

Honeywell

TROL-A-TEMP

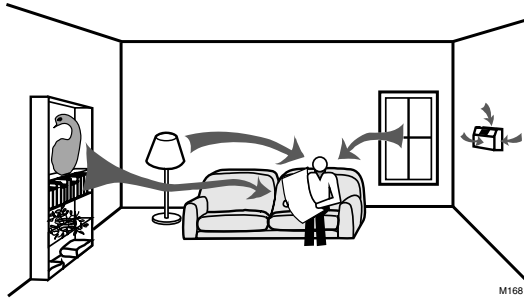
Microelectronic Programmable Thermostat Owner's Manual

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Programmed Recovery

**PROGRAMMED RECOVERY—
BREAK-THROUGH TECHNOLOGY
SENSES TEMPERATURE MORE LIKE YOU DO**



Your new thermostat is so smart, it's almost human.

- Your body perceives temperature from a variety of sources, not only from the air in the zone, but also from your surroundings—walls, windows and furnishings.
- Human beings feel differences in temperature as slight as two degrees Fahrenheit.
- Common household thermometers and standard thermostats sense only air temperature, which may or may not reflect how hot or cold the zone actually feels to a human being.
- Your new thermostat reads the temperature of the wall as well as the air—and responds to temperature changes as little as one degree Fahrenheit—so zone temperature is more likely to feel right to you and your family.

THE OPTIMUM COMFORT AND ENERGY SAVINGS SOLUTION

- *This thermostat is actually a small but powerful computer. When calculating the exact time to turn on your furnace or air conditioner, it considers: (1) air temperature, (2) temperature of the wall and (3) when you want the comfort temperature established.*

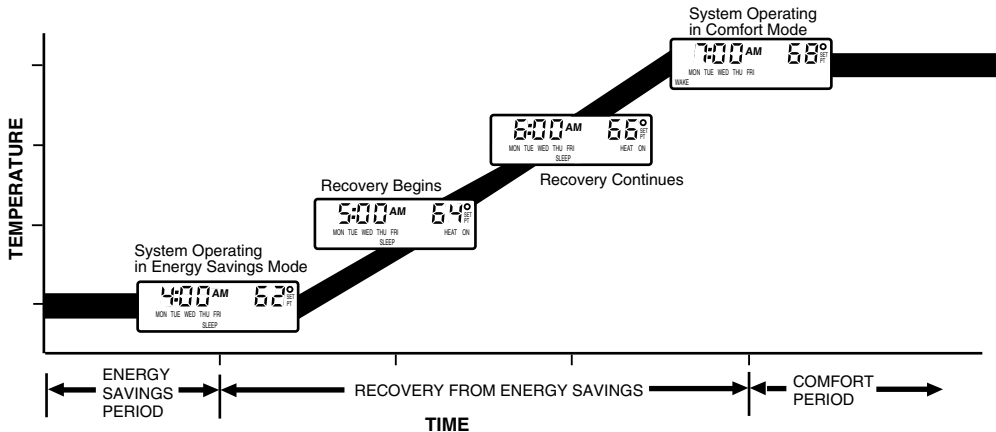
- *During programmed recovery, the thermostat gradually increases the control temperature and turns the equipment on and off several times to save energy by avoiding overshooting the comfort temperature. You can see the current control temperature anytime during recovery by pressing the PRESENT SETTING key.*
- *This smart control learns from experience. Each day it checks how closely it hit the target and adjusts the recovery start time accordingly.*

It typically takes four to eight days after installation for this thermostat to adjust to the weather, your life style,

home construction and heating/cooling system. The thermostat calculates the LEAVE/RETURN recovery separately from the SLEEP/WAKE recovery.

IMPORTANT: *With Programmed Recovery, program the times when you want your home comfortable. The thermostat will decide how early to begin the temperature changes.*

NOTE: Some models will show 32° F instead of the current temperature, indicating the thermostat is operating on backup batteries until the thermostat is mounted on the wallplate and the system is powered.



THE THERMOSTAT USES THE SAME SCHEME TO RETURN GRADUALLY TO LOWER COMFORT TEMPERATURE DURING THE COOLING SEASON.

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Programming Your Thermostat

The thermostat can be programmed in your hand before it is installed or after it is on the wall if you make sure the batteries are installed. If you need to install or replace the batteries, refer to the Maintaining Your Thermostat section.

Your thermostat can be programmed for seven days (separate programs for each day of the week).

PROGRAMMING

The personal programming chart can be helpful for planning your program schedule of time and temperature settings for various times of the day.

Four time periods are available:

MORNING is the time period when you want the zone at a comfortable temperature to begin the day. (This will be a higher temperature during the heating season, or a lower temperature during the cooling season.) This is the only period that must contain a time and temperature for every day.

MIDDAY is the time period you can set for an energy-saving temperature while the zone is unoccupied. (This will be a lower temperature during the heating season, or a higher temperature during the cooling season.)

EVENING is the time period when you want the zone at a comfortable temperature for family activities in the evening.

NIGHT is the time period you can set for an energy-saving temperature while you are sleeping or the zone is unoccupied. Set it to start at your family's normal bedtime. (For more comfortable sleeping in the cooling season, some people choose not to raise the cooling temperature during the night.)

You can set a different schedule for each day of the week because your requirements will probably be different for each day.

Fill in the times and temperatures you desire for each day of the week. If you decide not to program the

thermostat, it will automatically control heating from 6:00 AM to 10:00 PM at 70° F [21° C]. The temperature will be 60° F [16° C] from 10:00 PM to 6:00 AM. Cooling is automatically controlled at 78° F [26° C] 24 hours a day. Also, you do not need to enter a time and temperature program for all periods if your schedule does not require it. For example, a zone that is occupied Monday and Tuesday only requires programs for MORNING and NIGHT.

PROGRAM SCHEDULE

Sunday	Start Time	Heating Temp ¹	Cooling Temp ¹
MORNING	_____	_____	_____
MIDDAY	_____	_____	_____
EVENING	_____	_____	_____
NIGHT	_____	_____	_____

¹ See footnote on page 9.

IMPORTANT: *Always press the keys with your finger or similar blunt tool. Use of sharp instruments like a pen or pencil point can damage the keyboard.*

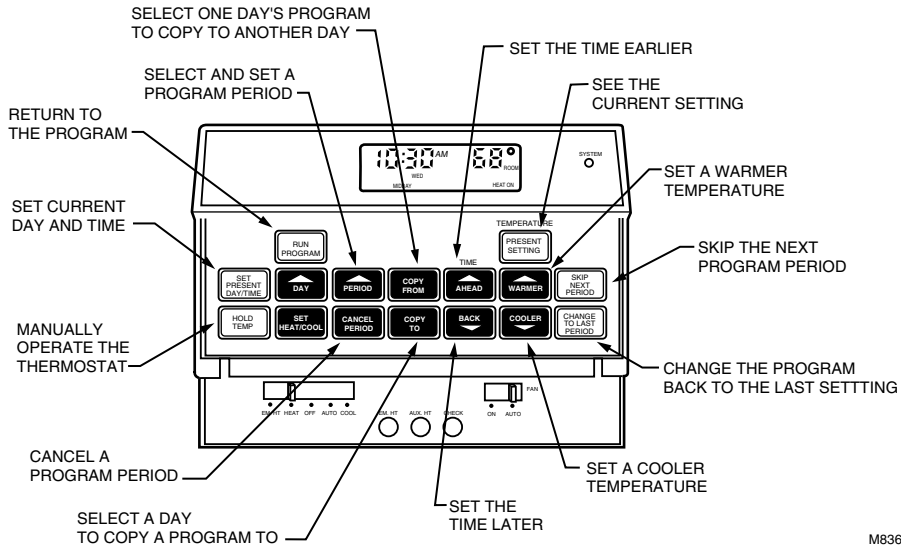
If you make an error at any time during programming, just press the **RUN PROGRAM** key, and continue at the step where you left off.

	Start Time	Heating Temp ¹	Cooling Temp ¹
Monday			
MORNING	_____	_____	_____
MIDDAY	_____	_____	_____
EVENING	_____	_____	_____
NIGHT	_____	_____	_____
Tuesday			
MORNING	_____	_____	_____
MIDDAY	_____	_____	_____
EVENING	_____	_____	_____
NIGHT	_____	_____	_____
Wednesday			
MORNING	_____	_____	_____
MIDDAY	_____	_____	_____
EVENING	_____	_____	_____
NIGHT	_____	_____	_____

¹ See footnote on page 9.

	Start Time	Heating Temp ¹	Cooling Temp ¹
Thursday			
MORNING	_____	_____	_____
MIDDAY	_____	_____	_____
EVENING	_____	_____	_____
NIGHT	_____	_____	_____
Friday			
MORNING	_____	_____	_____
MIDDAY	_____	_____	_____
EVENING	_____	_____	_____
NIGHT	_____	_____	_____
Saturday			
MORNING	_____	_____	_____
MIDDAY	_____	_____	_____
EVENING	_____	_____	_____
NIGHT	_____	_____	_____

¹ Heating and cooling temperatures must be at least 3° F apart for proper control in the AUTO mode.



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SET CURRENT DAY AND TIME

1. To set the day, press and release **SET PRESENT DAY/TIME** key.
2. Press and hold **DAY** key until the current day appears in the display.
3. To set the time, press and release **SET PRESENT DAY/TIME** key.
4. Press and hold **AHEAD** or **BACK** key until the current time appears in the display. Make sure AM or PM appears as desired.
5. Press **RUN PROGRAM** key.

HEATING PROGRAM

Choose a day to program first. Monday is used in the following example, but you can start with any day. Start by programming the MORNING time and temperatures. The thermostat requires a MORNING program every day. Set additional programs as desired.

1. With system switch at HEAT, press and release **PERIOD** key. MORNING and the preprogrammed time and temperature appear on the display. If the display

reads COOL, press and release **SET HEAT/COOL** key to switch to heat.

2. Press and hold **DAY** key until MONDAY (or the desired day) appears in the display.
3. Press and hold **AHEAD** or **BACK** key until the display shows the time you want the temperature at the comfort setting.
4. Press and hold **WARMER** or **COOLER** key until the display shows the desired heating temperature.

NOTE: If the display flashes while you are holding down the **WARMER** or **COOLER** key, you have reached the setting limit. The heating temperature must be at least three degrees below the cooling temperature. For example, if the cooling setting is 75° F, the maximum heating setting is 72° F. To set a higher heating temperature, you must first raise the cooling setting.

5. Repeat steps 1 through 4 for programming the remaining periods—MIDDAY, EVENING, NIGHT—as desired. You can cancel any period showing on the

display except MORNING by pushing the **CANCEL PERIOD** key. To move to the next period while programming, simply press the **PERIOD** key again.

COPYING ONE DAY'S PROGRAM TO ANOTHER DAY

You can copy one day's program to any other day or combination of days. The new program will replace any program already set in the day selected.

1. If necessary, press and release **PERIOD** key to enter the programming mode.
2. Press and hold **DAY** key until the day containing the program to be copied shows in the display.
3. Press and release **COPY FROM** key. The day to be copied will show, and the next day will flash, in the display.
4. Press and release **COPY TO** key if you wish to copy the program into the day that is flashing in the display. Note that the *next* day starts to flash.
5. Press and release **DAY** key if you do not wish to copy into the day that is flashing. Note that the *next* day now starts to flash.

6. Press and release **COPY TO** key again to select the day that is flashing, or the **DAY** key to bypass it.

7. Continue until all desired days are showing in the display and are *not* flashing.

8. Press and release **RUN PROGRAM** key to copy the program into all the days you have selected.

9. Follow the procedure described above to program any remaining days.

NOTE: The display will show 32° F, indicating the thermostat is operating on backup batteries until the thermostat is mounted on the subbase and the system is powered.

COOLING PROGRAM

The program times are the same for both heating and cooling. Only the cooling temperatures need to be programmed if you have already programmed for heating. To set times as you program the cooling temperatures, use **AHEAD** and **BACK** keys. But if you change the times for cooling, you are also changing them for heating.

1. Move the system switch to the COOL position, then follow the same instructions as for the heating program.
2. After programming, adjust fan and system switches as desired.
3. Press and release **RUN PROGRAM** key to start the program.

SETTING THE SYSTEM AND FAN SWITCHES

Fan Switch

Fan switching positions control the fan operation as follows:

FAN ON: The fan runs continuously. Use for improved air circulation during special occasions or for more efficient electronic air cleaning.

FAN AUTO: Normal setting for most zones. The fan goes on and off with the compressor in heat pump systems.

System Switch

System switching positions control thermostat operation as follows:

EM.HT.: The thermostat controls the backup heat only. The heat pump is off.

HEAT: The thermostat controls your heating system.

AUTO: The thermostat controls either your heating or cooling system, depending on zone temperature.

COOL: The thermostat controls your cooling system.

OFF: Both the heating and cooling systems are off.

You have finished programming your thermostat. If you have removed it from the wall to program, replace it following the procedure on page 18. Read on to learn about the operating flexibility of your thermostat.

Operating Your Thermostat

TEMPORARILY CHANGING THE PROGRAM

These features let you customize the program for those times when someone comes home early, or you are staying up late, or you plan to be out for the evening. Changes made with these keys are active for one program period and then are canceled.

Keep Current Temperature Through the Next Period

Press and release **SKIP NEXT PERIOD** key. The name of the period to be skipped will flash in the display until the start time of the skipped period. During the skipped period, the display will flash TEMPORARY to show that the programmed temperature for this period is not being used.

To Go Back to the Temperature of the Previous Program Period

Press and release **CHANGE TO LAST PERIOD** key. The display will show the name of the previous period

and flash TEMPORARY until the next regularly scheduled period starts.

To Temporarily Raise or Lower the Temperature for the Current Period Only.

Press and hold the **WARMER** or **COOLER** key until the desired temperature is reached. The display will flash TEMPORARY until the next programmed time period starts.

With the system switch in the AUTO position, you can alternate between heating and cooling by pressing and holding down the **PRESENT SETTING** key. Use the **WARMER** or **COOLER** key to adjust the temperature setting for each mode.

If you change your mind.

Press and release **RUN PROGRAM** key to cancel any of the temporary settings.

PERMANENTLY CHANGING THE PROGRAM

If your schedule changes or you want a different temperature, you can update any setting without affecting the rest of the program.

1. Press and hold **PERIOD** key until the desired time period shows on the display.
2. Press and hold **DAY** key until the desired schedule day shows on the display.
3. Press and hold the time key (AHEAD or BACK), then the temperature key (WARMER or COOLER) until the display shows the desired new program.
4. Press and release **RUN PROGRAM** key to return to normal operation.

You can copy the new program into other days if you wish. When you copy a program, all the times and temperatures for that day are copied.

MANUALLY OPERATING THE THERMOSTAT

This feature is particularly useful when you go on vacation or other extended absences. It does not cancel your program.

With the system switch in the AUTO position, you can alternate between heating and cooling by pressing and holding down **PRESENT SETTING** key. Then proceed as follows:

1. Press and release **HOLD TEMP** key.
2. Press and hold temperature key (WARMER or COOLER) to change the temperature setting. After a few seconds the display will show the current temperature.
3. Press and release the **PRESENT SETTING** key to check the temperature setting.
4. Press and release the **RUN PROGRAM** key to cancel manual control.

NOTE: Moving the system switch also cancels hold.

CANCELING PROGRAM SETTINGS

The thermostat requires time and temperature settings in the MORNING time period for each day, but any of the others can be canceled. Each time period for each day must be canceled separately.

1. Press and hold **PERIOD** key until the desired time period shows on the display.
2. Press and hold **DAY** key until the desired day shows on the display.
3. Press and release the **CANCEL PERIOD** key to cancel the time and temperature settings for that time period. Both the heating and cooling temperatures will be canceled.

You can use the copy function to cancel the program from other days, but remember: *all* the programs will be copied, not just the cancellation.

4. Press and release **RUN PROGRAM** key to return to normal operation.

CHECKING THE PROGRAM TIMES AND TEMPERATURES

You can check all the stored settings without affecting the permanent program.

1. Press **PERIOD** key until the desired period shows on the display. The start time and temperature setting will appear on the display.

2. Press and release **DAY** key to display the next daily time and temperature for that period.
3. Press and release **RUN PROGRAM** key to return to normal operation.

CHECKING THE CURRENT TEMPERATURE SETTING

Press a single key to compare actual zone temperature to the setting at any time. Press and release the **PRESENT SETTING** key. The display will show the current temperature setting for several seconds, then revert to the zone temperature.

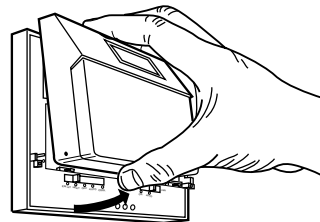
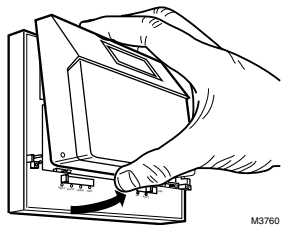
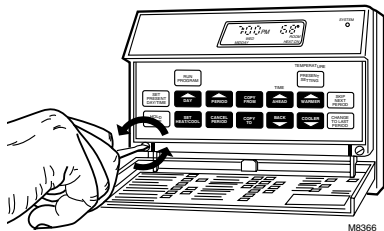
With system switch in the AUTO position, press and hold **PRESENT SETTING** key to alternate between heating and cooling settings.

During recovery from energy savings, the setting displayed will not match the programmed setting. This is because the thermostat gradually changes the temperature setting during recovery to provide maximum comfort combined with the most efficient use of the heating or cooling equipment.

Maintaining Your Thermostat

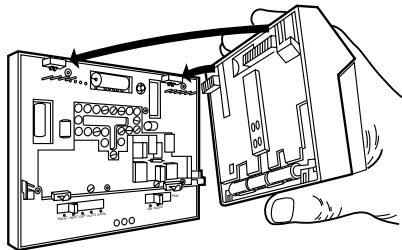
REMOVING THE THERMOSTAT

1. Loosen the two captive screws at the bottom corners of the case.
2. Pull out the thermostat from the bottom.
3. Lift the thermostat up and off the base.



REPLACING THE THERMOSTAT

1. Hang the thermostat on the tabs at the top of the base.



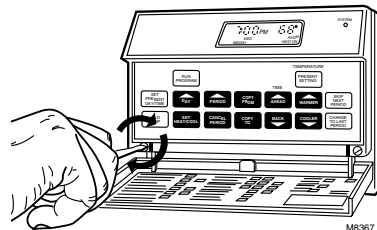
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2. Swing down and press on lower edge until thermostat snaps in place.



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3. Tighten the captive screws.



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REPLACING THE BATTERIES

Your thermostat uses three AAA alkaline batteries. We recommend Energizer® batteries. The display will flash “REPL BAT” when the batteries get low. Unless the display is blank (indicating the batteries are dead) when you start, you won’t have to reprogram the thermostat if you can insert the new batteries within 20 to 30 seconds of taking out the old ones.

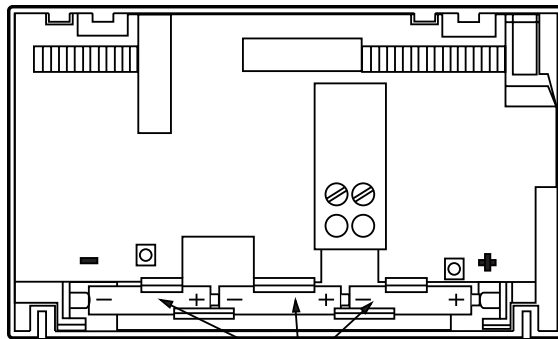
To replace:

- Set the system switch to OFF.
- Remove the thermostat from the wall. See page 17.
- Lift the batteries out of the holder.
- Insert the new batteries, making sure the positive (+) terminals all face toward the right.
- Replace the thermostat on the wall. See page 18.
- Reprogram, if necessary.

POWER OUTAGES

Backup batteries will hold the programming and keep the display on during most power outages. Once the power is restored, the system will resume normal operation.

If the display goes off when power is lost, either the backup batteries need to be replaced or are not installed. When power is restored, the display will flash 1:00 p.m. to remind you to reprogram.



Glossary

AUX HT light

This light glows whenever the thermostat is calling for operation of the backup heater. Backup (auxiliary) heat is more expensive to operate than the heat pump and typically is used only when the heat pump is unable to handle the load.

Comfort temperature

The temperature you want when you're active and occupying the zone.

EM. HT. light

This light glows whenever the thermostat system switch is in the EM.HT. position.

Energy-saving temperature

The lower (heating) or higher (cooling) temperature that lets you save on heating and cooling costs when you're asleep or away. Also called the setback (heating) or setup (cooling) temperature.

Preprogrammed schedule

This is the schedule programmed into your thermostat at the factory. It sets a night program that provides energy savings if you don't set your own program, or if your personal schedule is lost for any reason.

This program, which is the same for all days of the week, is:

Period	Start Time	Temperature	
		Heating	Cooling
MORNING	6:00 AM	70° F	78° F
MIDDAY	—————	No program	—————
EVENING	—————	No program	—————
NIGHT	10:00 PM	60° F	78° F

Program

The times and temperatures you set to define the comfort and energy saving periods for each day's schedule.

Recovery

The time when the thermostat operates the heating or air conditioning equipment to return the zone from the energy saving temperature to the comfort temperature. The thermostat starts the recovery period early so the zone will be at the comfort setting by the time you've chosen.

Setback

Reducing the temperature in the zone for a set period every day in winter for energy savings. The lower temperature is the energy saving temperature.

Setup

Raising the temperature in the zone for a set period every day in summer for energy savings. The higher temperature is the energy saving temperature.

Setpoint

The thermostat temperature setting you select. The thermostat turns the heating or cooling equipment on and off to maintain this temperature at the thermostat location until another temperature setting (setpoint) goes into effect.

SYSTEM light

This light glows whenever the thermostat is calling for heating or air conditioning.

Time period

One of four program periods available with the thermostat. One period begins when the previous program period ends.

MORNING—The time period when you bring the zone to a comfortable temperature to begin the day. This is the only period that must contain a time and temperature for every day.

MIDDAY—The time period when you can set back (winter) or up (summer) the temperature for daytime energy savings if the zone is unoccupied.

EVENING—The time period when you want the zone at a comfortable temperature for evening activities after daytime energy savings.

NIGHT—The time period when you can set back (winter) or up (summer) the temperature for energy savings because family members are asleep or the building is unoccupied. Often a NIGHT energy savings temperature is set only for the heating season so family members can sleep cool in summer.

Troubleshooting Guide

IF...	THEN...
Display will not come on.	<ul style="list-style-type: none">■ Check that heat or cool system power is on. If you use batteries, replace with fresh ones.■ Make sure thermostat is correctly mounted on base.
Display flashes during programming.	<ul style="list-style-type: none">■ You have reached the temperature setting limit. The setting range is 45° F to 88° F. Check that the COOL temperature setting is at least 3° F above the HEAT temperature setting.
Display flashes during operation.	<ul style="list-style-type: none">■ Programming has been lost because of a power outage. You must reprogram.
Program is lost due to power outage.	<ul style="list-style-type: none">■ Check that backup batteries are installed correctly. Replace if necessary. Reprogram the thermostat.
Temperature change occurs at the wrong times.	<ul style="list-style-type: none">■ Check the program times for the period in question. Be sure that AM and PM indications are correct. Make sure the current day and time are correct. Reprogram if necessary.

Temperature change occurs at the wrong times
(Continued).

- Remember that the heating equipment or air conditioner comes on before the comfort temperature start times so the zone will be at the desired temperature when the period starts.

Heating will not come on.

- Check the fuse or circuit breaker and replace or reset if necessary.
- Check the switch on thermostat is set to HEAT or AUTO.
- Allow at least five minutes for time guard protection to expire.
- Heat pump thermostats have a built-in time delay that can add to time delays in the heating equipment. Allow up to ten minutes after changing the setting before the compressor starts.
- If temperature setting is higher than current temperature, and display says HEAT ON or SYSTEM light is on, contact your heating and air conditioning contractor.

Cooling will not come on.

- Check the fuse or circuit breaker and replace or reset if necessary.
- Check that switch on thermostat is set to COOL or AUTO.
- The thermostat has a built-in time delay, which can add to time delays in the cooling equipment. Allow up to ten minutes after changing the setting before the air conditioner starts.
- If temperature setting is lower than current temperature, and display says COOL ON or SYSTEM light is on, contact your heating and air conditioning contractor.

The building is too warm or too cool.

- Press PRESENT SETTING to check the current temperature setting.
- If desired, change the time or temperature setting. See page 14.

Display says HEAT ON or SYSTEM light is on, but no heat is coming from the registers.

- Allow time for the heating equipment to heat up and the fan to come on before checking for heat at the register.

Display flashes REPL BAT or goes blank when power is turned off.

- Install fresh alkaline batteries. We recommend Energizer® batteries.

When I press the PRESENT SETTING key, I only see the heating temperature. How do I see the cooling temperature.

- Press and hold PRESENT SETTING to alternate between heating and cooling temperatures.

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This equipment is a Class B digital apparatus
which complies with Canadian Radio
Interference Regulations. CC c 1374.

Limited One-Year Warranty

Honeywell Trol-A-Temp warrants this product, excluding battery, to be free from defects in the workmanship or materials, under normal use and service, for a period of one (1) year from the date of purchase by the consumer. If, at any time during the warranty period, the product is defective or malfunctions, Honeywell Trol-A-Temp shall repair or replace it (at Honeywell Trol-A-Temp's option) within a reasonable period of time.

If the product is defective, return it with a bill of sale or other dated proof of purchase, to the dealer or contractor from which you purchased it.

This warranty does not cover removal or reinstallation costs. This warranty shall not apply if it is shown by Honeywell Trol-A-Temp that the defect or malfunction was caused by damage which occurred while the product was in the possession of a consumer.

Honeywell Trol-A-Temp's sole responsibility shall be to repair or replace the product within the terms stated above. HONEYWELL TROL-A-TEMP SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE OF ANY KIND, INCLUDING ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING, DIRECTLY OR INDIRECTLY, FROM ANY BREACH OF ANY WARRANTY, EXPRESS OR IMPLIED, OR ANY OTHER FAILURE OF THIS PRODUCT. Some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation may not apply to you.

THIS WARRANTY IS THE ONLY EXPRESS WARRANTY HONEYWELL TROL-A-TEMP MAKES ON THIS PRODUCT. THE DURATION OF ANY IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IS HEREBY LIMITED TO THE ONE YEAR DURATION OF THIS WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

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