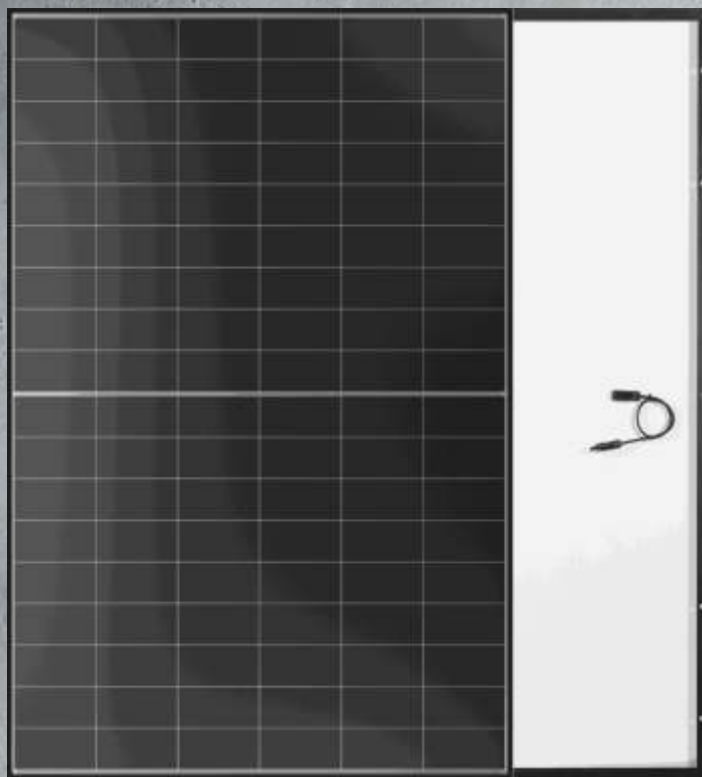


## Tenka Orion III Plus **Black Frame**



### Tenka Orion III Plus - Product features



#### Module efficiency

23.27% module efficiency and 465W  
Peak power under 2 square metres



#### Hail protection class 4

Hail protection class 4 for protection  
against hailstones up to 45 mm



#### Nanotech coating

Tenka Nanotech technology for  
improved light absorption



#### Longevity

Low degradation, optimised  
long-term performance



#### Product guarantee

30-year product guarantee for  
maximum investment security



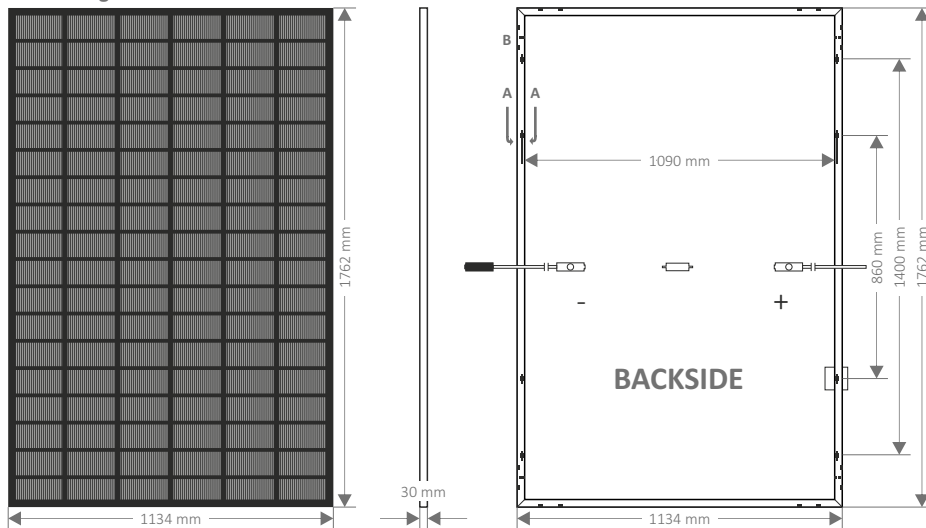
#### Performance guarantee

30-year performance guarantee on  
87.4 % performance guaranteed

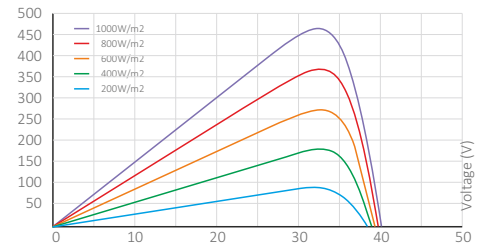
## Tenka Orion III Plus

| Technical Datasheet                              | 450 W                                                             |                   | 455 W            |                   | 460 W            |                   | 465 W            |                   |
|--------------------------------------------------|-------------------------------------------------------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|
|                                                  | STC <sup>1</sup>                                                  | NMOT <sup>2</sup> | STC <sup>1</sup> | NMOT <sup>2</sup> | STC <sup>1</sup> | NMOT <sup>2</sup> | STC <sup>1</sup> | NMOT <sup>2</sup> |
| Maximum power (Pmax)                             | 450Wp                                                             | 341Wp             | 455Wp            | 345Wp             | 460Wp            | 349Wp             | 465Wp            | 352Wp             |
| Maximum power Voltage (Vmp)                      | 33,22V                                                            | 30,56V            | 33,42V           | 30,75V            | 33,63V           | 30,94V            | 33,83V           | 31,12V            |
| Maximum power Current (Imp)                      | 13,55A                                                            | 11,16A            | 13,61A           | 11,21A            | 13,68A           | 11,27A            | 13,75A           | 11,32A            |
| Open circuit voltage (Voc)                       | 39,78V                                                            | 36,20V            | 39,98V           | 36,38V            | 40,18V           | 36,56V            | 40,38V           | 36,75V            |
| Short-circuit current (Isc)                      | 14,00A                                                            | 11,29A            | 14,06A           | 11,34A            | 14,13A           | 11,40A            | 14,20A           | 11,45A            |
| Module efficiency (%)                            | 22,52%                                                            |                   | 22,77%           |                   | 23,02%           |                   | 23,27%           |                   |
| Voc and Isc Tolerances                           | ±3%                                                               |                   |                  |                   |                  |                   |                  |                   |
| Operating temperature (°C)                       | -40°C~+85°C                                                       |                   |                  |                   |                  |                   |                  |                   |
| Maximum system voltage                           | 1500V                                                             |                   |                  |                   |                  |                   |                  |                   |
| Maximum series protection                        | 25A                                                               |                   |                  |                   |                  |                   |                  |                   |
| Temperature coefficient Pmax                     | -0,29%/°C                                                         |                   |                  |                   |                  |                   |                  |                   |
| Temperature coefficient Voc                      | -0,25%/°C                                                         |                   |                  |                   |                  |                   |                  |                   |
| Temperature coefficient Isc                      | 0,045%/°C                                                         |                   |                  |                   |                  |                   |                  |                   |
| Nominal operating temperature of the cell (NOCT) | 45±2 °C                                                           |                   |                  |                   |                  |                   |                  |                   |
| Cell type                                        | N-Type, TOPCon, mono-crystalline 183 mm, Tenka Nanotech Coating   |                   |                  |                   |                  |                   |                  |                   |
| Number of cells                                  | 108                                                               |                   |                  |                   |                  |                   |                  |                   |
| Dimensions                                       | 1762 x 1134 x 30 mm (±2mm)                                        |                   |                  |                   |                  |                   |                  |                   |
| Weight                                           | 21,5 Kg                                                           |                   |                  |                   |                  |                   |                  |                   |
| Glass front                                      | 3,2 mm tempered glass, highly transparent anti-reflective coating |                   |                  |                   |                  |                   |                  |                   |
| Backside                                         | White film                                                        |                   |                  |                   |                  |                   |                  |                   |
| Frame                                            | Anodized aluminium alloy, Black                                   |                   |                  |                   |                  |                   |                  |                   |
| Junction box                                     | Protection class IP68                                             |                   |                  |                   |                  |                   |                  |                   |
| Output cable                                     | TÜV 1 x 4,0 mm <sup>2</sup> / UL 12AWG, Length 1100 mm            |                   |                  |                   |                  |                   |                  |                   |
| Resistance to mechanical loads                   | 5.400 Pa acc. IEC 61215-1-2                                       |                   |                  |                   |                  |                   |                  |                   |
| Certificates                                     | IEC61215, IEC61730                                                |                   |                  |                   |                  |                   |                  |                   |

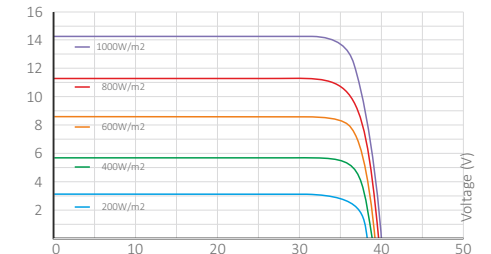
### Abmessungen



### P-V Characteristic curve of PV Module



### I-V Characteristic curve of PV Module



**Packaging information:** 36 pieces per pallet, 936 pieces per container (26 pallets)

\* By using the Tenka Nanotech layer, 15/20 watts more are generated compared to the standard cell.

<sup>1</sup> STC (standard test conditions): Irradiance 1000W/m². Cell temperature 25°C. AM 1.5

<sup>2</sup> NMOT (Nominal Module Operating Temperature): Irradiance 800W/m². NMOT ambient temperature 20°C. AM 1.5.

Wind speed 1m/s. Data at nominal conditions. Errors and omissions excepted. Illustrations may vary.

**TENKA**  
solar