

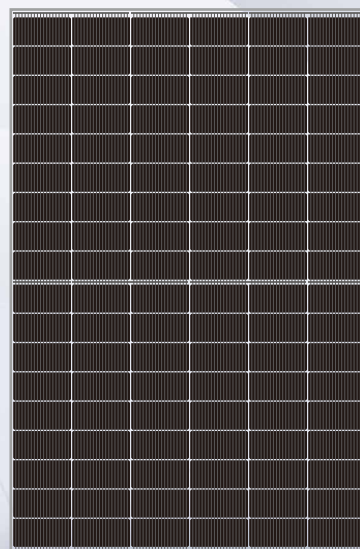
# TOPCon

**Double Glass Bifacial**


**450W**


**SN(450W)-108MSDG 18BB**


**Mono MBB N-type** large size half cut module





## KEY FEATURES


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Sine Energy Topcon solar modules adopts the latest 18 bus bar technology decrease the current transverse propagation path by 50% and improve the efficiency of the modules up to 23.0%.
- 


5-25w higher than Perc modules with the same size result in lower LCOE and O/M cost.
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N type topcon modules has better reliability in harsh environment and lower LID/LETID.
- 

N type Topcon solar cells makes longer life span, lower degradation and better performance in weak light conditions
- 

Half cut cell and optimized circuit design as well split junction box makes lower the power loss caused by shadow and mismatch.
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Lower thermal coefficient for higher power generation at higher temperature.
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Selected encapsulating materials and stringent production process controls ensures highly PID resistant.
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Ideal for usage in residential rooftops, commercial and large-scale plants.

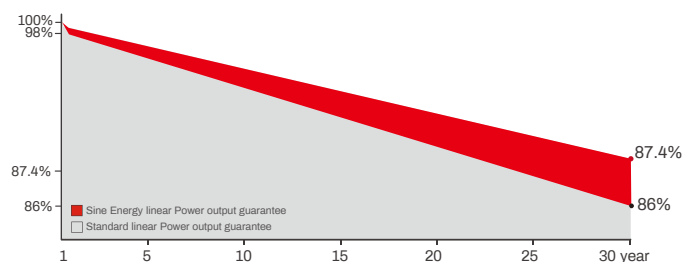
## CERTIFICATION

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



## INDUSTRY LEADING WARRANTY

- 12 years** Guarantee on product material and workmanship
- 30 years** Linear power output warranty



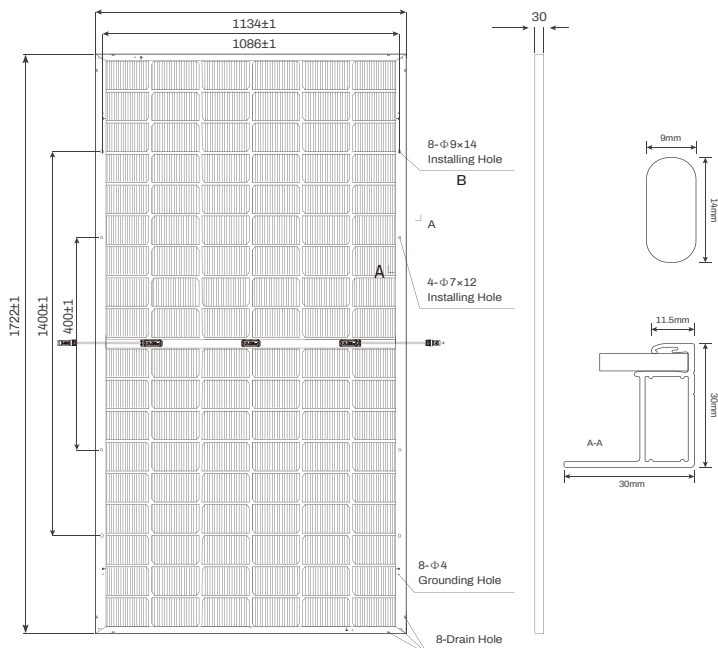
# SN(450W)-108MSDG

Weight  
22kg

Number of Cells  
108pcs(18×6)

Module Size  
1722×1134×30mm

Packing  
36pcs/pallet,936pcs/40HQ



## MECHANICAL SPECIFICATIONS

Solar Cell Type	182×183mm
Glass	Dual glass, 1.6mm coated tempered glass
Frame	Silver Anodized Aluminium Alloy
Junction Box	IP68
No. of Diodes	3pcs
Output Cable	4.0mm <sup>2</sup> 400/400mm (custmized available)
Connector	MC4 Compatible (MC4 Original optional)
Wind/Snow Load	2400pa/5400pa

## TEMPERATURE COEFFICIENT

Nominal Operating Cell Temp(NOCT)	45±2 C
Temperature Coefficient of ISC	+0.045%/C
Temperature Coefficient of VOC	-0.230%/C
Temperature Coefficient of Pmax	-0.280%/C
Operational Temperature	-40 C ~ +85 C
Maximum System Voltage	1500V DC(IEC)
Maximum Series Fuse Rating	25A
Fire Rating	Class C
Protection Class	Class II

## STC — Electrical Characteristics

Test conditions	STC	NOCT
Maximum Power -Pmax(W)	450W	340W
Maximum Power Voltage-Vmp(V)	34.16	30.21
Maximum Power Current-Imp(A)	13.17	11.25
Open Circuit Voltage -Voc(V)	39.07	35.84
Short Circuit Current-Isc(A)	14.04	11.57
Module Efficiency(STC) -ηm(%)	23.04	
Power output tolerance(W)	±3%	

STC:AM:1.5, front:1000W/m<sup>2</sup>, 25°C. NOCT:AM:1.5, front:800W/m<sup>2</sup>, Wind Speed:1m/s, 20°C

## BNPI — Electrical Characteristics

Maximum Power -Pmax(W)	492W
Maximum Power Voltage-Vmp(V)	37.31
Maximum Power Current-Imp(A)	13.19
Open Circuit Voltage -Voc(V)	39.07
Short Circuit Current-Isc(A)	15.37
Module Efficiency(STC) -ηm(%)	25.22

BNPI: AM:1.5, front:1000W/m<sup>2</sup>, rear: 135W/m<sup>2</sup>, 25°C.

## I-V Curve

