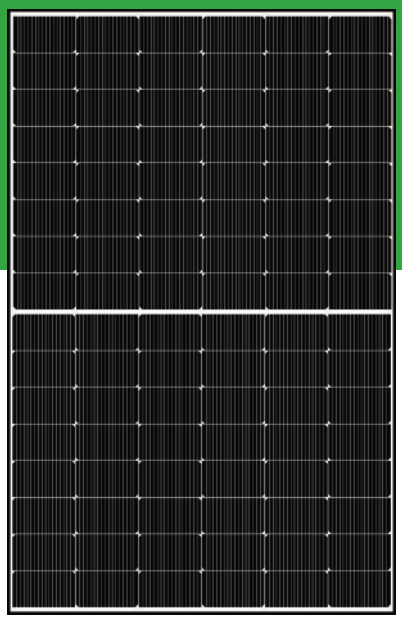
Amerisolar USA | New Energy New World®

AS-7M96N-BHC G12R Black 440W~455W

MONOCRYSTALLINE MODULE



ADVANCED PERFORMANCE & PROVEN ADVANTAGES

- High module conversion efficiency up to 22.77% by using innovative N-type cell technology.
- Extremely low LID (light induced degradation) and low annual power degradation ensure higher energy yield during the module's lifetime.
- Low temperature coefficient and excellent performance under high temperature and low light conditions.
- Robust aluminum frame ensures the modules to withstand wind loads up to 2400Pa and snow loads up to 5400Pa.
- High reliability against extreme environmental conditions (passing salt mist, ammonia and hail tests).
- Potential induced degradation (PID) resistance.

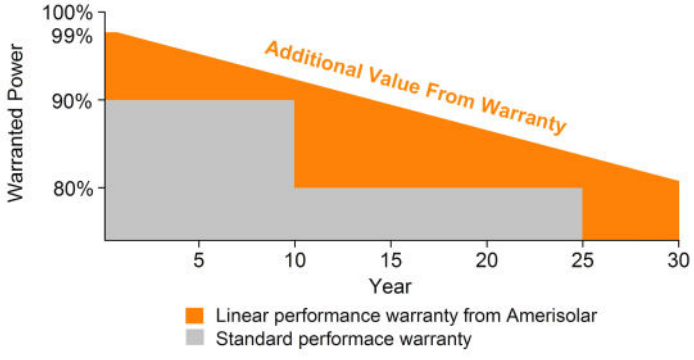
CERTIFICATIONS

- IEC 61215, IEC 61730, CE
- ISO 9001:2015: Quality management system
- ISO 14001:2015: Environmental management system
- ISO 45001:2018: Occupational health and safety management system

SPECIAL WARRANTY

- 15 years product warranty
- 30 years linear power output warranty

Passionately committed to delivering innovative energy solution



ELECTRICAL CHARACTERISTICS AT STC

Maximum Power (Pmax)	440W	445W	450W	455W
Open Circuit Voltage (VOC)	39.5V	39.7V	39.9V	40.1V
Short Circuit Current (ISC)	113.98A	14.05A	14.12A	14.19A
Voltage at Maximum Power (Vmp)	33.1V	33.3V	33.5V	33.7V
Current at Maximum Power (Imp)	13.30A	13.37A	13.44A	13.51A
Module Efficiency (%)	22.02	22.27	22.52	22.77
Operating Temperature	-40°C to +85°C			
Maximum System Voltage	1000V DC/1500V DC			
Fire Resistance Rating	Class C			
Maximum Series Fuse Rating	30A			

STC: Irradiance 1000W/m², Cell temperature 25°C, AM1.5; Tolerance of Pmax: ±3%; Measurement Tolerance: ±3%

ELECTRICAL CHARACTERISTICS AT NOCT

Maximum Power (Pmax)	330W	334W	338W	342W
Open Circuit Voltage (VOC)	37.1V	37.3V	37.5V	37.7V
Short Circuit Current (ISC)	11.34A	11.39A	11.45A	11.50A
Voltage at Maximum Power (Vmp)	30.7V	30.9V	31.1V	31.3V
Current at Maximum Power (Imp)	10.76A	10.82A	10.88A	10.93A

NOCT: Irradiance 800W/m², Ambient temperature 20°C, Wind Speed 1 m/s

ELECTRICAL CHARACTERISTICS WITH DIFFERENT REAR SIDE POWER GAIN (EXAMPLE: AS-7M96N-BHC-450W)

Power Gain	P_{max}	V_{OC}	I_{SC}	V_{mp}	I_{mp}
5%	473W	39.9V	14.83A	33.5V	14.12A
15%	518W	39.9V	16.24A	33.5V	15.46A
25%	563W	39.9V	17.65A	33.5V	16.80A

MECHANICAL CHARACTERISTICS

Cell type	Monocrystalline N-type
Number of cells	96(6x16)
Module dimensions	1762x1134x30mm
Weight	24.5kg
Front cover	2mm AR coated tempered glass/2mm tempered glass
Frame	Anodized aluminum alloy
Junction box	IP68, 3 diodes
Cable	4mm2, Portrait: 300mm; length can be customized
Connector	MC4 or MC4 compatible

TEMPERATURE CHARACTERISTICS

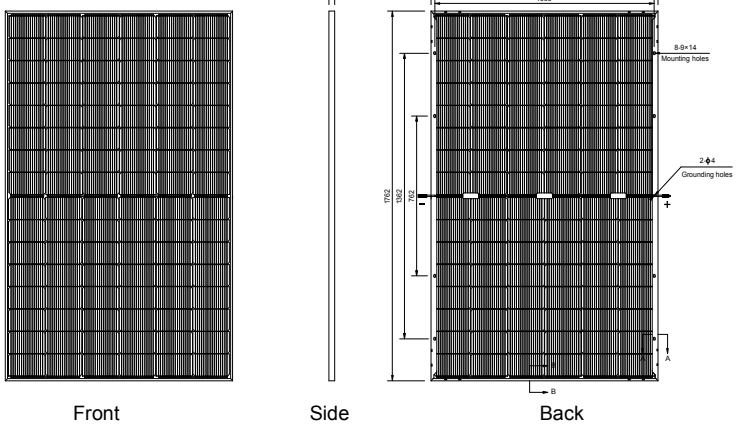
Nominal Operating Cell Temperature (NOCT)	43°C±2°C
Temperature Coefficients of P_{max}	-0.30%/°C
Temperature Coefficients of V_{OC}	-0.25%/°C
Temperature Coefficients of I_{SC}	0.045%/°C

PACKAGING

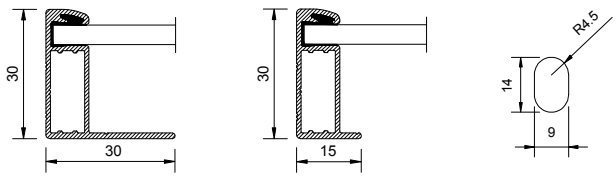
Standard packaging	36pcs/pallet
Module quantity per 20' container	216pcs
Module quantity per 40' container	936pcs(HQ)

ENGINEERING DRAWINGS

Unit: mm

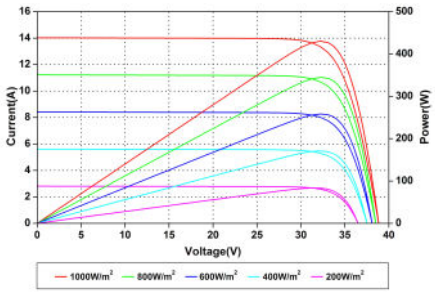


Front Side Back

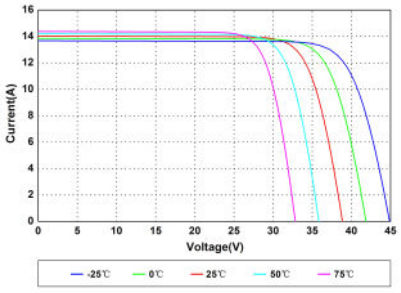


Section A-A Section B-B C

IV CURVES



Current-Voltage and Power-Voltage Curves at Different Irradiances



Current-Voltage Curves at Different Temperatures

Specifications in this datasheet are subject to change without prior notice.