Your new thermostat will provide years of reliable service. Using this digital thermostat will provide more uniform comfort in your home through the seasons. Thank you for buying the product!

Please read this manual for complete instructions on installing and operating your thermostat. If you require further assistance, please feel free to contact us.

**IMPORTANT INFORMATION**

1. **This thermostat is designed to work on the following systems:**
   - Gas – Standing Pilot
   - Gas – Electronic Ignition
   - Gas – Fired Boilers
   - Gas – Millivolt Systems
   - Oil – Fired Boilers
   - Electric Air Conditioning

2. **Temperature Range**
   - This thermostat can be set between 45°F and 73°F in heat mode, and 41°F and 99°F in cool mode. It will NOT control multi-stage heat pumps or 110/220V gas/electric heating systems.

3. **Compressor Protection**
   - This thermostat provides a 4 minute delay after shutting off the compressor before it can be restarted. This feature will prevent damage to your compressor caused by rapid cycling. It does not prevent a rapid compressor restart due to short power outages.

4. **Battery Warning**
   - Two fresh AA alkaline batteries should provide well over 2 years of service. However, when the batteries become drained the Low Battery Indicator will flash on the display. When this message occurs, install new alkaline batteries.

   **NOTE:** The backlight will not function when the thermostat is in low battery condition.

5. **Power Supply**
   - The thermostat shall be powered by 24 VAC and with batteries as backup. Change in any System Switch position.

**FEATURES**

- Structure of thermostat and explanation for the keypads
- 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.

- Review Current Set Temperature
  - Press either the up or down key once to see the Set Temperature. The factory default is 71°F (22°C) when started with the System Switch Off or Heat, and 76°F (24°C) when started with the System Switch on Cool.

- Setting New Temperature
  - Press either the up or down once and display the set temperature.
  - Press either up or down again to change to your desired Set Temperature. Hold the key down for over 2 seconds to fast advance the Set Temperature.
  - The display will return to the normal room temperature after the keys have been released for 5 seconds.

- Filter Monitor
  - The thermostat counts the number of hours your system's filter has been in use. To maximize your system's performance and energy efficiency, change or clean your filter regularly. After confirming that the specified filter is installed, press and hold the Filter key for 3 seconds. The display will blink, and the counter will be reset to zero.

- Monitor Setting
  - SPAN Setting: Your thermostat is set at the factory to cycle at 2°F (1°C) above and below the set temperature. (Span = 2) This setting has been designed to provide a comfortable room temperature under most conditions. However, if you find your system cycling too fast or too slow, then the SPAN can be adjusted to modify the cycle time.

- Error Mode
  - If a malfunction occurs, either E1 or E2 will be displayed.

**Limiting Settings**

- In the "HEAT" mode your thermostat cannot be set any higher than 73°F and in the "COOL" mode your thermostat cannot be set any cooler than 72°F. The display will always display actual ambient temperature.

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

**INSTALLATION**

What You Need

- Digital Thermostat
- Include all screws and anchors
- Standing Pilot
- Battery (2 AA alkaline batteries)
- Filter Monitor
- Filter Change Indicator
- Low Battery Indicator

**Wiring Labeling**

- Each wire coming from the wall to the existing thermostat is connected to the corresponding terminals. Use the terminals that match your system.

- **Wall Plate:**
  - Wall mounting Plate
  - Cover

- **Thermostat:**
  - Wall mounting Plate
  - Thermostat
  - Cover

- **Figure 1:**

**Typical Home Thermostats**
Mount wallplate and Thermostat

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

Connect Wires and Mount Thermostat to wallplate

- 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.

Wiring Diagrams

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.

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. If you have a normal furnace or electric system, leave the jumper wire between the Rh and Rc terminals on the wallplate.

Connect Wires and Mount Thermostat to wallplate

- 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.
- 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.
- 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.

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. Refer to Figure 2. (NOTE: Do not force the thermostat onto the wallplate, as the terminal pins may be damaged. If it does not snap properly, the thermostat may not work.)
- Insert the two AA-size alkaline batteries, observing the polarity marked inside the battery compartment.
- Switch on the main power at the panel or furnace.

X-No Connection

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. See Figure 6.

- Heating System Selector (HG) – HE switch
  The factory position for this switch is in the “HG” position. Leave it 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 a 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.
- System Selector (STANDARD – HEAT PUMP switch)
  The factory position for this switch is in the STD 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 HP position. Be sure the reversing valve wire is connected to the correct terminal for your heat pump (Rt/O) or (Rt/B).
  - *F / C selector (Fahrenheit / Celsius)
    Your thermostat is set for “F” mode from the factory. In order to change to “C” mode, slide the switch to “C” and hold any key about 2 seconds without the battery, then place the battery again.
    NOTE: Unless press any key about 2 seconds without the battery, then place the battery again.

TROUBLESHOOTING

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Display</td>
<td>1. Check battery connections and batteries. 2. Move the battery out and wait for about 1 minute then Replace Batteries.</td>
</tr>
<tr>
<td>Entire Display Dims.</td>
<td>1. Replace Batteries.</td>
</tr>
<tr>
<td>Heating or Cooling Does Not Go On or Off</td>
<td>1. Check that the function switch is in the correct position (&quot;HEAT&quot; or &quot;COOL&quot;). 2. There may be as much as 4-minute delay before the system turns On – wait and check. (Compressor protection delay). 3. Check your circuit breakers and switches to ensure there is power to the system.</td>
</tr>
<tr>
<td>Erratic Display</td>
<td>1. Move the battery out hold any key then place the battery again. Then reprogram.</td>
</tr>
<tr>
<td>If unit continues to operate in the Off position</td>
<td>1. Replace unit.</td>
</tr>
<tr>
<td>Thermostat permanently reads “HI”, “LO”, or “E1”, “E2”</td>
<td>1. Replace unit.</td>
</tr>
</tbody>
</table>

Table A

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

Table 4

If you have a non heat pump system only uses wires, be sure the jumper wire is installed between the Rh/B and Rc/O terminals.

If unit continues to operate in the Off position.

7. Check the position of the Reversing Valve selector switch: Standard or Heat Pump.
8. If you have single-stage heat pump, be sure the jumper wire is installed between the Y and W terminals.