VIVE COMFORT™ TP-N-721

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Thermostat Application 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)	Yes
Multi-Stage Systems	Yes
Heat Only Systems	Yes
Heat Only Systems - Floor or Wall Furnace	Yes
Cool Only Systems	Yes
Millivolt Conventional Systems	Yes
Two Transformer Systems	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.

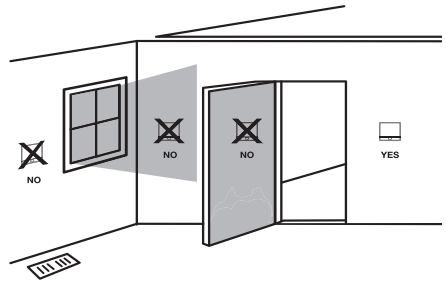
Una version en español de este manual se puede descargar en la pagina web de la compañia.

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 source .....18 to 30 VAC, NEC Class II, 50/60 Hz for hardwire
Battery power from 2 AA Alkaline batteries
Operating ambient ..... 32˚F to +105˚F (0˚C to +41˚C)
Operating humidity ..... 90% non-condensing maximum
Dimensions of thermostat ..... 4.7”W x 4.4”H x 0.8”D

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:

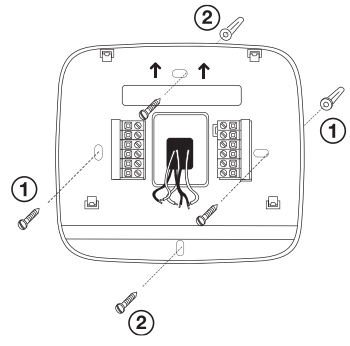
- Close to hot or cold air ducts
- That are in direct sunlight
- With an outside wall behind the thermostat
- In areas that do not require conditioning
- Where there are dead spots or drafts (in corners or behind doors)
- Where there might be concealed chimneys or pipes

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.

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

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

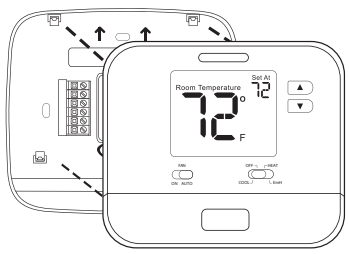
Mercury Notice

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.

Rev. 1821

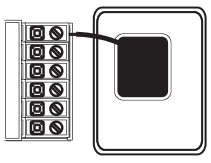
Mount Thermostat

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

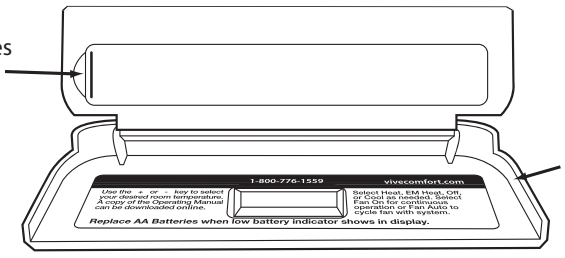
Battery installation is recommended even if thermostat is hardwired (C terminal connected). When thermostat is hardwired and batteries are installed, the thermostat will activate a compressor delay of 5 minutes when the thermostat detects a power outage from the hardwired power supply.



Important:

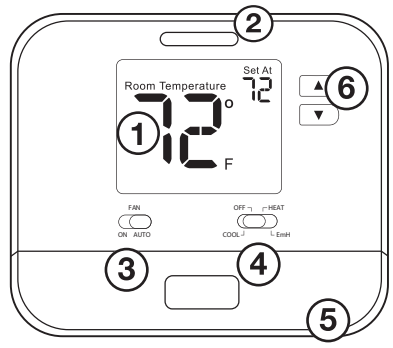
High quality alkaline batteries are recommended. Rechargeable batteries or low quality batteries do not guarantee a 1-year lifespan.

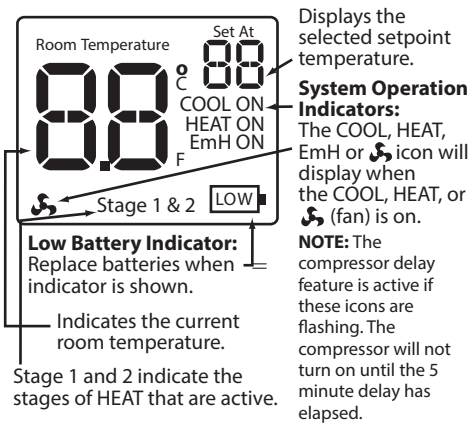
Insert 2 AA Alkaline batteries (included). High quality alkaline batteries are recommended.



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

Getting to know your thermostat





Displays the selected setpoint temperature.

System Operation Indicators: The COOL, HEAT, EmH or fan icon will display when the COOL, HEAT, or (fan) is on.

NOTE: The compressor delay feature is active if these icons are flashing. The compressor will not turn on until the 5 minute delay has elapsed.

Low Battery Indicator: Replace batteries when indicator is shown.

Indicates the current room temperature.

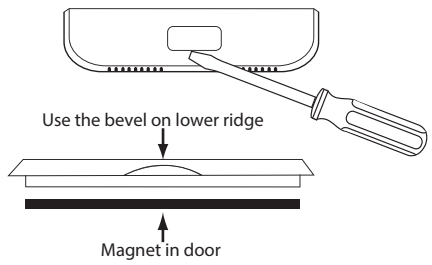
Stage 1 and 2 indicate the stages of HEAT that are active.

① LCD
② Glow in the dark light button
③ Fan switch
④ System switch
⑤ Easy change battery door
⑥ Temperature setpoint buttons

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 screen will only show the low battery indicator but maintain all functionality. If the user fails to replace the batteries after an additional 21 days (days 22-42 since first “low battery” display) the setpoints will change to 55˚F (Heating) and 85˚F (Cooling). If the user adjusts the setpoint away from either of these, it will hold for 4 hours then return to either 55˚F or 85˚F. After day 63 the batteries must be replaced immediately to avoid freezing or overheating because the thermostat will shut the unit off until the batteries are changed.

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 of our thermostats use the same universal magnetic badge. Visit the company 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.

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.

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 issues.

Max Torque = 6in-lbs.

Terminal Designations

	Heat Pump System 1 HEAT 1 COOL / 2 HEAT 1 COOL	Conventional System 1 HEAT 1 COOL / 2 HEAT 1 COOL
R	Transformer Power	Transformer Power
C	Transformer Common	Transformer Common
B	Changeover Valve Energized in HEAT	Energized in HEAT
O	Changeover Valve Energized in COOL	Energized in COOL
G	Fan Relay	Fan Relay
W/E	First Stage of Emergency HEAT	First Stage of HEAT
W2	Second Stage of HEAT/ EMERGENCY HEAT	Second Stage of HEAT
Y	First Stage of HEAT and COOL	First Stage of COOL

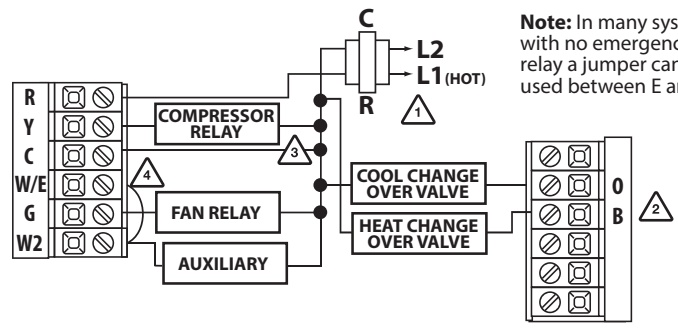
1 **Power supply**

2 **Use either O or B terminals for changeover valve.**

3 **Optional 24 VAC common connection when thermostat is used in battery power mode.**

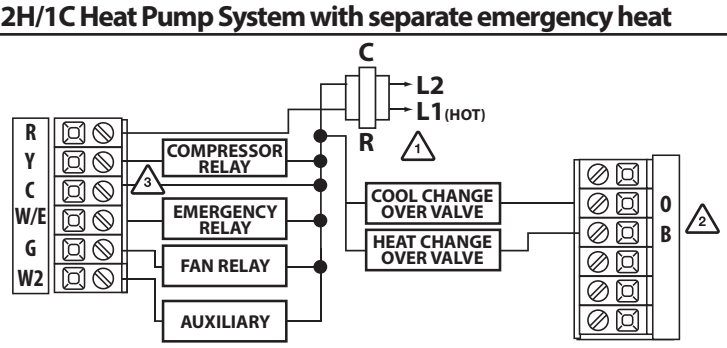
4 **Factory-supplied jumper**

2H/1C Heat Pump System - Factory Default Setting

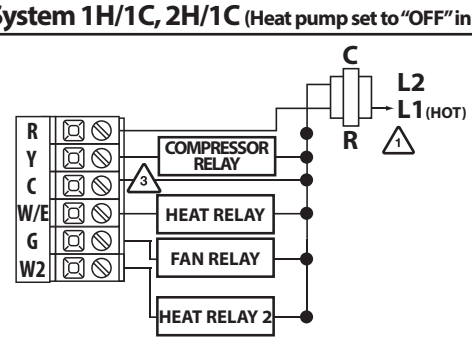


Note: In many systems with no emergency heat relay a jumper can be used between E and W2.

Typical 2H/1C Heat Pump System with separate emergency heat



Conventional System 1H/1C, 2H/1C (Heat pump set to "OFF" in tech settings)



Note: This thermostat is only compatible with ONE transformer systems.

Tech Settings

1. **Select OFF** with the System Switch for **Tech Settings**. **Select Heat or Cool** for **Swing and Limit** settings. They are set separately.
2. Hold down the + and - buttons together for 3 seconds.
3. Use the + and - to change setting for that step, and the glow in the dark light button to move from one step to another.

To exit setup slide the system switch to different position or wait approximately 20 seconds.

Tech Settings		LCD Will Show	Adjustment Options	Default
Room Temperature Calibration	This feature allows the installer to change the calibration of the room temperature display. For example, if the thermostat reads 70 degrees and you would like it to read 72 then select +2.	CA 0	You can adjust the room temperature display to read 4˚ above or below the factory calibrated reading.	0
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.	Cd ON	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	Select F for Fahenheit temperature read out or select C for Celsius read out.	FC °F	F for Fahrenheit C for Celsius	F
Heat Pump	When set to ON this thermostat will operate a heat pump system (default). If set to OFF this thermostat will operate a conventional system, and the next tech step will not appear.	HP ON	ON - Configured to operate heat pump system. OFF - Configured to operate conventional system See page 5 for terminal designations.	ON
Dual Fuel Auxiliary for Heat Pump Will only appear if Heat Pump setting is turned ON	For Dual Fuel applications (Gas/ Fossil fuel Auxiliary Heat), turn this setting ON to LOCKOUT the Heat Pump (Y) when Auxiliary Heat (W2) is on. If desired- This can also be used with Electric Auxiliary.	AG OF	**OFF** will allow Y(1st stage of Heat) and W2 (Aux Heat) to run together if called for. **ON** Will de-energize Y terminal 45 seconds after a call for Auxiliary Heat (W2).	OFF
Fan Operation	Select GAS for systems that control the fan during a call for heat. Select ELEC to have the thermostat control the fan during a call for heat.	FA EL	EL - Electric for thermostat control GS- Gas for system control	EL

Tech Settings		LCD Will Show	Adjustment Options	Default
Emergency Heat Stages	This feature controls the number of stages in Emergency Heat mode. It only appears if the Technician Setup Step for HEAT PUMP is ON.	1 EH	Use the ▲ or ▼ key to select 1-stage or 2-stage operation.	1
Satisfy Setpoint	This feature allows the thermostat to keep multiple stages of heat energized until setpoint is satisfied.	SS OF	Use the ▲ or ▼ key to turn ON or OFF.	OFF
Staging Delay	This feature allows a delay to occur when a second stage is needed. This allows the previous stage extra time to satisfy setpoint.	Sd OF	Use the ▲ or ▼ key to select OFF, 5, 10, 15, 30, 45, 60, or 90 minutes.	OFF

Swing and Limit 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.	CO 0.8	The cooling swing setting is adjustable from 0.2˚ to 2˚. For example: A swing setting of 0.5˚will turn the cooling on at approximately 0.5˚ above the setpoint and turn the cooling off at approximately 0.5˚ below the setpoint.	0.8
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 CL	Use the ▲ and ▼ key to select the minimum cool setpoint.	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.	HE 0.8	The heating swing setting is adjustable from 0.2˚ to 2˚. For example: A swing setting of 0.5˚will turn the heating on at approximately 0.5˚ below the setpoint and turn the heating off at approximately 0.5˚ above the setpoint.	0.8
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 HL	Use the ▲ and ▼ key to select the maximum heat setpoint.	90