

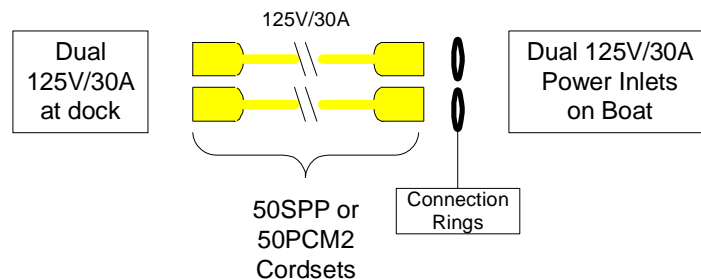
Sure Power!

By Robert Janger

Sometimes you have to shop for a marina that has a shore power connection for your boat, but most likely it's the other way around: you have to shop for connectors that will allow you to safely connect the marina's shore power to your boat. In this article I talk about all those yellow or white "things" (otherwise known as cordsets), what those little black rings are for, a few variations on connections, and sprinkle in some safety tips for good measure.

125V/30A Service

If you have alternating current (AC) 30 amp electrical service on your boat, life is fairly simple.



Most marinas in the U.S. can provide at least a single, and in most cases a dual, 125V/30A shore power connection. Simply connect the cordset (that would be the yellow "thingy" that sometimes comes in white) to both the AC service at the dock and the power inlet on the boat.

Connection steps:

1. Turn off the boat's battery charger switch on the AC electrical panel.
2. Turn off the boat's shore connection switch.
3. Turn off the dock's breaker switch.
4. Connect the shore-power cable at the boat.
5. If equipped, check polarity warning indicator. Disconnect immediately if activated.
6. Connect the shore-power cable at the dock.
7. Turn on the dock's breaker switch.
8. Turn on the boat's shore connection switch.
9. Turn on the boat's battery charger switch on the electrical panel.

When disconnecting, turn off the dock's breaker switch and disconnect the shore-power cable at the shore outlet first.

What about those little black rings, called connector rings or sealing rings? They come in two flavors, threaded and twist-lock. Along with something called a sealing collar, they can (and should) be used to join cordsets to cordsets, cordsets to adapters and either of

those to the boat's power inlet. They help keep the water out but most importantly, they keep connections from moving around.

Boat Power Inlet

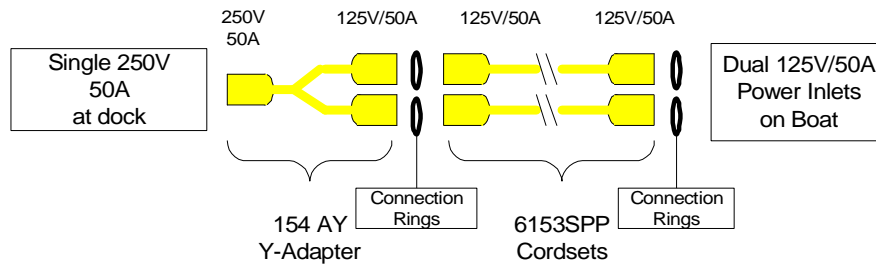
While we're on the subject, let's talk about boat power inlets. Boats move around, vibrate and take a pounding in rough water. Two of the most common causes of overheating in electrical wiring are loose or corroded connections. This can result in loss of equipment, loss of boat or loss of life. Personally, I don't think any of those are good options.

Whether you do it yourself or have your boatyard, mechanic or electrician do it, you owe it to yourself to check the boat's power inlets at least once each year. Just add this to the Spring Commissioning checklist. And I'm not talking about just looking at the inlet. I'm talking about removing the screws that hold the inlet to the hull, pulling the connector out, inspecting the connections, tightening the connections and re-installing the inlet on the hull. It might just save your life.

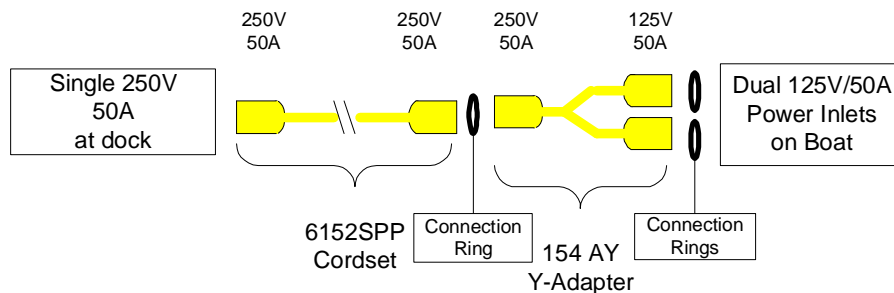
125V/250V 50A Service

Larger boats have more space to install more creature comfort appliances and with that come the need for more power to run it all.

The dealer/broker/owner probably threw in a couple of cordsets for your boat but chances are that when you got to your home marina, it didn't match up. Enter the world of adapters.



This diagram shows the traditional hook-up from a 250V/50A shore-power connection to your boat via a Y-Adapter and a couple of cordsets. I see this kind of thing a lot now, as it seems almost everyone is moving up to larger boats.



A variation on that theme is to run a 250V/50A cordset directly from the dock to the boat and split the power with a Y-Adapter just before connecting to the boat's power inlets.

I like this setup a lot and use it on my own boat. It means I have a single power cord running across the dock to the boat and there is one less connection to be made. Since voltage will drop over each connection, the fewer connections the better. I kept my old 25 foot 125V/50A cordsets and now have a lot more flexibility in the way I hook up the power.

Getting Wet

I always position my shore-power connections out of the way and never let the cables drop down into the water. I see a lot of other boaters just let the cordsets dip under the water's surface but I think this is tempting fate.

Accidents do happen and occasionally a wiring device will fall into the water. If that happens, shut off power to the device immediately. If it's salt water, rinse the device with fresh water and allow it to dry. Shore-power cords should hang (with the connectors down) for several days. When it is dry, spray the connectors with an electrical contact cleaner. That should displace any remaining water.

Check it Out

You should inspect the connectors on your shore-power cords and adapters every time you connect or disconnect from the dock. Look for discoloration or melting around the blades of the plug (male end) and around the slots on the connector (female end). Examine the face of the inlet on the boat and look for discoloration or melting around the blades and the inlet. Examine the receptacle on the dock and look for discoloration or deterioration around the slots.

Occasionally check the cables and adapters during use for signs of overheating. Overheating is generally caused by one of two conditions: corrosion on the metal blades or contacts, or bad connections between the wiring device and the wires connected to it. If a wiring device shows signs of overheating, replace it immediately. Don't wait for the problem to get worse because it will.

Replacing Parts

When I spot a problem with a connector, I don't necessarily toss the whole thing and run out and buy a new yellow "thingy". I'll figure out what replacement part I need and order that online. It's a lot cheaper to replace one connector than it is to buy a whole new cordset. The exception to that rule, at least for me, is molded plugs. Something with a molded plug or molded connection gets replaced.....period.

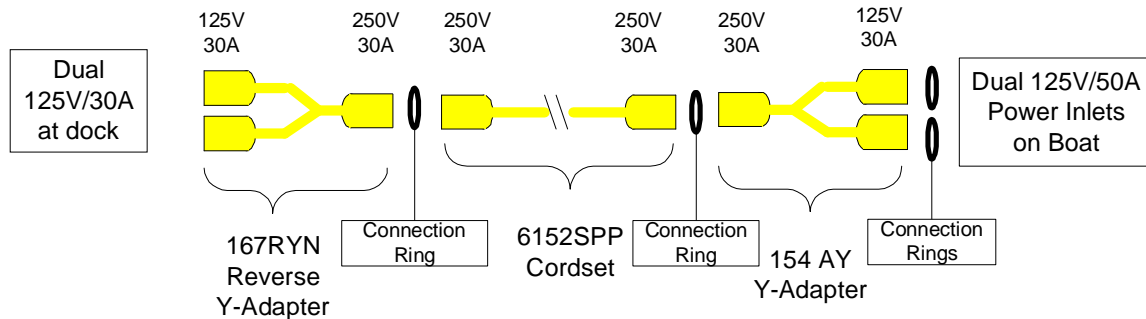
Cleaning

Marinco says that soiled cables can be cleaned with grease cutting household detergent. I use Simple Green but I also know that Spray Nine and 3M's Inflatable Boat Cleaner works well. Some folks will follow that up with some kind of vinyl protector like 303 Aerospace Protectant or Starbrite's Vinyl Cleaner and Polish to prevent the cordsets from getting dirty in the first place. It doesn't do that but it does make it a little easier to clean them the next time. And it gives you something to do when you're totally bored.

Going From 30A to 50A

A lot of older marinas just don't have many 50A connections available, some none at all. So what can you do when you want to spend the night in a marina watching the game instead of "sitting on the hook" running the generator?

Well, there's no way to get from 30A to 50A. But there is a limited solution.



Adding a Reverse Y-Adapter to the mix will provide you with limited shore power. Don't try this by creating your own Y-Adapter. Marincos 167RYN Reverse Y-Adapter has circuitry which does not allow power to go through until both 30A plugs are inserted into receptacles and energized. And it will only work if there is more than 200 volts between both the 30A receptacles and neither of the receptacles have reverse polarity. I ran this configuration by Marincos and they said it would work fine with two caveats:

1. Be careful not to draw more than 30 amps per inlet, otherwise you'll blow the breaker at the dock.
2. The more connections you have (cordsets and adapters) the more voltage drop you'll get.

Best of all, you get a chance to buy another yellow "thingy" and you might get just enough shore power to run the Aft Cabin Air Conditioner on the one circuit and the margarita blender on the other. Just don't try to run the coffee pot, the toaster and the microwave oven all at the same time the next morning.

Thanks to Marincos for their documentation and advice on configurations.

See you next time!

If you've got an idea for an article, want to write one yourself, or simply want to comment on this article you can send email to pressman@carversownersclub.com.