

# VALOR SERIES

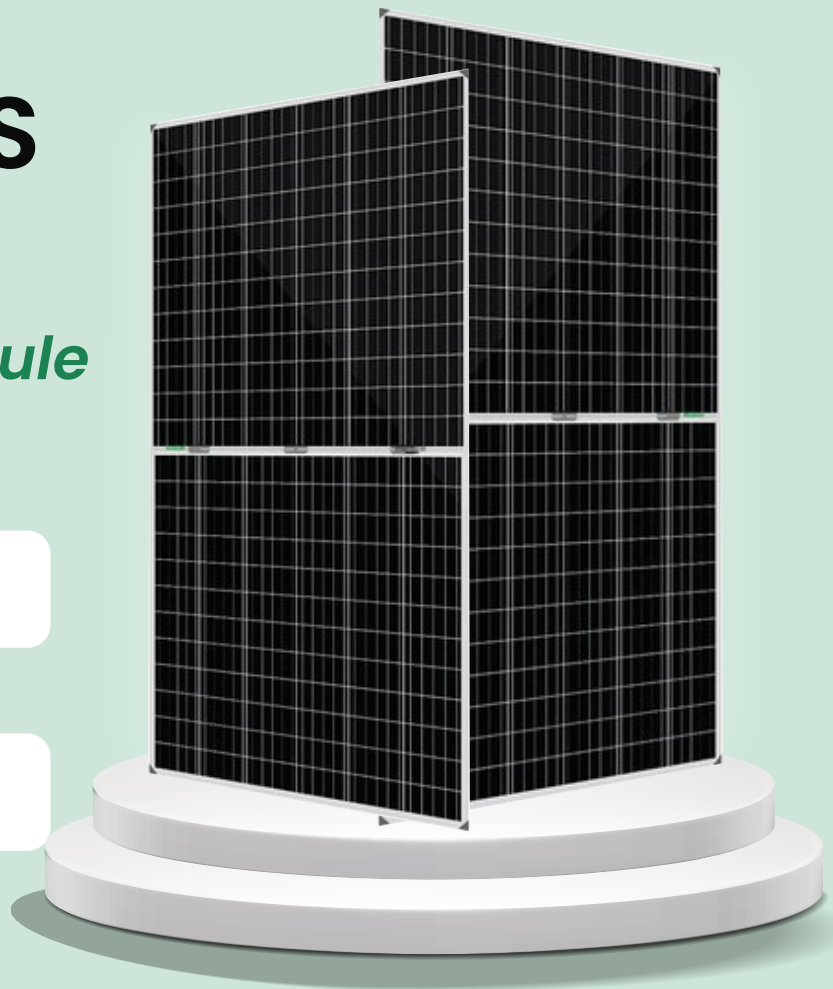
**132 cells** Mono-Perc  
Half cut **Solar PV Module**

**10**  
YEARS

WARRANTY FOR MATERIALS  
AND PROCESSING\*

**27**  
YEARS

WARRANTY FOR LINEAR  
POWER OUTPUT\*



## Product certifications:

IS 14286:2010 | IEC 61215: 2005 IS | IEC 61730-2:2004 IS  
| IEC 61730-1:2004 | IEC 62804 | IEC 61853 | IEC 61701

## Salient features

- M10 cells for enhanced power generation
- Multi-busbar technology to minimize electrical losses
- Round ribbon connectors for improved light utilization
- Non-destructive cell cutting for improved reliability and lower chances of micro-cracks
- Half-cut cell technology for superior low-light performance.
- Also available in Bifacial technology enabling power generation from both the sides.

## Mechanical Data

Specification	Data
Cell Type	Half cut Mono PERC
Cell Arrangement	22x6 Mono PERC Half Cut Cells
Dimensions	2094x1134x35mm
Weight	26.65 Kg
Front Cover	3.2 mm ARC Glass
Frame Material	Anodized Aluminium Alloy
Junction Box	IP68 Split JB
Cable	4mm <sup>2</sup> (IEC) – 0.3 meter (Length)
Connectors	MC4 Compatible
By-Pass Diodes	3 Pcs

## OPERATING PARAMETERS

Operational Temperature: -40° C ~ +85° C

Power Output Tolerance: 0 ~ +5 W

Voc and Isc Tolerance: 3%

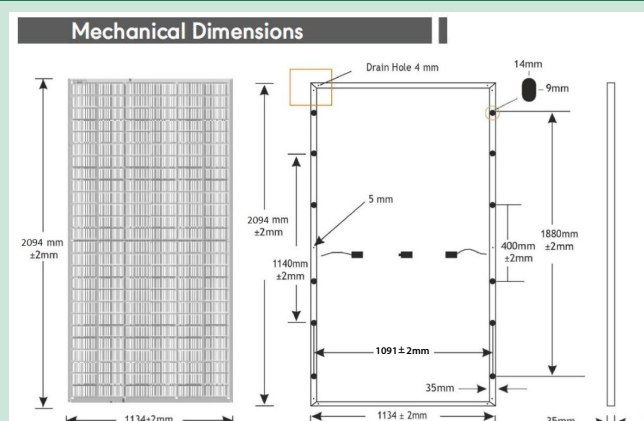
Maximum System Voltage: DC1500V (IEC/UL)

Maximum Series Fuse Rating: 15A

Safety Protection Class: Class II

Fire Rating: UL type 3

## DESIGN (MM)



## ELECTRICAL data – All data measured to STC

Module No.	IBMPH-500	IBMPH495	IBMPH490	IBMPH485	IBMPH480
Maximum Power (Pmax/W)	500	495	490	485	480
Open Circuit Voltage (Voc/V)	45.408	45.342	45.21	45.144	45.078
Short Circuit Current (Isc/A)	13.498	13.449	13.397	13.358	13.337
Voltage at Maximum Power (VMP/V)	40.326	40.26	40.062	39.93	39.864
Current at Maximum Power (Imp/A)	12.426	12.35	12.245	12.174	12.097
Module Efficiency STC (%)	21.0958	20.92903	20.65109	20.45653	20.28977

1) (1) STC : 1000W/m<sup>2</sup> irradiance, 25°C cell temperature, AM1.5g spectrum according to EN 60904-3. Average relative efficiency reduction of 5% at 200 W/m<sup>2</sup> according to EN 60904-1.

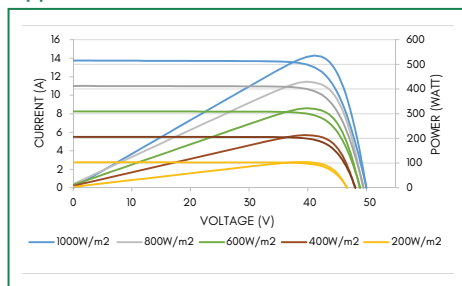
2) Average relative efficiency reduction of 5% at 200W/m<sup>2</sup> according to EN 60904-1.

## TEMPERATURE RATINGS (STC)

## MECHANICAL LOADING

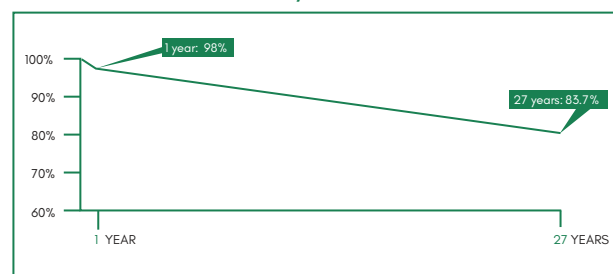
Parameter	Calculated Value		
Short circuit current $\alpha$ ( $\%/^{\circ}\text{C}$ ).....	0.0213	Front Side Static Loading	5400Pa
Open circuit voltage $\beta$ ( $\%/^{\circ}\text{C}$ ).....	-0.0415	Rear Side Maximum Static Loading	2400Pa
Peak power $\delta$ ( $\%/^{\circ}\text{C}$ ).....	-0.2111	Hailstone Test	25mm Hailstone at the speed of 23m/s

Typical I-V Curves



4) Average relative efficiency reduction of 5% at 200 W/m² according to EN 60904-1.

Performance Warranty



## INDUSTRY LEADING PROTECTION



EXCELLENT  
EFFICIENCY



LOW-LIGHT  
PERFORMANCE



HIGH SAVING



PID  
RESISTANCE



IP68  
JUNCTION



REDUCED RISK



Ideal for Large  
scale Installations



High Power



Better shading  
tolerance



Lower LCOE &  
system cost



Excellent  
temperature  
performance



Non-destructive  
cutting

**\*\*Refer to IB Solar Warranty Document For Terms & Conditions**

**CAUTION:** READ SAFETY AND INSTALLATION MANUAL BEFORE USING THE PRODUCT. Specifications included in this datasheet are subject to change without notice. Electrical data without guarantee. Please confirm your exact requirement with the company representative while placing your order.