AC DELUXE PANELS INSTALLATION

Thank you for your purchase of a Microlog Technologies product..

Panel Specifications:

Material: 0.125" 6061-T6 Aluminum Alloy
Panel Finish: Black powder Epoxy
Voltage Rating: 120 VAC
Amperage Rating: Bus Bars: 100A
One double-pole 30 Ampere (or optional 50A) AC A-Series main circuit breaker
up to 6 or 10 / 15 Ampere A-Series branch circuit breakers
(installed according to American Boat and Yacht Council (ABYC) Standards and Recommended Practices for Small Craft sections: E-1, E-3, E-9).
Deluxe panels have Identification LEDs on each circuits.
Overall Dimensions: 8AC-D: 7.5" x 5", 19.05cm x 12.7cm ; 12AC-D: 10.5" x 5", 26.67cm x 12.7cm

WARNING

It is not possible within the scope of these instructions to fully acquaint the installer with all the knowledge of electrical systems that may be necessary to correctly install this product. If the installer is not knowledgeable in electrical systems we strongly recommend that an electrical professional be retained to make the installation. If either the panel front or back is to be exposed to water it must be protected with a waterproof shield.
The panels must not be installed in explosive environments such as gas engine rooms or battery compartments as the circuit breakers are not ignition proof.
The vessel's shore power cord must be disconnected form shoreside power before installing this electrical panel. If an inverter is installed on the vessel its power leads must be disconnected at the battery before the panel installation. Be aware that many inverters have a "sleep mode" in which their voltage potential may not be detectable with measuring equipment. If an AC Generator is installed aboard it must be stopped and rendered inoperable before the panel is installed.
Verify that no other AC source is connected to the vessels' wiring before the panel is installed.

INSTALLATION

1- Verify that the standard circuit breakers installed in the panel are correct for each branch circuit. Remove and replace any that are incorrectly sized. The circuit breaker must have a rating less than the allowable amperage of the wire, yet greater than the circuit's continuous current. Remove breakers holding bars to install extra breakers you ordered. Replace bars.

2- Disconnect all AC power originating on or off the vessel. This includes inverters, generators, shore power attachments and any other device capable of supplying AC power to the ship's circuits. Disconnect the main positive DC from all batteries to eliminate the possibility of a short circuit and disable the inverter while installing the distribution panel.

3- Select mounting location. If this panel is to serve as your main shore power disconnect circuit breaker, select a location which is not more then 10 feet from the shore power inlet or the electrical attachment point of a permanently installed shore power cord as measured along the conductors of the feed wires. If it is more then 10 feet, additional fuses or circuit breakers must be installed within 10 feet of the shore power inlet, according to ABYC.
The mounting location should protected from water and is not in an area where flammable vapors from propane, gasoline or lead acid batteries accumulate. The circuit breakers used in marine electrical panels are not ignition protected and may ignite such vapors. Ac Panels should be protected from contact with metal objects or persons with a back insulating panel made of wood or plastic.

4-Cut opening using the panel template provided, in the mounting surface where the distribution panel is to be mounted. Do not fasten the panel to the mounting surface yet.

5- Install branch circuit wires
Determine the proper wire size for each branch circuit using the chart:

(AWG)	Outside Engine Spaces	Inside Engine Spaces	Safe Recommended
16	25.0	21.3	13
14	35.0	29.8	18
12	45.0	38.3	22
10	60.0	51.0	30
8	80.0	68.0	40
6	120.0	102.0	60

Allowable Amperage of 105°C insulation conductors

Connect each branch circuit hot (black) to the appropriate load terminal. Connect each branch circuit neutral (white) to one of the screws on the neutral bus. Connect each branch safety ground wire (green) to one of the screws of the safety ground bus. DO NOT ATTATCH ANYTHING ON LED'S WIRES.

Do not confuse the neutral current carrying wires (sometimes called ground) with the green normally non current carrying wires (sometimes called grounding). These two wires SHOULD NOT be connected together. Do not confuse the AC HOT current carrying wires (BLACK) with DC NEGATIVES (BLACK) when connecting to panel or Bus Bars.

6- Install the feed wires from the shore power inlet or other AC source, referring to the wire sizing chart to select the correct wire size. Connect the black AC hot, white AC neutral and green AC safety ground as shown in the illustration. 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 then 10 feet from this panel, an additional fuses or circuit breakers must be installed within 10 feet of the shore power inlet according to ABYC rules..

7- Apply a label for each of the branch circuits from the 30 basic labels provided. Top Label is the AC source. Second one, across Red LED, is "REVERSE POLARITY".

8- Fasten the panel to the mounting surface using the panel mounting screws supplied with the panel. Do not tighten panel screws too much..

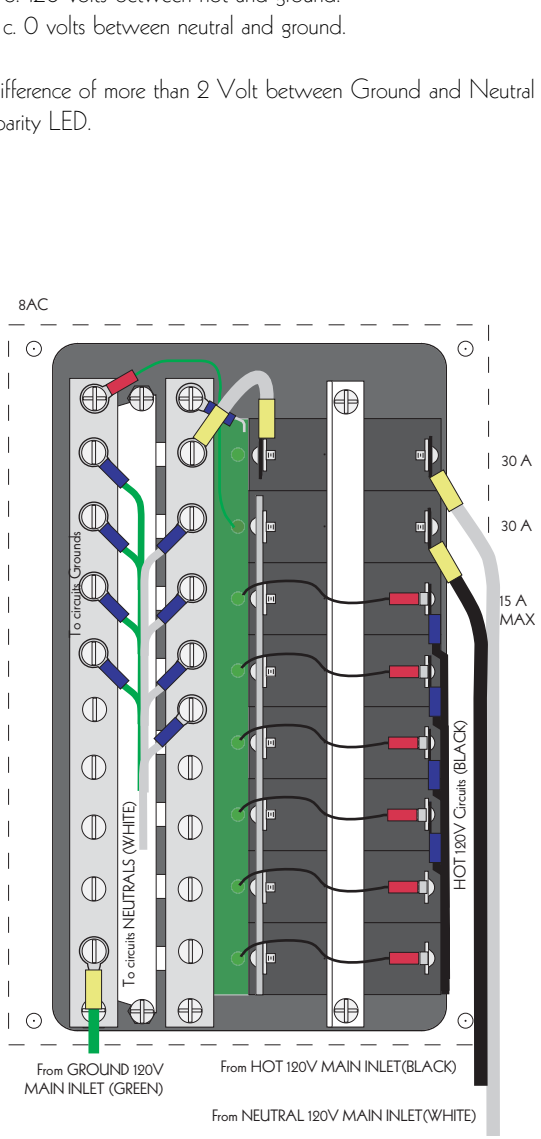
9- Connect the vessel's shore power and verify the Reverse Polarity light is not illuminated. Turn on each branch circuit to verify power to each circuit.

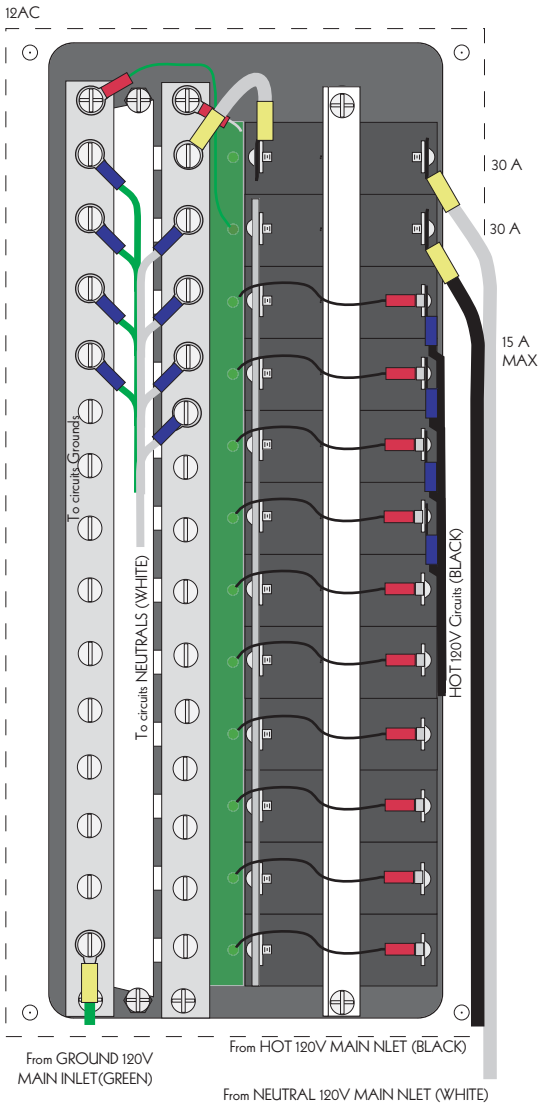
TROUBLESHOOTING

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 to the marina power outlet to locate the error.
Using a multimeter where the power source is connected to the panel verify the Voltages:

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.

Note:: a difference of more than 2 Volt between Ground and Neutral may lit the Reverse Ploarity LED.





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