

144-CELL HALF CUT Monocrystalline Solar Module

166mm Mono PERC Solar Cells (9BB- Half)

470W

Maximum Power Output

21.9%

Maximum Efficiency

0~+5W

Positive Power Tolerance



MBB Cell

New circuit design, lower internal current, lower internal resistance loss.



Low hotspot risk

Special cutting and soldering technology leads to low hotspot risk.



Optimized system performance

Optimized system performance due to module level current sorting.



Withstanding harsh environment

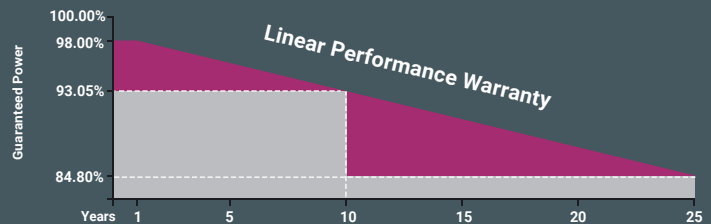
Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline.



High PID resistant

Advanced cell technology and qualified materials lead to high resistance to PID.

- IEC61215 / IEC61730 / IEC61701 / IEC62716
- ISO9001: Quality Management System
- ISO14001: Environment Management System
- OHSAS18001 : Occupational Health and Safety System



• 12-year product warranty • 25-year linear power warranty

“Innovating for Solar Energy”

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Electrical Characteristics(STC)

PV module model	440	445	450	455	460	465	470	475
Maximum Power - Pmax(W)	440	445	450	455	460	465	470	475
Open Circuit Voltage - Voc(V)	49.25	49.55	49.84	50.10	50.39	50.68	50.96	51.25
Short Circuit Current - Isc(A)	11.28	11.31	11.34	11.37	11.40	11.43	11.47	11.50
Voltage at Pmax-Vmp(V)	41.40	41.75	42.10	42.41	42.76	43.10	43.44	43.78
Current at Pmax-Imp(A)	10.63	10.66	10.69	10.73	10.76	10.79	10.82	10.85
Module Efficiency-ηm(%)	20.2	20.5	20.7	20.9	21.2	21.4	21.6	21.9
Power Output Tolerance(W)	0~+5							

STC: Irradiance 1000 W/m², Module Temperature 25°C, Air Mass AM1.5

Electrical Characteristics(NMOT)

Maximum Power - Pmax(W)	321.0	324.8	328.6	332.4	336.2	340.0	343.9	347.7
Open Circuit Voltage - Voc(V)	45.60	45.82	46.08	46.34	46.60	46.86	47.12	47.38
Short Circuit Current - Isc(A)	9.12	9.14	9.17	9.19	9.22	9.25	9.27	9.30
Voltage at Pmax-Vmp(V)	37.80	38.10	38.40	38.70	39.00	39.30	39.60	39.90
Current at Pmax-Imp(A)	8.48	8.52	8.55	8.59	8.62	8.65	8.69	8.72

NOCT: Irradiance 800 W/m², Ambient Temperature 20°C, Wind Speed 1m/s

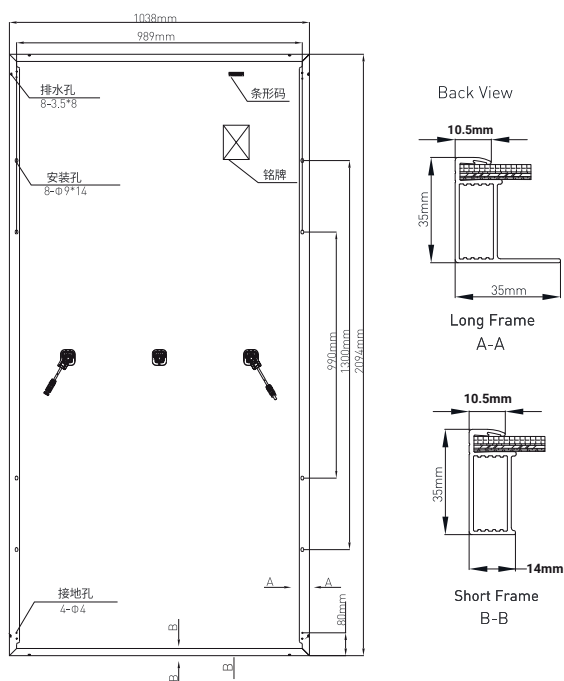
Temperature Characteristics

Pmax Temperature Coefficient	-0.36%/°C
Voc Temperature Coefficient	-0.28%/°C
Isc Temperature Coefficient	+0.05%/°C
Operating Temperature	-40~+85°C
Nominal Module Operating Temperature (NMOT)	43±2°C

Mechanical Specifications

External Dimensions	2094x1038x35mm
Weight	23.3kg
Solar Cells	monocrystalline 144(6x24)pcs
Front Glass	High transparency solar glass 3.2mm
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	4.0mm ² , Portrait: 230mm/230mm
Connector	MC4 Compatible
Wind/Snow Load	2400Pa/5400Pa
Maximum System Voltage	1500V DC
Max Series Fuse Rating	20A

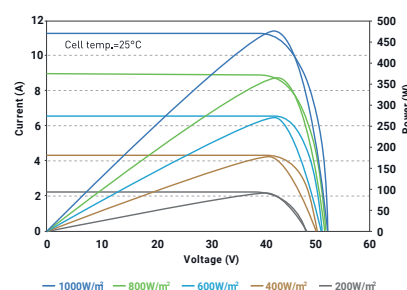
Module Dimension



Packing Configuration

Modules per pallet	31 pieces
Modules per 40' container	682 pieces

I-V/P-V Curve at Different Irradiation (465W)



I-V Curve at Different Temperature (465W)

