Installation Tips

Applications Guide
The Programmable Heat/Cool Thermostat can be used for the following applications:
- Gas or Oil Heat
- Electric Furnace
- Heat Pump (No Aux. or Emergency Heat)
- Heat Only Systems
- Cool Only Systems

The following applications are not recommended:
- Heat Pump (with Aux. or Emergency Heat)
- Multi-stage Systems

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 heating/cooling emitters
- 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

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

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

For horizontal mount put one screw left and one screw right. The thermostat can be mounted directly to the wall or it can be mounted to a wall box. Use the vertical mounting screw location to attach to a wall box.

Attaching the Thermostat to the Subbase

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.

To insure a solid fit between the thermostat and the subbase:
- Mount subbase to a flat wall or electrical box.
- Use screws provided.
- Drywall anchors should be flush with the wall.
- Wires should be pushed into the wall.

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.
Battery Installation

Battery installation is recommended even if the thermostat is hardwired (C terminal connected). When the 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 life span.

Insert 2 AA Alkaline batteries (included). High quality alkaline batteries are recommended. Simple operating instructions are found on the back of the battery door.

Thermostat Wiring

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.

Loosen the terminal block screws. Insert wires then retighten terminal block screws.

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

Viega Thermostat Terminal Conversion

<table>
<thead>
<tr>
<th>Thermostat</th>
<th>Thermostats</th>
<th>Zone Controls</th>
<th>Zone Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>15118</td>
<td>15116</td>
<td>18060</td>
<td>18032</td>
</tr>
<tr>
<td>15117</td>
<td>18062</td>
<td>18050</td>
<td>18029</td>
</tr>
</tbody>
</table>

Power Type

- 3 wire
- 3 wire with battery backup
- 2 wire with battery

Wiring 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

No auxiliary or emergency heat. 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.

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

Terminal Designations

- W  Heat relay
- Y  Compressor relay
- G  Fan relay
- O  Heat pump changeover valve energized in cooling
- RC Transformer power for cooling
- RH Transformer power for heating
- B  Heat pump changeover valve energized in heating
- C  Common wire from secondary side of cooling system transformer
Typical Industry Wiring Diagrams

⚠️ Power supply

⚠️ 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 setting to Electric

⚠️ Optional 24 VAC common connection when thermostat is used in battery power mode

Typical 1H/1C System: 1 Transformer

Typical Heat-Only System

Typical 1H/1C System: 2 Transformer

Typical Heat Only System With Fan

Typical 1H/1C Heat Pump System

Typical Cool-Only System
Part Numbers: 15116, 15117, and 15118

- Connect the RC terminal from the thermostat to R terminal on the zone control.
- Connect the W terminal from the thermostat to W terminal on the zone control, for part number 15118 connect W/E terminal from the thermostat to W terminal on the zone control.
- Connect the C terminal from the thermostat to the C terminal on the zone control.
Part Numbers: 15116, 15117, and 15118

- Connect the RC terminal from the thermostat to R terminal on the zone control.
- Connect the W terminal from the thermostat to W terminal on the zone control, for part number 15118 connect W/E terminal from the thermostat to W terminal on the zone control.
- Connect the C terminal from the thermostat to the C terminal on the zone control. C terminal is optional but recommended when using with batteries.

Legend: Thermostat

- Low Voltage
- Line Voltage
Connecting Viega Thermostats to 2-Wire Powerheads

4 powerheads may be connected to each thermostat

Legend: Thermostat
- - - - Low Voltage
- - - - Line Voltage

Connecting Viega Thermostats to 4-Wire Powerheads

4 powerheads may be connected to each thermostat

Legend: Thermostat
- - - - Low Voltage
- - - - Line Voltage

Thermostat Display

1. LCD Display
   - Push the glow in the dark button and screen will illuminate.

2. Glow in the dark light button
   - Push the glow in the dark button and screen will illuminate.

3. Fan switch
   - Set to AUTO to run the fan anytime heating or cooling is running.
   - Set to ON to run the fan at all times.

4. System switch
   - Set to heating / cooling or off.

5. Easy change battery door
   - 2 AA batteries included

6. Temperature setpoint buttons
   - Use the + or - buttons to adjust the room temperature.

7. User Buttons
   - Menu, Tech Setup, Set Time, Set Sched

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 set points will change to 55°F (Heating) and 85°F (Cooling). If the user adjusts these setpoints away from 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 battery is changed.
Programming the Thermostat
This thermostat has a technician setup menu for easy installer configuration. To setup the thermostat for your particular application:

1. Press MENU button.
2. Press and hold TECH SET button for three seconds. This three 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.
4. Use the + or - keys to change settings and the NEXT STEP or PREV STEP key to move from one option to another.

Adjusting the Room Temperature
The current room temperature is displayed in large text in the center of the thermostat under the “temperature” heading. The set point or desired room temperature is in the upper right corner of the display under “set at”. To raise or lower the desired “set at” temperature use the + and - buttons on the top right of the thermostat.

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.
<table>
<thead>
<tr>
<th>Tech Settings</th>
<th>LCD will Show</th>
<th>Adjustment Options</th>
<th>Factory Default Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Filter Change Reminder</strong></td>
<td>![Image]</td>
<td>You can adjust the filter change reminder from OFF to 2000 hours of runtime in 50 hour increments. Tap the second button from the left side of the thermostat to display the current filter elapsed time.</td>
<td>Off</td>
</tr>
<tr>
<td><strong>Room Temperature Calibration</strong></td>
<td>![Image]</td>
<td>You can adjust the room temperature display to read -4°F to +4°F above or below the factory calibrated reading.</td>
<td>0</td>
</tr>
<tr>
<td><strong>Compressor Short Cycle Delay</strong></td>
<td>![Image]</td>
<td>Selecting ON will not allow the compressor to be turned on for 5 minutes after the last time the compressor was on. Select OFF to remove this delay.</td>
<td>On</td>
</tr>
<tr>
<td><strong>Cooling Swing</strong></td>
<td>![Image]</td>
<td>The cooling swing setting is adjustable from ±0.2°F to ±2°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.</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Heating Swing</strong></td>
<td>![Image]</td>
<td>The heating swing setting is adjustable from ±0.2°F to ±2°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.</td>
<td>0.4</td>
</tr>
<tr>
<td>Tech Settings</td>
<td>LCD will Show</td>
<td>Adjustment Options</td>
<td>Factory Default Settings</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>---------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td><strong>Heating Temperature Setpoint Limit</strong></td>
<td></td>
<td>Use the + or - key to select the maximum heat setpoint.</td>
<td>90°F</td>
</tr>
<tr>
<td>This feature allows you to set a maximum heat setpoint value. The setpoint temperature cannot be raised above this value.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cooling Temperature Setpoint Limit</strong></td>
<td></td>
<td>Use the + or - key to select the minimum cool setpoint.</td>
<td>44°F</td>
</tr>
<tr>
<td>This feature allows you to set a minimum cool setpoint value. The setpoint temperature cannot be lowered below this value.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>°F or °C</td>
<td></td>
<td>°F for Fahrenheit</td>
<td>F</td>
</tr>
<tr>
<td>Select F for Fahrenheit temperature read out or select C for Celsius read out.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>12 or 24 Hour Clock</strong></td>
<td></td>
<td>Use the + or - key to select 12 or 24 hour clock.</td>
<td>12</td>
</tr>
<tr>
<td>You can select either a 12 or 24 hour clock setting.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fan Operation</strong></td>
<td></td>
<td>GAS - GS</td>
<td>Gas</td>
</tr>
<tr>
<td>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.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Morning Recovery</strong></td>
<td></td>
<td>Use the + or - key to turn on or off.</td>
<td>ON</td>
</tr>
<tr>
<td>This feature will start heating early to bring the building temperature to its programmed setpoint by the beginning of the time period - (WAKE, OCCUPIED).</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Program Options**
You can configure this thermostat to have 5+1+1 programming or non-programmable.

**Swing Settings**
- LCD will Show
- Adjustment Options
- Factory Default Settings

- **Program Options**
  - Use the + or - key to select 5d for 5+1+1, or 0d for non-programmable.
  - 5d

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**Set Time (if using programming)**
1. With system switch set to OFF, press the MENU button.
2. Press SET TIME.
3. Day of the week will be flashing. Use the + or - key to select the current day of the week.
4. Press NEXT STEP.
5. The current hour is flashing. Use the + or - key to select the current hour. When using 12-hour time, make sure the correct a.m. or p.m. choice is selected.
6. Press NEXT STEP.
7. Minutes are now flashing. Use the + or - key to select current minutes.
8. Press DONE when completed.

**Temporary and Permanent Hold Feature (if using programming)**
- When cool or heat is turned on, the thermostat will display HOLD and RUN SCHED on the left of your screen when you press the + or - button.

**Temporary Hold**
At this time if you do nothing, the temperature will remain at this setpoint temporarily until next time period.

**Permanent Hold**
If you press the HOLD key on the left of your screen, you will see HOLD appear below the setpoint temperature in the display. The thermostat will now permanently stay at this setpoint and can be adjusted using the + or - keys.

**To Return to Running Schedule**
Press the RUN SCHED button on the left of your screen to exit either temporary or permanent hold.

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**Filter Change Reminder**
If your installing contractor has configured the thermostat to remind you when the air filter needs to be changed, you will see FILT in the display when your air filter needs to be changed.

**Resetting the Filter Change Reminder**
When FILT reminder is displayed, you should change your air filter and reset the reminder by holding down the second button from the top left side of the thermostat for 3 seconds.

**Set Program Schedule**
All our programmable thermostats are shipped with an energy saving pre-program. You can customize this default program by following the chart on the next page.

Your thermostat can be programmed to have all the weekdays the same, a separate program for Saturday, and a separate program for Sunday. There are four time periods for each program (WAKE, LEAVE, RETURN, SLEEP).
### Factory Default Program

<table>
<thead>
<tr>
<th>Day of the Week</th>
<th>Events</th>
<th>Time</th>
<th>Setpoint Temp. (HEAT)</th>
<th>Setpoint Temp. (COOL)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weekday</strong></td>
<td>Wake</td>
<td>6 AM</td>
<td>70°F (21°C)</td>
<td>75°F (24°C)</td>
</tr>
<tr>
<td></td>
<td>Leave</td>
<td>8 AM</td>
<td>62°F (17°C)</td>
<td>83°F (28°C)</td>
</tr>
<tr>
<td></td>
<td>Return</td>
<td>6 PM</td>
<td>70°F (21°C)</td>
<td>75°F (24°C)</td>
</tr>
<tr>
<td></td>
<td>Sleep</td>
<td>10 PM</td>
<td>62°F (17°C)</td>
<td>78°F (26°C)</td>
</tr>
<tr>
<td><strong>Saturday</strong></td>
<td>Wake</td>
<td>6 AM</td>
<td>70°F (21°C)</td>
<td>75°F (24°C)</td>
</tr>
<tr>
<td></td>
<td>Leave</td>
<td>8 AM</td>
<td>62°F (17°C)</td>
<td>83°F (28°C)</td>
</tr>
<tr>
<td></td>
<td>Return</td>
<td>6 PM</td>
<td>70°F (21°C)</td>
<td>75°F (24°C)</td>
</tr>
<tr>
<td></td>
<td>Sleep</td>
<td>10 PM</td>
<td>62°F (17°C)</td>
<td>78°F (26°C)</td>
</tr>
<tr>
<td><strong>Sunday</strong></td>
<td>Wake</td>
<td>6 AM</td>
<td>70°F (21°C)</td>
<td>75°F (24°C)</td>
</tr>
<tr>
<td></td>
<td>Leave</td>
<td>8 AM</td>
<td>62°F (17°C)</td>
<td>83°F (28°C)</td>
</tr>
<tr>
<td></td>
<td>Return</td>
<td>6 PM</td>
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<td>10 PM</td>
<td>62°F (17°C)</td>
<td>78°F (26°C)</td>
</tr>
</tbody>
</table>

To customize your program schedule, follow these steps:

**Weekday**
1. Select HEAT or COOL using the SYSTEM key. You have to program heat and cool each separately.
2. Press the MENU button. (If menu does not appear first press RUN SCHED.)
3. Press SET SCHED.

**Monday-Friday is displayed and the WAKE icon is shown. You are now programming the wake time period for the weekday setting.**

4. Time is flashing. Use the + or - key to make your time selection for the weekday WAKE time period.
5. Press NEXT STEP.
6. The setpoint temperature is flashing. Use the + or - key to make your setpoint selection for the weekday wake period.
7. Press NEXT STEP.
8. Repeat steps 4 through 7 for weekday LEAVE time period, for weekday RETURN time period, and for weekday SLEEP time period.

**Saturday**
9. Repeat steps 4 through 7 for Saturday WAKE time period, for Saturday LEAVE time period, for Saturday RETURN time period, and for Saturday SLEEP time period.

**Sunday**
10. Repeat steps 4 through 7 for Sunday WAKE time period, for Sunday LEAVE time period, for Sunday RETURN time period, and for Sunday SLEEP time period.