PHILADELPHIA SOLAR
DELIVERING CLEAN ENERGY SOLUTIONS

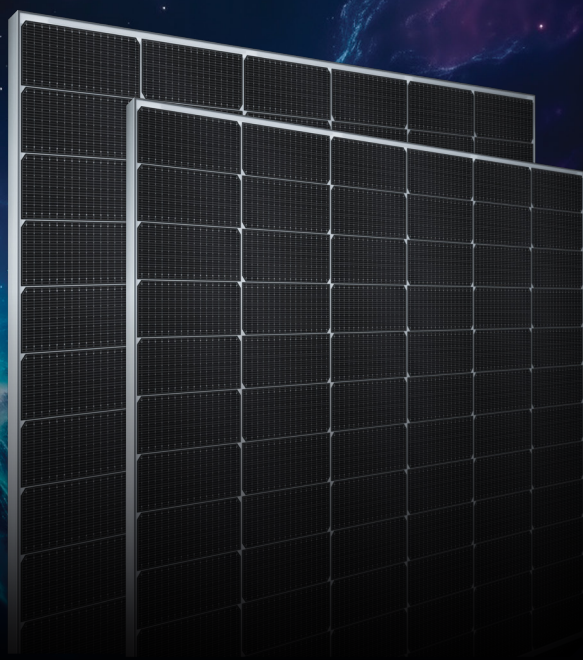
NEXUS

PS-MNG144(HCBF)-xxxW

Half-Cell N-Type 16BB Bifacial Module

565 - 580 Watt

Positive power tolerance of 0 ~+3%



Philadelphia Solar's Mono-Crystal-line N-type modules with power up to **580Wp** are produced using the state-of-the-art (automated) robotic production lines. These modules are suitable to be used for most electrical power applications and have excellent durability to prevailing weather conditions

CERTIFICATIONS

EN ISO 9001: 2015
Quality Management System
EN ISO 14001: 2015
Environmental Management System
EN ISO 45001: 2018
Occupational health and safety management systems

TÜV AUSTRIA

Achilles Repro SILVER

APPLICATIONS

On-Grid Commercial/ Industrial Roof-Tops

Off-Grid Systems
(Including Lighting Systems)

Solar Power Plants

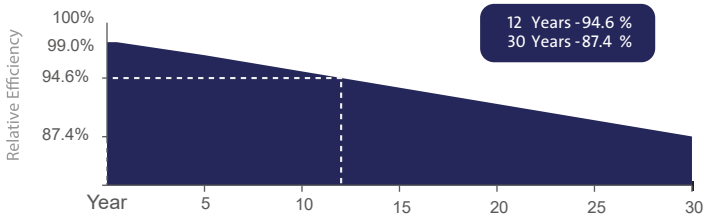
EUPD RESEARCH TOP BRAND PV MODULES 2023

Made In Jordan

FEATURES

- Power output increases by 5-25% from the backside resulting in significantly reduced LCOE and (IRR).
- withstand High Mechincal load :
  Front (5400 Pascal)
  Back (2400 Pascal)
- Exceptional Anti-PID performance through the use of optimized mass-production processes and strict materials control.
- Improved light trapping and current collection technology enhance module power output and reliability.
- Less partial shading current mismatch loss so more power output.
- Better temperature coefficients come from half-cell design.

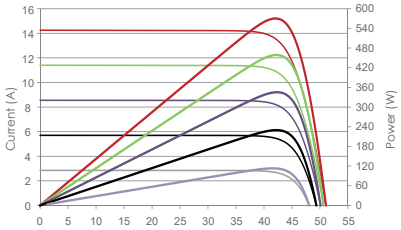
LINEAR PERFORMANCE WARRANTY



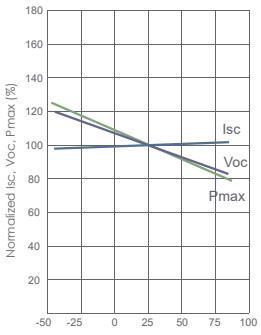
- **12** Year Product Warranty
- **30** Year Linear Power Warranty
- Only **-0.4%** Annual Degradation

Electrical Performance & Temperature Dependence

Current-Voltage & Power-Voltage Curves (570W)



Temperature Dependence of Isc,Voc,Pmax



ELECTRICAL CHARACTERISTICS

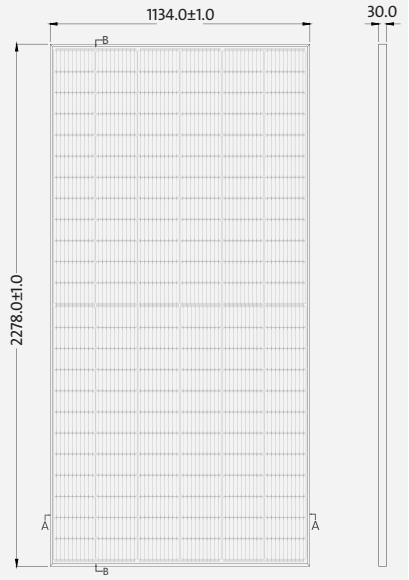
POWER AT STC	565 W	570 W	575 W	580 W
Short Circuit Current - Isc (A)	14.19	14.25	14.31	14.37
Maximum Power Current - Impp (A)	13.41	13.48	13.55	13.62
Open Circuit Voltage - Voc (V)	50.87	51.07	51.27	51.47
Maximum Power Voltage - Vmpp (V)	42.14	42.29	42.44	42.59
Module Efficiency - η' (%)	21.87%	22.07%	22.26%	22.45%
Bifaciality Ratio (%)	80%±5			
Power tolerance (%)	0~+3%			

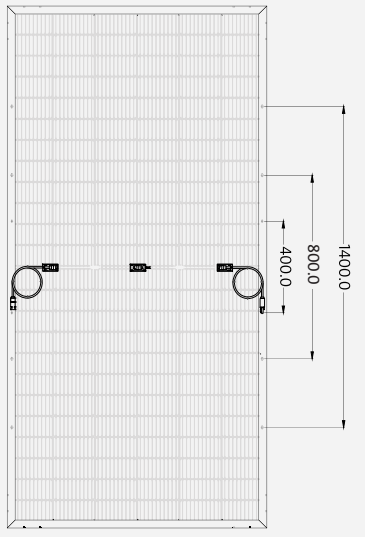
Values at Standard Test Conditions STC (Air Mass AM 1.5 , Irradiance 1000 W/m², Cell Temperature 25° C).

MATERIAL CHARACTERISTICS

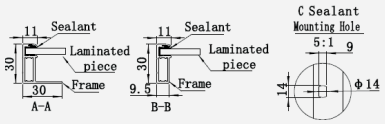
Characteristics	Value
Cells per Module	144 (72 x 2)
Cell Type	N Type (TopCon)Mono-Crystalline
Front Surface	2mm Semi -Tempered Pattern Coated Glass
Back Cover	2mm Semi -Tempered Pattern /Porcelain Glass
Frame	Anodized Aluminum (Black/Silver)
Junction Box	IP 68 With Original MC4
Cable Length	1200mm Cable length could be customized
Fire Classification	UL Type 29

MODULE DRAWINGS





Cross Section A-A&B-B



THERMAL CHARACTERISTICS

Characteristics	Value
Open Voltage Temperature Coefficient VOC (%/C°)	-0.25
Short Circuit Current Temperature Coefficient ISC (%/C°)	+0.045
Power Temperature Coefficient PMP (%/C°)	-0.29
NOCT (°C)	45±2

OPERATING CONDITIONS

Maximum Sytem Voltage - Vmax (V)	1500
Maximum Series Fuse (A)	30
Operating Temperature Range (°C)	IEC: -40 to +85 UL: -40 to +90

PHYSICAL CHARACTERISTICS

Characteristics	Value
Module Dimensions (mm)	2278 x 1134 x 30
Module Weight (kg)	32.5 ± 1 Kg
Packaging	**Value**
Modules per Pallet	36
40 Feet High-Cube Container	720 Modules
Mechanical Load**	**Value**
Max Static load (Front)	5400 Pa
Max Static load (Back)	2400 Pa
Dynamic load	1000 Pa

- Tolerance of power Current and Voltage (ISC,VOC)±5 %
- Datasheet is subjected to change without prior notice, always obtain the most recent version of the datasheet.
- ** Caution: For professional use only, the installation and handling of PV modules and cleaning modules require professional skills and should only be performed by qualified professionals, please read the Installation and Operation Manual before using the modules, also Cleaning Guidelines

Updated Dec 2023