



Bifacial Double Glass Module

DAS-DH156NA-640

DAS-DH156NA-645

DAS-DH156NA-650

Key Features



High Efficiency

Leading module efficiency in industry, up to 23.3%



Excellent Appearance and Performance

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



High Reliability

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 snow field, vertical installation, high humidity, strong wind and desert region

Maximum
Power Output

650W

Maximum
Module Efficiency

23.3%

Power Output
Tolerance

0~+5W

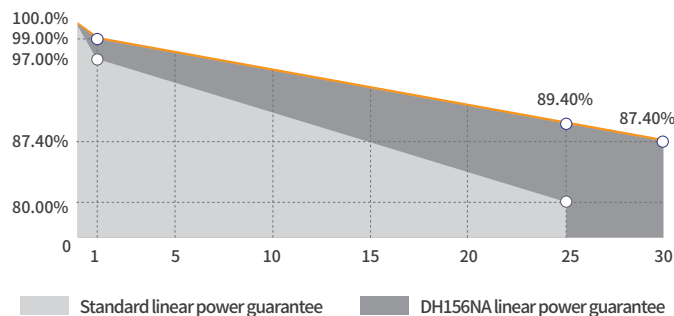
Product and Quality Certifications

IEC 61215, IEC 61730

ISO 9001: Quality Management System

ISO 14001: Environment Management System

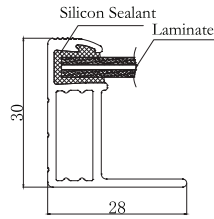
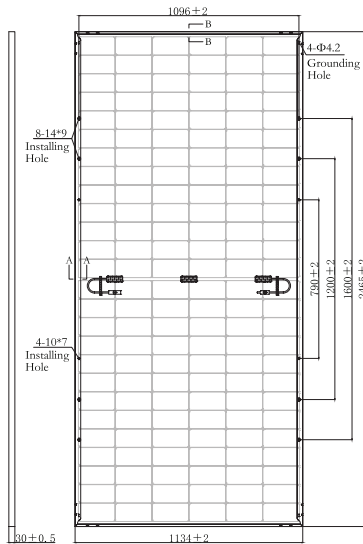
ISO 45001: Occupational Health and Safety Management System



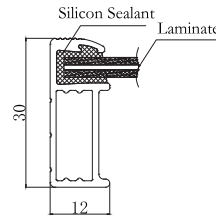
Leading Product and Power Warranty

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

Engineering Drawing (MM)

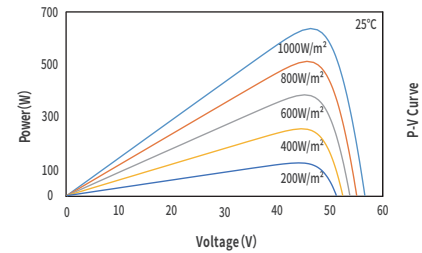
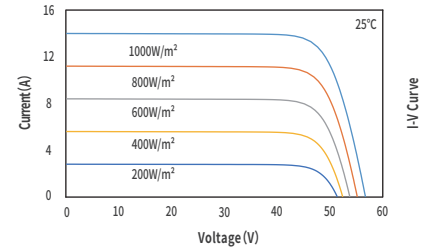


A Long Frame



B Short Frame

Characteristic Curves(640W)



Electrical Parameters (STC *)

Nominal Max. Power(Pmax/W) ±3%	640	645	650
Open Circuit Voltage(Voc/V) ±3%	56.18	56.36	56.55
Short Circuit Current(Isc/A) ±5%	14.48	14.53	14.59
Operating Voltage(Vmp/V)	46.59	46.78	46.97
Operating Current(Imp/A)	13.74	13.79	13.84
Efficiency(%)	22.9	23.1	23.3
Isc-BSI	17.89±5%	17.95±5%	18.03±5%

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

Test condition is based on the front side

Mechanical Parameters

Cell Type	N Type
Module Size	2465×1134×30mm
Glass Thickness	2.0mm + 2.0mm
Module Weight	34.3Kg
Output Cable	4mm², cable length +400mm/-200mm (can be customized)
Connector	See note
Junction Box	IP68, 3 bypass diodes
Frame	Anodized aluminium alloy

Connector*: 1.PV-DA01M2-XY / PV-DA02M2-XY (DAS Solar) 2.PV-ZH202B (Zhejiang Zhonghuan)
3.PV-KST4-EVO2/xy_UR,PV-KBT4-EVO2/xy_UR (Staubli)
4.PV-KST4-EVO2A/xy,PV-KBT4-EVO2A/xy (Staubli)
5.PV-JK03M2/xy (Plug+Socket) (Jinko)

Electrical Parameters (NMOT *)

Nominal Max. Power(Pmax/W) ±3%	486	490	493
Open Circuit Voltage(Voc/V) ±3%	53.79	53.96	54.15
Short Circuit Current(Isc/A) ±5%	11.67	11.71	11.76
Operating Voltage(Vmp/V)	43.87	44.05	44.23
Operating Current(Imp/A)	11.08	11.12	11.16

NMOT *: Irradiance = 800 W/m², Ambient Temperature = 20°C, AM = 1.5,

Wind Speed = 1 m/s

Test condition is based on the front side

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

Electrical Parameters (BNPI *)

Nominal Max. Power(Pmax/W) ±3%	700	705	710
Open Circuit Voltage(Voc/V) ±3%	56.18	56.36	56.55
Short Circuit Current(Isc/A) ±5%	16.01	16.07	16.14
Operating Voltage(Vmp/V)	46.59	46.78	46.97
Operating Current(Imp/A)	15.20	15.26	15.31

BNPI *: front irradiance=1000W/m², rear irradiance=135W/m²,

Cell Temperature = 25°C, AM = 1.5

Pmax bifaciality coefficient 80±5%, Voc bifaciality coefficient 95±5%

Isc bifaciality coefficient 80±5%

Operating Parameters

Max. System Voltage	DC1500V
Power Measurement Tolerance	±3%
Module [T98] max[°C]	70
Max. Fuse Rated Current	30A
Fire Safety Class	Class C
Test Load	Front 5400Pa, Back 2400Pa
Packing Data	36 pcs/Pallet; 144(20GP); 576(40HQ)