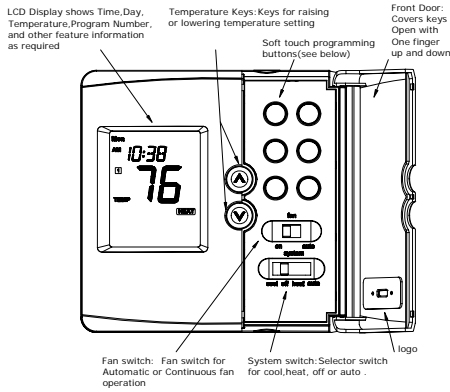


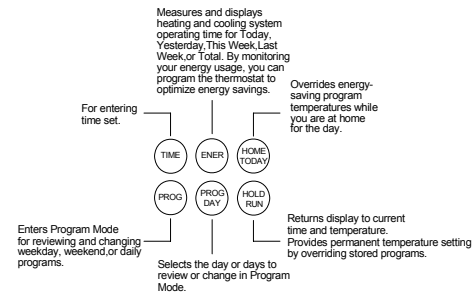
# Program Thermostat Owners Manual

Model: BLU1719



## FEATURES

Structure of thermostat and explanation for the keypads



We are pleased you have selected one of our broad line of wall thermostat. Our products are manufactured to high quality standards and are designed for years of service.

## Read This Before Installing Thermostat

**IMPORTANT**  
1. Read the entire installation section of this Owner's Manual thoroughly before you begin to install or operate your Thermostat.  
REMOVE THE MYLAR LABEL FROM THE LCD DISPLAY WINDOW.

## INSTALLATION

2. All installation is normally performed at your thermostat.

## ARMCHAIR PROGRAMMING

3. You can program your thermostat before installation by inserting the batteries and following the instructions starting **Feature selector switches**. This can be done while you relax in your favorite chair and is a very good way to familiarize yourself with all the functions of your thermostat.

The following time and temperature settings are pre-programmed into the thermostat:

Program Number	Time	Temperature in °F (°C)	
		Heat	Cool
1	6:00 am	68° F (20° C)	78° F (26° C)
2	8:00 am	60° F (16° C)	85° F (29° C)
3	4:00 pm	68° F (20° C)	78° F (26° C)
4	10:00 pm	60° F (16° C)	82° F (28° C)

## OPERATION

4. Your Thermostat is designed to operate with most gas, oil, electric or 2-wire hot water heating and air conditioning systems. It will also operate single-stage heat pumps that do not have auxiliary or emergency heat.

These have 24-volt or millivolt control systems and represent most central heating, air conditioning, or space heating units in use in the United States.

This Thermostat will NOT control multi-stage heat pumps or 110/220Volt systems.

## COMPRESSOR PROTECTION

5. The thermostat provides a 4 minutes delay after shutting of the heating or cooling system before it can be restarted. This feature will prevent damage to your compressor caused by rapid cycling. Note that this delay also applies to the heating system control. It does not provide a delay when there are power outages.

## TEMPERATURE RANGE

6. This thermostat can be programmed between 45° F and 95° F (7° C and 35° C). However, it will display room temperatures from 30° F to 99° F (0° C and 37° C). "HI" will be displayed if the temperature is higher than 99° F (37° C), and "LO" will be displayed if the temperature is lower than 30° F (0° C).

This thermostat will automatically cutoff in Heat mode if the temperature rises above 95° F (35° C), and automatically cutoff in Cool mode if the temperature drops below 45° F (7° C).

NOTE: if the thermostat measure a temperature over 99° F (37° C), "HI" will be displayed on the LCD. if the temperature is below 32° F (0° C), and "LO" will be displayed on the LCD.

## POWER FAILURE

7. Whenever the main power is interrupted or fails, the battery power retains and current time.

## AUTO RECOVERY

8. Your thermostat is set from the factory to gradually recover the room temperature from an energy saving program to your comfort program. Therefore, the thermostat may turn your system on several minutes prior to your programmed the Selector Switches information on Selector switches.

## POWER SUPPLY

9. The thermostat shall be powered by 24 VAC and with batteries as backup.

## BATTERY WARNING

10. Fresh alkaline batteries should provide about one year of service. However, when the batteries become drained, "BATT" will alternate on the display with the current time. When this message occurs, install 2 new AAA batteries. You have approximately 1 minute to change the batteries and keep thermostat's clock and program settings. Once the batteries have become too low to ensure proper operation, your system will be turned off, and the display will be cleared except for "BATT" flashing on the LCD display.

**CAUTION:** Once only the "BATT" only display occurs, the thermostat is shut down, and your system will no longer operate. In this condition, there is no temperature control of your dwelling. **NOTE:** The backlight will not function when the thermostat is in low battery condition.

**NOTE: If you plan to be away from the premises over 30 days, we recommend that you replace the old batteries with new alkaline batteries prior to leaving.**

## INSTALLATION

What You Need

This thermostat includes two #8 slotted screws and two wall anchors for mounting. To install your thermostat, you should have the following tools and materials.

- Slotted Screwdriver(s)
- Small Phillips screwdriver
- Hammer
- Electric drill and 3/16" bit
- Two 1.5V (AAA) size alkaline batteries (included)

## Remove Old Thermostat

**CAUTION: Do not remove any wiring from existing thermostat before reading the instructions carefully. Wires must be labeled prior to removal.**

**IMPORTANT! Turn off the power to the furnace at the main power panel or at the furnace.**

Remove existing thermostat cover and thermostat. See Figure 1. Some thermostats will have screws or other locking devices that must first be removed. Once the wall mounting plate is exposed, look for wires. If wires are not visible, they may be connected to the back of the wallplate. Again, look for screws, tabs, etc. Some models have doors that open to expose wires and mounting screws. See Figure 1.

## Typical Home Thermostats

Wall mounting Plate Thermostat Cover



Figure 1

## Wiring Labeling

• Each wire coming from the wall to the existing thermostat is connected to a terminal point on that thermostat. Each of these terminal points is usually marked with a code letter as shown in Table A below.

• Note that this thermostat has multiple function terminals that allow Single-Stage Heat Pump capability. Standard systems use: RH, RC, G, Y, W. [Single-Stage Heat Pumps use: R, Y, G, and O or B.] Table A below shows the multiple functions of the terminals. Use the terminals that match your system.

• The number of wires in your system can be as few as two (for heat only systems), as many as eight, or any number in between. If you follow the labeling procedures correctly, you do not have to be concerned about how many wires there are.

• There is often no terminal marking on the existing thermostat of two wire, heat only systems. Just connect either of the wires to the RH terminal, then connect the other wire to the W terminal to complete the circuit.

**IMPORTANT! BEFORE DISCONNECTING ANY WIRES, APPLY THE SELFADHESIVE LABELS PROVIDED TO THE WIRE AS SHOWN IN TABLE A BELOW.** (For example, attach the label marked W to the wire that goes to the W or H terminal on your existing thermostat.) **IGNORE THE COLOR OF THE WIRES** since these do not always comply with the standard.

• After labeling wires, disconnect them from the existing thermostat.

• Remove existing wallplate. To make sure wires do not fall back into wall opening, you may want to tape them to the wall.

• If hole in wall is larger than necessary for wires, seal this hole with insulating material so that no hot or cold air can enter the back of the thermostat from the wall. This air could cause a false thermostat reading.

**If the code letter on your existing Thermostat is then mark the wire with label shown and connect to thermostat terminal shown**

AC 24V R			
AC 24V C			
RH or VR of 4 24 Volt			
RC, VC, 24 Volt Cool			
G or F Fan			
Y, Y1 C or M (See Note) AUX or Heating Compressor			
W or H Heating Not for heat pumps			
O, B, or R Reversing Valve (Single stage Heat Pumps only)			

Table A

## Mount Wallplate and Thermostat

• Remove the wallplate from your thermostat. See Figure 2.

• Position wallplate on wall and pull existing wires through large opening. Then level for appearance. Mark holes for plastic anchors provided, if your existing holes do not line up with those on the wallplate.

• Drill holes with 3/16" bit and gently tap anchors into the holes until flush with wall.

• Reposition wallplate to wall, pulling wires through large opening. Insert mounting screws provided into wall anchor and tighten. See Figure 3.

## NOTE: 5-Wire Systems

If your thermostat has one wire marked R or RH (2, 3, or 4-wire system), then leave the jumper wire between the RH and RC terminals on the wallplate. Otherwise, if you have separate RH and RC wires (5-wire system), then remove the jumper wire between the RH and RC terminals.

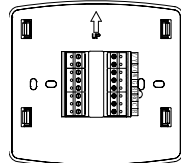
## Connect Wires and Mount Thermostat to Wallplate Figure 5

• Match and connect the labeled wires to the appropriate coded terminal screws on the wallplate. (See Figure 4, 5) Ignore any wires which may be present, but which were not connected to the old thermostat.

Figure 4



Figure 5



• Refer to the Wiring Diagrams below to be sure your system is wired correctly.  
• Be sure to tighten the terminal screws securely, otherwise a loose wire could cause operational problems with your system or thermostat.

• Push excess wire back into the hole to prevent interference when installing the thermostat to the wallplate.

• Make sure the System Switch is set to OFF, and the Fan Switch is set to AUTO.

• If your system is a single stage heat pump and uses an O or B wire, you must move the System Selector switch inside the thermostat to the Heat Pump position. If you have a normal furnace or electric system, leave the switch in the Standard position. Refer to the System Selector section on the back for more information on this switch.

• Insert the tabs on top of the thermostat body into the slots at the top of the wallplate. Press the bottom of the thermostat body into the snap on the bottom of the wallplate, as the terminal pins may be damaged. If it does not snap properly, the thermostat may not work.)

• Insert the two AAA size alkaline batteries, observing the polarity marked inside the battery compartment.

• Switch on the main power at the panel or furnace.

## Selector Switches

In order for this thermostat to control your system, the system type must be specified by the selector switches on the printed circuit board inside the thermostat. There is also a selector switch for your choice of Fahrenheit or Celsius temperature display.

• Heating System Selector (HG – HE switch)

The factory position for this switch is in the "HG" position. Leave in this position if you have a gas furnace or an oil burner. If you have an electric furnace, test to see whether the Heat and Fan come on as expected after installation. If the Fan operation is normal, leave it in the "HG" position. If the Fan does not come on within minute of the thermostat calling for heating, change the switch position to "HE". The system selector has no effect in the cooling mode.

NOTE: "HG" position is for gas and most other systems. "HE" position is for certain electric systems having a fan relay.

• Furnace or Heat Pump selector (NORMAL-O-B switch)

The factory position for this switch is in the NORMAL position. Leave it in this position if you have ANY system that uses gas, oil, electric, or hot water heating.

If you have a single-stage Heat Pump (no auxiliary or emergency heat source), then slide the switch to the position that matches your Reversing Valve type. If your heat pump system has a "B" wire, slide the switch to "B" for your reversing valve that activates in HEAT mode. If your heat pump system has an "O" wire, slide the switch to "O" for your reversing valve that activates in COOL mode.

INSTALLER/CONFIGURATION MENU				
Step	Press Button	Displayed (Factory Default)	Press up or down key to select	Comments
1	ENER	(SPAN)1	2	SPAN -1(+1F/-1F) -2(+2F/-1F)
2	ENER	(TEMP)F	C	Selects temperature display F or ° C
3	ENER	(HOUR)12	24	Selects time format display 12hours or 24hours
4	ENER	(PROG)1	0, 2	Selects PROG mode 0(non-program), 1(Weekday/Weekend) or 2(7-DAY)
5	ENER	(RECO)OFF	ON	Auto Recovery select
6	ENER	FACT(0)	1,	Select 1, all the setting will go back to factory default

The configuration menu allows you to set certain thermostat operating characteristics to your system or personal requirements. Set SYSTEM switch to OFF, then simultaneously press up and down keys 3s to enter configuration menu. The display will show the first item in the configuration menu. The configuration menu table summarizes the configuration options. An explanation of each option follows. Press ENER key to change to the next menu item. To exit the menu and return to the program operation, press Hold/Run Key. If no keys are pressed within fifteen Seconds, the thermostat will revert to normal operation.

- 1) Fast or Slow Cycle Selection
- 2) Select °F or °C Readout. when you change this parameter .the programming come back to fault. you have to set the programming again. Changes the display readout to Centigrade or Fahrenheit as required .
- 3) Selects time format display 12hours or 24hours.
- 4) Selects PROG mode for non-program , Weekday/Weekend or 7-DAY.
- 5) Select Energy Management Recovery OFF or ON .
- 6) Select 1, all the setting will go back to factory default.

Your thermostat is set from the factory to gradually recover the room temperature from an energy saving program to your comfort program. Therefore, the thermostat may turn your system on several minutes prior to your programmed.

## Setting Time and Day

Remove the mylar label covering the LCD display window before operating thermostat.

Press Time button and enter the time setting interface

■ Initial display after power-up.

EXAMPLE: Set the Thermostat to the current time of 9:43 a.m. on

Saturday Refer to the Steps below.

## STEP 1:

- TIME
- Press and enter time and day setting mode. The current hour will be flashing.
  - Press up or down to change the Hour up or down to the current hour.

Note the AM/PM indicator, as the display will change at 12AM and 12PM.

## STEP 2:

- TIME
- Press again to change from hour setting to minute setting. The current minute will be flashing.
  - Press up or down to change the Minute up or down to the current minute.

## STEP 3:

- TIME
- Press again to change from minute setting to day setting. The current days will be flashing.
  - Press up or down to change the Day up or down to the current day.

## STEP 4:

- TIME
- Press again to change back to the normal display.

## Reviewing the Current Temperature Setting

Current time and temperature.

- ▲
- Press less than 1 second .
- ▼
- Set Temperature is shown above current room temperature

## Auto Programming

Studies conducted by the Department of Energy estimate that setting your thermostat back 10° F (6° C) for two 8-hour periods during winter can reduce your fuel bill by as much as 33%. By setting your thermostat up 5° F (3° C) for tow 8-hour periods during summer you can reduce your fuel bill up to 25%.

Your thermostat is capable of holding up to 4 separate programs for each day of the week. You can program all weekdays, Monday to Friday, to the same 4 programs as show in the table, or each weekday can have a different set of 4 programs. Similarly weekend programs, Saturday and Sunday, can be the same 4 programs or each weekend day can have a different set of 4 programs.

Your thermostat is pre-programmed to meet the ENERGY STAR guidelines for energy efficiency. Note that it is easier to modify these programs than to programs than to program the thermostat manually.

- PROG DAY
- Press once. During Auto Programming, the display will change as shown.
  - The thermostat will be programmed for all 7 days of the week as shown below.

Program Number	Time	Temperature in °F/°C	
		Heat	Standard
1	6:00am	68 °F (20° C)	78 °F (26° C)
2	8:00am	60 °F (16° C)	85 °F (29° C)
3	4:00pm	68 °F (20° C)	78 °F (26° C)
4	10:00pm	60 °F (16° C)	85 °F (28° C)

■ Refer to Manual Programming entering or changing the programs.

## PROGRAMMING

Before programming or changing programs, use this Personal Program Schedule to determine which times and temperature Settings will best satisfy both your comfort and energy saving requirements. Use a pencil so you can revise yours records each time you change your temperature settings.

## Heating or Cooling

DAY	Program1	Program2	Program3	Program4
Mon.	Time Temp	Time Temp	Time Temp	Time Temp
Tue.	Time Temp	Time Temp	Time Temp	Time Temp
Wed.	Time Temp	Time Temp	Time Temp	Time Temp
Thu.	Time Temp	Time Temp	Time Temp	Time Temp
Fri.	Time Temp	Time Temp	Time Temp	Time Temp
Sat.	Time Temp	Time Temp	Time Temp	Time Temp
Sun.	Time Temp	Time Temp	Time Temp	Time Temp

## Manual Programming

Your thermostat can be programmed for weekdays and weekends, or have unique programs for all 7 days. Use Weekday /Weekend Programs or 7-day Programming to enter or revise programs to match your Personal Program Schedule. The same steps are used when entering programs for the first time, or revising programs entered during Auto Programming.

Familiarize yourself with Manual Programming, so that you can easily modify your programs as your comfort needs change. The example below demonstrates the Manual Programming method.

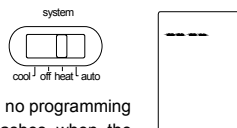
### NOTE:

- The program time can be set in 15-minute increments, and remains the same for both Heat and Cool programs.
- The program temperature can be set in increments of 1°F (1°C).
- The Heat setpoint can not be set higher than the Cool set point, and the Cool set point can not be set lower than the Heat set point.
- If the system selector is in AUTO mode, the current operating mode will be used for programming.
- After 15 seconds without a key press, the thermostat will return to normal display mode.
- When setting the program time, note the AM/PM indicator.
- With the Auto Recovery feature enabled, you do not need to set your comfort program times early. Auto Recovery will determine how early Recovery will determine how early to turn your system on, so that the room is comfortable at the program time.
- "PROG", "PROG DAY", "HOME TODAY" keys do not work with non-program mode.

## Weekday/Weekend Programming

### Step 1

Slide System Selector Switch to HEAT or COOL to program the corresponding system.



NOTE: If the system selector is in the OFF position, no programming is permitted. The LCD display will show only dashes when the program key is pressed.

### Step 2

- Press and enter program mode. Display shows weekday programs and Program hour are flashing.
- Display for HEAT mode shown.



### Step 3

Use  $\Delta$  and  $\nabla$  to change the hour.



### Step 4

Press PROG again to change the minute position, the current minute will be flashing.

### Step 5

Use  $\Delta$  and  $\nabla$  to change the minute.

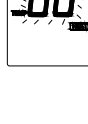


### Step 6

Press PROG again to change the program temperature, the current program temperature will be flashing.

### Step 7

Use  $\Delta$  and  $\nabla$  to change the temperature.



### Step 8

- Press to change to the weekend program.
- Repeat Step 3 and 6 to complete the weekend programs.

### Step 9

Press it to enter normal mode or after 15 seconds, the thermostat will return to normal mode automatically.

### Step 10

Change the System Selector Switch to the other system. And repeat Step2 through 9 above.

## 7-DAY Programming

### Step 1

Slide System Selector Switch to HEAT or COOL to program the corresponding system.



### Step 2

Press it to enter program mode, display shows Monday programs and Program hour are flashing.

### Step 3

Use  $\Delta$  and  $\nabla$  to change the hour.



### Step 4

Press PROG again to change to the minute position, the current minute will be flashing.

### Step 5

Use  $\Delta$  and  $\nabla$  to change the minute.



### Step 6

Press PROG again to change to the program temperature

### Step 7

Use  $\Delta$  and  $\nabla$  to change the temperature.

### Step 8

- Press it to change the next program number.
- Repeat Step 3 and 6 to complete the remaining Weekday and Weekend programs.

### Step 9

Press it to normal mode or after 15 seconds, the thermostat will return to normal mode automatically.

### Step 10

Change the System Selector Switch to the other system. And repeat Step2 through 9 above.

## Reviewing Programs

You may want to review the programs to confirm that the settings are compatible with your lifestyle.

Use  $\Delta$  and  $\nabla$  to review the programs.

NOTE: Programs take affect as soon as the thermostat returns to normal mode.

If you are armchair programming the thermostat, slide the system selector to the OFF position before mounting the thermostat to the wall plate.

## Reviewing the Current Temperature Setting

Current time and temperature.

### Step 1

Press it for 1 second or less.

### Step 2

Set Temperature is shown above current room temperature.



## OPERATION

### System Selector Switch

The System Selector Switch on the front of the thermostat determines the Operating mode of the thermostat. You may select COOL, OFF, HEAT, AUTO. In order to take full advantage of this thermostat's feature, we recommend using the AUTO mode. Refer to the Auto Season Changeover information on Auto Season Changeover.

NOTE: Anytime you install or remove the thermostat from the wallplate, slide the System Selector to the OFF position to prevent the possibility of a rapid system On-Off.

### Fan Switch

The Fan switch should normally be located in the AUTO position. The Fan will be turned on along with normal operation of your system. In a normal gas or oil furnace, the Fan will be turned on by your furnace after its warm-up delay. For electric heat, air conditioning, and heat pump operation, the Fan will turn on with the system. To run the Fan on continuously, slide the Fan switch to the ON position.

## Temporary Manual Override

To temporarily change the current set temperature without affecting your program:

Press and hold  $\Delta$  or  $\nabla$  for less than 1 second to enter Manual Override mode.

### Step 1

Press  $\Delta$  and  $\nabla$  to change to your desired new temperature.

### Step 2

Press to normal mode or wait 15 seconds for it to return automatically.

- The current program number will flash to signify the Temporary Override. At the next program change, the Temporary Override is canceled, and the next program temperature becomes the setpoint temperature. To end the Temporary Manual Override:
  - Press and wait for HOLD display on the LCD
  - Press HOLD/RUN key twice. This will return the set temperature to the current program set temperature.

## Permanent Override or a Designated Day Override

To hold your Manual Override for vacation or Until a Designated Day

- Press it to make the current program temperature the HOLD temperature. HOLD will be displayed on the LCD and the Program number will disappear.
- Follow the Temporary Manual Override instructions above to change the Permanent Manual Override temperature.
- You can confirm the held set temperature by pressing for less than 1 second.
- Press again. Hold day will be displayed on the LCD and the clock will disappear.
- Press TIME key to add override days. Press PROG key to reduce override days.
- Follow the a Designated Day Override instructions above to change the Permanent Manual Override temperature.

## To end Override:

Under Permanent Override Press HOLD/RUN key twice. Under a Designated Day Override press the HOLD/RUN once. The thermostat will return to the current program, and the HOLD display will be canceled.

## Auto Season Changeover

When the System Selector is in AUTO position, the thermostat will automatically change between Heating and Cooling systems, depending on your program. We recommend keeping your programmed heating and cooling temperature at least 4°F (2°C) apart to allow the Auto Season Changeover to occur when the appropriate temperature span has been reached. However, if your heating and cooling programs set temperatures are close, there is a built-in program to prevent the thermostat is in Temporary, a Designated Day Override or Permanent Override, as these overrides are energy saving settings. Auto Season Changeover will still function in Home Today mode, as this is a comfort setting.

For example, you may have the following temperatures programmed at a given time: Heat Set Temp=68°F, Cool Set Temp=78°F

If the room temperature rises above 78°F, then the thermostat will automatically change to cool mode and turn on the air conditioner.

Likewise, the thermostat will automatically change to heat mode and turn on heat when the room temperature falls below 68°F.

## HOME TODAY

This patent pending feature allows you to quickly and Temporarily Override your energy saving program setting on days when you are normally away from home with one key press.

Press and enter the Home Today override. The highest program temperature for today will be selected from your programs in Heat mode and become the set temperature. (In Cool mode, Home Today will select the lowest program temperature for today to be the set temperature.)

The display will alternate between "HOME" and the current time. When pressed during the day, the thermostat will remain in Home Today mode until the first program of the next day.

If the system is changed between Heat and Cool modes (either manually or by Auto Season Changeover) during the "Home Today" override period, the setpoint temperature will be automatically update. It will automatically change from the lowest cool program setpoint to the highest heat program setpoint.

Press it and exit Home Today mode before the schedule ending time. "HOME" is no longer displayed on the LCD screen, and the thermostat returns to the current program.

You can manually change the set point temperature while in Home Today mode. Refer to the Temporary Manual Override instructions. Manually changing the set temperature while in Home Today mode will not affect the Home Today ending time. However, the set temperature will not change automatically with a manual or Automatic change between heating and cooling.

## Energy Monitor

The Energy monitor feature measures and stores the amount of time the heating and air conditioning system operates. Usage can be display for Today (since 12 am), Yesterday, This Week (since Monday), Last Week (last Monday through Sunday), and Total (up to 999 Hrs). By monitoring your energy usage, you see how much the set-back periods are saving, and you can test program adjustment to save even more. To review energy usage, press to cycle through Today, Yesterday, this Week, Last Week, and Total. Press again to return to normal mode, or wait 15 seconds for the display to return to normal mode. You can also return to normal mode at any time by pressing HOLD/RUN.

For example: This LCD display shows Today's usage to be 10 Hours, 26 minutes

Press and hold for 3 seconds to reset the Energy Monitor's counters. The display will blink, and counters will be cleared to zero.

NOTE: Clearing the Energy Monitor counter will also clear the Filter Monitor counter, as Filter usage and Total Energy usage are the same. Also, clearing the filter Monitor counter will clear ALL Energy Monitor counters as well.

## Filter Monitor

Your thermostat also keeps a record of the number of hours your filter has been in use. To maximize your system's performance and energy efficiency, change or clear your filter regularly.

When the total system run time for heat and cool reaches 400 hours, you to clean or change your system's filter, "FILT" will continue to flash until the counter is set back to zero.

Press to review total filter usage. After 15 seconds, the display will return to normal mode, or you can hit HOLD/RUN to exit immediately.

The Filter Monitor will display up to 999 hours and 59 minutes of usage. In this example, the counter is at 410 Hours, 26 minutes.

To reset the Filter Monitor counter, depress ENER for 3 seconds. The display will blink, and the counter will be reset to zero.

NOTE: Clearing the Filter Monitor counter will also clear ALL Energy Monitor counters, as Filter usage and Total Energy usage are the same. Also, clearing the Energy Monitor counters will clear the Filter Monitor counter as well.

## Auto Recovery

Auto Recovery calculates how early to turn your system back on, so that the room temperature is already comfortable by the start of the comfort temperature program period. Auto Recovery work's in both Heat and Cool modes.

- When the thermostat is in Auto Recovery mode, the display will alternate "RECO" with time, and the program indicator will flash.
- Auto Recovery can be disabled by sliding the Recovery switch on the circuit board to disable.
- Auto Recovery will not operate if Permanent hold or Temporary hold is in operation.
- Auto Recovery can be canceled manually if HOLD is pressed during the recovery process.
- Auto Recovery will be canceled and change to next period.

## Details of Auto Recovery Operation:

- Auto Recovery can be disabled by sliding the Recovery switch on the circuit board to the DISABLE position.
- Today is in operation.
- Auto Recovery can be canceled manually if HOLD/RUN is pressed during the recovery process. If a recovery process is canceled manually then the recovery

process will not start again until the next program period starts (an exception is that if time or program is changed then the thermostat will check Auto Recovery conditions immediately).

Auto Recovery will be canceled and change to Home Today mode if HOME TODAY is pressed during the recovery process.

## Backlighting

Your thermostat has an electroluminescent lamp that backlights the display for easy viewing in the dark.

When any key is pressed the display is illuminated. The display will remain illuminated for 8 seconds after the last key is pressed. This allows the light to stay on if you need to operate several keys.

NOTE: If the thermostat is in Low Battery warning condition, the backlight will not operate. Replace with 2 new AAA alkaline batteries to restore the Backlight function.

## Low Battery Warning

Your thermostat has a two-stage lower battery warning system. When the batteries are first detected to be weak, the first stage low battery warning is indicated by "BATT" flashing on the LCD display. At your earliest convenience, you need to replace the batteries with 2 new AAA alkaline batteries.

When the batteries become too weak for normal operation, the thermostat enters the second stage low battery warning which shuts down the thermostat. In this condition, "BATT" flashes alone on the display, and the thermostat will turn your system Off. Your system will remain shut-off until the batteries are replaced.

NOTE: The thermostat will still keep the current Set Temperature and Filter run time in memory until new batteries are installed. After confirming that new batteries have been inserted, the thermostat will return to normal operation.

## Error Mode

If the thermostat is unable to control your system due to an unexpected battery problem, the thermostat will enter Error Mode. In this condition, the thermostat flashes "E1" or "E2" on the LCD display, and shuts off your system. To correct this problem, replace the batteries with 2 new AAA alkaline batteries, even if you have recently replaced them. Move the battery out, and then hold any key to release the rest energy. Then place the battery again. You will need to reprogram your thermostat and confirm normal operation.

If Error Mode returns, please call us for further information.

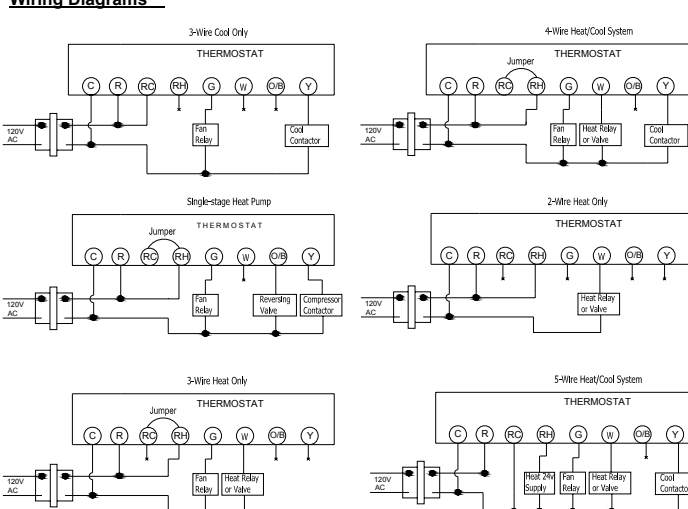
LCD display	Information	LCD display	Information
E1	Sensor Error	E2	System switch

## Auto Cut Off

Your thermostat will automatically cutoff in Heat mode if the room temperature rises above 95°F (35°C). It will cut off in Cool mode if the room temperature drops below 40°F (4°C).

Note that if your system has malfunctioned and no longer responds to thermostat controls, the Auto Cut-Off will have no effect.

## Wiring Diagrams



## TROUBLESHOOTING

Problem	Solution
SCRAMBLED OR DOUBLE DISPLAY (numbers over numbers)	1. Remove clear mylar sticker.
NO DISPLAY	1. Check battery connections and batteries 2. Move the battery out, and then hold any key to release the rest energy. Then place the battery again.
ENTIRE DISPLAY DIMS	1. Replace Batteries
PROGRAM DOES NOT CHANGE AT YOUR DESIRE SETTING	1. Check that the time is set properly to "AM" or "PM" 2. Check that the thermostat is not in "HOLD" or Home Today" mode. 3. Check for the correct day settings.
AUTO/FAN DOES NOT TURN ON	1. Move HG/HE selector to opposite position is in the correct position ("HEAT", "COOL" or "AUTO") 2. The thermostat may be in the AUTO Mode. Look for "AUTO" on the LCD display. If the Heat and Cool program temperature are close, then the thermostat requires a larger room temperature change before changing from Heat or Cool. 3. There may be as much as 4 minute delay before the Heat or Cool system turns On-wait and check. (Compressor protection delay). 4. Check your circuit breaks and switches to ensure there is power to the system. 5. Replace batteries. 6. Make sure your furnace blower door is closed properly. 7. If your system only uses 4-wires, be sure the jumper wire is installed between the RC and RH terminals. 8. Check the position of the Furnace or Heat Pump selector switches: Normal/O/B.
ERRATIC DISPLAY	1. Move the battery out, and then hold any key to release the rest energy. Then place the battery again.
IF UNIT CONTINUES TO OPERATE IN THE OFF POSITION	1. Replace unit
THERMOSTAT PERMANENTLY READS "HI", "LO," OR "ERR." AFTER PRESSING TER PRESSING	1. Replace unit.