






# Dragonfly

SMH520J-12X12UW  
**520 Watt**

-  **Ultra-light:** By replacing the glass and optimising the framing, the module only weighs 4.9kg/m<sup>2</sup>. 60% lighter than equivalent conventional glass modules.
-  **Effortless installation:** Module with the mounting structure pre-integrated. Eliminating the need for a traditional panel mounting structure. Saving time and installation cost.
-  **Wide range of applications:** Supports removable mechanical installation for all types of roofs, enhancing flexibility in later roof maintenance or project adjustments.
-  **Safety:** Integration with underlying installation surface, ensuring the water-proof performance and safety performance of the roof.
-  **Durable:** eArc is the first glassless module to pass the same durability standards as conventional glass modules, including IEC 61215:2021, IEC 61730:2023 and UL61730(USA).

MADE IN CHINA

## LINEAR PERFORMANCE WARRANTY

**12 Year Product Warranty**

**25 Year Linear Power Warranty**



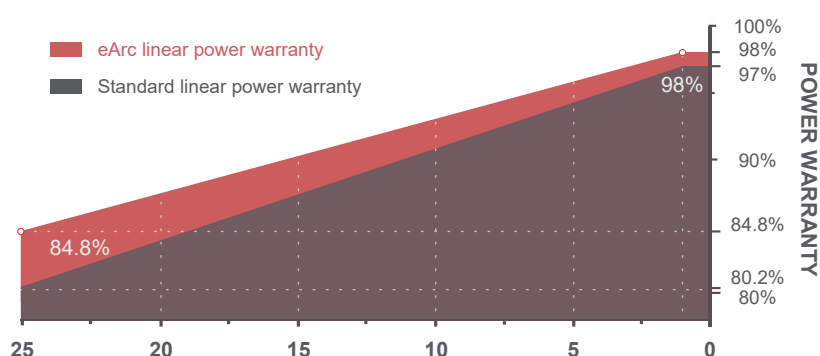
[www.sunman-energy.com](http://www.sunman-energy.com)

Business consulting: [overseasales@sunman-energy.com](mailto:overseasales@sunman-energy.com)

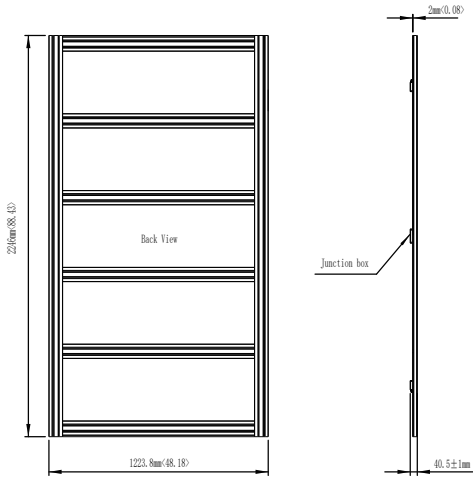
Media cooperation: [marketing@sunman-energy.com](mailto:marketing@sunman-energy.com)



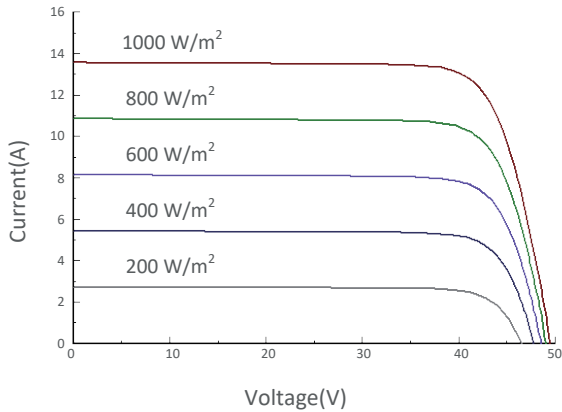
Linear power warranty: 98% in the first year, thereafter, for years two (2) through twenty-five (25), 0.55% maximum decrease from Module's nominal power output per year, ending with the 84.8% in the 25th year.  
CAUTION: Read installation manual before using the product.  
©2025 SunMan (zhenjiang) Co.,Ltd.All rights reserved.Specifications included in this datasheet are subject to change without notice.



## DIMENSIONS



## I-V CURVE (520)



## TEMPERATURE CHARACTERISTICS

Nominal Module Operating Temperature(NMOT)	41±2 °C
Temperature Coefficient of P <sub>max</sub>	-0.3 %/°C
Temperature Coefficient of V <sub>oc</sub>	-0.23 %/°C
Temperature Coefficient of I <sub>sc</sub>	0.02 %/°C



SMHJW IEC AU 2025A 3

## ELECTRICAL CHARACTERISTICS

STC	SMH520J-12X12UW
Maximum Power (P <sub>max</sub> )	520 W
Maximum Power Voltage (V <sub>mp</sub> )	42.26 V
Maximum Power Current (I <sub>mp</sub> )	12.31 A
Open-circuit Voltage (V <sub>oc</sub> )	49.54 V
Short-circuit Current (I <sub>sc</sub> )	13.56 A
Module Efficiency (%)	19.34
Operating Temperature	-40 °C to 70 °C
Maximum System Voltage	1500 V DC (IEC)
Maximum Series Fuse Rating	25 A
Safety Class	Class II
Power Tolerance	0 - 5 W

STC: Irradiance 1000W/m<sup>2</sup>, Cell temperature 25°C, AM=1.5. Tolerances of P<sub>max</sub>, V<sub>oc</sub> and I<sub>sc</sub> are within ±5%

NMOT	SMH520J-12X12UW
Maximum Power (P <sub>max</sub> )	429.2 W
Maximum Power Voltage (V <sub>mp</sub> )	41.8 V
Maximum Power Current (I <sub>mp</sub> )	10.26 A
Open-circuit Voltage (V <sub>oc</sub> )	49.8 V
Short-circuit Current (I <sub>sc</sub> )	10.82 A

NMOT: Irradiance 800W/m<sup>2</sup>, Ambient temperature 20°C, AM=1.5, Wind speed 1 m/s.

## MECHANICAL CHARACTERISTICS

Solar Cell	Monocrystalline silicon(182mm half cell)
No. of Cells	144 (12×12)
Module Dimensions	2246×1197×2 mm
Product Dimensions	2246×1223.8×40.5 mm
Module Weight	7.2kg ±3%
Product Weight	13.5kg ±3%
Backsheet	White
J-box	IP 68 rated
Output Cables	Photovoltaic cable 4.0 mm 2, (+)450 / (-)450 mm
Connector	Stäubli MC4-EVO2

## PACKAGING CONFIGURATION

	20' GP	40' HC
Module per pallet	34	34
Pieces per container	136	272