



SUNNIVA - M18/108

435-450W

182±1.5x91±1.5mm
Cells 108

Monocrystalline

N-TYPE Half-Cell Module

Max Power Out: 450W
Max Efficiency: 23.0%
Power Tolerance: 0~+3%



SMBB Technology

Better light trapping and current collection to improve module power output and reliability



Reduced Hot Spot Loss

Optimized electrical design and lower operating current for reduced hot spot loss and better temperature coefficient.



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.



Enhanced Mechanical Load

Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).



Durability Against Extreme Environmental Conditions

High salt mist and ammonia resistance.

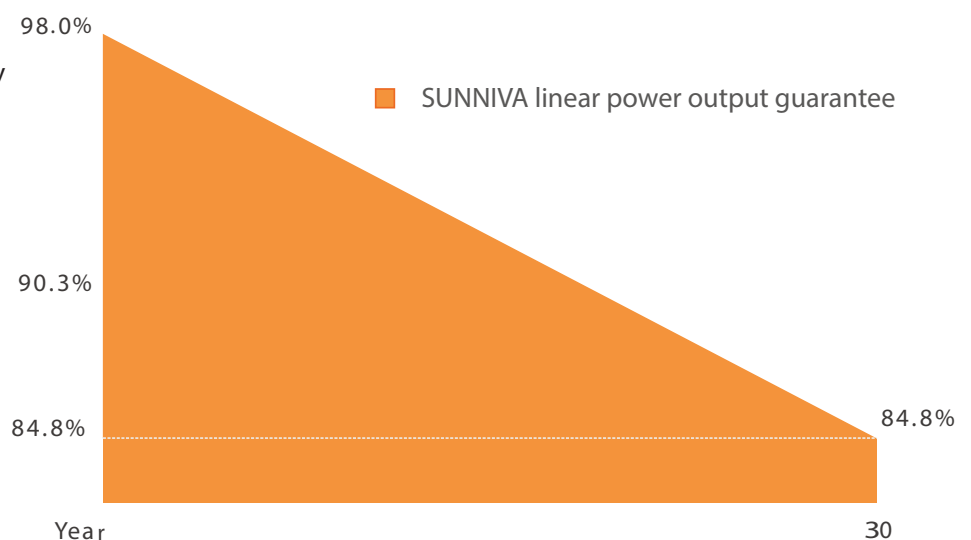


High Energy Generation, Low LCOE

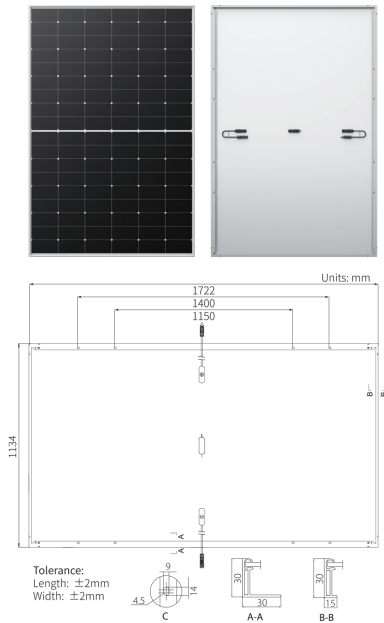
Low Pmax temp coefficient increases energy production.

Superior Warranty

- 15-year material & technology warranty
- 30-year linear power output warranty



Engineering Drawings



Structural Parameter

Dimensions of Module	1722x1134x30mm
Weight	20.8kg
J-Box	IP68, three diodes
Glass	Single glass, 3.2mm coated tempered glass
Frame	Anodized aluminum alloy frame
Cable	4mm ² , ± 1200 mm length can be customized
Cell Orientation	108 (6x18)

Electrical Specification

(STC: Irradiance 1000W/m², Cell temperature 25°C, AM1.5G — NOCT: Irradiance 800W/m², Ambient temperature 20°C, Wind speed 1m/s)

Module Type	SUNNIVA M18/108435		SUNNIVA M18/108440		SUNNIVA M18/108445		SUNNIVA M18/108450	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax) [W]	435	325	440	329	445	332	450	336
Maximum Power Voltage (Vmp) [V]	33.04	30.15	33.24	30.33	33.34	30.51	33.64	30.70
Maximum Power Current (Imp) [A]	13.17	10.87	13.24	10.85	13.31	10.90	13.38	10.95
Open Circuit Voltage (Voc) [V]	39.33	36.93	39.53	37.11	39.73	37.30	39.93	37.49
Short Circuit Current (Isc) [A]	14.22	11.49	14.30	11.55	14.37	11.61	14.45	11.67
Module Efficiency [%]	22.3		22.5		22.8		23.0	

Operating Parameters

Operational Temperature	-40°C ~ +85°C
Power Output Tolerance	0 ~ 3%
Voc and Isc Tolerance	$\pm 3\%$
Maximum System Voltage	DC1500V (IEC/UL)
Maximum Series Fuse Rating	25A
Nominal Operating Cell Temperature	45 ± 2 °C
Protection Class	Class II
Fire Rating	UL type 1 or 2 IEC Class C

Mechanical Loading

Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s

Temperature Ratings (STC)

Temperature Coefficient of Isc	+0.050%/°C
Temperature Coefficient of Voc	-0.230%/°C
Temperature Coefficient of Pmax	-0.290%/°C