Technical Note

Hand Held Inverter

512-0036-01-01 Rev 1

Installing Hand-held Inverters for Optimum Performance

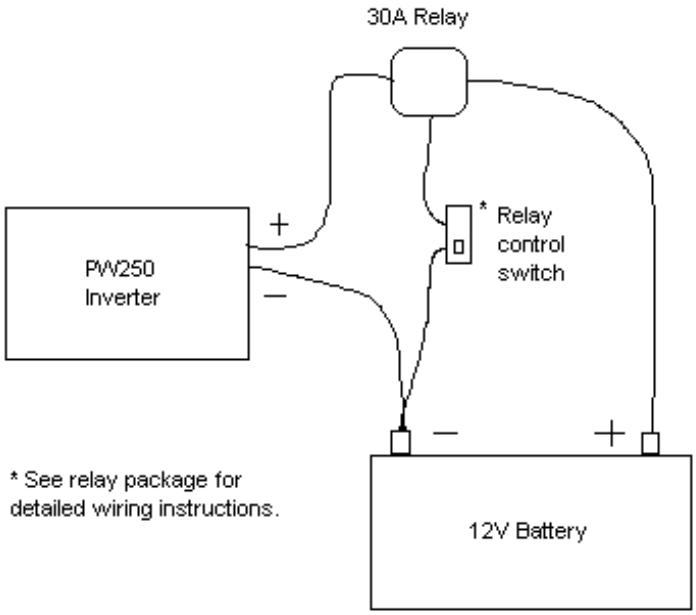
Summary

The PROwatt 250 is capable of providing up to 350 watts (5-minute rating) of power into a resistive load (such as ordinary light bulbs), a surge large enough to start most TVs and many electric-motor-based tools. The PW250 can only generate high power if the DC source can provide the high 12 V battery current demanded by the inverter/load. When the PROwatt 250 is operating three 100 W lights simultaneously, it will draw approximately 30 amps from the battery/12 V system. The battery-to-inverter wiring must be large enough to maintain at least 11.0 V at the inverter end of the wiring at 30 A or risk the inverter going into low voltage shutdown (same limitation holds true for the PortaWattz 300).

Follow these steps for optimum, high power performance:

1. The inverter's factory-installed lighter plug must be removed and the positive wire identified. The inverter's 14 AWG wiring is best shortened to perhaps 1 ft/30 cm length to minimize cable voltage loss, and maximize surge performance.
2. Mount the inverter in a convenient location to access the AC power socket, and view the red light/power indicator.
3. The 14 AWG Positive wire should be connected to one side of a 30 A relay (typical fog lamp relay available at most automotive stores).
4. The relay's other 30 A contact should be connected to the battery positive post via a 10 AWG (up to 6 ft/2 m) or 8 AWG (up to 10 ft/3 m).
5. Connect the inverter's negative wire directly to the battery negative terminal, also using 10 or 8 AWG wire. The wires may be connected either by soldering (heatshrink covered), butt splicing, or via a mounted terminal connector which accepts both 14 AWG and the larger 10 or 8 AWG wire.
6. The relay coil can then be operated by a small switch mounted under the dashboard.
7. You may optionally install a 50 A current limiter in the positive line near the battery positive terminal in case there is a cable short for any reason.

See the following diagram.



Note:

If you are not familiar with wiring we recommend you contact an RV specialty shop, or automotive stereo installer as they would be familiar with high current wiring installations used for high power audio amplifiers.

Part number: 512-0036-01-01 Rev 1

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