



# 440-460w

## Bifacial Twinplus Module Series

HIGH EFFICIENCY MONO-PERC BM4-9B-G

**Bloomberg**  
NEW ENERGY FINANCE

**Tier1**



### 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

### Higher Quality Reliability

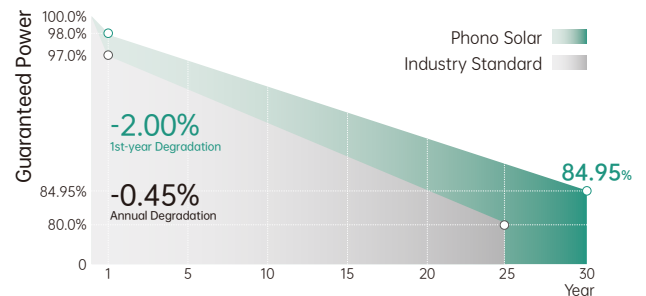
- Optimized electrical design lowers hot spot risk and operating current
- Corrosion resistance guarantees enhanced reliability in harsh environments
- Minimized Risk of microcrack and snail trail

### Easy Installation

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

### PID Resistant

- Encapsulation with POE and dual glass contributes to PID-free 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



## Electrical Typical Values

| Model                       | PS440M5GF-24/TH |       | PS445M5GF-24/TH  |                  | PS450M5GF-24/TH  |                  | PS455M5GF-24/TH  |       | PS460M5GF-24/TH |       |
|-----------------------------|-----------------|-------|------------------|------------------|------------------|------------------|------------------|-------|-----------------|-------|
|                             | 1000V           | 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             | 327   | 445              | 331              | 450              | 335              | 455              | 339   | 460             | 342   |
| Rated Current (Imp)         | 10.60           | 8.56  | 10.70            | 8.65             | 10.80            | 8.73             | 10.90            | 8.81  | 11.00           | 8.89  |
| Rated Voltage (Vmp)         | 41.51           | 38.22 | 41.59            | 38.29            | 41.67            | 38.37            | 41.75            | 38.44 | 41.82           | 38.51 |
| Short Circuit Current (Isc) | 11.24           | 9.08  | 11.30            | 9.13             | 11.36            | 9.18             | 11.42            | 9.23  | 11.48           | 9.28  |
| Open Circuit Voltage (Voc)  | 49.51           | 46.74 | 49.57            | 46.79            | 49.63            | 46.85            | 49.69            | 46.91 | 49.75           | 46.96 |
| Module Efficiency (%)       | 20.24           |       | 20.47            |                  | 20.70            |                  | 20.93            |       | 21.16           |       |

STC(Standard Testing Conditions): Irradiance 1000W/m<sup>2</sup>, AM 1.5, Cell Temperature 25°C

NOCT (Nominal Operation Cell Temperature): Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, Spectra at AM1.5, Wind at 1m/s

## Electrical Characteristics With Different Power Bin

|     |                       |       |       |       |       |       |
|-----|-----------------------|-------|-------|-------|-------|-------|
| 5%  | Maximum Power (W)     | 455   | 461   | 466   | 471   | 476   |
|     | Module Efficiency (%) | 20.95 | 21.19 | 21.43 | 21.67 | 21.90 |
| 15% | Maximum Power (W)     | 486   | 492   | 497   | 503   | 508   |
|     | Module Efficiency (%) | 22.37 | 22.62 | 22.88 | 23.13 | 23.39 |
| 25% | Maximum Power (W)     | 517   | 523   | 529   | 535   | 541   |
|     | Module Efficiency (%) | 23.79 | 24.06 | 24.33 | 24.60 | 24.87 |

## Mechanical Characteristics

|                             |   |
|-----------------------------|---|
| Cell Type                   | Monocrystalline 166mm x 83mm  |
| Dimension (L x W x 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) | 4mm <sup>2</sup> (IEC),<br>(+): 450mm,(-): 250mm or Customized Length |
| Junction Box                | IP 68 Rated   |

## Temperature Ratings

|                                 |           |
|---------------------------------|-----------|
| Voltage Temperature Coefficient | -0.28%/°C |
| Current Temperature Coefficient | +0.05%/°C |
| Power Temperature Coefficient   | -0.35%/°C |
| Tolerance                       | 0~+5w     |
| NOCT                            | 45±2°C    |
| Bifaciality                     | 70±5%     |

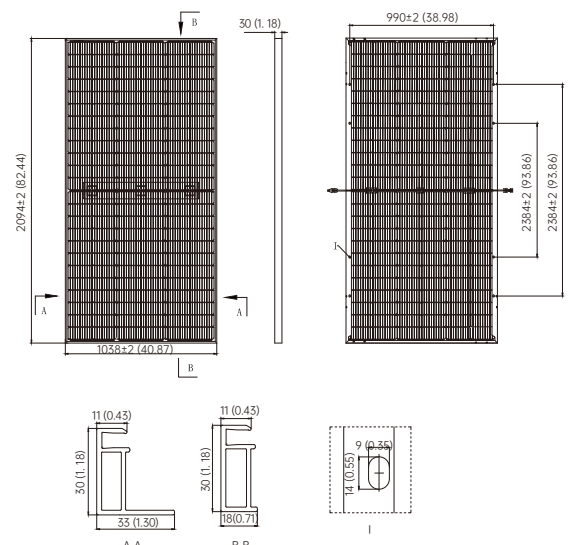
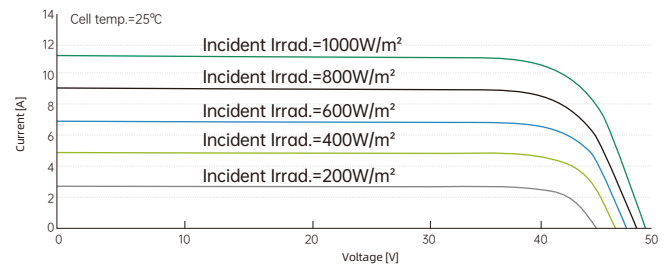
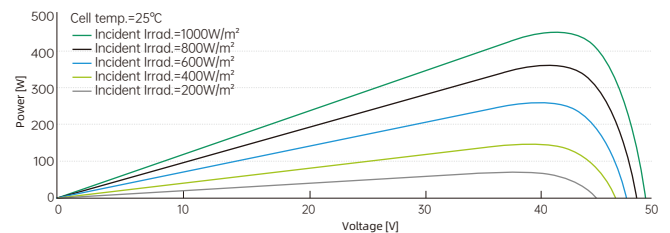
## Absolute Maximum Rating

|                                   |                    |
|-----------------------------------|--------------------|
| 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' HQ | 40' HQ |
| Pieces/Container | 290    | 792    |

## Electrical Characteristics



Note:mm (inch)