THE POWER COMPANY
TRACE ENGINEERING
5916 - 195th N.E., Arlington, WA 98223 Phone (360) 435-8826 Fax (360) 435-2229

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Positive Grounding

Telecommunication applications often require positive grounding, where the positive conductor is connected to earth ground. The telecommunication industry began the positive ground convention in the 1940's to for protection against outside equipment being connected to sensitive radio and microwave loads. Although telecommunication sites are seemingly changing conventions, many telecomm companies still employ the traditionally positive grounded system.

The transformer in Trace inverter SW series, DR series, U series, UX series and TS series allows positive grounding. The transformer allows either the DC positive or DC negative conductor to be grounded because the inverter isolates DC current from the connected AC loads. As long as one DC conductor is grounded, the inverter shall operate normally.

Charge controllers, however, are not quite as flexible as inverters in a positive grounded environment. All PWM (pulse width modulated) charge controllers utilize FETs (field effect transistors) that switch the positive conductor according to the rate of current flow. Switching the positive leg, or grounded conductor, on a positive grounded system does not conform to code. Although the charge controller will operate on a positive grounded system, please consult the National Electric Code and your local code official for proper electrical system compliance.

For additional information on system grounding, please see Tech Note #7.