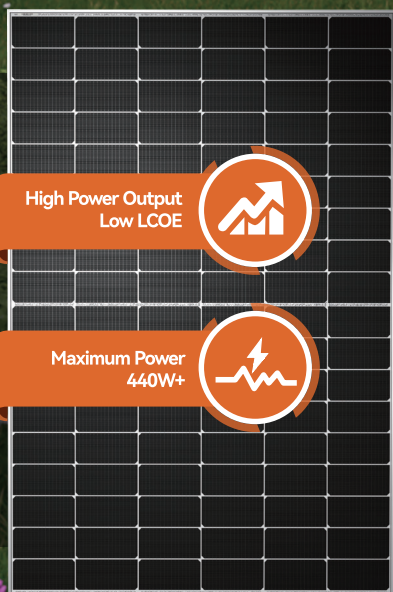




# TWMND

N-type Half-cell  
Monofacial Module (54)

## 54HS420-440W



[www.tw-solar.com](http://www.tw-solar.com)



Learn More



---

## Ihr Online-Fachhändler für:

---

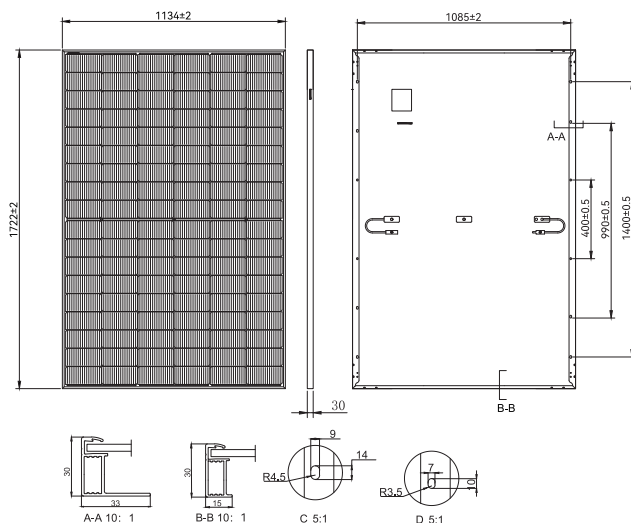
# VIESSMANN

- Kostenlose und individuelle Beratung
- Hochwertige Produkte
- Kostenloser und schneller Versand

- TOP Bewertungen
- Exzelerter Kundenservice
- Über 20 Jahre Erfahrung



**E-Mail: [info@unidomo.de](mailto:info@unidomo.de) | Tel.: 04621 - 30 60 89 0 | [www.unidomo.de](http://www.unidomo.de)**


**DRAWINGS (Unit: mm)**

## ELECTRICAL CHARACTERISTICS (STC)

| Module Type: TWMD-54HSXXX         |       |       |       |       |       |
|-----------------------------------|-------|-------|-------|-------|-------|
| 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: $\eta$ [%]     | 21.5  | 21.8  | 22.0  | 22.3  | 22.5  |

## ELECTRICAL CHARACTERISTICS (NMOT)

|                                        |       |       |       |       |       |
|----------------------------------------|-------|-------|-------|-------|-------|
| Maximum Power: $P_{max}$ [W]           | 316.0 | 320.0 | 324.0 | 327.8 | 331.8 |
| Open Circuit Voltage: $V_{oc}$ [V]     | 36.89 | 37.04 | 37.19 | 37.33 | 37.47 |
| Short Circuit Current: $I_{sc}$ [A]    | 10.90 | 10.96 | 11.02 | 11.06 | 11.10 |
| Voltage at Maximum Power: $V_{mp}$ [V] | 30.64 | 30.81 | 30.98 | 31.14 | 31.30 |
| Current at Maximum Power: $I_{mp}$ [A] | 10.31 | 10.39 | 10.46 | 10.52 | 10.60 |

\* STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass1.5, Measuring Tolerance: ±3%

\* NMOT: Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, Air Mass1.5, Wind Speed 1m/s

## TEMPERATURE PARAMETERS

|                                |            |
|--------------------------------|------------|
| Temperature Coefficient (Pmax) | -0.30%/°C  |
| Temperature Coefficient (Voc)  | -0.25%/°C  |
| Temperature Coefficient (Isc)  | +0.046%/°C |
| NMOT                           | 45±2°C     |

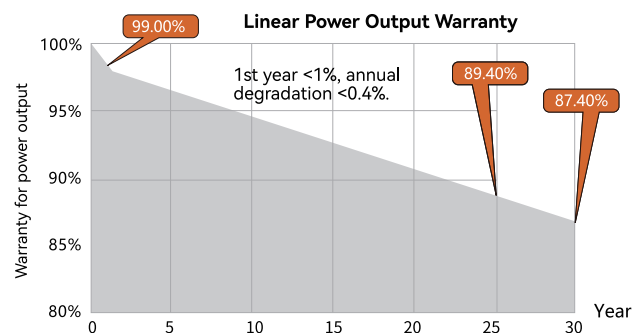


**MAXIMUM RATINGS**

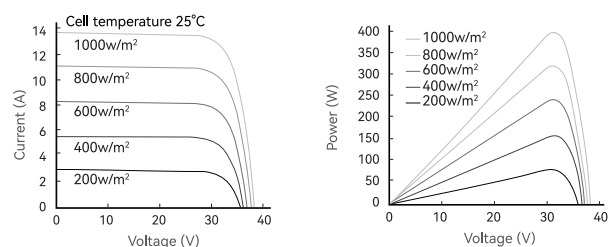
|                            |             |
|----------------------------|-------------|
| Operational Temperature    | -40°C~+85°C |
| Maximum System Voltage     | 1500V DC    |
| Maximum Series Fuse Rating | 25A         |
| Power Output Tolerance     | 0~+5W       |

## MECHANICAL PARAMETERS

|                  |                                             |
|------------------|---------------------------------------------|
| Cells            | TNC (N Type Monocrystalline Cell)           |
| Cell Orientation | 108[6X18]                                   |
| Dimension        | 1722±2X1134±2X30mm                          |
| Weight           | 20.5kg                                      |
| Front Glass      | 3.2mm high transmittance, AR tempered glass |
| Backsheet        | White                                       |
| Frame            | Anodized aluminum alloy frame               |
| Junction Box     | IP68, 3 diodes                              |
| Output Cable     | 4.0mm <sup>2</sup>                          |
| Cable Length     | ±1200mm, length can be customized           |
| Wind/Snow Load   | 2400Pa/5400Pa                               |
| Packaging        | 36pcs per pallet, 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 50001:2011 / energy management system

IEC TS 62941—2016 / PV industry quality management system

IEC 61215/61730、IEC 62804(PID)、IEC 61701(Salt)、

IEC 62716 (Ammonia)、IEC 60068-2-68(Sand)



**Email:** sales@tongwei.com

**Website:** [www.tongwei.com.cn](http://www.tongwei.com.cn)

**Add:** 888 Changning Avenue, High-tech Zone, Hefei City, Anhui Province

Declaration: With the technical progress and product updates, there exists a deviation between the technical parameter of the TW Solar's future products and the technical parameter in this specification. The TW Solar reserves the right to adjust the technical parameter at any time without notifying the customers. TW Solar reserves the final right of interpretation. (20230802\_A1)