

# ASTRO 4 Semi

Create Sustainable and Efficient Green Energy



**ASTRONERGY**  
A CHINT COMPANY

# 445W~455W

## Monocrystalline PV Module CHSM72M-HC Series (166)



### KEY FEATURES

**+5W**

**OUTPUT POSITIVE TOLERANCE**  
Guaranteed 0~+5W positive tolerance to ensure power output.



**INNOVATIONAL HALF-CUT TECHNOLOGY**  
Better shading tolerance, higher reliability.



**INNOVATIONAL MULTI-BUSBAR TECHNOLOGY**  
Higher light absorption, lower risk of microcrack.

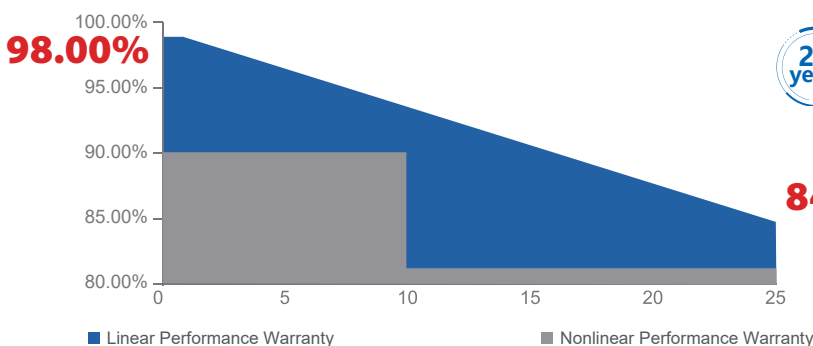


**SUPER PERC+ CELL TECHNOLOGY**  
Higher module power and module efficiency, lower power degradation.



**PID RESISTANCE**  
Excellent PID resistance.

### WARRANTY



Warranty for Materials and Processing



Warranty for Extra Linear Power Output  
(1<sup>st</sup> year ≤ 2.0%, 2<sup>nd</sup>~25<sup>th</sup> years ≤ 0.55% / year)

For Global Market



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

## ELECTRICAL SPECIFICATIONS

STC rated output ( $P_{mpp}$ )	445 Wp	450 Wp	455 Wp
Rated voltage ( $V_{mpp}$ ) at STC	41.05 V	41.32 V	41.51 V
Rated current ( $I_{mpp}$ ) at STC	10.84 A	10.89 A	10.96 A
Open circuit voltage ( $V_{oc}$ ) at STC	48.80 V	49.05 V	49.35 V
Short circuit current ( $I_{sc}$ ) at STC	11.30 A	11.37 A	11.44 A
Module efficiency	20.5%	20.7%	20.9%
Rated output ( $P_{mpp}$ ) at NMOT	330.8 Wp	334.5 Wp	338.2 Wp
Rated voltage ( $V_{mpp}$ ) at NMOT	38.12 V	38.37 V	38.55 V
Rated current ( $I_{mpp}$ ) at NMOT	8.68 A	8.72 A	8.78 A
Open circuit voltage ( $V_{oc}$ ) at NMOT	45.70 V	45.94 V	46.22 V
Short circuit current ( $I_{sc}$ ) at NMOT	9.10 A	9.16 A	9.22 A
Temperature coefficient ( $P_{mpp}$ )		- 0.35%/°C	
Temperature coefficient ( $I_{sc}$ )		+ 0.050%/°C	
Temperature coefficient ( $V_{oc}$ )		- 0.27%/°C	
Nominal module operating temperature (NMOT)		41±2°C	
Maximum system voltage (IEC/UL)		1500V <sub>DC</sub>	
Number of diodes		3	
Junction box IP rating		IP 68	
Maximum series fuse rating		20 A	

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

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

## MECHANICAL SPECIFICATIONS

Outer dimensions (L x W x H)	2094 x 1038 x 35 mm
Frame technology	Aluminum, silver anodized
Front glass thickness	3.2 mm
Cable length (IEC/UL)	Portrait: 300 mm Landscape: 1300 mm
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 4 (UL)
Connector type (IEC/UL)	HCB40 / MC4-EVO2 (optional)

① Refer to Astronergy crystalline installation manual or contact technical department.

Maximum Mechanical Test Load=1.5×Maximum Mechanical Design Load.

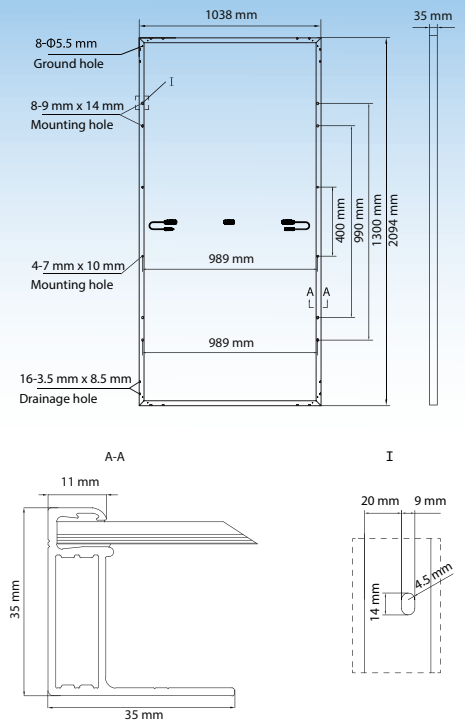
## PACKING SPECIFICATIONS

① Module Weight	23.5 kg
② Packing unit	31 pcs / box
Weight of packing unit (for 40'HQ container)	769 kg
Number of modules per 40'HQ container	682 pcs

① Tolerance +/- 1.0kg

② Subject to sales contract

## MODULE DIMENSION DETAILS



## CURVE

