SUNPRO POWER

Tier1 BloombergNEF | FEOC FREE

Power the future

N-Type 210R BIFACIAL

435-450W

High efficiency bifacial modules



Module efficiency

23.04%

Better levelized 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

www.sunpropower.us

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
Maximu power current (Vmp)	31.94	29.80	32.09	29.90	32.25	30	32.41	30.1
Maximu 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 Temperature25°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
Maximu power voltage (Vmp)	31.94	32.09	32.25	32.41
Maximu 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
Weight	23.3kg
Cell	108 cells,N type Mono-Crystalline , 182mm×91mm
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	4mm²
Wire length	Line length 1100mm/customized
Connector	Stäubli MC4
Packing Specification	36 pcs/Pallet ; 936pcs/40' HQ

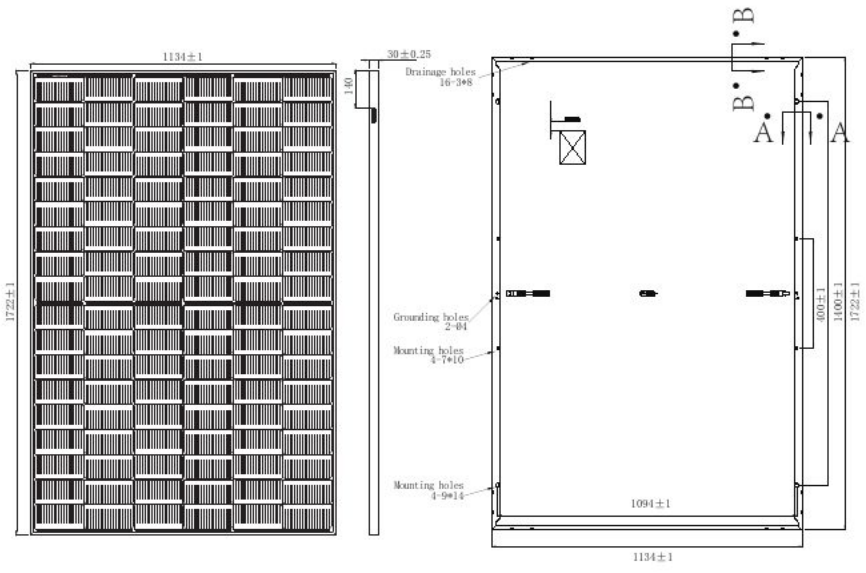
OPERATING PARAMETERS

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

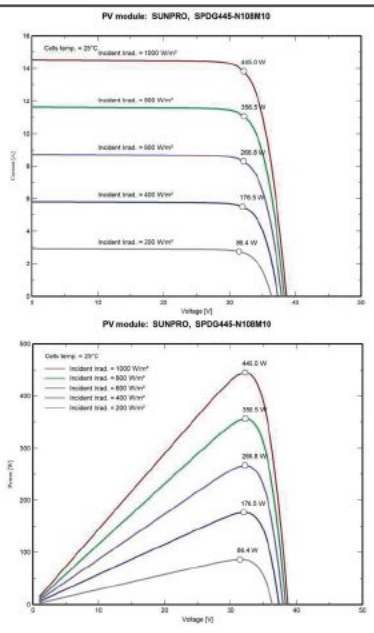
TEMPERATURE CHARACTERISTICS

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 Operting Cell Temperature	45±2°C

MODULE DIMENSIONS(MM)



I-V CHARACTERISTICS AT DIFFERENT IRRADIATION



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