12V Portable - Foldable Solar Panel Charging Systems

Model: SLP080F-12S/SLP120F-12S

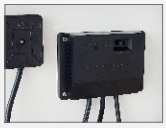
The Solarland series of folding panels are now in their 3rd generation design. The panels were originally designed for humanitarian purposes, and are now widely used in applications ranging from camping to emergency power supplies in disaster relief.

- Versatile, rugged design!
- Park in the shade, put the panel in the sun!
- Adjustable angle for maximum energy absorbtion
- No need to make holes in the roof of your vehicle
- Simple 'plug 'n play' system
- Compact size, folding easily for storage and transit

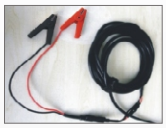
Kit is Complete With:

Aluminum Case comes standard with every kit. Protects the panels during transit.

Adjustable Legs are easily adjusted to allow for maximum power generation based on location and time of day.



Smart Pwm Controller is fitted behind one panel. This controller provides protection from overcharge. LED display clearly indicates the state of charge and a toggle switch allows for Lead-Acid and GEL style battery charging.

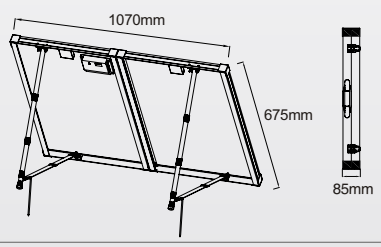


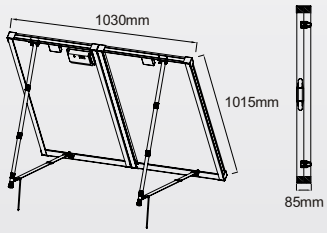
Battery Clamp & Cable Set are provided as standard items.

Carry Handle & Locking Fasteners allow for easy handling. The fasteners lock the panel shut while in transit.

Car Style Cigarette Connections are provided as standard items.

Specifications

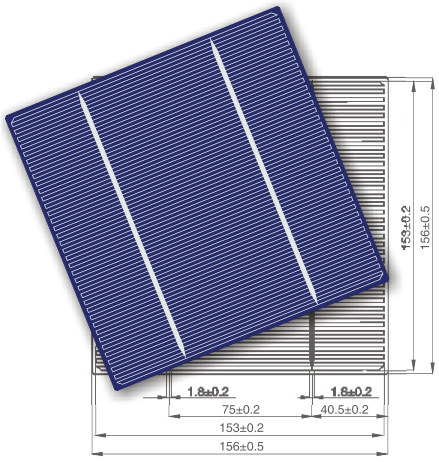




Maximum Power (Pmax)	80W	120W
Voltage at Pmax (Vmp)	17.2V	17.2V
Current at Pmax (Imp)	4.65A	6.98A
Open-circuit Voltage (Voc)	21.6V	21.6V
Short-circuit Current (Isc)	5.17A	7.72A

Solar Cells

156mm Polyocrystalline silicon solar cells

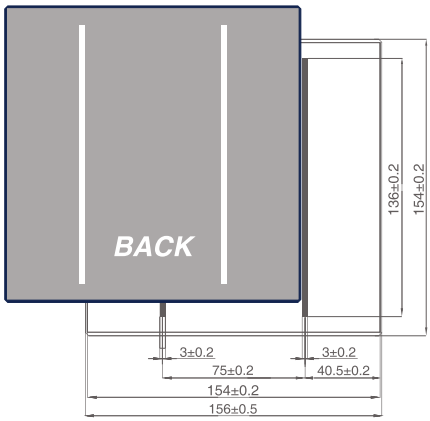


Mechanical Data And Design

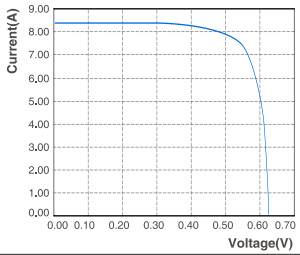
Format	156 mm × 156 mm ± 0.5 mm
Thickness(Wafer)	180 μm ± 20 μm and 200 μm ± 20 μm
Front (-)	1.5 mm bus bars (silver), blue anti-reflection coating (silicon nitride)
Back (+)	3 mm wide soldering pads (silver) back surface field (aluminium)

Temperature Coefficients

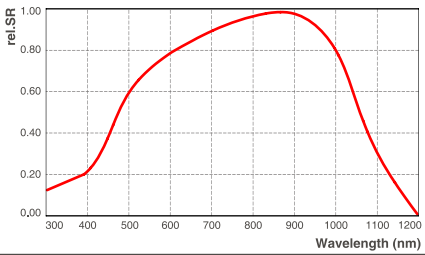
Voc. Temp.coef.%/K	-0.338%/K
Isc. Temp.coef.%/K	+0.051%/K
Pm. Temp.coef.%/K	-0.42%/K



IV Curve



Spectral Response



Calibrated under AM1.5 global SRC in Fraunhofer ISE.

Intensity Dependence

Intensity [w/m²]	Isc* [mA]	Voc* [mV]
1000	1.00	1.000
900	0.90	0.989
500	0.50	0.963
300	0.30	0.939
200	0.20	0.920

Ratio of Voc (Isc) at reduced intensity to Voc (Isc) at 1000 W/m²

Electrical Characteristics

Efficiency (%)	Pmpp (W)	Umpp (V)	Impp (A)	Uoc (V)	Isc (A)	FF (%)
17.60-17.80	4.28	0.524	8.18	0.633	8.747	77.245%
17.40-17.60	4.23	0.519	8.14	0.632	8.726	76.744%
17.20-17.40	4.19	0.517	8.10	0.630	8.677	76.684%
17.00-17.20	4.14	0.514	8.05	0.627	8.637	76.471%
16.80-17.00	4.09	0.510	8.02	0.623	8.599	76.290%
16.60-16.80	4.04	0.506	7.98	0.621	8.562	76.032%
16.40-16.60	3.99	0.502	7.95	0.618	8.529	75.645%
16.20-16.40	3.94	0.500	7.89	0.617	8.497	75.189%
16.00-16.20	3.89	0.497	7.84	0.615	8.471	74.669%
15.80-16.00	3.85	0.494	7.79	0.613	8.465	74.195%
15.00-15.80	3.75	0.492	7.62	0.610	8.460	72.666%
14.00-15.00	3.53	0.485	7.27	0.609	8.438	68.694%