

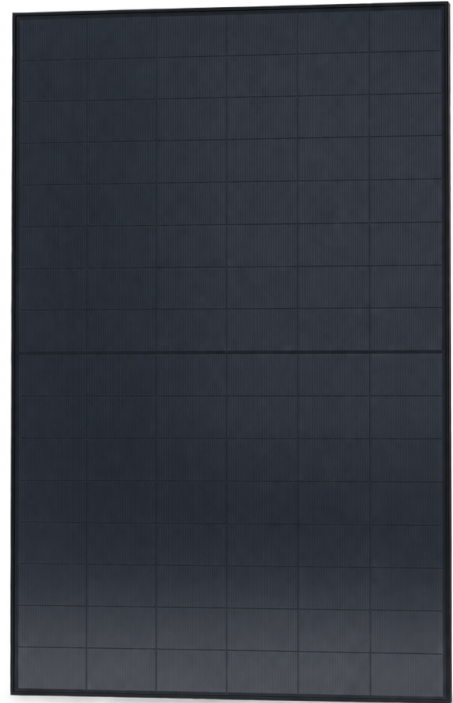
POSN48BI

440-465 W

N-TOPCon bifacial PV module

All-black N-type cells, a dark frame and double-glass construction for residential and design-led rooftop projects.

All-black module finish.



Product illustration

465 W

MAXIMUM POWER

23.27%

MODULE EFFICIENCY

0~+5 W

POWER TOLERANCE

High-Density Energy Yield

Advanced N-type cell architecture supports strong output and dependable operation.

Refined Current Collection

Multi-busbar interconnection improves carrier collection and module durability.

Responsive in Low Irradiance

Optimized cells maintain useful generation in mornings and overcast weather.

Stable Thermal Performance

Low temperature sensitivity helps sustain generation in demanding outdoor conditions.

Minimal Light-Induced Loss

N-type technology limits LID and LeTID effects across the module lifetime.

Architectural All-Black Finish

Uniform dark cells and frame create a clean surface for design-led rooftops.

Electrical specifications

POSN48BI

440-465 W / N-type bifacial photovoltaic module

Electrical properties / STC

Peak power (Pmax/W)	440	445	450	455	460	465
MPP voltage (Vmp/V)	29.79	29.98	30.17	30.37	30.56	30.75
MPP current (Imp/A)	14.77	14.84	14.91	14.98	15.05	15.12
Open-circuit voltage (Voc/V)	35.52	35.72	35.92	36.12	36.32	36.52
Short-circuit current (Isc/A)	15.62	15.67	15.72	15.77	15.82	15.86
Module efficiency (%)	22.02	22.27	22.52	22.77	23.02	23.27

*STC (Standard Test Conditions): Irradiance 1000 W/m², cell temperature 25°C, AM 1.5

Electrical properties / BNPI

Peak power (Pmax/W)	487	493	499	504	510	515
MPP voltage (Vmp/V)	29.80	30.00	30.19	30.38	30.58	30.76
MPP current (Imp/A)	16.34	16.44	16.53	16.59	16.68	16.77
Open-circuit voltage (Voc/V)	35.54	35.74	35.94	36.14	36.34	36.54
Short-circuit current (Isc/A)	17.27	17.35	17.42	17.45	17.53	17.56

*Bifacial Test Conditions (BNPI): Front-side irradiance 1000 W/m², rear-side irradiance 135 W/m², temperature 25°C, AM 1.5

Operating properties

Operating Temperature (°C)	-40°C~+85°C
Maximum System Voltage (V)	1500V DC (IEC)
Maximum Series Fuse Rating (A)	25A
Power Tolerance	0~+5W
Bifaciality	80%±5%
Static load	Snow load 5400Pa, Wind load 2400Pa
Packaging Configuration	36pcs/pallet, 1008pcs/13m flatcar 36pcs/pallet, 1152pcs/17.5m flatcar

Construction & performance

POSN48BI

Mechanical data, operating temperature and reference drawings

Dimensions in mm

Mechanical properties

Cell Type	n-type half cell
Number of Cells	96pcs (2*48)
Module Dimension	1762mm*1134mm*30mm
Weight	23.7kg
Front / Rear Glass	2.0mm / 2.0mm
Frame	Anodized Aluminum Alloy
Junction Box	IP68
Output cables	+300mm / -300mm or Customized Length

Temperature coefficient

Temperature coefficients of Pmax	-0.29% / °C
Temperature coefficients of Voc	-0.25% / °C
Temperature coefficients of Isc	+0.045% / °C
Nominal Module Operating Temperature	42±2 °C

Warranty & performance

15 years

Product warranty

30 years

Linear power warranty

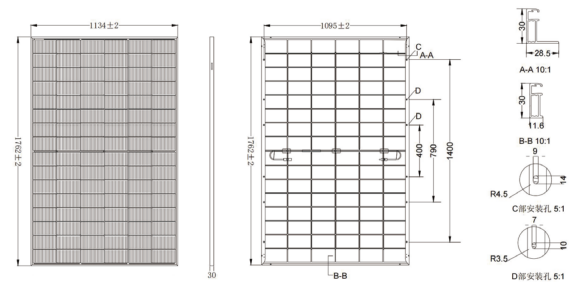


1.0% first year / 0.4% annual degradation

Year 1

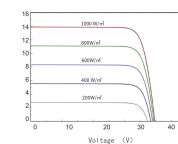
Year 30

Engineering drawings

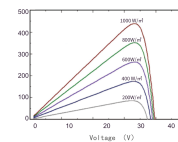


For specific dimensions and tolerance ranges, please refer to the corresponding component drawings.

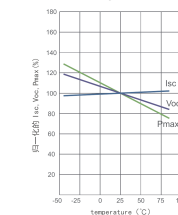
Characteristic curves



Current and voltage curves under different irradiances



Power and voltage curves under different irradiances



Temperature Curves of Isc, Voc, Pmax under Different Temperatures

Certification & assurance



IEC 61215:2016
IEC 61730:2016
ISO 9001:2015
ISO 14001:2015
ISO 45001:2018

Please read the safety and installation instructions before using this product.