

Electrical Characteristics

Module Type	SEG-BMA-385BB SEG-BMA-385BW	SEG-BMA-390WW SEG-BMA-390WB SEG-BMA-390BB SEG-BMA-390BW	SEG-BMA-395WW SEG-BMA-395WB SEG-BMA-395BB SEG-BMA-395BW	SEG-BMA-400WW SEG-BMA-400WB SEG-BMA-400BB SEG-BMA-400BW	SEG-BMA-405WW SEG-BMA-405WB
	STC	STC	STC	STC	STC
Maximum Power at STC (Pmp)	385	390	395	400	405
Open Circuit Voltage (Voc)	48.5	48.7	48.9	49.1	49.4
Short Circuit Current (Isc)	9.87	9.95	10.03	10.10	10.15
Maximum Power Voltage (Vmp)	41.0	41.2	41.4	41.6	41.9
Maximum Power Current (Imp)	9.39	9.47	9.55	9.62	9.67
Module Efficiency at STC(ηm)	19.07	19.32	19.56	19.81	20.06
Power Tolerance	(0,+4.99)				
Maximum System Voltage	1000 VDC / 1500 VDC				
Maximum Series Fuse Rating	20A				

STC: Irradiance 1000 W/m² module temperature 25°C AM=1.5;

Temperature Characteristics

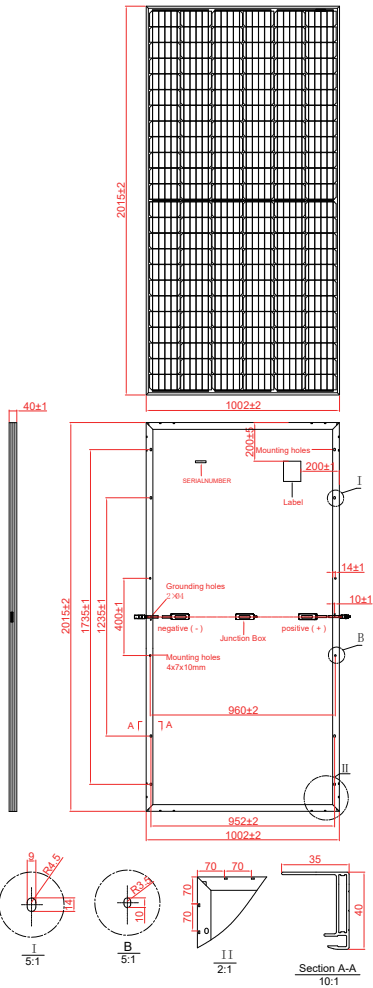
Pmax Temperature Coefficient	-0.36 %/°C
Voc Temperature Coefficient	-0.28 %/°C
Isc Temperature Coefficient	+0.05 %/°C
Operating Temperature	-40 ~ +85 °C
Nominal Operating Cell Temperature (NOCT)	45±2 °C

Mechanical Specifications

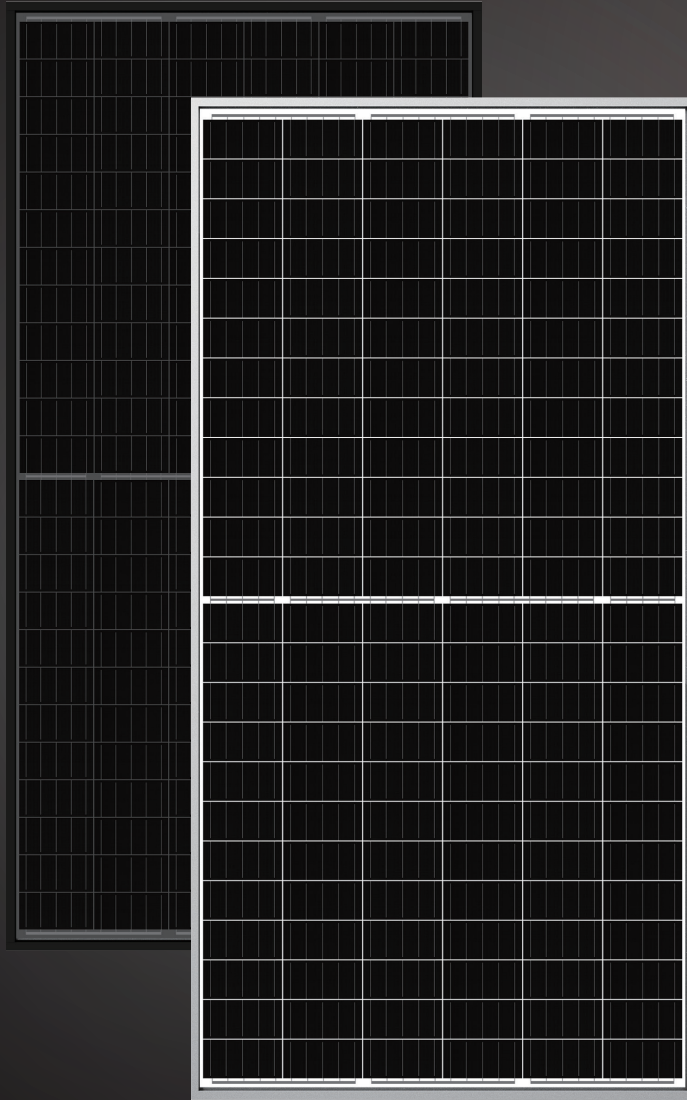
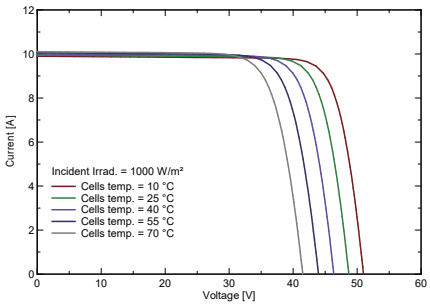
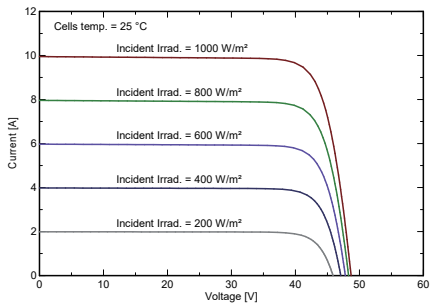
External Dimensions	2015 x 1002 x 40 mm(79.33 x 39.45 x 1.57 inch)
Weight	23.0 kg (50.8 lbs)
Solar Cells	PERC Mono crystalline 158.75 × 79.375 mm (144pcs)
Front Glass	3.2 mm AR coating tempered glass, low iron
Frame	Anodized aluminium alloy
Junction Box	IP68, 3 diodes
Output Cable	12AWG,Portrait:100.39 inch(+)/139.76 inch(-); Landscape:472.44 inch
Connector	MC4 Compatible
Mechanical Load	Front side 5400Pa/ Back side 2400Pa

Packing Configuration

	2015 x 1002 x 40 mm(79.33 x 39.45 x 1.57 inch)	
Container	20'GP	40'GP
Pieces per Pallet	27	27
Pallets per Container	10	22
Pieces per Container	270	594



I-V Curve



BIADÉ™

Cuts Night, Breaks Dawn.

385W-405W

## Blade™ – A Module re-Modeled

Seraphim's Blade™ Series solar module boasts two identical parts, which are composed of cells that are half the size of ordinary solar cells. By cutting cells into halves, these smaller currents will help reduce "Cell To Module" loss, which means higher output.

In the meantime, the overall space between cells are doubled, and more light will be transferred into power through multiple reflections. Compared to mainstream standard modules, the Blade™ series module has lower current and series resistance which helps minimize mismatch loss, internal power loss, and shadow effect, etc. Once one cell has EL defect or appearance defect, such as black edge or V sharp. After cutting, one intact half can be reused.



**More Output**



**Higher Efficiency**

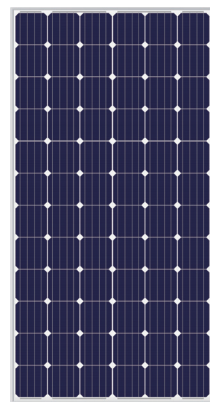


**Higher ROI**

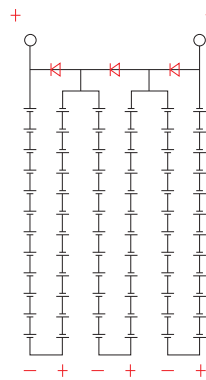
### Less Mismatch loss

Instead of 6 internal strings of cells, the Blade series module has 2 x 6 shorter ones. This design effectively deals with the mismatch happened between cells caused by shadow, out of sync performance degradation, ect.

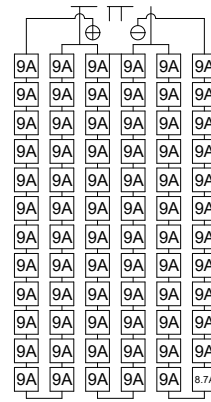
**Standard Module** / With 6 internal strings of cells



Design Sketch



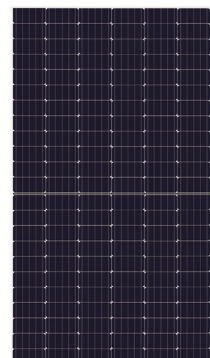
Circuit Diagram



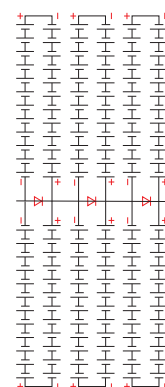
Electrical Mismatch

Module current output is 8.7A, current mismatch in series is **0.3A**.

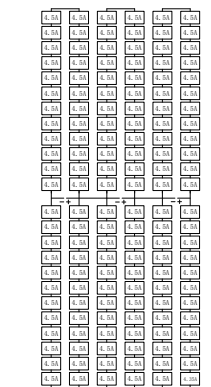
**Blade™** / With 2 x 6 internal strings of cells



Design Sketch



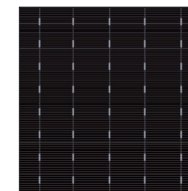
Circuit Diagram



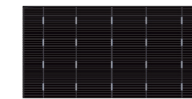
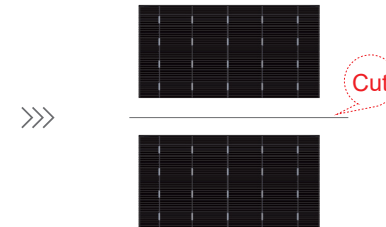
Electrical Mismatch

Module current output is 4.5+4.35=8.85A, current mismatch in series is **0.15A**.

### Less Internal Power Loss



Standard Cell



Half Cell

The ribbon length of half-cell is shorter than normal cell. Calculated by Joule's law and Ohm' law, the power loss reduction is nearly 6%.

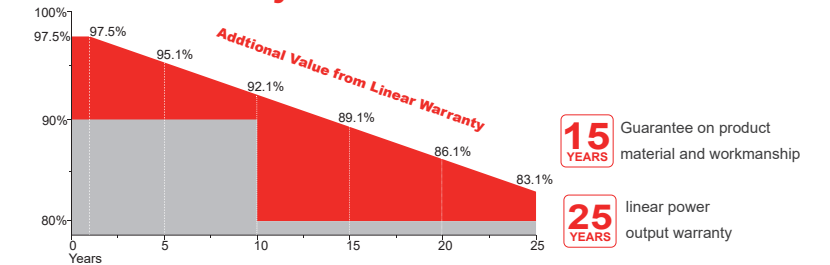
### Product Certificates



### Insurance



### Warranty

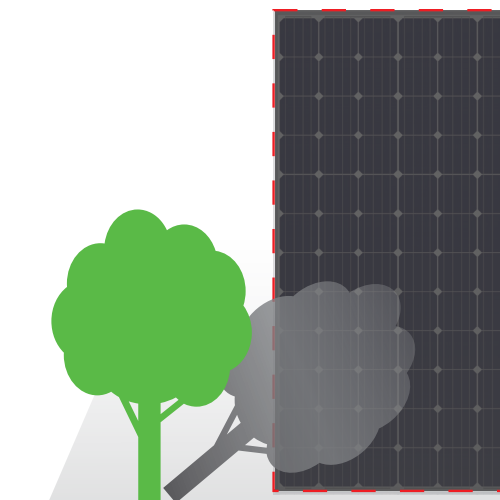


### Higher Yield Due to Better Shading Response

Blade™ comprises two separated and identical solar cell arrays, which means the ordinary strings of cells are cut into halves, and these shorter strings compose arrays which has separated current paths. When a module is shaded, only one side shaded array's current will be impacted, while the other array will still be functionally producing power. Under this circumstance, when a module is shaded, the affected working areas of Blade™ will be 50% less.

By cutting solar cell into halves, the internal power loss will be lower and hot spot effect will also be reduced.

### Standard Module



### Blade™ Module

