

## Bifacial Double Glass Module (Black Pro)

DAS-DH108NA



# 420W~445W

## Key Features



### High Efficiency

Leading module efficiency in industry, up to 22.8%



### Excellent Appearance and Performance

Bifacial solar cell, symmetrical design, low risk of micro-crack



### High Reliability

Passed 3\*IEC standard test, 15 years materials warranty, 30 years power warranty



### Excellent Rear Side Power Generation

Bifaciality is up to 80%, up to 30% more energy yield than conventional modules



### Better low irradiance performance

Higher power output even under low irradiance environments like on cloudy or foggy days



### Extensive Application Scenes

More extensive application scenes, such as BIPV, snow field, vertical installation, high humidity, strong wind and desert region

Maximum Power Output	Maximum Module Efficiency	Power Output Tolerance
445W	22.8%	0~+5W

## Product and Quality Certifications

IEC 61215, IEC 61730

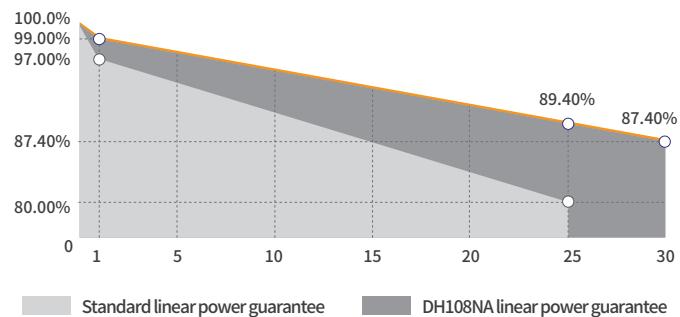
ISO 9001: Quality Management System

ISO 14001: Environment Management System

ISO 45001: Occupational Health and Safety Management System

IEC 62716, IEC 61701: Ammonia, Salt mist corrosion test

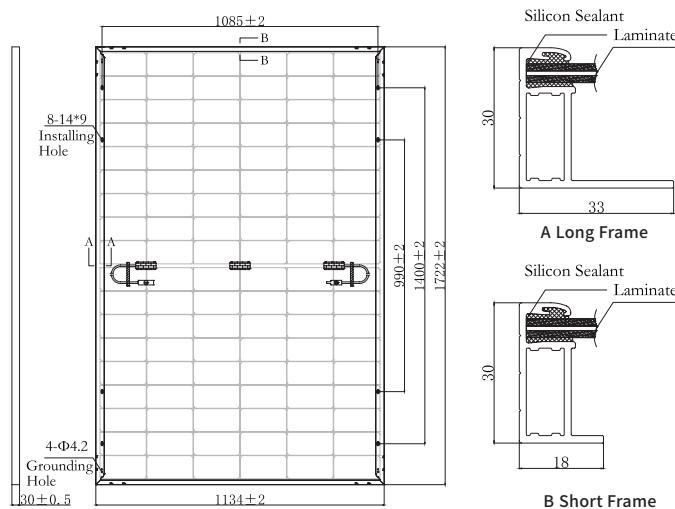
IEC TS 62804-1, IEC 60068-2-68: PID test, Dust and Sand test



## Leading product and power warranty

-1.00% 1st-year Degradation -0.40% Annual Degradation 15 Years materials and workmanship warranty 30 Years linear power warranty

## Engineering Drawing (mm)



## Electrical Parameters (STC \*)

Nominal Max. Power(Pmax/W)	420	425	430	435	440	445
Open Circuit Voltage(Voc/V)	38.48	38.54	38.60	38.72	38.88	39.12
Short Circuit Current(Isc/A)	13.78	13.79	13.80	13.89	13.98	14.03
Operating Voltage(Vmp/V)	32.02	32.35	32.68	33.01	33.26	33.51
Operating Current(Imp/A)	13.12	13.14	13.16	13.18	13.23	13.28
Efficiency(%)	21.5	21.8	22.0	22.3	22.5	22.8

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

Test condition is based on the front side

## Electrical Parameters (NMOT \*)

Nominal Max. Power(Pmax/W)	319	323	326	330	334	338
Open Circuit Voltage(Voc/V)	36.84	36.90	36.96	37.07	37.23	37.46
Short Circuit Current(Isc/A)	11.11	11.12	11.12	11.20	11.27	11.31
Operating Voltage(Vmp/V)	30.15	30.46	30.77	31.08	31.32	31.56
Operating Current(Imp/A)	10.58	10.59	10.61	10.62	10.66	10.71

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

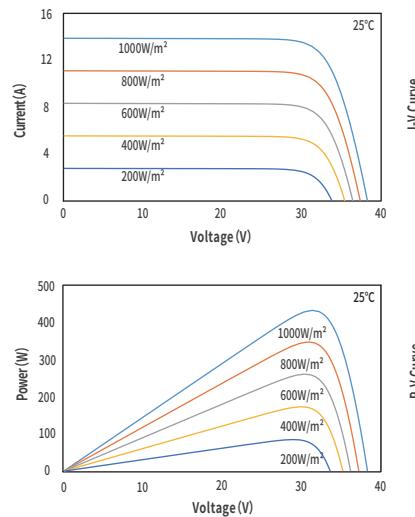
Wind Speed = 1 m/s

Test condition is based on the front side

## Backside Power Gain (For 435W)

Power Gain	10%	15%	20%	25%	30%
Nominal Max. Power(Pmax/W)	478.5	500.3	522.0	543.8	565.5
Open Circuit Voltage(Voc/V)	38.72	38.72	38.82	38.82	38.82
Short Circuit Current(Isc/A)	15.28	15.97	16.67	17.36	18.06
Operating Voltage(Vmp/V)	33.01	33.01	33.11	33.11	33.11
Operating Current(Imp/A)	14.50	15.15	15.77	16.42	17.08

## Characteristic Curves(435W)



## Mechanical Parameters

Cell Type	N Type
Module Size	1722×1134×30mm
Glass Thickness	1.6mm + 1.6mm
Module Weight	20.5Kg
Output Cable	4mm <sup>2</sup> , cable length 1200mm (can be customized)
Connector	Original MC4 Series
Junction Box	IP68, 3 bypass diodes
Frame	Anodized aluminium alloy (Black)

## Temperature Coefficients

Short Circuit Current(Isc)	+0.045%/°C
Open Circuit Voltage(Voc)	-0.250%/°C
Nominal Max. Power(Pmax)	-0.300%/°C
NMOT	42±2°C

## Operating Parameters

Max. System Voltage	DC1500V
Power Tolerance	0 ~ +5 W
Operating Temperature	-40°C ~ +85°C
Max. Fuse Rated Current	30A
Static Load	Front 5400Pa, Back 2400Pa
Packing Data	36 pcs/Pallet; 216(20GP); 936(40HQ)