

Highest quality with our cells.  
10MBB Half Cut P-Type Technology

# HC MONO

## 480 - 500 Watt

### Black Frame



#### Key features

- ✔ Passed IEC 5400 Pa mechanical loading test.
- ✔ The modules can withstand high wind-pressure, snow loads and extreme temperatures.
- ✔ Our high performing modules have an industry low tolerance of 0±5%.
- ✔ Our solar cells offer high conversion efficiency to ensure the highest quality.
- ✔ Highest quality with our cells.

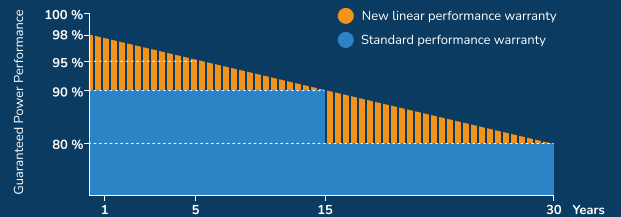


#### Quality and safety

- ✔ Industry leading power output warranty  
**15 years / 90%**  
**30 years / 80%**
- ✔ 25-year warranty on materials & workmanship
- ✔ Fire test: Class 1



#### Premium performance warranty



#### Applications



On-grid residential roof-tops



On-grid commercial-industrial roof-tops

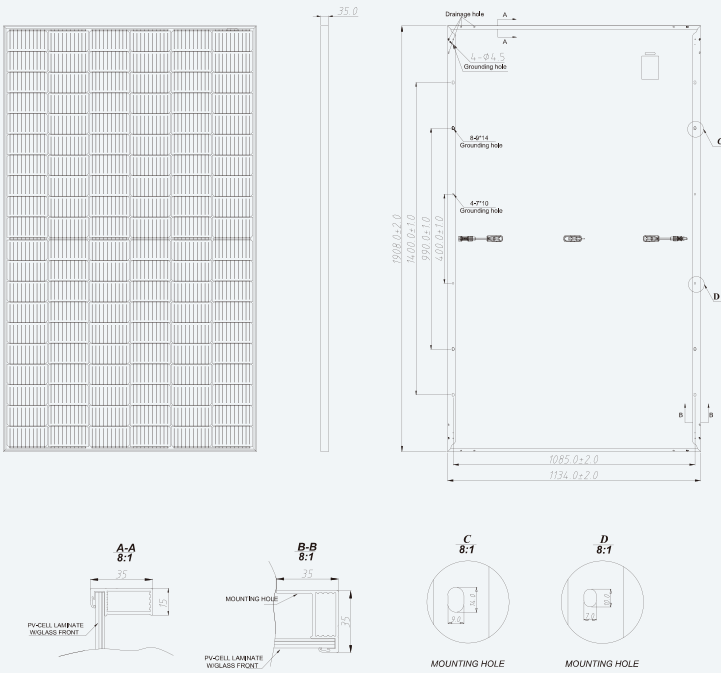


Solar power plants



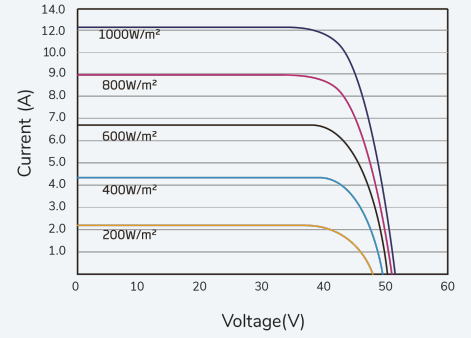
Off-grid systems

## Engineering drawings

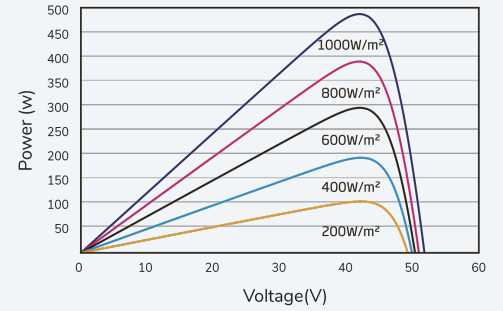


## Electrical performance & temperature dependence

I-V CURVES OF PV MODULE (480W)



P-V CURVES OF PV MODULE (480W)



## Electrical characteristics

Module Type	SNG480M-144	SNG485M-144	SNG4900M-144	SNG495M-144	SNG500M-144
<b>TESTING CONDITION<sup>(1)</sup></b>	<b>STC<sup>(2)</sup>/NMOT<sup>(3)</sup></b>	<b>STC<sup>(2)</sup>/NMOT<sup>(3)</sup></b>	<b>STC<sup>(2)</sup>/NMOT<sup>(3)</sup></b>	<b>STC<sup>(2)</sup>/NMOT<sup>(3)</sup></b>	<b>STC<sup>(2)</sup>/NMOT<sup>(3)</sup></b>
Maximum Power at STC (Pmax)	480Wp/348Wp	485Wp/351Wp	490Wp/354Wp	495Wp/357Wp	500Wp/360Wp
Maximum Power Voltage (Vmp)	42.90V/38.48V	43.10V/38.58V	43.30V/38.68V	43.50V/38.78V	43.70V/38.88V
Maximum Power Current (Imp)	11.18A/9.05A	11.25A/9.10A	11.32A/9.16A	11.39A/9.21A	11.46A/9.26A
Open-circuit Voltage (Voc)	50.30V/45.74V	50.50V/45.77V	50.70V/45.80V	50.90V/45.83V	51.10V/45.86V
Short-circuit Current (Isc)	11.64A/9.65A	11.70A/9.71A	11.76A/9.77A	11.82A/9.83A	11.88A/9.89A
Module Efficiency (%)	21.08%	22.31%	22.54%	22.77%	23%
Operating Temperature OC		-40°C ± ~ +85°C			
Maximum system voltage		1500V			
Maximum series fuse rating		20A			
Power tolerance		0±5%			
Temperature coefficients of Pmax		-0.35%/PC			
Temperature coefficients of Voc		-0.28%/PC			
Temperature coefficients of Isc		0.048%/T			
Nominal operating cell temperature (NOCT)		45±2			

## Mechanical data

Cell type	Half Cut P-Type Technology (166mmx83mm)
No. of cells	144
Dimensions	2094x1038x35mm
Weight	23.5kg
Front Glass	3.2 anti-reflective
Frame	Anodised Aluminium Alloy Black Frame
Junction Box	IP68 Rated
Output Cables	TUV: 1x4.0mm <sup>2</sup> UL 12AWG, Length: 1400mm or customized length
Connectors	Copper, Silver Plated, MC 4

## Packaging configuration

Dimensions	2094x1038x35mm
No. of pieces per pallet	31
Total number of pallets	22
Module quantity per 40' container	728

(1) Measurement Tolerances: Pmax (+/- 5%), Isc & Voc (+/- 5%) - Power Classification 0/+5%

(2) STC (Standard Testing Condition): Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, AM 1.5

(3) NMOT (Nominal Operating Module Temperature): Irradiance 800W/m<sup>2</sup>, NMOT, Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s

STC/NMOT



Irradiance 1000W/m<sup>2</sup> / 800W/m<sup>2</sup>



Module Temperature 25°C



AM = 1.5