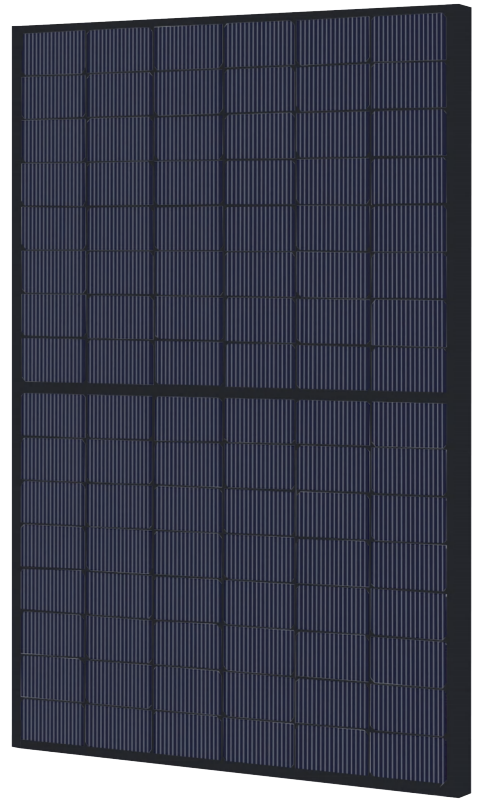


SF- TOPCon

SN48G3-2B



N-Type Single-glass Monofacial All Black Solar Module

Maximum Power Output **470W**

Maximum Module Efficiency **23.52%**

Power Tolerance **0~+5W**



MBB Half Cell

· High power output thanks to advanced 16-busbar technology and outstanding performance under real-life conditions.



Extreme Weather Rating

· High-tech aluminium frame, certified for snow loads (5400Pa) and wind loads (2400 Pa).



Innovative All-weather Technology

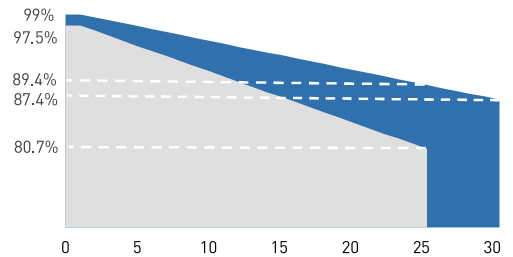
· Higher power output in low-light condition with excellent low-light and temperature behaviour.



A Reliable Investment

- Inclusive 15-year product warranty and 30-year linear performance warranty .
- Class C fire resistance test passed

Industry-leading linear warranty



1%
First year degradation

0.4%
Annual degradation

15 Year Product Warranty

30 Year Linear Power Output Warranty

Electrical Parameters (STC)

Maximum Power	P _{max} (W)	435	440	445	450	455	460	465	470
Open Circuit Voltage	V _{oc} (V)	35.18	35.42	35.70	35.93	35.91	36.05	36.22	36.56
Short Circuit Current	I _{sc} (A)	15.54	15.61	15.69	15.77	15.84	15.92	16.00	16.07
Maximum Power Voltage	V _{mp} (V)	29.22	29.37	29.51	29.66	29.80	29.95	30.09	30.24
Maximum Power Current	I _{mp} (A)	14.90	15.00	15.09	15.19	15.28	15.38	15.47	15.57
Module Efficiency	(%)	21.77	22.02	22.27	22.52	22.77	23.02	23.27	23.52

* Irradiance 1000W/m², Cell Temperature 25°C, Air Mass 1.5, Testing Tolerance ±3%

Electrical Specification (NOCT)

Maximum Power	P _{max} (W)	327	331	335	338	342	346	350	353
Open Circuit Voltage	V _{oc} (V)	33.42	33.65	33.91	34.14	34.11	34.24	34.41	34.73
Short Circuit Current	I _{sc} (A)	12.55	12.61	12.67	12.73	12.79	12.86	12.92	12.98
Voltage at Maximum Power	V _{mp} (V)	27.23	27.36	27.50	27.63	27.77	27.90	28.04	28.17
Current at Maximum Power	I _{mp} (A)	12.03	12.10	12.18	12.26	12.33	12.41	12.49	12.56

Mechanical Parameters

Cell	96 Half-Cut Cells
Cell Type	Monocrystalline / N-Type, 16BB
Dimension	1762×1134×30mm
Weight	21.4kg
Connector	PV-GZX500, NNGBO GZX/PV-LY02, Yongan Anhui/ PV-ZKC2, Shanxi Zhongke Anrui
Junction Box	IP68 rated, with 3 Diodes
Cable Length	4mm ² , Wire length of 300mm (customizable)
Front Glass	3.2mm Semi-tempered glass
Back Panel	Black

Temperature Characteristics

Nominal Operating Cell Temperature (NOCT)	42±2°C
Peak Power (P _{max}) Temperature Coefficient	-0.295%/°C
Open Circuit Voltage (V _{oc}) Temperature Coefficient	-0.257%/°C
Short Circuit Current (I _{sc}) Temperature Coefficient	+0.044%/°C

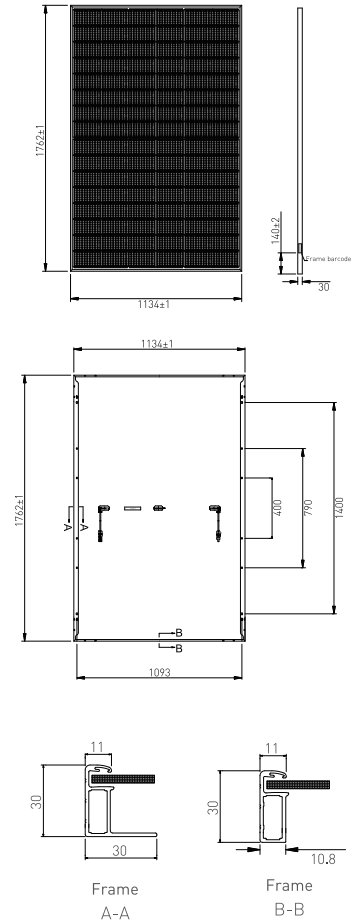
Limit Parameters

Operating Temperature	-40°C~+85°C
Maximum System Voltage	1500V DC (IEC)
Maximum Fuse Rating Current	30A
Power Tolerance	0~+5W

Packaging Configuration

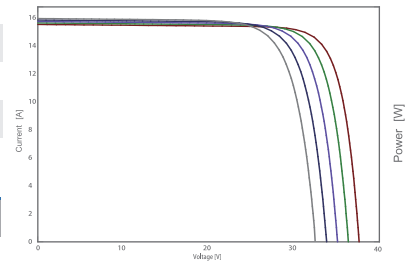
Module per box	36 pieces
Module per 40' container	936 pieces

Module Dimensions



Curve Chart

I-V Curve at Different Temperature (470W)



I-V/P-V Curve at Different Irradiation (470W)

