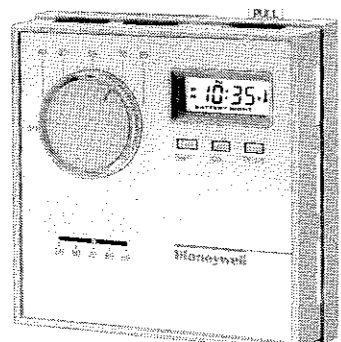


## CT1600B,P PROGRAMMABLE LINE VOLTAGE ELECTRIC HEAT THERMOSTAT OWNER'S MANUAL

For line voltage control of electric heat systems.  
Range 40° F to 85° F  
SPST or DPST  
Ratings: 22 A @ 120-240 Vac  
19 A @ 277 Vac, 60 Hz resistive  
Not for use with central heating systems.  
Do-it-yourself model.



## YOUR HONEYWELL THERMOSTAT

Your new Honeywell CT1600 is one of the easiest-to-use programmable thermostats ever made! It's the first programmable thermostat specifically designed to control your baseboard electric heating system. The CT1600P replaces any two-wire, SPST, line voltage thermostat. The CT1600B replaces any four-wire, DPST, line voltage thermostat.

We use some terms in this manual that you may not be familiar with.

COMFORT TEMPERATURE is the temperature you want the room to be in the morning and evening when you're home.

ENERGY SAVINGS TEMPERATURE is the temperature you want the room to be when you're sleeping or away from home.

ENERGY SAVINGS PERIOD is the length of time you program the thermostat to keep the temperature in your room at the energy savings temperature.

TEMPERATURE SETBACK is the number of degrees the thermostat lowers the room temperature from the comfort setting.

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# 1

## PREPARATION

☐ Check thermostat suitability for your home's system by reviewing the ratings listed on the front of this instruction sheet.

☐ Make certain that your heating system is working, especially if it has been inoperative for a length of time. If the system does not work, contact your local heating dealer for assistance.

☐ Proper installation of your Honeywell thermostat will occur if you follow instructions STEP-BY-STEP. It is recommended that as you read, understand and complete each step, you check ✓ it off with pencil or pen.

☐ Carefully unpack your new thermostat. Leave cover on until wiring is completed.

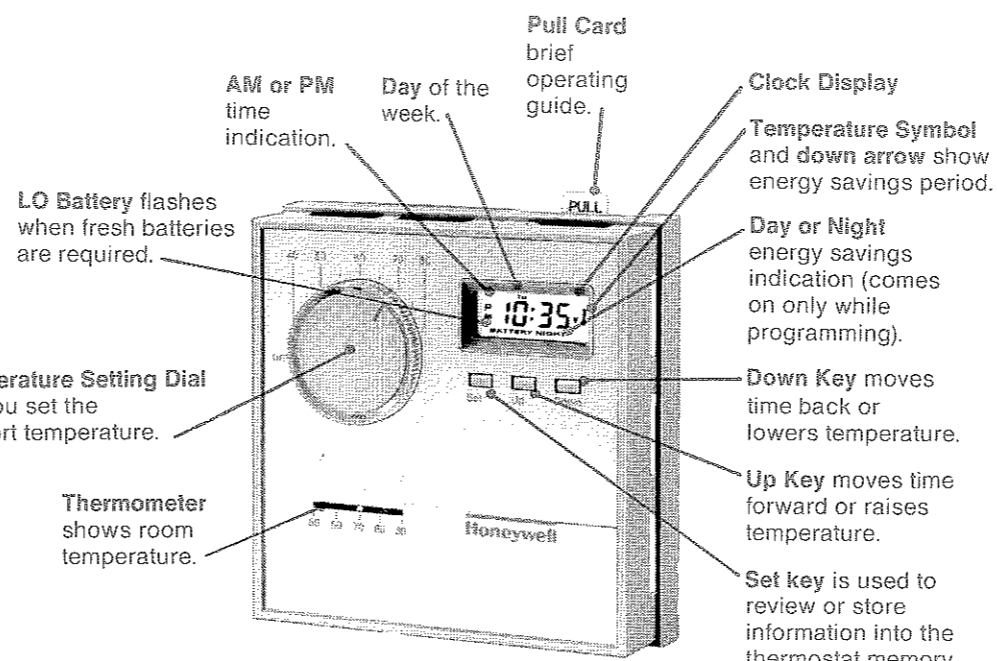
☐ Save instructions, receipt and proof-of-purchase.

## CAUTION

To prevent electrical shock or equipment damage, disconnect power supply before beginning installation.

# 2

## THERMOSTAT FEATURES



# 3

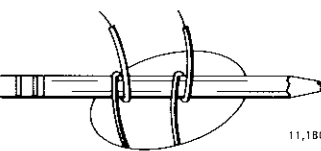
## REMOVE OLD THERMOSTAT

☐ BEGIN BY TURNING OFF POWER TO THE HEATING SYSTEM.

☐ Remove cover of old thermostat—cover normally snaps off when pulled firmly from the bottom. If it resists, check for a screw that locks the cover on.

☐ Loosen screws holding thermostat base to subbase or box, and lift away.

☐ Disconnect wires from old thermostat. Take care that these wires do not fall back into the wall opening.



☐ Check the old insulation for cracks, nicks or fraying, and apply high quality plastic tape where necessary for adequate insulation.

☐ Retain the old thermostat for reference purposes and until your new thermostat is functioning smoothly.

# 4

## WIRE AND MOUNT NEW THERMOSTAT

☐ Turn temperature setting dial fully clockwise to prevent possible damage to gear mechanism when mounting.

☐ Connect wires to thermostat as shown in wiring diagram. Special service CO/ALR wire connectors must be used when connecting with aluminum conductors; otherwise,

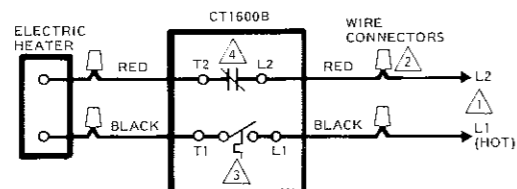
a fire hazard may result. Push the wires into the outlet box, and insert the thermostat into the box for mounting by pushing against the cover.

☐ Remove thermostat cover by grasping both sides and pulling cover off, as shown here.

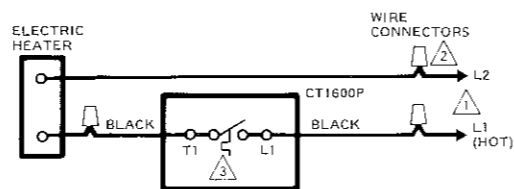
☐ Secure the thermostat to the box with the two captive mounting screws provided.

☐ Turn temperature setting dial fully counterclockwise; replace cover on thermostat.

### CT1600B WIRING

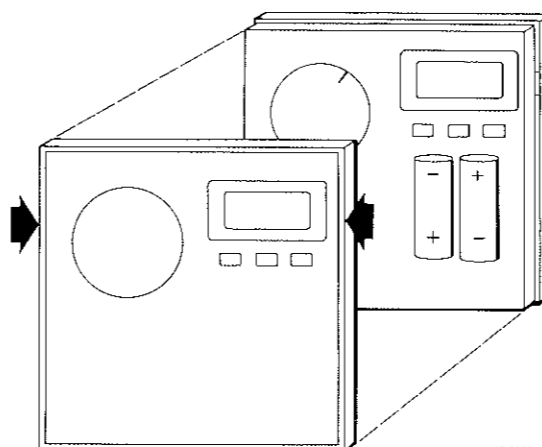


### CT1600P WIRING



- POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED. BE SURE L1 IS CONNECTED TO HIGH VOLTAGE (HOT) SIDE OF THE LINE.
- USE SPECIAL SERVICE CO/ALR WIRE CONNECTORS WHEN CONNECTING WITH ALUMINUM CONDUCTORS TO AVOID A POTENTIAL FIRE HAZARD.
- BREAKS WITH TEMPERATURE SETTING DIAL IN EXTREME COUNTERCLOCKWISE POSITION, OTHERWISE THERMALLY ACTUATED. BREAKS ON TEMPERATURE RISE, MAKES ON TEMPERATURE FALL.
- BREAKS WITH TEMPERATURE SETTING DIAL IN "OFF" POSITION. IN 3-PHASE SYSTEM, SWITCH MUST BREAK NEUTRAL TO HEATER, NOT SYSTEM NEUTRAL.

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# 5

## CHECK OUT THERMOSTAT

- ☐ Turn on power to the heating system.
- ☐ Turn setting dial all the way clockwise; listen for "click" sound as switch makes contact. Electric heater should begin to warm up within 2 minutes.
- ☐ Turn dial all the way counterclockwise; listen for "click" sound as switch breaks contact. Electric heater should shut off.

# 6

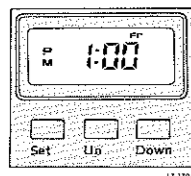
## INSERT BATTERIES TO POWER CLOCK

- ☐ Purchase two AA alkaline batteries. Use of any other types may damage the thermostat.
- ☐ Grasp both sides of the thermostat cover and pull off the face of the thermostat. Insert batteries into clips as illustrated under Section 4, noting the positive (+) and negative (-) poles.

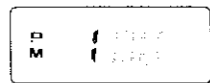
# 7

## SET TIME, DAY, COMFORT TEMPERATURE

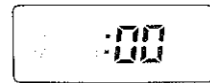
Press all three operating keys at the same time; hold several seconds and release. You will see the following flashing display.



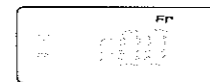
Press the set key. The hour will flash. Change to the correct hour using up or down key.



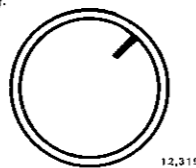
Press the set key again. The minutes will flash. Change to correct minutes using the up or down key.



Press the set key again. The day of the week will flash. Change to the correct day using the up or down key.



BEFORE pressing the set key again, set the comfort temperature by adjusting the temperature setting dial to the desired temperature (such as 70° F).



Now press and hold the set key for several seconds; the display will blank. Release, and the thermostat will show the present time and day of the week. It will now operate according to the factory-set energy saving program, as follows: The temperature will be lowered 5° F, between 10:30 PM and 6:30 AM, and also between 8 AM and 4 PM, Monday through Friday. On Saturday and Sunday, the 8 AM to 4 PM period will be skipped.

If you are satisfied with the factory-set program, you are done. However, if you want to customize the program to fit your personal schedule, continue to the next step. Use the program diary under Section 12 to record your adjustments, if desired.

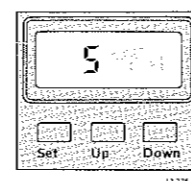
# 8

## OPTIONAL PROGRAMMING

Make sure you have entered the current time and day of week, and adjusted the setting dial, as instructed in Section 7.

### Changing Temperature Setback

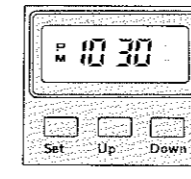
Press and release the set key repeatedly until you see the display shown below.



Using the up or down key, adjust the flashing number to the desired amount of temperature setback (0° F to 15° F). If no further adjustments are desired, press and hold the set key for several seconds. You are done. If further changes are desired, go to the next step.

### Changing Times of Night and Day Periods

Press the set key to show the following display.



Using up or down key, adjust the flashing 10:30 display to the time you want to begin your night energy savings period. The time will move in 10-minute increments.

Press set key. Using up or down key, adjust the flashing 6:30 display to the time you want to end your night energy savings period.

Press set key. Using up or down key, adjust the flashing 8:00 display to the time you want to begin your day energy savings period.

Press set key. Using up or down key, adjust the flashing 4:00 display to the time you want to end your day energy savings period.

If no further adjustment is necessary, press and hold the set key for several seconds to return to present time. If change in daytime option is desired, continue to next step.

### Changing Weekend Day Option

The day energy savings period may be used seven days a week, Monday through Friday, or not at all.

Press set key. Press the up or down key until your choice of days for using day energy savings period is flashing on the display, as shown next.

DAY ENERGY SAVINGS PERIOD IS SKIPPED, SAT. AND SUN. (FACTORY PRESET OPTION)

DAY ENERGY SAVINGS PERIOD IS ACTIVE ON ALL DAYS

NO DAY ENERGY SAVINGS (NIGHT ENERGY SAVINGS ONLY)

### After Setting and Programming

When all setting and programming is complete, press and hold the set key for several seconds; the display will go blank, then return to current time and day.

If you should ever want to return to the factory-set program, simply press all three keys at the same time. Reprogram time, day and comfort temperature as in Section 7.

# 9

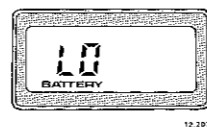
## MANUAL OVERRIDE

If you wish to manually change from comfort to energy savings, or vice versa, do NOT turn the temperature setting dial. Simply press the up or down key and watch the dial move itself into position.

# 10

## LOW BATTERY

This indication will flash when fresh batteries are required. Replace worn batteries with two new AA alkaline batteries ONLY, as explained in step 6. The thermostat will hold its memory about two minutes to allow for changing. Press set key and hold several seconds to restore display.



# 11

## LOW TEMPERATURE PROTECTION

A built-in low temperature limit prevents the temperature setting dial from moving below 45° F during automatic operation. However, the dial may be manually set below 45° F for vacation or other use.

Automatic energy savings periods should be deactivated when the thermostat is manually adjusted to 45° F or less. Do this by selecting a 0° F temperature setback (see Section 8). Otherwise, setting the comfort temperature at 45° F or less may result in a temperature too low, or no heat at all in the room.

# 12

## PROGRAM DIARY

Room: <input type="text"/>	Night Period (Section 8) <input type="text"/> BEGIN <input type="text"/> END	Day Period (Section 8) <input type="text"/> BEGIN <input type="text"/> END	Day Options (Section 8) <input type="checkbox"/> 7 days <input type="checkbox"/> 5 days <input type="checkbox"/> none
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Keep this manual with your important papers file, for handy future reference.

# 13

## TROUBLESHOOTING

Your Honeywell thermostat requires little or no attention. Most problems can generally be traced to the following:

SYMPTOM	CHECKOUT	ACTION
Heater does not turn on.	Make sure power is on at main service panel. Turn the temperature setting dial fully clockwise.	Heater should start to warm up within two minutes. If not, contact qualified service technician to check thermostat and heater.
Heater never turns off.	Turn temperature setting dial fully counterclockwise.	Heater should start to cool within 2-10 minutes. If not, turn off power at main service panel, and contact qualified service technician.
Display is blank.	Press all 3 keys; hold, then release.	Display should turn on. If not, replace batteries.
Room temperature is too hot or cold.	Check that batteries are correctly inserted, noting the alignment of the positive (+) and negative (-) poles.	Reinsert batteries, if necessary.
	Check for LO or dead batteries.	Replace batteries if "LO battery" flashes, or if no display. Reset the time and day, if necessary.
Room is not at comfort temperature setting following an energy savings period.	Check AM/PM indicator and clock setting.	Reset if necessary.
	Review the end times for energy savings period.	Reset the night and day energy savings periods to end earlier.
Room temperature is too cold during energy savings period.	Review the amount of temperature setback selected.	Re-adjust if necessary.
	Is display on?	If not, follow checkout above for "Display is blank."
Temperature setting dial doesn't move to the energy savings period when it is programmed to occur.	Check if "LO battery" is flashing on display.	Replace batteries, if necessary.
	Review the start times for energy savings periods, including the AM/PM indicator.	Reset if necessary.
	"Buzzing" sound occurs when temperature setting dial moves to the energy savings temperature set point.	Increase the comfort temperature set point or decrease the temperature setback selected.