

## SolarTech Power Solutions

# How to check the load voltage of base station power supply



## Overview

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How do you test a power supply?

To test a power supply effectively, you will need a few tools: Digital Multimeter (DMM): This is your primary tool for measuring voltage, current, and resistance. Power Supply Unit: The PSU you want to test. Load Module (optional): A resistor or a device that can draw power can be used to test the PSU under load conditions.

What is a power supply voltage test?

The list below contains a brief description of some of these tests. This test involves the measurement of the periodic and random deviation of a power supply's output current or voltage (typically over 8 hours), typically covering a bandwidth from dc to 20 Hz. The electronic load used for this test should be able to operate in CC or CV mode.

How many load settings should be used in a power supply test?

At least two load settings should be used, one of them being the maximum rated load for the power supply under test (see Figure 9 for test configuration). Some power supplies vary substantially in efficiency and power factor as a function of loading.

How to measure  $V_{out}$  of a power supply?

Measurement of  $V_{out}$  of the power supply can be made with a digitizing oscilloscope as the load input pulses are applied. Synchronization of the measurement is crucial in obtaining proper measurements. Therefore, a common trigger should start the electronic load and oscilloscope measurements.

How do electronic loads facilitate power supply testing?

Electronic loads can facilitate power supply testing in several ways. They are typically programmable, although most require external DAC programmers.

This capability enables finer control over loading values during testing, and can provide the test set operator with valuable status information.

How much current does a power supply need?

Most power supplies have a current limit of some sort which will reduce the output voltage until the current is at a safe level. Try loading your power supply with 1.2 Ohm. That should give you 10A. If your power supply were going to be able to drive full output voltage of 12V to a 0.7 ohm resistor it would have to source over 17A.

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