



# TWMND

N-type Half-cell  
Bifacial Module (78)

## 78HD625-645W

High Power Output  
Low LCOE



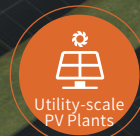
Maximum Power  
645W+



<https://en.tongwei.cn/>



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**12**  
YEAR  
Materials  
Warranty

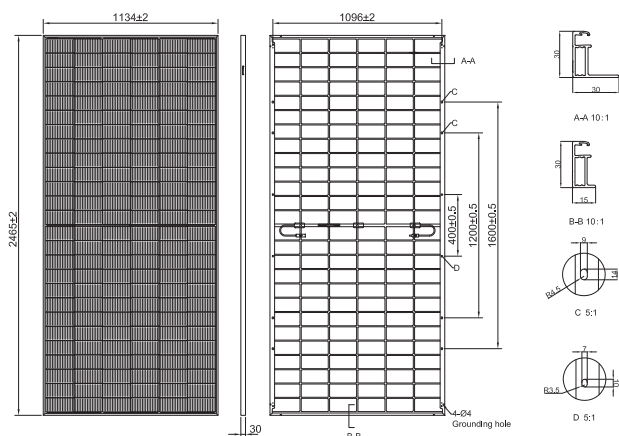


**30**  
YEAR  
Power  
Warranty



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## Drawings (Unit: mm)



## Mechanical Parameters

|                  |                                                     |
|------------------|-----------------------------------------------------|
| Cell Type        | TNC (N Type Monocrystalline Cell)                   |
| Cell Orientation | 156[6×26]                                           |
| Dimensions       | 2465±2×1134±2×30mm                                  |
| Weight           | 33.8kg                                              |
| Front Glass      | 2.0mm AR coating semi tempered glass                |
| Rear Glass       | 2.0mm semi tempered glass                           |
| Frame            | Anodized aluminum alloy frame                       |
| Junction Box     | IP68, 3 diodes                                      |
| Cable            | 4.0mm <sup>2</sup>                                  |
| Cable length     | +400mm, -200mm or ±1400mm, length can be customized |
| Wind/Snow load   | 2400Pa/5400Pa                                       |
| Per pallet       | 36 pcs                                              |
| Packaging        | 576 pcs per 40'HC                                   |

## Electrical Characteristics (STC)

Module type: TWMND-78HDXXX

|                                               |       |       |       |       |       |
|-----------------------------------------------|-------|-------|-------|-------|-------|
| Maximum Power: P <sub>max</sub> [W]           | 625   | 630   | 635   | 640   | 645   |
| Open Circuit Voltage: V <sub>oc</sub> [V]     | 56.80 | 57.00 | 57.20 | 57.40 | 57.60 |
| Short Circuit Current: I <sub>sc</sub> [A]    | 13.74 | 13.78 | 13.82 | 13.86 | 14.05 |
| Voltage at Maximum Power: V <sub>mp</sub> [V] | 47.71 | 47.88 | 48.05 | 48.22 | 48.36 |
| Current at Maximum Power: I <sub>mp</sub> [A] | 13.10 | 13.16 | 13.22 | 13.28 | 13.34 |
| Module Efficiency: η [%]                      | 22.4  | 22.5  | 22.7  | 22.9  | 23.1  |

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

## Electrical characteristics with different rear side power gain

|     |                                     |       |       |       |       |       |
|-----|-------------------------------------|-------|-------|-------|-------|-------|
| 5%  | Maximum Power: P <sub>max</sub> [W] | 656.3 | 661.5 | 666.8 | 672.0 | 677.3 |
|     | Module Efficiency: η [%]            | 23.5  | 23.7  | 23.9  | 24.0  | 24.2  |
| 15% | Maximum Power: P <sub>max</sub> [W] | 718.8 | 724.5 | 730.3 | 736.0 | 741.8 |
|     | Module Efficiency: η [%]            | 25.7  | 25.9  | 26.1  | 26.3  | 26.5  |
| 25% | Maximum Power: P <sub>max</sub> [W] | 781.3 | 787.5 | 793.8 | 800.0 | 806.3 |
|     | Module Efficiency: η [%]            | 27.9  | 28.2  | 28.4  | 28.6  | 28.8  |

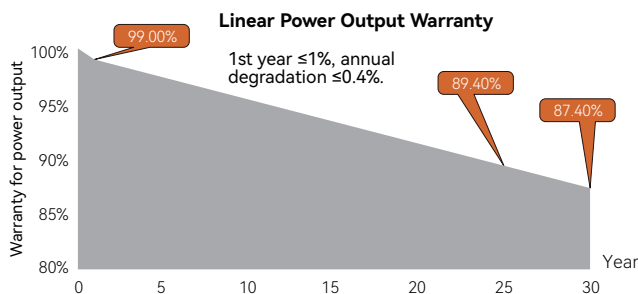
## Temperature Rating

|                                             |            |
|---------------------------------------------|------------|
| Temperature Coefficient of P <sub>max</sub> | -0.28%/°C  |
| Temperature Coefficient of V <sub>oc</sub>  | -0.24%/°C  |
| Temperature Coefficient of I <sub>sc</sub>  | +0.046%/°C |

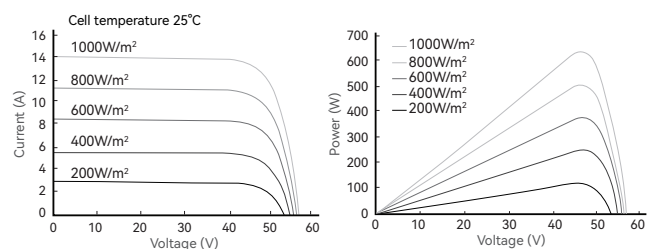
## Operating Parameters

|                            |             |
|----------------------------|-------------|
| Operating Temperature      | -40°C~+85°C |
| Maximum System Voltage     | 1500V DC    |
| Maximum Series Fuse Rating | 30A         |
| Power Output Tolerance     | 0~+3%       |
| Bifaciality                | 80±5%       |

## Linear 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 / IEC 61730, IEC 62804(PID),  
 IEC 61701(Salt), IEC 62716 (Ammonia), IEC 60068-2-68(Sand)

