



# M6 HIEFF TWIN MONO (HJT) by SUNPRO

SP-144DSXXX  
(xxx=460~480)

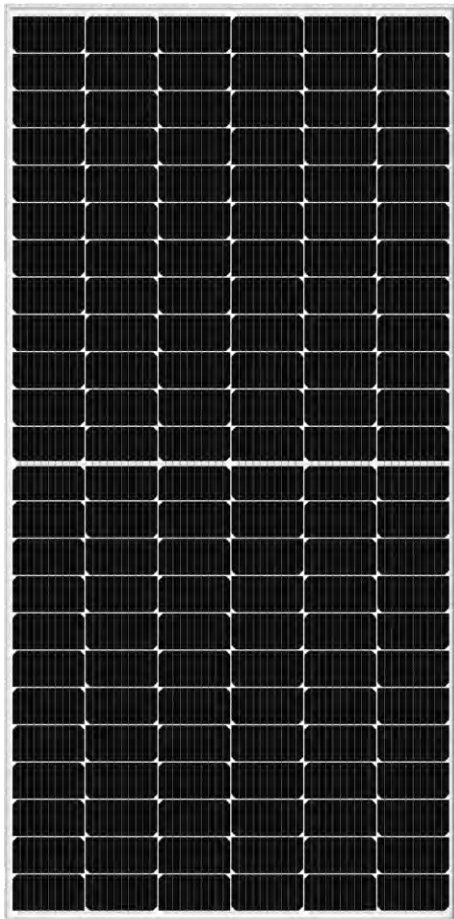
Double-glass bifacial



ISO 14001

ISO 9001

ISO 45001



## ADVANCED BIFACIAL EFFICIENCY



Bifaciality>92%, effectively improves backside power generation. A bifacial cell design that generates energy from both sides, capturing and converting more sunlight into power.



**WITHSTAND STRONG SNOW LOAD  
5400 Pa/ WIND LOAD 2400 Pa**



**NEW TECHNOLOGY:  
HIEFF UP TO 22.1%**

Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 22.1%.



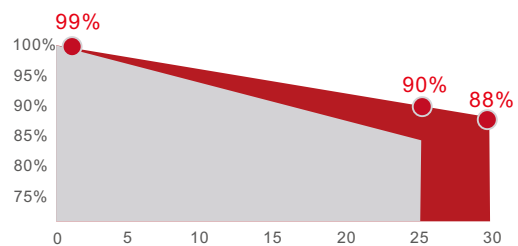
**High Energy Yield**

Excellent weak light performance and better performance in hot climate. Leading temperature coefficient for more production when the sun shines strongest, Or under the cloudy, haze condition

## Reliability & Certification

Product Guarantee: **15-year**  
Linear Performance Warranty  
**25-year:90%** power output  
**30-year:88%** power output

● Standard Module    ● SUNPRO HJT Module



\* Refer to SUNPRO standard warranty for details

## Product Specification

Electrical parameters at standard test conditions  
(STC:AM=1.5, 1000W/m<sup>2</sup>, Cells Temperature 25°C)

Typical type	460W	465W	470W	475W	480W
Max power(Pmax)	460	465	470	475	480
Max power voltage(Vmp)	45.24V	45.44V	45.66V	45.86V	46.08V
Max power current(Imp)	10.18A	10.24A	10.30A	10.36A	10.43A
Open circuit voltage (Voc)	53.22V	53.35V	53.48V	53.61V	53.74V
Short circuit current (Isc)	10.58A	10.64A	10.70A	10.76A	10.82A
Module Efficiency (%)	21.2	21.4	21.6	21.9	22.1
Max system voltage	DC1500V (IEC)				
Maximum Series Fuse Rating	20A				

## Electrical Characteristics with 15% Rear Side Power Gain

Item	460W	465W	470W	475W	480W
Max power(Pmax)	510	515	520	525	530
Max power voltage(Vmp)	46.20V	46.40V	46.60V	46.80V	47.00V
Max power current(Imp)	11.14A	11.19A	11.24A	11.29A	11.34A
Open circuit voltage (Voc)	54.33V	54.73V	55.33V	55.93V	56.53V
Short circuit current (Isc)	11.53A	11.57A	11.61A	11.65A	11.69A

## Temperature Characteristics

Item	Specification
Temp.Coeff.of Isc(TK Isc)	0.04% / °C
Temp.Coeff.of Voc(TK Voc)	-0.24% / °C
Temp.Coeff.of Pmax(TK Pmax)	-0.26% / °C
Operating temperature	-40~+85°C
Normal operating cell temperature	44±2 °C

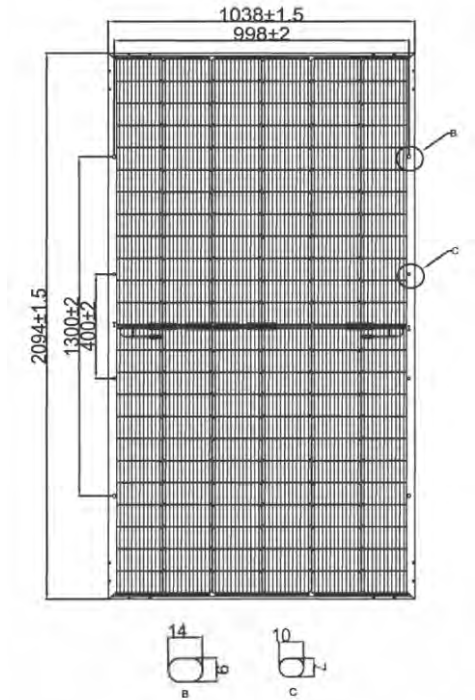
## Mechanical Data

Item	Specification
Dimensions	2094X 1038X30 mm
Weight	27.5 kg
Glass Thickness	(F) 2.0mm Anti - effective surface Solar glass (B) 2.0mm Solar glass
Output cables	4mm <sup>2</sup> , 200mm in length, length can be customized / UV Resistant
Connectors	MC4 compatible IP68
Cell type	Mono – Crystalline, Bifacial HJT Half - Cell 9BB 166 X 83mm
Number of cells	144 cells in series

## Test, Certifications and Warranties

Item	Specification
Standard tests	IEC 61215, IEC 61730, IEC 61701, IEC 62716, PPP 58042B
System certs	ISO 9001, ISO14001, ISO45001
Certifications	TUV, AMMONIA AND SALT MIST CORROSION, CE, WEEE, INMERTRO
Extreme wind and snow loads testing	Withstand extreme wind(2400 Pascal) and snow loads(5400 Pascal)
Power tolerance	0~+3%
Junction box	IP68
Warranties	15 years product warranty and 30 years 88% of power

## Dimensions and Structure



## Packing Configuration

Item	Specification
Container	40'HC
Pieces per pallet	36
Pallets per container	22
Pieces per container	792

## I-V Curve

I-V characteristics at different irradiation

