

BiMAX 5N

460-490W

SP490M-60H

N-type TOPCon Bifacial
Ultra Black Dual Glass Solar Module

10-30% Additional Power Generation

30 years lifespan brings 10-30% additional power generation comparing with conventional P-type module.

ZERO LID (Light Induced Degradation)

N-type solar cell has no LID naturally which can increase power generation.

Higher Reliability

Adpoted SunPal latest S-TOPCon 2.0 technology, No polysilicon wrap around, Full electrical isolation, Zero leakage current; Much Safer for roof.

Better Weak Illumination Response

Higher power output even under low-light environments like on cloudy or foggy days.

Better Temperature Coefficient

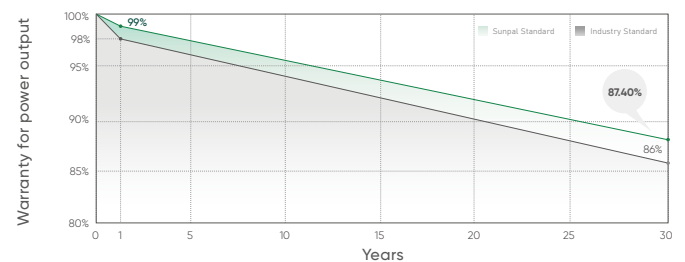
Higher power generation under working conditions, thanks to passivating contact cell technology.

Quality Management System and Product Certification

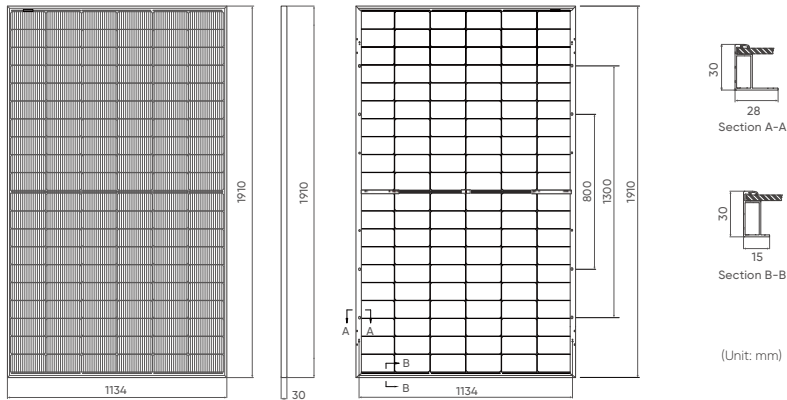
IEC61215/61730, IEC62804(PID), IEC61701(Salt),
IEC62716 (Ammonia), IEC60068-2-68(Sand),
ISO 9001:2015/quality management system.
ISO 14001:2015/environmental management system.
ISO 45001:2018/occupation health safety management system.
ISO 50001:2011/energy management system.
IEC TS 62941-2016/PV industry quality management system.

Quality Guarantee

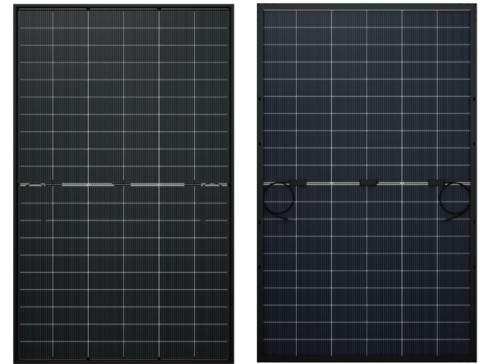
25 YEAR Materials Warranty **30 YEAR** Power Warranty



Drawings



Product Image



Mechanical Characteristics

Solar Cells	N-type Mono
No. of Cells	120 (6x20)
Dimensions	1910 x 1134 x 30mm
Weight	26.0kg
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 ² , 300mm (+) / 300mm (-), Length can be customized
Connectors	Mc4 compatible
Mechanical load test	5400Pa
Packaging	36pcs/box, 216pcs/20'GP, 936pcs/40'HQ

Operating Characteristics

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

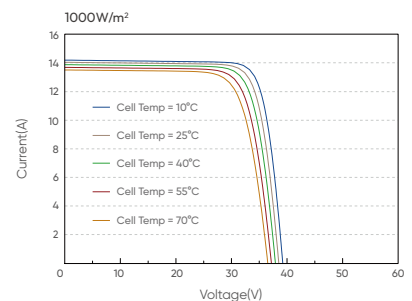
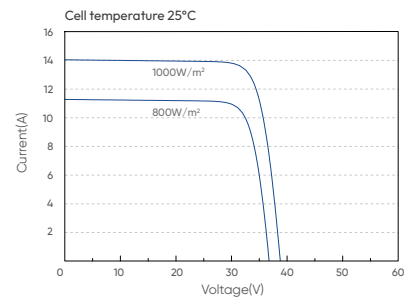
Temperature Characteristics

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: SP490M-60H	460	465	470	475	480	485	490
Maximum power (Pmax/W)	460	465	470	475	480	485	490
Open Circuit Voltage (Voc/V)	42.51	42.72	42.94	43.15	43.36	43.57	43.78
Short Circuit Current (Isc/A)	13.88	13.95	14.02	14.09	14.16	14.23	14.30
Voltage at Maximum power (Vmpp/V)	34.93	35.12	35.31	35.50	35.69	35.88	36.07
Current Maximum Power (Impp/A)	13.17	13.24	13.31	13.38	13.45	13.52	13.59
MODULE EFFICIENCY (%)	21.24	21.47	21.70	21.93	22.16	22.39	22.62

I-V Curve



Bifacial Output-Rearside Power Gain

5%	Maximum power (Pmax/W)	483	488	494	499	504	509	515
	Module Efficiency STC (%)	22.30	22.54	22.78	23.03	23.27	23.51	23.75
15%	Maximum power (Pmax/W)	529	535	541	546	552	558	564
	Module Efficiency STC (%)	24.42	24.69	24.95	25.22	25.49	25.76	26.02
25%	Maximum Power (Pmax/W)	575	581	588	594	600	606	613
	Module Efficiency STC (%)	26.55	26.84	27.12	27.41	27.70	27.99	28.28

1. Standard Test Conditions [STC]: irradiance 1000W/m²; AM 1.5; ambient temperature 25°C according to EN 60904-3;
 2. Tolerance of Pm: 0/+5W, Measuring uncertainty of power: ±3%. Performance deviation of Voc [V], Isc [A], Vm [V] and Im [A]: ±3%.