



ASTRONERGY

ENERGYNAT  
TRADE

Import and distribution of top PV components

# ASTRO 6 Semi

Create Sustainable and Efficient Green Energy

CHSM66M-HC  
Monofacial Series (210)

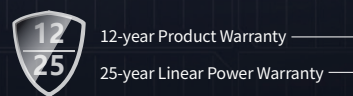
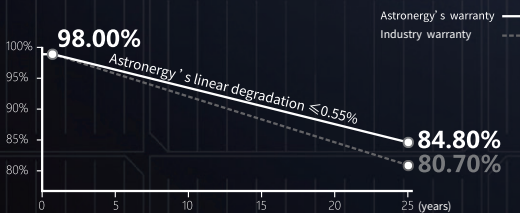
## 650~670W

PERC+ / Multi-busbar / Half-cut

Non-destructive cutting

PID resistance

Low BOS cost & LCOE



ISO 9001:2015:ISO Quality Management System  
ISO 14001:2015:ISO Environment Management System  
ISO 45001:Occupational Health and Safety  
The first solar company which passed the Nord IEC/TS 62941 certification audit.



Tier 1  
BloombergNEF



**650~670W**

POWER RANGE

**0~+5W**

POWER SORTING

**21.6%**MAX MODULE  
EFFICIENCY**≤ 2.0%**FIRST YEAR  
POWER DEGRADATION**≤ 0.55%**YEAR 2-25  
POWER DEGRADATION

## Electrical Specifications

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

Rated output (Pmpp / Wp)	650	655	660	665	670
Rated voltage (Vmpp / V)	37.45	37.65	37.85	38.05	38.23
Rated current (Impp / A)	17.36	17.41	17.45	17.50	17.54
Open circuit voltage (Voc / V)	45.28	45.48	45.68	45.88	46.08
Short circuit current (Isc / A)	18.43	18.48	18.53	18.58	18.63
Module efficiency	20.9%	21.1%	21.2%	21.4%	21.6%

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

Rated output (Pmpp / Wp)	489.5	493.2	497.0	500.7	504.4
Rated voltage (Vmpp / V)	35.09	35.28	35.46	35.63	35.81
Rated current (Impp / A)	13.96	13.99	14.03	14.06	14.10
Open circuit voltage (Voc / V)	42.55	42.75	42.95	43.15	43.35
Short circuit current (Isc / A)	14.82	14.87	14.92	14.97	15.02

## Temperature Ratings (STC)

Temperature coefficient (Pmpp)	-0.34%/°C	No. of diodes	3
Temperature coefficient (Isc)	+0.04%/°C	Junction box IP rating	IP 68
Temperature coefficient (Voc)	-0.25%/°C	Max. series fuse rating	30 A
Nominal module operating temperature (NMOT)	41±2°C	Max. system voltage (IEC/UL)	1500V <sub>DC</sub>

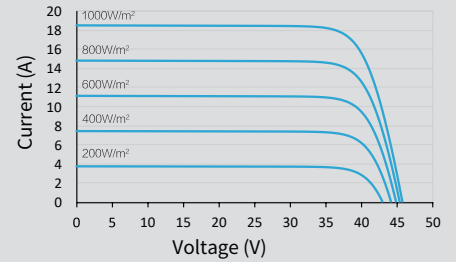
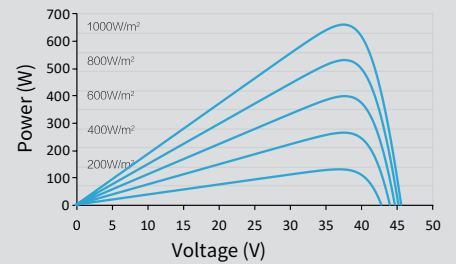
## Operating Parameters

## Mechanical Specifications

Outer dimensions (L x W x H)	2384 x 1303 x 35 mm
Cell type	P type mono-crystalline
No. of cells	132 (6*22)
Frame technology	Aluminum, silver anodized
Front glass thickness	3.2 mm
Cable length (Including connector)	Portrait: (+)410 mm, (-)250 mm; Customized length
Cable diameter (IEC/UL)	4 mm <sup>2</sup> / 12 AWG
① Maximum mechanical test load	5400 Pa (front) / 2400 Pa (back)
Connector type (IEC/UL)	HCB40 (Standard) / MC4-EVO2A (Optional)
Module weight	34.5 kg
Packing unit	31 pcs / box (Subject to sales contract)
Weight of packing unit (for 40' HQ container)	1119 kg
Modules per 40' HQ container	527 pcs

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

## Curve

**Current-Voltage (660W)****Power-Voltage (660W)****Current-Voltage (660W)**