



ASTRONERGY

Special for Australian Market  
(preliminary)

# ASTRO N5

Create Sustainable and Efficient Green Energy

CHSM60N(DG)/F-HC  
Monofacial Series (182)

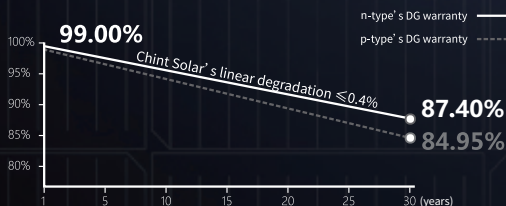
## 460~475W

TOPCon / Half-cut

Low temperature coefficient (Pmpp)

Non-destructive cutting

Low BOS cost & LCOE



30-year Product Warranty (special for rooftop market)

30-year Linear Power Warranty



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



**460~475W**

POWER RANGE

**0~+5W**

POWER SORTING

**22.0%**MAX MODULE  
EFFICIENCY**≤ 1.0%**FIRST YEAR  
POWER DEGRADATION**≤ 0.4%**YEAR 2-30  
POWER DEGRADATION

## Electrical Specifications

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

Type	CHSM60N(DG)/F -HC-460	CHSM60N(DG)/F -HC-465	CHSM60N(DG)/F -HC-470	CHSM60N(DG)/F -HC-475
Rated output (Pmpp / Wp)	460	465	470	475
Rated voltage (Vmpp / V)	36.02	36.14	36.27	36.29
Rated current (Impp / A)	12.77	12.87	12.96	13.05
Open circuit voltage (Voc / V)	42.86	43.01	43.16	43.31
Short circuit current (Isc / A)	13.45	13.57	13.68	13.80
Module efficiency	21.3%	21.5%	21.8%	22.0%

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

Rated output (Pmpp / Wp)	345.9	349.7	353.4	357.2
Rated voltage (Vmpp / V)	33.90	34.02	34.14	34.26
Rated current (Impp / A)	10.20	10.28	10.35	10.43
Open circuit voltage (Voc / V)	40.71	40.85	40.99	41.14
Short circuit current (Isc / A)	10.86	10.95	11.04	11.14

Power Sorting: 0~+5W Measurement tolerance +/- 3.5%

## Temperature Ratings (STC)

Temperature coefficient (Pmpp)	-0.30%/°C	No. of diodes	3
Temperature coefficient (Isc)	+0.043%/°C	Junction box IP rating	IP 68
Temperature coefficient (Voc)	-0.24%/°C	Max. series fuse rating	25 A
Nominal module operating temperature (NMOT)	41±2°C	Max. system voltage (IEC/UL)	1500V <sub>DC</sub>
Fire performance	Class A		

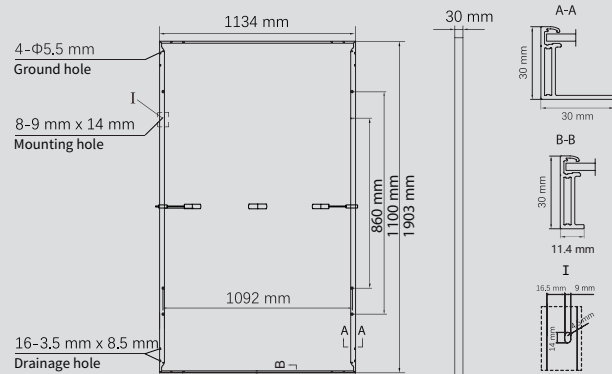
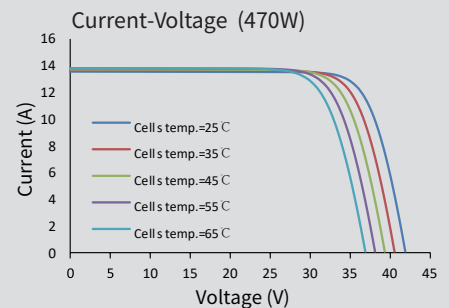
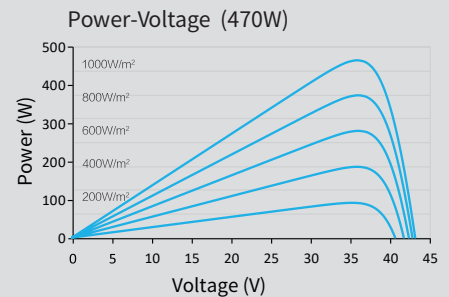
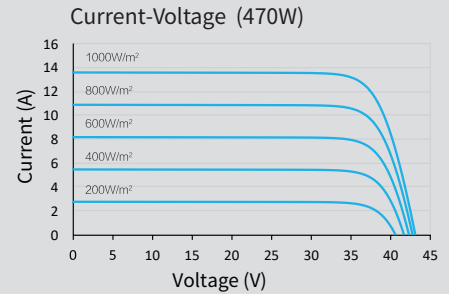
## Operating Parameters

## Mechanical Specifications

Outer dimensions (L x W x H)	1903 x 1134 x 30 mm
Cell type	n type mono-crystalline
No. of cells	120 (6*20)
Frame technology	Aluminum, black or silver anodized
Front / Back glass	1.6+1.6 mm
Cable length (Including connector)	Portrait: (+)350 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)	PV-HCB40 (Astronergy) or PV-KST4-EVO2A/xy, PV-KBT4-EVO2A/xy (Stäubli)
Module weight	22.9 kg
Packing unit	36 pcs / box (Subject to sales contract)
Weight of packing unit (for 40'HQ container)	869 kg
Modules per 40' HQ container	864 pcs

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

## Curve



Made in Zhejiang, Jiangsu and Anhui of China.

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http://www.astronergy.com.au

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