

BiMAX 5N

# 410-440W

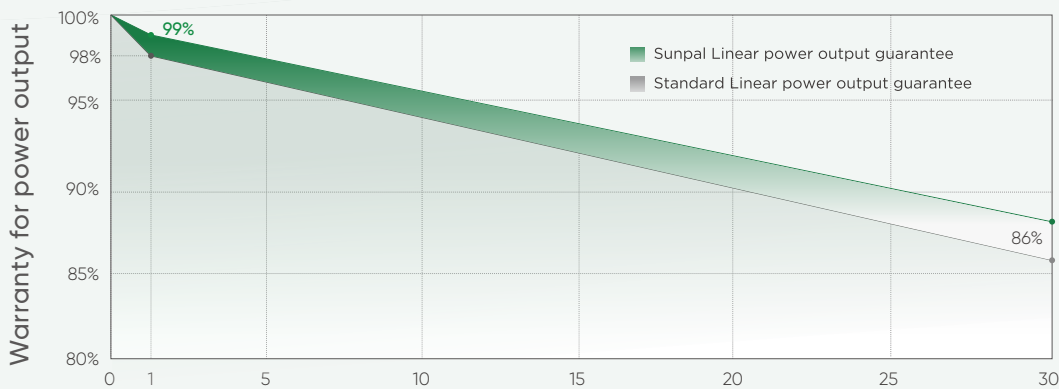
N-type TOPCon Bifacial  
Ultra Black Dual Glass  
Solar Module



## Quality Guarantee

25-year Materials Warranty

30-year Power Warranty



87.4%

22.53%

Max Module Eff.

0~+5W

Positive Tolerance

### Complete System and Product Certifications

IEC61215/IEC61730

ISO 9001: Quality Management System

ISO 14001: Environmental Management System

ISO 45001: Occupational Health and Safety Management System



\* Specifications subject to technical changes and tests. Sunpal Solar reserves the right of interpretation.

Positive power tolerance (0~+5W) guaranteed

High module conversion efficiency (up to 22.53%)

Slower power degradation enabled by Low LID Mono PERC technology: first year <1%, 0.40% year 2-30

Solid PID resistance ensured by solar cell process optimization and careful module BOM selection

Reduced resistive loss with lower operating current

Higher energy yield with lower operating temperature

Reduced hot spot risk with optimized electrical design and lower operating current



Sunpal Power Co., Ltd.

Add: No. 398 Ganquan Road, Hefei, Anhui, China.

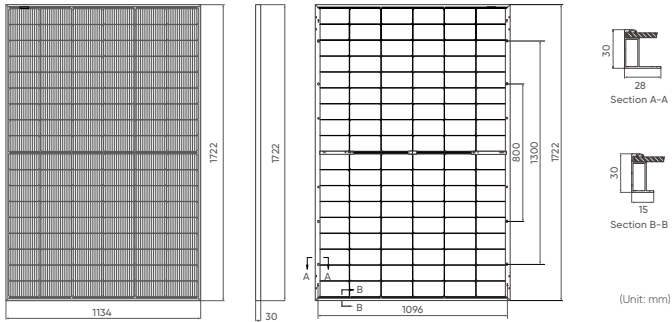
Email: info@sunpalsolar.com

Tel: +86 551 6586 5992

Web: www.sunpalsolar.com

# BiMAX 5N 410~440W

## Design (mm)



Solar Cells	N-type Mono
No. of Cells	108 (6×18)
Dimensions	1722 × 1134 × 30mm
Weight	23.5kg
Glass	Front: 2.0mm coated semi-tempered glass; Back: 2.0mm semi-tempered glass
Frame	Anodized aluminium alloy
Junction Box	Ip68 rated (3 by pass diodes)
Output Cables	4mm <sup>2</sup> , 300mm (+) / 300mm (-), Length can be customized
Connectors	Mc4 compatible
Mechanical load test	5400Pa
Packaging	36pcs/box, 216pcs/20'GP, 936pcs/40'HQ

Operating Module Temperature	-40°C to +85°C
Maximum System Voltage	1500 DC (IEC)
Maximum Series Fuse Rating	30A
Power Tolerance	0/+5W

Nominal Operating Temperature (NMOT)	45±2°C
Temperature Coefficient of Pmax	-0.29%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	+0.045%/°C

## Electrical Parameters (STC\*)

Module Type: SP440M-54H	410	415	420	425	430	435	440
Maximum power (Pmax/W)	410	415	420	425	430	435	440
Open Circuit Voltage (Voc/V)	38.10	38.25	38.49	38.73	38.96	39.20	39.44
Short Circuit Current (Isc/A)	13.85	13.92	13.99	14.06	14.13	14.20	14.27
Voltage at Maximum power (Vmpp/V)	31.20	31.42	31.63	31.84	32.04	32.25	32.45
Current at Maximum Power (Imp/A)	13.14	13.21	13.28	13.35	13.42	13.49	13.56
Module Efficiency(%)	21.00	21.25	21.51	21.76	22.02	22.28	22.53

## Bifacial Output-Rearside Power Gain

5%	Maximum power (Pmax/W)	431	436	441	446	452	457	462
	Module Efficiency STC (%)	22.05	22.31	22.58	22.85	23.12	23.36	23.63
15%	Maximum power (Pmax/W)	472	477	483	489	495	500	506
	Module Efficiency STC (%)	24.15	24.44	24.73	25.03	25.32	25.59	25.88
25%	Maximum Power (Pmax/W)	513	519	525	531	538	544	550
	Module Efficiency STC (%)	26.25	26.57	26.89	27.21	27.53	27.82	28.14

- Standard Test Conditions [STC]: irradiance 1000W/m<sup>2</sup>; AM 1.5; ambient temperature 25°C according to EN 60904-3;
- Tolerance of Pm: 0~+5W, Measuring uncertainty of power: ±3%. Performance deviation of Voc [V], Isc [A], Vm [V] and Im [A]: ±3%.

## I-V Curve

