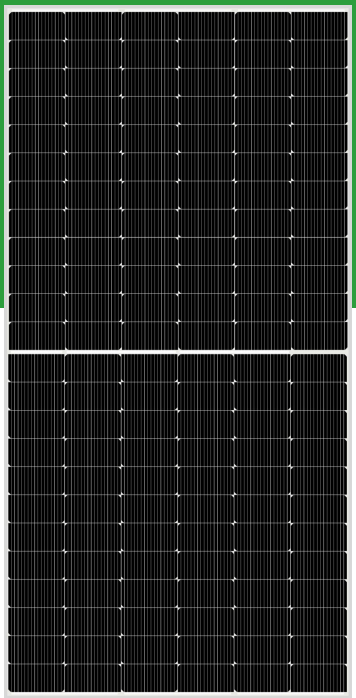
Amerisolar USA | New Energy New World®



AS-7M144N-HC

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.

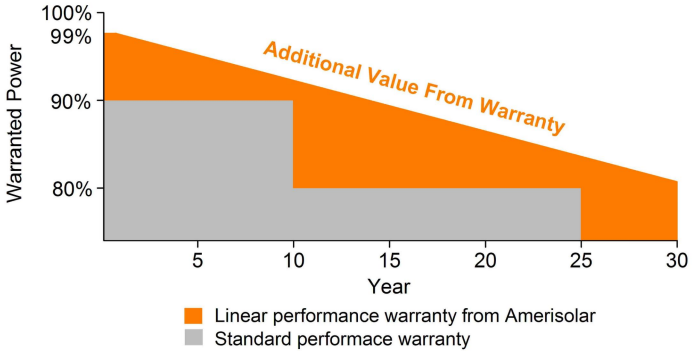
CERTIFICATIONS

- 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	1000V DC/1500V DC						
Fire Resistance Rating	Class C						
Maximum Series Fuse Rating	25A						

STC: Irradiance 1000W/m^2, Cell temperature 25°C, AM1.5; Tolerance of Pmax: ±3%; Measurement Tolerance: ±3%

ELECTRICAL CHARACTERISTICS AT NOCT

Maximum Power (P_{max})	421W	425W	429W	433W	437W	441W	445W
Open Circuit Voltage (V_{OC})	47.9V	48.1V	48.3V	48.5V	48.7V	48.9V	49.1V
Short Circuit Current (I_{SC})	11.37A	11.41A	11.45A	11.49A	11.53A	11.57A	11.61A
Voltage at Maximum Power (V_{mp})	39.7V	39.9V	40.1V	40.3V	40.5V	40.7V	40.9A
Current at Maximum Power (I_{mp})	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

MECHANICAL CHARACTERISTICS

Cell type	Monocrystalline N-type 182*91mm
Number of cells	144 (6x24)
Module dimensions	2278x1134x30mm (89.69x44.65x1.18inches)
Weight	27.5kg (60.6lbs)
Front cover	3.2mm (0.13inches) tempered glass with AR coating
Frame	Anodized aluminum alloy
Junction box	IP68, 3 diodes
Cable	4mm^2 (0.006inches^2), Portrait: 300mm (11.81inches); Landscape: 1300mm (51.18inches)
Connector	MC4 or MC4 compatible

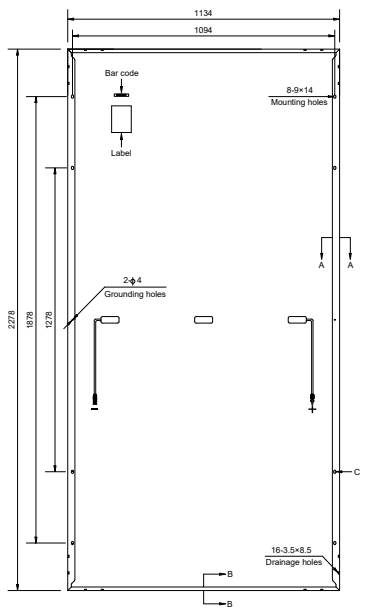
TEMPERATURE CHARACTERISTICS

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

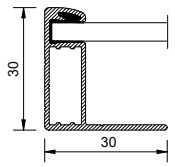
Standard packaging	36pcs/pallet
Module quantity per 20' container	180pcs
Module quantity per 40' container	720pcs (HQ)

ENGINEERING DRAWINGS

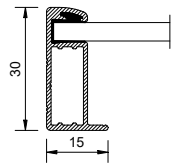


Rear View

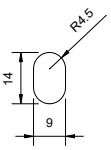
Unit: mm



Section A-A



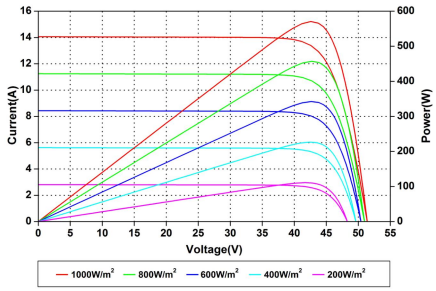
Section B-B



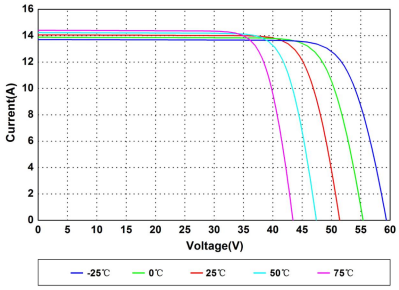
C

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

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