

GIWA 2

Mono PERC Solar module (half-cut)

650-670W



Higher Power Output

Advanced manufacturing processes
Maximum module efficiency reaches 21.57%



Less Loss

Innovative non-destructive cutting technology
/reducing the risk of hidden cracks
Promise a higher yield for PV system



Enhanced Safety Level

Passed Fire test Class A
IP68 water resistant for long-term weather endurance



Outstanding Durability

Rarely Affected By Light Induced Degradation
Resistant to harsh environments such as salt mist, sand
and dust, ammonia gas, etc.



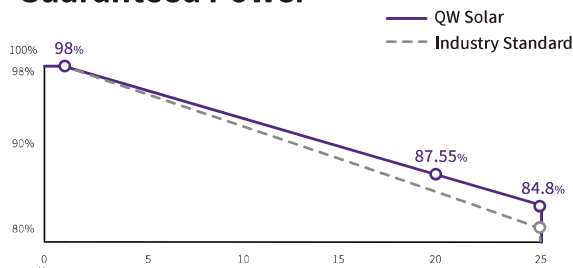
2x66
电池片

0.55%

Excellent Linear Power Warranty

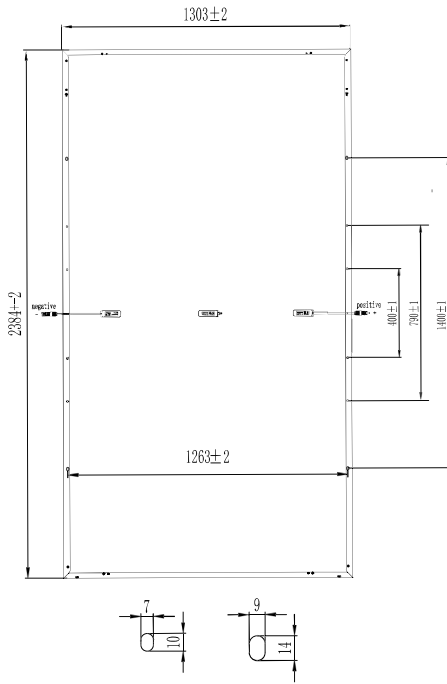
Power degradation within 2-25 years is $\leq 0.55\%$
per year.
Minimum module output power not lower than
84.8% each 25 years.

Guaranteed Power



12 years Product Warranty | **25 years** Linear Performance Warranty

TECHNICAL DRAWINGS



ELECTRICAL CHARACTERISTICS

Model/QWBSM132-	650W	655W	660W	665W	670W
Testing Condition: STC Maximum Power (Pmax/W)	650	655	660	665	670
Operating Voltage (Vmpp/V)	37.91	38.11	38.29	38.49	38.69
Operating Current (Impp/A)	17.15	17.19	17.24	17.28	17.32
Open-Circuit Voltage (Voc/V)	45.00	45.21	45.39	45.59	45.79
Short-Circuit Current (Isc/A)	18.38	18.44	18.47	18.51	18.55
Module Efficiency (%)	20.92	21.09	21.25	21.41	21.57

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

MECHANICAL CHARACTERISTICS

Solar Cell	Mono-Crystalline Silicon 210*105mm
No. of Cells	132(6*22)
Module Dimensions	2384*1303*35mm (93.86*51.3*1.38inches)
Weight	33.7kg
Front Glass	3.2mm AR Coating Tempered Glass
Backsheet	PET、PVF and Other Materials
Frame	Anodized Aluminium Alloy
Junction Box	IP68, 3 Bypass Diodes
Output Cables	4mm ² , 300mm(+)/300mm(-) or Customized Length
Connectors	MC4

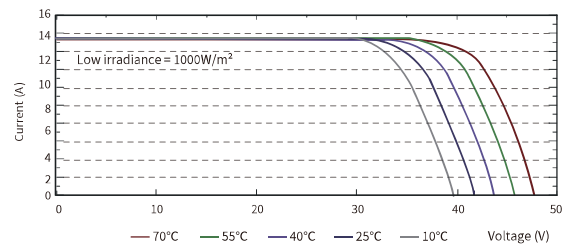
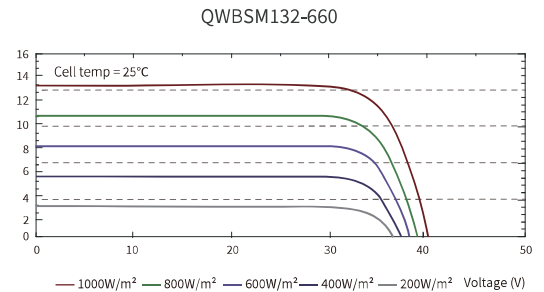
APPLICATION CONDITIONS

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

TEMPERATURE CHARACTERISTICS

Temperature Coefficient of Pmax	-0.34%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	+0.04%/°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	31	31
Total Amount	713	558