire connectors approved for No. 12 wires, make line voltage connections directly to the leadwires on the thermostat. See Figs. 2 and 3 for typical wiring connections.
- 5 Prebend and push the solid wires into the outlet box.
- 6 While holding the thermostat base with one hand, use the other hand to remove the thermostat cover by grasping the bottom cover edge and pulling outward away from the thermostat base.
- 7 Mount the thermostat on the outlet box as shown in Fig. 4. Secure the thermostat by tightening the two mounting screws.

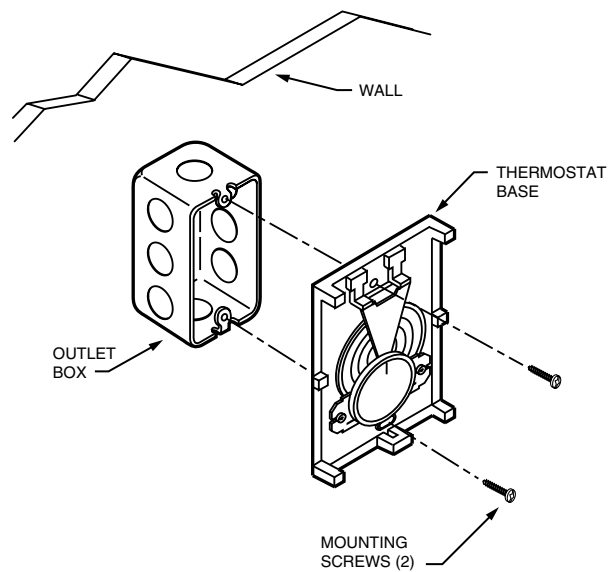


Fig. 4. Mounting thermostat to outlet box.

**New Applications**

- 1 Disconnect the power supply to prevent electrical shock or equipment damage. All wiring must comply with local electrical codes and ordinances.
- 2 Run the line voltage wiring to the thermostat location.
- 3 Do not remove the T4098 Thermostat Cover. Using wire connectors approved for No. 12 wires, make line voltage connections directly to the leadwires on the thermostat. See Figs. 2 and 3 for typical wiring connections.
- 4 Prebend and push the solid wires into the outlet box.
- 5 While holding the thermostat base with one hand, use the other hand to remove the thermostat cover by grasping the bottom cover edge and pulling outward away from the thermostat base.
- 6 Mount the thermostat on the outlet box as shown in Fig. 4. Secure the thermostat by tightening the two mounting screws.

**SETTINGS AND ADJUSTMENTS**

**Calibration**

The T4098 Thermostats are calibrated at the factory using precise instruments under closely controlled conditions. Recalibration should not be necessary. Allow the thermostat to operate for several hours before checking the calibration. The T4098 Thermostat vapor-filled dual diaphragm sensing element is affected by barometric pressure and altitude. Temperature deviations of 1°F (0.5°C) are normal. If the thermostat is mounted in a suitable location (as instructed in the Location section) and still appears out of calibration, check calibration as follows.

## Check Calibration

- 1 Turn the setting knob clockwise until the switch makes (clicking sound). The heating equipment and fan start.
- 2 No recalibration is necessary if the thermostat switch makes with the thermostat setting at the same temperature as indicated on the thermometer.
- 3 If the thermostat setting differs from the thermometer, record the temperature difference and recalibrate as instructed in the Recalibration Procedure section.

## Recalibration Procedure

- 1 Note the temperature difference between the temperature setting and the thermometer.
- 2 Remove the thermostat cover.
- 3 With the thermostat cover removed, note the location of the temperature setting knob.
- 4 Remove the clear plastic knurled setting knob. See Fig. 5.
- 5 Turn the temperature setting dial the required number of degrees for calibration (so thermostat temperature setting and thermometer are the same).
- 6 Replace the knob on the setting dial.
- 7 Replace the thermostat cover and recheck the calibration.

## Setting Range Stops

Use the range stops (included) to limit the maximum and minimum temperatures that may be set.

- 1 Move the thermostat setting knob to the desired maximum temperature.
- 2 Remove the thermostat cover.
- 3 Adjust the knob indicator tab between the range stop positions to prevent interference.
- 4 Insert the range stop pins in the desired positions on the back of the thermostat cover. See Fig. 6.
- 5 Make sure pins are completely seated before replacing the thermostat cover.
- 6 Replace the thermostat cover and check the range stops.

## Locking Cover

The thermostat cover may be locked using the locking cover screws included. Locking the cover prevents unauthorized tampering of the thermostat temperature setting.

- 1 Remove the thermostat cover.
- 2 Insert the locking cover clip (included) into the slot on the back of thermostat base as shown in Fig. 7.
- 3 Using an Allen wrench, insert the locking cover screw into the clip. Secure the screw in place until it is flush with the thermostat base.

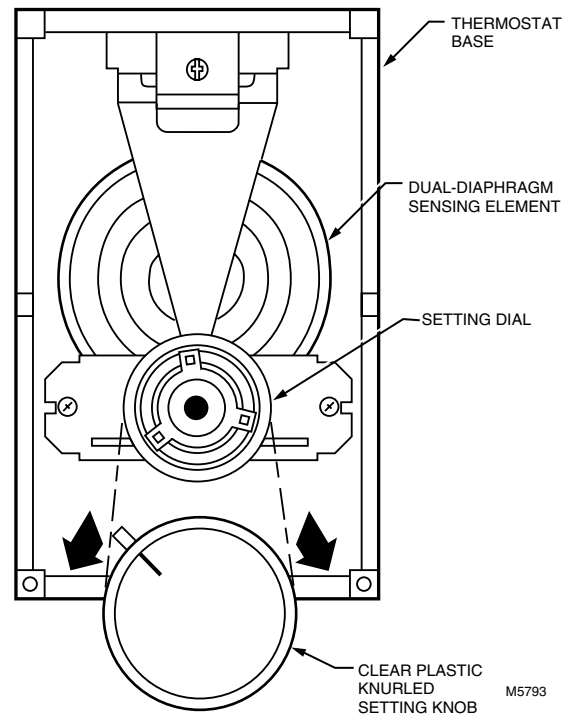


Fig. 5. Calibrating thermostat.

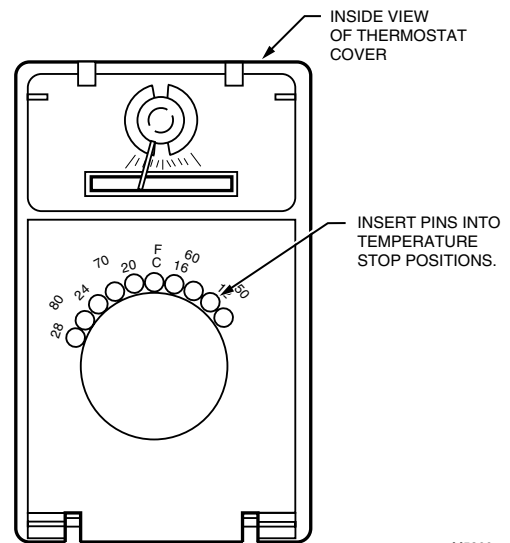


Fig. 6. Setting range stops.

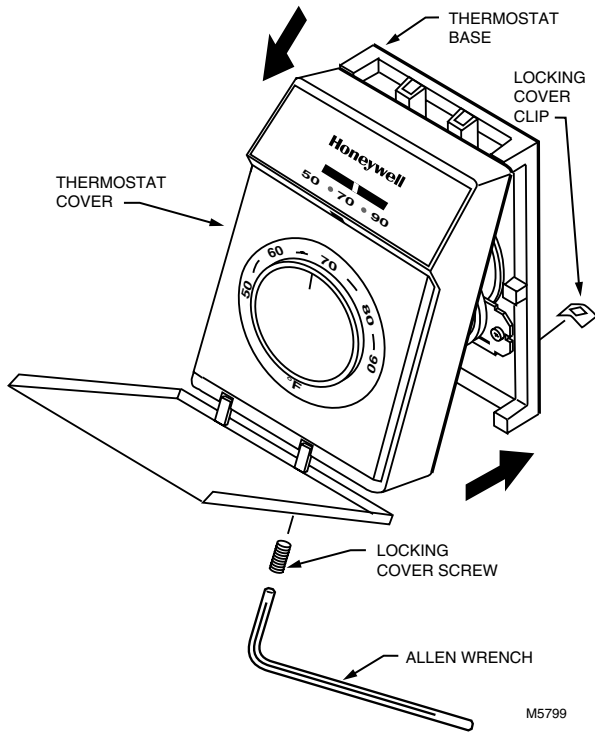


Fig. 7. Locking cover.

## CHECKOUT

### IMPORTANT

*Make sure that all wiring connections are secure before beginning checkout.*

After thermostat installation is complete, check operation as follows:

- ❶ Move the thermostat setting knob clockwise until the switch makes (clicking sound); the electric heater starts.
- ❷ Move the setting knob fully counterclockwise; the switch breaks and the electric heater stops.
- ❸ Allow the thermostat to operate for several hours to determine the appropriate temperature setting. Adjust the setting as necessary.

## OPERATION

The T4098 Thermostat provides precise temperature control of resistance-rated electric baseboard heating equipment with minimum droop. The T4098 controls room temperature within 2°F (1°C), regardless of the load of the baseboard heater.

The vapor-filled dual diaphragm sensing element is more sensitive to temperature changes than a bimetal sensor. This accuracy, usually associated with low voltage thermostats, is now available for line voltage control.

Electric heat thermostats are often affected by the heat generated in the control. Temperature control points may vary or droop 2° to 4°F (1° to 3°C) depending on the load demand; however, temperature settings are adjusted to provide offset. The T4098 provides precise control with minimum droop. This allows better control of room temperatures from day-to-night and season-to-season while saving energy.



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