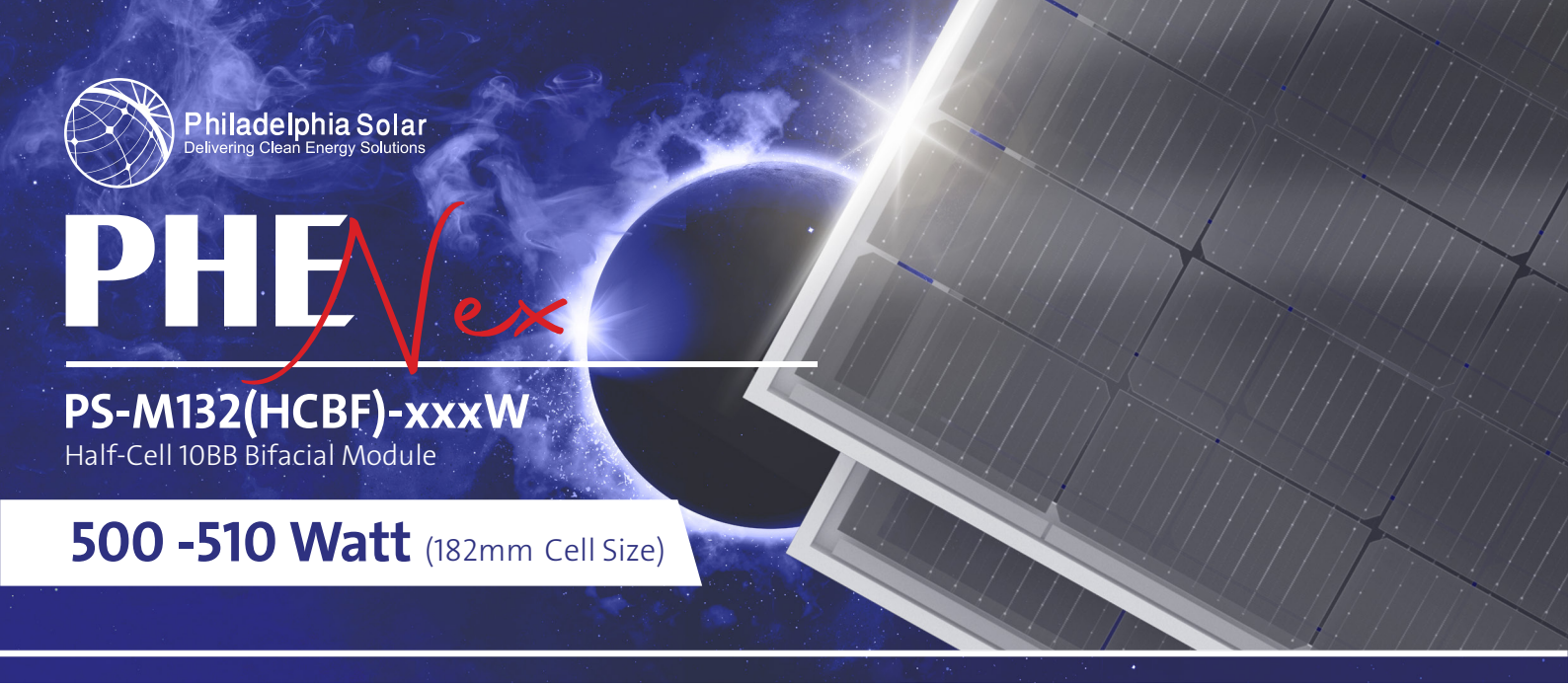
Philadelphia Solar
Delivering Clean Energy Solutions

PHENex

PS-M132(HCBF)-xxxW

Half-Cell 10BB Bifacial Module



500 -510 Watt (182mm Cell Size)

Philadelphia Solar's Mono-Crystalline modules with power up to **510 Wp** 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

IEC 62782:2016 Dynamic load
IEC TS 62804 PID Resistance
IEC 60068 Dust and Sand Resistance
IEC 62716 Ammonia Resistance
IEC 61701 Salt Mist Resistance
UL 61215 / UL 61730
IEC 61215 / IEC 61730
IEC 61853 PAN File
Bankability Report
EN ISO 9001: 2015
Quality Management System
EN ISO 14001: 2015
Environmental Management System
EN ISO 45001: 2018
Occupational health and safety management systems

APPLICATIONS

On-Grid Residential Roof-Tops

On-Grid Commercial/ Industrial Roof-Tops

Off-Grid Systems (Including Lighting Systems)

Solar Power Plants

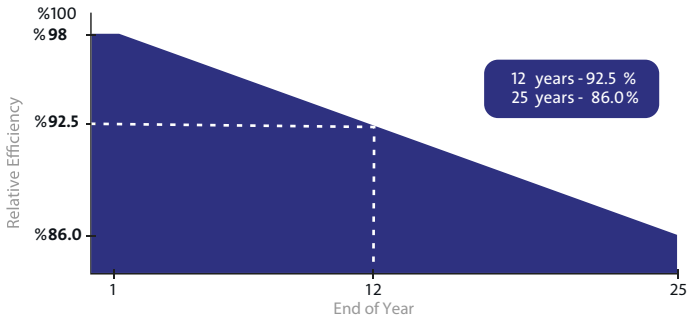
EUPD RESEARCH TOP BRAND PV MODULES 2023

Made In Jordan

FEATURES

- Module's Cell Efficiency up to **23%**
- Lower microcrack problem loss comparing with 5-busbar module
- Lower internal resistance loss
- Lower degradation PERC technology
- 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
- **25** Year Linear Power Warranty
- Only **-0.5%** Annual Degradation

ELECTRICAL CHARACTERISTICS

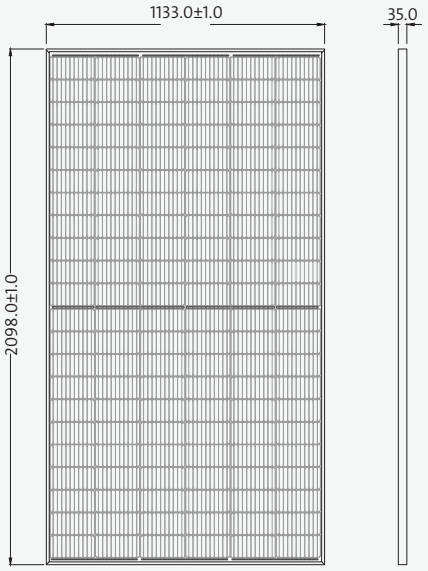
POWER AT STC	500 W	505W	510 W
Short Circuit Current - Isc (A)	13.48	13.53	13.58
Maximum Power Current - Impp (A)	12.89	12.94	13.00
Open Circuit Voltage - Voc (V)	45.78	45.95	46.18
Maximum Power Voltage - Vmpp (V)	38.80	39.08	39.28
Module Efficiency - η' (%)	21.0%	21.2%	21.5%
Bifaciality Ratio (%)		65±5%	

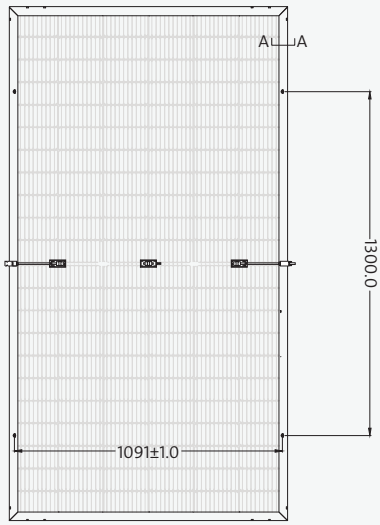
Values at Standard Test Conditions STC (Air Mass AM 1.5 , Irradiance 1000 W/m^2 , Cell Temperature 25° C).

MATERIAL CHARACTERISTICS

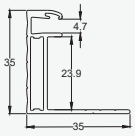
Characteristics	Value
Cells per Module	132 (66 x 2)
Cell Type	Grade A - Mono PERC Crystalline Silicon/10 BB 182x91mm
Front Surface	3.2 Tempered AR Coated Glass
Encapsulant	PID Free EVA
Back Cover	Transparent Backsheet
Frame	Anodized Aluminum (Black/Silver)
Junction Box	IP68 , 3 Bypass Diodes
Cable Length	300mm Cables Length (Can be Customized)
Fire Classification	Type I

MODULE DRAWINGS





Cross Section A-A



THERMAL CHARACTERISTICS

Characteristics	Value
Open Voltage Temperature Coefficient VOC (%/C°)	-0.22
Short Circut Current Temperature Coefficient ISC (%/C°)	+0.05
Power Temperature Coefficient PMP (%/C°)	-0.35
NOCT (°C)	45±2

OPERATING CONDITIONS

Maximum Sytem Voltage - Vmax (V)	1500
Maximum Series Fuse (A)	25
Operating Temperature Range (°C)	IEC: -40 to +85 UL: -40 to +90

PHYSICAL CHARACTERISTICS

Characteristics	Value
Module Dimensions (mm)	2098±1 x 1133±1 x 35
Module Weight (kg)	26 ± 1kg
Packaging	**Value**
Modules per Pallet	31
40 Feet High-Cube Container	682 Modules
Mechanical Load**	**Value**
Max Static load (Front)	5400 Pa
Max Static load (Back)	2400 Pa
Dynamic load	1000 Pa

- Power measuring tolerance: ± 3%, other measurements tolerances: ± 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 June 2023