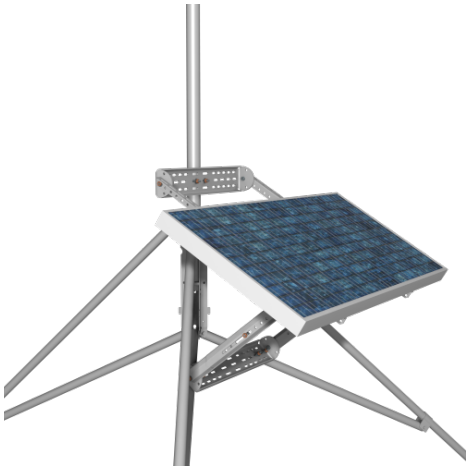
SP90-L
90 W Solar Panel



Powers Remote Systems

Useful at sites far from ac sources

Overview

The SP90-L 90 W solar panel is a photovoltaic power source capable of recharging batteries. It is used in systems that require high-power solar panels. The SP90 allows unattended operation of systems in remote locations, far from ac electrical sources.

This solar panel needs to be used with either a 18529 Morningstar SunSaver regulator or a CH200 Smart Charge Controller.

In the image, the SP90-L is shown with a 31107 Extended Mounting Kit.

Benefits and Features

- Supplies electrical power in locations where ac power is unreliable, expensive, or not available

Detailed Description

The SP90 includes the 31107 Extended Mounting Kit for attaching the solar panel to a Campbell Scientific tripod or tower. The 31107 positions the solar panel approximately 25 cm (10 in.) from the tripod or tower, which reduces shadows from other components and guy wires. The zenith angle indicator and the slotted supports simplify installation. The 31107 began shipping with the solar panel in October 2014. This kit may be purchased separately to retrofit existing solar panels.

Regulators

One SP90 can be connected to the SOLAR charge input of the CH200 or 18529 SunSaver regulator to provide a peak charge of 90 W. Two SP90 solar panels can be wired in parallel to the charge inputs of the SunSaver 18529 regulator to provide a peak charge of 180 W.

Note: Regulators must be housed in an environmental enclosure.

18529 MorningStar SunSaver

The 18529 Morning Star SunSaver limits charging current to approximately 10 A, has a quiescent current drain of approximately 8 mA, and can charge sealed batteries such as our BP12, BP24, and BP84 or flooded batteries.

CH200 Smart Charge Controller

The CH200 limits charging current to approximately 3.6 A, has a quiescent current drain of only 0.3 mA and can precisely

charge the following battery families: EnerSys Genesis NP Series (includes our BP12 and BP24), EnerSys Cyclone Series, Concorde Sun Xtender Series (includes our BP84 and PS84) or a custom battery.

Specifications

-NOTE-	*Solar panel characteristics assume 1 kW m^{-2} illumination and 25°C solar panel temperature. Individual panels may vary up to 10%. The output panel voltage increases as the panel temperature decreases.*
Cable Description	16 AWG, 1-twisted pair
Maximum Peak Power	90 W (180 W peak power when two SP90s are connected to one 18529 regulator)
Current at Peak	5.0 A
Voltage at Peak	17.9 V
Short Circuit Current (I_{SC})	5.21 A
Open Circuit Voltage (V_{OC})	22.1 V
Module Efficiency	13.1% / 13.9%
Maximum Tolerance	+10% / -5%
Nominal Voltage	12 V
Efficiency Reduction	< 5% reduction (efficiency 13.2%) at 200W/m^2
Limiting Reverse Current	5.58 A
Temperature Coefficient of I_{SC}	0.105%/°C
Temperature Coefficient of V_{OC}	-0.360%/°C
Maximum Allowable Wind Gust Speed	*Note: Assumes the 31107 Extended Mounting Kit is used to mount the SP90 to an adequately anchored tripod or tower.* 50 m s^{-1} (112 mph)
On-board Regulator Included	No
Dimensions	120.9 x 53.7 x 5.0 cm (47.6 x 21.1 x 2.0 in.)
Weight	7.7 kg (17 lb)

PowerWise Systems,124 Main Street, Bucksport, 04416 Maine , USA
www.powerwisesystems.com +1 207 370 6517 sales@powerwisesystems.com