Technical Bulletin #100207

Issued: 03/23/01
Revised: 10/30/03

Affected Products: Solar Boost™ 50, 3048 and 6024H

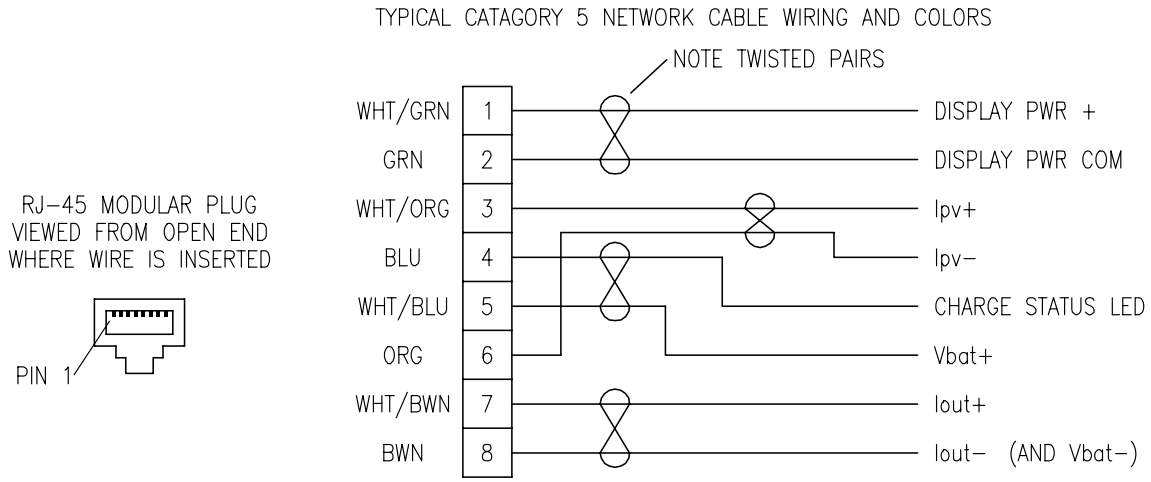
Purpose: Using the Remote Digital Display connector to obtain current and voltage signals for use with data acquisition systems.

The Solar Boost 50, 3048 and 6024H can be fitted with an optional digital display, installed in the unit, mounted remotely, or both. The display shows Solar Panel Current, Output Charge Current, and Battery Voltage. There is also a Charge Status LED which shows the present charge mode; Off, Bulk, Acceptance, Float, or Equalize. The digital display signals available at the display connector on the main circuit board are analog in nature and can therefore be instrumented by a data acquition system capable of receiving and conditioning these signals. It is possible to do this while using an existing Solar Boost digital display by accessing the spare connector on the display.

These signals are available as shown in the following table and diagram. **Note: Damage to the unit resulting from improper use of these signals is not covered under the limited warranty.**

SIGNAL FUNCTION	CHARACTERICS
Solar Panel Current (I_{PV})	Common mode referenced to battery –. Scaled to 1.00mV per amp. Source impedance ≈150Ω
Output Charge Current (I_{OUT})	Common mode referenced to battery –. Scaled to 1.00mV per amp. Source impedance ≈150Ω
Battery Voltage (V_{BAT})	Battery voltage referenced to I_{OUT}– (battery –). Self reset short circuit protected at ≈100mA. Measurement system must have >1.0MΩ input impedance to avoid I_{OUT} error.
Charge Status LED	Open collector driver. Turns on (to battery –) with LED on. V_{OFF} maximum =30V, I_{ON} maximum =10mA.
Display Power	V_{BAT} minus ≈1V for SB50, or ≈12V for SB3048. Reverse battery and transient voltage protected. Self reset short circuit protected at ≈100mA. Maximum load current =10mA.

Solar Boost Remote Display Connector Signals



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