



T621-2

Pro1 Technologies, Inc.

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

Thermostat Applications Guide

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

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Power Type

Battery Power

Hardwire (Common Wire)

Hardwire (Common Wire) with Battery Backup

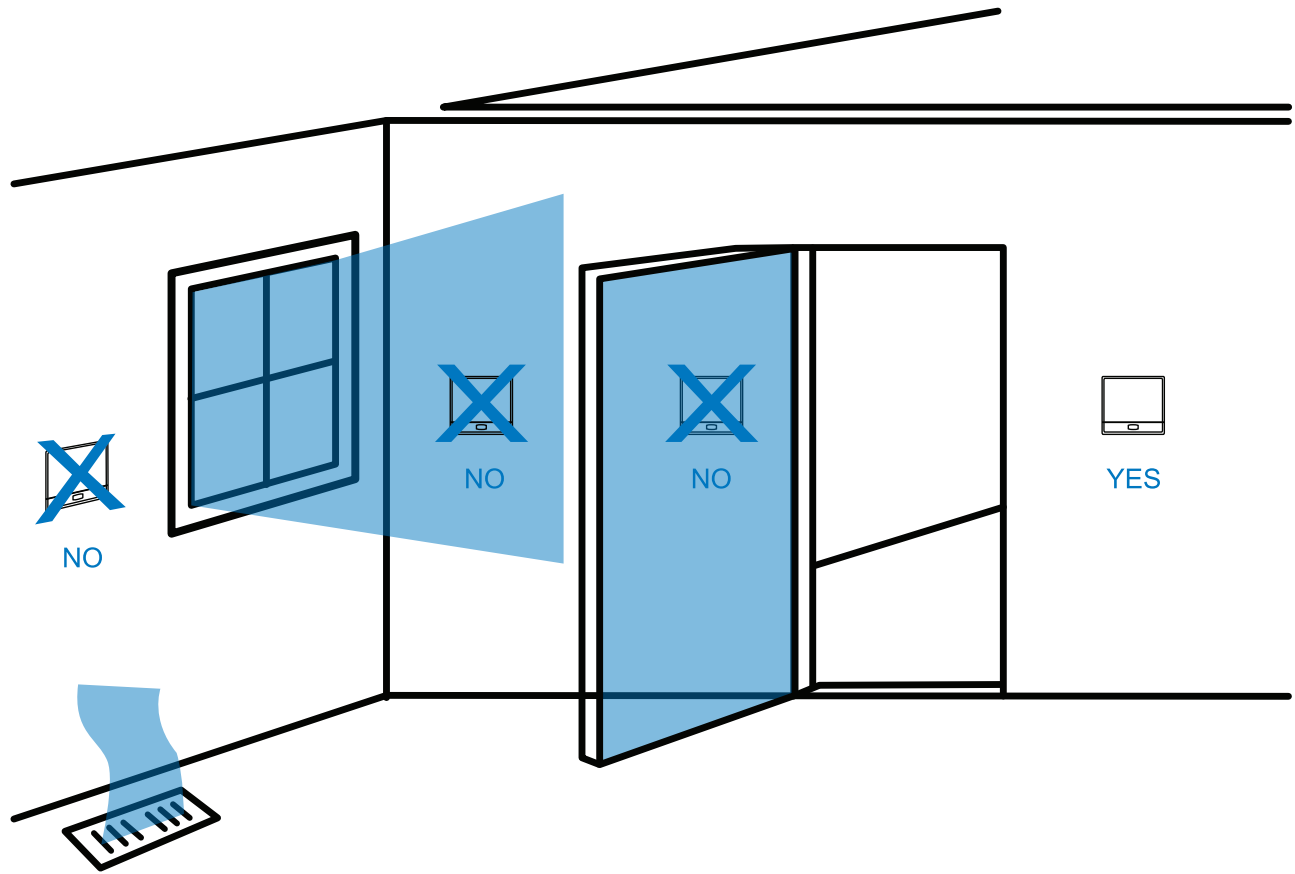
A trained, experienced technician must install this product.

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.



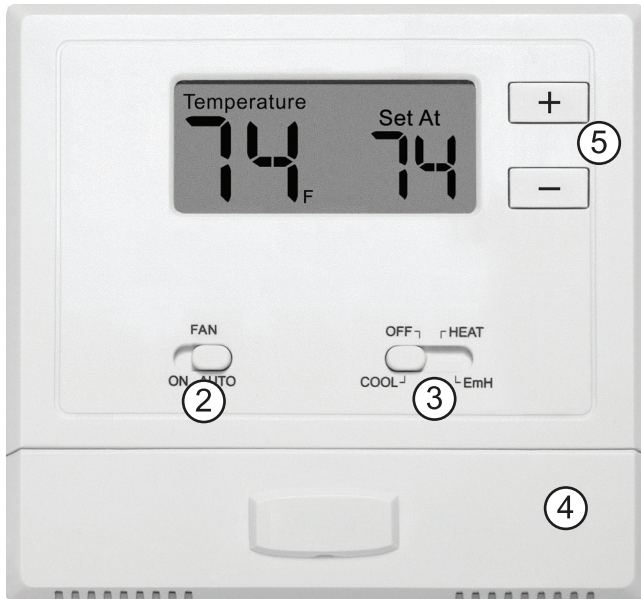
Do not install thermostat in locations:

- 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
- Where appliances could radiate heat

Installation Tip

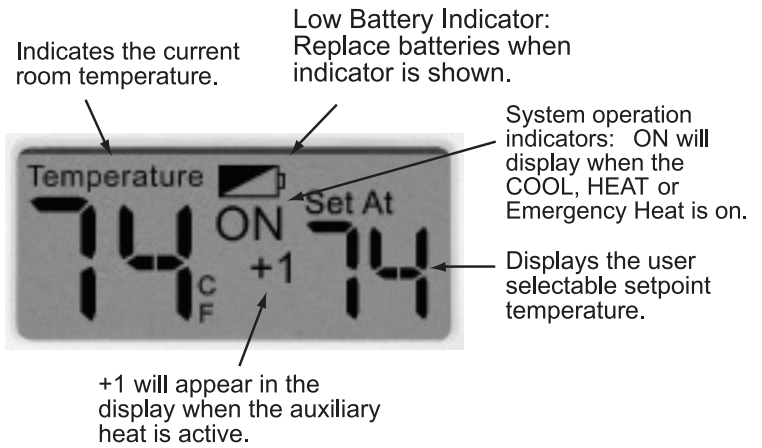
Pick an installation location that is easy for the user to access. The temperature of the location should be representative of the building.

Getting to know your thermostat



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

① LCD



Note:

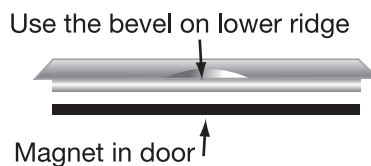
The compressor delay is active if "ON" is flashing. The compressor will not turn on until the 5 minute delay has elapsed.



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.**

About the Badge

All our thermostats use the same universal magnetic badge.
Visit our website to learn more about our dealer imprinting programs.



Caution: Electrical Hazard

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

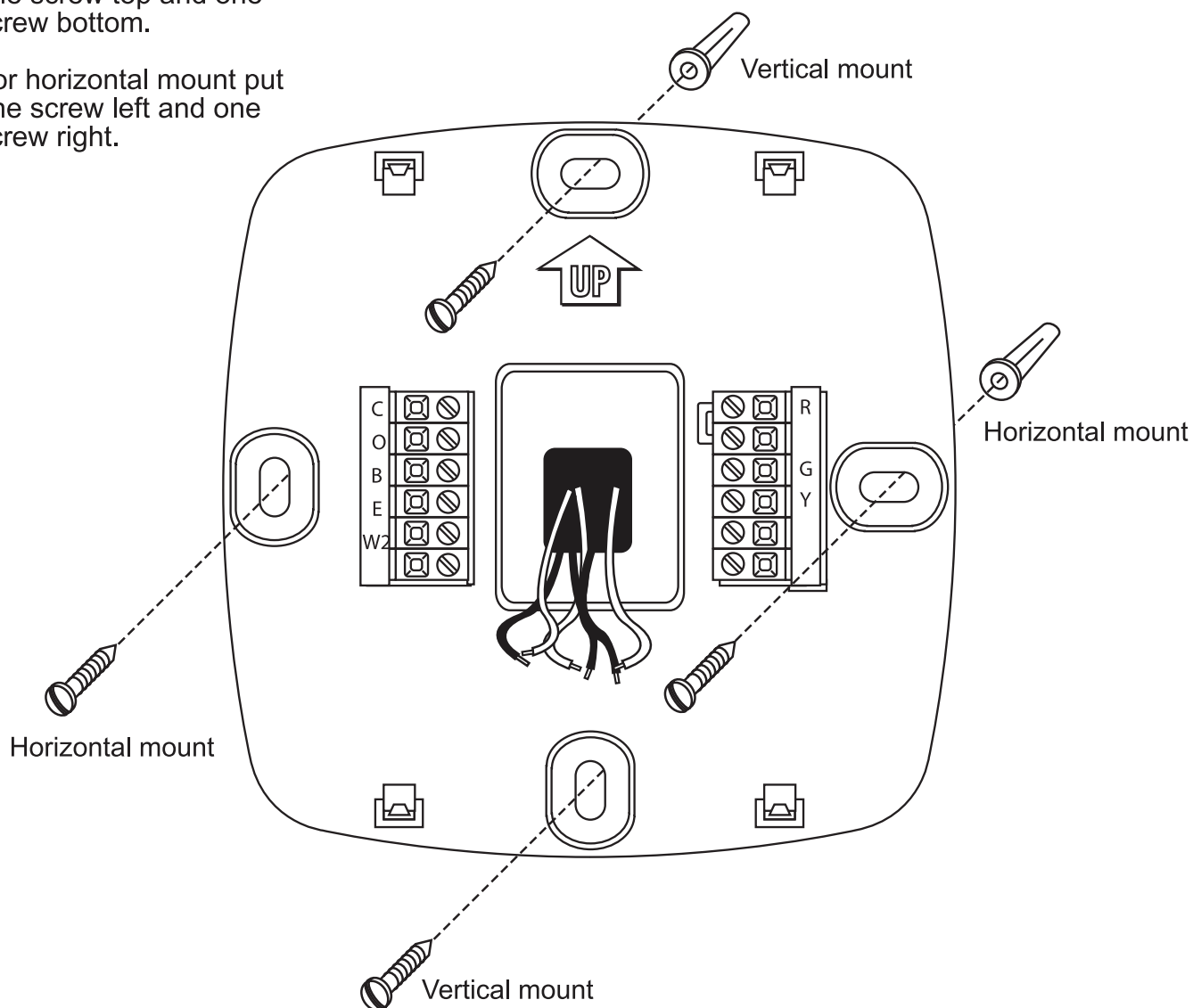


Mercury Notice:

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

Brand	24V Common	24V Hot	Changeover in Cooling	Changeover in Heating	Fan	Emergency Heat	Compressor	Auxiliary Heat	Malfunction Light
Pro1	C (optional)	R	O	B	G	E	Y	W2	None, Tape Off
Arco/Snyder	C	R	O		G	E	Y	W1	X
B.D.P.	C	R	O		G	E	Y	W1	F
Carrier	C	R	O		G	E	Y	W2	L
Coleman	BLCK	RED	V		G		Y	W2	
G.E.	B	R	O		G	X2	Y	W	
Heil-Quaker	B	R	O		G		Y	W2	
Honeywell	C	R	O	B	G	E	Y	Aux	L
Janitrol	C	R	O		G	E	Y	W2	
Lennox	X	V/VR	R		F	E	M	Y	L
Magic Chef	C	R	O		G	E	Y	W	
Rheem	X	R		B	G	E	Y	W2	L
Ruud	X	R		B	G	E	Y	W2	L
Trane	B	R	O		G	X2	Y	W	F
Weatherking	C	R	Y1		G		W1	E	
Wesco	C	R	Y1		G	E	W1	W2	
Westinghouse	X	R/V	O	Z	G/F	E	Y/C	W/H2	
White-Rodgers	C	R	O	B	G	E	Y	W2	L
York	B	R	O		G		Y	W	

Note: This cross reference represents typical systems and is not necessarily representative of your particular application. Always consult the original equipment manufacturer for proper installation instructions.

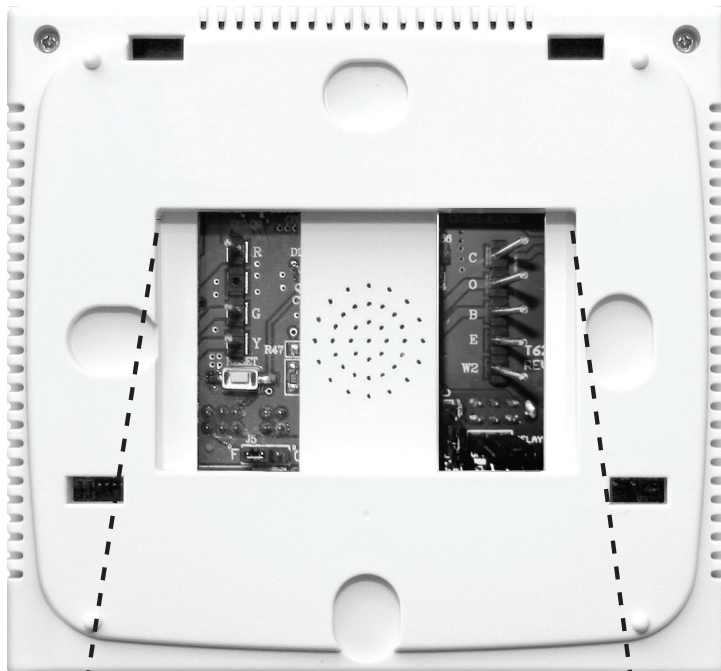
Terminal Designations

- C** Common wire from system transformer
- O** Heat pump changeover valve energized in cooling
- B** Heat pump changeover valve energized in heating
- E** Emergency heat relay
- W2** Auxiliary heat relay - Stage 2 heat

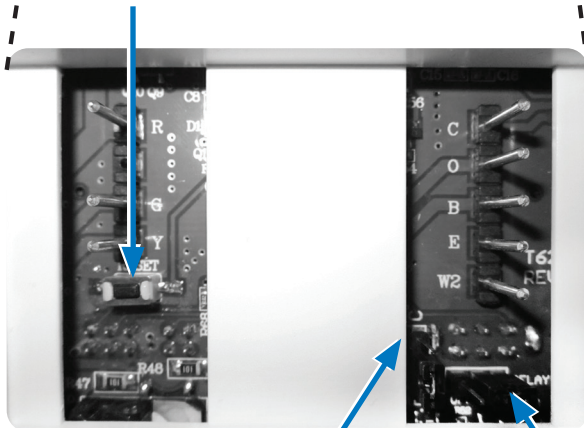
- R** Transformer power
- G** Fan relay
- Y** Compressor relay - Stage 1 heat and cool

Note:

In many systems with no emergency heat relay a jumper can be installed between E and W2.



Reset button



Select F or C with the jumper pin

Select Delay ON or OFF with jumper pin

Fahrenheit/Celsius Display

Select F or C with the jumper pin on the back of the thermostat. F is for Fahrenheit and C is for Celsius.



Important:

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

Technician Setup Options

This thermostat has 4 different setup configurations. To setup the thermostat for your particular application:

1. Select COOL, HEAT, EmH, OFF
2. Press and hold

+

 and

+

 button for 3 seconds. This 3 second delay is designed so that homeowners do not accidentally access the installer settings.

3. Configure the installer options as desired using the table below.

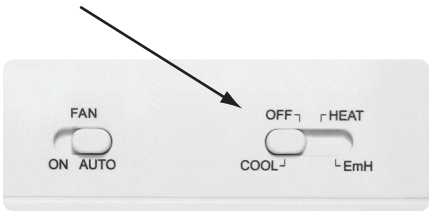
Use the

+

 or

-

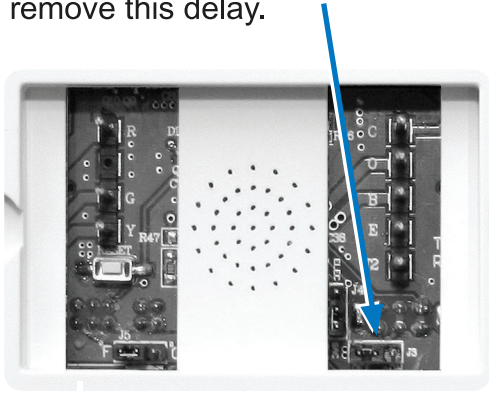
 keys to change settings. Note: When you want to exit the Technician Setup options select OFF using the system switch



Compressor Short Cycle Delay

The compressor short cycle delay protects the compressor from “short cycling”. This feature will not allow the compressor to be turned on for 5 minutes after it was last turned off.

Using the jumper on the back of the thermostat selecting ON will not allow the compressor to be turned on for 5 minutes after the last time the compressor was on. Selecting OFF will remove this delay.



The default jumper is set to ON.

Tech Setup Options			
Room Temperature Calibration (SYSTEM: OFF)	Cooling Swing (SYSTEM: COOL)	Heating Swing (SYSTEM: HEAT)	Gas Auxiliary for Heat Pump (SYSTEM: EmH)
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.	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.	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.	When on, this feature turns off the Y terminal 45 seconds after the second stage of heat turns on.
LCD Will Show			
CA 0	08	08	OF 6A
Adjustment Options			
You can adjust the room temperature display to ready -4°F to +4°F above or below the factory calibrated reading.	The cooling swing setting is adjustable from ±0.2°F to ±2.0°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 heating swing setting is adjustable from ±0.2°F to ±2.0°F. For example: A swing setting of 0.5°F will turn the heating on at approximately 0.5°F below the setpoint and turn the heating off at approximately 0.5°F above the setpoint.	Selectable on or off. This option should be ON for DUAL FUEL applications that use a gas furnace for auxiliary heat.
Factory Default Settings			
0 °F	0.8 °F	0.8 °F	Off

Swing Setting Tip

The second stage will turn on at 2x the swing setting. The second stage will turn off when 1x the swing is reached. For example, if the swing setting is .8 degrees for heating and the thermostat is set at 70°F, the first stage will turn on at approximately 69.2°F. The second stage will turn on at 68.4°F. The second stage will turn off at 69.2°F and the first will turn off at 70.8°F.

INSTALLATION MANUAL

MOUNT THERMOSTAT & BATTERY INSTALLATION

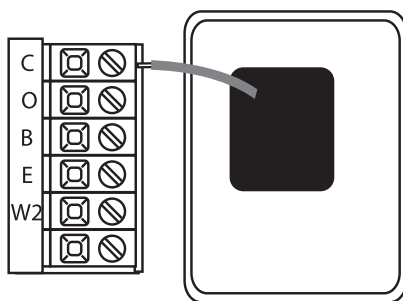
Mount Thermostat

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.

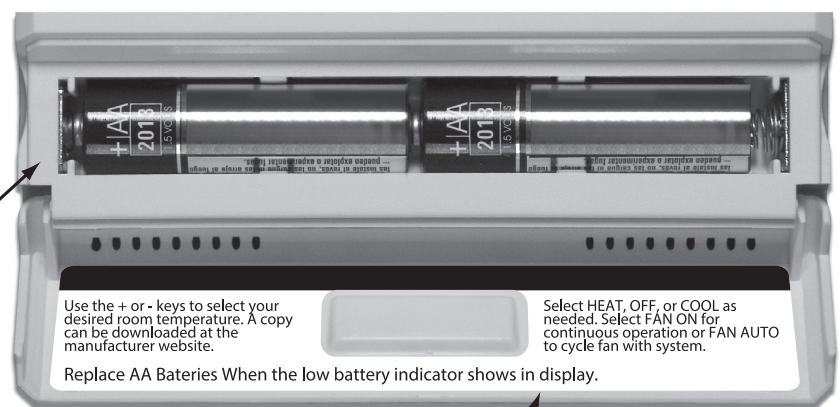


Battery Installation

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