

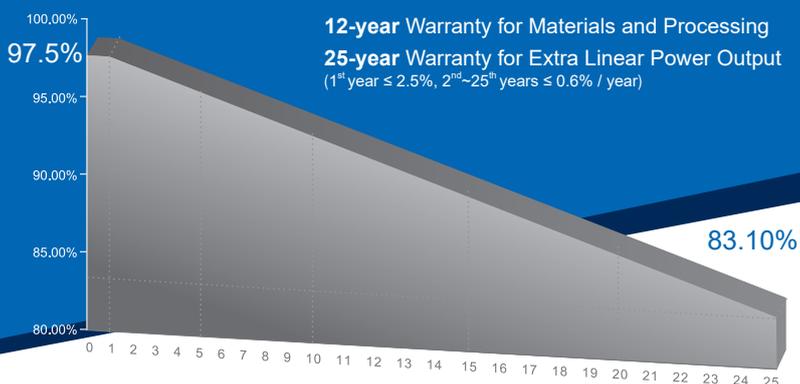
# AstroSemi™

Incredible Power for Small Body



## 430W~450W

Monocrystalline PV Module  
CHSM72M-HC Series (166)



### KEY FEATURES

- 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.
- Anti PID RESISTANCE**  
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.

Preliminary  
For Global Market



**ASTRONERGY**  
A CHNT COMPANY

## ELECTRICAL SPECIFICATIONS

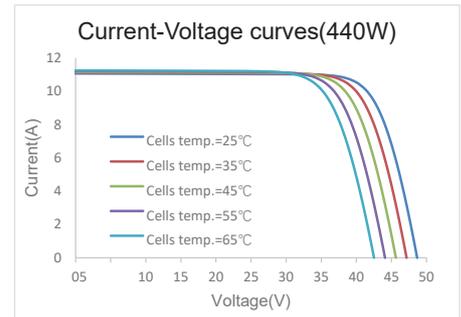
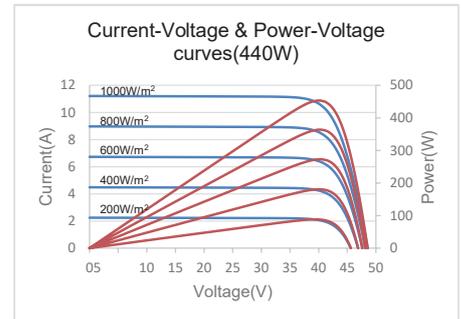
STC rated output ( $P_{mpp}$ )*	430 Wp	435 Wp	440 Wp	445 Wp	450 Wp
Rated voltage ( $V_{mpp}$ ) at STC	40.45 V	40.65 V	40.85 V	41.05 V	41.32 V
Rated current ( $I_{mpp}$ ) at STC	10.63 A	10.70 A	10.77 A	10.84 A	10.89 A
Open circuit voltage ( $V_{oc}$ ) at STC	47.99 V	48.25 V	48.50 V	48.80 V	49.05 V
Short circuit current ( $I_{sc}$ ) at STC	11.10 A	11.16 A	11.24 A	11.30 A	11.37 A
Module efficiency	19.5%	19.7%	20.0%	20.2%	20.4%
Rated output ( $P_{mpp}$ ) at NOCT	319.7 Wp	323.4 Wp	327.1 Wp	330.8 Wp	334.5 Wp
Rated voltage ( $V_{mpp}$ ) at NOCT	37.56 V	37.75 V	37.93 V	38.12 V	38.37 V
Rated current ( $I_{mpp}$ ) at NOCT	8.51 A	8.57 A	8.62 A <td 8.68 A	8.72 A	
Open circuit voltage ( $V_{oc}$ ) at NOCT	44.94 V	45.19 V	45.42 V	45.70 V	45.94 V
Short circuit current ( $I_{sc}$ ) at NOCT	8.94 A	8.99 A	9.06 A	9.10 A	9.16 A
Temperature coefficient ( $P_{mpp}$ )	- 0.3528%/°C				
Temperature coefficient ( $I_{sc}$ )	+0.0400%/°C				
Temperature coefficient ( $V_{oc}$ )	- 0.2769%/°C				
Normal operating cell temperature (NOCT)	44±2°C				
Maximum system voltage (IEC/UL)	1500V <sub>DC</sub>				
Number of diodes	3				
Junction box IP rating	IP 67				
Maximum series fuse rating	20 A				

\* measurement uncertainty +/- 3%

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, AM=1.5

NOCT: Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM=1.5, Wind Speed 1m/s

## CURVE



## MECHANICAL SPECIFICATIONS

Outer dimensions (L x W x H)	2108 x 1048 x 35 mm 82.99 x 41.26 x 1.38 in
Frame technology	Aluminum, silver anodized
Module composition	Glass / EVA / Backsheet (white)
Front glass thickness	3.2 mm / 0.13 in
Cable length (IEC/UL)	Portrait: 350 mm (13.78 in) Landscape: 1300 mm (51.18 in)
Cable diameter (IEC/UL)	4 mm <sup>2</sup> / 12 AWG
① Maximum mechanical test load	5400 Pa (front) / 2400 Pa (back)
Fire performance (IEC/UL)	Class C (IEC) or Type 1 (UL)
Connector type (IEC/UL)	MC4 compatible

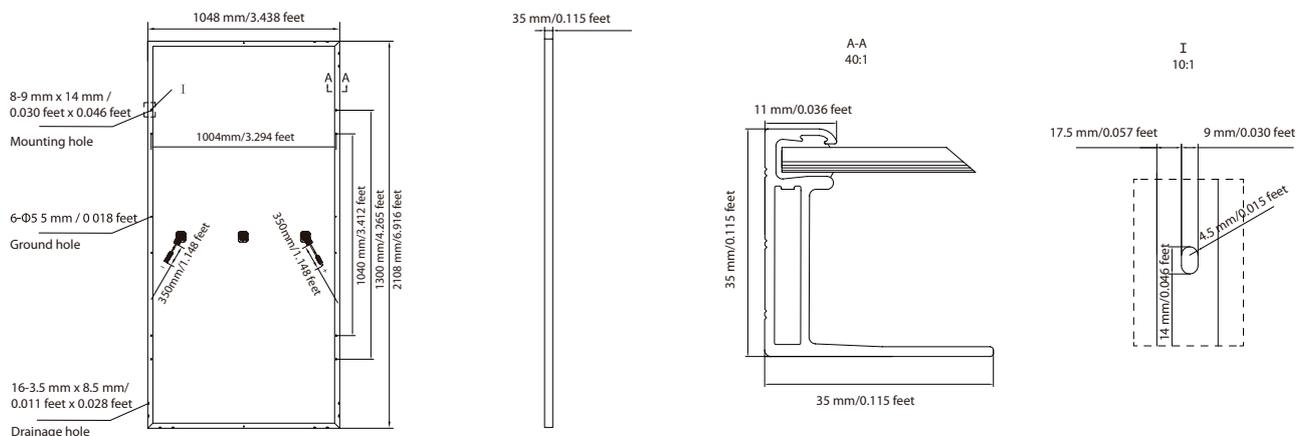
① Refer to Astronergy crystalline installation manual or contact technical department.  
Maximum Mechanical Test Load=1.5×Maximum Mechanical Design Load.

## PACKING SPECIFICATIONS

① Weight (module only)	24.0 kg / 52.91 lbs
② Packing unit	31 pcs / box
Weight of packing unit (for 40'HQ container)	789 kg / 1739 lbs
Number of modules per 40'HQ container	682 pcs

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

## MODULE DIMENSION DETAILS



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