Application

The TC-114 heavy-duty room thermostat has a SPDT switch that can be used to control unit heaters, motors, or non-inductive loads per Table-1.

Features

- Bimetal sensing element
- NEMA Type 1 housing
- Dual marked dial in °F and °C
- Built in temperature indication
- Flush or 2 x 4 wall box mounting
Specifications

**Sensing Element:** Bimetal.
**Connections:** Color-coded 6" (152 mm) leads.
**Cover:** Beige plastic with brushed bronze metal insert.
**Mounting:** Flush or 2 x 4 wall box.
**Locations:** NEMA Type 1 indoor only.
**Dimensions:** 4-1/2" high x 2-3/4" wide x 1-1/8" deep (114 x 70 x 29 mm).

Agency Listing

UL 873: Underwriters Laboratories Inc. listed (File # E50023 Category Temperature-Indicating and Regulating Equipment).

Table-1 Model Chart

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Application</th>
<th>Setpoint Dial Range °F (°C)</th>
<th>Differential °F (°C)</th>
<th>Electrical Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC-114</td>
<td>On-off control of unit heaters or motors</td>
<td>50 to 86 (10 to 30)</td>
<td>2 (1.1) Heat 3 (1.7) Cool</td>
<td>SPDT snap action</td>
</tr>
</tbody>
</table>

Table-2 Maximum Electrical Ratings

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Full Load Amps</th>
<th>Locked Rotor Amps</th>
<th>Non-Inductive Amps</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24/120 Vac</td>
<td>240 Vac</td>
<td>24/120 Vac</td>
</tr>
<tr>
<td>TC-114</td>
<td>9.8</td>
<td>58.8</td>
<td>48</td>
</tr>
</tbody>
</table>

Accessories

- AT-504 Mounting base
- AT-1163 Wire guard (requires AT-504)
- AT-1165 Plastic guard
- AT-1155 Plastic guard

Typical Application (Wiring Diagram)

![Wiring Diagram](Figure-1 TC-114 Wiring Diagram)

Installation

**Inspection**

Inspect the package for damage. If damaged, notify the appropriate carrier immediately. If undamaged, open the package and inspect the device for obvious damage. Return damaged products.

**Requirements**

- Job wiring diagrams
- Tools (not provided)
  - Volt-ohm meter
  - Room temperature thermometer
  - Appropriate screwdriver(s) for cover and mounting screws
Precautions

General

**Warning:** Electric shock hazard! Do not locate the thermostat where there is a danger of electrocution such as in shower rooms.

Wire the thermostat in series with the control circuit so that safety devices are maintained. Failure to observe these warnings can result in severe injury or death.

**Caution:**
- Installer must be a qualified, experienced technician.
- Disconnect power supply before installation.
- Make all connections in accordance with electrical wiring diagrams and in accordance with national and local codes.
- *Use copper conductors only.*
- Do not exceed rating of the device.

Failure to observe these precautions can result in injury and damage the unit.

Location

Mounting

The thermostat requires upright mounting on a flat vertical surface. Locate the thermostat where it will be exposed to unrestricted circulation of air which represents the average temperature of the controlled space.

**Caution:**
- Do not locate thermostat near sources of heat or cold such as lamps, motors, sunlight or concealed ducts or pipes.
- The thermostat is designed for service in any normally encountered human environment. Avoid locations where excessive moisture, corrosive fumes, or vibrations are present. NEMA Type 1 covers are intended for indoor use, primarily to provide a degree of protection against contact with the enclosed device.

Failure to observe these precautions can result in improper operation or damage the unit.

Procedure

The thermostat may be installed on either a flush switch box or a surface switch box. See Figure-2 for mounting dimensions.

1. Pull the required wires.
2. Make the electrical connections to the thermostat as required by your application. Refer to Figure-1.
3. Remove the cover by holding the metal base in the area of the switch and pull outward on the one-piece plastic cover.
4. Mount the thermostat. Number 6 screws are provided for switch box mounting. Reinstall the thermostat cover.
Checkout

After installing the thermostat, make an initial check of the switching action by observing the controlled device.

1. Move the setpoint dial to a temperature above ambient. This should cause the thermostat to switch to the red lead, calling for heat.
2. Move the setpoint down gradually. The switch should make a contact to the black lead on a call for cooling.

Run/Adjust

All thermostats are calibrated at the factory and normally will not require any attention other than setting the setpoint dial at the desired temperature.

Maintenance

Open areas on the thermostat cover should be kept clean and free from obstruction to allow proper flow of air.

Repair

The thermostat is not field repairable. If the system is not operating correctly and the reason is traced to the thermostat, it should be replaced.