

GIWA 5

Bifacial HJT Solar Module (Half-cut)

455-475W



Higher Power Output

The output power is as high as 475W
Bifaciality is up to 90%
Provide up to 25% extra power from rear side



Less Power Loss

Unique half-cut cell technology reduces power loss
Anti-PID & LID



Ideal Choice for Rooftop Solution

Higher PV system power generation
Better low light performance



Enhanced Safety Level

IP68 water resistance
Long-term weather endurance

2x **45**
CELLS

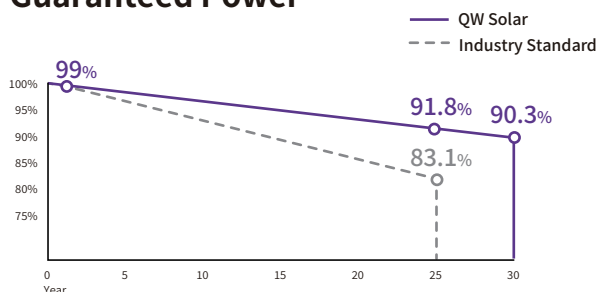


5.0%

Excellent Linear Power Warranty

Average annual degradation below 0.3% from 2nd year to 30th year.
At least 5% higher power output than P-type module after 25 years.

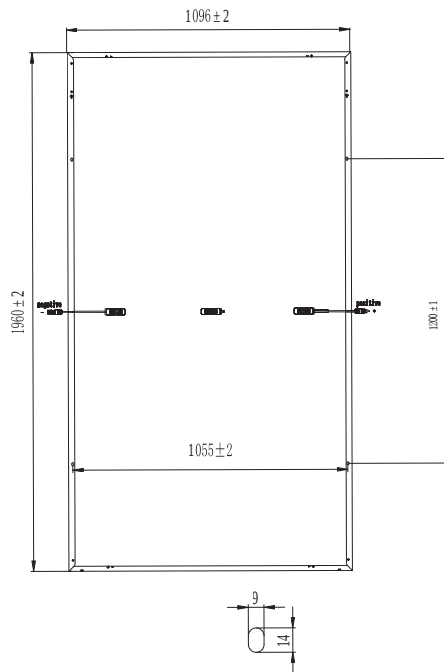
Guaranteed Power



25 years Product Warranty | 30 years Linear Performance Warranty



TECHNICAL DRAWINGS



ELECTRICAL CHARACTERISTICS

Model/QWBDN90-	455W	460W	465W	470W	475W
Testing Condition: STC Maximum Power (Pmax/W)	455	460	465	470	475
Operating Voltage (Vmpp/V)	28.38	28.64	28.89	29.15	29.40
Operating Current (Impp/A)	16.03	16.06	16.09	16.12	16.15
Open-Circuit Voltage (Voc/V)	33.48	33.68	33.88	34.08	34.28
Short-Circuit Current (Isc/A)	17.02	17.07	17.12	17.17	17.22
Module Efficiency (%)	21.18	21.41	21.65	21.88	22.11

STC: Irradiance 1000W/m², Spectra at AM1.5, Cell Temperature 25°C.
Power Output Tolerance: 0~+5W, Test Uncertainty for Pmax: ±3%

REAR SIDE POWER GAIN(REFERENCE TO 465W FRONT)

Pmax Gain	5%	10%	15%	20%	25%
Pmax/W	488.25	511.5	534.75	558	581.25
Vmpp/V	29.04	29.06	29.06	29.09	29.09
Impp/A	16.92	17.60	18.40	19.18	19.98
Voc/V	33.95	33.95	33.97	33.98	33.98
Isc/A	17.45	17.98	18.75	19.46	20.13

MECHANICAL CHARACTERISTICS

Solar Cell	HJT 210 x 105mm
No. of Cells	90 (2 x 45)
Module Dimensions	1960 x 1096 x 30mm (77.17 x 43.15 x 1.18 inches)
Weight	26.1kg
Front Glass	2.0mm AR Coating Semi-tempered Glass
Back Glass	2.0mm Glazed Semi-tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68, 3 Bypass Diodes
Output Cables	4mm ² , 300mm(+)/300mm(-) or Customized Length
Connectors	MC4

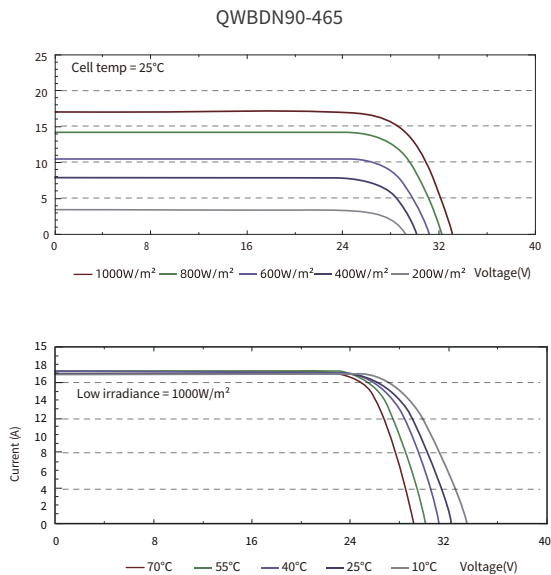
APPLICATION CONDITIONS

Maximun System Voltage	DC1500V
Operating Temperature	-40°C~+85°C
Maximun Series Fuse	30A
Safety Protection Class	Class II
Mechanical Load	Front side 5400Pa, Back side 2400Pa
Refer. Bifaciality Factor	85%±5%

TEMPERATURE CHARACTERISTICS

Temperature Coefficient of Pmax	-0.26%/°C
Temperature Coefficient of Voc	-0.22%/°C
Temperature Coefficient of Isc	+0.047%/°C
Nominal Module Operating Temperature (NOCT)	42±2°C

I-V CURVE



PACKING CONFIGURATION

Type of Shipping	Platform Trailer (17.5m)	Container 40'HC
Pieces/Pallet	36	36
Total Amount	1080	864