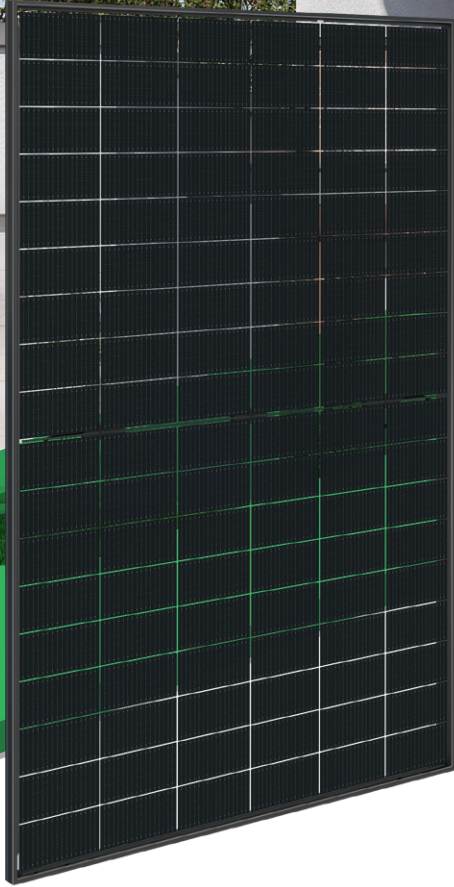




ASTRONERGY



ASTRO N5s

CHSM54N(DGT)(BLH)/F-BH
Bifacial Series

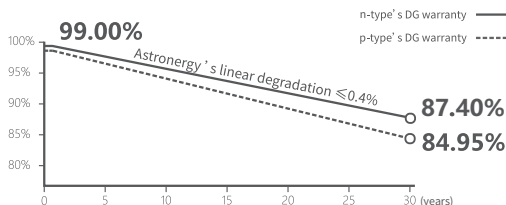
420~435W



Warranty

25 25-year Product Warranty

30 30-year Linear Power Warranty



n-type TOPCon 4.0

Novel upgrade, enhancing module efficiency



SMBB Design

Enhancing current collection, minimizing power loss



Sleek Design

Tailored for rooftops allowing one-person installation



All-black Technology

Sleek crystalline black appearance, seamlessly blending into rooftops



IEC 61215, IEC 61730
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



420~435W

POWER RANGE

0~+3%

POWER SORTING

22.3%

MAX MODULE
EFFICIENCY

≤ 1.0%

FIRST YEAR
POWER DEGRADATION

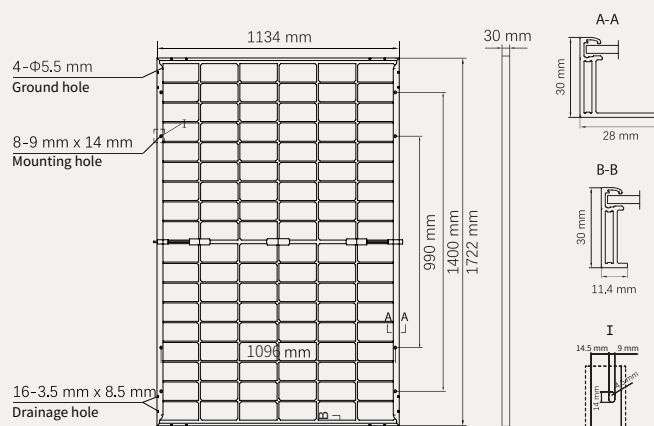
≤ 0.4%

YEAR 2-30
POWER DEGRADATION

Mechanical Specifications

Outer dimensions (L x W x H)	1722 x 1134 x 30 mm
Cell type	n-type Mono-crystalline
No. of cells	108 (6*18)
Frame technology	Aluminum, black 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 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	20.8 kg
Packing unit	36 pcs / box
Weight of packing unit (for 40'HQ container)	793 kg
Modules per 40' HQ container	936 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)	420	425	430	435
Rated voltage (V _{mpp} / V)	32.18	32.35	32.52	32.69
Rated current (I _{mp} / A)	13.05	13.14	13.22	13.31
Open circuit voltage (V _{oc} / V)	38.30	38.50	38.70	38.90
Short circuit current (I _{sc} / A)	13.81	13.92	14.01	14.10
Module efficiency	21.5%	21.8%	22.0%	22.3%

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

Rated output (P _{mpp} / Wp)	315.8	319.6	323.4	327.1
Rated voltage (V _{mpp} / V)	30.29	30.45	30.61	30.77
Rated current (I _{mp} / A)	10.43	10.50	10.56	10.63
Open circuit voltage (V _{oc} / V)	36.38	36.57	36.76	36.95
Short circuit current (I _{sc} / A)	11.15	11.24	11.31	11.38

Electrical Specifications (Integrated power)

P _{mpp} gain	P _{mpp} / Wp	V _{mpp} / V	I _{mp} / A	V _{oc} / V	I _{sc} / A
5%	452	32.52	13.88	38.70	14.71
10%	473	32.52	14.54	38.70	15.41
15%	495	32.52	15.21	38.70	16.11
20%	516	32.52	15.87	38.70	16.81
25%	538	32.52	16.53	38.70	17.51

Electrical characteristics with different rear power gain (reference to 430W)

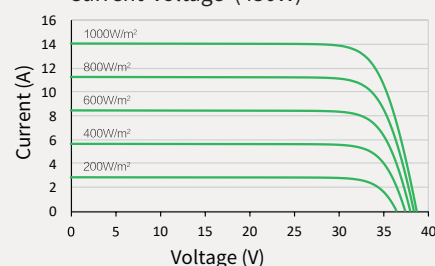
Temperature Ratings (STC)

Operating Parameters

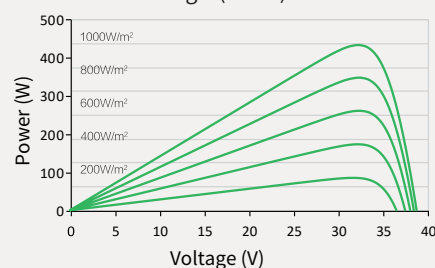
Temperature coefficient (P _{mpp})	-0.29%/°C	No. of diodes	3
Temperature coefficient (I _{sc})	+0.043%/°C	Junction box IP rating	IP 68
Temperature coefficient (V _{oc})	-0.25%/°C	Max. series fuse rating	30 A
Nominal module operating temperature (NMOT)	41±2°C	Max. system voltage (IEC/UL)	1500V _{DC}

Curve

Current-Voltage (430W)



Power-Voltage (430W)



Current-Voltage (430W)

