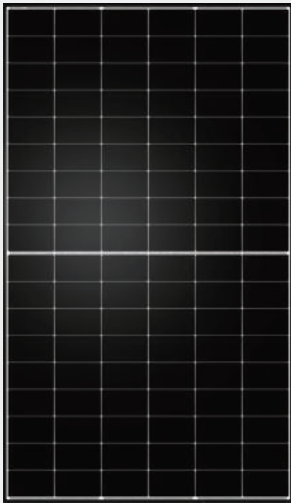


# TNC

## N-type Half-cell Bifacial Dual glass Black Frame and Transparent Module (54) TWMNH-54HD



High light transmittance, suitable for carports and balcony scenarios



Compact size and lightweight, hassle-free operation and low maintenance

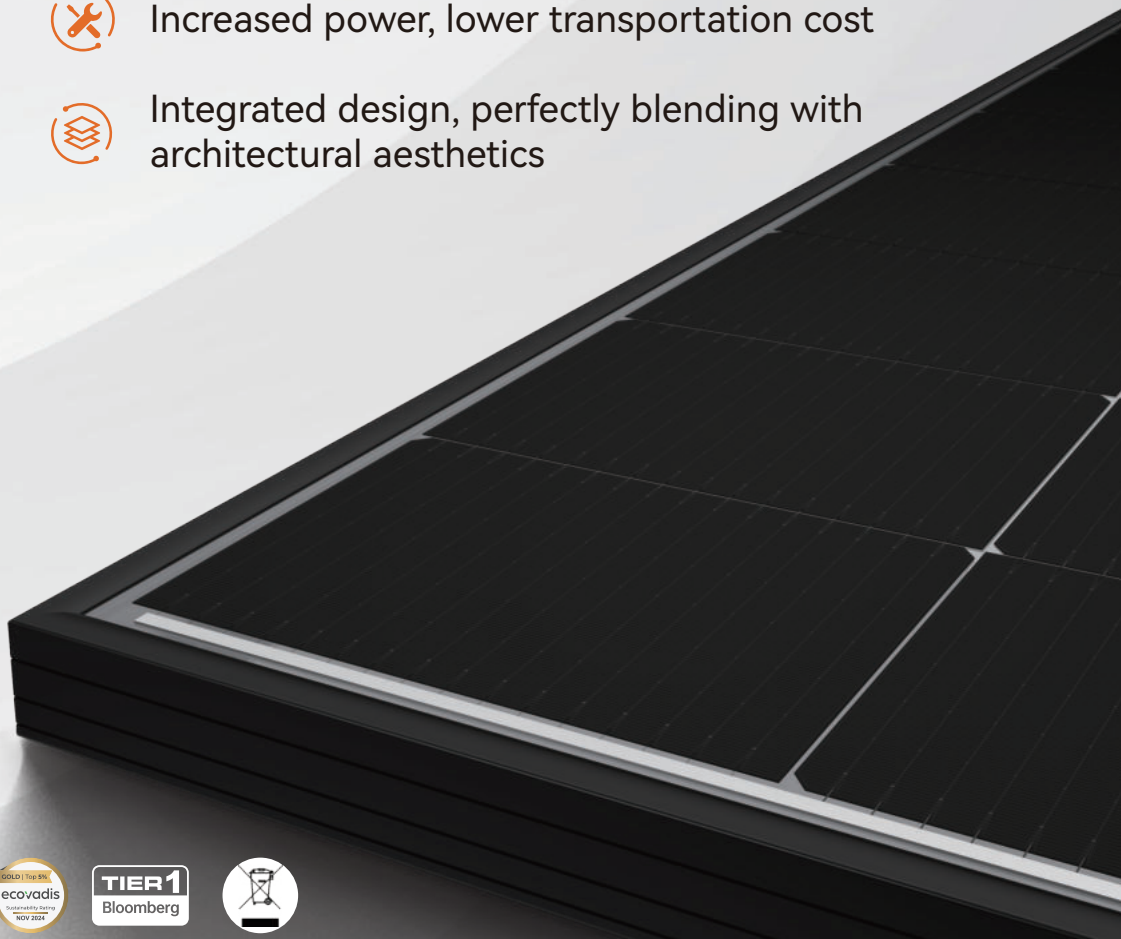


Increased power, lower transportation cost

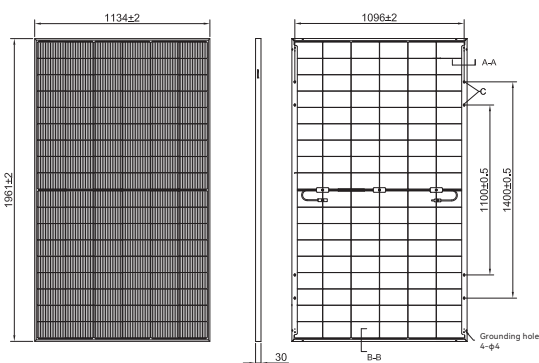


Integrated design, perfectly blending with architectural aesthetics

### 500-520W



## Drawings (Unit: mm)



## Electrical Characteristics (STC)

Module type:	TWMNH-54 HD500	TWMNH-54 HD505	TWMNH-54 HD510	TWMNH-54 HD515	TWMNH-54 HD520
Maximum Power: Pmax [W]	500	505	510	515	520
Open Circuit Voltage: Voc [V]	40.06	40.24	40.42	40.60	40.80
Short Circuit Current: Isc [A]	15.89	15.92	15.95	15.98	16.05
Voltage at Maximum Power: Vmp [V]	33.70	33.94	34.19	34.43	34.67
Current at Maximum Power: Imp [A]	14.84	14.88	14.92	14.96	15.00
Module Efficiency: η [%]	22.48	22.71	22.93	23.16	23.38

\* STC: Irradiance 1000W/m<sup>2</sup>, Cell temperature 25°C, AM=1.5, Power measurement tolerance: ±3%, Voc measurement tolerance: ±5%, Isc measurement tolerance: ±5%

## Electrical Characteristics (BNPI)

Maximum Power: Pmax [W]	552.0	557.6	563.1	568.8	574.1
Open Circuit Voltage: Voc [V]	40.06	40.24	40.42	40.60	40.80
Short Circuit Current: Isc [A]	17.54	17.57	17.61	17.64	17.72
Voltage at Maximum Power: Vmp [V]	33.70	33.94	34.19	34.43	34.67
Current at Maximum Power: Imp [A]	16.38	16.43	16.47	16.52	16.56

\* BNPI: Front side irradiance 1000W/m<sup>2</sup>, Rear side irradiance 135W/m<sup>2</sup>, Cell Temperature=25°C, AM=1.5 Power measurement tolerance: ±3%, Voc measurement tolerance: ±5%, Isc measurement tolerance: ±5%

## Electrical Characteristics (BSI)

Short Circuit Current: Isc [A]	19.56	19.60	19.63	19.67	19.76
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\* BSI: Front side irradiance 1000W/m<sup>2</sup>, Rear side irradiance 300W/m<sup>2</sup>, Cell Temperature=25°C, AM=1.5 Isc measurement tolerance: ±5%

## Electrical characteristics with different rear side power gain

	5%	15%	25%		
Maximum Power: Pmax [W]	525	530	535	540	546
Module Efficiency: η [%]	23.61	23.83	24.06	24.28	24.55
Maximum Power: Pmax [W]	575	580	586	592	598
Module Efficiency: η [%]	25.86	26.08	26.35	26.62	26.89
Maximum Power: Pmax [W]	625	631	637	643	650
Module Efficiency: η [%]	28.11	28.38	28.64	28.91	29.23

## 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

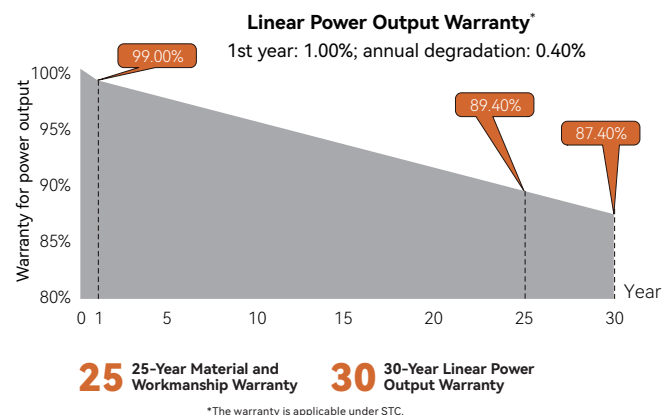
Operating Temperature*	[T <sub>98</sub> ] ≤ 70°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A
Power Output Tolerance	0~+3%
Bifaciality coefficient of Pmax	80±5%
Bifaciality coefficient of Voc	98±5%
Bifaciality coefficient of Isc	80±5%
Fire Class Rating	Class C

\*The module operating temperature can reach up to 85°C for short term.

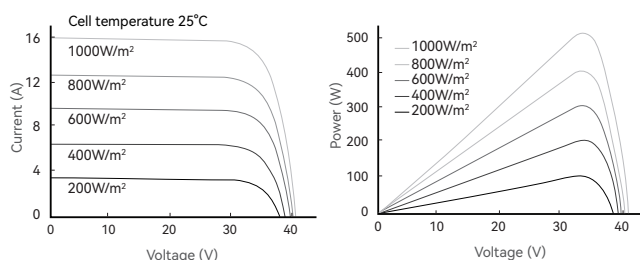
## Mechanical Parameters

Cell Type	TNC
Cell Orientation	108[6×18]
Dimension	1961±2×1134±2×30mm
Weight	27.2 kg
Front Glass	2.0 mm AR coating semi tempered glass
Rear Glass	2.0 mm semi tempered glass
Frame	Anodized aluminum alloy black frame
Junction Box	IP68, 3 diodes
Cable	4.0 mm <sup>2</sup>
Cable Length	+1200mm,-1200mm,length can be customized
Connector	TW-PVCON-01,TW-PVCON-02(Tongwei Solar) PV-KST4-EVO2/xy_UR, PV-KBT4-EVO2/xy_UR(Staubli) PV-KST4-EVO2A/xy, PV-KBT4-EVO2A/xy(Staubli) PV-ZH202B(Zhejiang Zhonghuan Sunter)
Maximum Static Test Load	5400Pa (positive) / 2400Pa (negative)
Packaging (Per pallet)	36 pcs
Packaging	936 pcs per 40'HC

## Warranty



## Curve



## Certifications

### Quality Management System and Product Certification

ISO 9001: 2015 / Quality Management System  
 ISO 14001: 2015 / Environmental Management System  
 ISO 45001: 2018 / Occupational Health and Safety Management System  
 ISO 50001: 2018 / Energy Management System  
 IEC 62941: 2019 / Quality System for PV Module Manufacturing  
 IEC 61215 (2021) / IEC 61730 (2023), IEC TS 62804,  
 IEC 61701, IEC 62716, IEC 60068-2-68



Scan the code for more information