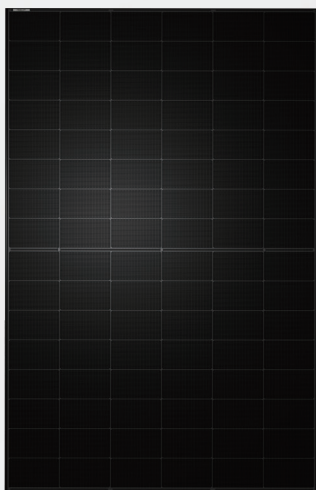


TNC^{2.0}

N-type Half-cell Monofacial Dual Glass Full-black Module (48)

TWMNH-48HE



Higher power output, higher conversion efficiency



Passed hail resistance test for higher reliability



Compact size and lightweight, making installation easier

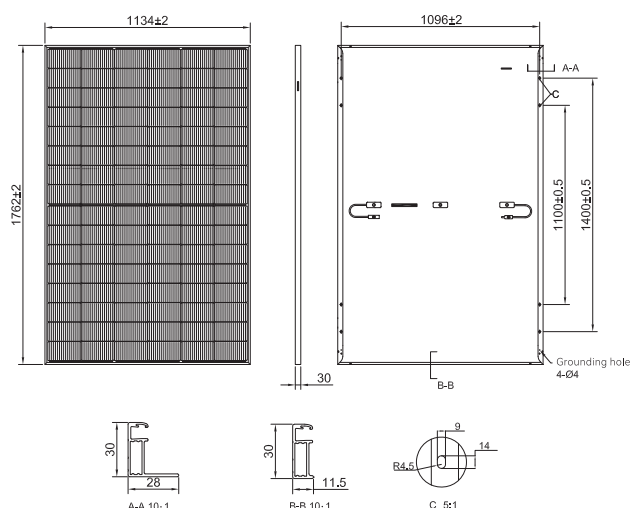


Aesthetic glass with a deep and versatile design, perfectly blending with rooftops

450-470W



Drawing (Unit: mm)



Electrical Characteristics (STC)

Module type: TWMNH-48HEXXX

Maximum Power: Pmax [W]	450	455	460	465	470
Open Circuit Voltage: Voc [V]	35.95	36.10	36.25	36.40	36.55
Short Circuit Current: Isc [A]	15.81	15.85	15.89	15.92	15.95
Voltage at Maximum Power: Vmp [V]	29.81	30.06	30.31	30.56	30.80
Current at Maximum Power: Imp [A]	15.10	15.14	15.18	15.22	15.26
Module Efficiency: η [%]	22.5	22.8	23.0	23.3	23.5

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

Temperature Rating

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

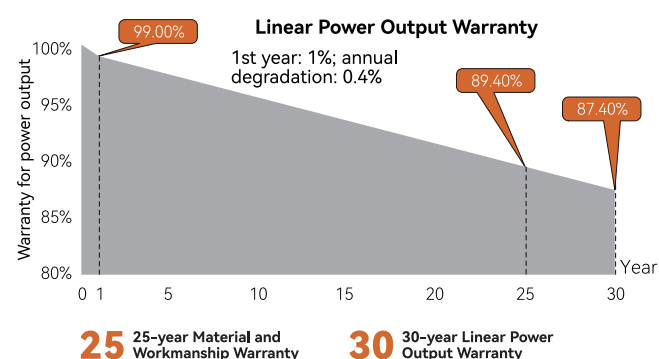
Operating Parameters

Operating Temperature	-40°C~+70°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A
Power Output Tolerance	0~+3%

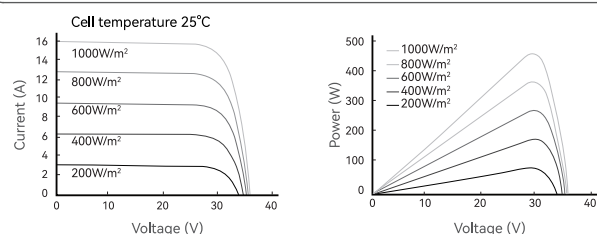
Mechanical Parameters

Cell Type	TNC
Cell Orientation	96[6×16]
Dimensions	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 mm ²
Cable length	+1200mm,-1200mm,length can be customized
Wind/Snow load	2400Pa/5400Pa
Per pallet	36 pcs
Packaging	936 pcs per 40'HC

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)



Scan the code for more information