



# Installation (continued)

If the feed wires are from the shore power inlet or the electrical attachment point of a permanently installed shore power cord and the inlet or attachment point is more than 10 feet from this panel, an additional fuses or circuit breakers must be installed within 10 feet of the shore power inlet. The measurement is made along the conductors.

## 5. Installation of Backlight System

The backlight board is a DC device. When installing it in an AC panel both wire leads must be connected to an appropriate DC source and ground.

Connect the yellow negative wire to a DC ground. Connect the red positive wire to any DC positive supply, usually a switch that controls the vessel's other nighttime illumination.

## 6. Apply branch circuit labels and mount panel

Apply a label for each of the branch circuits from the 30 basic labels provided. If the appropriate label is not included, the Extended Label Set of 120 labels may be ordered from your marine supplier (PN 8067). Individual labels are also available from Blue Sea Systems for specific applications. Refer to the label order form for a complete listing of individual labels.

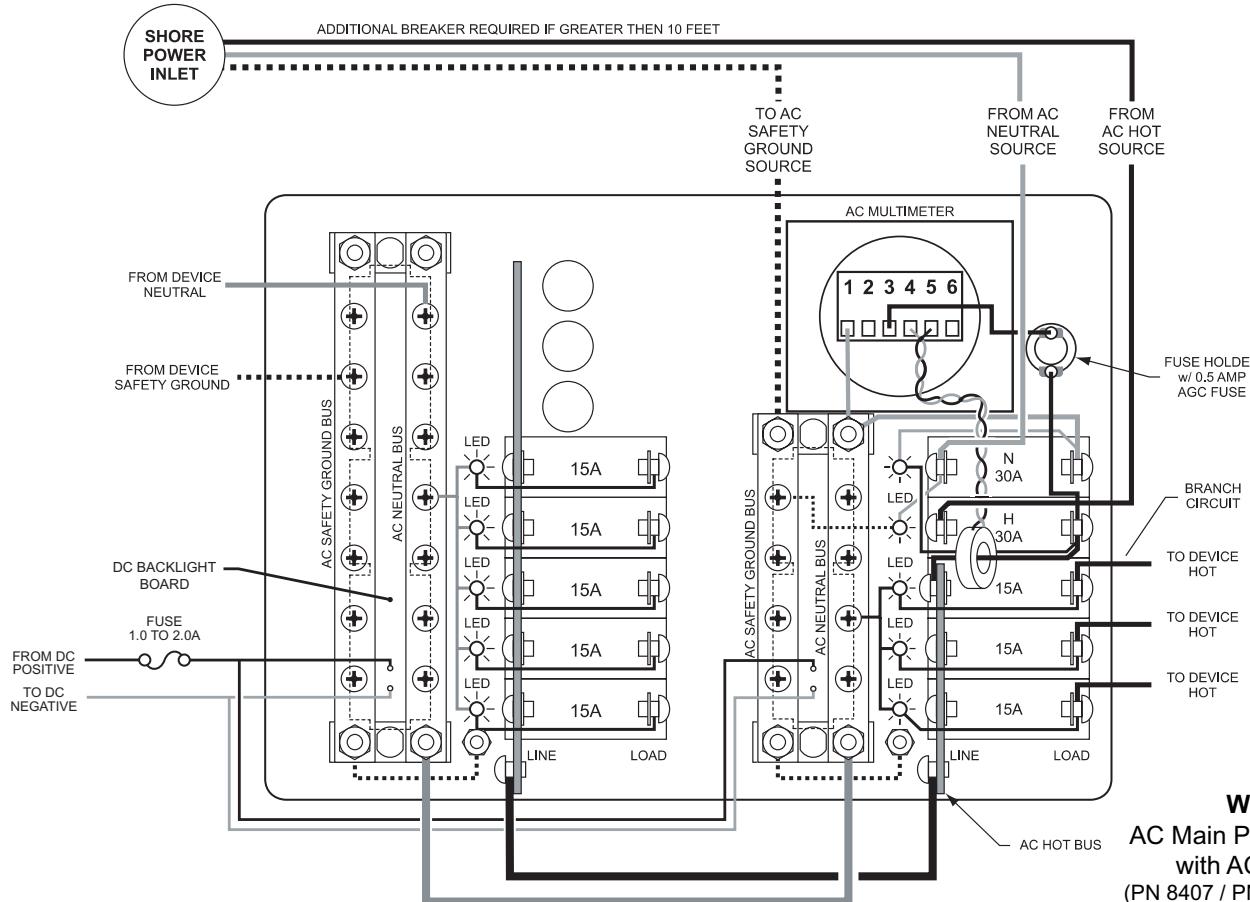
Fasten the panel to the mounting surface using the panel mounting screws supplied with the panel.

## 7. Testing

- Connect the vessel's shore power and verify the Reverse Polarity light is not illuminated. If the red Reverse Polarity light is on then either the hot and ground or the hot and neutral wires have been crossed. Starting at the panel, trace the connections back as far as necessary to locate the error.
- Using a multimeter where the power source is connected to the panel verify:
  - a. 120 volts between hot and neutral  
(nominal, this may vary depending on source voltage)
  - b. 120 volts between hot and ground.
  - c. 0 volts between neutral and ground.

PN 8405/3405/8406/3406/8407/3407/8472/3472/8487/3487-120 Volt AC

- a. 120 volts between hot and neutral  
(nominal, this may vary depending on source voltage)
- b. 120 volts between hot and ground.
- c. 0 volts between neutral and ground.



PN 8505/3505/8506/3506/8507/3507/8572/3572/8587/3587-230 Volt AC

- a. 230 volts between hot and neutral  
(nominal, this may vary depending on source voltage)
  - b. 230 volts between hot and ground.
  - c. 0 volts between neutral and ground.
- Turn on each branch circuit to verify power to each circuit.
  - Review the meter installation and operation manual. Reference the Theory of Operation, Use, Installation Overview and operations sections. Verify meter functions.

## Optional Branch LED's

This Panel is supplied with LED's pre-installed in all optional branch positions. For future expansion of the panel remove the hot leg of the LED from the AC Neutral Bus and connect it to the Load side of the branch circuit breaker.

## Note

All Blue Sea Systems' AC electrical distribution panels are furnished with 15 amp or 8 amp circuit breakers for branch circuits. 15 amp circuit breakers are used in all 120 volt panels and 8 amp circuit breakers are used in all 230 volt panels. These ratings were selected to minimize the need for removing the panel's circuit breakers and reinstalling different size circuit breakers. It is very rare to have more than this amount of current flowing in any one circuit. Therefore, these circuit breakers will satisfy the vast majority of marine circuit protection situations.

## The Purpose of a Panel

There are six purposes of a marine electrical panel:

- Power distribution
- Circuit (wire) protection
- Circuit ON/OFF switching
- Reverse Polarity Indication
- Metering of voltage and amperage (In panels with meters)
- Condition Indication (circuit energized)

## Applicable Standards

- American Boat and Yacht Council (ABYC) Standards and Recommended Practices for Small Craft sections: E-1, E-3, E-9.
- United States Coast Guard 33 CFR Sub Part 1, Electrical Systems.

**Wiring Diagram**

AC Main Power Distribution Panel  
with AC Digital Multimeter  
(PN 8407 / PN 3407 shown for reference)