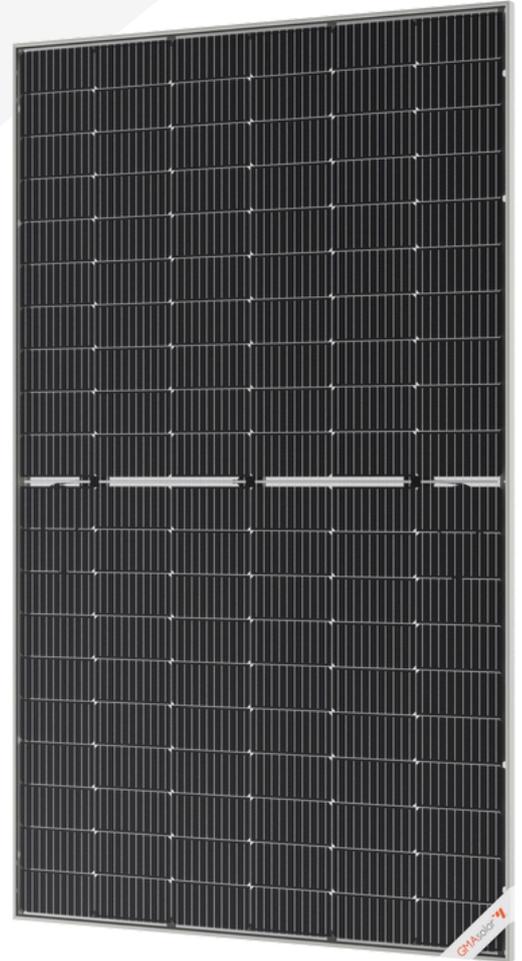


450-470 Watt MONO-BIFACIAL MODULE



- ◆ IEC 61215: 2021
- ◆ IEC 61730: 2016
- ◆ TÜV Rheinland Standard
- ◆ CE: European Certification
- ◆ Resistance to salt mist and ammonia corrosion
- ◆ Performance tests under extreme conditions
- ◆ Wind and snow load testing

◆ Key Features



Higher Energy Efficiency
Mono-Bifacial technology harnesses reflected light.



High Climate Resilience
Wind load resistance of 2400Pa and snow load resistance of 5400Pa.



Improved Performance in Low Light
Optimal operation in low irradiation conditions.



Longer Lifespan
25-year warranty with over 85% power output.



PID Protection
Minimized power loss due to degradation effects.



Easy Installation & Compatibility
Lightweight design for easier handling and installation.

450-470 Watt MONO-BIFACIAL MODULE

> Electrical Parameters at STC

Maximum Power (Pmax)	450 Wp	455 Wp	460 Wp	465 Wp	470 Wp
Voltage at Maximum Power (Vmpp)	34.60 V	34.80 V	35.00 V	35.20 V	35.40 V
Current at Maximum Power (Impp)	13.01 A	13.08 A	13.15 A	13.21 A	13.28 A
Open Circuit Voltage (Voc)	41.40 V	41.60 V	41.80 V	42.00 V	42.20 V
Short Circuit Current (Isc)	13.68 A	13.73 A	13.78 A	13.84 A	13.90 A
Module Efficiency	20.79%	21.02 %	21.25 %	21.48 %	21.71 %

Values at standard test conditions STC (Air mass AM 1.5, Irradiance 1000W/sqm, Cell temperature 25°C)
Power Measurement Tolerance: 0 / +3%

> Specifications

Weight	25.5 kg
Dimension	1909mm*1134mm*30mm
Cell Dimension	182*91mm
Cell Amount	60*2 pcs
Junction Box	IP68
Type of the front glass	2.0mm coated ultra clear glass
Type of the back glass	2.0 mm heat-strengthened glass
Frame	Aluminum Alloy
Cable	4mm ² ,+300,-300mm/±1100mm Length can be customized
Connector	MC4 compatible
Application Level	Class A

> Temperature Coefficients

Nominal Operating Cell Temp. (NOCT)	45 °C +/-3°C
Voltage Temperature Coefficient (VOC)	-0.28%/°C
Current Temperature Coefficient (Isc)	0.05%/°C
Power Temperature Coefficient (Pmax)	-0.34%/°C

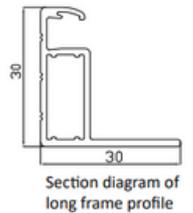
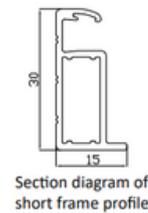
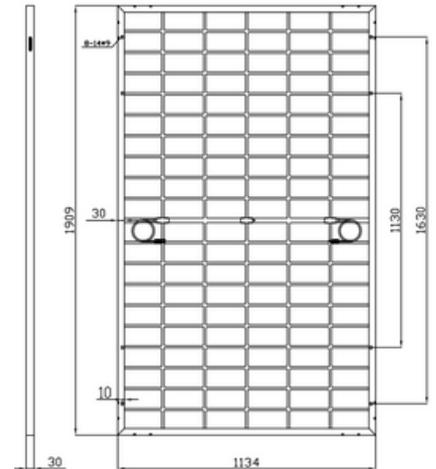
> Maximum Ratings

Operating Temperature	-40°C~+85°C
Maximum System Voltage	1500 V
Wind Load/ Snow Load	2400pa/5400pa
Fuse Current	25 A

> Warranty & certifications

Warranty	25 years Power Output Warranty 10 years 90%, 25 years 85% 10 years Product Warranty on Material
Certification	IEC 61215:2021 IEC 61730:2016

> Mechanical Drawing



> IV Characteristics

