

Tier1

BloombergNEF



ISO 9001 ISO 14001 SA 8000
ISO 45001 OHSAS 18001

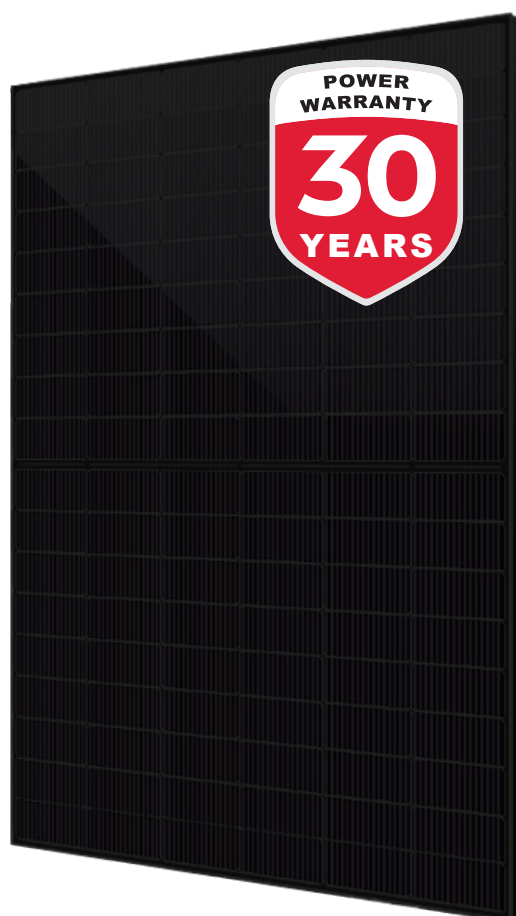
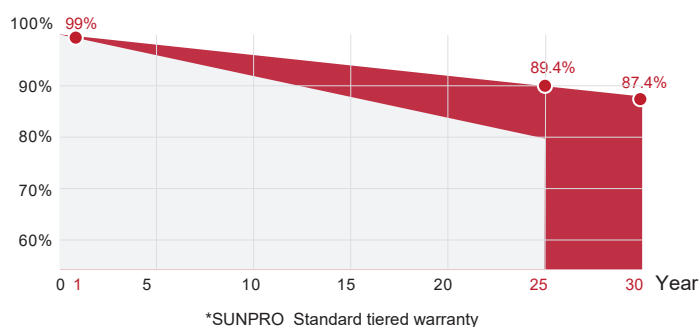
M10 TOPCON BIFACIAL

SPDGxxx-N108M10

- Double Glass (xxx=410~440W)
- Full Black
- White mesh
- Full black

30 Yr Product Warranty | 30 Yr Power Warranty

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



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 : $\pm 3W$.
The probability of degradation caused by PID is minimised through battery production technology optimisation and material control



R&D AND PRODUCTION

Advanced production line. >80% bifaciality, meaning effective improvement of backside power generation. Leading solar cell cutting process and multi-busbar design with SUNPRO Technology.



HIGH EFFICIENCY

With N-type technology components have improved reliability and lower LID/LETID degradation. Features efficiency up to 22.53% and excellent low light performance with 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	410W	415W	420W	425W	430W	435W	440W
Max power(P _{max})	410	415	420	425	430	435	440
Max power voltage(V _{mp})	31.25	31.37	31.49	31.64	31.79	31.94	32.09
Max power current(I _{mp})	13.12	13.23	13.34	13.44	13.53	13.62	13.72
Open circuit voltage(V _{oc})	37.94	38.04	38.13	38.24	38.34	38.43	38.53
Short circuit current(I _{sc})	13.85	13.96	14.07	14.16	14.25	14.34	14.43
Module Efficiency(%)	21	21.25	21.51	21.76	22.02	22.28	22.53
Bifaciality Coef (φP _{max} /φV _{oc} /φI _{sc})	80%/95%/80%						
Max system voltage	DC 1500V (TÜV,UL)						
Maximum Series Fuse Rating	30A						

Electrical Characteristics with 15% Rear Side Power Gain

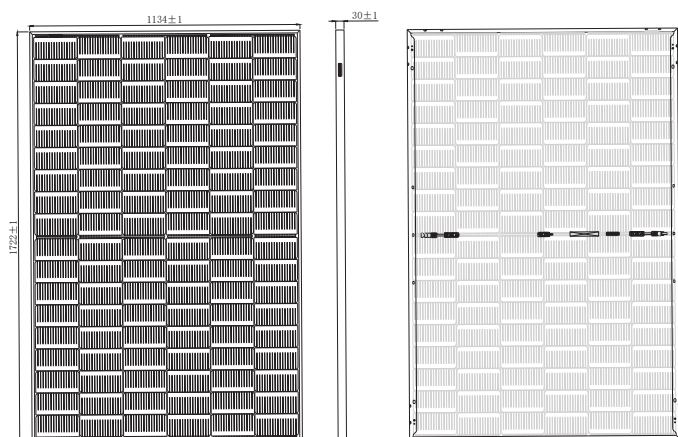
Front power P _{max} /W	410W	415W	420W	425W	430W	435W	440W
Total power P _{max} /W	471.5	477.25	483	488.75	494.5	500.25	506
V _{mp} /V(Total)	31.25	31.37	31.49	31.64	31.79	31.94	32.09
I _{mp} /A(Total)	15.09	15.21	15.34	15.45	15.56	15.66	15.77
V _{oc} /V(Total)	37.94	38.04	38.13	38.24	38.34	38.43	38.53
I _{sc} /A(Total)	15.93	16.05	16.18	16.28	16.39	16.49	16.59

Electrical parameters at NMOT test conditions

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

Typical type	410W	415W	420W	425W	430W	435W	440W
Max power(P _{max})	308.00	312	316	320	324	325	329
Max power voltage(V _{mp})	29.40	29.50	29.6	29.7	29.9	29.80	29.9
Max power current(I _{mp})	10.49	10.58	10.67	10.75	10.84	10.91	11.00
Open circuit voltage(V _{oc})	35.70	35.8	35.9	36	36.1	36	36.1
Short circuit current(I _{sc})	11.16	11.25	11.34	11.41	11.48	11.56	11.63

DIMENSIONS AND STRUCTURE



Mechanical Data

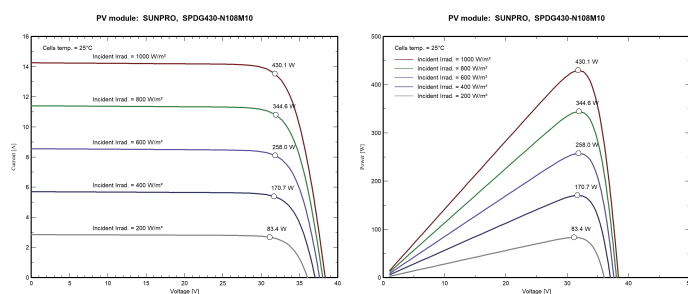
Dimensions	1722x1134x30mm
Weight	23.3kg
Glass	(F) 2.0mm ultra clear embossed double layer colorless glass (B) 2.0mm black mesh glazed tempered glass
Output cables	4mm ² , symmetrical lengths 1100mm
Cell type	N-type Mono-Crystalline, 16BB, 182x91mm
Number of cells	108 cells (Half-Cell)
Connectors	NINGBO GZX PV TECHNOLOGY CO.,LTD PV-GZX1500,1500VDC, 39A, IP68

Temperature Characteristics

Packing Configuration

Temp.Coeff.of I _{sc} (TK I _{sc})	0.046%/°C	Container	40'HQ
Temp.Coeff.of V _{oc} (TK V _{oc})	-0.25%/°C	Pieces per pallet	36
Temp.Coeff.of P _{max} (TK P _{max})	-0.30%/°C	Pallets per container	26
Operating temperature	-40~+85°C	Pieces per container	936
Normal operating cell temperature	45±2°C		

I-V CHARACTERISTICS AT DIFFERENT IRRADIATION



Tests, Certifications and Warranties

Standard tests	IEC 61215, IEC 61730
System certs	ISO 9001, ISO14001, ISO45001 OHSAS 18001, SA 8000
Certifications	TÜV, CE, CEC, WEEE, INMETRO FIRE CERTIFICA C1
Extreme wind and snow loads testing	Withstand extreme wind(2400 Pascal) and snow loads(5400 Pascal)
Power tolerance	±3%
Junction box	IP 68
Warranties	30 years product warranty and 30 years 87.4% of power
Fire class rating	Class C