



**Philadelphia Solar**  
Delivering Clean Energy Solutions

# DARK PHE<sup>Nex</sup> Bifacial

Module : PS-M108(HCBF)-xxxW

## 400-410W

Half-Cell Mono-Crystalline 10BB Black modules with power up to **410 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  
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

### FEATURES



Light weight , Perfect for Residential Roof-top



P Type/M10/PERC/10BB/Half-Cell



Lower microcrack problem loss comparing with 5-busbar module

**TIER-1**  
MANUFACTURER



Made In Jordan



Strong Mechanical Load Capacity

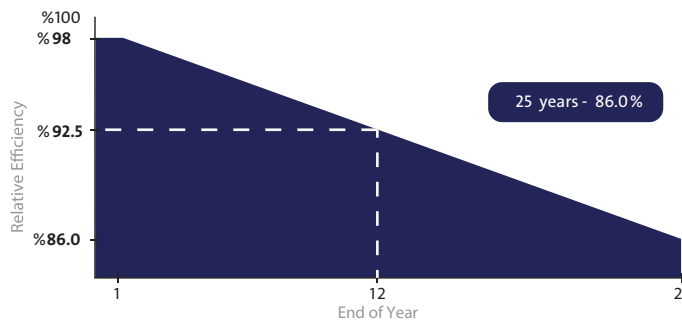


Better temperature coefficients come from half-cell design.



Excellent anti-PID performance to ensure module's stable power output

### LINEAR PERFORMANCE WARRANTY



Extendable Product Warranty Reaches to **25 Years**

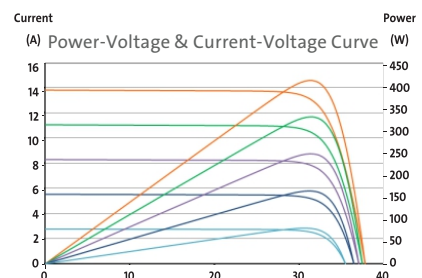
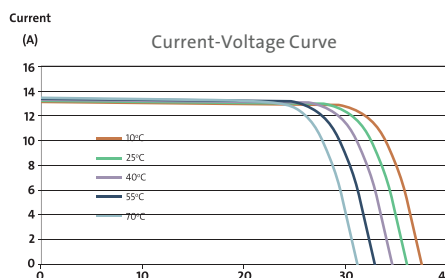


**25 Year Linear Power Warranty**



Only **-0.5%** Annual Degradation

### I-V CURVES



1000W/m<sup>2</sup> 800W/m<sup>2</sup>  
600W/m<sup>2</sup> 400W/m<sup>2</sup>  
200W/m<sup>2</sup>

## ELECTRICAL CHARACTERISTICS

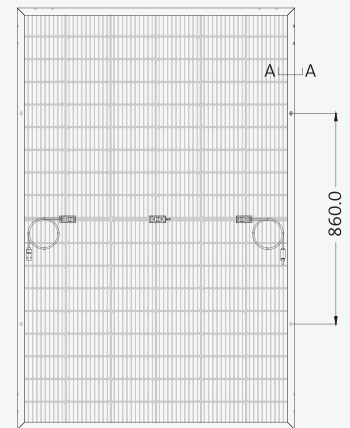
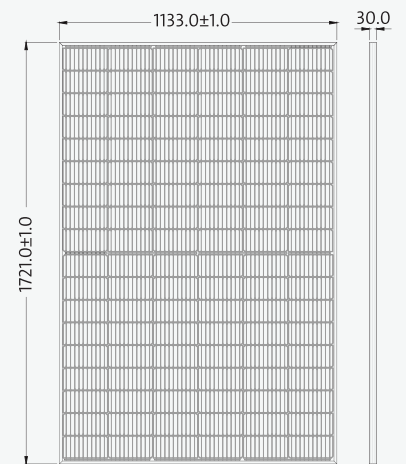
POWER AT STC	400 W	405 W	410W
Short Circuit Current - Isc (A)	13.55	13.59	13.66
Maximum Power Current - Impp (A)	12.92	12.96	13.01
Open Circuit Voltage - Voc (V)	37.15	37.34	37.55
Maximum Power Voltage - Vmpp (V)	31.00	31.27	31.52
Module Efficiency - $\eta'$ (%)	20.5%	20.8%	21.0%
Bifaciality Ratio (%)	65±5%		

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

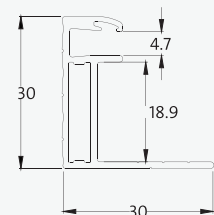
## MATERIAL CHARACTERISTICS

Characteristics	Value
Cells per Module	108 (54x2)
Cell Type	Grade A - Mono PERC Crystalline Silicon/10 BB 182x91mm
Front Surface	3.2mm Tempered AR Coated Glass
Encapsulant	PID Free EVA
Back Cover	Transparent Backsheet
Frame	Anodized Aluminum (Black)
Junction Box	IP68, 3 Bypass Diodes
Cable Length	Cables Length Could be 300m, or 1200mm With Original MC4 Connector
Fire Classification	Type I

## MODULE DRAWINGS



Cross Section A-A



## THERMAL CHARACTERISTICS

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

## PHYSICAL CHARACTERISTICS

Characteristics	Value
Module Dimensions (mm)	1721±1 x 1133±1 x 30
Module Weight (kg)	20.5 ± 1kg

## Packaging

Value	Value
Modules per Pallet	37
40 Feet High-Cube Container	962 Modules

## OPERATING CONDITIONS

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

## Mechanical Load\*\*

Value	Value
Max Static load (Front)	5400 Pa
Max Static load (Back)	5400 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