

# Motison



*CyberStat*<sup>®</sup> CY1201

Due to continuous improvement, some features and appearance may have changed

**2-year limited warranty:** Motison warrants this product to be free from defects in the workmanship, construction and materials, under normal use and service, for a period of two year from the date of purchase by the consumer. If at any time during the warranty period the product is determined to be defective, Motison will replace or repair it.

This warranty does not cover removal or re-installation costs. This warranty shall not apply if it is shown by Motison that the defect or malfunction was caused by damage which occurred while the product was in the possession of a consumer.

Motison's sole responsibility shall be to repair or replace the product within the terms stated above. Motison shall not be liable for any loss or damage of any kind, including any incidental or consequential damages resulting, directly or indirectly, from any breach of any warranty, express or implied, or any failure of this product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation may not apply to you.

If the product is defective, please contact Motison immediately. To make a claim, email to [support@motison.com](mailto:support@motison.com)

- Internet connected through 2.4 GHz Wi-Fi (WEP/WPA/WPA2)
  - Monitor and control from anywhere anytime
  - Three independent 7 day programs + manual mode
  - Auto recover after power outage
  - Temporary and permanent hold
  - Auto switchover between heating and cooling modes
  - Customize programs from a desktop or tablet computer
  - No batteries required (but requires a common or 'C' wire)<sup>1</sup>
  - Works with Heat Pump and Conventional systems<sup>2,3</sup>
  - Heat pump with auxiliary heat: 1 cooling and 2 heating stages
  - Conventional system: 1 cooling and 1 heating stages
  - Maximum control current: 400 mA (any terminal)
  - Temperature accuracy  $\pm 1^{\circ}\text{F}$
1. If you do not have a 'C' wire, you can: 1. use fan wire as 'C' wire (you will not be able to use fan independently) or 2. use an external power supply.
  2. CyberStat does not work with line-voltage baseboard heaters.
  3. CyberStat will not work if you have separate Rc and Rh wires. This limitation does not apply if there is a jumper between Rc and Rh terminals.

# Remove Old Thermostat

1. Turn off the old thermostat.
2. Turn off power to the heating and cooling system.
3. Remove any locking screw and then remove the face plate.
4. Record the terminal names and corresponding wire colors below.  
**(Depending on your system, you may not have all the wires listed here)**

Old Thermostat Terminal		Wire Color (please fill in)	CyberStat Terminal
Terminal	Purpose		
C	Common or Ground		C
R, Rc or Rh	24 V AC Hot		R
O or B	Reversing Valve		O/B
Y	Compressor		Y
W	Heat or Aux Heat		W
G	Fan		G

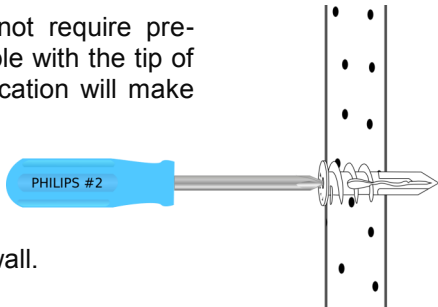
4

5. Now remove the wires and the old wall plate.

1. Detach the back cover of CyberStat and place it on the wall. Mark the mounting hole locations with a pencil. You may want to use a level at this time.

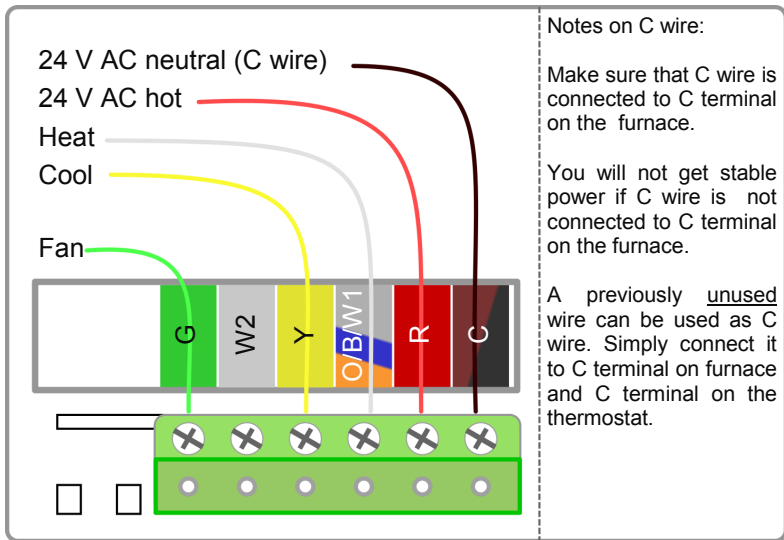
2. Use a #2 Philips head screwdriver to screw-in the provided drywall anchors at marked locations. If the old thermostat did not use drywall anchors then most likely there is a wood bracing behind the drywall. In that case you should skip this step.

Tip: The drywall anchor does not require pre-drilling. However, making a dimple with the tip of a screw driver at the marked location will make the placement more accurate.



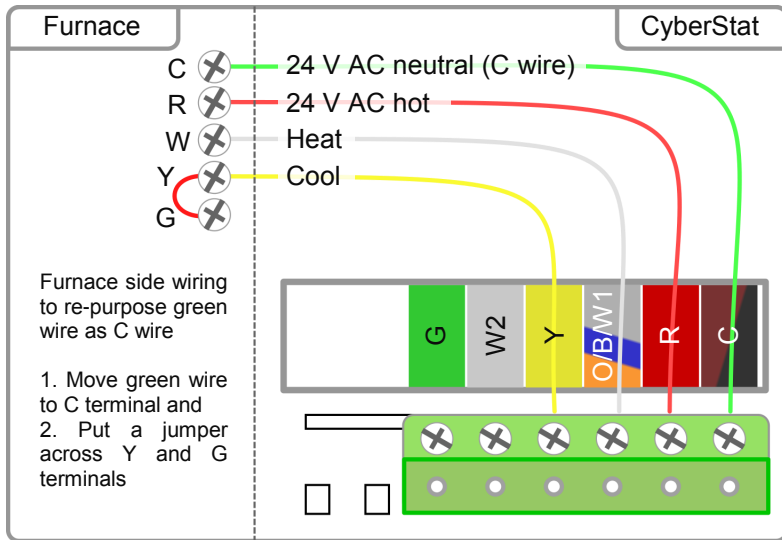
3. Mount the back cover on the wall.

4. Connect the wires to the terminals matching the *terminal names*. See wiring diagrams for your system on pages 6-13.



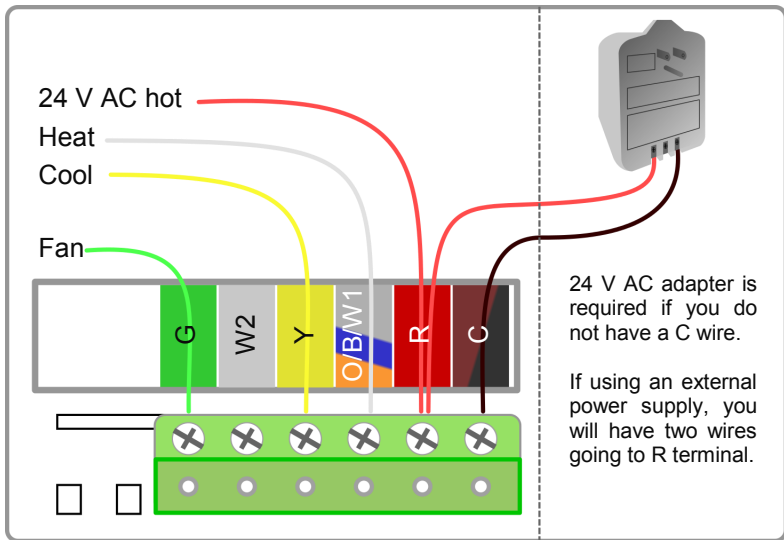
## Wiring option 1 for Conventional Heat and/or Cool system

- ⇒ Use this wiring option if you have a C wire
- ⇒ Yellow and green wires are not required for a heat-only system
- ⇒ White wire is not required for a cool-only system



## Wiring option 2 for Conventional Heat and/or Cool system

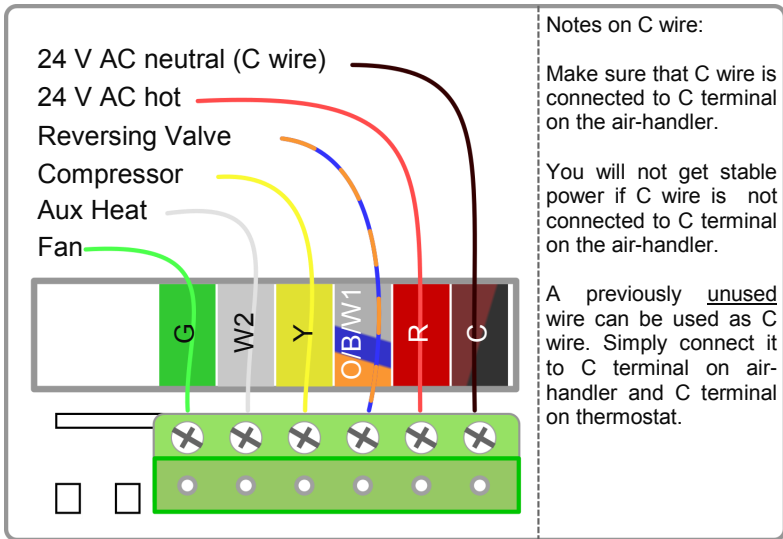
- ⇒ Use this wiring option to re-purpose green wire as C wire
- ⇒ Re-purposing requires some wiring changes on the **furnace** side
- ⇒ With this option, you will not be able to use fan independently



## Wiring option 3 for Conventional Heat and/or Cool system

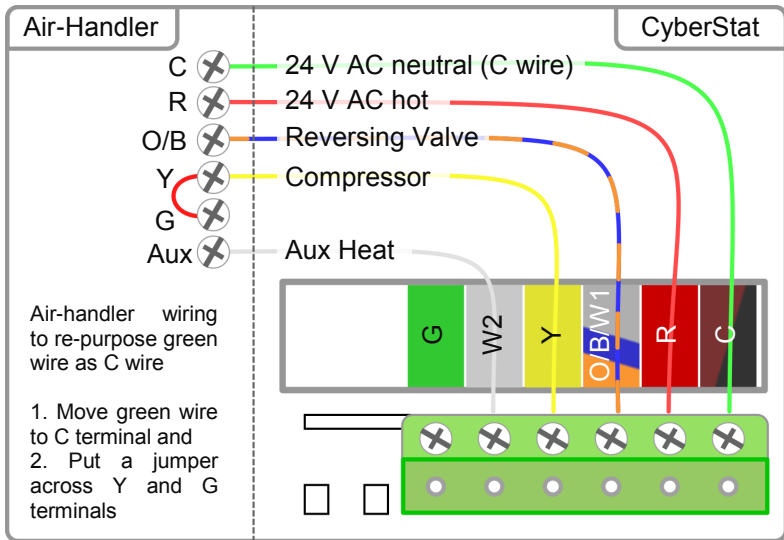
- ⇒ Use external power supply if you do not have a C wire
- ⇒ Yellow and green wires are not required for a heat-only system
- ⇒ White wire is not required for a cool-only system





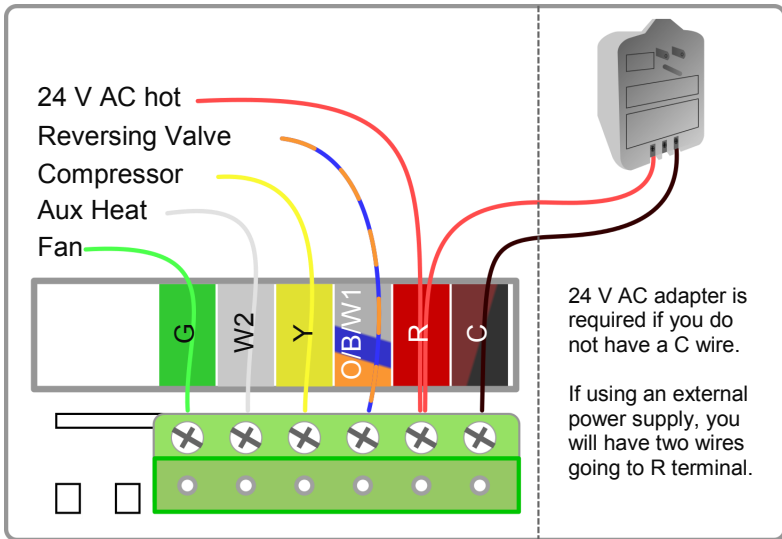
### Wiring option 1 for Heat Pump

- ⇒ Use this wiring option if you have a C wire
- ⇒ Reversing valve wire is typically orange or blue color
- ⇒ If there is a conflict between wire color and terminal name, use terminal names



### Wiring option 2 for Heat Pump

- ⇒ Use this wiring option to re-purpose green wire as C wire
- ⇒ Re-purposing requires some wiring changes on the **air-handler** side
- ⇒ With this option, you will not be able to use fan independently

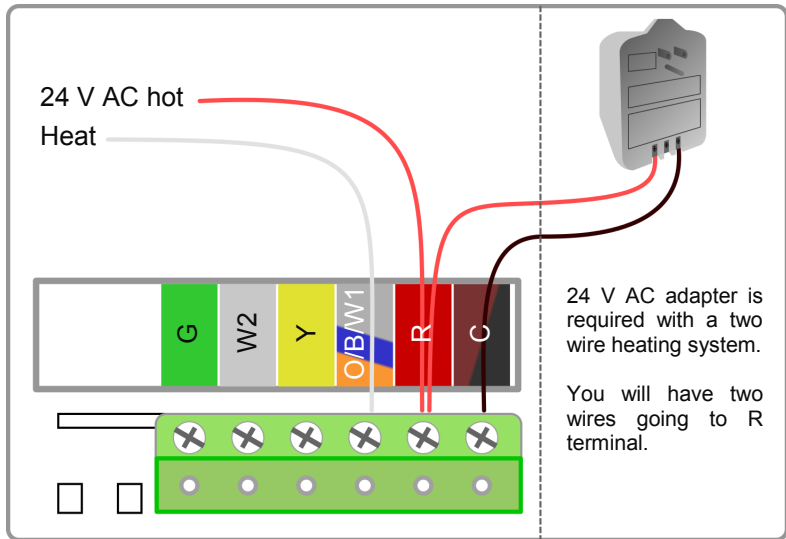


24 V AC adapter is required if you do not have a C wire.

If using an external power supply, you will have two wires going to R terminal.

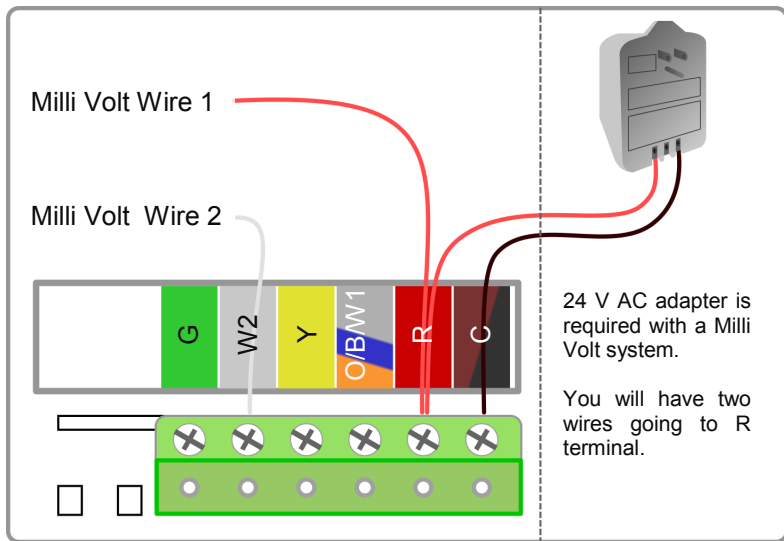
### Wiring option 3 for Heat Pump

- ⇒ Use external power supply if you do not have a C wire
- ⇒ Use Elk TRG2440 or similar transformer



## Wiring two-wire heat-only system

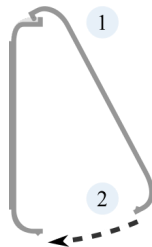
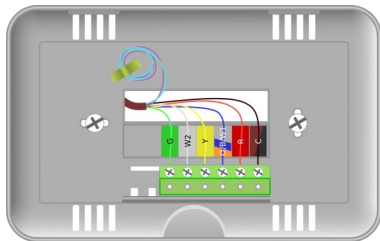
⇒ Use Elk TRG2440 or similar transformer



## Wiring Milli Volt system

- ⇒ An isolated 24 V AC transformer will not interfere with Milli Volt system
- ⇒ Use Elk TRG2440 or similar transformer

5. Trim and tape unused wires. Please do not leave unused exposed wires in the area. Tuck all wires such that they stay below the terminal level.



6. Attach the front assembly to the wall plate. First, hook the tabs on the top of front assembly to the slots on the wall plate then snap the bottom in place.

7. Turn on the power to the heating and cooling system.

8. CyberStat will now show the room temperature.

**Caution:** Turn off power to furnace/air-handler before you open its wiring panel.

**CyberStat does not power up:**

1. Touch the two leads of 24 V test lamp to R and C terminals of *CyberStat*. Be careful not to short the lamp wires. If the lamp does not light up, your C wire is not connected to C terminal on furnace or air-handler. Please note that the lamp test is useful for detecting unconnected wires. It does not detect wrong connections. A wrong connection can still produce a false positive.

2. If you had opened your furnace or air-handler panel, be sure to close it. Often there is a switch on the panel cover. This switch cuts off power when panel is open.

**CyberStat keeps resetting to 00:**

1. Make sure that C wire is connected to C terminal on furnace or air handler. If you connect C wire to any other terminal, you will not get a stable power.

2. If you do not have a C wire, you must use an external power supply. Only fan (green) or a previously-unused wire can be re-purposed or used as C wire. Any other wire that was used earlier for other purpose cannot be used as C wire.

Tip: You could also complete this step using a smart-phone, tablet or laptop computer. See Wi-Fi setup on [page 21](#).

Configure CyberStat to work with your heating/cooling System. Press **mode** and **up** buttons simultaneously to enter configuration mode.

Press **up** or **down** buttons to select a setting for current item.

Press **mode** button again to save your selection and move on to the next item. For conventional systems, there is only one configuration item to fill in. For these systems, pressing **mode** button will bring back the normal display immediately.

Use the configuration chart on the next page as a guide to select correct settings for your heating and cooling system. If you are not sure about your system, check the label on the indoor and outdoor units.

**If your heating and cooling are reversed, please double check your reversing valve settings. Also make sure that you are not using Heat Pump setting while you have a conventional system.**



Configuration item	Possible settings
H: HVAC System type	0: Heat Pump 1: Conventional <sup>1</sup> 2: Dual Fuel <sup>2</sup>
L: Reversing valve type <sup>3</sup> (applicable for heat pump only)	0: Energized for Heating 1: Energized for Cooling

1. If you have an A/C with gas furnace or heat-only or cool-only system, then select conventional.
2. If you have a Heat Pump plus a gas furnace, then select Dual Fuel.
3. For Rheem or Ruud brand heat pumps, reversing valve is energized for heating (pick 0). For most other brands, reversing valve is energized for cooling (pick 1). To verify your settings, run a *cooling* test described on the next page. Heating test is not suitable for this purpose.

Fan test – Press the **mode** button repeatedly until the fan light comes on. The fan should turn on. Note: if you have re-purposed your fan (green) wire to be used as ‘C’ wire then this test will not work.

Cooling test – Press the **mode** button repeatedly until the cool light comes on. Press the **up** or **down** buttons to select a temperature lower than the room temperature. The air conditioner should turn on.

Heating test – Press the **mode** button repeatedly until the heat light comes on. Press **up** or **down** buttons to select a temperature higher than the room temperature. The first stage heater should turn on. After some time, second stage heater (if available) should turn on.

Note: For system safety and performance, heating and cooling cannot be used back to back. Please allow at least fifteen minutes between heating and cooling tests. Power cycling *CyberStat* will overcome this time delay.

CyberStat is now ready to use. Press the **mode** button repeatedly to select an appropriate mode and the **up** or **down** buttons to set desired temperature. Operation in various modes are described below:

Auto	CyberStat automatically sets heating or cooling modes to maintain set temperature
Heat	If the room temperature goes below set temperature then the heater is turned on
Fan	Fan is turned on for air circulation
Cool	If the room temperature goes above set temperature then the air conditioner is turned on
Off	Mode indicators and the system are turned off. Wi-Fi status indicator and temperature display stay on.

More advanced features of CyberStat will become available after you setup Wi-Fi.

CyberStat can store up to with three programs for three seasons: **P1** for spring/fall, **P2** for summer and **P3** for winter. You can access and customize these programs from your computer. **P0** puts CyberStat into manual mode.

To switch between programs, press and hold **mode** button for two seconds. Then press **up** or **down** buttons to select a program suitable for the current season. New program will be effective at next scheduled point.

Overrides: Press **up** or **down** buttons to change set temperature. The settings indicator turns on when the display shows set temperature. Press **mode** button to cycle through different modes. The overrides will take effect after a ten-second delay.

In manual mode **P0**, no program is running and any change you make is permanent - it will stay there until you change it again.

In a programmed mode **P1-P3**, any change you make is temporary - it will expire at next program point and the program will resume.

1. Power Cycle CyberStat: Detach and re-attach the front cover.
2. On your laptop, tablet or smart-phone, click on the Wi-Fi icon. On the available Wi-Fi networks list, select **CyberStat**.
3. Open a web browser and type 192.168.1.3 in the address bar. If the page does not load, verify that your computer is still attached to *CyberStat* access point.
4. On the setup page, select your Wi-Fi network and enter your **wireless network's password**.
5. When Wi-Fi indicator is solid green, click on the **Activate My Device** button and follow the online directions. If the page does not load, make sure that your computer is now attached to your home network.

#### Notes:

1. It may take up to a minute to establish a Wi-Fi connection.
2. If Wi-Fi indicator does not become solid green, please start over from step 1 and repeat **all** of the steps above.

To access CyberStat from Internet (any computer, tablet or smart-phone) logon to ***thermostat.motison.com***.

**To add webapp to your home screen:**

Logon to [thermostat.motison.com](http://thermostat.motison.com) and check the “remember me” box then follow steps below specific to your device.

Apple devices:

1. Click on the arrow icon and select “Add to home screen”.

Android devices:

1. Menu → Add bookmark
2. Menu → Bookmarks → long-touch CyberStat → Add shortcut to home



**Congratulations and thank you for choosing CyberStat.** We hope that it meets or exceeds your expectations. CyberStat is specifically designed for a do-it-yourself project. Give it a try. If you ever have any problems during installation or use, please do not hesitate to contact us. We are here to help.

### **Help and Support**

Email: [support@motison.com](mailto:support@motison.com)

### **Motison International Inc.**

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