

# UT THERMOSTAT INSTALLATION INSTRUCTIONS

## Installation Instructions:

Please read all the instructions carefully before starting. Leave this instruction sheet near the thermostat after installation.

## Specifications:

For use with self powered 250-750 millivolt generating systems and 2 wire (UT1001, Heating Only), or 3 wire (UT3001, Cooling Only). 4 or 5 wire (UT8001, Heat/Cool) electric, gas or oil systems equipped with 24Vac controls.

Electrical Rating: 24-30 Vac (or 250-750mv)

Heat Anticipator 0.1A-1.0A (Adjustable)

Cool Anticipator: 0-1A (Fixed)

## Selecting Thermostat Location:

For accurate temperature control and comfort, selecting the proper location is very important.

If this is a new installation, the guidelines listed below should be followed. When replacing an old thermostat install the new thermostat in the same location unless these guidelines suggest otherwise.

- 1: Locate the thermostat on an inside wall of a frequently occupied area (ie: family room) about 4-5 feet above the floor.
- 2: Do not install the thermostat where there are unusual sources of 'heat', such as direct sunlight, or near a radiator, duct vent, lamp, or fireplace.
- 3: Do not install the thermostat where there are unusual sources of 'cooling', such as an outside wall, drafts from doors, windows, stairways, or duct vents.
- 4: Do not install the thermostat where the air circulation is poor, such as in a corner, alcove or behind a door.

## Removing Old Thermostat:

### WARNING

If this product is used to replace a device containing mercury, the purchaser or consumer must ensure that the mercury is properly managed to comply with state or federal regulations. Additional guidance may be obtained from the manufacturer of the product being removed or by calling the Material Manager.

Outside Tennessee: 1-800-251-7828

Inside Tennessee: 1-423-477-4131

These numbers are for assistance in the proper disposal of old mercury thermostats.

- 1 Shut off electricity to your heating and/or cooling system by removing the associated fuse or switching the circuit breaker off.
- 2: Remove the cover of the old thermostat. If you do not see the system wires, then you will have to remove another section of thermostat. This may require the use of a screwdriver.
- 3: Observe the terminal markings of each wire. Label each wire with tape indicating the appropriate terminal markings to allow easy installation of the UT thermostat.
- 4: After you have marked the existing wires, remove the wires from the terminals.
- 5: Remove the old thermostat base from the wall.

## Installing the UT Thermostat:

- 1: Hold the UT thermostat in one hand. Carefully remove cover from the thermostat base by pulling up gently.
- 2: Position thermostat base on wall and carefully feed existing wires through openings. The UT can be positioned horizontally or vertically. If to be installed in the horizontal position, the adjustment lever must extend out the right side of the thermostat. If installed in the vertical position, the lever must extend out the bottom of the thermostat.
- 3: After you have finished locating the UT thermostat, you can mark the placement of the two screw holes for mounting. Set aside the thermostat base

4: If you are mounting the thermostat on plaster board or another type of soft material, use plastic anchors. Use a 3/16" drill to make two holes where the mounting holes have been marked. Insert anchors into holes.

5: Feed the wire back through the base, then mount to the wall with supplied screws.

6: Connect the wires to their associated marked terminals. (See chart if old and new terminals do not match exactly)

7: Check all connections so that adjacent wires are not touching.

8: Replace cover onto base by snapping it into place.

9: Make sure the system switch is in the OFF position until you are ready to check your wiring.

Old Thermostat	New Label	Description
M,4, RH, R5, or 5	RH or R	Transformer Hot for Heat*
V, or RC	RC or R	Transformer Hot for Cold*
H,W, or 4	W	Heating Control (valve, relay, etc.)
Y, or Y6	Y	Cooling Control (valve, relay, etc.)
F or G	G	Fan Control (see internal fan option)

\*For separate RH and RC wires, you must remove the factory installed Jumper marked J2.

## Internal Fan Option (UT8001 only):

For gas or oil heating systems, place the J1 jumper on the G/O pins to allow natural system delay in the fan operation during the heat mode.

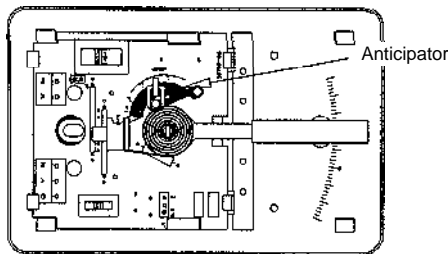
If the heating system requires the fan to come on immediately with the heat (ie: electric heating systems), then place the J1 jumper on the E pins.

G/O- Fan turned on by heating system.

E- Fan turned on by thermostat in the heat mode.

## Setting the Heat Anticipator (UT1001 & UT8001 only):

To help provide accurate control of furnace heat cycles, you must adjust the anticipator setting of the UT thermostat to match the current rating of the system control device. For Millivolt operation the heating anticipator setting must be placed over the MV.



This setting can be found by looking at the setting used on the previous thermostat. If you are unable to find it, the information can be found in the owner's manual for the heating system. You can also find the information printed on the control device at the furnace. The control device is normally a gas valve, relay, or a pilot generator located behind the furnace cover.

If the current rating is still unavailable, connect an AC amp meter between the RH and W terminals on the thermostat. Let the system operate through the amp meter for at least one minute before taking the reading. The reading can then be used as the setting for the anticipator.

**Checking the Wiring:**

Caution! DO NOT jump across the gas valve or relay to test the thermostat. This will destroy the thermostat and void the warranty.

**Heating Only Model (UT1001):**

- 1: Turn on power to the heating system.
- 2: Adjust the temperature setting on the thermostat to 6°-8°F above the room temperature. The heating system should turn on. The fan may take a few minutes to turn on depending on the delay built into the furnace.
- 3: Adjust the temperature setting on the thermostat to 6°-8°F below the room temperature. The heating system should turn off. The fan may have a delay before it shuts off.

**Cooling Only Model (UT3001):**

- 1: Turn on power to the air conditioning system,
- 2: Place the Cool/Off switch to the Cool position.
- 3: Adjust the temperature setting of the thermostat to 6°-8°F below the room temperature. The A/C system should turn on. There may be a short delay before the fan turns on.
- 4: Adjust the temperature setting of the thermostat to 6°-8°F above the room temperature. The A/C system should turn off. The fan may have a delay before it turns off.

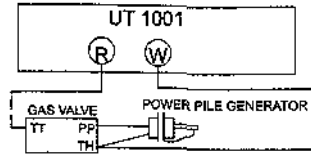
**Heating and Cooling Model (UT8001):**

- 1: Turn on power to the heating/cooling system.
- 2: Place Heat/Off/Cool switch to the Heat position.
- 3: Adjust the temperature setting on the thermostat to 6°-8°F above the room temperature. The heating system should turn on. The fan may take a few minutes to turn on depending on the delay built into the furnace.
- 4: Adjust the temperature setting on the thermostat to 6°-8°F below the room temperature. The heating system should turn off. The fan may have a delay before it shuts off.

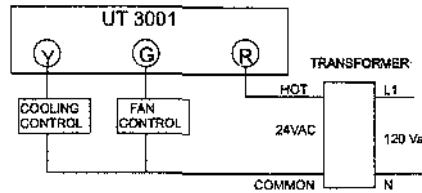
- Caution:** To avoid damage to the air conditioner, do not operate if outside temperature is below 50°F. Please refer to the recommendations of the air conditioner's manufacturer.
- 5: Place the Heat/Off/Cool switch to the Cool position.
  - 6: Adjust the temperature setting of the thermostat to 6°-8°F below the room temperature. The A/C system should turn on. There may be a short delay before the fan turns on.
  - 7: Adjust the temperature setting of the thermostat to 6°-8°F above the room temperature. The A/C system should turn off. The fan may have a delay before it turns off.

**Wiring Diagrams:**

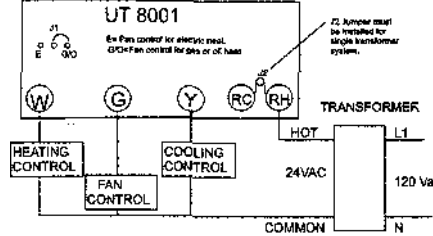
Typical 250-750 Millivolt System



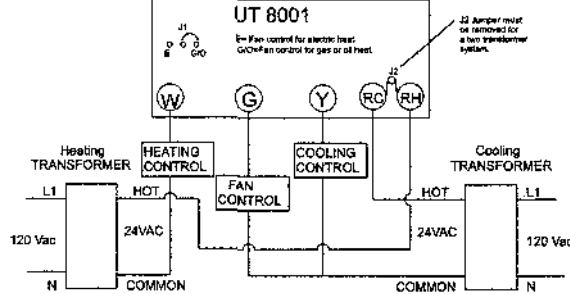
Typical Three wire Cooling System



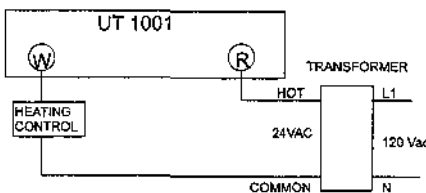
Typical Four wire Heat/Cool System



Typical Two Transformer System



Typical two wire Heating Only



## **WARRANTY**

Products manufactured by TPI Corporation are warranted to the original consumer to be free from defects in material and workmanship for twelve (12) months from the original date of purchase. The **TPI** warranty does not cover products modified outside our factory, damage or failure caused by acts of God, abuse, misuse, connected to or placed on other than rated voltage, abnormal usage, faulty installation, failure to follow suggested maintenance procedures enclosed with the product, improper maintenance or any repairs other than those provided by an authorized TPI Corporation service center.

There are no obligations or liabilities on the part of the corporation for consequential damages arising out of, or in connection with, the use or performance of the product, or other indirect damages with respect to loss of property, revenues, or profit, or costs of removal, installation or reinstallation.

All implied warranties with respect to TPI products, including implied warranties for merchantability and implied warranties for fitness, are limited in duration to twelve (12) months from original date of purchase, except those products or parts of products which are warranted for longer periods. On such products or parts of products all implied warranties for merchantability and fitness are limited to the duration of the extended warranty period thereon.

Some states do not allow the exclusion or limitation of incidental or consequential damages and some states do not allow limitations on how long an implied warranty lasts. The above exclusions or limitations may not apply to you.

During the warranty period, TPI Corporation will, at its sole option, repair or replace any defective parts or products returned, freight prepaid, to the TPI Corporation factory or such other location as **TPI** Corporation may designate. Returned products must be packaged carefully and TPI Corporation shall not be responsible for damage in transit. When returning parts, the owner must provide the model number of the product and nature of difficulty being experienced. This warranty does not obligate TPI Corporation to bear the cost of labor in replacing any assembly, unit or component part thereof, nor does the company assume any liability for secondary charges, expenses for installing or removal, freight or damages. There will be charges rendered for product repairs made after out warranty period has expired. Proof of purchase, including date, must accompany request for in-warranty service. In any event, TPI Corporation's maximum liability shall not in any case exceed the list price for the product claimed to be defective. This warranty gives to you specific legal rights and you may have other rights, which may vary, from state to state. For the name of your nearest authorized TPI Corporation service center, please write to TPI Corporation, P.O. Box 4973, Johnson City, Tennessee, 37602.

In addition to the Limited Warranty stated above covering general products, TPI Corporation extends this warranty on the following listed products, which are warranted to the original consumer from the original date of purchase for the total time periods indicated herein below:

### **Heating Products**

1. Elements in Baseboards 10 years
2. All Other Heating Products 1 year
3. Thermostats and Controls 2 years

**Columbus Electric Division of TPI, PO Box 4973, Johnson City, TN 37602**  
**Tel 800-251-7828, Fax 423-477-0545**