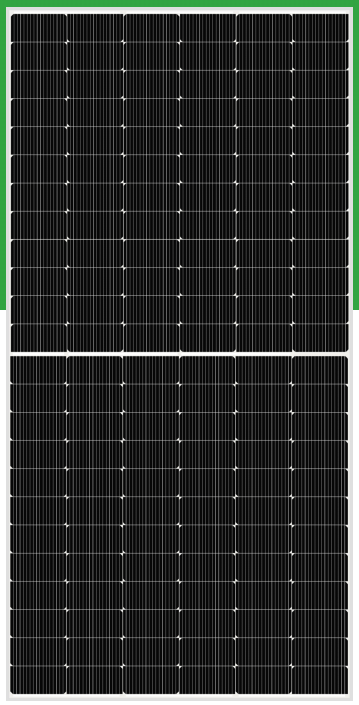
Amerisolar USA | New Energy New World®



AS-7M144N-BHC

560W~590W

MONOCRYSTALLINE MODULE

ADVANCED PERFORMANCE & PROVEN ADVANTAGES

- High module conversion efficiency up to 22.84% 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.

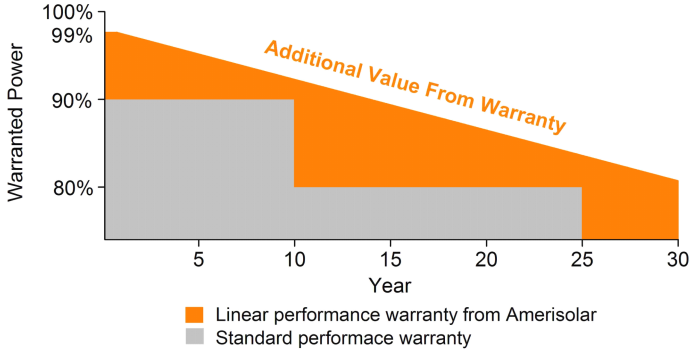
CERTIFICATIONS

- 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

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

Passionately committed to delivering innovative energy solution



ELECTRICAL CHARACTERISTICS AT STC

Maximum Power (P_{max})	560W	565W	570W	575W	580W	585W	590W
Open Circuit Voltage (V_{OC})	50.4V	50.6V	50.8V	51.0V	51.2V	51.4V	51.6V
Short Circuit Current (I_{SC})	14.04A	14.09A	14.14A	14.19A	14.24A	14.29A	14.34A
Voltage at Maximum Power (V_{mp})	42.2V	42.4V	42.6V	42.8V	43.0V	43.2V	43.4V
Current at Maximum Power (I_{mp})	13.28A	13.33A	13.39A	13.44A	13.49A	13.54A	13.59A
Module Efficiency (%)	21.68	21.87	22.07	22.26	22.45	22.65	22.84
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/m^2, Cell temperature 25°C, AM1.5; Tolerance of Pmax: ±3%; Measurement Tolerance: ±3%

ELECTRICAL CHARACTERISTICS AT NOCT

Maximum Power (Pmax)	421W	425W	429W	433W	437W	441W	445W
Open Circuit Voltage (VOC)	47.9V	48.1V	48.3V	48.5V	48.7V	48.9V	49.1V
Short Circuit Current (ISC)	11.37A	11.41A	11.45A	11.49A	11.53A	11.57A	11.61A
Voltage at Maximum Power (Vmp)	39.7V	39.9V	40.1V	40.3V	40.5V	40.7V	40.9A
Current at Maximum Power (Imp)	10.61A	10.66A	10.70A	10.75A	10.80A	10.85A	10.90A

NOCT: Irradiance 800W/m^2, Ambient temperature 20°C, Wind Speed 1 m/s

ELECTRICAL CHARACTERISTICS WITH DIFFERENT REAR SIDE POWER GAIN (EXAMPLE: AS-7M144-BHC-585W)

Power Gain	P_{max}	V_{OC}	I_{SC}	V_{mp}	I_{mp}
10%	644W	51.4V	15.73A	43.2V	14.91A
15%	673W	51.4V	16.44A	43.2V	15.58A
20%	702W	51.4V	17.15A	43.2V	16.25A
25%	731W	51.4V	17.86A	43.2V	16.93A
30%	761W	51.4V	18.59A	43.2V	17.62A

MECHANICAL CHARACTERISTICS

Cell type	Monocrystalline N-type 182*91mm
Number of cells	144 (6x24)
Module dimensions	2278x1134x30mm
Weight	32kg
Front/Back Glass	2mm AR coated tempered glass/transparent
Frame	Anodized aluminum alloy
Junction box	IP68, 3 diodes
Cable	4mm2, Portrait: 300mm
Connector	MC4 or MC4 compatible

TEMPERATURE CHARACTERISTICS

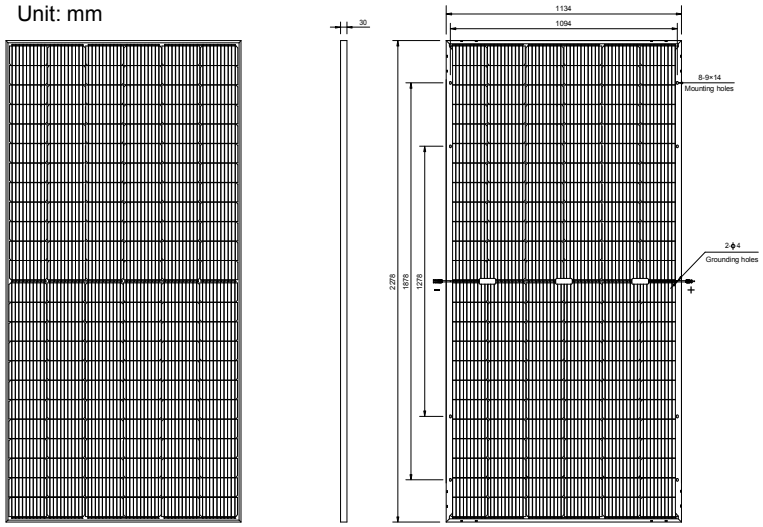
Nominal Operating Cell Temperature (NOCT)	43°C±2°C
Temperature Coefficients of Pmax	-0.30%/°C
Temperature Coefficients of VOC	-0.25%/°C
Temperature Coefficients of ISC	0.045%/°C

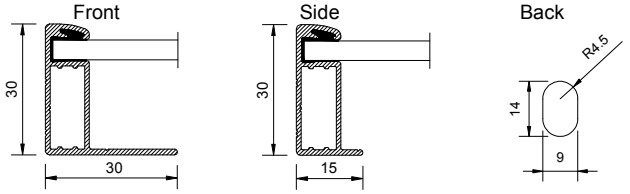
PACKAGING

Standard packaging	36pcs/pallet
Module quantity per 20' container	180pcs
Module quantity per 40' container	720pcs (HQ)

ENGINEERING DRAWINGS

Unit: mm

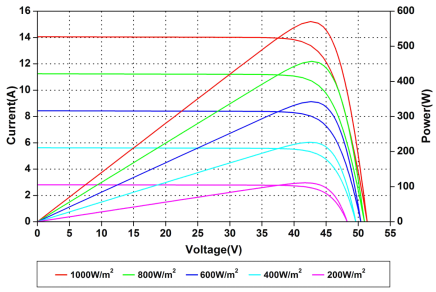




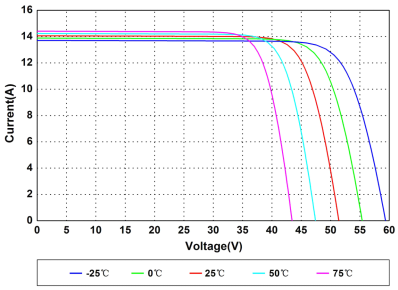
Section A-A Section B-B C

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