

Phono[®] Solar

SHARE THE SUN, POWER THE FUTURE!

G SERIES

POLY CRYSTALLINE MODULE PS140P/G



High Performance Solar Panels

Phono Solar's 140 Poly Series is a robust 48 cell PV panel designed for on-grid residential and commercial applications.

Quality control measures and strict factory testing ensure that Phono Solar panels exceed customers expectations.

Phono Solar Advantages

History

Phono Solar has been producing PV Modules since 2004. As part of the Sumec Group and the Sinomach family of businesses, Phono Solar is backed by parent companies with 15 Billion USD in annual sales revenue.

Financial Strength

As part of the Sumec and Sinomach family of companies, Sumec has the financial support of two of the oldest, most profitable companies in Asia. This is critical when considering that a PV module is meant to last at least 25-years. Customers can be assured Phono Solar will be around to honor its warranty commitment.

Quality Products at an Excellent Price

Phono Solar modules carry a STC/PTC of 91% and module efficiency of 14.8%. This puts Phono Solar at the top of the CEC approved suppliers list. Higher efficiency modules lead to higher potential rebates. Phono Solar helps the customer maximize their system productivity.

Performance

Excellent PTC ratings, efficient manufacturing facilities and industry-leading quality controls makes Phono Solar's modules the right choice for any installation. Additionally, Phono Solar PV modules carry a 25-year performance guarantee.

Capacity

In relatively short time, Phono Solar has become one of the top exporters in the Solar Industry. Phono Solar's three production facilities will produce more than 500MW of PV Modules in 2011.

North American Focus

With a North American sales office and Southern California based distribution center, we offer logistical expertise for all regions within the US. Customers are supported by a team of dedicated industry professionals that value strategic business relationships and strive to maintain long-term partnerships.

Warranty Conditions

- ▶ 5-year product warranty
- ▶ 25-year performance guarantee (90% up to 10 years, 80% up to 25 years)
- ▶ Product certification to UL 1703
- ▶ CEC (California Energy Commission) Program Registered
- ▶ Product certification to IEC 61215 (ed. 2)
- ▶ Protection class II / IEC 61730
- ▶ CE conformity
- ▶ Class C Fire rating
- ▶ FESC (Florida Solar Energy Center) PV Module Certification

Typical application	Length [x]	Width [y]	Height	Weight	Junction Box	Plug Connector	Cable	Front Glass Surface
12V DC	1482 (L) 58.3"	676 (W) 26.6"	35 (H) mm 1.4"	12Kg 26.4lbs	China	Amphenol MC4	0.9m wire (ø 4mm ²)	3.2mm toughened glass

Crystalline Solar Module	
Performance Classes	140wp
PTC Performance	TBD
Structure	▶ Glass-foil laminate ▶ Anodized aluminum frame ▶ Junction box (IP) 65 with 3 bypass diodes ▶ Weather-resistant back sheet (white) ▶ Cable 12 AWG (4mm)
Cells	4 x 9 pieces in series Mono crystal Si 156mm x 156mm square

Electrical Characteristics For STC

Designation	Pmpp [Wp]	Vmpp [V]	Impp [A]	Voc [V]	Isc [A]	Tolerance
PS140P-12/G	140W	17.6V	7.95A	22.2V	8.15A	± 3 %

Note: defined as standard deviation of thousands measurements. Absolute power values depend on the measuring system. They can differ by +/- 5% from one measuring system to another.

Assembly Notes

- ▶ See installation and operating manual at www.phonosolarusa.com/products/modules
- ▶ Horizontal and vertical assembly possible
- ▶ System voltage max 600 V

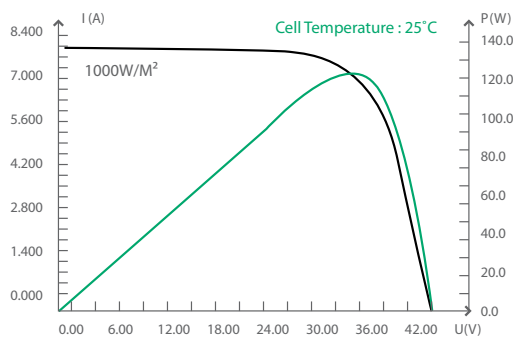
Parameter	Values	Unit
Operating temperature	-40 +85	°C
Hail diameter @ 80Km/h	Up to 25	mm
Surface Maximum Load Capacity	Up to 2400	Pa

Weak Light Performance

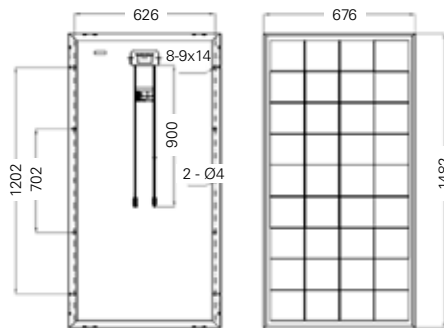
Intensity [W/m ²]	Vmpp [%]	Impp [%]
900	0.0	-20
600	-0.9	-40
400	-2.1	-60
200	-5.1	-90
100	-8.7	-90

The electrical data applies for 25 °C and AM 1.5.

Characteristic Curves



Dimensions



Thermal Characteristics

Intensity [W/m ²]	Vmpp [%]
Operating temperature range	45°C ±2°C
Temperature coefficient Pmpp	-0.35%/°C
Temperature coefficient Voc	0.05%/°C
Temperature coefficient Isc	-0.48%/°C

Partner Information



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All data at STC (Standard Test Conditions) Design and specifications are subject to change without notice.