



High Power Output  
Low LCOE



Maximum Power  
445W+



# TWMND

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

## 54HS425-445W



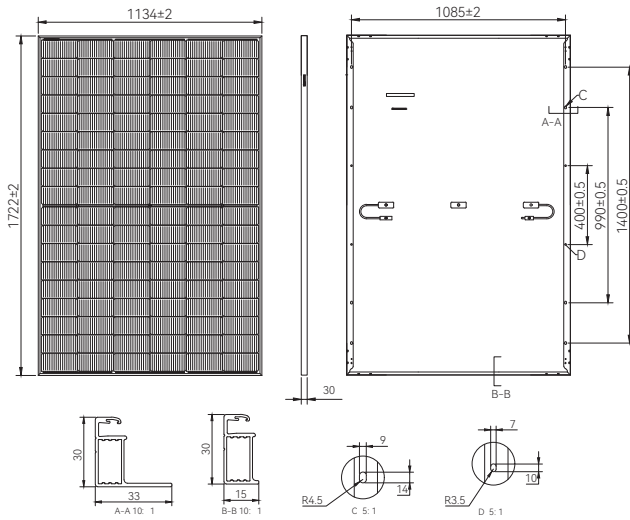
Tongwei Co.,Ltd.  
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**DRAWINGS (Unit: mm)**



**ELECTRICAL CHARACTERISTICS (STC)**

Module Type:	TWMND-54 HS425	TWMND-54 HS430	TWMND-54 HS435	TWMND-54 HS440	TWMND-54 HS445
Maximum Power: Pmax [W]	425	430	435	440	445
Open Circuit Voltage: Voc [V]	39.00	39.15	39.30	39.45	39.85
Short Circuit Current: Isc [A]	13.62	13.67	13.72	13.77	14.00
Voltage at Maximum Power: Vmp [V]	33.09	33.26	33.43	33.60	33.75
Current at Maximum Power: Imp [A]	12.85	12.93	13.01	13.10	13.19
Module Efficiency: η [%]	21.8	22.0	22.3	22.5	22.8

\* 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]	320.0	324.0	327.8	331.8	335.3
Open Circuit Voltage: Voc [V]	37.04	37.19	37.33	37.47	37.85
Short Circuit Current: Isc [A]	10.96	11.02	11.06	11.10	11.29
Voltage at Maximum Power: Vmp [V]	30.81	30.98	31.14	31.30	31.44
Current at Maximum Power: Imp [A]	10.39	10.46	10.52	10.60	10.67

\* 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

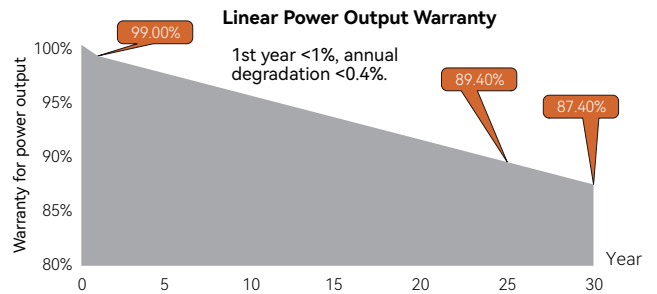
**OPERATING PARAMETERS**

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

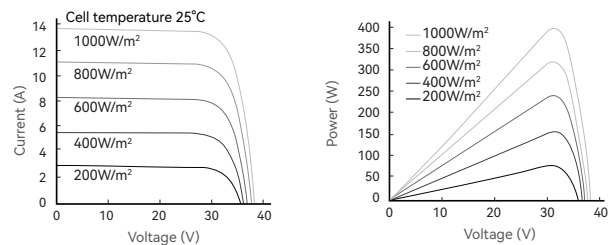
**MECHANICAL PARAMETERS**

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	White
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-EVO2/xy_UR, PV-KBT4-EVO2/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 system
- ISO 14001: 2015 / Environmental management system
- ISO 45001: 2018 / Occupation health safety management system
- ISO 50001: 2018 / Energy management system
- IEC 62941: 2019 / Quality system for PV module manufacturing
- IEC 61215(2021) / IEC 61730(2023)

