

MSMDxxxM10NR1-108BG

500-510W

N-Type cells (TOPCon) Cut Bifacial Dual
Glass Module Black Frame

Product Advantages



High module conversion efficiency

Module efficiency up to 22.9% achieved through advanced cell technology and manufacturing process



Lower operating temperature

Lower operating temperature and temperature coefficient increase the power output



Excellent weak light performance

More power output in weak light condition, such as cloudy, morning and sunset



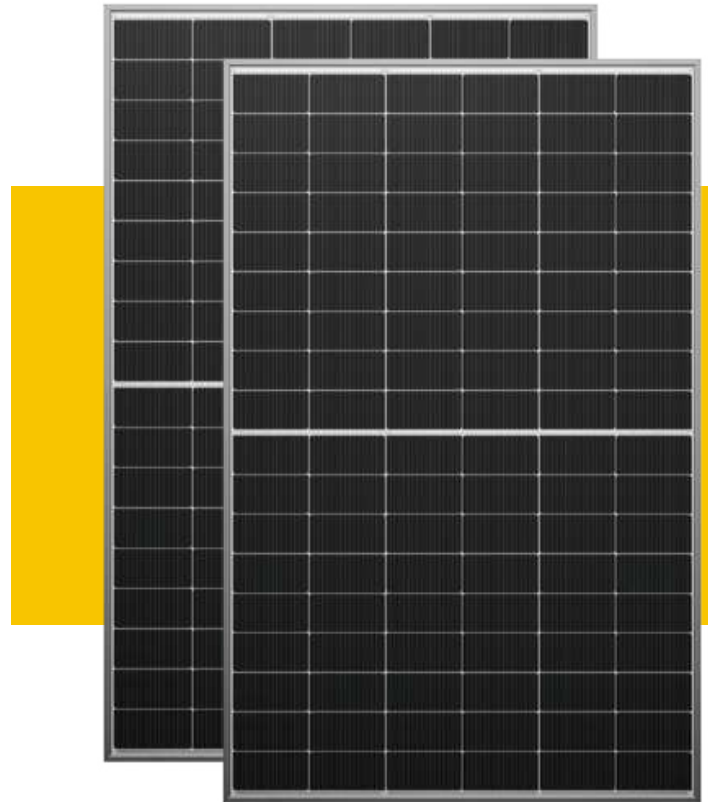
Extended wind and snow load tests

Module certified to withstand extreme wind(2400 Pascal) and snow loads(5400 Pascal)



IP68 junction box

High waterproof & dustproof level



22.9%

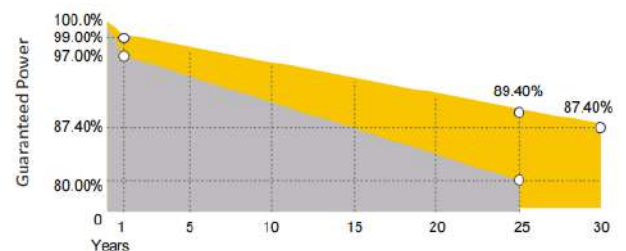
Module
efficiency

510W

Highest
power output

Performance Warranty

● Standard Module ● MSMD TOPCon Module



-1.00%

First year power degradation

-0.40%

Annual degradation

15
Years

Materials and
workmanship warranty

30
Years

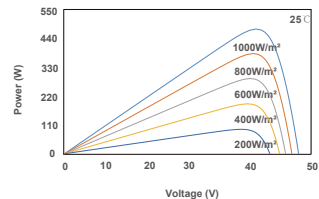
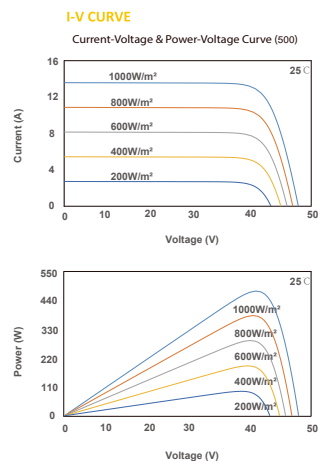
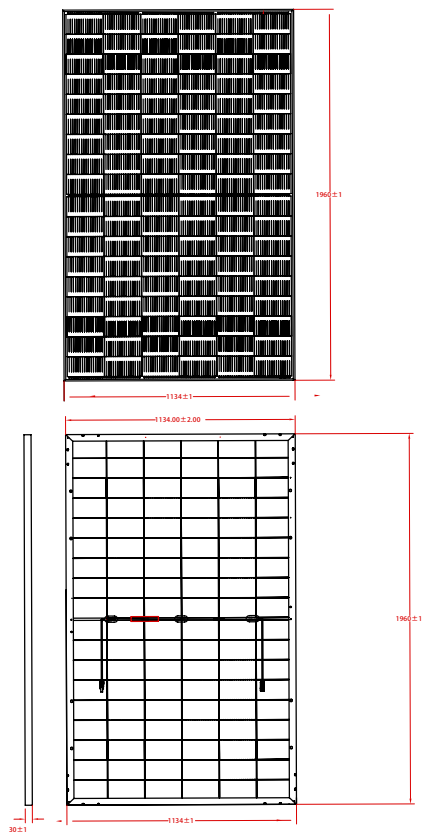
Linear power
warranty

Product Certification



MSMDxxxM10NR1-108BG

DIMENSIONS OF PV MODULE Unit: mm



Temperature Characteristics

Nominal Operating Cell Temp.(NOCT)	42 °C±2
Temperature Coefficiency of Pmax	-0.29%/°C
Temperature Coefficiency of Voc	-0.25%/°C
Temperature Coefficiency of Isc	0.046%/°C

Safety & Warranty

Safety Class	Class II
Product Warranty	15yrs Workmanship
Performance Warranty	30 yrs Linear Warranty*

*1st year 99%,after 2nd year 0.40% annual degradation to year 30.

Electrical Characteristics(STC*)

MSMDxxxM10NR1-108BG	500	505	510
Maximum Power (Pmax)	500W	505W	510W
Module Efficiency (%)	22.5%	22.7%	22.9%
Optimum Operating Voltage (Vmp)	33.1V	33.3V	33.5V
Optimum Operating Current (Imp)	15.11A	15.17A	15.22A
Open Circuit Voltage (Voc)	39.7V	39.9V	40.1V
Short Circuit Current (Isc)	16.08A	16.16A	16.24A
Operating Module Temperature	-40 to +85 °C		
Maximum System Voltage	DC1500V (IEC)		
Maximum Series Fuse	35A		
Power Tolerance	0~+5W		

*STC: Irradiance 1000 W/m², cell temperature 25 °C, AM=1.5; *Measuring tolerance: ±3%.

Electrical Characteristics(BNPI*)

Maximum Power (Pmax)	545W	550W	555W
Optimum Operating Voltage (Vmp)	33.1	33.3	33.5
Optimum Operating Current (Imp)	16.47	16.52	16.57
Open Circuit Voltage (Voc)	39.7	39.9	40.1
Short Circuit Current (Isc)	17.71	17.79	17.86

BNPI: Irradiance 1000W/m², module temperature 25 °C

NMOT **

Maximum Power (Pmax)	379W	383W	387W
Optimum Operating Voltage (Vmp)	31.0V	31.2V	31.4V
Optimum Operating Current (Imp)	12.23A	12.28A	12.32A
Open Circuit Voltage (Voc)	37.9V	38.1V	38.3V
Short Circuit Current (Isc)	12.90A	12.97A	13.04A

**NMOT:Irradiance 800W/m², ambient temperature 20 °C AM=1.5, wind speed 1m/s

Mechanical Characteristics

Cell Type	N-Type TOPCon Monocrystalline Silicon
Cell Connection	108(6x18)
Module Dimension	1960x1134x30mm
Weight	27.5 kg
Junction Box	IP68
Output Cable	1200 mm or customized length
Connectors Type	MC4 compatible
Frame	30mm Anodized Aluminium Alloy
Front Load	5400 Pa
Rear Load	2400 Pa
Glass Thickness	2.0+2.0mm Back glass black glazed

Shipping Configurations

	HC
Container Length	40'
Pallets Per Container	24
Modules Per Pallet (pcs)	36
Modules Per Container (pcs)	864