

### Strap-On Thermostat General Instructions

#### Application

This thermostat is used to either open or close electrical circuits when the temperature of a pipe exceeds the thermostat setting. The common-normally closed circuit is often used on unit heater installations to prevent operation of the fan unless heat is actually available. The common-normally open circuit is usually used for control on hot water boilers.

#### Specifications:

**Setpoint adjustment range:** 50 to 210°F (10 to 99°C)

**Differential:** 10°F (5.5°C)

#### Ambient Temperature Limits:

**Case:** Storage: -40 to 160°F (-40 to 71°C)

**Operating:** 40 to 140°F (-40 to 60°C)

**Bulb:** 260°F (127°C) maximum

**Locations:** NEMA Type 1

**Electrical Switch:** Heavy duty snap-acting SPDT

**Switch Ratings:** See Table-1

**Connections:** Coded screw terminals

**Case:** Steel with 1/2 in. to 3/4 in. conduit opening on bottom

**Mounting:** On up to 4 in. (102 mm) O.D. pipe with metal strap and spring provided

**Dimensions:** See Figure-1

Table-1 Switch Ratings

SPDT Switch Ratings (AC only)			
Voltage Vac	FLA Amps	LRA Amps	Pilot Duty VA
120	16	96	360
240	8	48	360

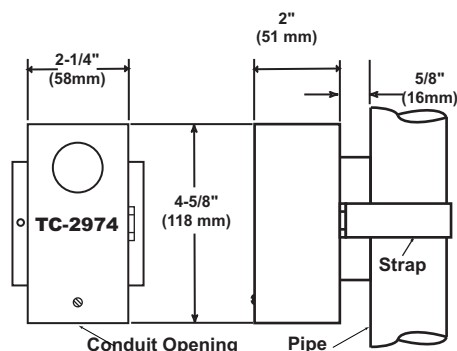
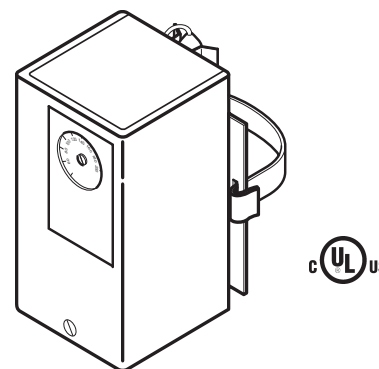


Figure-1



#### Pre-Installation

The thermostat is shipped with a metal strap and spring, which will fit supply lines up to 4-inch (102 mm) O.D.

Before installing the thermostat, look for bent or broken parts.

#### Installation

##### Requirements

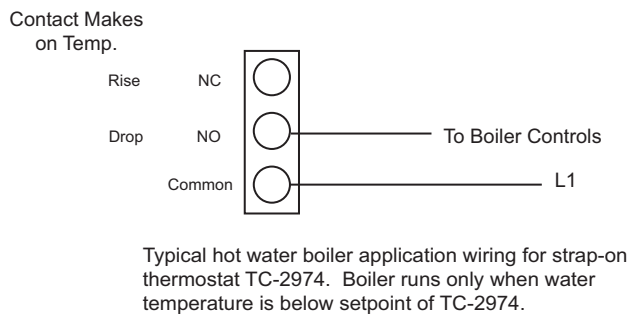
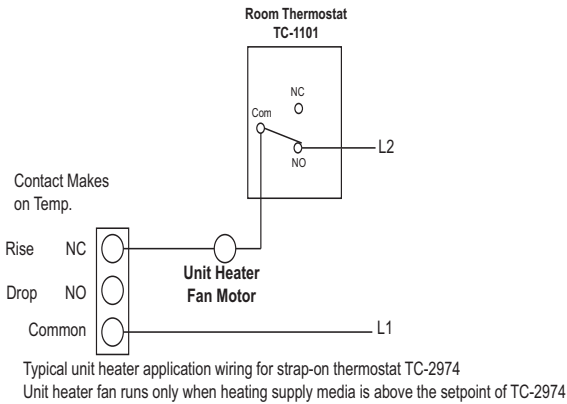
The thermostat can be mounted in any position on a smooth clean pipe. Be sure pipe is free of rust, scales, or insulation material.

##### Procedure

1. Insert the spring loops into the holes provided in the strap and in the side of the housing
2. Wrap the strap around the pipe and thread through the opening provided in the housing
3. Push the device against the pipe to compress the foam spacer until the bulb is 1/4 in. (6 mm) from the back of the housing.
4. Pull the strap tight and bend to lock the device in place.
5. Clip off or bend back the excess strap.

## Wiring

The thermostat has one 1/2 in. to 3/4 in. (13 to 19 mm) conduit opening in the bottom of the housing. Make all electrical connections in accordance with the job wiring diagram and in compliance with national and local electrical codes. Device terminal coding, switch action, and wiring diagrams are shown in typical applications in Figure-2 and Figure-3.



## Checkout

After installing the thermostat, proceed as follows:

1. With electrical power on and hot water flowing through the pipe, rotate the setpoint dial from minimum to maximum and check operation. If wired common and normally closed to fan, the fan will start at minimum dial setting and stop at maximum dial setting. The reverse will occur if wired common to normally open.
2. If no electrical power is available, contact closure may be checked with an ohmmeter.

3. The differential is factory set to provide the following switch action:
  - a. At 5°F (2.8°C) above the setpoint, a common-normally closed is made.
  - b. At 5°F (2.8°C) below the setpoint, a common-normally open circuit is made.

## Run/Adjust

### Setpoint

Screwdriver adjustment. Scales are dual marked °F on front and °C on back. To change scale, remove spring retainer ring, select scale, and replace retaining ring.

Refer to **Checkout** for manual operation.

### Calibration

1. Disconnect power to the thermostat.
2. Soak the bulb for 10 minutes at a known temperature.
3. Turn the dial until the thermostat clicks, reverse the dial until it clicks again.
4. Turn the dial midway between the click points.
5. Turn the calibration nut (located under the dial) until the temperature of the bulb is indicated on the dial.

## Concealed Setpoint and Lock Cover Screw

Order AT-210 concealed Adjustment Kit separately.

1. Peel off adhesive film from the concealed adjustment plate and place into the recess of the cover.
2. Remove screw from the cover.
3. Install lock cover screw provided with AT-210.

## Maintenance

If excessive corrosion develops between the sensing element and the pipe, clean the pipe and apply a silicone lubricant such as #6 compound from Dow Corning Company between the pipe and the sensing element to prevent additional corrosion.

## Repair

Field repair of the thermostat is not recommended. If the system is not operating properly and the reason is traced to the thermostat, it should be replaced.

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