



High Power Output  
Low LCOE



Maximum Power  
440W+



# TWMND

N-type Half-cell  
Monofacial Full-black Module (54)

## 54HB420-440W

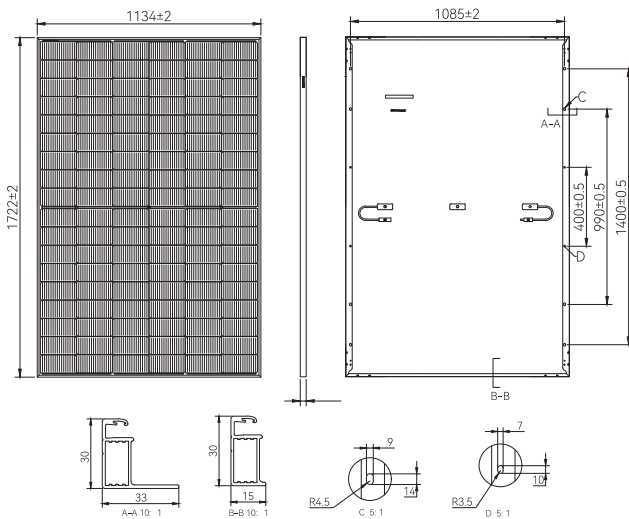


Tongwei Co.,Ltd.  
<https://en.tongwei.cn/>



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**DRAWINGS (Unit: mm)**



**ELECTRICAL CHARACTERISTICS (STC)**

Module Type:	TWMND-54 HB420	TWMND-54 HB425	TWMND-54 HB430	TWMND-54 HB435	TWMND-54 HB440
Maximum Power: Pmax [W]	420	425	430	435	440
Open Circuit Voltage: Voc [V]	38.85	39.00	39.15	39.30	39.45
Short Circuit Current: Isc [A]	13.57	13.62	13.67	13.72	13.77
Voltage at Maximum Power: Vmp [V]	32.92	33.09	33.26	33.43	33.60
Current at Maximum Power: Imp [A]	12.76	12.85	12.93	13.01	13.10
Module Efficiency: η [%]	21.5	21.8	22.0	22.3	22.5

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

**ELECTRICAL CHARACTERISTICS (NMOT)**

Maximum Power: Pmax [W]	316.0	320.0	324.0	327.8	331.8
Open Circuit Voltage: Voc [V]	36.89	37.04	37.19	37.33	37.47
Short Circuit Current: Isc [A]	10.90	10.96	11.02	11.06	11.10
Voltage at Maximum Power: Vmp [V]	30.64	30.81	30.98	31.14	31.30
Current at Maximum Power: Imp [A]	10.31	10.39	10.46	10.52	10.60

\* NMOT: Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM=1.5, Wind Speed 1m/s

**TEMPERATURE RATING**

Temperature Coefficient (Pmax)	-0.28%/°C
Temperature Coefficient (Voc)	-0.24%/°C
Temperature Coefficient (Isc)	+0.046%/°C
NMOT	45±2°C

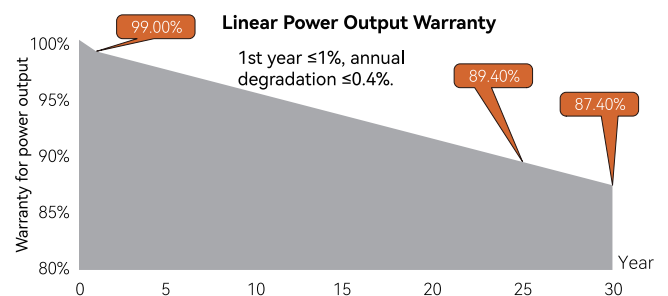
**OPERATING PARAMETERS**

Operating Temperature	-40°C~+70°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	25A
Power Selection Tolerance	0~+3%
Fire Class Rating	Class C

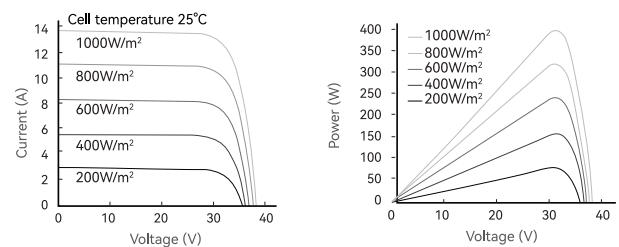
**MECHANICAL PARAMETERS**

Cell Type	TNC (N Type Monocrystalline Cell)
Cell Orientation	108[6×18]
Dimensions	1722±2×1134±2×30mm
Weight	20.5kg
Front Glass	3.2mm AR coated heat strengthened glass
Backsheet	Black inside and white outside / Full black
Frame	Anodized aluminum alloy black frame
Junction Box	IP68, 3 diodes
Cable	4.0mm <sup>2</sup>
Cable length	+1200mm, -1200mm, length can be customized
Connector	TW-PVCON-01(Tongwei Solar) PV-KST4-EVO2A/xy_UR, PV-KBT4-EVO2A/xy_UR(Stäubli) PV-KST4-EVO2A/xy, PV-KBT4-EVO2A/xy(Stäubli) PV-ZH202B(Zhonghuan), PV-JK03M2/xy(Jinko)
Wind/Snow load	2400Pa/5400Pa
Per pallet	36pcs
Packaging	936pcs 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 / Occupational 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)

