

hou**s**Evolve
Thermostat Module
Installation Guide

Introduction

Thank you for purchasing a FREEVOLVE® product. We designed it to provide you with years of reliable service.

The following setup instructions will help you get up and running quickly, and while we hope all our products are self-explanatory, the enclosed user guide should cover all questions you may have. Please refer to the “Support” section of our website – www.freevolve.com – for additional information.

Warranty Information

All FREEVOLVE® products are covered against manufacturing defects for a period of 2 years from the date of purchase. During the warranty period we will replace any defective unit free of charge.

The warranty does not cover any problem caused by accident; abuse; neglect; improper installation, operation or modification; any misuse contrary to the instructions in the user guide.

Installation and Configuration

The Thermostat Module is supplied with a 25ft network cable, two mounting screws and a 9V battery.



1. Installation

- We recommend that this installation be performed by a qualified person.
- The housEvolve Thermostat Module can support the following **common-return, 24VAC** HVAC systems:
 - i. Standard, non heat-pump, 1-cycle heat/cool
 - ii. Single stage heat-pump systems, with or without auxiliary heat

Please make sure your HVAC system falls in one of the above categories before attempting installation. The housEvolve thermostat may be able to accommodate certain other types of heaters. Please contact us to determine compatibility.

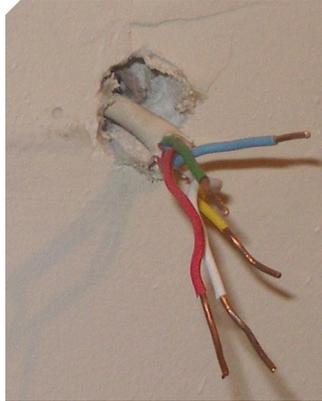
- **The housEvolve Thermostat Module is pre-configured for non heat-pump HVAC systems. If your HVAC system is single-cycle heat-pump, please go to the “Configuring the housEvolve Thermostat Module” section of this document (page 14) at this time and perform the necessary changes. When you’re done, return here.**

- Turn off power to the HVAC system
- Open the top cover of your existing thermostat and examine its current wiring. Standard thermostat cable is color coded and should be connected as follows:
 - i. Non-heat pump systems:
 1. 24VAC return: Red wire, terminal R
 2. Fan: Green wire, terminal G
 3. Heat: White wire, terminal W or W1
 4. A/C: Yellow wire, terminal Y or Y1
 - ii. Single-cycle heat pump systems
 1. 24VAC return: Red wire, terminal R
 2. Fan: Green wire, terminal G
 3. Auxiliary heat: White wire, terminal W or W1
 4. A/C: Yellow wire, terminal Y or Y1
 5. Change-over: Orange wire, terminal C/O or O

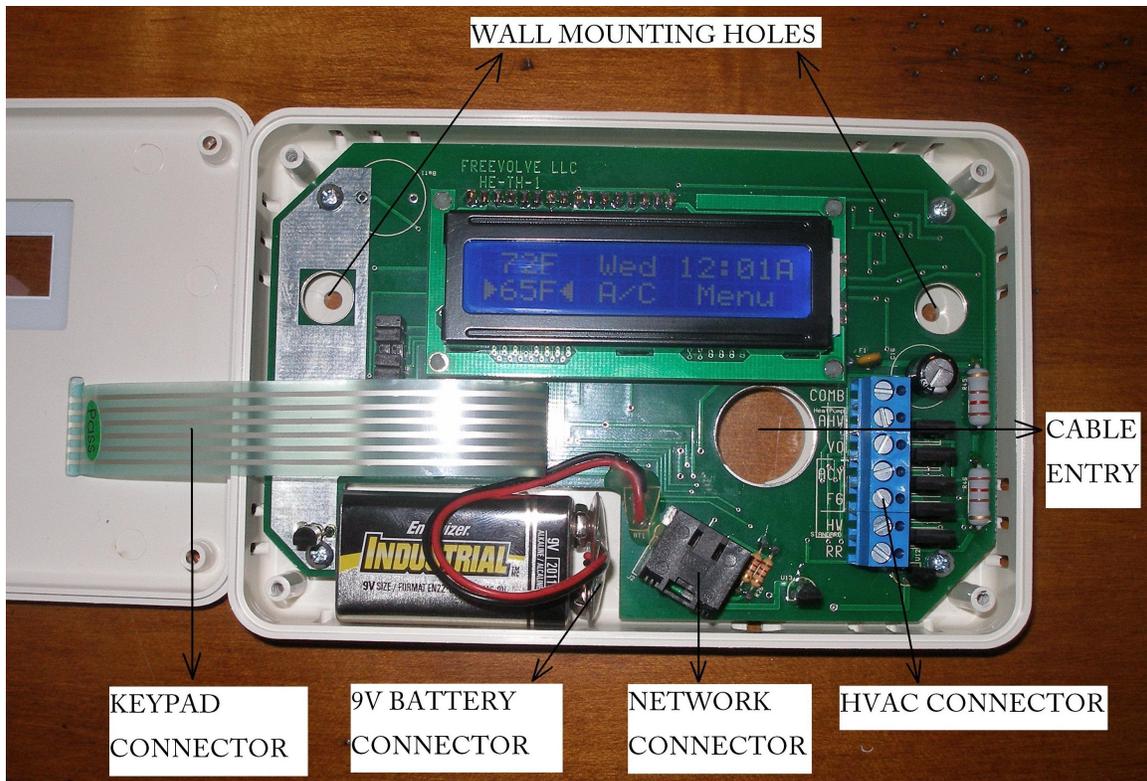
There may be an additional wire, usually Blue, which is either not connected (older thermostats), or connected to the 24VAC Common and is used to supply AC power to modern, digital thermostats.

If this wiring map is followed in your current thermostat, everything is OK. On rare occasions, the previous installer may not have followed this wiring map and the terminals listed above are connected to wires of different colors. In these cases it is important to either write down what color wire is connected to each thermostat terminal (as you will need to connect everything the same way on your housEvolve Thermostat Module); or, change the wiring connections at the HVAC control board so that the standard mapping applies and you won't have to worry about it in the future.

- Disconnect and remove your existing thermostat from its current location.
 NOTE: This installation guide will illustrate the procedure for a standard heat/cool system. The procedure for a heat-pump system is similar.



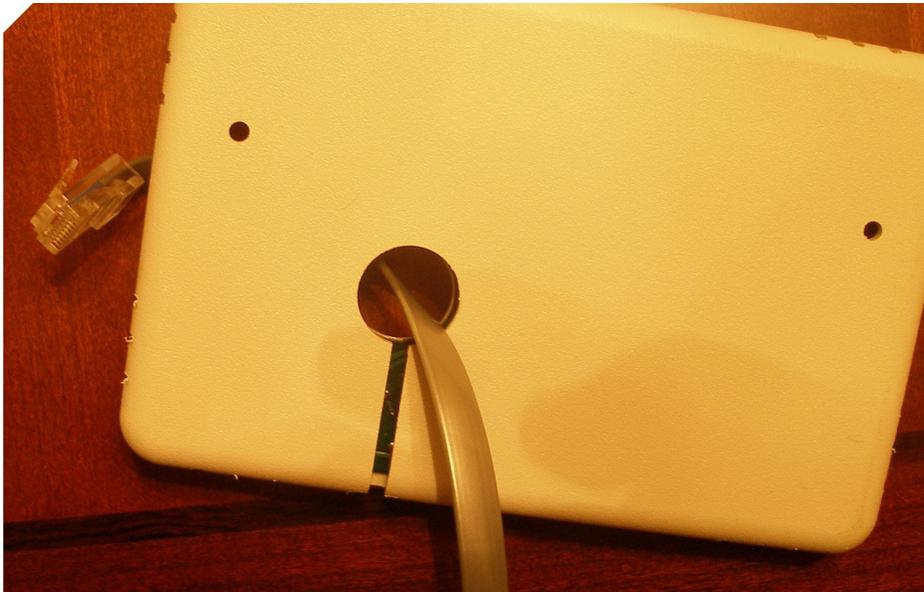
- Open the cover of your housEvolve Thermostat Module by removing the 4 retaining screws. Please identify areas of interest as shown in the image below:



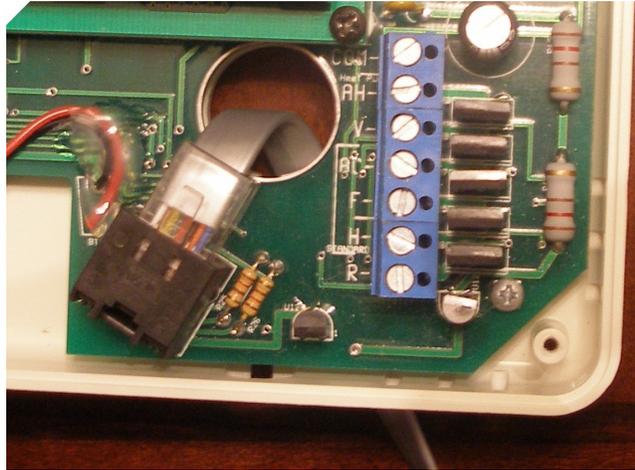
- In order to make the installation job easier, we recommend unplugging the keypad connector cable from the circuit board. This allows you to get the top cover out of the way entirely.
- Prepare the mounting location by using the open thermostat as a template to mark the mounting holes on the wall. Remove the thermostat and drill two leading holes in the marked locations. Drive the two mounting screws in and out of the wall once to shape the holes and make securing the thermostat easier. **Do not mount the thermostat on the wall at this time.**

houEvolve Network Wiring Considerations: the Thermostat Module must connect to the houEvolve Telephone Interface Module in order to provide remote monitoring and control capabilities. This involves use of the network cable provided. You may choose to run this network cable behind the wall (next to the existing thermostat cable), or on the outside of the wall (simplifies installation). This guide illustrates the installation procedure running the network cable on the outside of the wall.

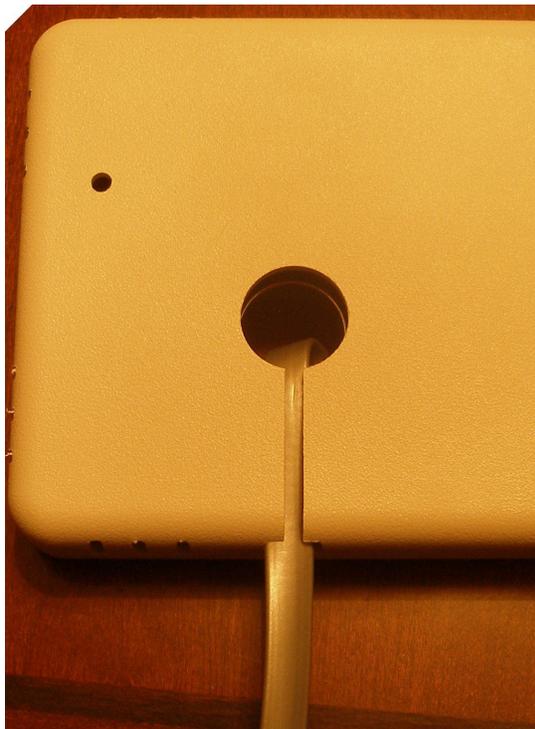
- From the back of the Thermostat Module enclosure, insert one end of the network cable provided through the Cable Entry opening, as shown:



- Plug the network cable into the NETWORK CONNECTOR securely (make sure the connector “clicks” into place):

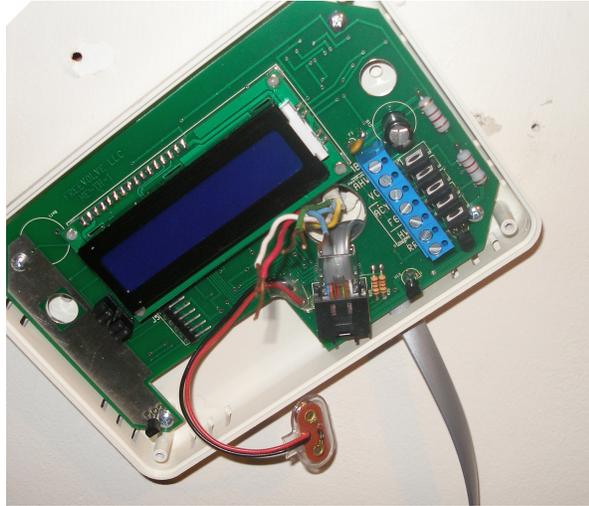


- Turn the device over again. Twist the network cable sideways and slide it completely into the surface access channel:

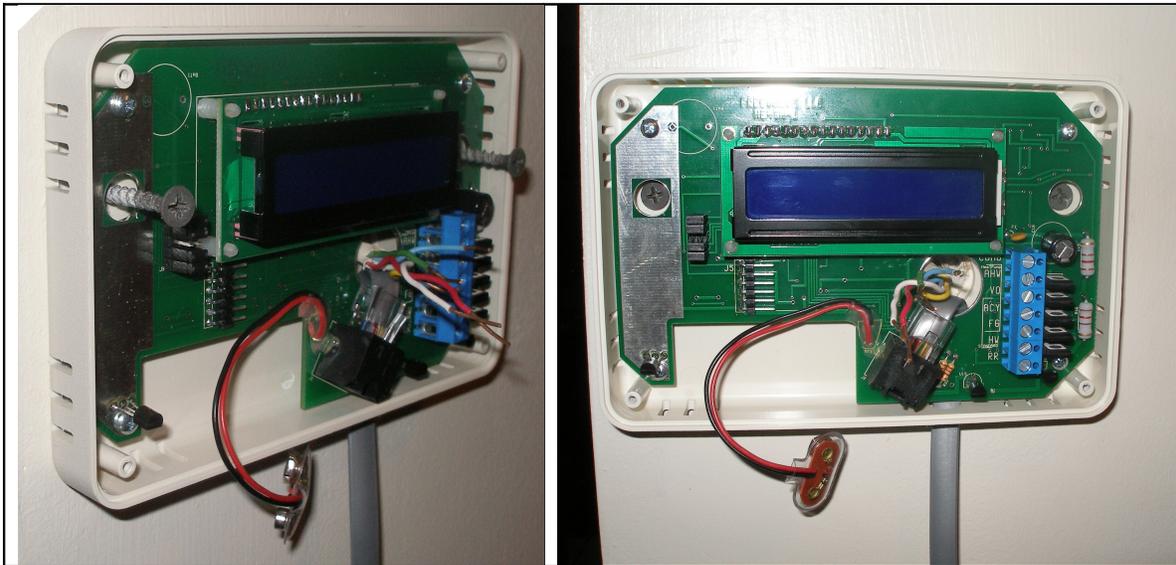


This cable position allows the Thermostat Module to be mounted flush against the wall.

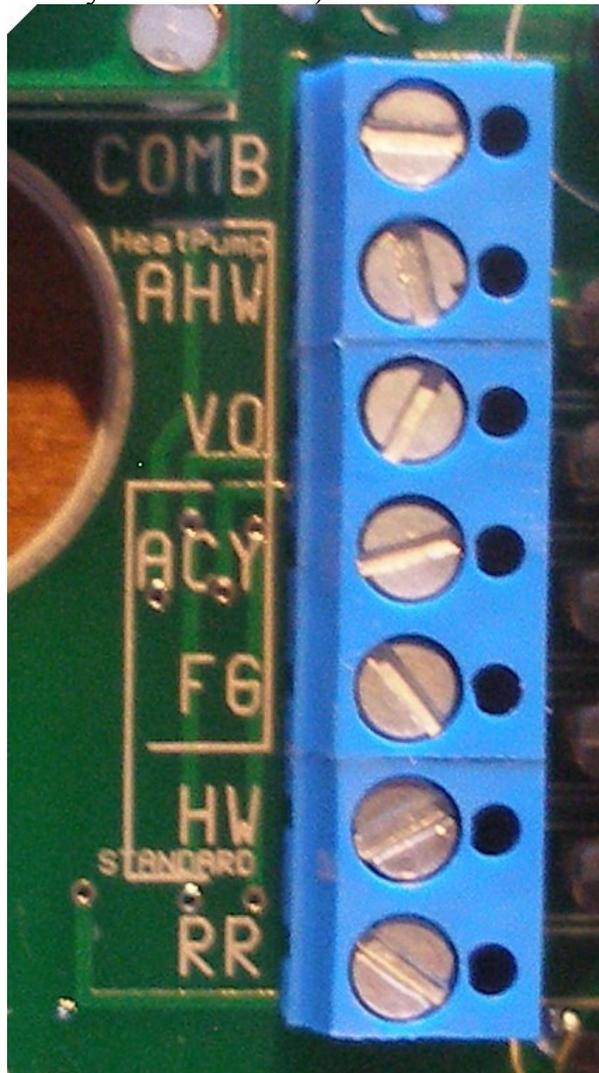
- Place the thermostat against the wall and feed the thermostat cable through the Cable Entry opening. If the network cable were mounted behind the wall, it would also feed in at this time (one of the prepared mounting holes is visible in the picture):



- Fix the Thermostat Module to the wall using the screws provided:



- OK, we're ready to connect the thermostat cable. Refer to the HVAC connector detail below and note the connector grouping indicated on the board.
 - i. The top and bottom connections are common for both types of HVAC system supported. They are COMB (Common/BLUE) and RR (Return/RED).
 - ii. Standard (non heat-pump) HVAC systems will need to use the "STANDARD" group of connectors (marked by the "[[" bracket) shown below: HW (Heat/WHITE), FG (Fan/GREEN) and ACY (AC/YELLOW)
 - iii. Heat-pump HVAC systems will need to use the "HEAT PUMP" group of connectors (marked by the "]" bracket) shown below: FG (Fan/GREEN), ACY (AC/YELLOW), VO (Change-over Valve/ORANGE) and AHW (Auxiliary Heat/WHITE).



A few notes:

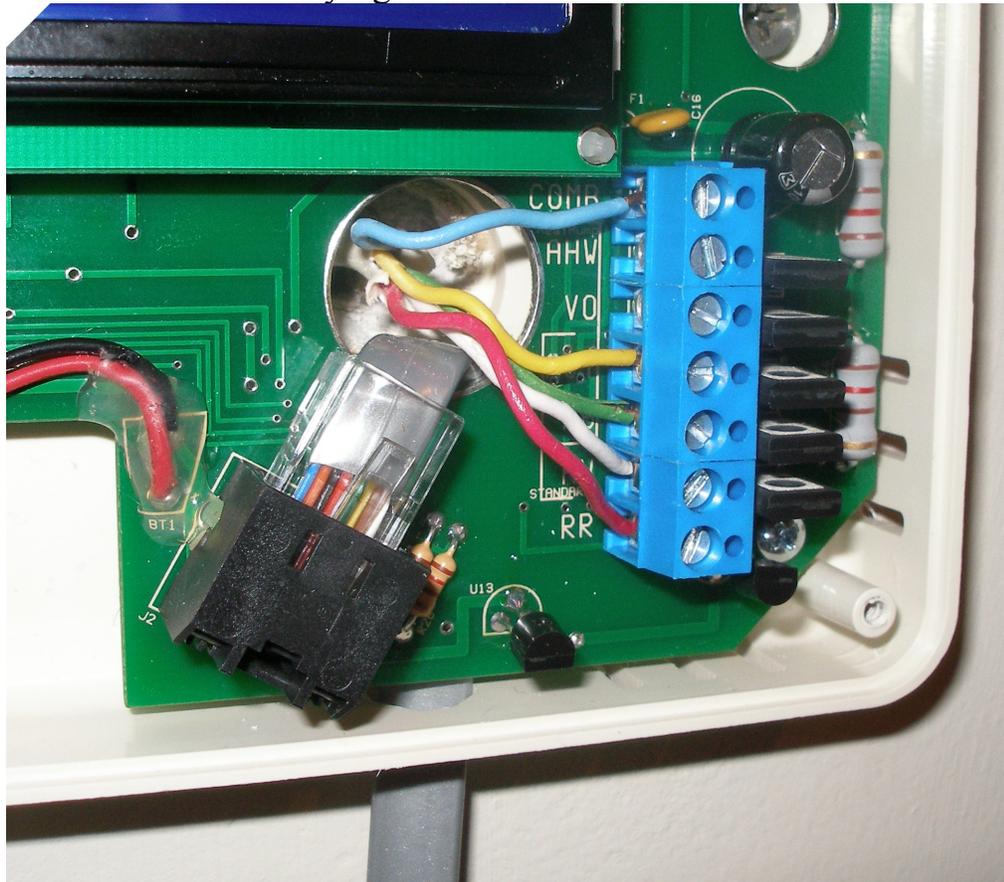
Connection names indicated on the circuit board are used to indicate both the function and standard color of a particular wire. This was done to assist the installer in cases where non-standard wiring is in place.

The ACY and FG connections are common to both HVAC types.

If your housEvolve Thermostat Module is part of a housEvolve system, the COMB connection is optional. If your thermostat cable has this wire we recommend you use this connection. Otherwise the device will draw power from the housEvolve network connection.

If you are using the housEvolve Thermostat Module as a stand-alone device (that is, not part of a housEvolve system), you must connect the COMB terminal. The device will not operate without it.

- In this installation example we're using a non heat-pump, heat/cool HVAC system. Therefore, the connections used are RR, HW, FG, ACY and COMB, making sure the wire retaining screws are securely tightened:



- Reconnect the top cover keypad and the 9V battery. Please stow the battery as shown. After a brief start-up sequence, the Thermostat Module will show the screen below:



- Replace the front cover and 4 retaining screws. Turn on power to your HVAC system. The screen will look like this, indicating that the installation is complete:

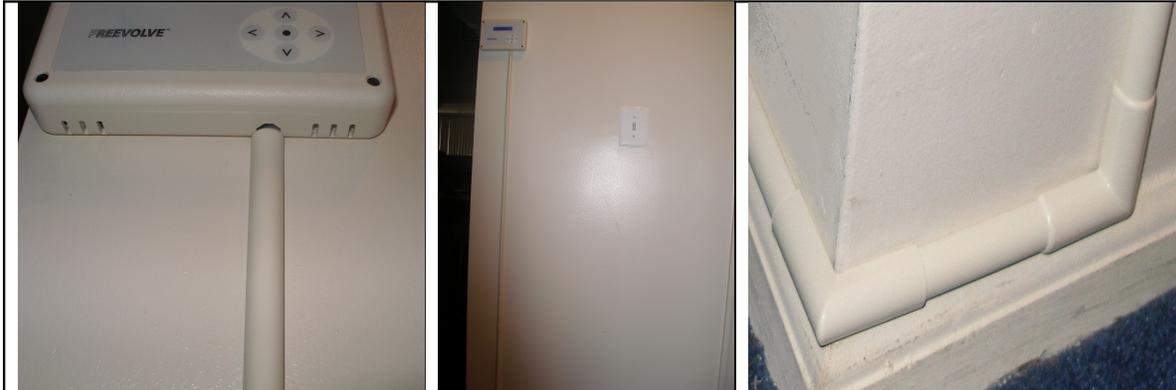


- The next step is optional and only shown here for illustrative purposes. Even though running the network cable on the outside of the wall is much simpler and economical than the alternative, some users find the sight of an exposed cable undesirable. However, there are simple and economical ways to easily conceal a cable run. Using a common cable management raceway available at most hardware stores (the particular one used here is the CORDMATE®, made by The Wiremold

Company and purchased from the local Home Depot®), we went from this



... to this, in about 15 minutes:



The raceway surface may even be painted to match your wall color.

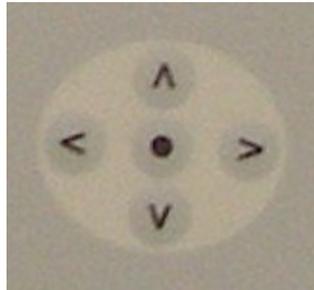
2. Configuring the houseEvolve Thermostat Module

The only configuration required at installation time is selecting the appropriate HVAC system type. The Thermostat Module is preconfigured for standard, non heat-pump, heat/cool systems. If your HVAC system is of this type, no configuration is necessary.

From this point forward we're going to assume you have a single-stage heat-pump HVAC system and we'll show the steps required to configure the Thermostat Module for this setup.

Before we get to that, however, it is time for a few words on how to interact with it.

All features offered by the Thermostat Module features are accessed and altered through the use of the 5-button navigation keypad shown below, in conjunction with the display. Most of the information displayed on the screen is selectable and configurable. You simply navigate to the feature of interest and then act upon it.



General guidelines: the Left-Right keys (< >) are used to drag the selection markers to the feature of interest, while the UP-Down keys (^ v) are used to scroll up/down through the available settings for the selected feature. The Select key (•) is used to confirm the feature chosen or to act upon a navigation selection (Ex: sending the display to the “Menu” screen).

The Thermostat Module enters a “stand-by” mode in the absence of user action, identified by the main screen displayed in a low backlight setting (the screen is dimly lit) and without any selection markers. Any button press in this mode causes the system to enter the “user” mode, defined the screen switching to a bright backlight setting and

the selection markers appearing around the default main screen feature.

As an example we will go through setting the clock on the main screen. The default value at startup is Wed, 12:00A.

You first need to turn the thermostat on. Please remove the Thermostat Module cover. Connect the 9V battery provided and stow it as shown:



The Thermostat Module will go through a brief startup procedure, then the display will show the current temperature with a “No power” indicator in the upper right side.

Replace the top cover.

With the system in stand-by mode, press any key. The screen will light up and the default feature is selected, as shown below.



- a. Use the Left or Right key to move the selection markers until they surround the clock “day” feature.



- b. Use the Up or Down button to scroll through the days of the week until reaching the desired day.



- c. Press the Right button to select the clock “hour” feature.
- d. Use the Up or Down button to increment/decrement the hour field.
Note: keeping the Up/Down key pressed will allow the system to scroll through the hour field.



- e. Press the Select button to toggle between 12/24 clock display mode. Note that in 24hr mode the AM/PM marker at the end of the time field disappears.



- f. Press the Right button to select the clock “minute” feature.
- g. Use the Up or Down button to increment/decrement the minute field. Note: keeping the Up/Down key pressed will allow the system to scroll through the minute field.



- h. That’s it! The Thermostat Module will return to “stand-by” mode after a few seconds of user inactivity, keeping the newly chosen time.

Now that interacting with Thermostat Module is, hopefully, no longer a mystery, let’s finish the configuration process.

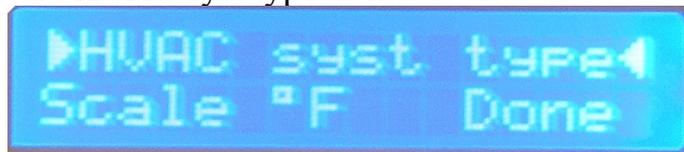
- First, switch the current HVAC mode to OFF. Failure to do so will result in the Thermostat Module refusing to change its operating mode to single-stage heat-pump. This feature is discussed in more detail in the User Manual.



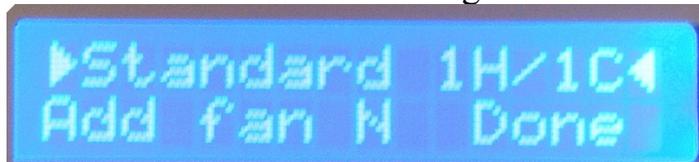
- Next, navigate to “Menu” and press “Select”. The display will switch to the Menu screen. Navigate to “Setup”:



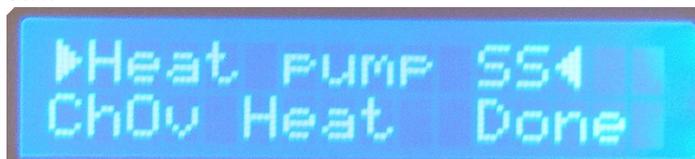
- Press “Select”. The display will switch to the Setup screen. Navigate to “HVAC syst type”



- Press “Select”. The display will show the current HVAC system type, which is “Standard 1H/1C”. Navigate to “Standard 1H/1C”.



- Press the Up or Down key. This will scroll the selection to “Heat pump SS”. The second line of the display will also change to ChOv Heat.



NOTE: you must set the correct active Changeover valve setting. Heat-pump systems do not have a consistent standard in this regard (ex: Changeover valve ON = Heat or Changeover valve ON = AC). If the active changeover valve state places your system in Heat mode you do not need to change this setting. Otherwise, navigate to “Heat” and press the Up or Down key:



The system sets the active changeover valve state to AC. When finished, navigate to “Done” and press Select. The system will return to the main screen and the Thermostat Module is now configured to work with a single-stage heat-pump HVAC system.

- Remove the top cover and the 9V battery. Continue with the installation procedure.