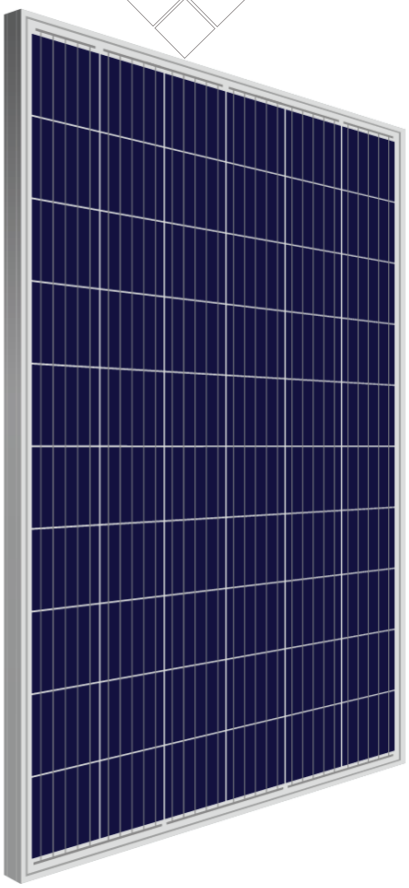
PHP-280W
PHP-290W
PHP-300W

PHOTON ENERGY



POLYCRYSTALLINE SOLAR MODULE

Features

High module conversion efficiency
Module efficiency up to 15.4% achieved through advanced cell technology and manufacturing capabilities

Self-cleaning & anti-reflective
Higher module efficiency from anti-reflective, hydrophobic layer with higher light absorption and minimal surface dust

Positive tolerance
Guaranteed positive tolerance of 5% delivers higher outputs reliably

Excellent weak light performance
Excellent performance under low light conditions

Certifications and standards:
Conformity to CE

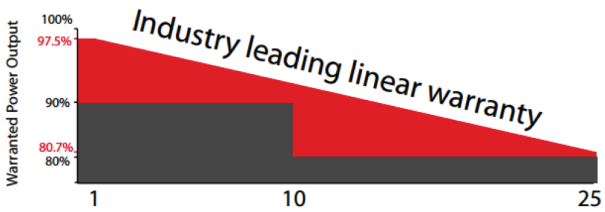
PHOTON ENERGY give Quality & Reliable Performance

- High quality crystalline silicon photovoltaic modules
- Best performance and yield power production
- Rigorous quality control meeting the highest international standards:
- Quality control process by using best machines manufacturing.

PID free, very high resistance of degragation.

Excellent absorption of solar energy by clouwdy wheather.

Industry-leading Warranty based on Pnom



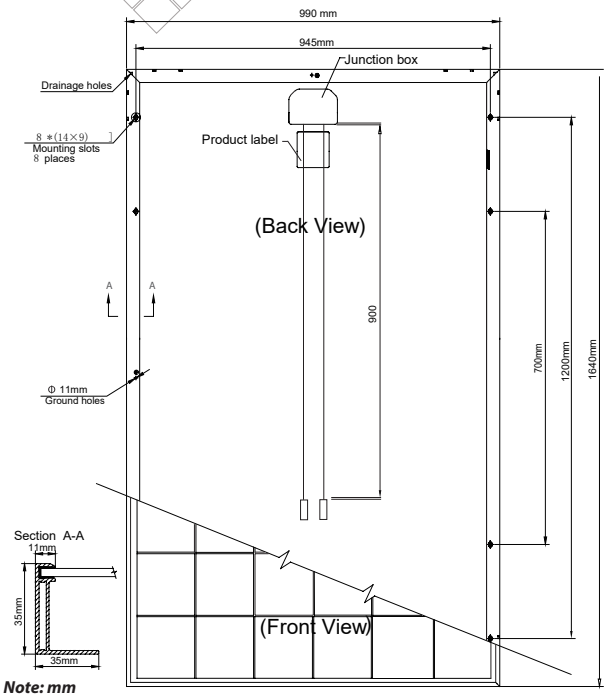
- Based on nominal power (Pnom)
- 25-year transferrable power output warranty: 1st years/97%, and linear warranty up to 25 years to ensure 80%
- 10-year material and workmanship warranty

10 YEAR

25 YEAR

PHP-280W
PHP-290W
PHP-300W

PHOTON ENERGY



Note: mm

Electrical Characteristics

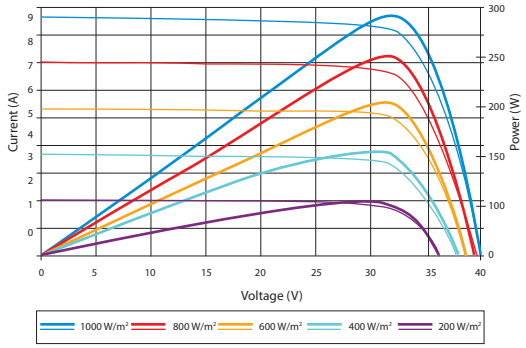
STC	PHP-280W	PHP-290W	PHP-300W
Optimum Operating Voltage (Vmp)	31.6 V	32.0 V	32.3 V
Optimum Operating Current (Imp)	8.86 A	9.08 A	9.29 A
Open Circuit Voltage (Voc)	38.5 V	38.8 V	39.1 V
Short Circuit Current (Isc)	9.25 A	9.49 A	9.72 A
Maximum Power at STC (Pmax)	280 W	290 W	300 W
Module Efficiency	17.25%	17.8%	18.4%
Operating Module Temperature	-40 °C to +85 °C		
Maximum System Voltage	1000 V DC (IEC)		
Maximum Series Fuse Rating	15 A		
Power Tolerance	0/+5 %		

STC: Irradiance 1000 W/m², module temperature 25 °C, AM=1.5;
Best in Class AAA solar simulator used, power measurement uncertainty is within +/- 3%

NOCT	PHP-280W	PHP-290W	PHP-300W
Maximum Power at NOCT (Pmax)	207.3 W	214 W	222 W
Optimum Operating Voltage (Vmp)	29.2 V	29.5 V	29.8V
Optimum Operating Current (Imp)	7.05 A	7.22 A	7.39 A
Open Circuit Voltage (Voc)	35.5 V	35.77V	36.0 V
Short Circuit Current (Isc)	7.50 A	7.68 A	7.86 A

NOCT: Irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s;
Best in Class AAA solar simulator used, power measurement uncertainty is within +/- 3%

Current-Voltage & Power-Voltage Curve (280Wp)



Excellent performance under weak light conditions: at an irradiation intensity of 200 W/m² (AM 1.5, 25 °C), 95.5% or higher of the STC efficiency (1000 W/m²)

Temperature Characteristics

Nominal Operating Cell Temperature (**NOCT**)	45±2°C
Temperature Coefficient of Pmax	-0.41 %/°C
Temperature Coefficient of Voc	-0.33 %/°C
Temperature Coefficient of Isc	0.060 %/°C

Mechanical Characteristics

Solar Cell	polycrystalline silicon 156 × 156 mm (6 inches)
No. of Cells	60 (6 × 10)
Dimensions	1640 × 990 × 35mm
Weight	18 kgs
Front Glass	3.2 mm tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP67 rated (3 bypass diodes)
Output Cables	Diameter 4.0 mm² Length (-) 1000mm Lenght (+) 1000 mm
Connectors	MC4 connectors

Dealer information

Specifications are subject to change without further notification

Packing Configuration

Container	20' GP	40' HC
Pieces per pallet	30	30
Pallets per container	14	28
Pieces per container	420	840

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