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TW SOLAR

TNC 2.0

N-type Half-cell Bifacial Dual glass Black Frame and Transparent Module (48)

TWMNH-48HD

- 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

470-480W

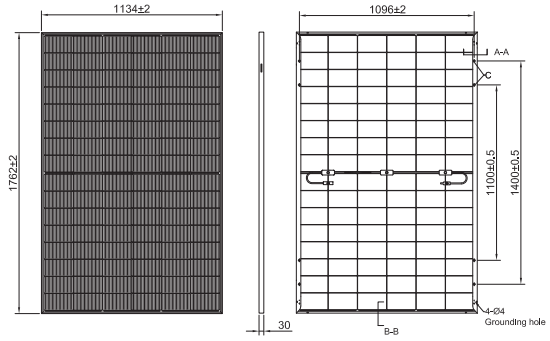
Carport Roof | Balcony

TUV NORD Type Tested | Certisolis Carbon Footprint | CE | ecovadis Gold Top 5% Sustainability Rating Nov 2024 | TIER 1 Bloomberg

* The images shown above are for reference only. The actual product delivered shall prevail.

TWMNH N-type Half-cell Bifacial Dual glass Black Frame and Transparent Module (48)

Drawings (Unit: mm)



Electrical Characteristics (STC)

Module type:	TWMNH-48 HD470	TWMNH-48 HD475	TWMNH-48 HD480
Maximum Power: Pmax [W]	470	475	480
Open Circuit Voltage: Voc [V]	36.50	36.65	36.70
Short Circuit Current: Isc [A]	16.20	16.28	16.33
Voltage at Maximum Power: Vmp [V]	30.13	31.32	31.38
Current at Maximum Power: Imp [A]	15.10	15.17	15.30
Module Efficiency: η [%]	23.52	23.77	24.02

* STC: Irradiance 1000W/m², Cell temperature 25℃, AM=1.5, Power measurement tolerance: ±3%, Voc measurement tolerance: ±5%,Isc measurement tolerance: ±5%

Electrical Characteristics (BNPI)

Maximum Power: Pmax [W]	518.9	524.6	530.0
Open Circuit Voltage: Voc [V]	36.50	36.65	36.70
Short Circuit Current: Isc [A]	17.88	17.97	18.03
Voltage at Maximum Power: Vmp [V]	31.13	31.32	31.38
Current at Maximum Power: Imp [A]	16.67	16.75	16.89

* BNPI: Front side irradiance 1000W/m², Rear side irradiance 135W/m², Cell Temperature=25℃, AM=1.5
Power measurement tolerance:±3%,Voc measurement tolerance: ±5%,Isc measurement tolerance: ±5%

Electrical Characteristics (BSI)

Short Circuit Current: Isc [A]	19.94	20.04	20.10

* BSI: Front side irradiance 1000W/m², Rear side irradiance 300W/m²,Cell Temperature=25℃, AM=1.5
Isc measurement tolerance: ±5%

Electrical characteristics with different rear side power gain

5%	Maximum Power: Pmax[W]	493	498	504
	Module Efficiency: η [%]	24.67	24.92	25.22
15%	Maximum Power: Pmax[W]	540	546	552
	Module Efficiency: η [%]	27.03	27.33	27.63
25%	Maximum Power: Pmax[W]	587	593	600
	Module Efficiency: η [%]	29.38	29.68	30.03

Temperature Rating

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

Operating Parameters

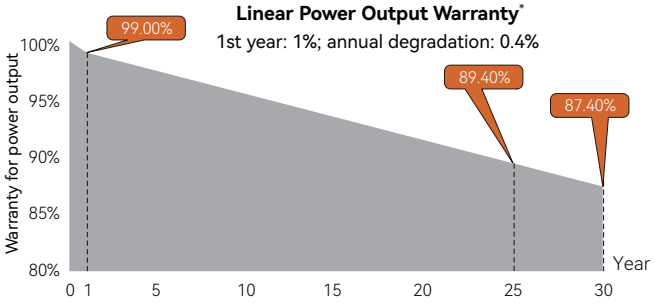
Operating Temperature*	[T_{98}]≤70℃
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A
Power Output Tolerance	-5W~+10W
Bifaciality coefficient of Pmax	80±10%
Bifaciality coefficient of Voc	98±5%
Bifaciality coefficient of Isc	80±10%
Fire Class Rating	Class C

*The module operating temperature can reach up to 85℃ for short term.

Mechanical Parameters

Cell Type	TNC
Cell Orientation	96[6×16]
Dimension	1762±2×1134±2×30mm
Weight	22.8 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 mm²
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

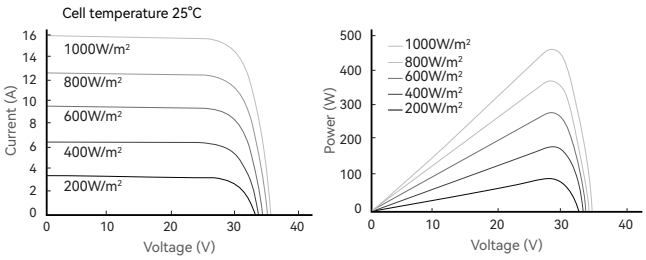


25 25-Year Material and Workmanship Warranty

30 30-Year Linear Power Output Warranty

*The warranty is applicable under STC.

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 60068-2-68

Scan the code for more information

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