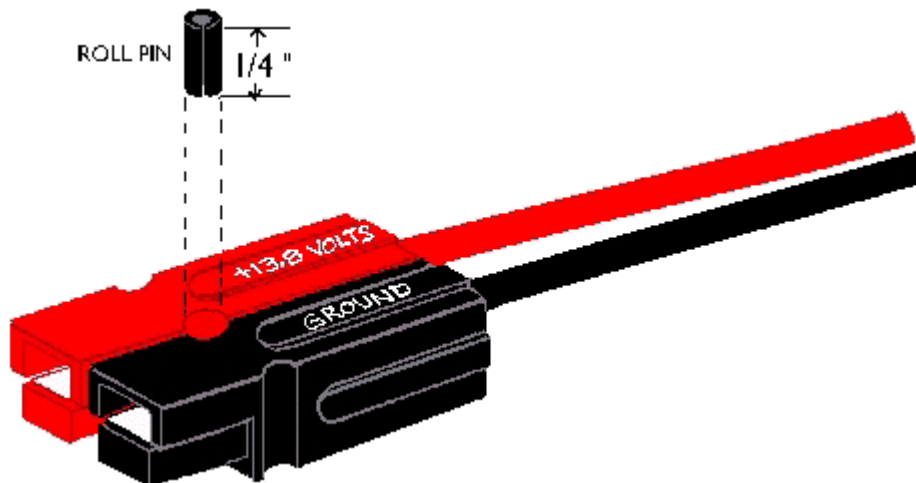


PowerPole Connector

The State of California Office of Emergency Services (OES) prescribes the Anderson PowerPole as the standard DC power connector for use by State Auxiliary Communications Service (ACS) and Radio Amateur Civil Emergency Service (RACES) personnel, and recommends its use by County and City RACES personnel as well. RACES groups throughout California and the United States have now adopted this connector. Many Amateur Radio Emergency Service (ARES) units have also adopted this connector as a recommended standard.

Using this standard, highly reliable, connector allows quick and easy installation and substitution of radios, power supplies, batteries, and other equipment. This may become important in the aftermath of a disaster as substitution of malfunctioning equipment becomes necessary. This standardized connector also facilitates checking out of any radio on a test bench if the test bench power supply is also so equipped.

Either the 15, 30, or 45 ampere rated contacts may be used, and all contacts mate with each other. The plastic parts are the same for all sizes. The barrel area (which holds the wire) varies with the contact rating varies but the contact area is the same. The connector bodies dovetail together into a compact unit.



Housings should be paired according to the diagram above, viewing from the contact side (opposite the wire side), tongue down, hood up, RED on the LEFT, BLACK on the RIGHT. An optional 3/32-inch-diameter roll pin, 1/4 inch long, may be used to keep the housings from sliding apart. The connector halves may also be cemented together using a plastic welding cement.

Highly conductive silver-plated copper contacts allow minimal contact resistance at high currents. Self-wiping action on make and break keeps conducting

surfaces clean. Contact shape keeps connectors mated in high-vibration applications and provide quick-break, snap action upon disconnect.

Noncorrosive stainless-steel leaf springs maintain constant contact pressure—ideal for frequent connections/disconnections and intermittent overloading. Durable, high impact-resistant, polycarbonate housing with UL94V-2 flammability ratings comes in many colors for circuit traceability and coding although the recommended standard is Red for vehicle (or equivalent) power and Black for ground.

Identical connector halves are genderless—making assembly quick and easy and reducing the number of parts stocked. Molded-in dovetails allow for a customized harness in a variety of configurations including stacking (red over red, black over black) and linear (red-black-red-black). When the connectors are disconnected, no metal parts are exposed.

The 15-ampere contacts are designed for 16-20 AWG wire, the 30-ampere contacts are designed for 12-16 AWG wire, and the 45 ampere contacts are designed for 8-10 AWG wire. The contacts can be soldered or crimped to wires. Some people both crimp and solder the connections – the belt plus suspenders approach. A crimping tool (#1367G1) is available from Anderson. Other, less expensive, crimping tools may be available. After a contact has been attached to a wire, it should be installed into the housing so that the housing spring latches the underside of the contact.

To remove a contact from the housing, use Anderson insertion/extraction tool #111038G2. You may also substitute a very small blade (jeweler's screwdriver or X-acto knife) to depress the housing spring, allowing the contact to be removed.

Connector parts may be obtained from a variety of sources including the major amateur radio supply houses (e.g. <http://www.gigaparts.com/> and www.hamradio.com). West Mountain Radio (www.westmountainradio.com) sells these parts under their RigRunner label and Quicksilver Radio Products (www.qsradio.com) also sells these parts. Powerwerx (www.powerwerx.com) sells a variety of made up cables and power splitters and West Mountain Radio sells a selection of power distribution panels all made up of PowerPole connectors. Now even www.Amazon.com sells them.

When purchased in a lot of 10 or 12 or more pairs, the 30A connectors generally cost in the vicinity of \$2 for a set suitable for one radio and its associated power cable (2 pairs). If you have not done so before, you should consider doing so for all your radios and other DC powered equipment. If nothing else, the next time that you order a radio, include a set of PowerPole connectors and proceed to convert all your DC power to these connectors.