

Tier1

BloombergNEF



ISO 9001 ISO 14001 SA 8000  
ISO 45001 OHSAS 18001



## M10 HI-EFF TWIN MONO

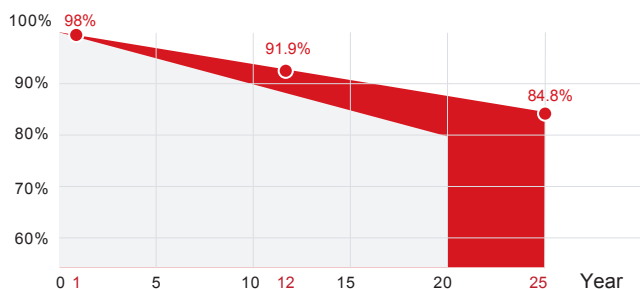
SPxxx-132M10

# 480~505W

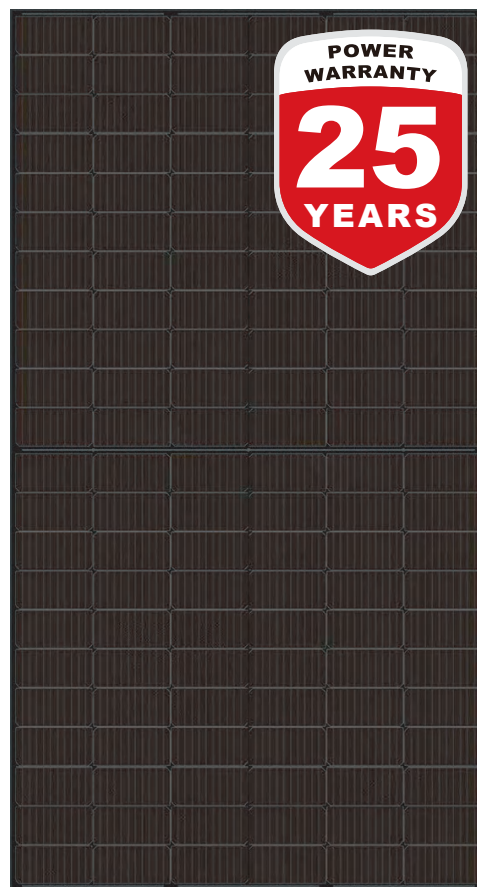
- Full black
- Black frame
- Silver frame
- Bifacial

12Yr quality guarantee | 25Yr power warranty

■ SUNPRO Standard (Additional value from 25-year warranty)  
 ■ Industry Standard



\*SUNPRO Standard tiered warranty



### WARRANTY & GUARANTEE

Linear output power guarantee  
12 years: 91.9% power output  
25 years: 84.8% power output



### WITHSTAND STRONG

Snow load 5400Pa  
Wind load 2400Pa



### R&D AND PRODUCTION

Advanced production line.  
The leading solar cell cutting process and multi busbar design with SUNPRO Technology.



### HIGH EFFICIENCY

Efficiency can reach 21.27%. Excellent low light performance. Higher power output under the conditions of haze, overcast, etc.



### POWER TOLERANCE

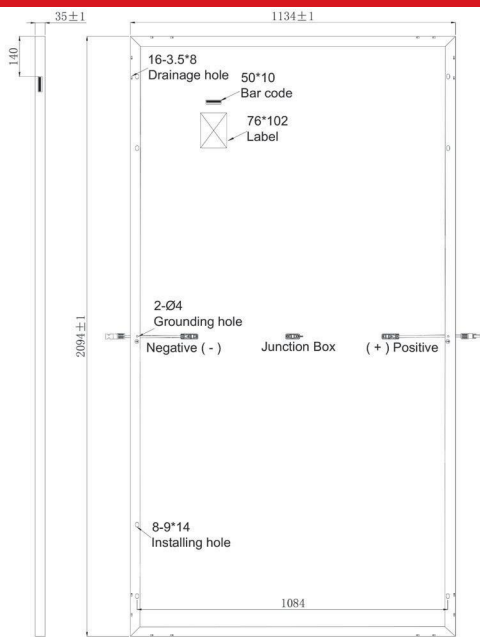
Power positive tolerance: 0~+3%

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

**Typical type**

	480W	485W	490W	495W	500W	505W
Max power(Pmax)	480	485	490	495	500	505
Max power voltage(Vmp)	37.81	37.96	38.11	38.26	38.41	38.56
Max power current(Imp)	12.7	12.78	12.86	12.94	13.02	13.10
Open circuit voltage(Voc)	44.97	45.12	45.27	45.42	45.57	45.72
Short circuit current(Isc)	13.58	13.68	13.76	13.83	13.90	13.96
Module Efficiency(%)	20.21	20.42	20.64	20.85	21.06	21.27
Max system voltage	DC 1500V(TÜV,UL) / DC 1000V(CUL)					
Maximum Series Fuse Rating	25A					

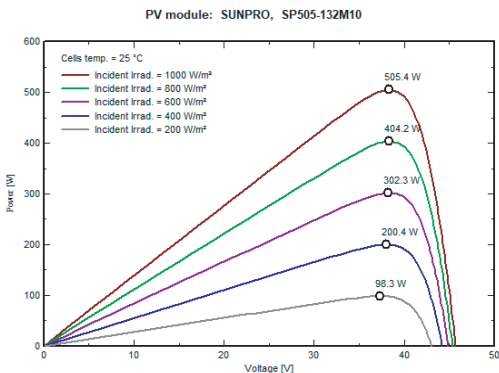
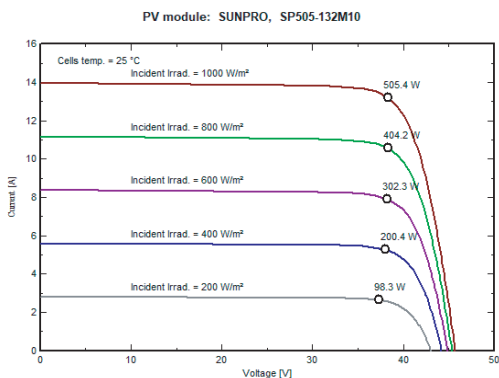
**DIMENSIONS AND STRUCTURE**



Side

Back

**I-V CHARACTERISTICS AT DIFFERENT IRRADIATION**



**Electrical parameters at NMOT test conditions**

(Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s)

Typical type	480W	485W	490W	495W	500W	505W
Max power(Pmax)	358	362	365	369	373	376
Max power voltage(Vmp)	34.60	34.70	34.90	35.00	35.20	35.30
Max power current(Imp)	10.33	10.41	10.47	10.53	10.59	10.64
Open circuit voltage(Voc)	42.00	42.10	42.20	42.40	42.50	42.60
Short circuit current(Isc)	10.95	11.03	11.09	11.15	11.20	11.25

**Mechanical Data**

Dimensions	2094x1134x35mm
Weight	26.3 kg
Glass	3.2mm ultra clear embossed tempered coated glass
Output cables	4mm <sup>2</sup> , symmetrical lengths 1300mm
Connectors	MC4 compatible IP68
Cell type	Mono-Crystalline PERC, 182x91mm
Number of cells	132cells ( Half-Cell )

**Temperature Characteristics**

Temp.Coeff.of Isc(TK Isc)	0.048%/°C
Temp.Coeff.of Voc(TK Voc)	-0.27%/°C
Temp.Coeff.of Pmax(TK Pmax)	-0.34%/°C
Operating temperature	-40~+85°C
Normal operating cell temperature	44±2°C

**Packing Configuration**

Container	40'HQ
Pieces per pallet	62
Pallets per container	11
Pieces per container	682

**Tests, Certifications and Warranties**

Standard tests	IEC 61215, IEC 61730, IEC 61701, IEC 62716, PPP 58042
System certs	ISO 9001, ISO14001, ISO45001
Certifications	TÜV, CE, UL, WEEE
Extreme wind and snow loads testing	Withstand extreme wind(2400 Pascal) and snow loads(5400 Pascal)
Power tolerance	0~+3%
Junction box	IP 68
Warranties	12 years product warranty and 25 years 84.8% of power