



ASTRONERGY

ASTRO N7

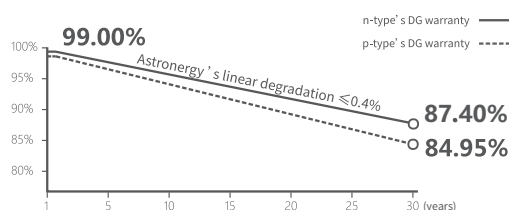
CHSM72RN(DG)/F-BH
Bifacial Series

590~615W

Warranty

15 15-year Product Warranty

30 30-year Linear Power Warranty



Key Features

- TOPCon / Half-cut
- Better temperature coefficient (Pmpp)
- Non-destructive cutting
- PID resistance
- Low BOS cost & LCOE
- Bifacial gain



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



590~615W

POWER RANGE

0~+5W

POWER SORTING

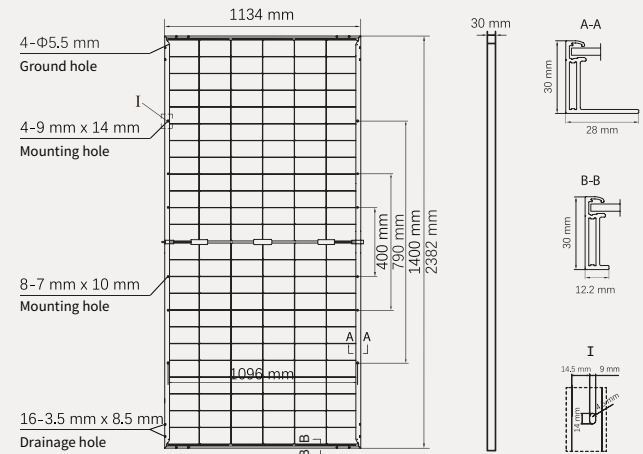
22.8%

MAX MODULE
EFFICIENCY $\leq 1.0\%$ FIRST YEAR
POWER DEGRADATION $\leq 0.4\%$ YEAR 2-30
POWER DEGRADATION

Mechanical Specifications

Outer dimensions (L x W x H)	2382 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)	HCB40 (Standard) / MC4-EVO2A (Optional)
Module weight	33.5 kg
Packing unit	36 pcs / box
Weight of packing unit (for 40'HQ container)	1268 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

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

Rated output (P _{mpp} / Wp)	590	595	600	605	610	615
Rated voltage (V _{mpp} / V)	42.86	43.03	43.19	43.36	43.53	43.70
Rated current (I _{mpp} / A)	13.77	13.83	13.89	13.95	14.01	14.07
Open circuit voltage (V _{oc} / V)	51.00	51.20	51.40	51.60	51.80	52.00
Short circuit current (I _{sc} / A)	14.50	14.56	14.65	14.71	14.79	14.86
Module efficiency	21.8%	22.0%	22.2%	22.4%	22.6%	22.8%

NMOT: Irradiance 800W/m², Ambient Temperature 20° C, AM=1.5, Wind Speed 1m/s

Rated output (P _{mpp} / Wp)	443.7	447.4	451.2	455.0	458.7	462.5
Rated voltage (V _{mpp} / V)	40.34	40.50	40.66	40.82	40.98	41.14
Rated current (I _{mpp} / A)	11.00	11.05	11.10	11.15	11.19	11.24
Open circuit voltage (V _{oc} / V)	48.44	48.63	48.82	49.01	49.20	49.39
Short circuit current (I _{sc} / A)	11.70	11.76	11.82	11.88	11.94	11.99

Electrical Specifications (Integrated power)

P _{mpp} gain	P _{mpp} / Wp	V _{mpp} / V	I _{mpp} / A	V _{oc} / V	I _{sc} / A
5%	641	43.54	14.71	51.80	15.29
10%	671	43.54	15.41	51.80	16.02
15%	702	43.54	16.11	51.80	16.74
20%	732	43.54	16.81	51.80	17.47
25%	763	43.54	17.51	51.80	18.20

Electrical characteristics with different rear power gain (reference to 610W)

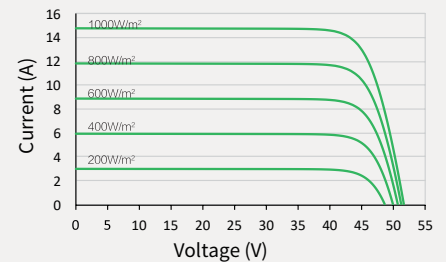
Temperature Ratings (STC)

Operating Parameters

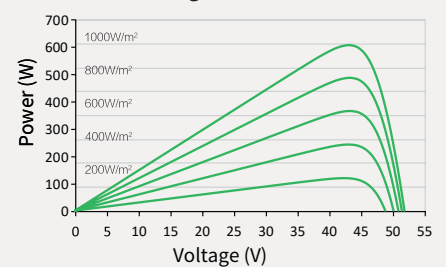
Temperature coefficient (P _{mpp})	-0.29%/°C	No. of diodes	3
Temperature coefficient (I _{sc})	+0.043%/°C	Junction box IP rating	IP 68
Temperature coefficient (V _{oc})	-0.25%/°C	Max. series fuse rating	30 A
Nominal module operating temperature (NMOT)	41±2°C	Max. system voltage (IEC/UL)	1500V _{DC}

Curve

Current-Voltage (610W)



Power-Voltage (610W)



Current-Voltage (610W)

