

**Tier1**  
BloombergNEF

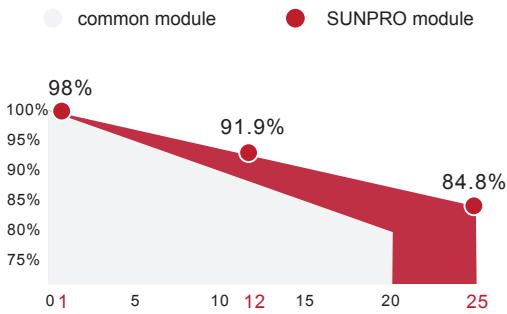


## M10 HIEFF TWIN MONO

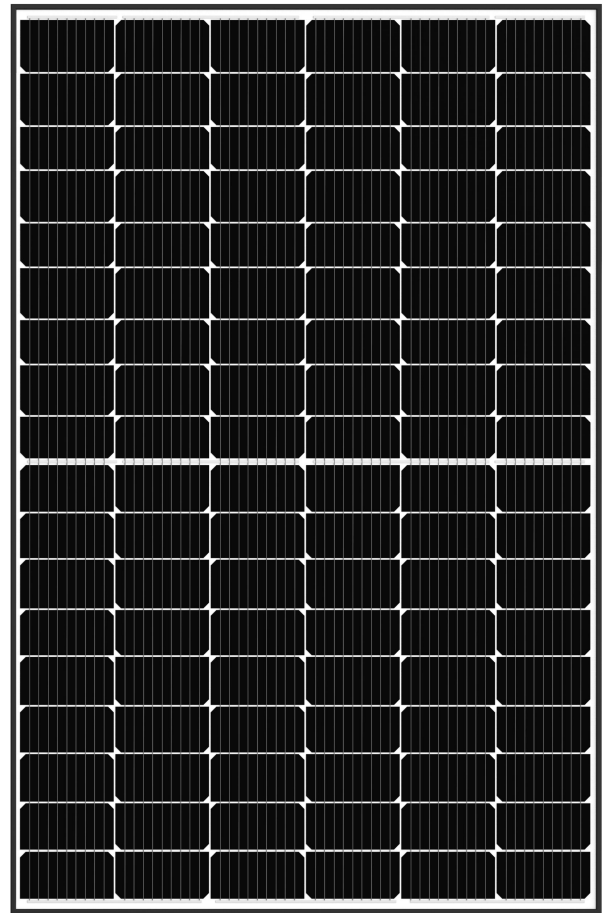
### SPDGxxx-108M10

- Double glass (xxx=390~415W)
- Black frame
- Full black

12 Yr quality guarantee | 25 Yr power warranty



\*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



#### TWO-SIDED BENEFITS

High efficiency solar cells.  
Effective working area of both sides >92%, with significant power increase. Capture more sunlight and turn it into electricity



#### 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 21.23%. Excellent low light performance. Higher power output under the conditions of haze, overcast, etc.

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

Typical type	390W	395W	400W	405W	410W	415W
Max power(Pmax)	390	395	400	405	410	415
Max power voltage(Vmp)	30.41	30.62	30.83	31.04	31.25	31.47
Max power current(Imp)	12.83	12.90	12.98	13.05	13.12	13.19
Open circuit voltage(Voc)	36.53	36.73	36.93	37.13	37.33	37.53
Short circuit current(Isc)	13.62	13.69	13.76	13.83	13.90	13.97
Module Efficiency(%)	19.95	20.20	20.46	20.72	20.97	21.23
Max system voltage	DC 1500V(TUV)					
Maximum Series Fuse Rating	30A					

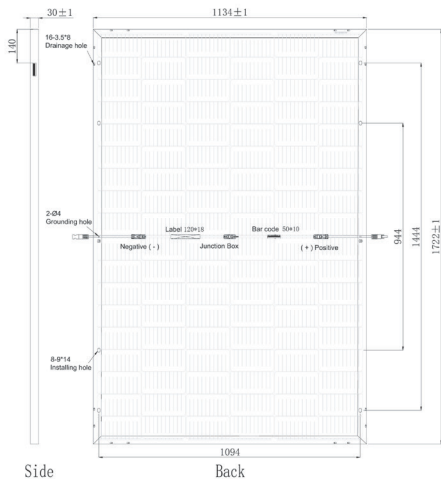
### Electrical parameters at NMOT test conditions (Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s)

Typical type	390W	395W	400W	405W	410W	415W
Max power(Pmax)	317.4	321.2	325.4	329.2	333.1	337.1
Max power voltage(Vmp)	30.90	31.10	31.30	31.50	31.70	31.90
Max power current(Imp)	10.28	10.34	10.41	10.47	10.52	10.58
Open circuit voltage(Voc)	36.70	36.90	37.10	37.30	37.50	37.70
Short circuit current(Isc)	10.88	10.93	10.99	11.04	11.10	11.16

### Electrical Characteristics with 15% Rear Side Power Gain

Front power Pmax/W	390W	395W	400W	405W	410W	415W
Total power Pmax/W	448.5	454.25	460	465.75	471.5	477.25
Vmp/V(Total)	30.41	30.62	30.83	31.04	31.25	31.47
Imp/A(Total)	14.75	14.84	14.92	15.00	15.09	15.17
Voc/V(Total)	36.53	36.73	36.93	37.13	37.33	37.53
Isc/A(Total)	15.66	15.74	15.82	15.90	15.99	16.07

### DIMENSIONS AND STRUCTURE



### Mechanical Data

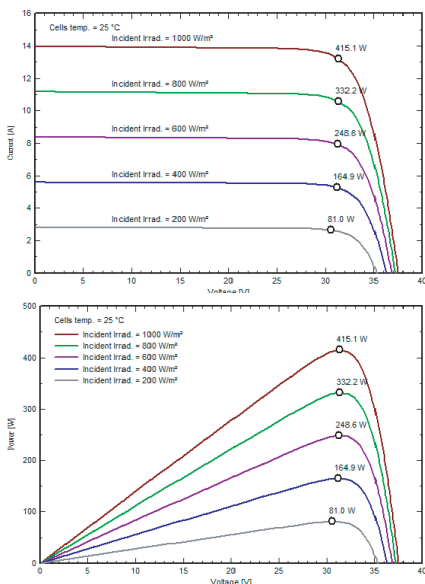
Dimensions	1722x1134x30mm
Weight	26.5kg
Glass	(F) 2.0 mm High Transmission, AR Coated Heat Strengthened Glass (B) 2.0 mm High Transmission, AR Coated Heat Strengthened Glass
Output cables	4mm <sup>2</sup> , symmetrical lengths 1100mm
Connectors	MC4 compatible IP68
Cell type	Mono-Crystalline PERC, 10BB, 182x91mm
Number of cells	108cells ( Half-Cell )

### 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	72
Temp.Coeff.of Pmax(TK Pmax)	-0.35%/°C	Pallets per container	13
Operating temperature	-40~+85°C	Pieces per container	936
Normal operating cell temperature	44±2°C		

### I-V CHARACTERISTICS AT DIFFERENT IRRADIATION



### Tests, Certifications and Warranties

Standard tests	IEC 61215, IEC 61730, IEC 61701, IEC 62716, PPP 58042B
System certs	ISO 9001, ISO14001, ISO45001, TUV
Certifications	TUV, AMMONIA AND SALT MIST CORROSION, ANTI-PID, 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	IP 68
Warranties	12 years product warranty and 25 years 84.8% of power