

## NEOSUN™ Ultra 144

NEOSUN™ Ultra is the top performance reference solar module series. Based on the advanced mono wafer and PERC Half-cut technology, Ultra offers as much power as 460W with outstanding cell efficiency up to 23.2% and 21.2% module efficiency.

Thanks to the Half-Cut technology, the cell internal resistance is reduced, which provides an additional module power even while shading, cloudy weather, and in low light conditions.



23.2%

### EXCELLENT CELLS EFFICIENCY

Advanced 9BB solar cells with PERC technology provide efficiency up to 23.2% (up to 21.2% module efficiency)



Weak Sunlight

### EXCELLENT WEAK LIGHT PERFORMANCE

Solar modules from NEOSUN Energy have excellent weak light performance (morning, evening and cloudy days)

+3%

### POSITIVE POWER TOLERANCE

Guarantee from 0 to +3% as power tolerance, you can obtain more power than conventional output



### SAND AND SALT PROTECTION

Reliable quality leads to a better sustainability even in harsh environment like desert or coastline

25

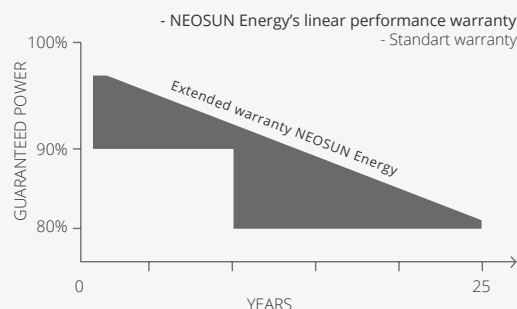
### YEARS POWER WARRANTY

Even after 25 years our solar panel keeps at least 80% of its initial power output – because it's NEOSUN



### HIGH WIND AND SNOW RESISTANCE

NEOSUN Energy modules withstand snow load of up to 550 kg/m<sup>2</sup> and wind speed of up to 162km/h



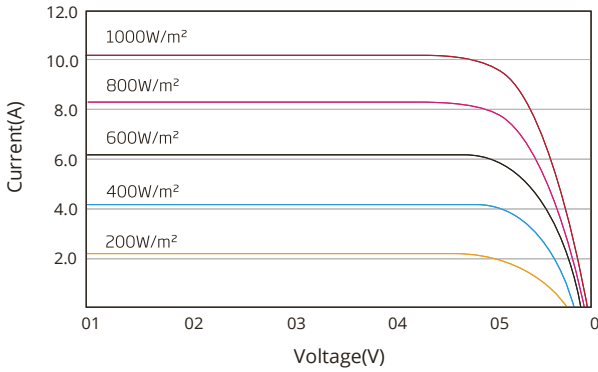
For a period of twenty-five (25) years commencing on the Warranty Start Date, loss of power output of the nominal power output measured at Standard Test Conditions (STC) for the Product(s) shall not exceed:

1. For Polycrystalline Products: 2% in the first year, thereafter 0.67% per year ending with 82% in the 25th year after the Warranty Start Date.
2. For Monocrystalline Products: 3% in the first year, thereafter 0.67% per year, ending with 81% in the 25th year after the Warranty Start Date.

The Warranty Start Date shall be defined as the date of the Bill of Lading date

I-V curves

I-V Curves of PV module NEOSUN 420W at different light power

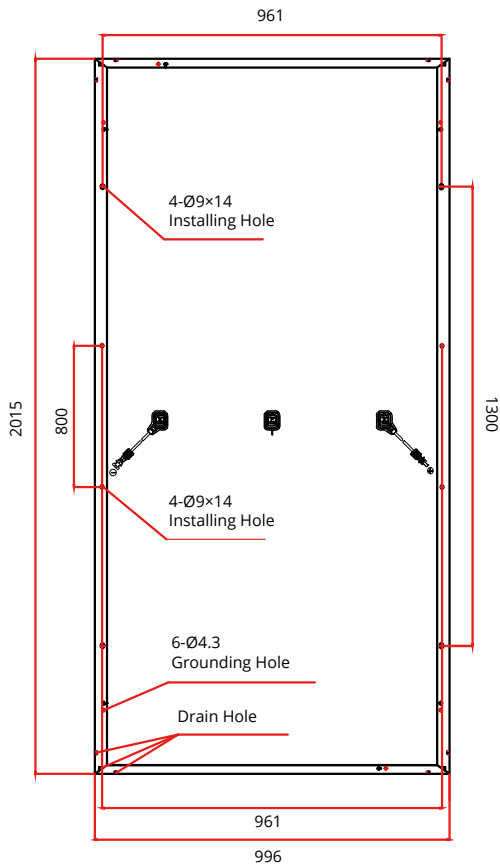


Electrical characteristics

Solar cells:	Mono PERC 144 cells 9BB, 6x24 pcs		
Max Power	410W	415W	420W
Power Tolerance	+5W		
Voltage at Pmax (Vmp)	41.0V	41.2V	41.4V
Current at Pmax (Imp)	10.00A	10.07A	10.15A
Open-Circuit Voltage (Voc)	50.2V	50.4V	50.7V
Short-Circuit Current (Isc)	10.47A	10.56A	10.64A
Module Efficiency	20.43%	20.68%	20.93%
Max-System Voltage (VDC)	1500V(IEC), 1500V(UL)		
No. of Bypass Diodes (pcs.)	3		
Max Series Fuse (A)	20A		
Temperature Coefficient of Pmax	-0.36% / °C		
Temperature Coefficient of Voc	-0.29% / °C		
Temperature Coefficient of Isc	0.05% / °C		
Nominal Operating Cell t°C	45 ± 2°C		

\*STC Conditions (1000W/m2; 1.5 AM and 25°C Cell temperature)

Dimensions



Mechanical Characteristics

Cable type, Diameter and Length	Ø =4mm <sup>2</sup> , L=300±5mm
Type of Connector	Compatible type MC4
Dimension AxBxC	2015x996x35mm
Weight	23 kg
Front Glass	Tempered with AR coating
Junction Box (protection degree)	IP68 Rated
Frame	Clear anodized aluminum alloy

Qualification Test Parameters

Dielectric Insulation Voltage	6000VDC max
Operating Temperature	-40°C to +85°C
Max load	5400Pa
Hailstone impact	25mm at 23m/s
Fire safety class	Class C

Packaging Configuration

Container	40'HQ
Pieces per pallet	30
Pallets per container	22
Pieces per container	660

**Caution: read safety and installation instructions before using this product**