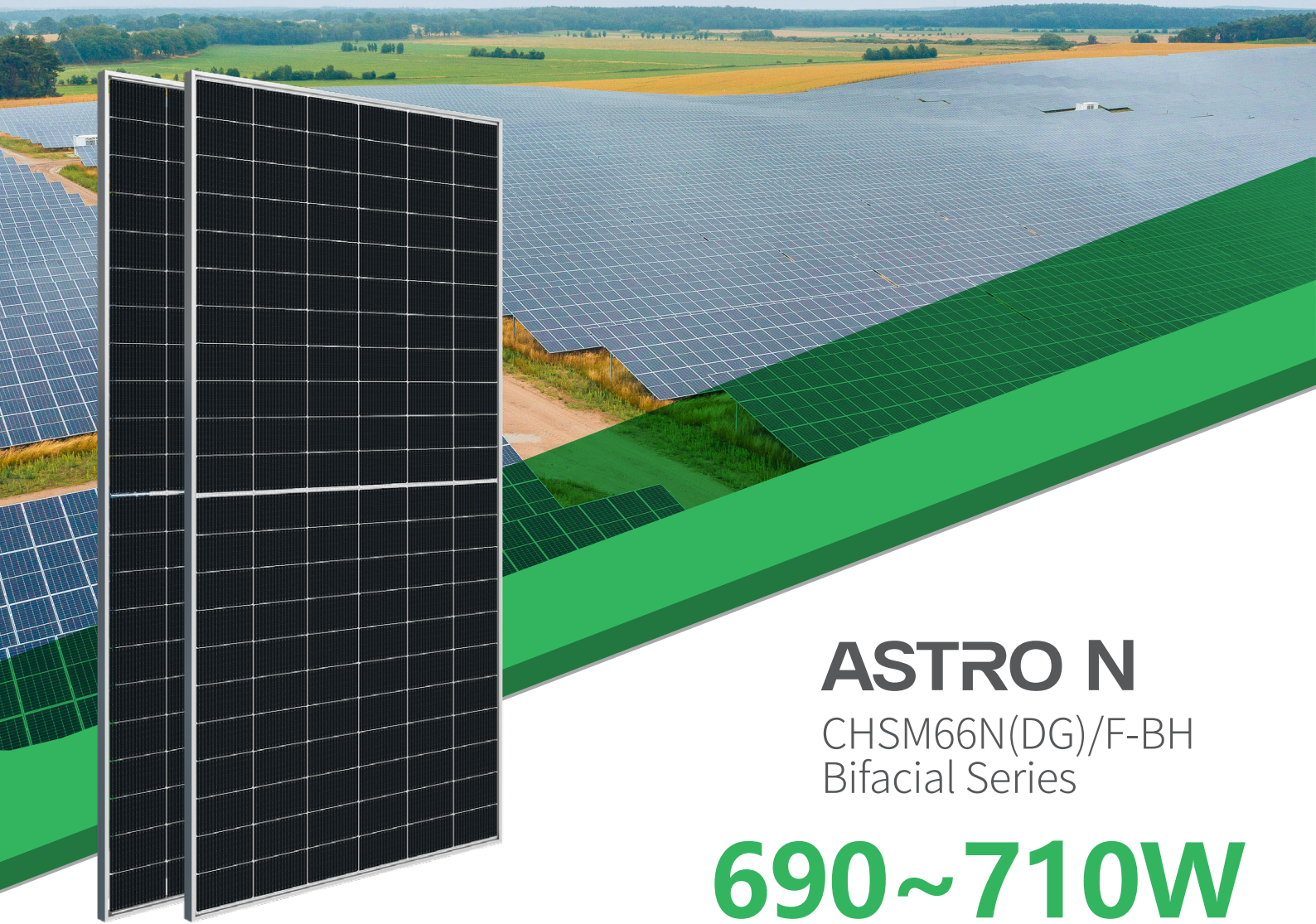




ASTRONERGY



# ASTRO N

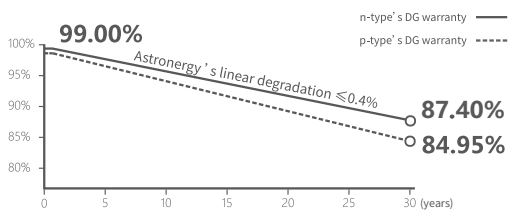
CHSM66N(DG)/F-BH  
Bifacial Series

# 690~710W



## Warranty

**15** 15-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



### High power, high efficiency

210 silicon wafers, improving product power and efficiency



### Bifacial Power Generation

Maximizing bifaciality, boosting backside power output



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



**690~710W**

POWER RANGE

**0~+3%**

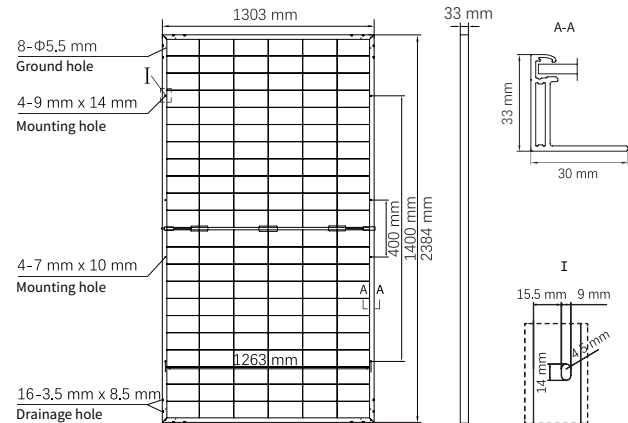
POWER SORTING

**22.9%**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)	2384 x 1303 x 33 mm
Cell type	n-type mono-crystalline
No. of cells	132 (6*22)
Frame technology	Aluminum, silver anodized
Front / Back glass	2.0+2.0 mm
Cable length (Including connector)	Portrait: (+)410 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)	HCB40 (Standard) / MC4-EVO2A (Optional)
Module weight	38 kg
Packing unit	33 pcs / box
Weight of packing unit (for 40'HQ container)	1303 kg
Modules per 40' HQ container	594 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/m<sup>2</sup>, Cell Temperature 25° C, AM=1.5

Rated output (Pmpp / Wp)	690	695	700	705	710
Rated voltage (Vmpp / V)	39.80	40.06	40.30	40.50	40.70
Rated current (Impp / A)	17.34	17.35	17.37	17.41	17.44
Open circuit voltage (Voc / V)	47.70	47.90	48.10	48.30	48.50
Short circuit current (Isc / A)	18.31	18.37	18.42	18.48	18.54
Module efficiency	22.2%	22.4%	22.5%	22.7%	22.9%

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

Rated output (Pmpp / Wp)	545.1	549.1	553.0	557.0	561.0
Rated voltage (Vmpp / V)	37.53	37.78	38.00	38.19	38.38
Rated current (Impp / A)	14.52	14.53	14.55	14.58	14.62
Open circuit voltage (Voc / V)	44.98	45.17	45.36	45.55	45.74
Short circuit current (Isc / A)	14.83	14.88	14.92	14.97	15.02

## Electrical Specifications (Integrated power)

Pmpp gain	Pmpp / Wp	Vmpp / V	Impp / A	Voc / V	Isc / A
5%	735	40.30	18.24	48.10	19.34
10%	770	40.30	19.11	48.10	20.26
15%	805	40.30	19.98	48.10	21.18
20%	840	40.30	20.84	48.10	22.10
25%	875	40.30	21.71	48.10	23.03

Electrical characteristics with different rear power gain (reference to 700W)

## Temperature Ratings (STC)

## Operating Parameters

Temperature coefficient (Pmpp)	-0.29%/°C	No. of diodes	3
Temperature coefficient (Isc)	+0.043%/°C	Junction box IP rating	IP 68
Temperature coefficient (Voc)	-0.25%/°C	Max. series fuse rating	35 A
Nominal module operating temperature (NMOT)	41±2°C	Max. system voltage (IEC/UL)	1500V <sub>DC</sub>

## Curve

