

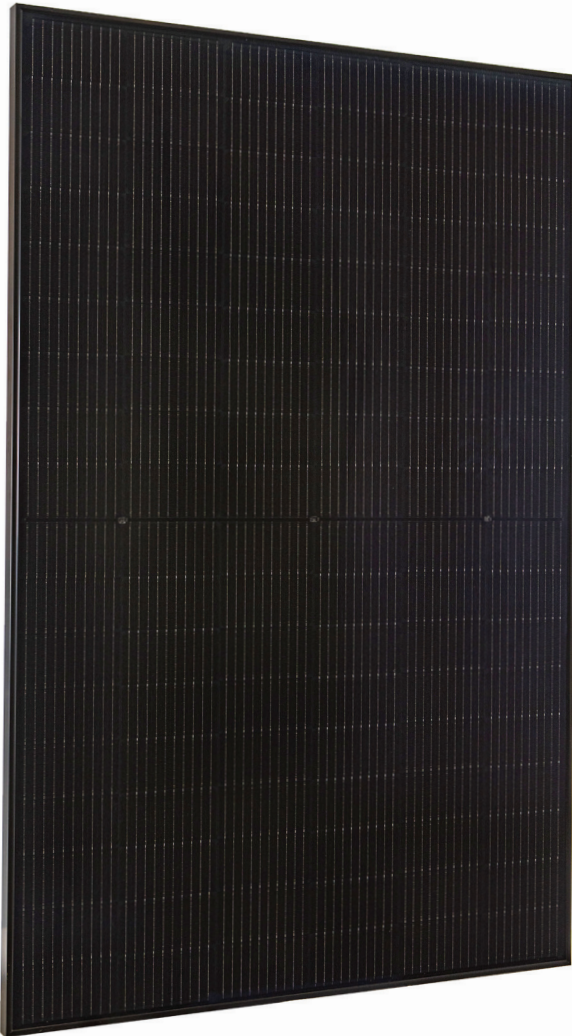


410W

Class leading power output

Positive Power Tolerance

-0 to +3%



American solar built for the long haul

Mission Solar Energy is headquartered in San Antonio, Texas where we manufacture our modules. We produce American, high-quality solar modules ensuring the highest-in-class power output and best-in-class reliability. This product is tailored for residential and commercial applications. Every Mission Solar Energy solar module is certified and surpasses industry standard regulations, providing excellent performance over the long term.

America's Module Company®



Fair Trade Practices

- Free of forced labor at all stages of the supply chain
- Not subject to AD/CVD tariffs or investigations
- Polysilicon manufactured with sustainable hydroelectric power



Certified Reliability

- Tested to UL 61730 & IEC Standards
- PID resistant
- Resistance to salt mist corrosion



Advanced Technology

- M10 half-cut cell with 10 busbars
- Passivated Emitter Rear Contact
- Engineered for residential and commercial applications



Extreme Weather Resilience

- Up to 5,400 Pa snow and wind load
- In-house hail tests exceeded 35 mm at 23 m/s



BAA Compliant for Government Projects

- Buy American Act
- American Recovery & Reinvestment Act

FRAME-TO-FRAME WARRANTY

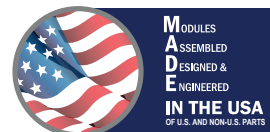
Degradation guaranteed not to exceed 2% in year 1 and 0.055% annually from years 2 to 25 with 84.8% capacity guaranteed in year 25. For more information, visit www.missionsolar.com/warranty

CERTIFICATIONS

CEC

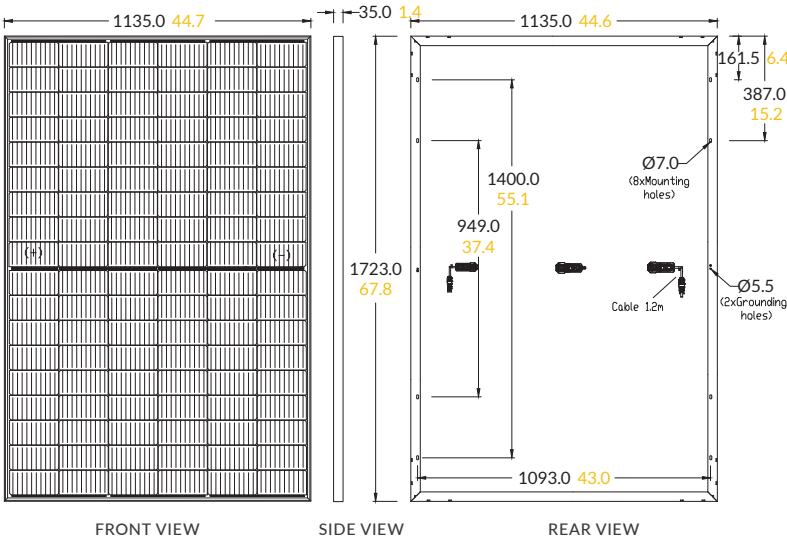


If you have questions or concerns about certification of our products in your area, please contact Mission Solar Energy.



BASIC DIMENSIONS

[UNITS: MM/IN]



ELECTRICAL SPECIFICATION

PRODUCT TYPE	MSExxxHT0B (xxx = P _{max})				
Power Output	P _{max}	W _p	400	405	410
Module Efficiency	%		20.5	20.7	21.0
Tolerance	%		0/+3	0/+3	0/+3
Short Circuit Current	I _{sc}	A	13.75	13.82	13.90
Open Circuit Voltage	V _{oc}	V	37.09	37.27	37.41
Rated Current	I _{mp}	A	12.92	13.00	13.07
Rated Voltage	V _{mp}	V	30.96	31.16	31.38
Fuse Rating	A		25A	25A	25A
System Voltage	V		1,000	1,000	1,000

TEMPERATURE COEFFICIENTS

Normal Operating Cell Temperature (NOCT)	45.52°C (±3.7%)
Temperature Coefficient of P _{max}	-0.343%/°C
Temperature Coefficient of V _{oc}	-0.254%/°C
Temperature Coefficient of I _{sc}	-0.257%/°C

OPERATING CONDITIONS

Maximum System Voltage	1,000Vdc
Operating Temperature Range	-40°F to 185°F (-40°C to +85°C)
Maximum Series Fuse Rating	25A
Fire Safety Classification	Type 1*
Front & Back Load (UL Standard)	Up to 5,400 Pa front and 5,400 Pa back load. Tested to UL 61730
Hail Safety Impact Velocity	25mm at 23 m/s

*Mission Solar Energy uses quality sourced materials that result in a Type 1 fire rating. Please note, the "Fire Class" Rating is designated for the fully-installed PV system, which includes, but is not limited to, the module, the type of mounting used, pitch and roof composition.

MECHANICAL DATA

Solar Cells	P-PERC 182mm x 182mm
Cell Orientation	108 half-cut cells
Module Dimension	1723mm x 1135mm x 35mm
Weight	42 lbs. (19kg)
Front Glass	3.2mm tempered, low-iron, anti-reflective
Frame	35mm anodized interlocking
Encapsulant	Ethylene vinyl acetate (EVA)
Junction Box	Protection class IP68 with 3 bypass-diodes
Cable	1.2m, Wire 4mm ² (12AWG)
Connector	MC4 Staubli PV-KBT4/6II-UR and PV-KST4/6II-UR

SHIPPING INFORMATION

Container Feet	Ship To	Pallets	Panels	410W Bin
53'	Most States	26	806	330.46 kW
Double Stack: (Horizontal Orientation): 31 panels per pallet				

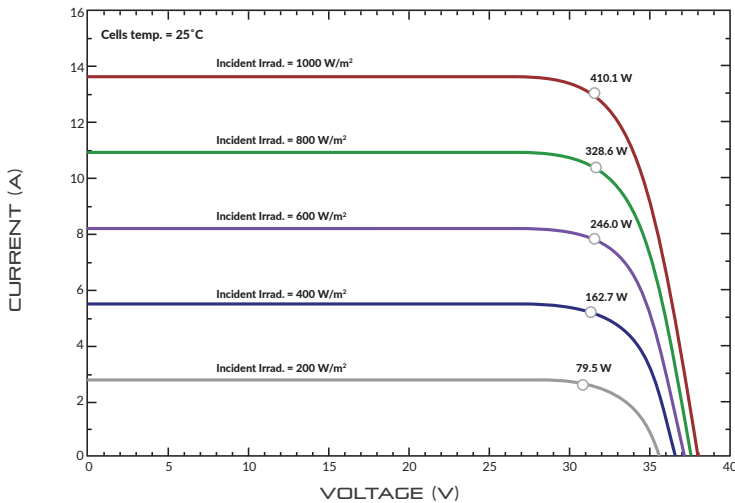
PALLET [31 PANELS]

Weight	Height	Width	Length
1,610 lbs. (730 kg)	51 in (129.5 cm)	47 in (119.4 cm)	70 in (179.1 cm)

CURRENT-VOLTAGE CURVE

MSE410HT0B: 410W, 108 HALF-CUT CELL SOLAR MODULE

Current-voltage characteristics with dependence on irradiance and module temperature



CERTIFICATIONS AND TESTS

IEC	61215, 61730, 61701
UL	61730



CEC



Mission Solar Energy

8303 S. New Braunfels Ave., San Antonio, Texas 78235
www.missionsolar.com | info@missionsolar.com