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**Solar Panel Guide  
Specification Data Sheet**

**SoloPower  
SP1  
SP1 90**

Also available on the web at  
[EnergyPal.com/solopower-solar-panels/sp1-90](http://EnergyPal.com/solopower-solar-panels/sp1-90)

# SoloPanel® Model SP1

Our SoloPanel SP1 is an innovative photovoltaic module based upon Copper, Indium, Gallium, Selenium ("CIGS") semiconductor material electro-deposited on a flexible stainless steel substrate and encapsulated in a state-of-the-art moisture barrier laminate. It is designed for a wide range of applications.

## SoloPanel® Model

# SP1

### LOW INSTALLED SYSTEM COST

The flexible, lightweight form factor of the SP1 enables rapid and easy installation as well as low cost system integration with a wide variety of mounting solutions. The SP1 module is optimized for residential and standing seam metal roof integration.

### HIGH ENERGY PERFORMANCE

SoloPower® is the market leader in high efficiency flexible modules. Modules are designed for superior performance under all light conditions, including low sun angle, providing excellent energy yield throughout the year.

### PROVEN DURABILITY

SoloPower® modules are built to meet or exceed UL 1703, IEC 61646 & IEC 61730 standards. Cells and modules are continually subjected to rigorous environmental and accelerated life cycle testing beyond industry standards.

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### INNOVATED INTEGRATION

SoloPower Systems Inc. is a US based manufacturer of high-efficiency thin-film photovoltaic modules based on Copper Indium Gallium di Selenide (CIGS). The unique manufacturing process utilizes a low cost, proprietary electro-deposition tool set. The company is headquartered in Portland, Oregon.

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### KEY FEATURES

- + Sixty (60) series connected, high efficiency, CIGS solar cells optimize panel performance
- + Low weight, non-penetrating mounting solutions take advantage of the lightweight module characteristics
- + Superior low-sun angle and low light performance provide excellent energy yield
- + Low profile bypass diodes allow for maximum performance under shade conditions
- + Weather resistant front sheet, sealed junction box and protective back sheet provide a long life, reliable and durable package
- + Modules are built to meet and/or exceed UL standard 1703, IEC 61646 & IEC 61730 standards
- + Manufactured in a highly automated state-of-the-art facility
- + 5-year limited warranty against defective materials and workmanship
- + 25-year warranty on power output
- + Designed and manufactured in the USA
- + For a complete listing of SoloPower products visit: [www.solopower.com](http://www.solopower.com)

## APPLICATIONS

Segments: Commercial, Industrial, and Residential Rooftops

## ELECTRICAL CHARACTERISTICS (STC)<sup>1</sup>

SoloPower SP1		70	75	80	85	90
Rated Power (P <sub>max</sub> ) <sup>2</sup>	W	70	75	80	85	90
Voltage at P <sub>max</sub> (V <sub>mp</sub> )	V	22.2	21.8	22.7	23.3	24.7
Current at P <sub>max</sub> (I <sub>mp</sub> )	A	3.4	3.4	3.5	3.6	3.6
Short-circuit current (I <sub>sc</sub> )	A	4.2	4.3	4.3	4.4	4.3
Open-circuit Voltage (V <sub>oc</sub> )	V	30.0	30.6	31.8	32.4	33.6
Efficiency <sup>3</sup>	%	8.0	9.9	10.5	11.2	11.9

1. STC standard test conditions: 1000W/m<sup>2</sup> intensity, Air Mass 1.5, 25°C cell temperature. The power tolerance is -5% / +5% Wp, at STC. The electrical characteristics are within ± 10% unless otherwise specified.
2. Stabilized Power.
3. Aperture Efficiency.

SoloPower SP1					
Temp. Co-efficient of I <sub>sc</sub>	%/°C	- 0.01	Pmp	- 0.4	%/°C
Temp. Co-efficient of V <sub>oc</sub>	%/°C	- 0.3			
Max. Series Fuse Rating	A	7			
Maximum DC Voltage					
US	VDC	600			
EU	VDC	1,000			
NOCT	°C	47			

## PHYSICAL CHARACTERISTICS

SoloPower SP1		
Length	86.1 in / 2.187 m	
Width	15.7 in / 0.399 m	
Thickness	0.1 in / 2.0 mm	
Weight	4.6 lbs / 2.1 kg	
Roof Load From Module	0.49 lbs/ft <sup>2</sup> / 2.4 kg/m <sup>2</sup>	

## QUALIFICATIONS

Certified to Standards: UL 1703, IEC 61646, & IEC 61730.



## WARRANTY

### Limited Warranty

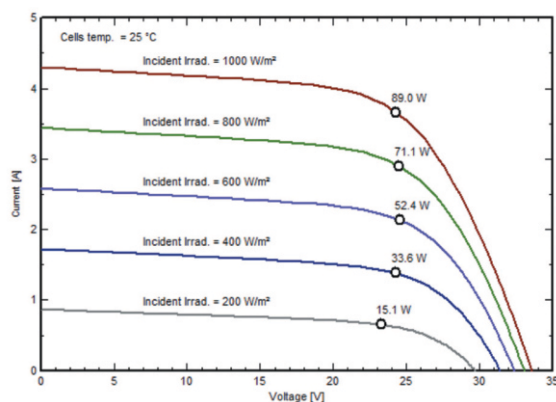
Materials and workmanship: 5 years. Power output: 25 years (90% of nominal rated power for years 1 to 10, 80% of nominal rated power for years 11 to 25). Designed and manufactured in the USA.

Contact [sales@solopower.com](mailto:sales@solopower.com) for complete terms of the limited warranty.

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## IV CURVES



Current (A) vs. Voltage (V) at various Irradiance levels

## MECHANICAL DRAWING

