



T601-2

Pro1 Technologies, Inc.

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Hours of Operation: M-F 9AM - 6PM Eastern

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

Table of Contents

Page

Installation Tips	2
Thermostat Quick Reference	3
Subbase Installation	4
Wiring	5
Wiring Diagrams	6
Technician Setup	7-8
Mounting and Battery Installation	9
Specifications	10

Power Type

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

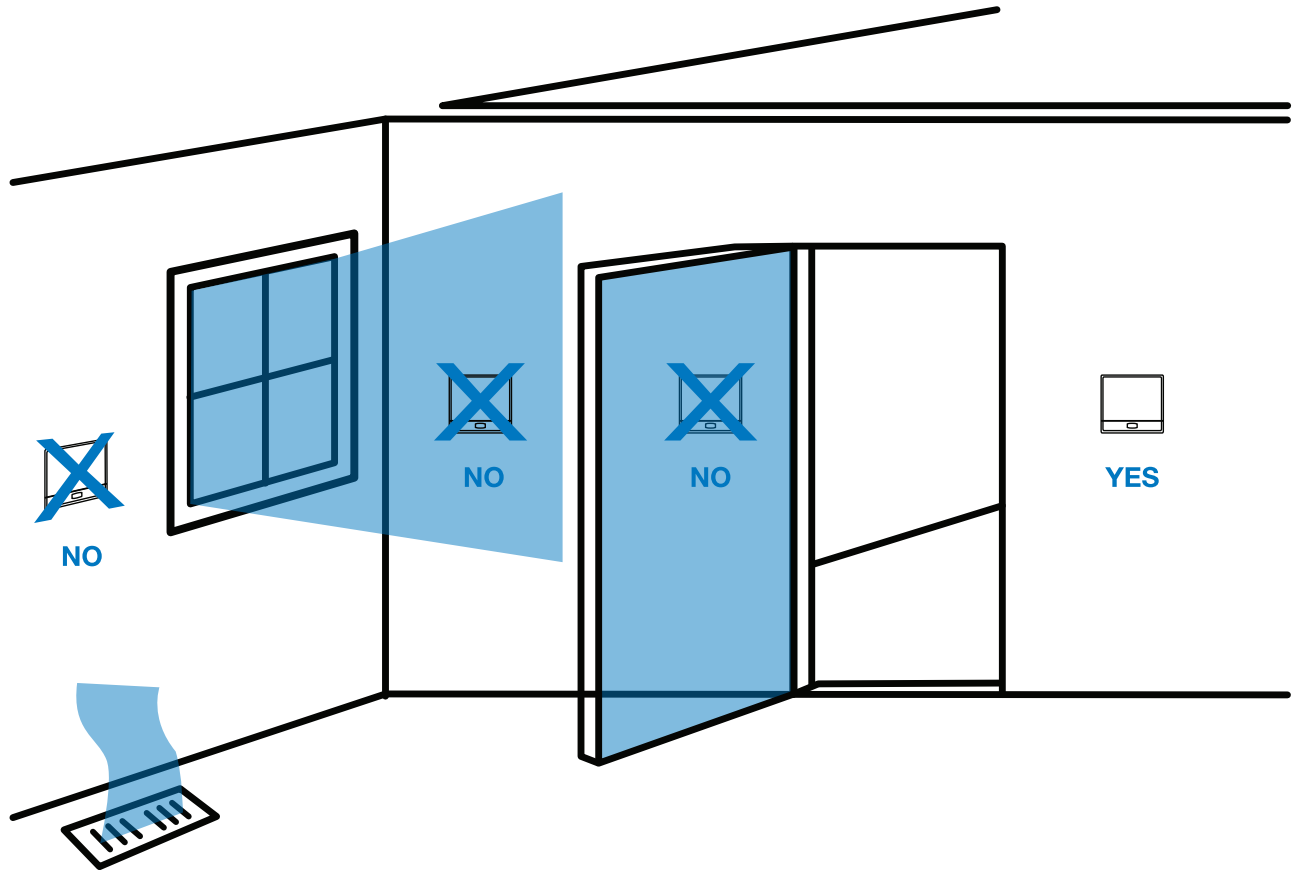
A trained, experienced technician must install this product.

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

Una versión en español de este manual se puede descargar en la página web de la compañía.

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.



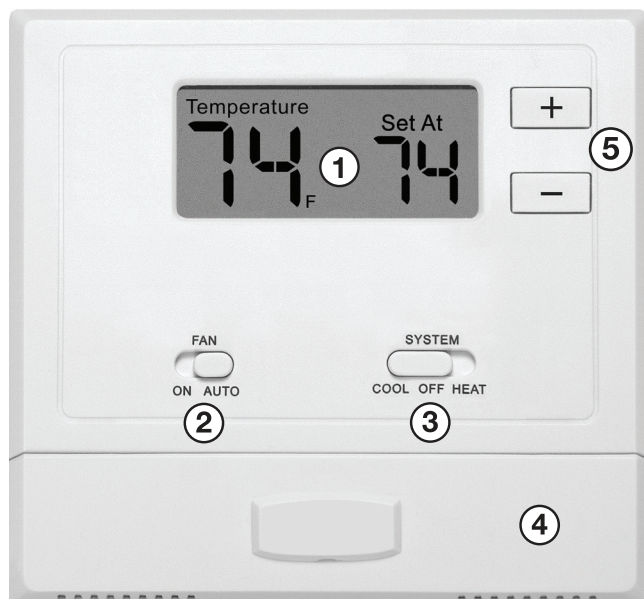
Do not install thermostat in locations:

- 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

Installation Tip

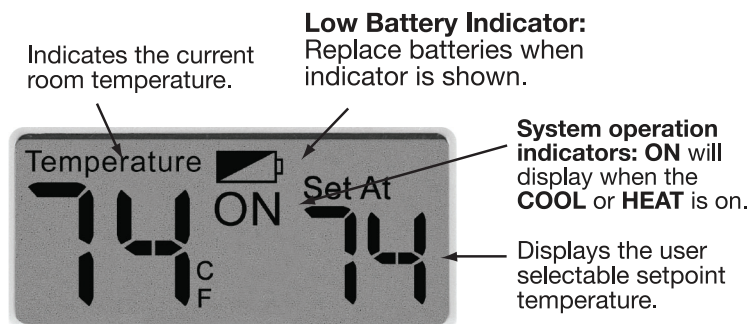
Pick an installation location that is easy for the user to access. The temperature of the location should be representative of the building.

Getting to know your thermostat



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

① LCD



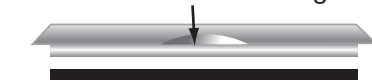
Important:

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



Use the bevel on lower ridge



Magnet in door ↑

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.

About the badge

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



Caution: Electrical Hazard

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

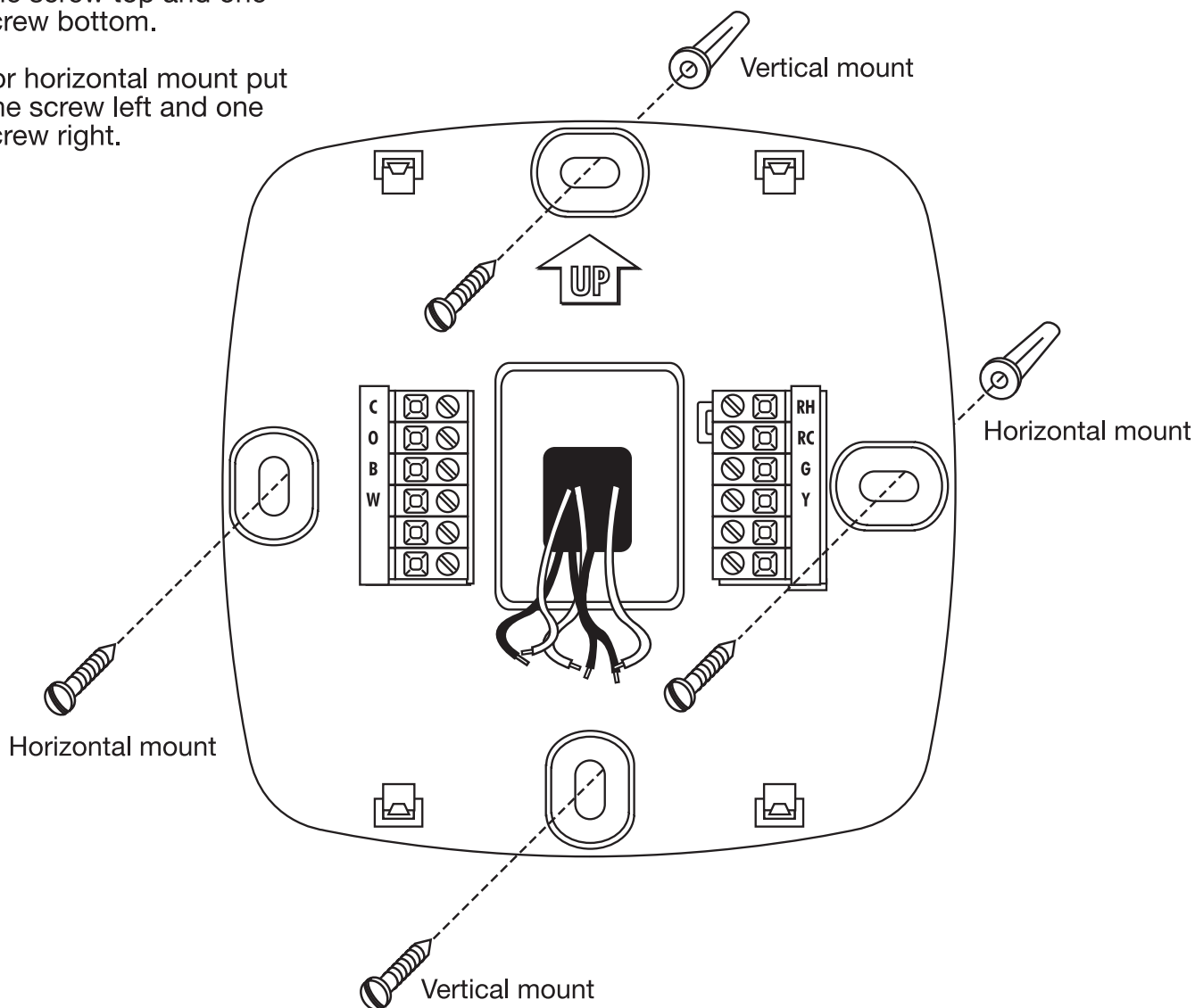


Mercury Notice:

All of our products are mercury free. However, if the product you are replacing contains mercury, dispose of it properly. Your local waste management authority can give you instructions on recycling and proper disposal.

For vertical mount put one screw top and one screw bottom.

For horizontal mount put one screw left and one screw right.





Caution: Electrical Hazard

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



Warning:

All components of the control system and the thermostat installation must conform to Class II circuits per the NEC Code.

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.



Caution:

Do not overtighten terminal block screws, as this can damage the terminal block. A damaged terminal block can keep the thermostat from fitting on the subbase correctly or cause system operation issues.

Max Torque = 6in-lbs

Terminal Designations

- C** Common wire from secondary side of cooling system transformer
- O** Heat pump changeover valve energized in cooling
- B** Heat pump changeover valve energized in heating
- W** Heat relay

RH Transformer power for heating

RC Transformer power for cooling

G Fan relay

Y Compressor relay

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

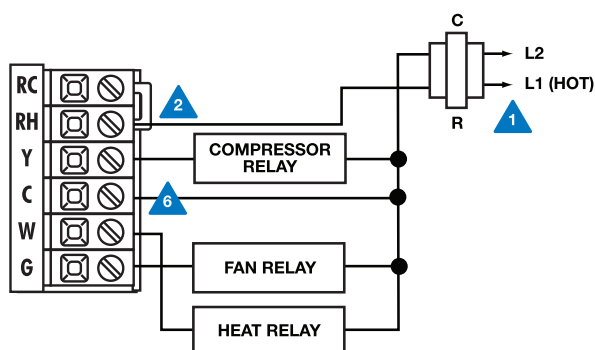
The C (common wire) terminal does not have to be connected when the thermostat is powered by batteries.

Wire specifications

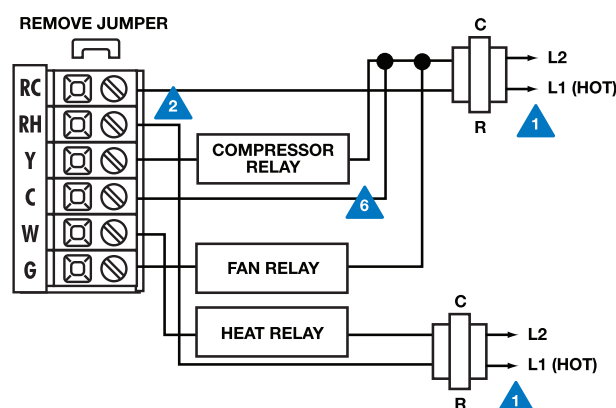
Use shielded or non-shielded 18 - 22 gauge thermostat wire.

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

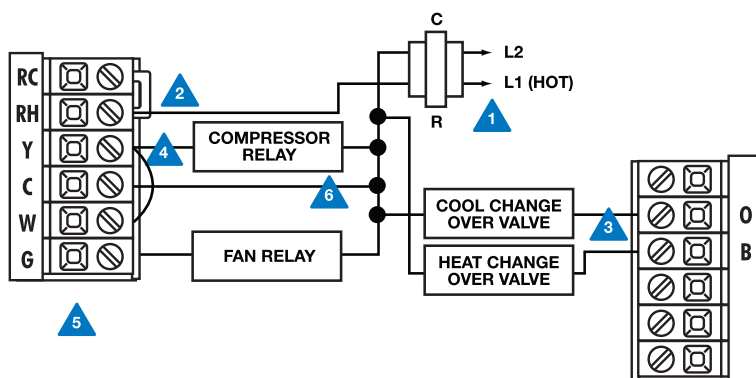
Typical 1H/1C system: 1 transformer



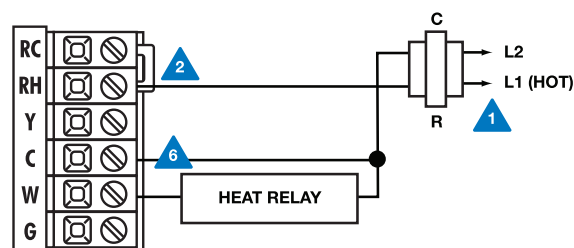
Typical 1H/1C system: 2 transformer



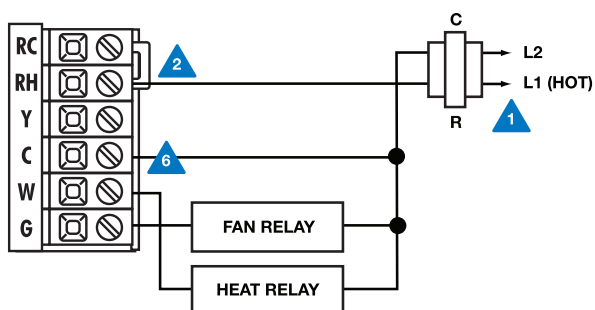
Typical 1H/1C heat pump system



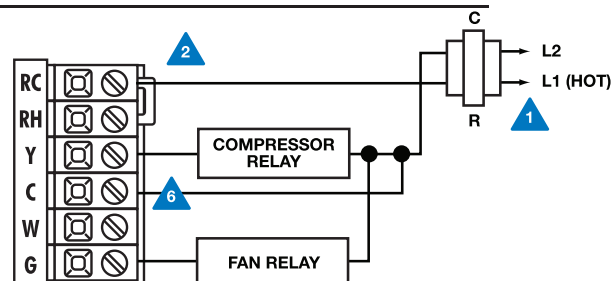
Typical heat-only system

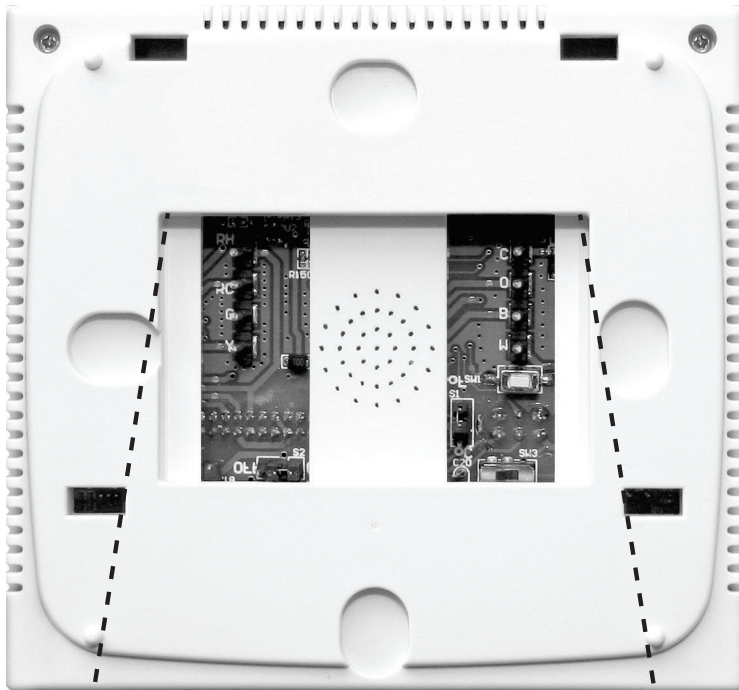


Typical heat-only system with fan



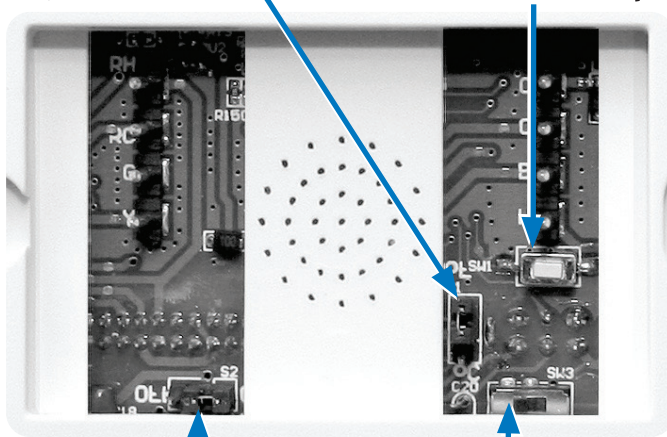
Typical cool-only system





Select **F** or **C** with the jumper pin

Reset button



Select delay **ON** or **OFF** with the jumper pin

Select **ELEC** or **GAS** with this switch

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.



Important:

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

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.
3. Use the or key to adjust the swing. The swing is adjustable from $\pm 0.2^{\circ}\text{F}$ to $\pm 2.0^{\circ}\text{F}$.
For example: A swing setting of 0.5°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°F to $+4^{\circ}\text{F}$ 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.

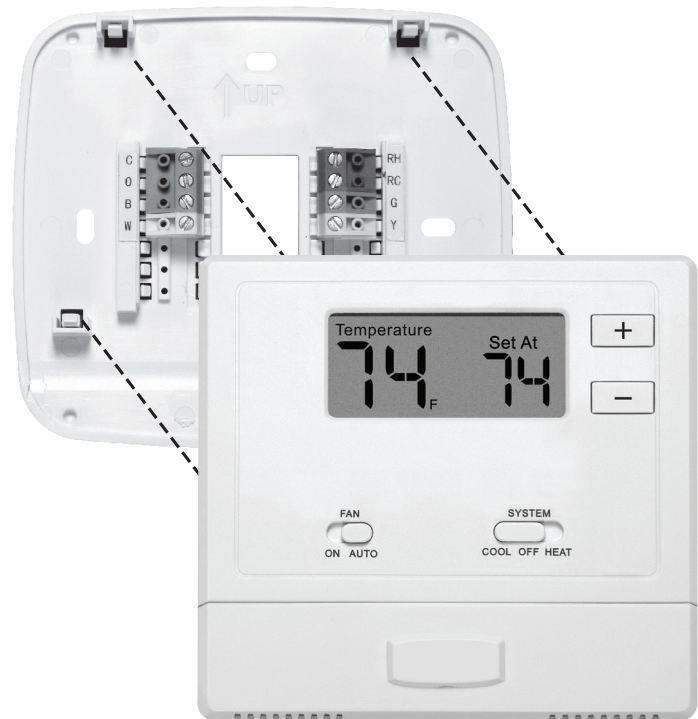
Swing Setting Tip

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.

INSTALLATION MOUNT THERMOSTAT & BATTERY INSTALLATION

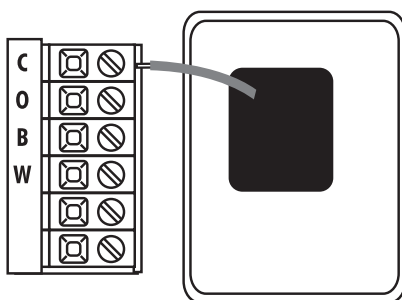
Mount Thermostat

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.

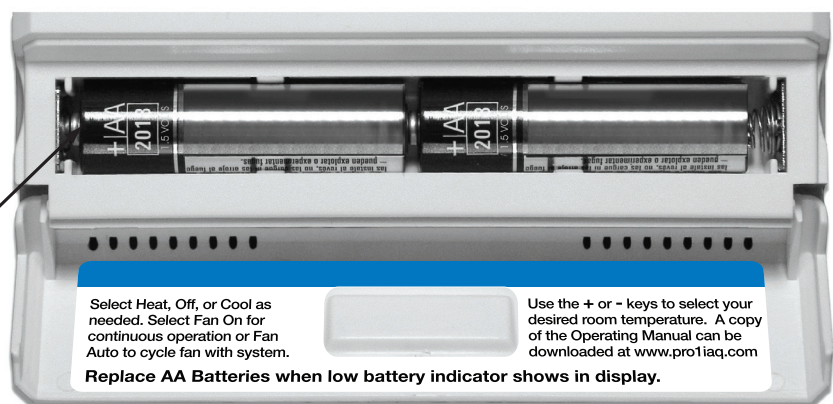


Battery Installation

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



Insert 2 AA Alkaline batteries (included). High Quality Alkaline batteries are recommended



Simple operating instructions are found on the back of the battery door.

Specifications

The display range of temperature	41°F to 95°F (5°C to 35°C)
The control range of temperature	44°F to 90°F (7°C to 32°C)
Load rating	1 amp per terminal, 1.5 amp maximum all terminals combined
Display accuracy	± 1°F
Swing (cycle rate or differential)	Heating is adjustable from 0.2°F to 2.0°F 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	32° to +105° (0° to +41°C)
Operating humidity	90% non-condensing maximum
Dimensions of thermostat	4.7"W x 4.4"H x 1.1"D