

Tier1

BloombergNEF



ISO 9001  
ISO 45001

ISO 14001  
OHSAS 18001

SA 8000



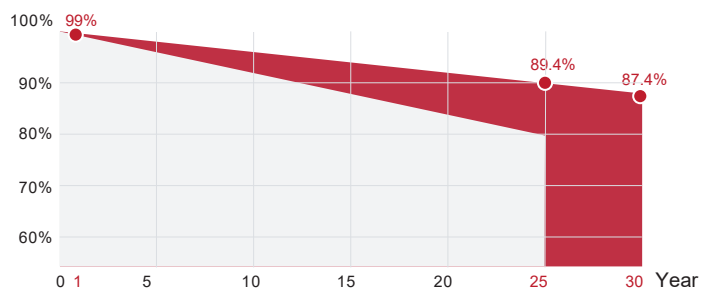
## M10 TOPCON BIFACIAL

### SPDGxxx-N108M10

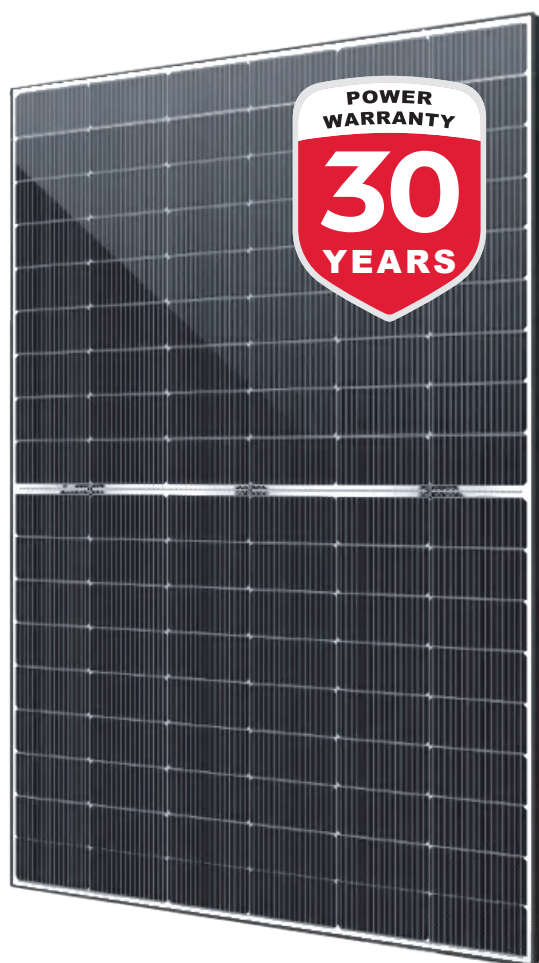
- Double glass (xxx=410~440W)
- Black frame
- Bifacial Transparent
- Full black

30 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.  
 Bifaciality>80%, effectively  
 improves backside power  
 generation. 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  
 22.53%. 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	410W	415W	420W	425W	430W	435W	440W
Max power(Pmax)	410	415	420	425	430	435	440
Max power voltage(Vmp)	31.25	31.37	31.49	31.64	31.79	31.94	32.09
Max power current(Imp)	13.12	13.23	13.34	13.44	13.53	13.62	13.72
Open circuit voltage(Voc)	37.94	38.04	38.13	38.24	38.34	38.43	38.53
Short circuit current(Isc)	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
Max system voltage	DC 1500V (TÜV,UL)						
Maximum Series Fuse Rating	30A						

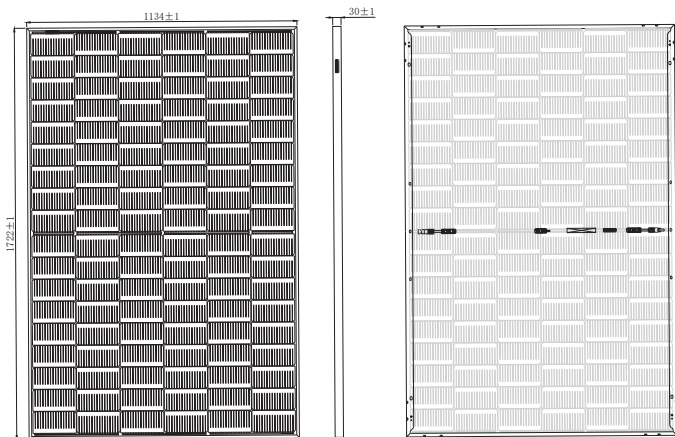
### Electrical Characteristics with 15% Rear Side Power Gain

Front power Pmax/W	410W	415W	420W	425W	430W	435W	440W
Total power Pmax/W	471.5	477.25	483	488.75	494.5	500.25	506
Vmp/V(Total)	31.25	31.37	31.49	31.64	31.79	31.94	32.09
Imp/A(Total)	15.09	15.21	15.34	15.45	15.56	15.66	15.77
Voc/V(Total)	37.94	38.04	38.13	38.24	38.34	38.43	38.53
Isc/A(Total)	15.93	16.05	16.18	16.28	16.39	16.49	16.59

### 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	410W	415W	420W	425W	430W	435W	440W
Max power(Pmax)	308.00	312	316	320	324	325	329
Max power voltage(Vmp)	29.40	29.50	29.6	29.7	29.9	29.80	29.9
Max power current(Imp)	10.49	10.58	10.67	10.75	10.84	10.91	11.00
Open circuit voltage(Voc)	35.70	35.8	35.9	36	36.1	36	36.1
Short circuit current(Isc)	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 semi-tempered glass
Output cables	4mm <sup>2</sup> , symmetrical lengths 1100mm
Cell type	N type Mono-Crystalline, 16BB, 182x91mm
Number of cells	108 cells (Half-Cell)
Connectors	PV-GZX1500, 1500VDC, 39A, IP68

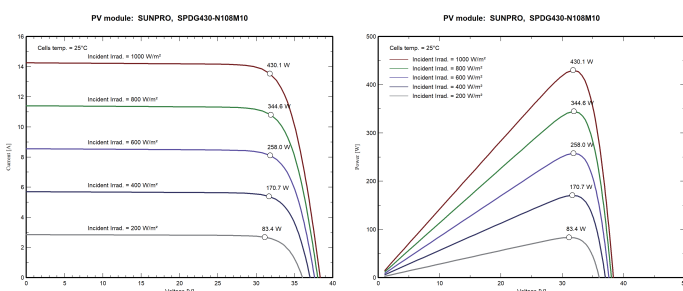
### Temperature Characteristics

Temp.Coeff.of Isc(TK Isc)	0.046%/°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'HQ
Pieces per pallet	36
Pallets per container	26
Pieces per container	936

## 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	0~+3%
Junction box	IP 68
Warranties	30 years product warranty and 30 years 87.4% of power
Fire class rating	Class C