Technical Bulletin #100209

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Affected Products: All Solar Boost™ Solar Module Charge Controllers

Purpose: Setting Charge Voltage Using Charge Voltage Calibration Tool P/N 930-0031-01

Setting charge voltage on Solar Boost charge controllers requires that the battery be highly charged so that the Solar Boost is actually able to control battery charge voltage at the desired value as described in the operators manual. For many installations this can be difficult to achieve. A ***Charge Voltage Calibration Tool*** BSE P/N 930-0031-01 is available which allows charge voltages (acceptance and float) to be accurately calibrated while the battery is at a low state of charge. ***To use this calibration tool, battery voltage must be equal to or less than the desired charge voltage setpoint and the PV array must be able to deliver at least 3A of charge current***.

How The Calibration Tool Works:

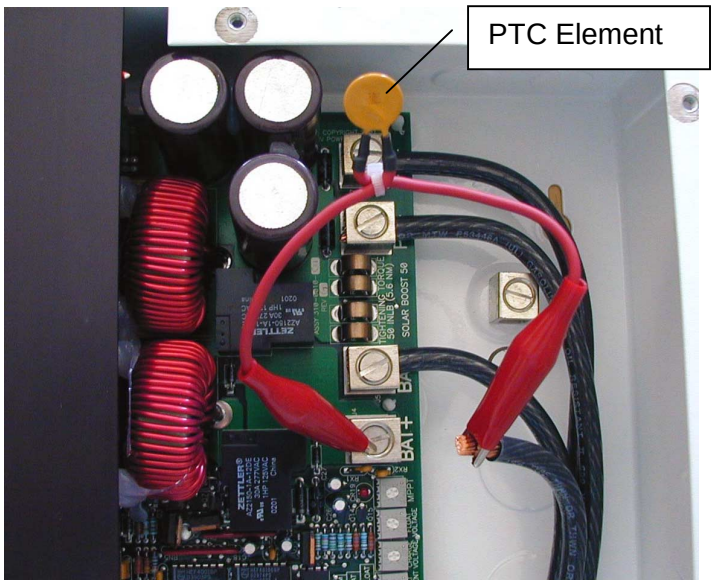
The calibration tool, which is placed in series with the positive battery connection, functions by allowing the Solar Boost to control it's output voltage at a voltage that is higher than actual battery voltage. The voltage calibration tool consists primarily of a Positive Temperature Coefficient Thermistor (PTC) which functions as a current limiting device. The PTC increases it's resistance (by self heating) if more than about 2 amps attempts to flow through it. By increasing resistance to limit current, it allows some voltage separation between the battery and the Solar Boost output. The PTC is a Raychem RXE-160.

WARNING!
The PTC element can operate at near 100°C (212°F). To avoid burns do not touch the PTC element while it is connected to power, or until it has cooled.

Using The Calibration Tool:

1. Disconnect all power, battery and PV.
2. Remove the Battery + wire from the controller. Connect the battery + to the controller with the calibration tool.
3. Restore power and calibrate charge voltages as described in the manual for the particular Solar Boost product.
4. Again disconnect all power, battery and PV.
5. Remove the calibration tool and reconnect the battery + wire.
6. Restore power and verify proper operation.

Typical Solar Boost 50 Example



Blue Sky Energy, Inc. • 2598 Fortune Way, Suite K • Vista, CA 92081-8442
Phone 760-597-1642 • Fax 760-597-1731 • www.blueskyenergyinc.com