

GERMAN BRAND SOLAR PANEL

M6 BIFACIAL HALF CELL MONO

**480W**

**144 CELL**

MBB MONO PERC

**22.1%**

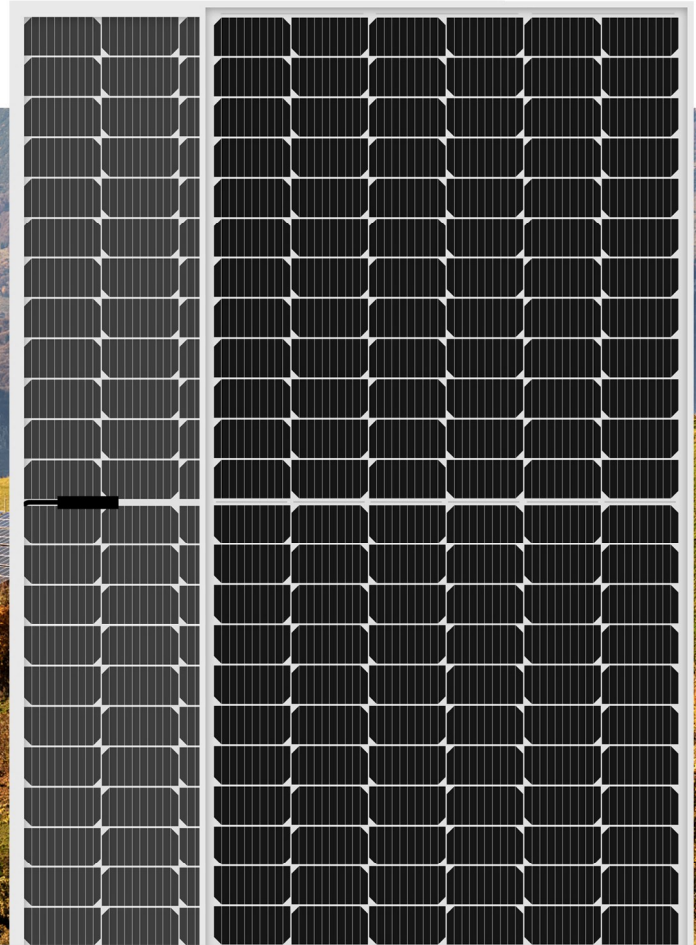
MAXIMUM EFFICIENCY

**460W-480W**

POWER OUTPUT RANGE

**0 to +5W**

POSITIVE POWER TOLERANCE



### Higher Output of Power

Effectively reduce the unit cost of PV solar system by watt



### Optimize the temperature coefficient

Improve the performance under the condition of shadow and low temperature coefficient



### Reduce the shadow loss on the power output

Effectively reduce the risk of heat spot on high efficiency



### Stronger the physical property

Optimize the property of power generating and reliability of the system

### LINEAR PERFORMANCE WARRANTY



| Module Type           |                      | HTS-144M6H460 |       | HTS-144M6H465 |       | HTS-144M6H470 |       | HTS-144M6H475 |       | HTS-144M6H480 |       |
|-----------------------|----------------------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|---------------|-------|
| Test Environment      |                      | STC           | NOCT  | STC           | NOCT  | STC           | NOCT  | STC           | NOCT  | STC           | NOCT  |
| Maximum Power         | P <sub>MAX</sub> (W) | 460           | 340.4 | 465           | 344.1 | 470           | 347.8 | 475           | 351.5 | 480           | 355.2 |
| Maximum Power Voltage | V <sub>MPP</sub> (V) | 41.59         | 38.39 | 41.79         | 38.57 | 41.99         | 38.76 | 42.19         | 38.94 | 42.39         | 39.12 |
| Maximum Power Current | I <sub>MPP</sub> (A) | 11.06         | 8.86  | 11.13         | 8.92  | 11.19         | 8.97  | 11.26         | 9.03  | 11.32         | 9.07  |
| Open Circuit Voltage  | V <sub>OC</sub> (V)  | 50.32         | 46.8  | 50.57         | 47.03 | 50.81         | 47.25 | 51.04         | 47.47 | 51.29         | 47.70 |
| Short Circuit Current | I <sub>SC</sub> (A)  | 11.67         | 9.35  | 11.74         | 9.41  | 11.81         | 9.46  | 11.88         | 9.53  | 11.94         | 9.57  |
| Tolerance             | (W)                  | 0 - +5        |       | 0 - +5        |       | 0 - +5        |       | 0 - +5        |       | 0 - +5        |       |
| Module Efficiency     | (%)                  | 21.2          |       | 21.4          |       | 21.6          |       | 21.9          |       | 22.1          |       |

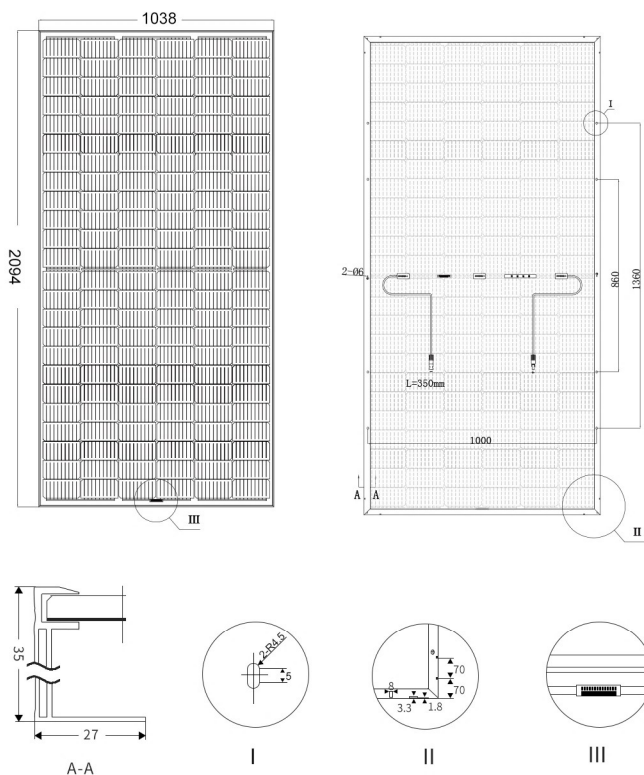
STC: Irradiance 1000 W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.

Average efficiency reduction of 4.5% at 200W/m<sup>2</sup> according to EN 60904-1

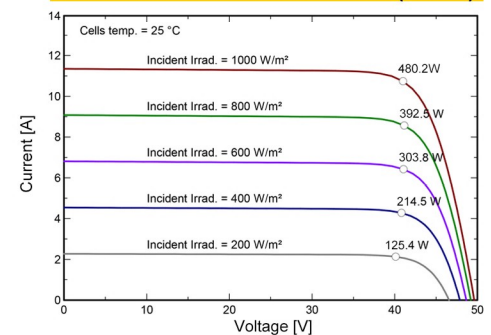
NOCT: Irradiance at 800 W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1m/s.

| MECHANICAL DATA                |                                                                                    | TEMPERATURE RATINGS                         |              |
|--------------------------------|------------------------------------------------------------------------------------|---------------------------------------------|--------------|
| Solar Cells                    | MBB Mono PERC 166 x 83mm                                                           | Nominal Operating Cell Temperature(NOCT)    | 45±2°C       |
| Cell Orientation               | 144 cells (6 x 24)                                                                 | Temperature Coefficient of P <sub>MAX</sub> | -0.36%/°C    |
| Module Dimensions              | 2094 x 1038 x 35mm                                                                 | Temperature Coefficient of V <sub>OC</sub>  | -0.28%/°C    |
| Weight                         | 23.5kg                                                                             | Temperature Coefficient of I <sub>SC</sub>  | +0.048%/°C   |
| Glass                          | High Transparency, Anti-Reflective, AR Coated and Heat Tempered Solar Glass -3.2mm | <b>MAXIMUM RATING</b>                       |              |
| Backsheet                      | White                                                                              | Operational Temperature                     | -40 to +85°C |
| Frame                          | Silver Anodized Aluminium Alloy (Black Available)                                  | Maximum System Voltage                      | 1500V DC     |
| J-Box                          | IP 68 rated                                                                        | Max Series Fuse Rating                      | 20A          |
| Cables                         | Photovoltaic Technology cable 4.0mm <sup>2</sup> , 350mm                           | Mechanical Load                             | 5400pa       |
| Connector                      | MC4 Compatible                                                                     | Wind Load                                   | 2400pa       |
| <b>PACKAGING CONFIGURATION</b> |                                                                                    | Modules per box: 31 pieces                  |              |
|                                |                                                                                    | Modules per 40' container: 726 pieces       |              |

### DIMENSIONS OF PV MODULE



### I-V CURVES OF PV MODULE (480W)



### P-V CURVES OF PV MODULE (480W)

