

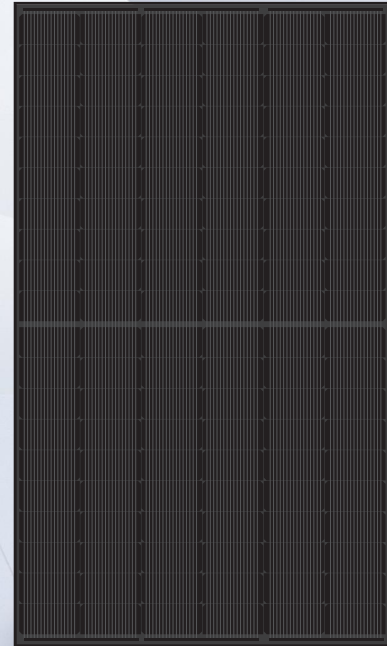
TOPCON

Monofacial
460~480W

SN(460~480W)-120MTF

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

Max Cell Efficiency **24.1%**



KEY FEATURES



Sine Energy Topcon solar modules adopts the latest 16 bus bar technology decrease the current transverse propagation path by 50% and improve the efficiency of the modules up to 22%.



5-25w higher than Perc modules with the same size result in lower LCOE and O/M cost.



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 conditons



Half cut cell and optimized circuit design as well split junctin box makes lower the power loss caused by shadow and mismatch.



Lower thermal coefficient for higher power gerneration at higher temperature.



Selected encapsulating materials and stringent production process controls ensures highly PID resistant.



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



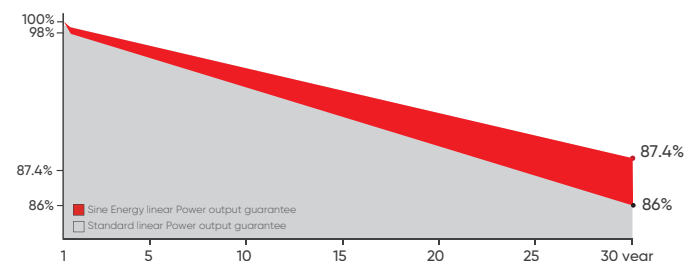
INDUSTRY LEADING WARRANTY

25 years

Guarantee on product material and workmanship

30 years

Linear power output warranty



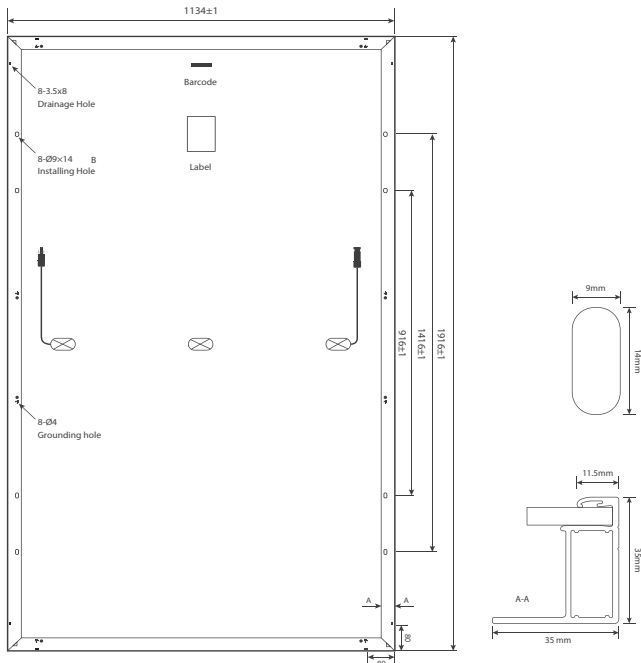
SN(460~480W)-120MTF

Weight
22.5kg

Number of Cells
120pcs(20×6)

Module Size
1916×1134×35mm

Packing
31pcs/pallet,744pcs/40HQ



MECHANICAL SPECIFICATIONS

Solar Cell Type	182×91mm
Glass	3.2mm tempered, high transmission ART coating
Back Sheet	Black KPF
Frame	Silver Anodized Aluminium Alloy
Junction Box	IP68
No. of Diodes	3pcs
Output Cable	4.0mm ² 400/400mm (custmized available)
Connector	MC4 Compatible (MC4 Original optional)
Wind/Snow Load	2400pa/5400pa

TEMPERATURE COEFFICIENT

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

ELECTRICAL SPECIFICATION (STC)

	460W	465W	470W	475W	480W
Maximum Power -Pmax(W)	460W	465W	470W	475W	480W
Maximum Power Voltage-Vmp(V)	34.74V	34.91V	35.07V	35.23V	35.40V
Maximum Power Current-Imp(A)	13.24A	13.32A	13.40A	13.48A	13.56A
Open Circuit Voltage -Voc(V)	42.07V	42.24V	42.40V	42.56V	42.73V
Short Circuit Current-Isc(A)	13.98A	14.06A	14.14A	14.22A	14.30A
Module Efficiency(STC) -ηm(%)	20.17%	21.40%	21.63%	21.86%	22.09%
Power output tolerance(W)	0~+5W				

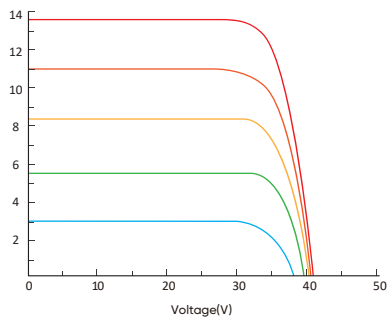
STC:Irradiance:1000W/m², Module Temperature:25°C,Air Mass:1.5

Electrical Specification (NOCT)

	346W	350W	353W	357W	361W
Maximum Power -Pmax(W)	346W	350W	353W	357W	361W
Maximum Power Voltage-Vmp(V)	32.62V	32.79V	32.96V	33.12V	33.29V
Maximum Power Current-Imp(A)	10.60A	10.66A	10.72A	10.78A	10.84A
Open Circuit Voltage -Voc(V)	39.96V	40.12V	42.27V	40.43V	40.59V
Short Circuit Current-Isc(A)	11.28A	11.35A	11.41A	11.48A	11.54A

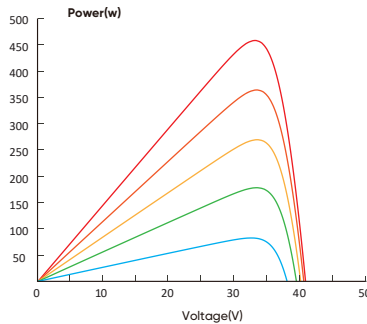
NOCT:Irradiance:800W/m², Ambient Temperature:20°C,Air Mass:1.5,Wind Speed:1m/s

I-V Curve



Current-Voltage Curve(480W)

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



Power-Voltage Curve(480W)

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