



Auto-Boost Marine Polarization Transformer

And Automatic Voltage Control

Installation and Operation Manual



The Hubbell Marine Auto-Boost voltage controller provides isolation transformer polarization between the shore power and connected vessel's electrical system. It also compensates for low voltage shore power conditions by adding a 12.5 % voltage boost when it is needed. It can be set to detect and boost low voltage upon the initial connection to the dock only, or continuously act to raise and lower the voltage as required once an hour. AC voltage is monitored and displayed on the front panel display. The Hubbell Auto-Boost is also Wi-Fi enabled allowing you to use your mobile device or computer to monitor the voltage, plus control of the boost function manually. The Hubbell Auto-Boost can be its own Wi-Fi Access Point or connect to the vessel's existing Wi-Fi network for server-based reporting both on the vessel locally and on the Cloud.

The Hubbell Auto-Boost can pre-select the level that voltage boost occurs via the programming menu.





NOTE: As a precaution, input voltages over 225V inhibit the Manual boost feature.

NOTE: A “D Curve” circuit breaker is highly recommended for transformer installations to mitigate high inrush current from tripping the breaker.

The Main Unit is mounted inside the transformer case on a DIN rail. The Remote Control Unit can be mounted up to 32 feet away for ease of operation.

Note the front panel controls:



1. There are 4 buttons on the Remote Control Front Panel:

1.  Manually activates the boost function if unit is in Manual Mode.
2.  Selects Automatic or Manual voltage boost.
3.  Is used only in Programming Mode and Help Pages and selects menu parameters.
4.  Is used only in Programming Mode and selects main menu choices or enters “Help” mode if pressed by itself.


2. Set AUTO or MANUAL mode

The “MAN/AUTO” indication seen at the upper left of the display should normally default to "AUTO" on power-up. “AUTO” mode operates based on whether you have selected “Static” or “Dynamic” boost as defined in the programming menu. “Static” Mode acts to boost upon initial power-up only, whereas “Dynamic” Mode (default) acts continuously to boost and un-boost as needed once a minute. To manually control the boost function, press the MAN/AUTO button once to place unit in the "MANUAL" mode. The display will switch from “AUTO” to “MAN”. Press “Boost” button to manually boost voltage. Press “MAN/AUTO” again to return to “AUTO” mode. In “AUTO” mode and in “Dynamic” boost mode, the incoming voltage must be below the selected boost threshold voltage for more than **30 seconds** before boost mode will activate. This is to keep momentary voltage fluctuations from needlessly changing vessel voltage. The voltage must also be above the chosen boost threshold for over **5 seconds** before the unit will automatically un-boost again to prevent momentary voltage changes from activating the boost function. **Note:** The unit will not manually or automatically boost if the incoming voltage exceeds 225V AC. This is intentionally done to prevent an overvoltage condition from occurring.

3. Initial Configuration:

To enter Programming Mode, simultaneously press the 2 buttons on the right  "Up Arrow" and  "Menu" until "Programming Mode" appears in the display.





Use the  Menu button to choose menu item to change. They are:

1. Boost Threshold. Voltage to automatically boost at: 190V, 195V, 200V, 205V, 210V, 215V and 220V.
2. Wi-Fi: 1. "Wi-Fi Off" turns Wi-Fi features off. 2. "Wi-Fi AP" turns on internal Wi-Fi Access Point. (Connects directly to the Hubbell Auto-Boost access point) 3. "Wi-Fi Client" connects the Hubbell Auto-Boost to the vessel's existing Wi-Fi Network.

To set the Auto-Boost to connect to your vessel's Wi-Fi Router, set the unit to "Wi-Fi AP" and browse to <http://192.168.0.1>. The Hubbell Auto-Boost control page will appear. At the bottom of the page is a link to "Wi-Fi Setup" to set up Wi-Fi Credentials of your vessel's Wi-Fi Router. Press "Scan" to show nearby Wi-Fi connections. Select your desired hotspot and enter a password if needed, then press "Connect". After setting Wi-Fi up, go back to Programming Mode again and set Wi-Fi to "Wi-Fi CL", which is "Wi-Fi Client. The unit will reboot and connect to your vessel's Wi-Fi connection. Press **far** right "Help" button to show the IP address and name of the Wi-Fi connection. 4. **NOTE:** "Wi-Fi Spare" is reserved for future use.


3. Temperature in Degrees F or C: Selects Fahrenheit or Celsius for transformer temperature reading.
4. Vin CAL: Calibrates the input voltage reading. To calibrate, read the input voltage to the transformer with a calibrated voltmeter and adjust Vin to match the meter. Use "Up Arrow" to increment the value, then press the "Boost" button to store the value. The unit will then reboot.

5. Vout CAL: Calibrates the transformer output voltage reading during Boost Mode. To calibrate, place the unit in Boost Mode, read the transformer output with a calibrated voltmeter and calibrate Vout to match the meter. Use “Up Arrow” to increment the value, then press the “Boost” button to store the new value. The unit will then reboot.
6. T CAL: Calibrates the temperature reading. Use “Up Arrow” to increment value.
7. Static/Dynamic: Selects if unit will monitor low voltage at 1 minute intervals (Dynamic Mode), or on power-up only (Static Mode).




Use the  Up Arrow button to scroll to the desired parameter of your menu selection and press  to store the setting and leave Programming Mode. The unit will then reboot.

NOTE: You must store each individual parameter you are changing with the ‘Boost’ button and allow it to reboot each time. “Boost” only saves the parameter you are currently accessing in the Programming Pages.

For instance, adjust “Vin CAL” and hit “Boost” to store, then calibrate “Vout CAL” and press “Boost” to store, and so on, one function at a time.

Press  Man/Auto to escape Programming Mode without setting new data.

Help Menu:

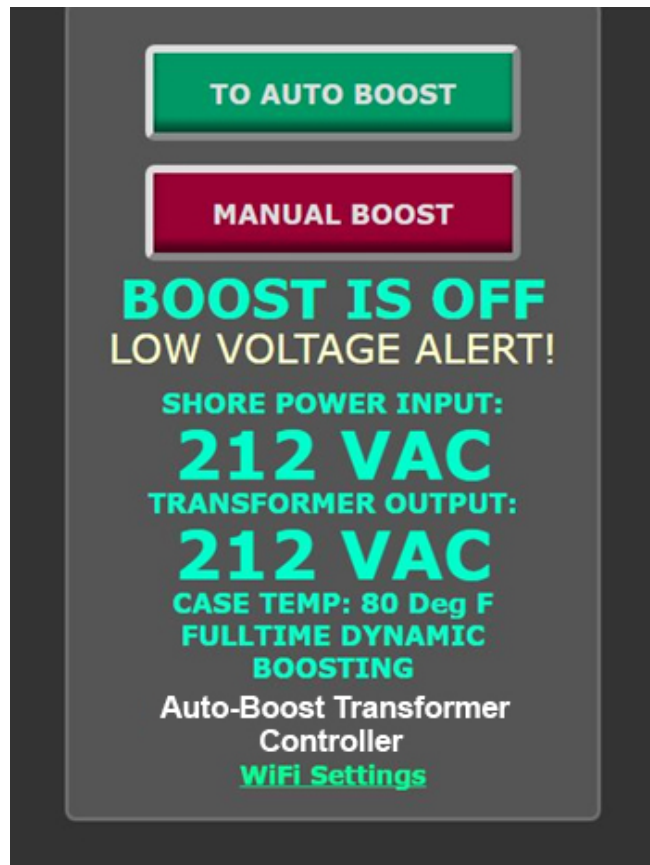
Press the  button once to enter the Help Pages. Use the  button to scroll through the Pages. Press  again to exit the Help Pages. The Help Pages cover the basic functions of the Auto-Boost.

Front Panel LED:

The Remote Control front panel has an LED Indicator to the left of the Display. It illuminates Yellow when boosting voltage. It also has a flashing Red “Low Voltage” indicator when not boosting and when you are in a low voltage range. The Web Interface also signals “Low Voltage” on the browser page when unit is not in boost mode and the shore power voltage is low.

4. After initial setup, connect to Wi-fi.

- If you selected “Wi-Fi AP” in the programming menu, search for an access point named “Auto-Boost” among the nearby hotspots. “1122334455” is the default password. Connect to this access point.
- Open your browser and type <http://192.168.0.1>
- You should see this page:



- Voltage and current readings are visible as well as the transformer case temperature. You may also control the transformer boost feature when in “Manual” mode.
- At the bottom of this page is a link to “Wi-Fi Settings”. There you can setup the Wi-Fi credentials as shown in the following illustration.

Nauti-Tech Systems

Not secure | 192.168.0.1/wifi.html

Auto-Boost Wi-Fi Setup Page

Use these settings in 'WiFi AP' mode:

Change This Access Point Name
ie: "Shore Pwr"

Set New SSID

Change This Access Point Password
Must be more than 8 characters.

Re-Type Password:

Set New Password

Unit will reboot after SSID or Password change. You must reconnect to this WiFi again using your new credentials.

Nauti-Portal IP:

Set New IP

Scan for Available WiFi Networks to use in WiFi 'Client' or 'Cloud' mode, Browse to IP Address in Help Page after connecting:

Re-Scan

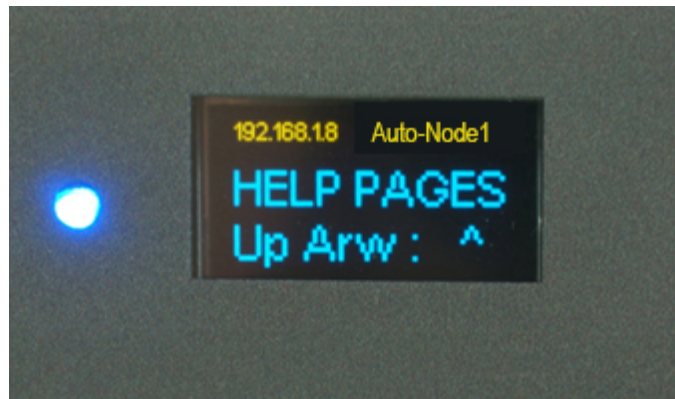
- ☐ GetYourOwn
- ☐ Nauti Internet
- ☐ EPLEX LINK
- ☐ Nauti-Node1

- The top field is available to change the SSID (Wi-Fi name) from the default of “Auto-Boost” to another name of your choice. “Set new SSID” will save your changes and reboot. Reconnect to the new SSID (Wi-Fi name) afterward.
- The next field is available to change the default password to your own. After being asked to confirm it, pressing “Set New Password” will save your changes and reboot. Reconnect using new password.
- If you need to reset the unit to Default Settings, Press all 4 front panel buttons at once and you will reset Wi-Fi Access Point to “Auto-Boost” with “1122334455” as the default password.

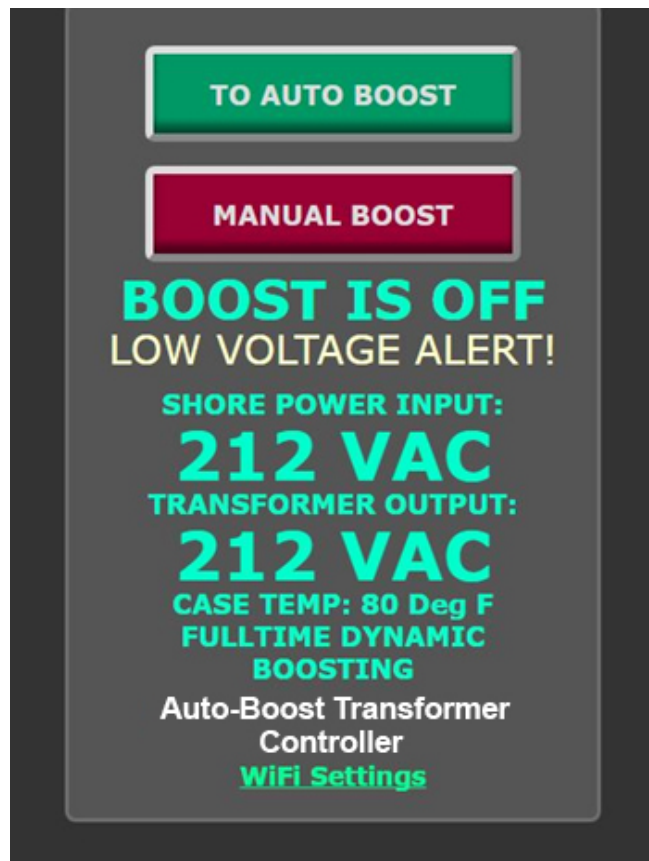
This concludes the “Wi-Fi AP” setup instructions. If you would like to connect to the vessel’s existing Wi-Fi network instead, the settings are at the lower end of the Wi-Fi Setup Page. Follow the instructions on the next page.

- Stay in “Wi-Fi AP” and on this page for now. Press the “Scan” button to show nearby Wi-Fi spots. Select your desired hotspot and enter the correct password. It will enter this new setting, but you will not be connected until you go into the Programming Menu and select “Wi-Fi Client” and save your setting by pressing the “Boost” button.

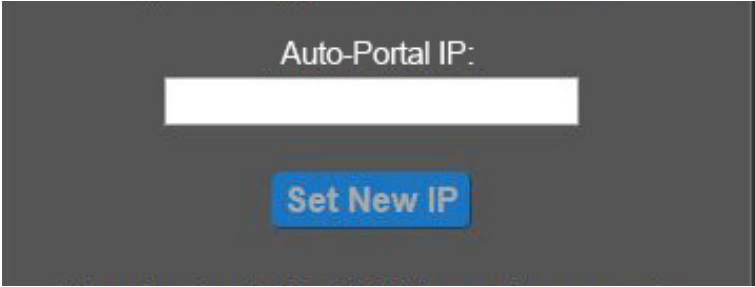
The unit will then reboot and connect to the vessel's Wi-Fi network. Press the "Menu" button to enter the Help Pages. At the top will be your IP Address and SSID name you are connected to.



- Open a browser on a device connected to the same network as the Auto-Boost and type <http://192.168.xxx.xxx> as indicated on the above display. You should see a page much like the previous page in "Wi-Fi AP" mode:



- This page should be available throughout the entire vessel's Wi-Fi range or where any wired network connections exist. In addition, data can be sent from your Hubbell Auto-Boost to a central data server on the vessel.
- Back in "Wi-Fi AP" mode, and on the Wi-Fi setup page, there is a field for the IP address of the server. Default is <http://192.168.1.10> , however you may change it by entering a new IP address in the server field and pressing "Set New IP":



Auto-Portal IP:

[Set New IP](#)

- After setting the IP Address to the correct Portal IP, the Hubbell Auto-Boost will send updates once a minute to the local server.

Live Vessel Data:

AC Volts: 224	Degre 72F
AC Amps: 25	Raw I 22
Boost Status: Normal	Raw I 22
Temperature: 73F	Read
Read more	

- This monitoring feature is purely optional and is not needed for full and proper operation. However, integration of all vessel devices into a common portal provides distinct monitoring advantages. This information is also periodically relayed to a cloud based server that persons on shore can easily access to monitor the vessel's vital signs at all times.

INSTALLATION INSTRUCTIONS:

Precautions

- **READ AND FOLLOW ALL SAFETY INSTRUCTIONS. SAVE THESE INSTRUCTIONS.**
- **CAUTION - RISK OF ELECTRICAL SHOCK.** To prevent electrical shock, turn OFF power at the circuit breaker before installing or servicing the unit. Never wire energized electrical components.
- **NOTICE:** For installation by a qualified technician only, in accordance with the American Boat and Yacht Council (ABYC) E-11 Standard, AC and DC Electrical Systems on Boats and the following instructions.
- Be sure to read and understand all instructions before installing or servicing the unit.
- For marine vessel use only. Do not install outdoors.
- The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
- Confirm that device and complete system ratings are suitable for the application prior to installation.
- There are no user serviceable parts contained inside the auto-boost modules. Refer all service related questions to the factory.
- Any and all servicing shall be performed by qualified service personnel.
- Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
- Use only materials and components approved for marine electrical installations.
- **NOTICE:** Do not install if product appears to be damaged.
- Do not use this equipment for other than intended use. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Remote Control Unit Installation

- Install the Remote Control Unit in a convenient, dry location up to 32' away from the Main Unit. **NOTE:** The actual distance from the Main Unit will be determined by the maximum extended length of the interconnecting cable, so lay out the cable carefully, taking into account any bends the cable will need to make before installing the Remote unit.
- Connect the cable between the Remote Control Unit and Main Module.
- Follow the programming instructions that have been detailed in this manual. If you have any questions or need additional technical support, please feel free to contact us at:

Transformer Input and Output Connections

- The transformer must be installed according to the installation instructions provided with the transformer.
- Connect the input and output wires to the corresponding positions on the terminal block inside the transformer. Tighten the terminal block screws to 28 to 33 in/lbs. (3.2 to 3.7Nm)
- Connect the ground leads to the ground lug inside the transformer.