



High Power Output
Low LCOE



Maximum Power
515W+



TWMNH

N-type Half-cell
Bifacial Black Frame Module (54)

54HD495-515W

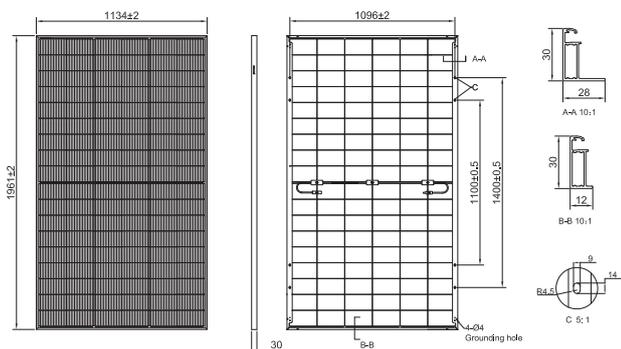


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Drawings (Unit: mm)



Electrical Characteristics (STC)

Module type: TWMNH-54HDXXX

Maximum Power: Pmax [W]	495	500	505	510	515
Open Circuit Voltage: Voc [V]	39.88	40.06	40.24	40.42	40.60
Short Circuit Current: Isc [A]	15.86	15.89	15.92	15.95	15.98
Voltage at Maximum Power: Vmp [V]	33.45	33.70	33.94	34.19	34.43
Current at Maximum Power: Imp [A]	14.80	14.84	14.88	14.92	14.96
Module Efficiency: η [%]	22.3	22.5	22.7	22.9	23.2

* STC: Irradiance 1000W/m², Cell temperature 25°C, AM=1.5, Power measurement tolerance: ±3%

Electrical Characteristics (BNPI)

Maximum Power: Pmax [W]	546.6	552.0	557.6	563.1	568.8
Open Circuit Voltage: Voc [V]	39.88	40.06	40.24	40.42	40.60
Short Circuit Current: Isc [A]	17.51	17.54	17.57	17.61	17.64
Voltage at Maximum Power: Vmp [V]	33.45	33.70	33.94	34.19	34.43
Current at Maximum Power: Imp [A]	16.34	16.38	16.43	16.47	16.52

* BNPI: Front side irradiance 1000W/m², Rear side irradiance 135W/m², Cell Temperature=25°C, AM=1.5 Power measurement tolerance:±3%

Electrical characteristics with different rear side power gain

5%	Maximum Power: Pmax[W]	519	525	530	535	540
	Module Efficiency: η [%]	23.3	23.6	23.8	24.1	24.3
15%	Maximum Power: Pmax[W]	569	575	580	586	592
	Module Efficiency: η [%]	25.6	25.9	26.1	26.4	26.6
25%	Maximum Power: Pmax[W]	618	625	631	637	643
	Module Efficiency: η [%]	27.8	28.1	28.4	28.6	28.9

Temperature Rating

Temperature Coefficient of Pmax	-0.28%/°C
Temperature Coefficient of Voc	-0.24%/°C
Temperature Coefficient of Isc	+0.046%/°C

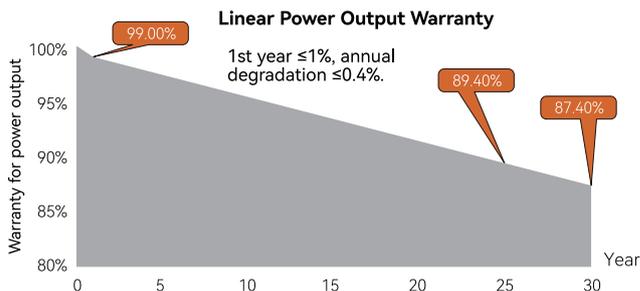
Operating Parameters

Operating Temperature	-40°C~+70°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A
Power Output Tolerance	0~+3%
Bifaciality coefficient of Pmax	80±5%
Bifaciality coefficient of Voc	98±5%
Bifaciality coefficient of Isc	80±5%

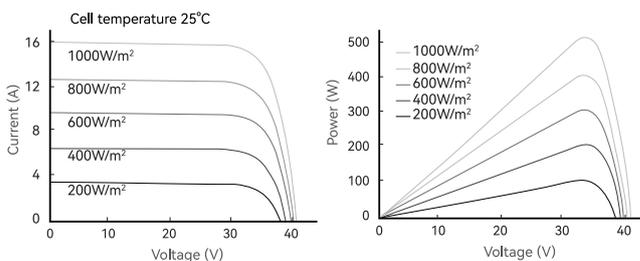
Mechanical Parameters

Cell Type	TNC (N Type Monocrystalline Cell)
Cell Orientation	108[6×18]
Dimensions	1961±2×1134±2×30mm
Weight	26.5kg
Front Glass	2.0mm AR coating semi tempered glass
Rear Glass	2.0mm semi tempered glass
Frame	Anodized aluminum alloy black frame
Junction Box	IP68, 3 diodes
Cable	4.0mm ²
Cable length	+1200mm, -1200mm, length can be customized
Wind/Snow load	2400Pa/5400Pa
Per pallet	36 pcs
Packaging	864 pcs per 40'HC

Linear Warranty



I-V Curve



Certifications

Quality Management System and Product Certification

- ISO 9001: 2015/Quality management systems
- ISO 14001: 2015/Environmental management systems
- ISO 45001: 2018/Occupation health and safety management systems
- ISO 50001: 2018/Energy management systems
- IEC 62941: 2019/Quality system for PV module manufacturing
- IEC 61215(2021) / IEC 61730(2023), IEC 62804(PID), IEC 61701(Salt), IEC 62716 (Ammonia), IEC 60068-2-68(Sand)

