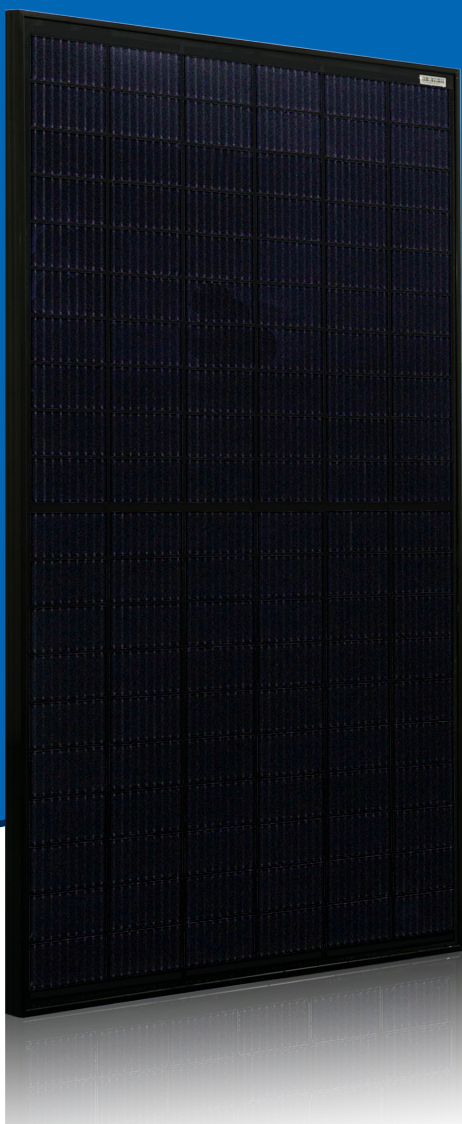


PENTA⁺ PremiumTM

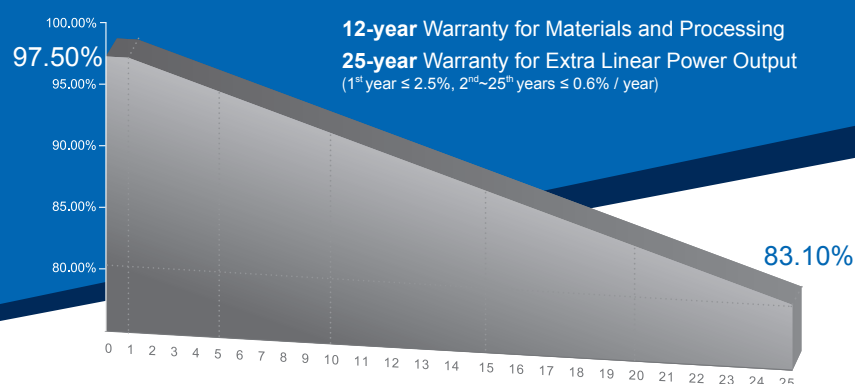
High Tech Leads Industry



315W~335W

Monocrystalline PV Module

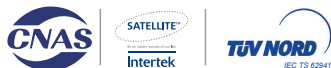
CHSM60M(BL)-HC Series



KEY FEATURES

- +5W OUTPUT POSITIVE TOLERANCE**
Guaranteed 0~+5W positive tolerance ensures power output reliability.
- INNOVATIONAL HALF-CELL TECHNOLOGY**
Improves the module output, decreases the risk of micro-crack, enhances the module reliability.
- INNOVATIVE PERC CELL TECHNOLOGY**
Excellent cell efficiency and output.
- REDUCE SHADOW LOSS**
Effectively reduces the effect of shadow on the module surface.
- REDUCE INTERNAL MISMATCH LOSS**
Reduces mismatch loss and improves output.
- PASSED HAIL TEST**
Certified to hail resistance: ice ball size (d=45mm) and ice ball velocity (v=30.7m/s).
- Anti PID**
Excellent PID resistance at 96 hours (@85°C /85%) test, and also can be improved to meet higher standards for the particularly harsh environment.

COMPREHENSIVE CERTIFICATES



First solar company which passed the TUV Nord IEC/TS 62941 certification audit.



ASTRONERGY
A CHNT COMPANY

ELECTRICAL SPECIFICATIONS

STC rated output (P_{mpp})*	315 Wp	320 Wp	325 Wp	330 Wp	335 Wp
Rated voltage (V_{mpp}) at STC	33.44 V	33.68 V	33.93 V	34.17 V	34.44 V
Rated current (I_{mpp}) at STC	9.42 A	9.50 A	9.58 A	9.66 A	9.73 A
Open circuit voltage (V_{oc}) at STC	39.84 V	40.72 V	41.03 V	41.32 V	41.61 V
Short circuit current (I_{sc}) at STC	9.73 A	9.98 A	10.06 A	10.14 A	10.22 A
Module efficiency	18.5%	18.9%	19.2%	19.5%	19.8%
Rated output (P_{mpp}) at NOCT	227.4 Wp	238.6 Wp	242.4 Wp	246.1 Wp	249.8 Wp
Rated voltage (V_{mpp}) at NOCT	30.71 V	31.39 V	31.63 V	31.85 V	32.10 V
Rated current (I_{mpp}) at NOCT	7.41 A	7.60 A	7.66 A	7.73 A	7.78 A
Open circuit voltage (V_{oc}) at NOCT	37.45 V	38.28 V	38.57 V	38.85 V	39.12 V
Short circuit current (I_{sc}) at NOCT	7.83 A	8.03 A	8.09 A	8.16 A	8.22 A
Temperature coefficient (P_{mpp})	- 0.3438%/°C				
Temperature coefficient (I_{sc})	+0.0353%/°C				
Temperature coefficient (V_{oc})	- 0.2722%/°C				
Normal operating cell temperature (NOCT)	44±2°C				
Maximum system voltage (IEC/UL)	1000V _{DC}				
Number of diodes	3				
Junction box IP rating	IP 67				
Maximum series fuse rating	20 A				

* Measurement tolerance +/- 3%

STC: Irradiance 1000W/m², Cell Temperature 25°C, AM=1.5

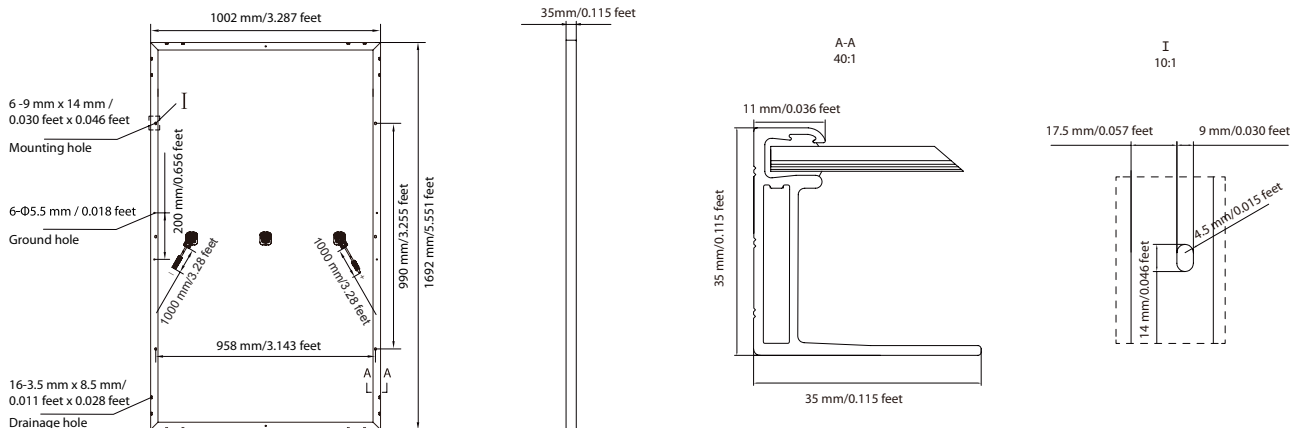
NOCT: Irradiance 800W/m², Ambient Temperature 20°C, AM=1.5, Wind Speed 1m/s

MECHANICAL SPECIFICATIONS

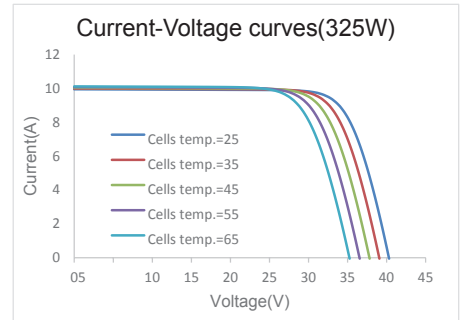
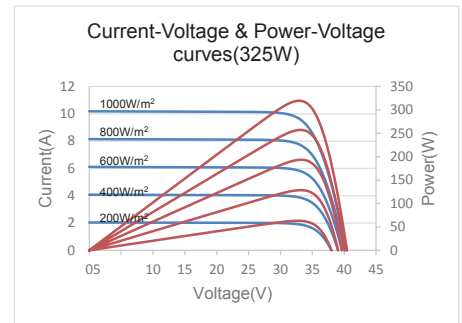
Outer dimensions (L x W x H)	1692 x 1002 x 35 mm 66.61 x 39.45 x 1.38 in
Frame technology	Aluminum, black anodized
Module composition	Glass / EVA / Backsheet (black)
Front glass thickness	3.2 mm / 0.13 in
Cable length (IEC/UL)	1000 mm / 39.37 in
Cable diameter (IEC/UL)	4 mm ² / 12 AWG
① Maximum mechanical test load	6000 Pa (front) / 3600 Pa (back)
Fire performance (IEC/UL)	Class C (IEC) or Type 1 (UL)
Connector type (IEC/UL)	MC4 (Stäubli) original

① Refer to Astronergy Crystalline Silicon PV Module Installation Manual or contact technical department.
Maximum Mechanical Test Load=1.5*Maximum Mechanical Design Load.

MODULE DIMENSION DETAILS



CURVE



PACKING SPECIFICATIONS

① Weight (module only)	19.1 kg / 42.11 lbs
② Packing unit	31 Stk. / Box
Weight of packing unit (for 40'HQ container)	631 kg / 1391 lbs
Number of modules per 40'HQ container	806 Stk.

① Tolerance +/- 1.0kg
② Subject to sales contract

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