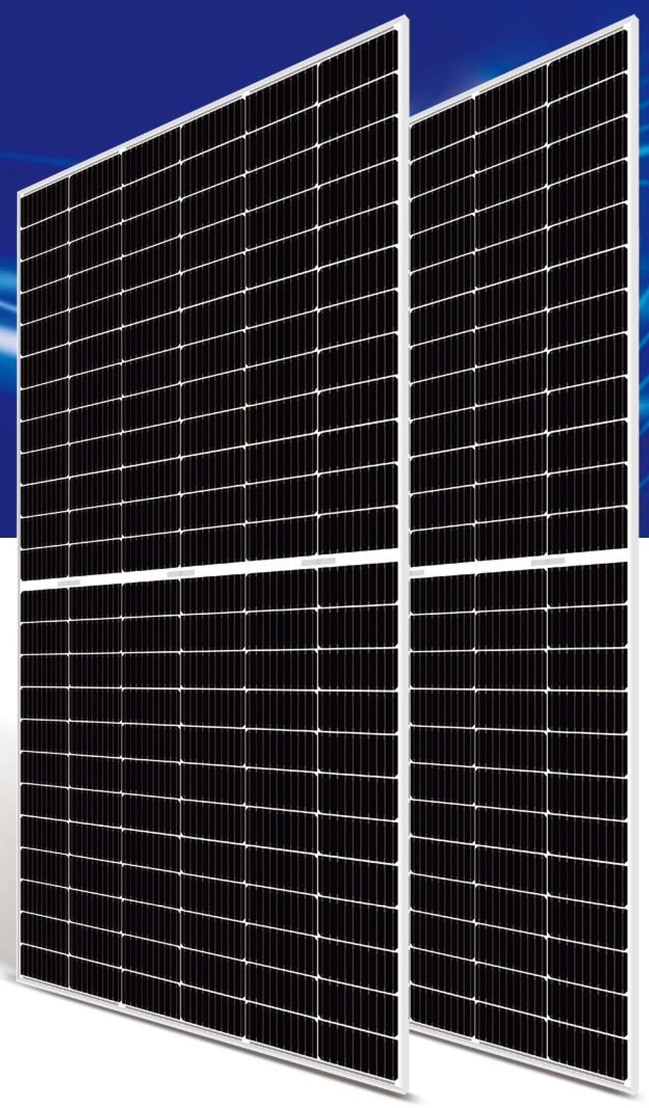
SOLAR N PLUS

SunPlus Premium Performance 166 PERC Module (72 pcs)



440W-460W

Product Features

High Efficiency

Energy density is increased by utilizing multi-busbar (MBB) and half-cut-cell technology, boosting the overall module efficiency upto 21.2%.

High Reliability

Passed the test under conditions three times higher than IEC standard, 12-year material warranty, 25-year power warranty.

PID-Resistant

The degradation caused by PID effect is minimized through state-of-the-art manufacture technology and strict material management.

Minimized Hidden Cracks

The adoption of MBB technology provides greater resistance to hidden cracks and improves busbar durability.

Superior Load Capacity

Certified for 2400 Pa wind load and 5400 Pa snow load.

Outstanding Low radiance Performance

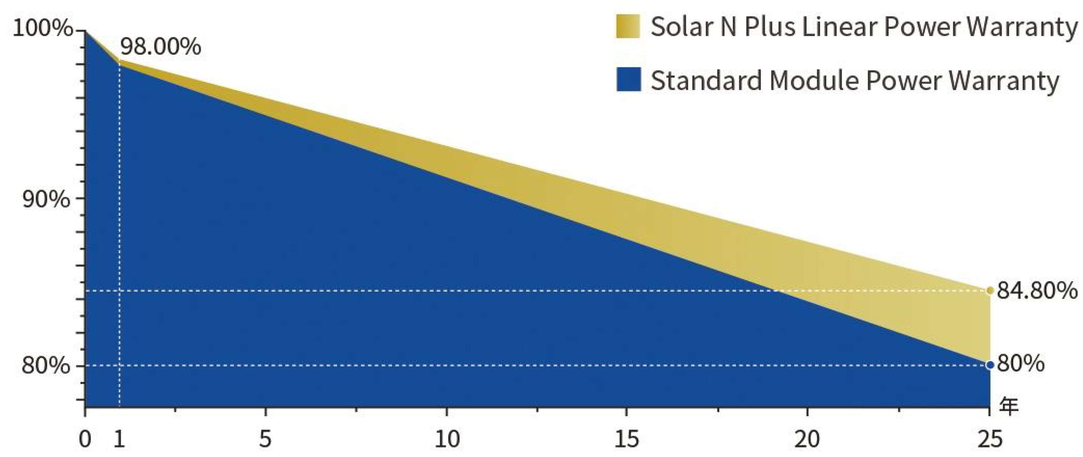
Exceptional efficiency and output power under weak light conditions such as haze and cloudy weather.

Comprehensive Quality Management System and Product Certificates

- Passed various long-term reliability tests.
- EL tests are performed before and after lamination to ensure the reliability of the module.
- Adopted strict international standard management systems, including ISO 9001, ISO 14001, and OHSAS:18001.
- Passed various rigorous environmental tests, including salt spray, ammonia, and dust-proof tests according to IEC 61701, IEC 62716 and DIN EN 60068-2-68.

TÜV NORD Type Tested CE ISO

Linear Performance Warranty



SP-M6/144H440W-460W

Electrical Specification (STC)

Maximum Power	W	**440**	**445**	**450**	**455**	**460**
Power Output Tolerance	W	0 ~ +5W				
Maximum Power Voltage	V	41.40	41.75	42.10	42.45	42.80
Maximum Power Current	A	10.63	10.66	10.69	10.72	10.75
Open Circuit Voltage	V	49.25	49.55	49.84	50.13	50.42
Short Circuit Current	A	11.14	11.17	11.20	11.23	11.26
Module Efficiency	%	20.3	20.5	20.7	20.9	21.2

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

Electrical Specification (NOCT)

Maximum Power	W	326.08	329.78	333.48	337.26	340.94
Maximum Power Voltage	V	37.90	38.10	38.30	38.50	38.70
Maximum Power Current	A	8.61	8.66	8.71	8.76	8.81
Open Circuit Voltage	V	46.30	46.50	46.70	46.90	47.10
Short Circuit Current	A	9.13	9.20	9.26	9.32	9.38

Irradiance 800W/m²,Ambient Temperature 20°C,Wind Speed 1m/s

Mechanical Data

Dimensions of Module L*W*H	2094m×1038m×35mm
Number of Cells	144 pcs(6x24)/Mono/10BB(166mm)
Weight	24.3kg
Glass	High transparency solar glass 3.2mm
Frame	Silver, anodized aluminium alloy
J-Box	IP68
Cable	4.0mm²(0.006inches²),300mm(11.8inches)
Connector	MC Compatible

Operating Conditions

Maximum System Voltage	1500VDC (IEC)
Max Series Fuse Rating	15A
Operational Temperature	-40°C～+85°C
Mechanical load	5400Pa/2400Pa
Max. hailstone impact(diameter/velocity	Φ25mm hail, from 1 m of distance at 23 m/s
Application Class	Class A

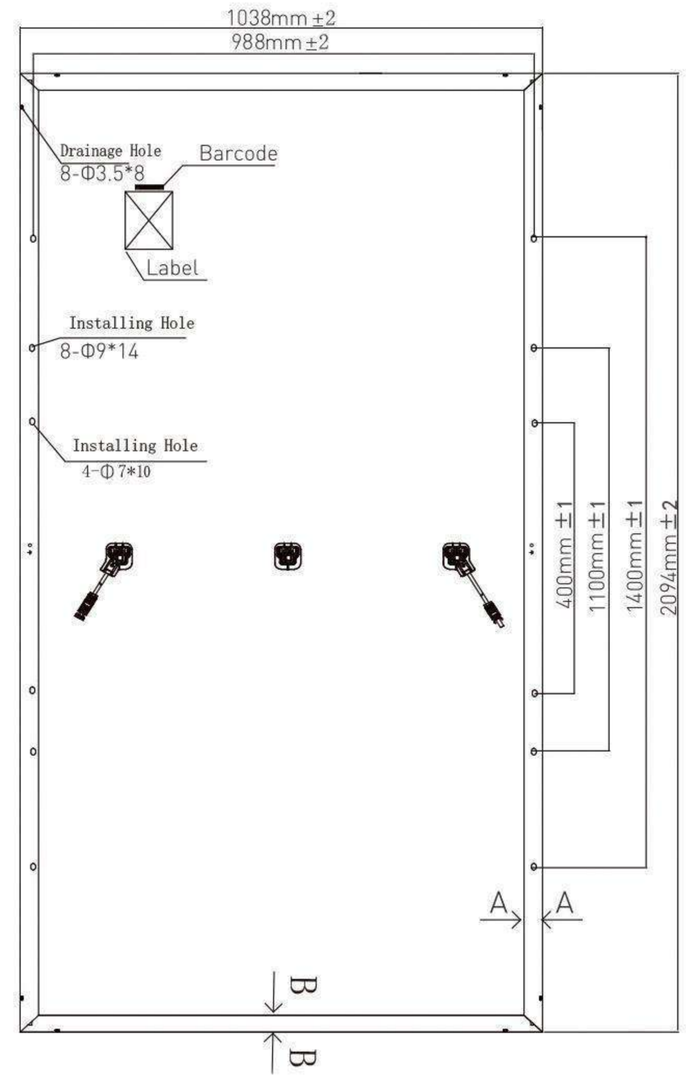
Temperature Ratings

Nominal Operating CellTemperature	44±2°C
Temperature Coefficient of Isc	-0.39%/°C
Temperature Coefficient of Voc	-0.30%/°C
Temperature Coefficient of P_{MAX}	+0.06%/°C

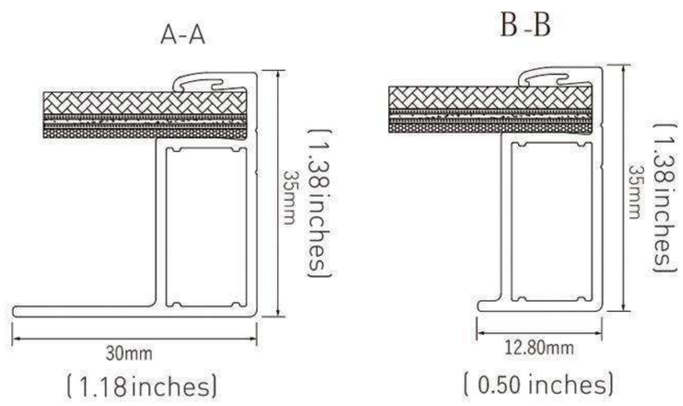
Package

Module per box	31 pieces
Module per 40'container	682 pieces

Module Dimension

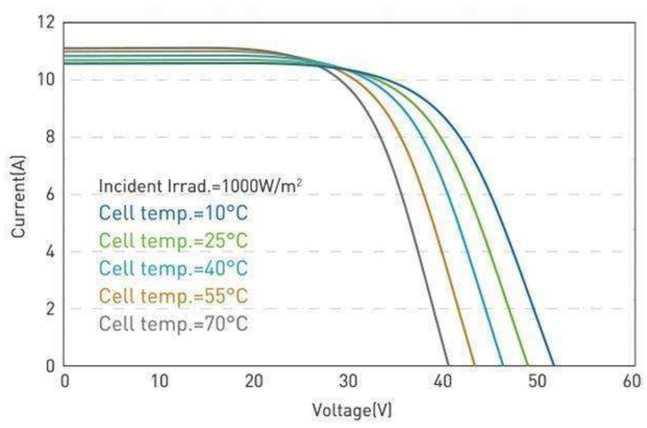


Back View

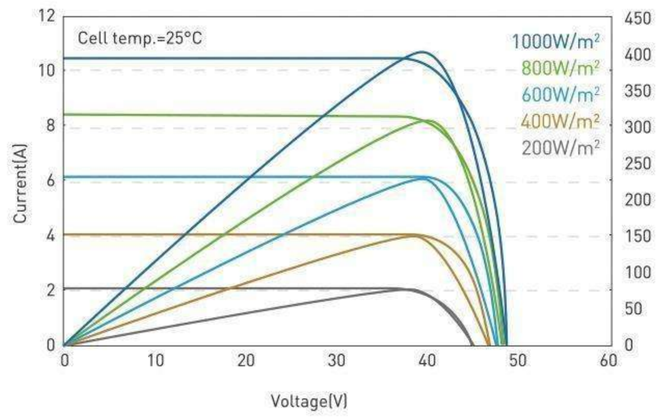


I-V Curve

I-V Curves of 440W at different irradiance



I-V Curves of 440W at different cell temperature



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