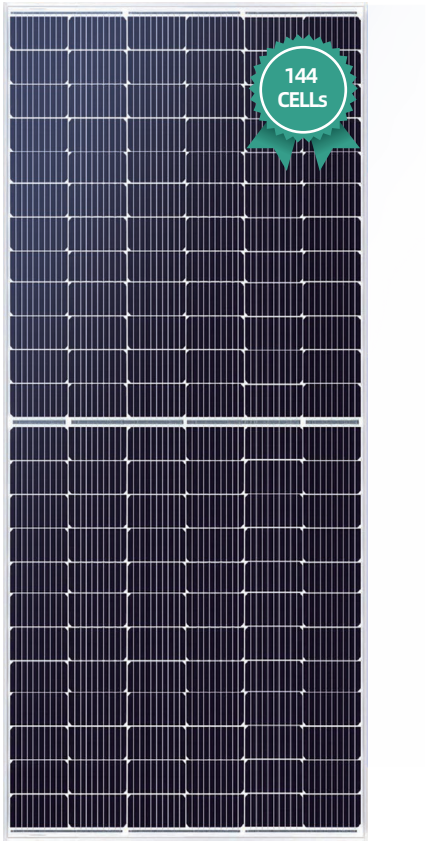


440-460w

Bifacial Twinplus Module Series

HIGH EFFICIENCY MONO-PERC BM4-9B-G

Bloomberg NEW ENERGY FINANCE Tier1 TOP PERFORMER 2023 PVEL kiwa PV MODULE RELIABILITY SCORECARD

Extraordinary Product Performance

- Up to 25% additional power yield benefited from bifacial technology
- Lower power loss in cell connection and under shading conditions
- Competitive high-temperature performance with ameliorated temperature coefficient
- Higher power generation with multi-busbar and half-cut technology

High Quality Reliability

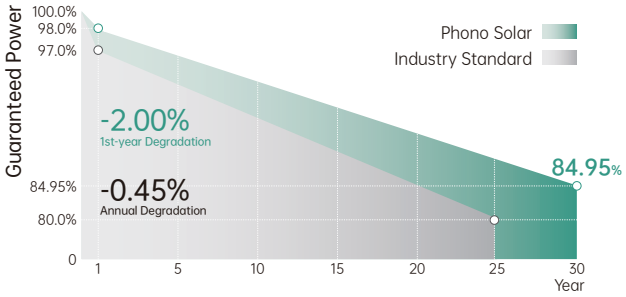
- Optimized electrical design lowers hot spot risk and operating current
- Corrosion resistance guarantees enhanced reliability in harsh environments
- Minimized Risk of microcrack and snail trail

Easy Installation

- Framed design improves mounting and racking method compatibility
- Safer and easier handling during transportation and installation

PID Resistant

- Encapsulation with Industry-leading cell processing technology and dual glass contributes to excellent anti-PID characteristic



12-year Product Warranty

30-year Linear Performance Warranty

MANAGEMENT SYSTEM CERTIFICATES

IEC 61215, IEC 61730

ISO 9001
2015 / Quality management system

ISO 14001
2015 / Standards for environmental management system

ISO 45001
2018 / International standards for occupational health & safety

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Electrical Typical Values

Model	1000V	PS440M5GF-24/TH		PS445M5GF-24/TH		PS450M5GF-24/TH		PS455M5GF-24/TH		PS460M5GF-24/TH	
	1500V	PS440M5GFH-24/TH		PS445M5GFH-24/TH		PS450M5GFH-24/TH		PS455M5GFH-24/TH		PS460M5GFH-24/TH	
Testing Condition		STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Rated Power (Pmpp)		440	328	445	332	450	336	455	339	460	343
Rated Current (Impp)		10.60	8.56	10.70	8.64	10.80	8.72	10.90	8.80	11.00	8.88
Rated Voltage (Vmpp)		41.51	38.34	41.59	38.42	41.67	38.49	41.75	38.56	41.82	38.63
Short Circuit Current (Isc)		11.24	9.07	11.30	9.12	11.36	9.17	11.42	9.22	11.48	9.27
Open Circuit Voltage (Voc)		49.51	46.84	49.57	46.89	49.63	46.95	49.69	47.01	49.75	47.06
Module Efficiency (%)		20.24		20.47		20.70		20.93		21.16	

STC(Standard Testing Conditions): Irradiance 1000W/m², AM 1.5, Cell Temperature 25°C

NOCT (Nominal Operation Cell Temperature): Irradiance 800W/m², Ambient Temperature 20°C , Spectra at AM1.5, Wind at 1m/s

BSTC**

Maximum Power (Pmax)	475	480	485	495	500
Optimum Operating Current (Impp)	11.44	11.54	11.64	11.86	11.96
Optimum Operating Voltage (Vmpp)	41.51	41.59	41.67	41.75	41.82
Short Circuit Current (Isc)	11.91	12.02	12.13	12.37	12.48
Open Circuit Voltage (Voc)	49.51	49.57	49.63	49.69	49.75

**BSTC:Front Side Irradiation 1000W/m², Back Side Reflection Irradiation 135W/m², AM 1.5, Ambient Temperature 25°C

Mechanical Characteristics

Cell Type	Monocrystalline
Dimension (L × W × H)	Length: 2094mm (82.44 inch) Width: 1038mm (40.87 inch) Height: 30mm (1.18 inch)
Weight	27.0kg (59.52 lbs)
Glass	2.0mm/2.0mm toughened glass
Frame	Anodized Aluminium Alloy
Cable (Including Connector)	4mm² (IEC), (+): 450mm,(-): 250mm or Customized Length
Junction Box	IP 68 Rated

Temperature Ratings

Voltage Temperature Coefficient	-0.27%/°C
Current Temperature Coefficient	+0.045%/°C
Power Temperature Coefficient	-0.34%/°C
Tolerance	0~+3%
NOCT	45±2°C
Bifaciality	70±5%

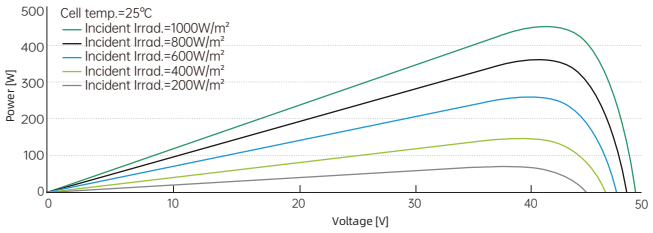
Absolute Maximum Rating

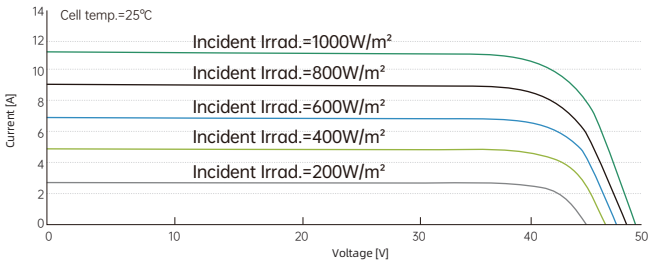
Operating Temperature	From -40 to + 85°C
Hail Diameter @ 80km/h	Up to 25mm
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Maximum Series Fuse Rating	25A
PV Module Classification	II
Fire Rating (IEC61730)	C
Maximum System Voltage	DC 1000V/1500V

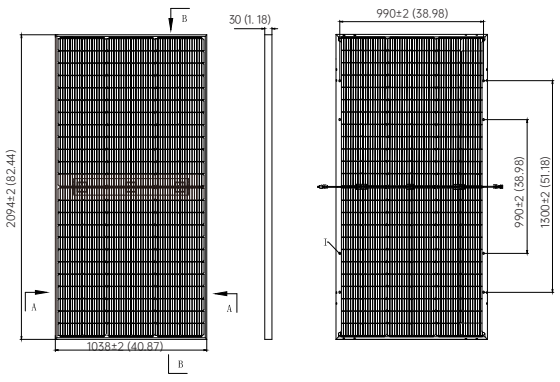
Packing Configuration

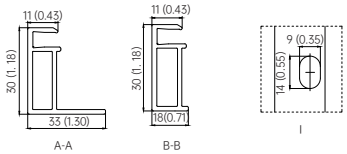
Container	20' GP	40' HQ
Pieces/Container	280	792
Pcs/Pallet	56	36
Pallets/Container	5	22

Electrical Characteristics









Note:mm (inch)