User Controls

MODE:
Select the desired mode of operation by repeated pressing of the MODE button:
- - controls Cooling system only (the word “Cool” is displayed for 5 seconds).
- - controls Heating system only (the word “Heat” is displayed for 5 seconds).
HEAT/COOL - controls both heating and cooling (auto changeover) (the word “Auto” is displayed for 5 seconds).
OFF - disables thermostat so equipment will not operate.

COOLING:
Select the temperature you want your equipment to maintain while in the cooling mode by pressing and holding the or buttons. The control setpoint temperature is displayed for 5 seconds.

HEATING:
Select the temperature you want your equipment to maintain while in the heating mode by pressing and holding the or buttons. The control setpoint temperature is displayed for 5 seconds after releasing the button.

Clock Terminals (Option)
CLK1 - CLK2
Your thermostat is equipped with Remote Clock Terminals. By connecting a remote clock/timer (DSP-AT or equivalent) the thermostat can be alternated between the Day/Night setpoints automatically.

Remote Sensor (Option)
RS1 - RS2 - RS-V
The thermostat is designed to accept the Electronic Remote Sensor which will allow you to locate your thermostat in an area away from view.

Celsius/Fahrenheit
Simultaneously press and to switch between Celsius and Fahrenheit temperature display.

Power Failures
Your thermostat employs the latest developments in solid state electronic technology.
One of the unique features of your thermostat is that there is no battery required to maintain your selected setpoints in the event of a power loss as the memory is unaffected by power failures of any duration.
When power is restored, the thermostat will continue operating as if the power had never been off.

Temperature Accuracy
Full temperature accuracy will only be realized after the thermostat has been installed and powered for at least one hour.
Installation Procedures

LOCATION:

To ensure proper operation, the thermostat should be mounted on an inside wall in a frequently occupied area of the building. In addition, its position must be at least 18" (46 cm) from any outside wall, and approximately 5' (1.5 m) above the floor in a location with freely circulating air of an average temperature.

BE SURE TO AVOID THE FOLLOWING LOCATIONS:

- Behind doors or in corners where freely circulating air is unavailable.
- Where direct sunlight or radiant heat from appliances might affect control operation.
- On an outside wall.
- Adjacent to, or in line with, conditioned air discharge grilles, stairwells, or outside doors.
- Where its operation may be affected by steam or water pipes or warm air stacks in an adjacent partition space, or by an unheated/uncooled area behind the thermostat.
- Where its operation will be affected by the supply air of an adjacent unit.
- Near sources of electrical interference such as arcing relay contacts.

Removing The Thermostat From The Subbase

1. Insert a flat blade screwdriver or a coin 1/8" into the slot located in the bottom center of the thermostat case and twist 1/4 turn. When you feel or hear a "click", grasp the case from the bottom two corners and separate from the subbase as shown in the diagram at the right. Some models require more force than others when separating due to the number of terminals used.
2. Swing the thermostat out from the bottom.
3. Lift the thermostat up and off the subbase.
4. Place the rectangular opening in the subbase over the equipment control wires protruding from the wall and, using the subbase as a template, mark the location of the two mounting holes (exact vertical mounting is necessary only for appearance).
5. Use the supplied anchors and screws for mounting on drywall or plaster; drill two 3/16" (5mm) diameter holes at the marked locations; use a hammer to tap the nylon anchors in flush to the wall surface and fasten subbase using the supplied screws. Do not overtighten!
6. Connect the wires from your system to the thermostat terminals as shown in the wiring diagrams. Carefully dress the wires so that any excess is pushed back into the wall cavity or junction box. Ensure that the wires are flush to the plastic subbase. The access hole should be sealed or stuffed to prevent drafts from the wall affecting the thermostat.

Replacing The Thermostat On The Subbase

1. Position the thermostat on the hinged tabs located at the top of the subbase.
2. Gently swing the thermostat down and press on the bottom center edge until it snaps in place.

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Voltage</td>
<td>20-30 Vac, 24 nominal</td>
</tr>
<tr>
<td>Rated A.C. Current</td>
<td>.050 Amps to 0.75 Amps</td>
</tr>
<tr>
<td>Rated D.C. Current</td>
<td>0 Amps to 0.75 Amps continuous per output with surges to 1 Amp Max.</td>
</tr>
<tr>
<td>Control Range</td>
<td>Heating: 30 to 80°F in 1°F steps, 16 to 30°C in 1°F steps</td>
</tr>
<tr>
<td>Thermostat Measurement Range</td>
<td>28 to 124°F or 0 to 48°C</td>
</tr>
<tr>
<td>O.D.T. Measurement Range</td>
<td>-40 to 124°F or -40 to 48°C</td>
</tr>
<tr>
<td>Control Accuracy</td>
<td>±.5°F at 20°C, ±1°F at 68°F</td>
</tr>
</tbody>
</table>

Note: This thermostat contains electronic circuitry replacing the conventional mechanical anticipator.

Output Terminal Functions

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Compressor energized with a call for heating and cooling</td>
</tr>
<tr>
<td>G</td>
<td>Fan is energized with a call for heating or cooling or selected by fan button</td>
</tr>
<tr>
<td>O</td>
<td>Energizes the reversing valve continuously in Cooling Mode</td>
</tr>
<tr>
<td>B</td>
<td>Energizes the reversing valve continuously in the HEAT and Off mode</td>
</tr>
<tr>
<td>R</td>
<td>Independent switching voltage</td>
</tr>
<tr>
<td>24 Vac</td>
<td>Use to connect Outdoor Temperature Sensor option and/or Indoor Remote Sensor option. Refer to the instructions included with the sensors.</td>
</tr>
<tr>
<td>RS2, RS1, RS+V</td>
<td>Use with remote clock/timer for alternate setpoints.</td>
</tr>
</tbody>
</table>

Model TC97-SHP

Linear Transformer Model TC97-SHP

M4242-01

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