

# TRUE COMFORT ||||

This manual covers the following models: • T601-2

# Thermostat Applications Guide

Description	
Gas or Oil Heat	Yes
Electric Furnace	Yes
Heat Pump (No Aux. or Emergency Heat)	Yes
Heat Pump (with Aux. or Emergency Heat)	No
Multi-stage Systems	No
Heat Only Systems	Yes
Heat Only Systems - Floor or Wall Furnaces	Yes
Cool Only Systems	Yes
Millivolt	Yes

# **Power Type**

Battery Power Hardwire (Common Wire) Hardwire (Common Wire) with Battery Backup

Table of Contents	Page
Installation Tips	2
Thermostat Quick Reference	3
Subbase Installation	4
Wiring	5
Wiring Diagrams	6
Technician Setup - Gas or Electric	7
Setting Temperature Swing	8
Mounting and Battery Installation	9
Specifications	10

Una versión española de este manual puede ser descargada en www.pro1iaq.com

® U.S. Registered Trademark. Patents pending.
 Copyright © 2010 Pro1 IAQ, Inc. All rights reserved.

# A trained, experienced technician must install this product.

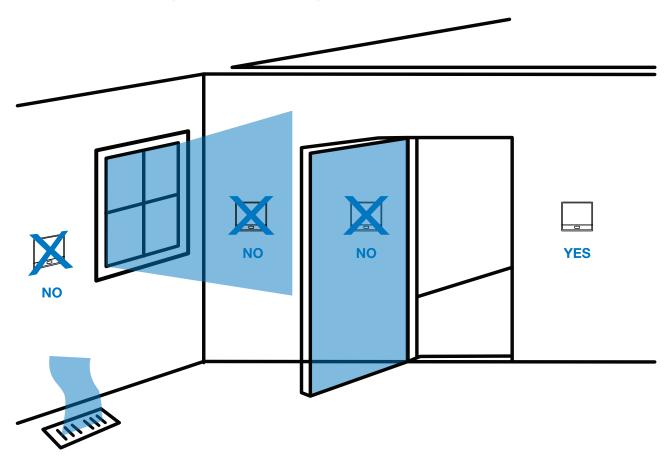
Carefully read these instructions. You could damage this product or cause a hazardous condition if you fail to follow these instructions.

# **Need Help?**

For assistance with this product please visit http://www.pro1iaq.com or call Pro1 Customer Care toll-free at 888-Pro1iaq (776-1427) during normal business hours (Mon-Fri 9 AM - 6 PM Eastern)

### Wall locations

The thermostat should be installed approximately 4 to 5 feet above the floor. Select an area with average temperature and good air circulation.



Do not install thermostat in locations:

- Close to hot or cold air ducts
- That are in direct sunlight
- With an outside wall behind the thermostat
- In areas that do not require conditioning
- Where there are dead spots or drafts (in corners or behind doors)
- Where there might be concealed chimneys or pipes

### **PRO1 Tip**

Pick an installation location that is easy for the user to access. The temperature of the location should be representative of the building.

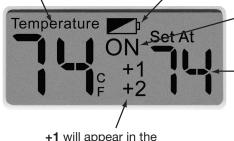
# Getting to know your thermostat



- (2) Fan Switch
- **3** System Switch
- 4 Easy Change Battery Door
- 5 Setpoint Buttons

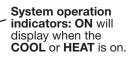
) LCD

Indicates the current room temperature.



+1 will appear in the display when the auxiliary heat is active.

Low Battery Indicator: Replace batteries when indicator is shown.



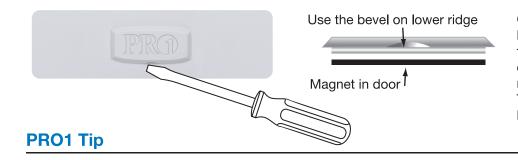
Displays the user selectable setpoint temperature.



#### Important:

The low battery indicator is displayed when the AA battery power is low. If the user fails to replace the battery within 21 days, the thermostat display will only show the low battery indicator as a final warning before the thermostat becomes inoperable.

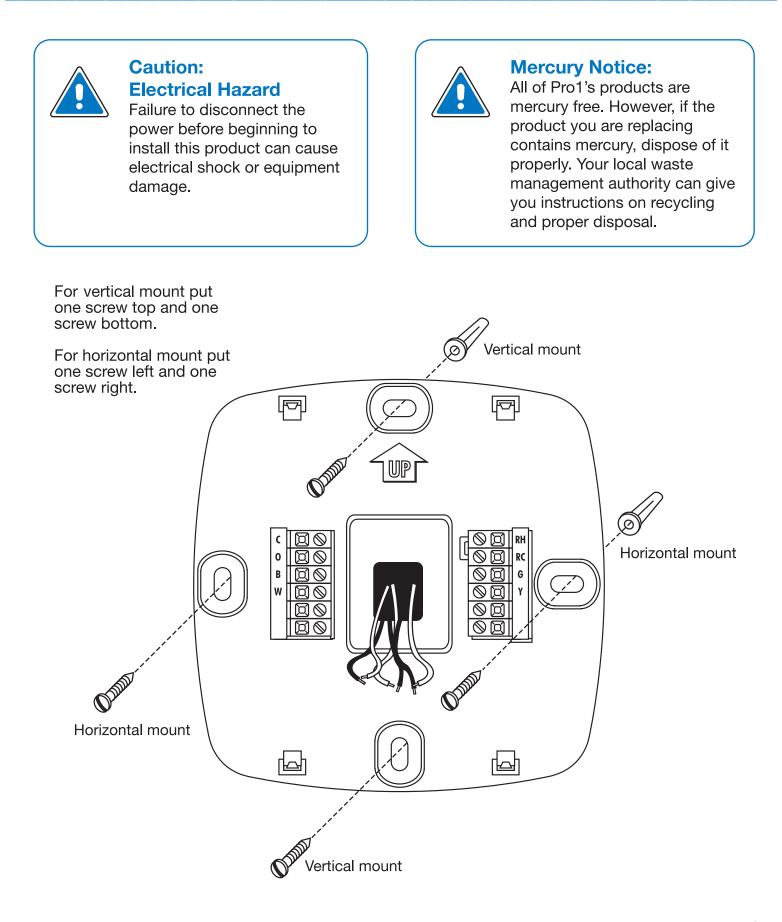
#### Removing the private label badge



Gently slide a screwdriver into the bottom edge of the badge. Gently turn the screwdriver counter clockwise. The badge is held on by a magnet in the well of the battery door. The badge should pry off easily. **Do not use force.** 

All Pro1 thermostats use the same universal magnetic badge. Visit our website at www.pro1iaq.com to learn more about our free private label program.

# SUBBASE INSTALLATION







# **Caution: Electrical Hazard**

Failure to disconnect the power before beginning to install this product can cause electrical shock or equipment damage.

#### Wiring

- 1. If you are replacing a thermostat, make note of the terminal connections on the thermostat that is being replaced. In some cases the wiring connections will not be color coded. For example, the green wire may not be connected to the **G** terminal.
- 2. Loosen the terminal block screws. Insert wires then retighten terminal block screws.
- 3. Place nonflammable insulation into wall opening to prevent drafts.

#### **Terminal Designations**

- W Heat relay
- Y Compressor relay
- G Fan relay
- O Heat pump changeover valve energized in cooling
- RC Transformer power for cooling
- **PRO1 Tips:**

#### RH & RC terminals

For single transformer systems, leave the jumper wire in place between RH and RC. Remove jumper wire for two transformer systems.

#### Heat pump systems

If wiring to a heat pump, use a small piece of wire (not supplied) to connect terminals W and Y.

#### C terminal

The C (common wire) terminal does not have to be connected when the thermostat is powered by batteries.

#### Wire specifications

Use shielded or non-shielded 18 - 22 gauge thermostat wire.

#### **RH** Transformer power for heating

Warning:

All components of the control

system and the thermostat

installation must conform to

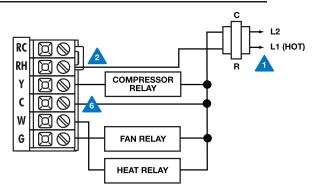
Class II circuits per the NEC Code.

- B Heat pump changeover valve energized in heating
- C Common wire from secondary side of cooling system transformer or for heat only system transformer

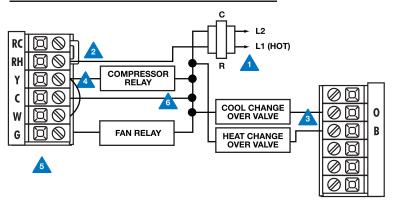


- Power supply
- A Factory-installed jumper. Remove only when installing on 2-transformer systems.
- Use either O or B terminals for changeover valve.
- Use a small piece of wire (not supplied) to connect W and Y terminals.
- Set fan operation switch to electric.
- Optional 24 VAC common connection when thermostat is used in battery power mode.

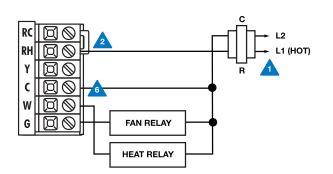
### Typical 1H/1C system: 1 transformer



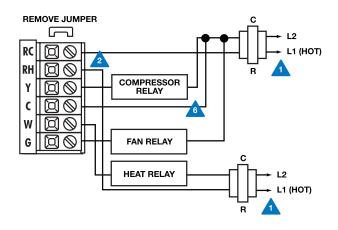
### Typical 1H/1C heat pump system



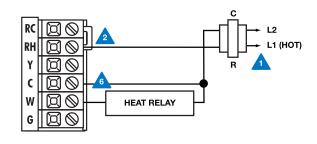
### Typical heat-only system with fan



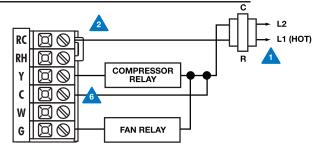
# Typical 1H/1C system: 2 transformer

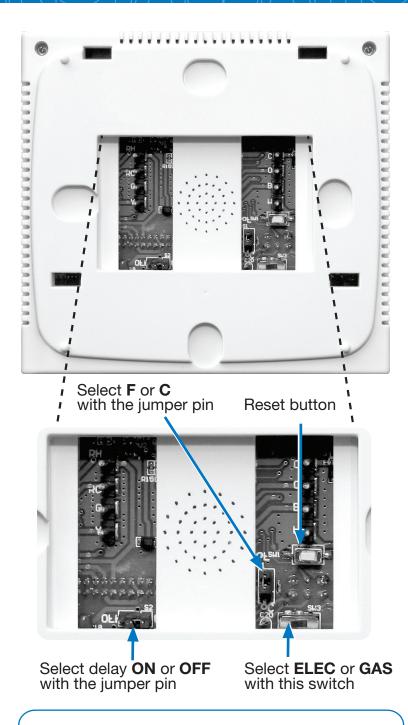


### Typical heat-only system



#### Typical cool-only system





# Important:

The **RESET** button must be pressed after changing any switch or jumper pin setting. Batteries must be installed for this operation.

# Gas or Electric Setup

**Gas:** For systems that control the fan during a call for heat, put the fan operation switch to the **GAS** position.

**Electric:** The thermostat operation switch should be put in the **ELEC** position. This setting allows the thermostat to operate the fan when the fan relay is connected to the **G** terminal.

# Fahrenheit/Celsius Display

Select **F** or **C** with the jumper pin on the back of the thermostat.

# Delay

The compressor delay will not allow the compressor to be turned on for 5 minutes after the last time the compressor was on. The cooling icon will flash during the delay period. Select **OFF** or **ON** with the jumper pin as desired.

# Adjusting the Temperature Swing

The swing setting, often called **CYCLE RATE, DIFFERENTIAL** or **ANTICIPATION** is adjustable. A smaller swing setting will cause more frequent cycles and a larger swing setting will cause fewer cycles. There are separate swing settings for heat and for cool. Follow the steps below to adjust the **SWING** setting for heat or cool:

- 1. Select **HEAT** or **COOL** with the system switch.
- 2. Hold down the + and keys together for 3 seconds.
- Use the + or key to adjust the swing. The swing is adjustable from ±02°F to ±20°F. For example: A swing setting of 05°F will turn the cooling on at approximately 0.5°F above the setpoint and turn the cooling off at approximately 0.5°F below the setpoint. The factory default for cooling is 0.5°F and 0.4°F for heating.
- 4. Wait approximately 10 seconds for the thermostat to return to normal operation.

### **Room Temperature Calibration**

This feature allows the installer to change the calibration of the room temperature display. For example: If the thermostat reads 70° and you would like it to read 72° then select +2. You can adjust the room temperature display to ready  $-4^{\circ}$ F to  $+4^{\circ}$ F above or below the factory calibrated reading. Follow the steps below to adjust the temperature reading:

- 1. Select **OFF** with the system switch.
- 2. Hold down the + and keys together for 3 seconds.
- 3. Use the + or key to adjust the room temperature display.
- 4. Wait approximately 10 seconds for the thermostat to return to normal operation.

### PRO1 Tip

Temperature swing, sometimes called differential or cycle rate, can be customized for this individual application. For most applications choose a swing setting that is as long as possible without making the occupants uncomfortable.

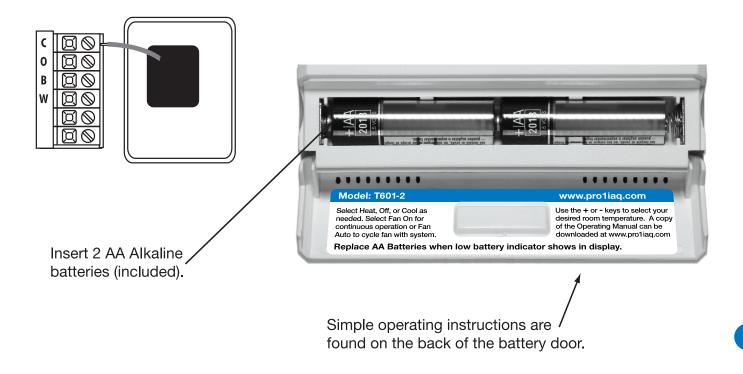
# **Mount Thermostat**

Align the 4 tabs on the subbase with corresponding slots on the back of the thermostat, then push gently until the thermostat snaps in place.



# **Battery Installation**

Battery installation is optional if thermostat is hardwired (C terminal connected).



# **Specifications**

The display range of temperature The control range of temperature	. 44°F to 90°F (7°C to 32°C)
Display accuracy	<ul> <li>1 amp per terminal, 1.5 amp maximum all terminals combined</li> <li>+ 1°F</li> </ul>
Swing (cycle rate or differential)	
_	Cooling is adjustable from 0.2°F to 2.0°F
Power source	18 to 30 VAC, NEC Class II, 50/60 Hz for hardwire (common wire) Battery power from 2 AA Alkaline batteries
Operating ambient	
Operating humidity	
Dimensions of thermostat	. 4.7"W x 4.4"H x 1.1"D

### **Contact Us**

#### **Pro1 IAQ Inc.**

1111 S. Glenstone Suite 2-100 Springfield, MO 65804

Toll-free: 1-888-Pro1iaq (776-1427) Toll Number (Outside the USA): 330-821-3600 Web: http://www.pro1iaq.com Hours of Operation: Monday - Friday 9 AM - 6 PM Eastern