

**Tier1**

BloombergNEF



ISO14001

ISO9001

ISO45001



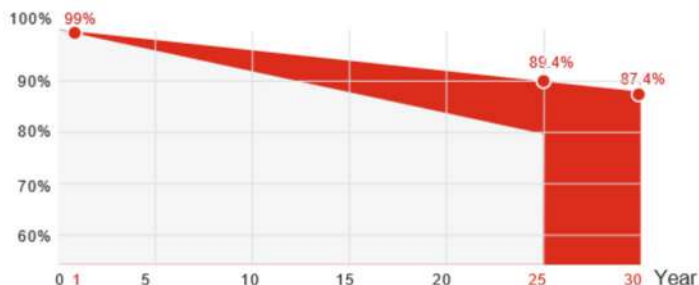
## M10 TOPCON MONO

### SPxxx-N108M10

- Black Frame (xxx=410~440W)
- Full Black

#### 30 Yr Product Warranty | 30 Yr Power Warranty

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



\*SUNPRO Standard tiered warranty



#### WARRANTY & GUARANTEE

30 years for all rooftop installations

Linear output power guarantee

25 years: 89.4% power output

30 years: 87.4% 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

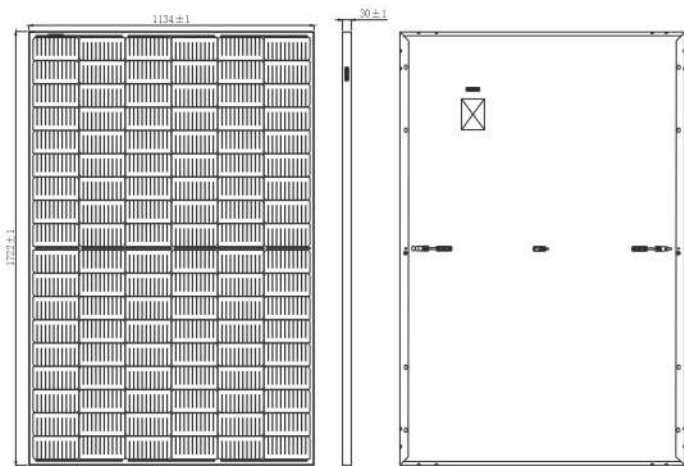
N-type, Components have better reliability and lower LID/LETID attenuation. Efficiency can reach 22.53%. Excellent low light performance. under the conditions of haze, overcast, etc.

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(%)	21.00	21.25	21.51	21.76	22.02	22.28	22.53
Max system voltage	DC 1500V (TÜV)						
Maximum Series Fuse Rating	25A						

DIMENSIONS AND STRUCTURE



Electrical parameters at NMOT test conditions

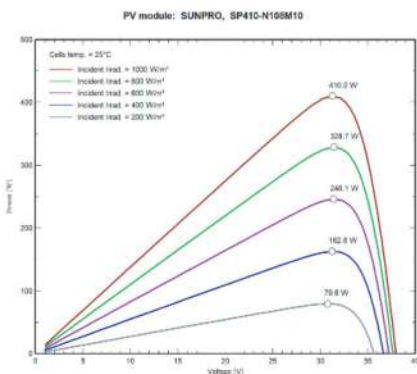
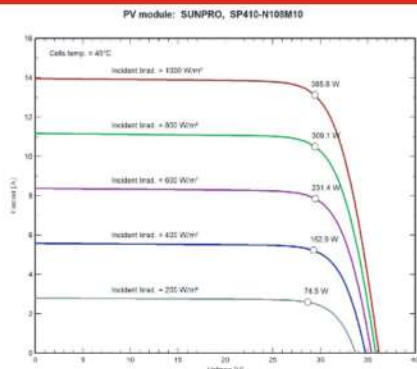
(Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s)

Typical type	410W	415W	420W	425W	430W	435W	440W
Max power(Pmax)	308	312	316	320	324	325	329
Max power voltage(Vmp)	29.40	29.50	29.60	29.70	29.90	29.80	29.90
Max power current(Imp)	10.42	10.58	10.67	10.75	10.84	10.91	11.00
Open circuit voltage(Voc)	35.70	35.80	35.90	36.00	36.10	36.00	36.10
Short circuit current(Isc)	11.16	11.25	11.34	11.41	11.48	11.56	11.63

Mechanical Data

Dimensions	1722x1134x30mm
Weight	21kg
Glass	3.2mm ultra clear embossed tempered coated glass
Output cables	4mm <sup>2</sup> , symmetrical lengths 1100mm
Cell type	N type Mono-Crystalline, 16BB, 182x91mm
Number of cells	108cells (Half-Cell)
Connectors	Taizhou Chuangda Electronic Co.,Ltd. Type: PV-TT02,1500V DC, 43A, -40 to 85° C, IP68(1m,1h)

I-V CHARACTERISTICS AT DIFFERENT IRRADIATION



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

Tests, Certifications and Warranties

Standard tests	IEC 61215, IEC 61730
System certs	ISO 9001, ISO14001, ISO45001
Certifications	TÜV, CE, WEEE, INMETRO, UL, FIRE CERTIFICATE C1
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	30 years product warranty and 30 years 87.4% of power
Fire class rating	Class C