

Applications

Description	
Heat Pump (No Aux. or Emergency Heat)	Yes
Heat Pump (With Aux. or Emergency Heat)	No
Electric Furnace	Yes
Gas or Oil Heat	Yes
Multi-stage	Yes
Heat Only Systems	Yes
Cool Only Systems	Yes
Millivolt Conventional Systems	Yes
Two Transformer Systems	Yes

Power Type

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

Must be installed by a trained, experienced Technician
Carefully read these instructions before installation, If you fail to follow these instruction, you could damage this product or cause a hazedous condition.

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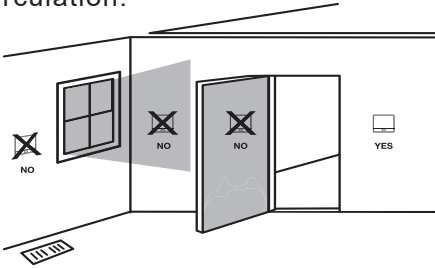
Specifications

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)
Swing (cycle rate or differential) Heating is adjustable from 0.2° to 2.0°
Cooling is adjustable from 0.2° to 2.0°
Power source18 to 30 VAC, NEC Class II, 50/60 Hz
Battery power..... 2 AA Alkaline batteries
Operating ambient Temperature32°F to +105°F (0°C to +41°C)
Maximum Operating humidity 90% non-condensing
Dimensions of thermostat 4.7"W x 4.4"H x 0.8"D

SA-LAB1100009 Rev.A

Installation Locations

he thermostat should be installed around 4 to 5 feet above the floor. Select an area close to living area and with good air irlucation.



- Do not install** thermostat in locations below:
- Close to un-insulated air conditioning ducts
 - Exposed to direct sunlight
 - With an outside wall behind the thermostat
 - Non air-conditioned area
 - In the corners or behind doors where there are no circulated airflow
 - Where there might be concealed chimneys or hot/cold pipes

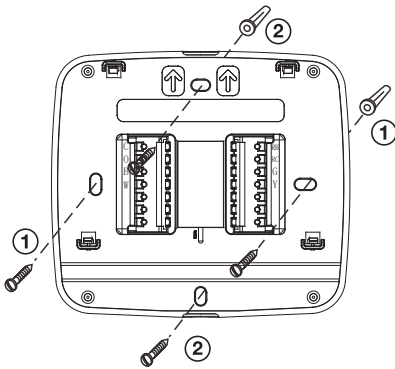


Installation Tips

Pick an installation location that is easy to access. The temperature of the location should be representative of the main living area.

Subbase Installation

- ① Horizontal Mount
- ② Vertical Mount



For vertical mount put one screw on the top and one screw on the bottom.
For horizontal mount put one screw on the left and one screw on the right.



Installation Tip: Electrical Hazard

Keep the supply power off while installation. Failure to turn off the power, It can cause electrical shock or equipment damage.



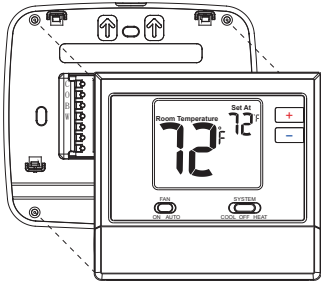
Mercury Notice

All of our products are mercury free. If the product you are replacing contains mercury, dispose of it and handle it properly. Follow your national or local waste management instructions on recycling and proper disposal.

Installation Instructions

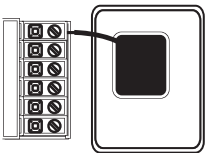
Mount Thermostat

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 completely.



Battery Installation

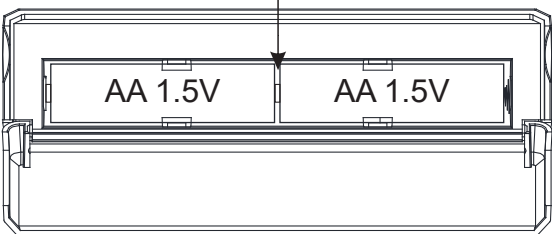
Battery is recommended even thermostat is hardwired (C terminal connected). When thermostat is hardwired and batteries are installed, the thermostat will activate a compressor delay of 5 minutes when the thermostat detects a power outage from the hardwired power supply.



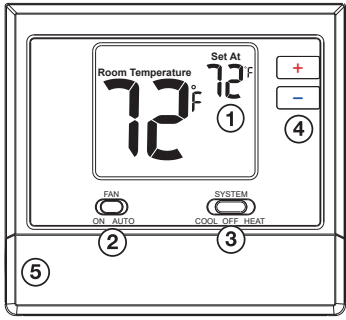
Important:

High quality alkaline batteries are recommended. The batteries will last for one year under normal usage.

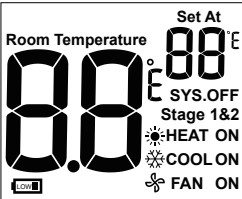
Remove the tab between the batteries to activate the thermostat
High alkaline batteries are recommended.



Getting to know your thermostat



Indicates the current room temperature.



Displays the setpoint temperature.

System operation indicators:
The COOL, HEAT or FAN icon will display when the COOL, HEAT or FAN is on.

Low Battery Indicator:
Replace batteries when indicator is displayed.

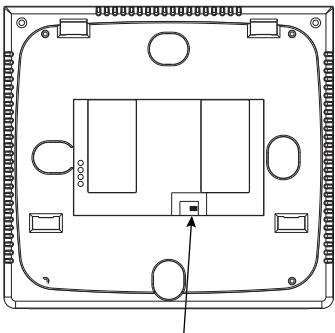
NOTE: The compressor delay feature is active if these icons are flashing. The compressor will turn on when the 5 minute delay has elapsed.

- ① LCD
- ② Fan switch
- ③ System switch
- ④ Temperature setpoint buttons
- ⑤ Battery door

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: For systems that do not control the fan during a call for heat, put the fan operation switch to the ELECTRIC position.



Fan Operation Switch

Caution: Electrical Hazard

Disconnected the power before installation. Fail to do so, it 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 wires connections on the thermostat that is being replaced. In some cases the wiring connections will not be color coded. For example, the red wire may not be connected to the R terminal.
- 2. Loosen the terminal block screws. Insert wires then retighten.
- 3. Insert nonflammable insulation into wall opening to prevent drafts.

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

W2 Heat relay 2
- RH** Transformer power for heating

RC Transformer power for cooling

G Fan relay

Y Compressor relay

Y2 Compressor relay 2

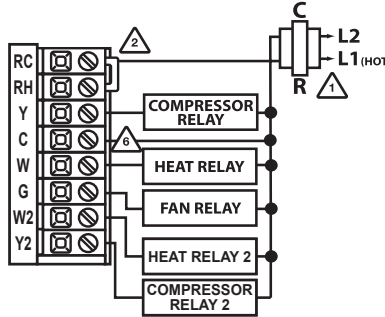
Installation Tip

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 problem.

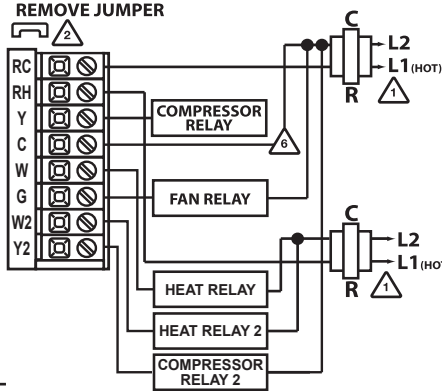
Max Torque = 6in-lbs.

- 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

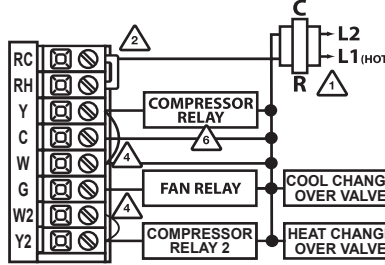
Typical 2H/2C System: 1 Transformer



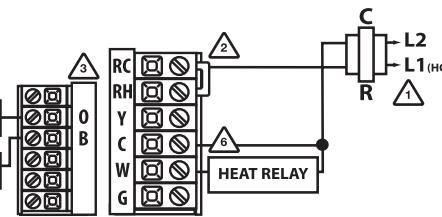
Typical 2H/2C System: 2 Transformer



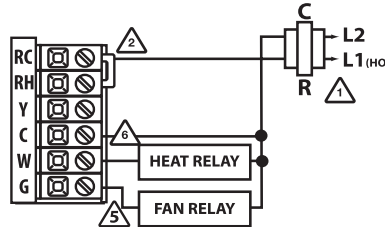
Typical 2H/2C Heat Pump System



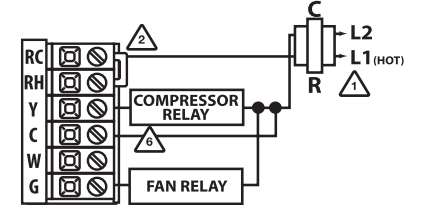
Typical Heat-Only System



Typical Heat Only System With Fan



Typical Cool-Only System



5 Technician Setup

Technician Setup

- 1. Select the System Switch on OFF position to start the Technician setup
 - 2. Press and hold the + and - buttons together for 3 seconds to get into the setup menu
 - 3. Use the + buttons to change the setting for that step, and then press the - button to move to next step.
- To exit setup mode, slide the system switch to different position or wait approximately 20 seconds.

Tech Settings	LCD Will Show	Adjustment Options	Default
Room Temperature Calibration		You can adjust the room temperature display to read 4° above or below the factory calibrated reading.	0
Compressor Short Cycle Delay		Selecting "ON" will not allow the compressor to be turned on for 5 minutes after the last time the compressor was switched off. Select "OFF" to remove this delay.	ON
F or C		F for Fahrenheit C for Celsius	F

6 Technician Setup

Swing & Limit Settings

- 1. Select the System Switch on COOL or HEAT position to start the Swing & Limit Settings.
 - 2. Press and hold the + and - buttons together for 3 seconds to get into the setup menu
 - 3. Use the + buttons to change the setting for that step, and then press the - button to move to next step.
- To exit setup mode, slide the system switch to different position or wait approximately 20 seconds.

Tech Settings	LCD Will Show	Adjustment Options	Default
Cooling 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.	0.5
Cooling Setpoint Limit		This feature allows you to set a minimum cool setpoint value. The setpoint temperature can't be lowered below this value.	44
Heating 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.	0.4
Heating Setpoint Limit		This feature allows you to set a maximum heat setpoint value. The setpoint temperature can't be raised above this value.	90