



**FEOC
FREE**

Sunpro **Max** Series

N-Type 182 High Efficiency Bifacial Module

Module efficiency

23.04%

Power Output

435-450W



Better leveled
cost of energy



Better high
temperature stability

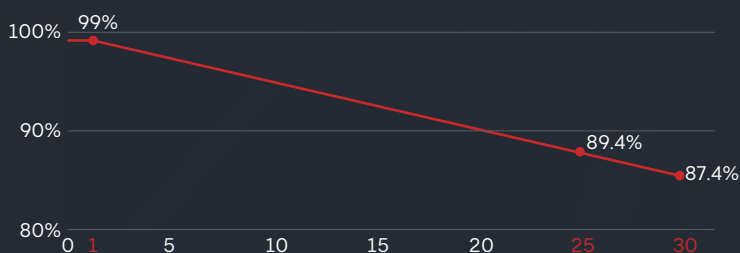


Improved low-light
performance



Excellent
bifacial performance

Linear performance guarantee for 30 years



WARRANTY

Extended warranty is available at additional cost

Quality
Guarantee **15**
years

Power
Warranty **30**
years

CERTIFICATE



ELECTRIC CHARACTERISTICS

SPDG (435/450W)-N108M10

Model of modules	SPDG435-N108M10		SPDG440-N108M10		SPDG445-N108M10		SPDG450-N108M10	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Power (Pmax/W)	435	325.00	440	329.00	445	332.4	450	336.2
Maximum power voltage (Vmp)	31.94	29.80	32.09	29.90	32.25	30	32.41	30.1
Maximum power current (Imp)	13.62	10.91	13.72	11.00	13.8	11.08	13.89	11.16
Open circuit voltage (Voc)	38.43	36.00	38.53	36.10	38.64	36.2	38.75	36.3
Short circuit current (Isc)	14.34	11.56	14.43	11.63	14.53	11.71	14.63	11.79
Module efficiency	22.28%		22.53%		22.79%		23.04%	

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

NMOT (Irradiance 800W/m², Ambient Temperature 20°C, AM1.5, Wind Speed 1m/s)

ELECTRICAL CHARACTERISTICS WITH 15% REAR SIDE POWER GAIN

Front power Pmax/W	500.25	506.00	511.75	517.50
Maximum power voltage (Vmp)	31.94	32.09	32.25	32.41
Maximum power current (Imp)	15.66	15.77	15.87	15.97
Open circuit voltage (Voc)	38.43	38.53	38.64	38.75
Short circuit current (Isc)	16.49	16.59	16.71	16.82

STRUCTURAL CHARACTERISTICS

Module size (L*W*H)	1722x1134x30mm (67.80x44.65x1.18in)
Weight	23.3kg (51.37lb)
Cell	108 cells, N type Mono-Crystalline , 182mm×91mm (7.17in×3.58in)
Front glass	2.0mm , Anti-Reflection Coating
Back glass	2.0mm , Heat Strengthened Glass
Frame	Anodized aluminum alloy
Junction box	IP68 , 3 bypass diodes
Output wire	4mm ²
Wire length	Line length 1100mm (43.31in) /customized
Connector	Stäubli MC4
Packing Specification	36 pcs/Pallet ; 936pcs/40' HQ

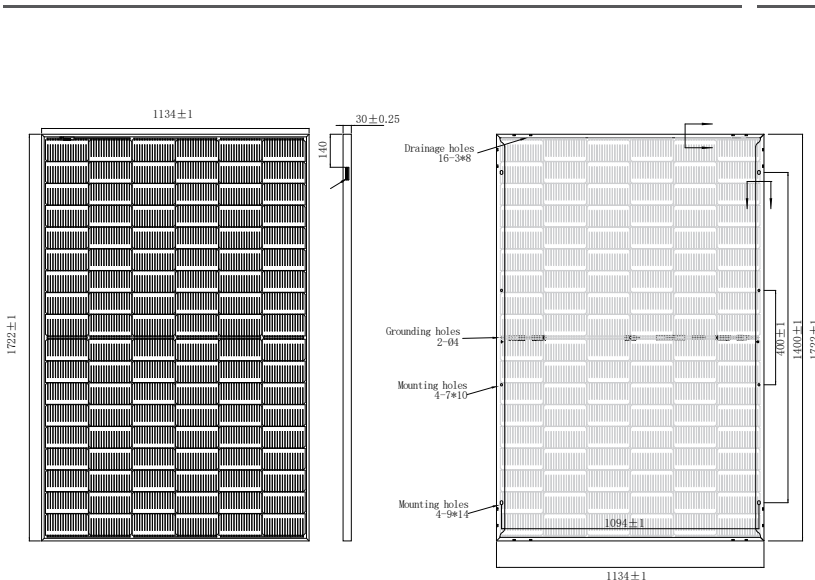
OPERATING PARAMETERS

Power tolerance (W)	(0~+5W)
Maximum system voltage (V)	1500V
Maximum rated fuse current (A)	30A
Current operating temperature (C)	-40~+85°C
Mechanical load	+8000Pa/-5400Pa

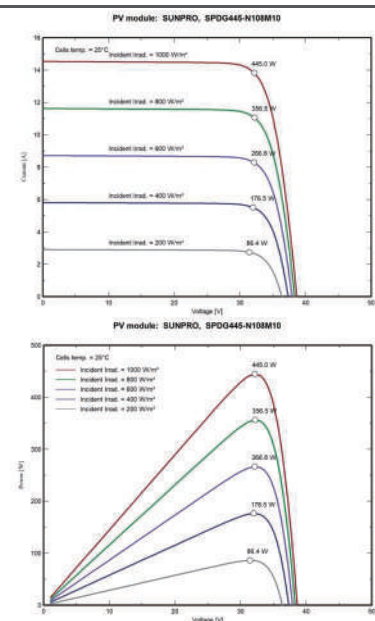
TEMPERATURE CHARACTERISTICS

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
Normal Operating Cell Temperature	45±2°C

MODULE DIMENSIONS(MM)



I-V CHARACTERISTICS AT DIFFERENT IRRADIATION



SUNPRO POWER NORTH AMERICA INC.

ADD: STE 2, 206 N Randolph St, Champaign, IL 61820

E-MAIL: info@sunpropower.com WEBSITE: www.sunpropower.us

*All data may have a lag, for reference only. Sunpro has the final right of interpretation.