

Tier1

BloombergNEF



CLEAN ENERGY COUNCIL



ISO 9001
ISO 45001

ISO 14001
OHSAS 18001

SA 8000

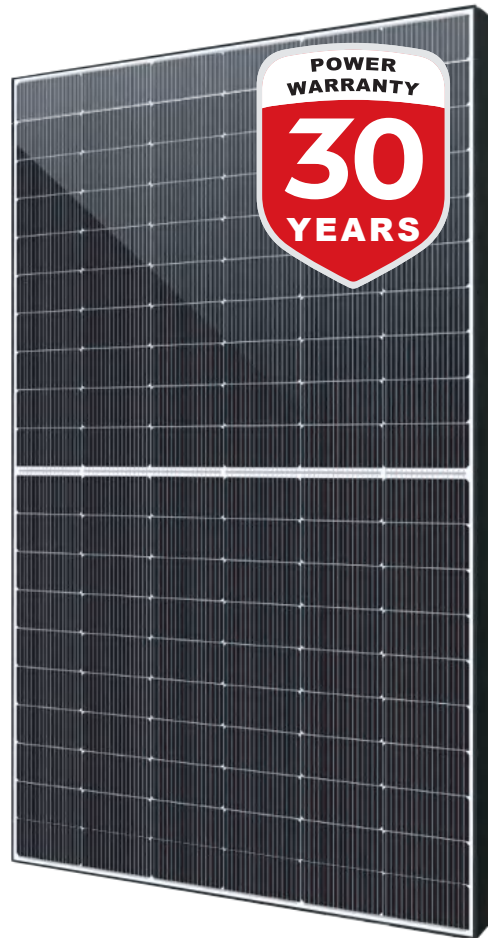


M10 TOPCON MONO

SP xxx-N120M10

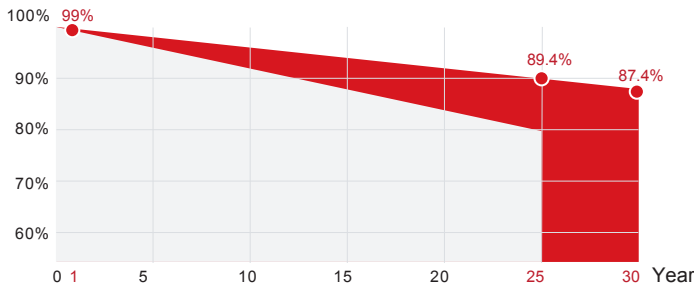
455~490W

- Black frame
- Silver frame
- Full Black



15 Yr quality guarantee | 30 Yr power warranty

■ SUNPRO TOPCon module (Additional value from 30-year warranty)
 ■ Common module



*SUNPRO Standard tiered warranty



WARRANTY & GUARANTEE

Linear output power guarantee
25 years: 89.4% power output
30 years: 87.4% power output



WITHSTAND STRONG

Snow load 5400Pa
Wind load 2400Pa



PID RESISTANCE

Power positive tolerance 0~+3%.
The attenuation probability of PID phenomenon is minimized through battery production technology optimization and material control



R&D AND PRODUCTION

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



HIGH EFFICIENCY

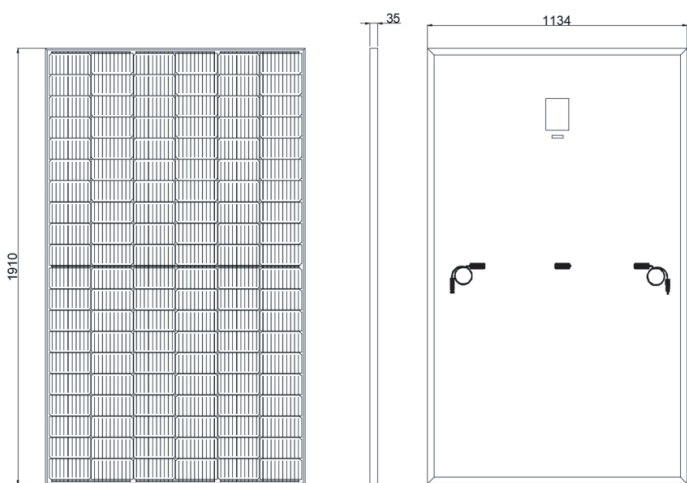
N-type. Components have better reliability and lower LID/LETID attenuation. Efficiency can reach 22.62%. Excellent low light performance. Higher power output under the conditions of haze, overcast, etc.

Electrical parameters at standard test conditions (STC:AM=1.5, 1000W/m², Cells Temperature 25°C)

Typical type

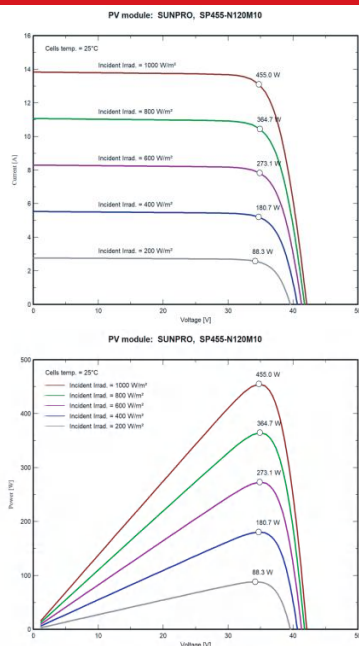
	455W	460W	465W	470W	475W	480W	485W	490W
Max power(Pmax)	455	460	465	470	475	480	485	490
Max power voltage(Vmp)	34.76	34.88	34.99	35.11	35.24	35.38	35.52	35.66
Max power current(Impp)	13.09	13.19	13.29	13.39	13.48	13.57	13.66	13.75
Open circuit voltage(Voc)	42.1	42.24	42.38	42.52	42.66	42.8	42.94	43.06
Short circuit current(Isc)	13.83	13.94	14.03	14.12	14.2	14.29	14.38	14.47
Module Efficiency(%)	21.01	21.24	21.47	21.70	21.93	22.16	22.39	22.62
Max system voltage	DC 1500V (TÜV, UL)							
Maximum Series Fuse Rating	25A							

DIMENSIONS AND STRUCTURE



Length: + 2mm
 Width: + 2mm
 Thickness: + 1mm
 Hole pitch: + 2mm

I-V CHARACTERISTICS AT DIFFERENT IRRADIATION



Electrical parameters at NMOT test conditions

(Irradiance 800W/m², Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s)

Typical type	455W	460W	465W	470W	475W	480W	485W	490W
Max power(Pmax)	342	346	350	354	358	362	363	366
Max power voltage(Vmp)	32.6	32.7	32.9	33	33.2	33.3	33.20	33.30
Max power current(Impp)	10.48	10.56	10.63	10.71	10.77	10.86	10.92	11.00
Open circuit voltage(Voc)	39.6	39.8	39.9	40.1	40.2	40.4	40.20	40.30
Short circuit current(Isc)	11.15	11.24	11.31	11.38	11.44	11.52	11.59	11.66

Mechanical Data

Dimensions	1910x1134x35mm
Weight	23.5kg
Glass	3.2mm ultra clear embossed tempered coated glass
Output cables	4mm ² , symmetrical lengths 1100mm
Connectors	MC4 compatible IP68
Cell type	N type Mono-Crystalline, 182x91mm
Number of cells	120cells (Half-Cell)

Temperature Characteristics

Temp.Coeff.of Isc(TK Isc)	0.04%/°C
Temp.Coeff.of Voc(TK Voc)	-0.25%/°C
Temp.Coeff.of Pmax(TK Pmax)	-0.30%/°C
Operating temperature	-40~+85°C
Normal operating cell temperature	45±2°C

Packing Configuration

Container	40'GP
Pieces per pallet	62
Pallets per container	12
Pieces per container	744

Tests, Certifications and Warranties

Standard tests	IEC 61215, IEC 61730
System certs	ISO 9001, ISO14001, ISO45001
Certifications	TÜV, CE, CEC, WEEE
Extreme wind and snow loads testing	Withstand extreme wind(2400 Pascal) and snow loads(5400 Pascal)
Power tolerance	0~+5W
Junction box	IP 68
Warranties	15 years product warranty and 30 years 87.4% of power