

Important Information

- The bench testing procedure pertains to individuals with access to external power sources, a battery, and the various tools and materials outlined below.
- Due to the construction of the SunGuard controller, it may only be possible to determine if the unit is functioning properly. The exact damaged component or part may not be evident. Other factors however, may be apparent that will enable the technician to determine the cause for failure. These factors include, but are not limited to:
 - Burned leads
 - Burned or bubbled potting
 - Discoloration of case
 - Excessive loads

Recommended Tools

- Digital Multi-meter with fine tip probes (frequency and duty cycle measurements helpful)
- Phillips Screwdriver
- Flat Bladed Screwdriver

Materials and Equipment

- Small motorcycle type battery (12V)
- Variable power supply capable of supplying 2A @ 15-20 Vdc

Precautions

The procedures outlined below assume a basic knowledge of electrical circuits. Exercise the necessary precautions when dealing with the live circuits present in solar energy systems.

Testing Procedure

Step 1: No Power Applied to the SunGuard

- (a) With no power applied to the SunGuard, check for short circuits to ground between the following leads:
- PV(+) and PV(-) leads
 - Battery (+) and Battery(-) leads

Note: if shorts exist, FETs are damaged and controller is not operational

