

# 275 W – 285 W Poly-crystalline Solar Module



### Premium MB Series

- 12 Bus-Bar grid pattern technology: reduce 3% of cell shading area
- Beautiful appearance, ideal for applications that require architectural aesthetics

### Enhanced Reliability and Power Output

- Enhanced module efficiency up to 17.4%
- Higher power output with lower LCOE
- Lower Rs
- Concentration effect of round photovoltaic solder trip
- Enhanced anti-micro-cracking performance with balanced interior stress
- Significantly lowers the risk of hot spot by lowering module temperature in shading

### Robust Design

- Strong anodized aluminum alloy frame
- Certified by TÜV to withstand up to 2400 Pa wind load and up to 5400 Pa snow load
- Easy installation and minimal maintenance with compatibility to industry standard inverters and mounting systems

## Mechanical Characteristics

|                          |  |
|--------------------------|--|
| Cell type                | Poly-crystalline   |
| Cell Dimensions          | 156.75 × 156.75 mm, multi-busbar                           |
| Cell Arrangement         | 60 (6 × 10)  |
| Weight                   | 18.5 kg  |
| Module Dimensions        | 1650 × 992 × 35 mm<br>(also available: 1650 × 992 × 30 mm) |
| Glass                    | 3.2 mm, high transmission, tempered                        |
| Connector                | MC4 compatible   |
| Cable Length             | 900 mm   |
| Cable Cross-section Size | 4 mm <sup>2</sup>  |
| No. of Bypass Diodes     | 3/6  |

## Certificates



## Warranty

10 Years: Manufacturing Warranty

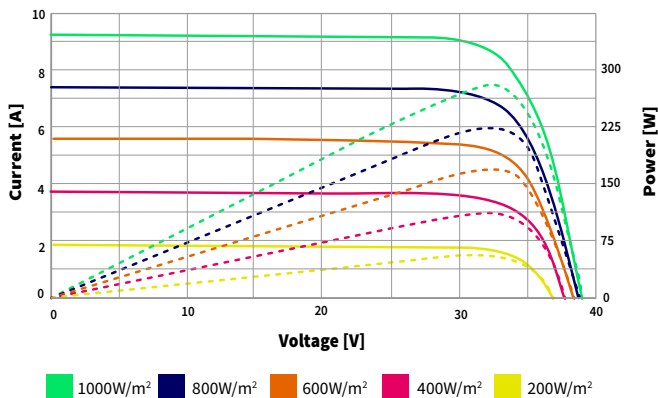
12 Years Warranty: 90% Power Output

25 Years Warranty: 80% Power Output

# Electrical Characteristics

| SOLAR CELLS  |                                 | POLY-CRYSTALLINE 156.75 × 156.75MM 60 PCS. (6×10) – 5 BUS BARS |            |  |
|--|---------------------------------|--|------------|--|
| Model  | SEP 275 MB                      | SEP 280 MB   | SEP 285 MB |  |
| Performance at Standard Test Conditions (STC): 1000 W/m <sup>2</sup> , 25°C, AM 1.5, positive power tolerance 0/+3 % |                                 |  |            |  |
| Maximum Power (Pmax)   | 275 Wp                          | 280 Wp   | 285 Wp     |  |
| Operating Voltage (Vmpp)   | 31.7 V                          | 32.0 V   | 32.3 V     |  |
| Operating Current (Impp)   | 8.69 A                          | 8.76 A   | 8.83 A     |  |
| Open-Circuit Voltage (Voc)   | 38.7 V                          | 39.0 V   | 39.3 V     |  |
| Short-Circuit Current (Isc)  | 9.17 A                          | 9.25 A   | 9.30 A     |  |
| Module Efficiency  | 16.8 %                          | 17.1 %   | 17.4 %     |  |
| Performance at Nominal Operating Cell Temperature (NOCT) : 800 W/m <sup>2</sup> , 20°C, AM 1.5, wind speed 1m/s      |                                 |  |            |  |
| Maximum Power (Pmax)   | 203 Wp                          | 207 Wp   | 210 Wp     |  |
| Operating Voltage (Vmpp)   | 29.2 V                          | 29.4 V   | 29.7 V     |  |
| Operating Current (Impp)   | 6.97 A                          | 7.04 A   | 7.08 A     |  |
| Open-Circuit Voltage (Voc)   | 35.7 V                          | 36.0 V   | 36.2 V     |  |
| Short-Circuit Current (Isc)  | 7.42 A                          | 7.49 A   | 7.53 A     |  |
| <b>Temperature Coefficient</b>   |                                 |  |            |  |
| Temperature Coefficient at Pmax  | - 0.40 % / °C                   |  |            |  |
| Temperature Coefficient at Voc   | - 0.31 % / °C                   |  |            |  |
| Temperature Coefficient at Isc   | + 0.06 % / °C                   |  |            |  |
| Nominal Operating Cell Temperature   | 45 ± 2 °C                       |  |            |  |
| <b>Operating conditions</b>  |                                 |  |            |  |
| Maximum System Voltage   | DC1000 V (IEC) / DC1500 V (IEC) |  |            |  |
| Operating Temperature  | -40 °C to 85 °C                 |  |            |  |
| Maximum Series Fuse  | 15 A                            |  |            |  |
| Static Loading   | 5400 Pa                         |  |            |  |
| Conductivity at Ground   | ≤ 0.1 Ω                         |  |            |  |
| Resistance   | ≥ 100 MΩ                        |  |            |  |
| Safety Class   | II                              |  |            |  |

I-V Curves at different irradiance



I-V Curves at different temperature

