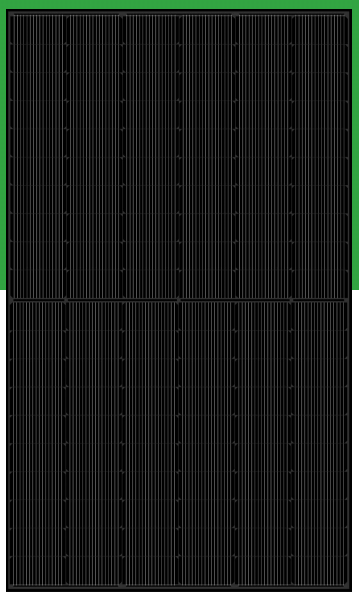
Amerisolar USA | New Energy New World®



AS-7M120N-BHC

465W~500W

MONOCRYSTALLINE MODULE

ADVANCED PERFORMANCE & PROVEN ADVANTAGES

- High module conversion efficiency up to 23.11% by using innovative N-type TOPCon 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.

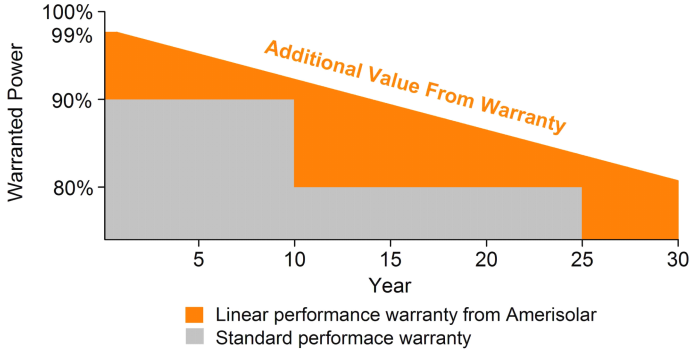
CERTIFICATIONS

- 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

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

Passionately committed to delivering innovative energy solution



ELECTRICAL CHARACTERISTICS AT STC*

Maximum Power (P_{max})	465W	470W	475W	480W	485W	490W	495W	500W
Open Circuit Voltage (V_{OC})	42.0V	42.2V	42.4V	42.6V	42.8V	43.0V	43.2V	43.4V
Short Circuit Current (I_{SC})	13.96A	14.02A	14.08A	14.14A	14.20A	14.26A	14.32A	14.38A
Voltage at Maximum Power (V_{mp})	35.2V	35.4V	35.6V	35.8V	36.0V	36.2V	36.4V	36.6V
Current at Maximum Power (I_{mp})	13.22A	13.28A	13.35A	13.41A	13.48A	13.54A	13.60A	13.67A
Module Efficiency (%)	21.49	21.72	21.95	22.18	22.41	22.65	22.88	23.11
Operating Temperature	-40°C to +85°C							
Maximum System Voltage	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 (P_{max})	348W	352W	356W	360W	364W	368W	372W	376W
Open Circuit Voltage (V_{OC})	39.9V	40.1V	40.3V	40.5V	40.7V	40.9V	41.1V	41.3V
Short Circuit Current (I_{SC})	11.31A	11.36A	11.41A	11.46A	11.51A	11.56A	11.61A	11.66A
Voltage at Maximum Power (V_{mp})	33.1V	33.3V	33.5V	33.7V	33.9V	34.1V	34.3V	34.5V
Current at Maximum Power (I_{mp})	10.52A	10.58A	10.63A	10.69A	10.74A	10.80A	10.85A	10.91A

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

ELECTRICAL CHARACTERISTICS WITH DIFFERENT REAR SIDE POWER GAIN (EXAMPLE: AS-7M120N-BHC-470W)

Power Gain	P_{max}	V_{OC}	I_{SC}	V_{mp}	I_{mp}
10%	517W	42.2V	15.36A	35.4V	14.60A
15%	541W	42.2V	16.08A	35.4V	15.28A
20%	564W	42.2V	16.76A	35.4V	15.63A
25%	588W	42.2V	17.47A	35.4V	16.61A
30%	611W	42.2V	18.16A	35.4V	17.26A

MECHANICAL CHARACTERISTICS

Cell type	Monocrystalline
Number of cells	120 (6x20)
Module dimensions	1908x1134x30mm
Weight	26kg
Front/Back Glass	2mm AR coated tempered glass/2mm tempered glass
Frame	Anodized aluminum alloy
Junction box	IP68, 3 diodes
Cable	4mm², 1200mm
Connector	MC4 compatible

TEMPERATURE CHARACTERISTICS

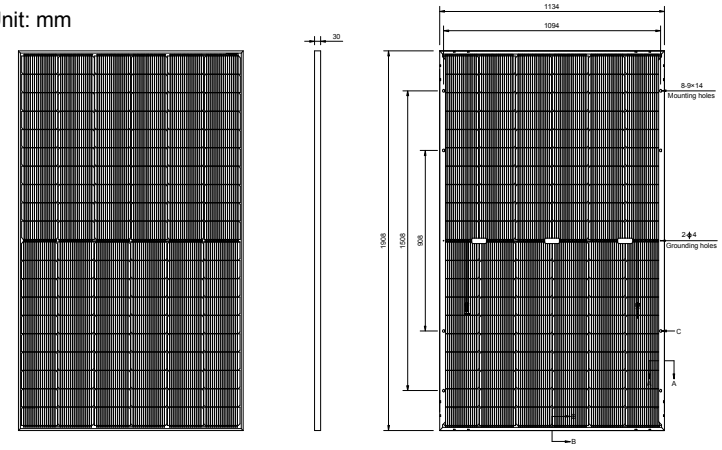
Nominal Operating Cell Temperature (NOCT)	43°C±2°C
Temperature Coefficients of P_{max}	-0.30%/°C
Temperature Coefficients of V_{OC}	-0.25%/°C
Temperature Coefficients of I_{SC}	0.045%/°C

PACKAGING

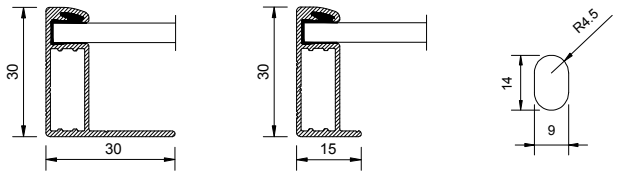
Standard packaging	36pcs/pallet
Module quantity per 20' container	216pcs
Module quantity per 40' container	864pcs (HQ)

ENGINEERING DRAWINGS

Unit: mm



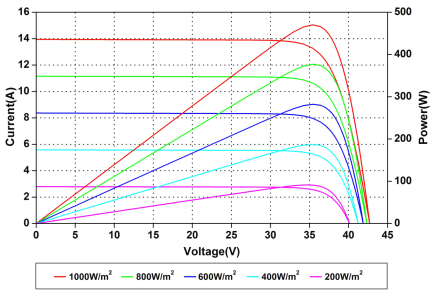
Front Side Back



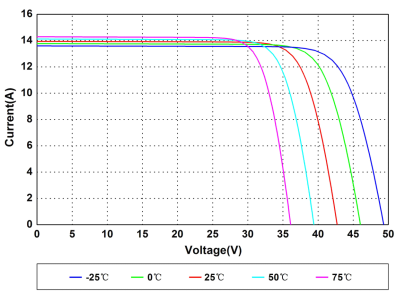
Section A-A Section B-B C

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

IV CURVES



Current-Voltage and Power-Voltage Curves at Different Irradiances



Current-Voltage Curves at Different Temperatures