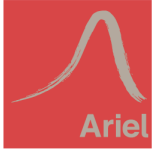
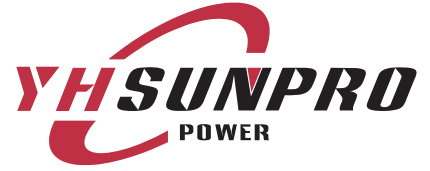


**Tier1**

BloombergNEF



Lloyd's Syndicate 1910



ISO14001

ISO9001

ISO45001



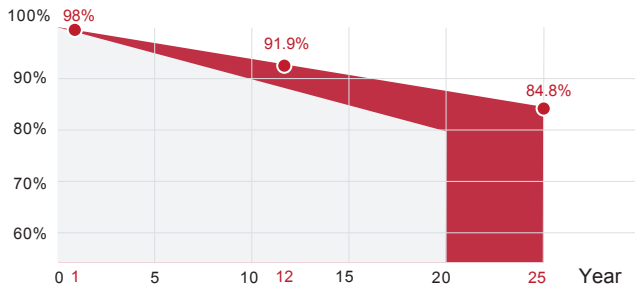
## M10 HIEFF TWIN MONO

### SPxxx-144M10

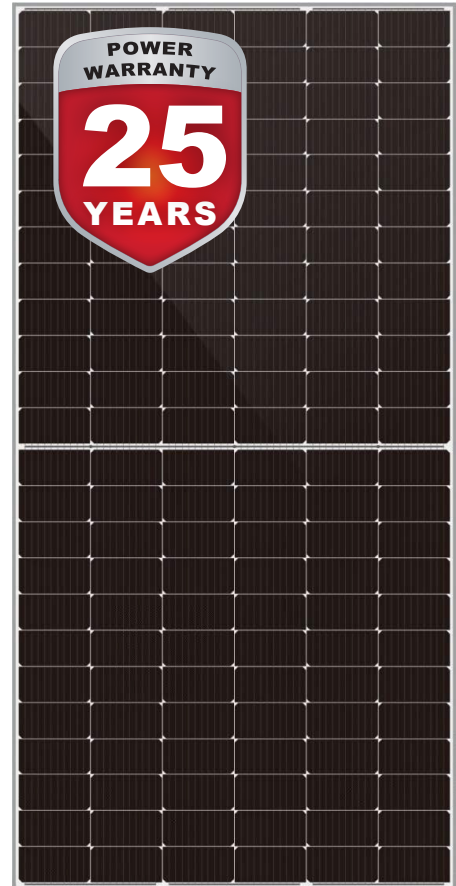
- Silver frame (xxx=520~550W)
- Black frame
- Full black
- Bifacial

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 21.28%. Excellent low light performance. Higher power output under the conditions of haze, overcast, etc.



#### POWER TOLERANCE

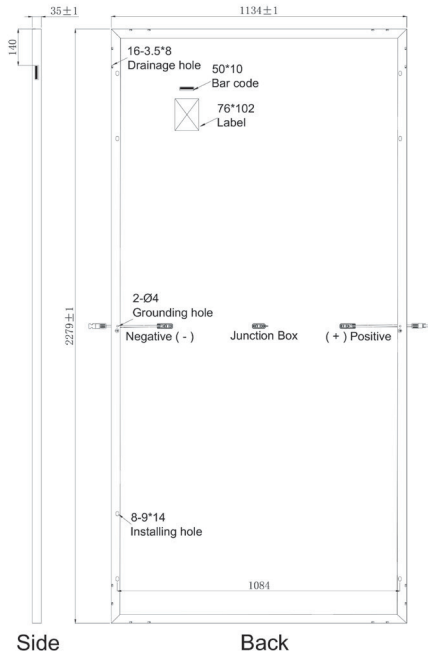
Power positive tolerance: 0~+3%

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

**Typical type**

	520W	525W	530W	535W	540W	545W	550W
Max power(Pmax)	520	525	530	535	540	545	550
Max power voltage(Vmp)	41.02	41.21	41.39	41.54	41.69	41.83	41.96
Max power current(Imp)	12.68	12.74	12.81	12.88	12.96	13.03	13.11
Open circuit voltage(Voc)	48.94	49.11	49.26	49.42	49.58	49.74	49.90
Short circuit current(Isc)	13.53	13.61	13.69	13.76	13.84	13.92	14.00
Module Efficiency(%)	20.12	20.31	20.51	20.70	20.89	21.09	21.28
Max system voltage	DC 1500V(TUV)						
Maximum Series Fuse Rating	25A						

**DIMENSIONS AND STRUCTURE**



**Electrical parameters at NMOT test conditions**

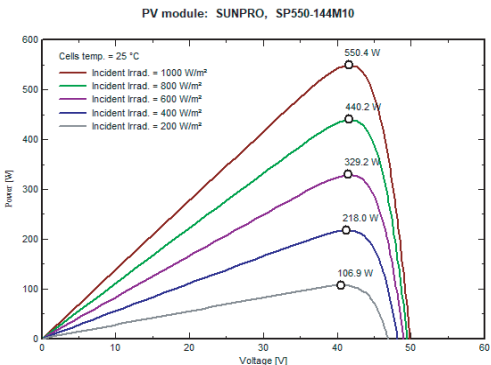
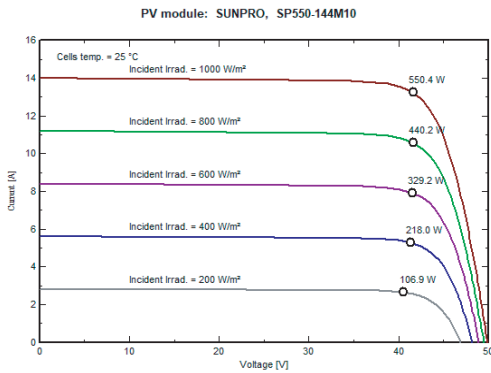
(Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s)

Typical type	520W	525W	530W	535W	540W	545W	550W
Max power(Pmax)	422.6	426.5	429.9	434.6	439.0	442.8	446.8
Max power voltage(Vmp)	41.40	41.60	41.70	41.90	42.00	42.10	42.30
Max power current(Imp)	10.20	10.26	10.30	10.38	10.45	10.51	10.57
Open circuit voltage(Voc)	49.10	49.30	49.50	49.60	49.80	49.90	50.10
Short circuit current(Isc)	10.80	10.87	10.93	10.99	11.05	11.12	11.18

**Mechanical Data**

Dimensions	2279x1134x35mm
Weight	29 kg
Glass	3.2mm tempered glass
Output cables	4mm <sup>2</sup> , symmetrical lengths 1300mm
Connectors	MC4 compatible IP68
Cell type	Mono-Crystalline PERC, 10BB, 182x91mm
Number of cells	144 cells ( Half-Cell )

**I-V CHARACTERISTICS AT DIFFERENT IRRADIATION**



**Temperature Characteristics**

**Packing Configuration**

Temp.Coeff.of Isc(TK Isc)	0.048%/°C	Container	40'HQ
Temp.Coeff.of Voc(TK Voc)	-0.27%/°C	Pieces per pallet	62
Temp.Coeff.of Pmax(TK Pmax)	-0.35%/°C	Pallets per container	10
Operating temperature	-40~+85°C	Pieces per container	620
Normal operating cell temperature	44±2°C		

**Tests, Certifications and Warranties**

Standard tests	IEC 61215, IEC 61730, IEC 61701, IEC 62716, PPP 58042
System certs	ISO 9001, ISO14001, ISO45001
Certifications	TUV, CE, WEEE, INMETRO, FIRE CERTIFICATE C1
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