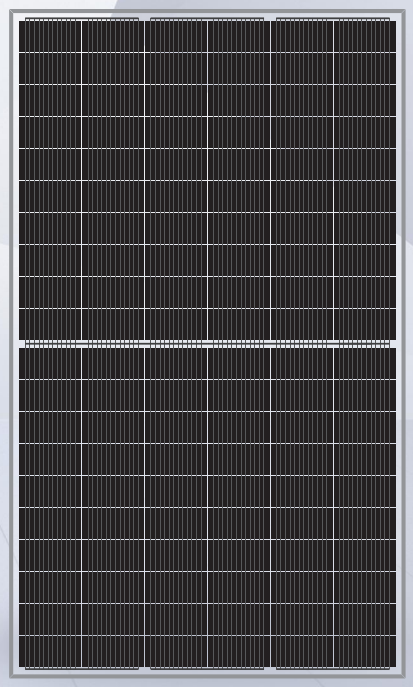
Sine Energy Sun&Power

www.sine-energy.com

Mono Half Cut



Bifacial

590~610W

SN(590~610W)-120MB12 12BB

Mono MBB perc large size half cut module

KEY FEATURES

210mm squared big sized cells

Adopt latest 210mm half cut cells technology, upto 23.1% cells effciency and low degradation rate

12bb cells with powerful optical conversion rate

More busbar with narrow transfer distance,increase current collecting ability, less cells resistance and working temperature

Twin panels parallel connection

12 cells strings array in twin parallel connection, lower panel temperature and hot spot, better shadow performance

Super high power output Bifacial panel

Low LCOE

Up to 605W power output, up to 20% rear side generation, increase the project extra generation

Stable generation capacity and power loss guarantee

0~+5W power output guarantee, 1st year power degradation≦2%, 2nd year to 25th year power degradation≦0.6%

Excellent harsh environment durability

Anti-PID material, sand-dust, salt-mist, and ammonia resistance, meet all kinds of different installing requirements

CERTIFICATION

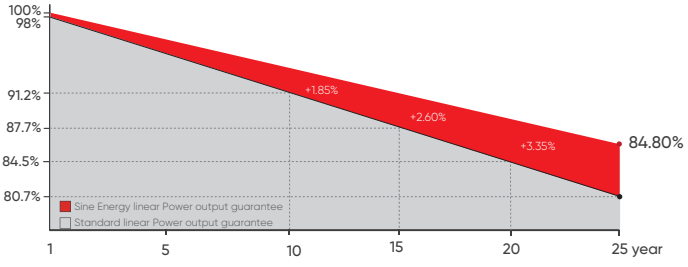
IEC61215 | IEC61730 | IEC 61701 | CE | INMETRO
ISO 9001
2015 Quality Management System
ISO 14001
2015 Environmental Management System
ISO45001
2018 Occupational Health and Safety Management System

TÜV Rheinland INMETRO ISO CE PID

INDUSTRY LEADING WARRANTY

12 years Guarantee on product material and workmanship

25 years Linear power output warranty



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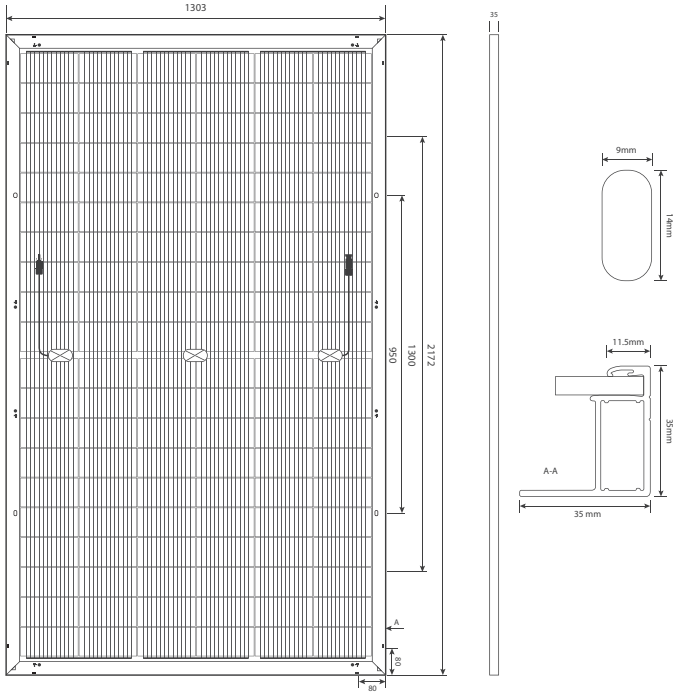
If any update,Sine Energy would not make further notice. Sine Energy reserves the right of final interpretation.

SN(590~610W)-120MB12

Weight	Number of Cells	Module Size	Packing
30.5kg	120pcs(20×6)	12172×1303×35mm	31pcs/pallet, 558pcs/40HQ



MECHANICAL SPECIFICATIONS

Solar Cell Type	210×105mm
Glass	3.2mm templed, high transimission ART coating
Back Sheet	White KPF
Frame	Silver Anodized Aluminium Alloy
Junction Box	IP68
No. of Diodes	3pcs
Output Cable	4.0mm² 400/400mm (custmized available)
Connector	MC4 Compatible (MC4 Original optional)
Wind/Snow Load	2400pa/5400pa

TEMPERATURE COEFFICIENT

Nominal Operating Cell Temp(NOCT)	44±2℃
Temperature Coefficient of ISC	0.060%℃
Temperature Coefficient of VOC	-0.30%℃
Temperature Coefficient of Pmax	-0.39%℃
Operational Temperature	-40~85℃
Maximum System Voltage	1500V DC(IEC)
Maximum Series Fuse Rating	25A

STC —— Electrical Characteristics

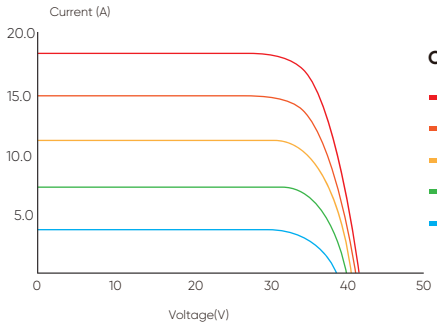
Test conditions	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power -Pmax(W)	590W	447W	595W	451W	600W	454W	610W	503W	610W	416W
Maximum Power Voltage-Vmp(V)	34.00V	31.70V	34.20V	31.90V	34.40V	32.10V	34.80V	35.42V	38.41V	35.61V
Maximum Power Current-Imp(A)	17.35A	14.09A	17.40A	14.13A	17.44A	14.16A	17.53A	14.19A	17.44A	14.23A
Open Circuit Voltage -Voc(V)	41.10V	38.70V	41.30V	38.90V	41.50V	39.10V	41.90V	42.86V	46.38V	43.04V
Short Circuit Current-Isc(A)	19.42A	14.85A	18.47A	14.88A	18.52A	14.92A	18.62A	15.01A	18.36A	15.06A
Module Effciency(STC) -ηm(%)	20.85%		21.02%		21.20%		21.38%		21.55%	

TC:Irradiance:1000W/m², Module Tempreature:25ºC,Air Mass:1.5 NOCT:Irradiance:800W/m², Ambient Tempreature:20ºC,Air Mass:1.5,Wind Speed:1m/s

Bifacial Output-Rearside Power Gain

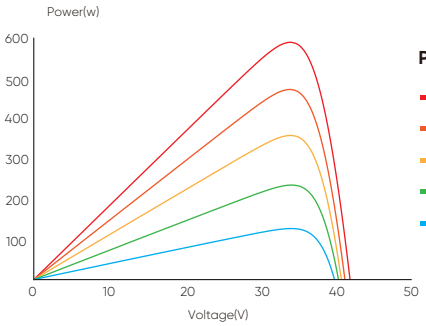
5%	Maximum Power(Pmax)	682.5W	687.75W	693W	698.25W	703.5W
	Module Effciency STC(%)	21.97%	22.14%	22.31%	22.49%	22.65%
10%	Maximum Power(Pmax)	747.5W	753.25W	759W	764.75W	770.5W
	Module Effciency STC(%)	24.06%	24.25%	24.43%	24.62%	24.80%
15%	Maximum Power(Pmax)	821.5W	818.75W	825W	831.25W	837.5W
	Module Effciency STC(%)	26.15%	26.36%	26.55%	26.76%	26.96%

I-V Curve



Current-Voltage Curve(595W)

- 1000W/m²
- 800W/m²
- 600W/m²
- 400W/m²
- 200W/m²



Power-Voltage Curve(595W)

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