

N-Type Bifacial 132HC

N-type Bifacial Dual Glass Monocrystalline Module

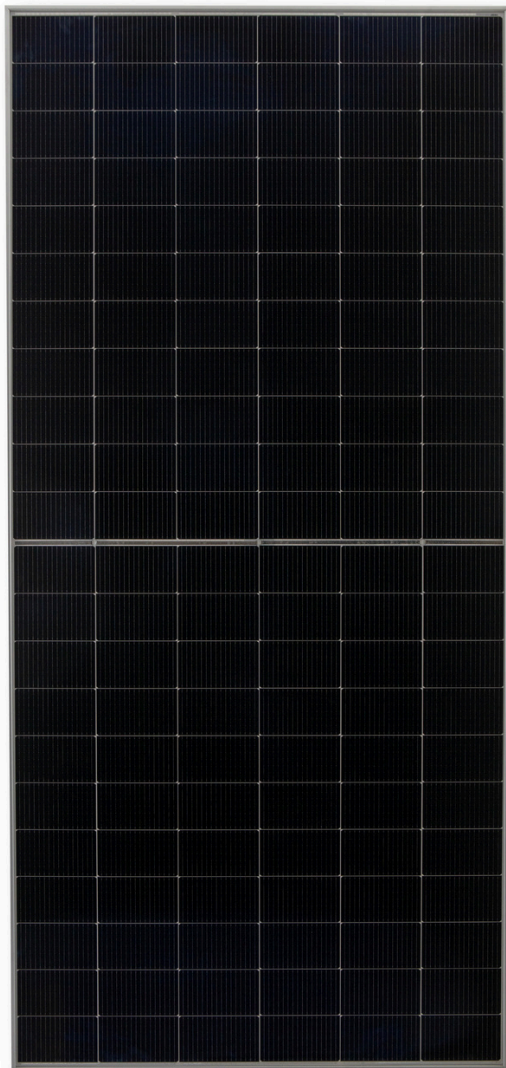
MISSION SOLAR
ENERGY



610-620W

Positive
Power
Tolerance

-0 to +5W



American Solar Built for the Long Haul

Mission Solar Energy, headquartered in San Antonio, Texas, delivers American-made, high-quality solar modules engineered for exceptional power output and long-term reliability. Built to meet the demands of utility and commercial applications, every Mission Solar module is rigorously tested, fully certified, and exceeds industry standards for performance and durability.

America's Module Company®

Designed for Value, Built for Performance

- Lower LCOE and BOS costs help improve ROI
- Strong first-year and annual degradation rates for dependable long-term output
- Optimized to integrate smoothly with most mainstream system components

Powerful Performance

- Delivers up to 23.0% efficiency with high-density interconnect design

Engineered for Durability

- Innovative, non-destructive cutting reduces risk of micro-cracks
- Enhanced cell and material controls to prevent PID (potential-induced degradation)
- Built to handle harsh conditions like salt spray, high heat, and humidity
- Certified to withstand 5400 Pa front load and 2400 Pa back load

More Power When It Counts

- Verified performance in low light and low-angle conditions through third-party testing
- Unique panel design improved energy output under shaded or variable light environments
- Low temperature coefficient (-0.29%/°C) helps maintain performance in high temps
- Up to 30% additional power from rear-side production depending on reflectivity

FRAME-TO-FRAME WARRANTY

Degradation guaranteed not to exceed 1% in year 1 and 0.4% annually from years 2-30 with 87.4% capacity guaranteed in year 30. For more information, visit www.missionsolar.com/warranty

CERTIFICATIONS



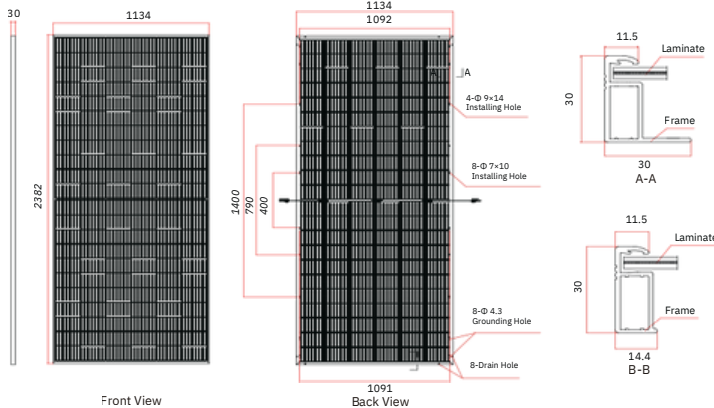
If you have questions or concerns about certification of our products in your area, please contact Mission Solar Energy.

BASIC DIMENSIONS

PRODUCT TYPE	MST12RxxxHN3G (xxx = P _{max})				
Peak Power Watts	P _{max}	Wp	610	615	620
Module Efficiency	%		22.6	22.8	23
Tolerance			0/+5	0/+5	0/+5
Short Circuit Current	I _{sc}	A	16.14	16.20	16.26
Open Circuit Voltage	V _{oc}	V	48.09	48.29	48.50
Rated Current	I _{mp}	A	15.33	15.39	15.41
Rated Voltage	V _{mp}	V	39.79	39.97	40.24
Fuse Rating	A		30	30	30
System Voltage	V		1,500	1,500	1,500

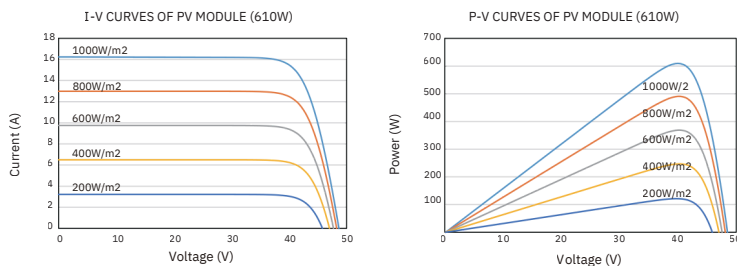
BASIC DIMENSIONS

[UNITS: MM/IN]



CURRENT-VOLTAGE CURVE

MST12R610HN3G: 610W, 132 CELL SOLAR MODULE



CERTIFICATIONS AND TESTS



Mission Solar Energy

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Mission Solar Energy reserves the right to make specification changes without notice.

C-MKTG-0047 VERSION: 2 VERSION DATE: 08/27/2025

ELECTRICAL SPECIFICATION (BACKSIDE)

Basic Power Gain			5%	5%	5%
Power Output	Pmax	Wp	641	646	651
Short Circuit Current	Isc	A	16.95	17.01	17.07
Open Circuit Voltage	Voc	V	48.09	48.29	48.50
Rated Current	Imp	A	16.10	16.16	16.18
Rated Voltage	Vmp	V	39.79	39.97	40.24

TEMPERATURE COEFFICIENTS

Normal Operating Cell Temperature (NOCT)	43°C (±2°C)
Temperature Coefficient of P _{max}	-0.29%/°C
Temperature Coefficient of V _{oc}	-0.24%/°C
Temperature Coefficient of I _{sc}	0.04%/°C

OPERATING CONDITIONS

Maximum System Voltage	1,500 Vdc
Operating Temperature Range	-40°F to 185°F (-40°C to +85°C)
Maximum Series Fuse Rating Fire	30A
Safety Classification	Type 29
Front & Back Load (UL Standard)	Up to 5,400 Pa front and 2,400 Pa back load.

MECHANICAL DATA

Solar Cells	N-type TOPCON Monocrystalline (G12R)
Cell Orientation	132 cells
Module Dimension	2382 mm x 1134 mm x 30 mm
Weight	72.8 lbs. (33.0 kg)
Front Glass	2.0 mm AR Coating Heat Strengthened Glass
Back Glass	2.0 mm Heat Strengthened Glass (White Coating)
Frame	30 mm Anodized Aluminum Alloy
Encapsulant	Polyolefin Elastomer (POE)
Junction Box	IP 68 Rated
Cable	Wire 4 mm² (12AWG)
Connector	MC4 EV02 / TS4 Plus / TS4

SHIPPING INFORMATION

Truck Load	Ship To	Pallets	Modules	610W Bin
53'	Most States	16	576	351.36 kW
Double Stack: (Horizontal Orientation): 36 modules per pallet				

PALLET [36 MODULES]

Weight	Height	Width	Length
2,743 lbs. (1,244 kg)	49.57 in (125.9 cm)	44.29 in (112.5 cm)	94.33 in (239.6 cm)