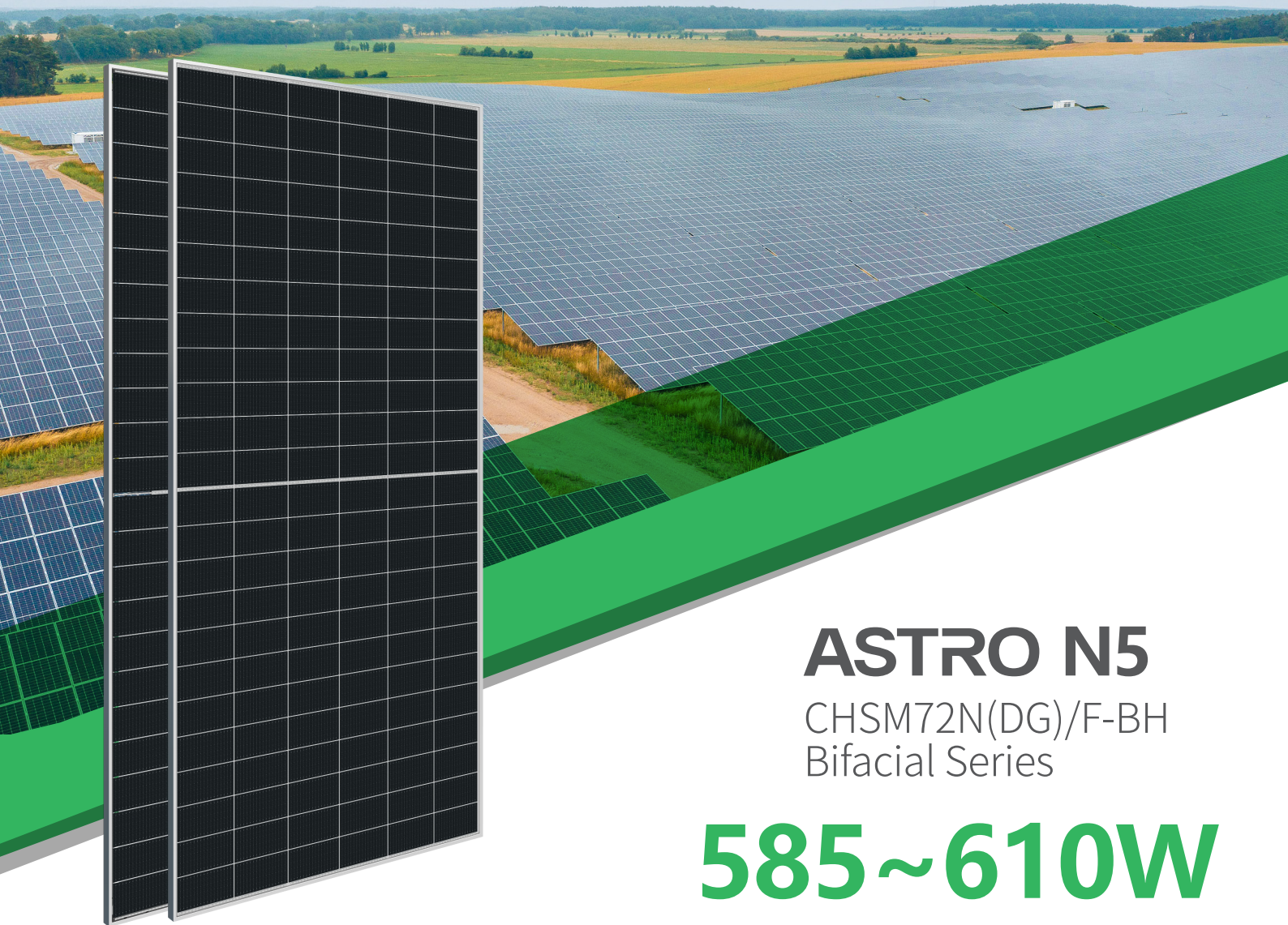




ASTRONERGY



ASTRO N5

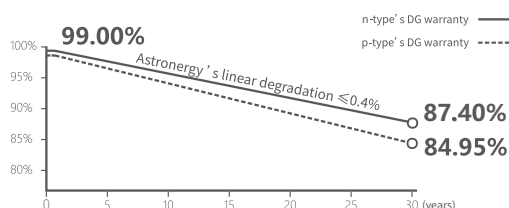
CHSM72N(DG)/F-BH
Bifacial Series

585~610W



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

$\leq -0.29\%/^{\circ}\text{C}$, adapting for high temperature



Bifacial Power Generation

Maximizing bifaciality, boosting backside power output



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



Tier 1
BloombergNEF



585~610W

POWER RANGE

0~+3%

POWER SORTING

23.6%

MAX MODULE
EFFICIENCY

≤ 1.0%

FIRST YEAR
POWER DEGRADATION

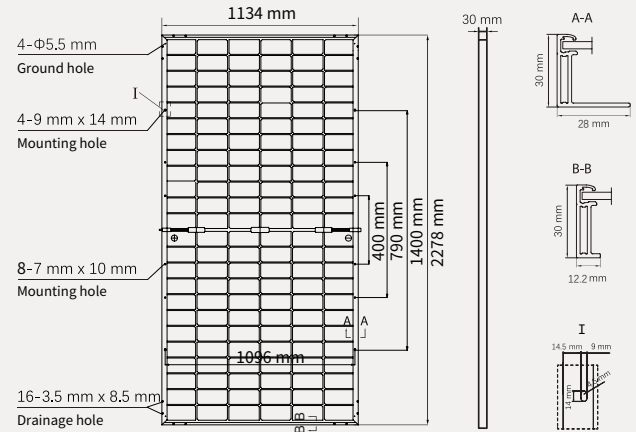
≤ 0.4%

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 ² / 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=585~610)

STC: Irradiance 1000W/m², Cell Temperature 25° C, AM=1.5

Rated output (P _{mpp} / Wp)	585	590	595	600	605	610
Rated voltage (V _{mpp} / V)	43.88	44.05	44.21	44.38	44.55	44.72
Rated current (I _{mpp} / A)	13.33	13.40	13.46	13.52	13.58	13.64
Open circuit voltage (V _{oc} / V)	52.42	52.62	52.81	53.01	53.20	53.39
Short circuit current (I _{sc} / A)	14.07	14.13	14.20	14.26	14.33	14.39
Module efficiency	22.6%	22.8%	23.0%	23.2%	23.4%	23.6%

Tolerance: P_{mpp} ±3%, V_{oc} ±3% and I_{sc} ±4%.

BNPI: Irradiance: front 1000W/m², rear 135W/m², Cell Temperature 25° C, AM=1.5

Rated output (P _{mpp} / Wp)	640	645	650	655	660	665
Rated voltage (V _{mpp} / V)	43.96	44.11	44.26	44.40	44.55	44.70
Rated current (I _{mpp} / A)	14.56	14.62	14.69	14.75	14.81	14.88
Open circuit voltage (V _{oc} / V)	52.58	52.75	52.93	53.10	53.27	53.44
Short circuit current (I _{sc} / A)	15.43	15.49	15.56	15.63	15.69	15.76

Bifaciality(P_{mpp}/I_{sc}) : 80±5 %, Bifaciality(V_{oc}) : 98±2 %

Electrical characteristics with 10% Bifacial Gains

Rated output (P _{mpp} / Wp)	644	649	655	660	666	671
Rated voltage (V _{mpp} / V)	43.88	44.05	44.21	44.38	44.55	44.72
Rated current (I _{mpp} / A)	14.67	14.73	14.80	14.87	14.94	15.01
Open circuit voltage (V _{oc} / V)	52.43	52.62	52.82	53.01	53.21	53.40
Short circuit current (I _{sc} / A)	15.48	15.55	15.62	15.69	15.76	15.83

Operating Parameters

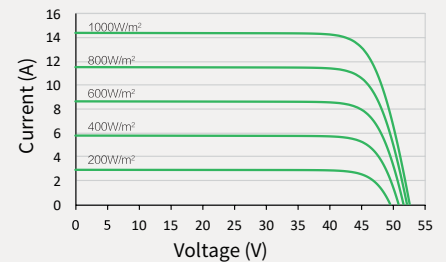
No. of diodes	3
Junction box IP rating	IP 68
Max. series fuse rating	30 A
Max. system voltage (IEC/UL)	1500V _{DC}
Fire performance:	Class A / Class C

Temperature Ratings (STC)

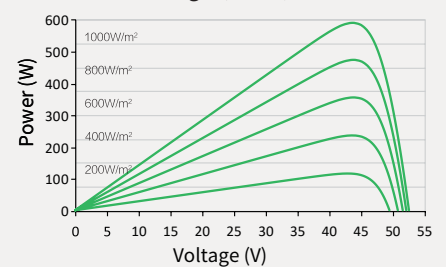
Temperature coefficient (P _{mpp})	-0.29%/°C
Temperature coefficient (I _{sc})	+0.043%/°C
Temperature coefficient (V _{oc})	-0.25%/°C

Curve

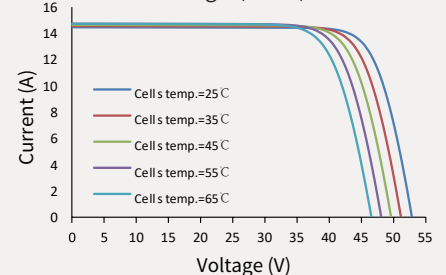
Current-Voltage (595W)



Power-Voltage (595W)



Current-Voltage (595W)



Made in China, Made in Turkey.

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