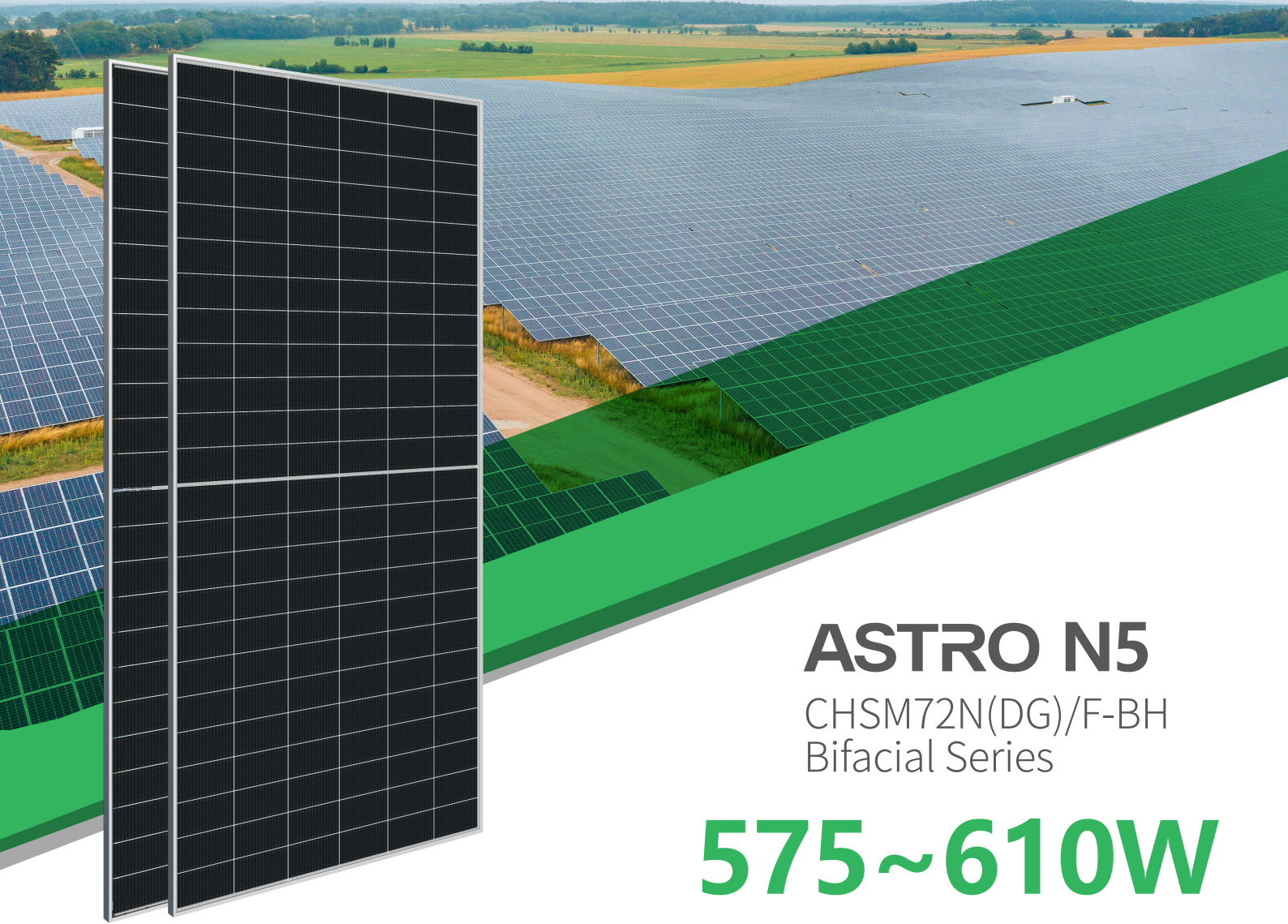




**ASTRONERGY**



# ASTRO N5

CHSM72N(DG)/F-BH  
Bifacial Series

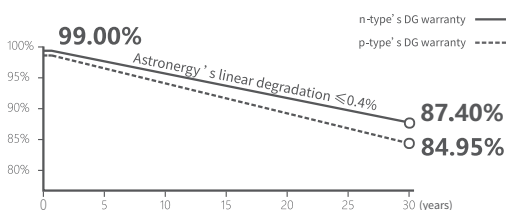
# 575~610W



## Warranty

**15** 15-year Product Warranty

**30** 30-year Linear Power Warranty  
(Only to the front-side of modules)



### n-type TOPCon 4.0

Novel upgrade, enhancing module efficiency



### SMBB Design

Enhancing current collection, minimizing power loss



### Better Temperature Coefficient

≤ -0.29%/°C, adapting for high temperature



### Bifacial Power Generation

Maximizing bifaciality, boosting backside power output



**CE** ISO 9001:2015:ISO Quality Management System  
ISO 14001:2015:ISO Environment Management System  
ISO 45001:Occupational Health and Safety



**Tier 1**  
BloombergNEF



**575~610W**

POWER RANGE

**0~+3%**

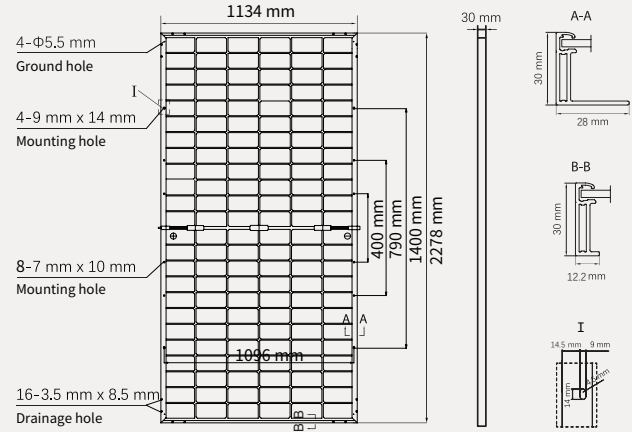
POWER SORTING

**23.6%**MAX MODULE  
EFFICIENCY**≤ 1.0%**FIRST YEAR  
POWER DEGRADATION**≤ 0.4%**YEAR 2-30  
POWER DEGRADATION

## Mechanical Specifications

Outer dimensions (L x W x H)	2278 x 1134 x 30 mm
Cell type	n-type mono-crystalline
No. of cells	144 (6*24)
Frame technology	Aluminum, silver anodized
Front / Back glass	2.0+2.0 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 (Chint New Energy) or PV-KST4- EVO2A/xy, PV-KBT4-EVO2A/xy (Stäubli)
Module weight	32.1 kg
Packing unit	36 pcs / box
Weight of packing unit (for 40'HQ container)	1207 kg
Modules per 40' HQ container	720 pcs (Subject to sales contract)

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



## Electrical Specifications CHSM72N(DG)/F-BH-XXX(XXX=575~610)

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

Rated output (Pmpp / Wp)	575	580	585	590	595	600	605	610
Rated voltage (Vmpp / V)	43.52	43.70	43.88	44.05	44.21	44.38	44.55	44.72
Rated current (Impp / A)	13.21	13.27	13.33	13.40	13.46	13.52	13.58	13.64
Open circuit voltage (Voc / V)	52.01	52.21	52.42	52.62	52.81	53.01	53.20	53.39
Short circuit current (Isc / A)	13.95	14.01	14.07	14.13	14.20	14.26	14.33	14.39
Module efficiency	22.3%	22.5%	22.6%	22.8%	23.0%	23.2%	23.4%	23.6%

Tolerance: Pmpp ±3%, Voc ±3% and Isc ±4%.

**BNPI:** Irradiance: front 1000W/m<sup>2</sup>, rear 135W/m<sup>2</sup>, Cell Temperature 25° C, AM=1.5

Rated output (Pmpp / Wp)	630	635	640	645	650	655	660	665
Rated voltage (Vmpp / V)	43.62	43.79	43.96	44.11	44.26	44.40	44.55	44.70
Rated current (Impp / A)	14.44	14.50	14.56	14.62	14.69	14.75	14.81	14.88
Open circuit voltage (Voc / V)	52.19	52.39	52.58	52.75	52.93	53.10	53.27	53.44
Short circuit current (Isc / A)	15.31	15.37	15.43	15.49	15.56	15.63	15.69	15.76

Bifaciality(Pmpp/Isc) : 80±5%, Bifaciality(Voc) : 98±2%

## Electrical characteristics with 10% Bifacial Gains

Rated output (Pmpp / Wp)	633	638	644	649	655	660	666	671
Rated voltage (Vmpp / V)	43.52	43.70	43.88	44.05	44.21	44.38	44.55	44.72
Rated current (Impp / A)	14.53	14.60	14.67	14.73	14.80	14.87	14.94	15.01
Open circuit voltage (Voc / V)	52.01	52.22	52.43	52.62	52.82	53.01	53.21	53.40
Short circuit current (Isc / A)	15.34	15.41	15.48	15.55	15.62	15.69	15.76	15.83

## Operating Parameters

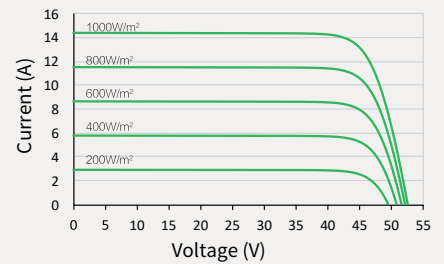
No. of diodes	3
Junction box IP rating	IP 68
Max. series fuse rating	30 A
Max. system voltage (IEC/UL)	1500V <sub>DC</sub>
Fire performance:	Class A / Class C

## Temperature Ratings (STC)

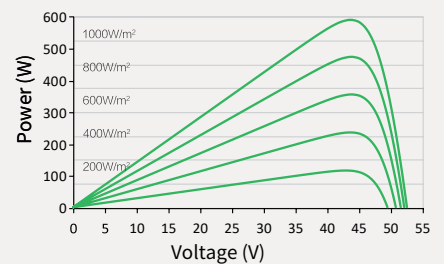
Temperature coefficient (Pmpp)	-0.29%/°C
Temperature coefficient (Isc)	+0.043%/°C
Temperature coefficient (Voc)	-0.25%/°C

## Curve

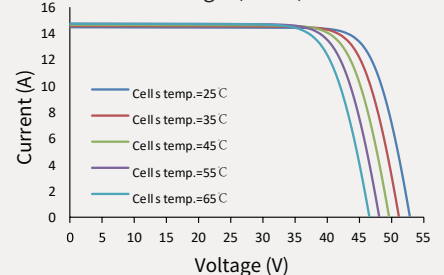
Current-Voltage (595W)



Power-Voltage (595W)



Current-Voltage (595W)



Made in China, Made in Turkey.

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