

## ELECTRICAL REQUIREMENTS

### ELECTRICIAN MUST READ THE FOLLOWING INFORMATION PRIOR TO INSTALLATION.

Electrical connections made improperly, or the use of wire gauge sizes for incoming power which are too small, may continually blow fuses in the electrical equipment support box, may damage the internal electrical controls and components, may be unsafe and in any case will void the spa warranty.

It is the responsibility of the hot tub spa owner to ensure that electrical connections are made by a qualified electrician in accordance with the National Electrical Code and any local and state electrical codes in force at the time of installation.

## IMPORTANT !!

### ALL EQUIPMENT MODELS ARE 120/240 VOLT, 60 CYCLE FOR STATE-SIDE, U.S. INSTALLATIONS, AND 50 HZ FOR EXPORT, CE, INSTALLATIONS.

All hot tubs must be permanently connected.

All hot tub support systems are multiple supply circuits.

All hot tub systems require the installation of a ground fault circuit interrupter (GFCI) protector or equivalent; (RCD, for export installs), at the power source (NOT SUPPLIED BY PDC SPAS) by a qualified electrician in accordance with all codes and regulations. Refer to typical GFCI installation photos and illustrations on the following pages.

Prior to each use, testing of the GFCI (or equivalent RCD) is required! Refer to the maintenance section of this manual for instructions

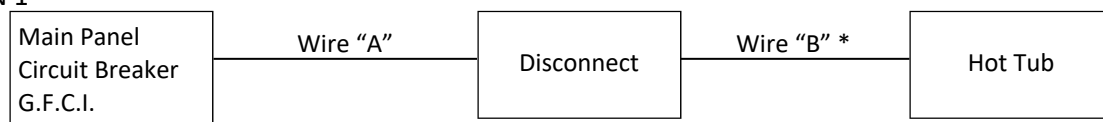
**All hot tub support equipment must be bonded (grounded) to the pressure connector located within the control support box as well as the outside of the control support box. (see wiring schematic below and references on following pages)**

Disconnect all electrical supplies and contact a qualified technician before servicing.

All hot tub installations are to be performed by a licensed electrician and in accordance with all local and national codes.

### Hot Tub Wiring Schematic for Certified Electricians' Reference Only

**OPTION 1**



**Option 2**



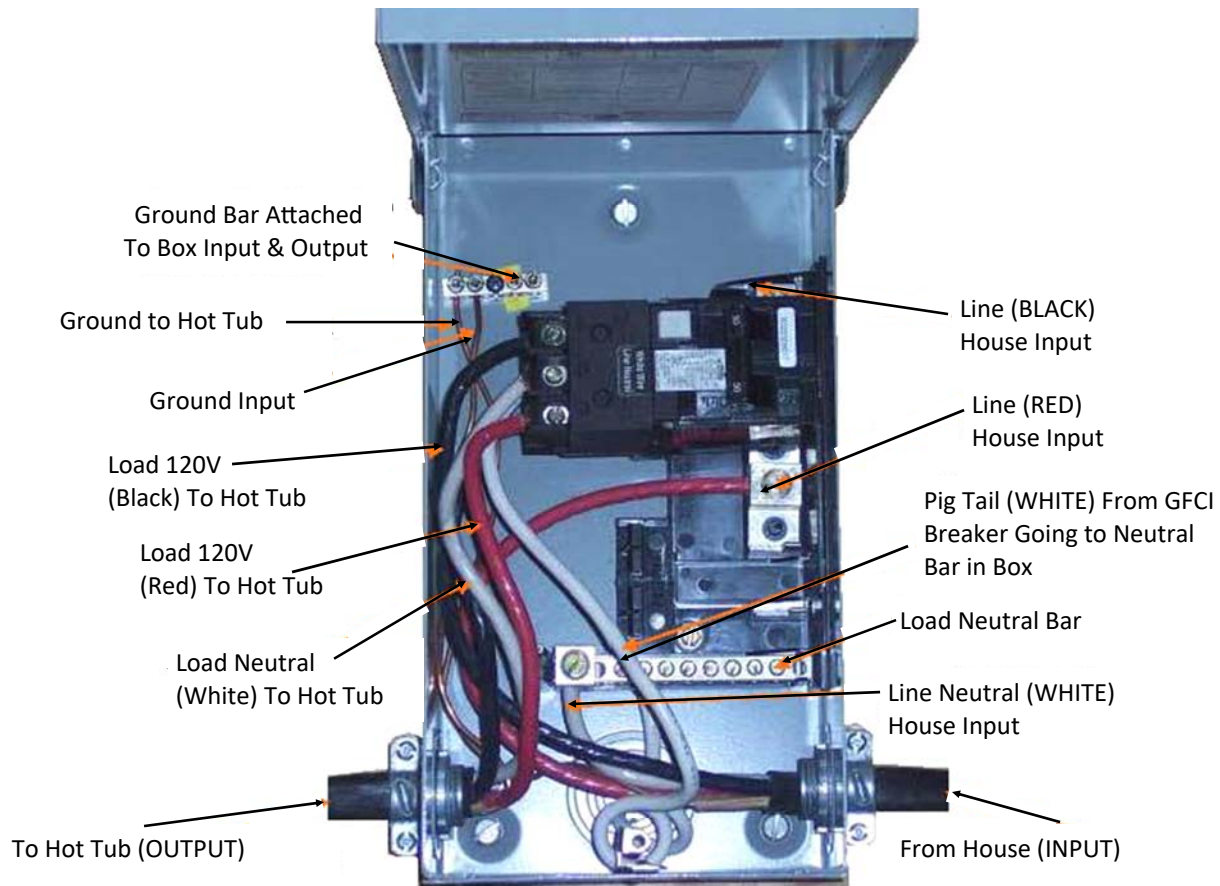
\* National U.S. code recommends distance not to exceed 15 ft.

**ATTENTION ELECTRICIAN:**

All PDC Hot Tub Units must be installed with an approved G.F.C.I. in accordance with all applicable codes. Installation of G.F.C.I. varies among those manufacturers. Follow each manufacturer’s guidelines to ensure proper operation and protection of hot tub occupants. This diagram is a “Typical” installation to be used only as a reference for the installing electrician. PDC does not supply the GFCI breaker. It is recommended to NOT use Eaton-Cutler Hammer brand.

**IMPORTANT:** 6 Gauge Copper Wire MUST Be Used.  
 Never Use Aluminum Wire.  
 Test GFCI Monthly and Prior to Each Use.

Typical Installation Breaker Box  
 Class A 50 amp, 120/240 volt, GFCI



**TO BE NOTED:** Installation of this GFCI Circuit Breaker, including ampere sizing and choice of wire must be made by a qualified electrician, in accordance with the National Electrical Code, and all applicable federal, state and local codes and regulations in effect at the time of installation.

**TO BE NOTED:** The white neutral wire from the back of the GFCI Circuit Breaker MUST be connected to an incoming Line Neutral. The internal mechanism of the GFCI requires this Neutral connection for proper GFCI function.

**FOR QUALIFIED ELECTRICIAN REFERENCE ONLY!**

All installations and connections are to be performed by a qualified, licensed electrician only and in accordance with the National electric code and all applicable local regulations.  
Ensure power is turned off prior to making any electrical connections.

**ATTENTION ELECTRICIAN:**



**WARNING!**

All hot tub units must be installed with a Class A 50 Amp Ground Fault Circuit Interrupter (not supplied) in accordance with the National Electric Code and all applicable local codes. Installation of GFCI varies among those manufacturers. Follow each manufacturer's guidelines to ensure proper operation and protection of spa occupants.

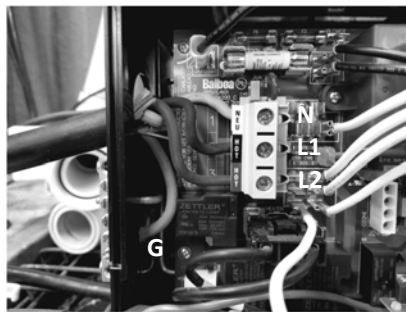
**IMPORTANT: 6 Gauge Copper Wire MUST Be Used.**  
**Never use Aluminum Wire!!**  
**Test GFCI Monthly and Prior to Each Use.**

Correct wiring of the electrical service box, GFCI and pack terminal block is essential.

Contacting a qualified electrician may be necessary.

\*If connected to a 3 wire system, no 240V component will operate.

**240V (4 wires)**



- To install the wiring for the spa equipment controller, a Phillips screwdriver and a flat screwdriver will be needed.
- Loosen the 3 screws of the spa pack lid and open it. Remove 70 mm (3") of cable insulation. Strip away 25 mm (1/2") of each wire insulation.
- Pull the cable through the cutout of the box and use an IEC certified plastic bushing that will maintain the IPX5 rating.
- The power cord must be in accordance with the national electrical code of the country in which it's to be installed and must maintain IPX5 rating. Make sure that only the uncut sheathing is clamped at this opening.
- Push the color-coded wires into the terminals as indicated on the sticker, use the flat screwdriver to tighten the bolts on the terminals.
- After making sure wire connections are secure, push them back into the box and close the lid.
- Tighten the 3 screws of the spa pack lid.

**FOR QUALIFIED ELECTRICIAN REFERENCE ONLY!**

All installations and connections are to be performed by a qualified, licensed electrician only and in accordance with all applicable local regulations. Identify the correct CE platform on the spa unit, in accordance with the home’s electrical output and follow the guidelines below.  
**ENSURE POWER IS TURNED OFF PRIOR TO MAKING ANY ELECTRICAL CONNECTIONS.**

**ATTENTION ELECTRICIAN:**

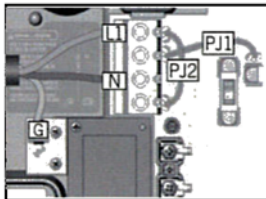


**WARNING!**

All hot tub units must be connected to a circuit protected by a residual current device (RCD) having a rated operating residual-current not exceeding 30 mA (not supplied). Proper wiring of the electrical service box, RCD and the terminal block is essential! Check your electrical code for all regulations that apply.

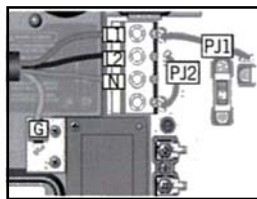
**IMPORTANT: Only Copper Wire MUST Be Used**  
**Never use Aluminum Wire!!**  
**Test RCD Monthly and Prior to Each Use.**

**1-Phase**



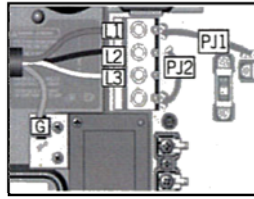
Connect PJ1 between P7 and P13.  
 Connect PJ2 between P10 and P74.

**2-Phases with single neutral**



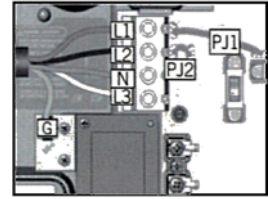
Connect PJ1 between P7 and P10.  
 Connect PJ2 between P13 and P74.

**3-Phases Delta**



Connect PJ1 between P7 and P10.  
 Connect PJ2 between P13 and P74.

**3-Phases with single neutral**



Connect PJ1 between P7 and P10.  
 Connect PJ2 between P11 and P13.

- Disconnect power before starting electrical work!
- To complete the electrical connections, you will need a Phillips screwdriver and flat-head screwdriver.
- Remove the screws from the system control lid and remove it.
- Strip away 5 1/2" (142 mm) of cable insulation. Strip away 1" (25 mm) of insulation from each wire.
- Pull the cable through the cutout of the box and secure it with a NPT strain relief (hole diameter 1,335" - 34,42 mm). For CE use an IEC certified plastic bushing that will maintain the IPX5 rating. Ensure the NPT strain relief clamps around the outer sheath of the cable.
- Insert each wire into the appropriate socket of the main entry terminal block according to the color code indicated on the sticker. Use a flat-head screwdriver to tighten the screws on the terminal.
- After making sure wires are securely connected, push them back into the box and replace the cover. Do not over-tighten cover screws (torque to 8 in. lb max (0.9 N.m)).
- Connect the bonding conductor to the bonding lug on the front of the spa pack (a grounded electrode conductor should be used to connect the equipment grounding conductors).

Electrical connections should be made only by qualified personnel and in accordance with local regulations.