

# ORISun N-Type OSD8DH7816H TOPCon High-Efficiency Dual Glass Solar Module With MBB Technology



## Intelligent Manufacturing, High-Performance N-type Solar cell

Industry-leading intelligent and efficient production lines, with the highest quality standards in the industry. Ensuring the most cost-effective production.



## Higher Yield

High power, low temperature coefficient, high bifaciality ensuring the product can generate more energy benefits even in cloudy or hot weather with the same area. The bifaciality power gain increases with the backside illumination which can reach up to 25% or more.



## Extremely Durable

Thanks to the optimal material matching and interconnection encapsulation technology, the product has outstanding module weather resistance performances. The overall module has passed the certification of 2400Pa wind load and 5400Pa snow load, while minimizing the degradation caused by PID.



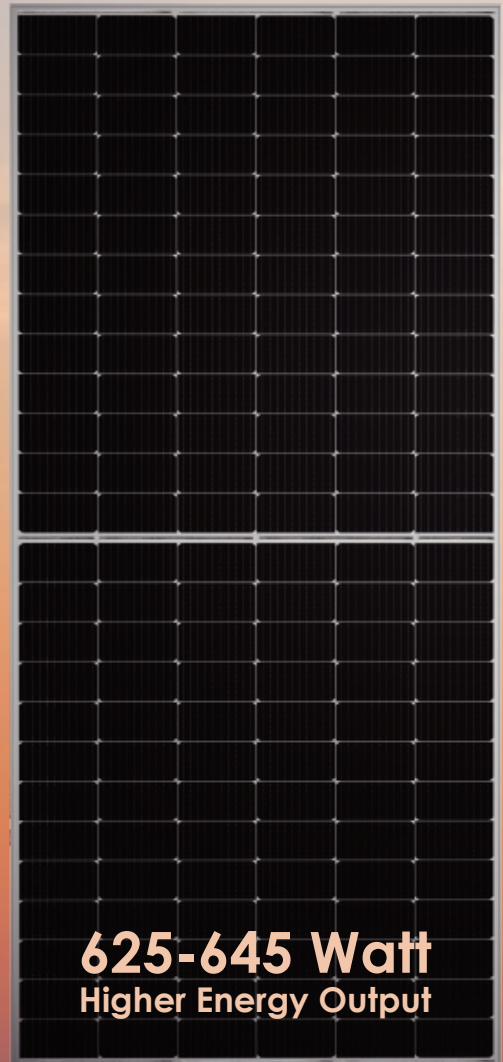
## Guaranteed Reliability

Industry leading 30 year product and performance linear warranty. Adopting the most advanced N-type mass production technology to ensure low LID and LETID degradation.



## Extremely Elegant

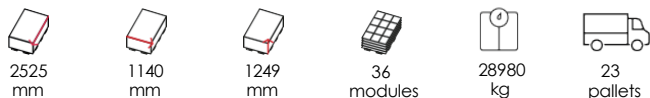
Simple and elegant industrial design, suitable for various application scenarios.



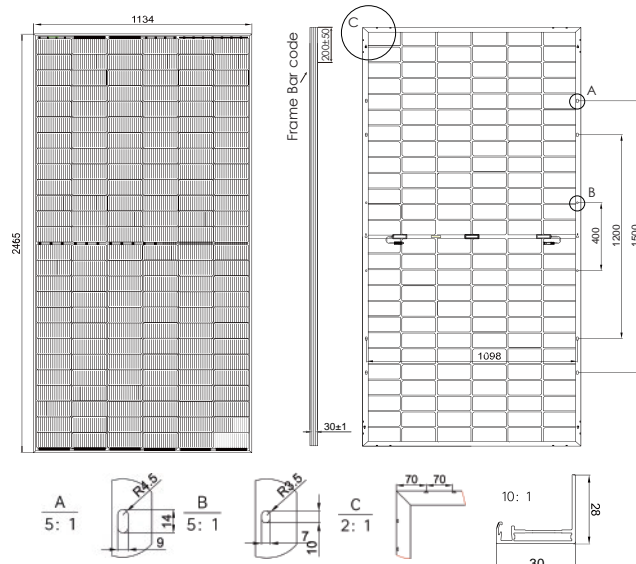
## Mechanical Structure Specifications

|                |   |
|----------------|---|
| Dimensions     | 2465 x 1134 x 30 mm / 97.1 x 44.7 x 1.2 in  |
| Weight         | 34.6 kg / 76.3 lbs  |
| Front Material | Tempered high transparency photovoltaic glass, 2.0 mm / 0.08 in, anti reflective film |
| Back Material  | Semi tempered photovoltaic glass, 2.0 mm / 0.08 in,                                   |
| Frame          | Anodized aluminum alloy   |
| Cell Type      | 156Half piece, N-type monocrystalline silicon bifacial TOPCon solar cells             |
| Junction Box   | Protection grade IP68   |
| Cable          | Wireway: 4 mm <sup>2</sup> /TÜV, Length (+):300 mm/11.81 in & (-):200 mm              |

## Packaging and Transportation



Transport by container or truck. For truck freight, each pallet has a loading capacity of 17.5 meters and a height of 3.5-4.5 meters.



## Module Electrical Performance Specifications<sup>1</sup>

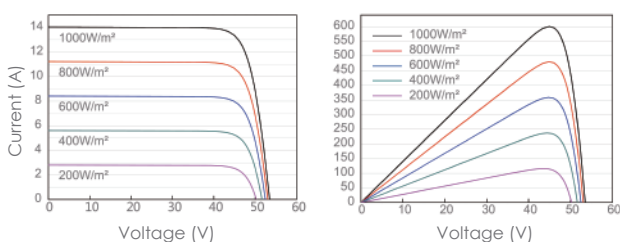
| Module model | Efficiency             | Power*      |                         | Short-circuit current |              | Open circuit current |              | Optimal operating current |                         | Optimum operating voltage |              |
|--------------|------------------------|-------------|-------------------------|-----------------------|--------------|----------------------|--------------|---------------------------|-------------------------|---------------------------|--------------|
|              | $\eta$<br>[%]          | Pmax<br>[W] | STC                     | Isc<br>[A]            | NOCT         | Voc<br>[V]           | NOCT         | STC                       | I <sub>mpp</sub><br>[A] | NOCT                      | STC          |
|              | <b>STC<sup>2</sup></b> |             | <b>NOCT<sup>3</sup></b> |                       | <b>NOCT</b>  |                      | <b>NOCT</b>  |                           | <b>NOCT</b>             |                           | <b>NOCT</b>  |
| 625          | <b>22.36</b>           | 470         | <b>625</b>              | 11.16                 | <b>14.11</b> | 53.21                | <b>56.01</b> | 10.70                     | <b>13.36</b>            | 43.91                     | <b>46.79</b> |
| 630          | <b>22.54</b>           | 474         | <b>630</b>              | 11.18                 | <b>14.18</b> | 53.39                | <b>56.20</b> | 10.72                     | <b>13.37</b>            | 44.21                     | <b>47.11</b> |
| 635          | <b>22.72</b>           | 477         | <b>635</b>              | 11.24                 | <b>14.24</b> | 53.59                | <b>56.41</b> | 10.74                     | <b>13.40</b>            | 44.42                     | <b>47.39</b> |
| 640          | <b>22.90</b>           | 481         | <b>640</b>              | 11.31                 | <b>14.32</b> | 53.74                | <b>56.57</b> | 10.78                     | <b>13.44</b>            | 44.62                     | <b>47.62</b> |
| 645          | <b>23.07</b>           | 485         | <b>645</b>              | 11.37                 | <b>14.41</b> | 53.88                | <b>56.72</b> | 10.81                     | <b>13.48</b>            | 44.85                     | <b>47.85</b> |

\* (Power tolerance 0 W / +5 W for STC)

## Bifacial Power Generation Performance (Rearside gain)

|     |            |               |        |               |        |               |
|-----|------------|---------------|--------|---------------|--------|---------------|
| 5%  | Pmax       | <b>656Wp</b>  | 662Wp  | <b>667Wp</b>  | 672Wp  | <b>677Wp</b>  |
|     | Efficiency | <b>23.48%</b> | 23.66% | <b>23.85%</b> | 24.04% | <b>24.23%</b> |
| 15% | Pmax       | <b>719Wp</b>  | 725Wp  | <b>730Wp</b>  | 736Wp  | <b>742Wp</b>  |
|     | Efficiency | <b>25.71%</b> | 25.92% | <b>26.12%</b> | 26.33% | <b>26.54%</b> |
| 25% | Pmax       | <b>781Wp</b>  | 788Wp  | <b>794Wp</b>  | 800Wp  | <b>806Wp</b>  |
|     | Efficiency | <b>27.95%</b> | 28.17% | <b>28.40%</b> | 28.62% | <b>28.84%</b> |

## I-V Curve Under Different Illuminances



## System Related Technical Parameters

|                             |      |            |
|-----------------------------|------|------------|
| Maximum system voltage      | [V]  | 1500       |
| Maximum rated fuse current  | [A]  | 30         |
| Security level              |      | II         |
| Fire rating(UL1730)         |      | I          |
| Operating temperature range | [°C] | -40 to +85 |
| Reference bifacial factor   | [%]  | 80±5       |

## Related Certifications

IEC IEC 61215:2016, IEC 61730:2016, UL 61730-1, UL 61730-2, PID (IEC 62804), Salt Mist (IEC 61701)

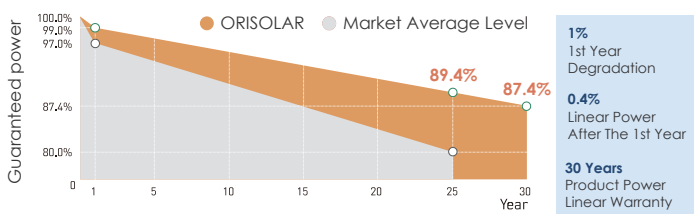
Note: All data and specifications are preliminary and may change without notice. For installation and operation instructions, please refer to the installation guide.

## Temperature Coefficient

|                                   |          |       |        |
|-----------------------------------|----------|-------|--------|
| Isc TEMP coefficient              | $\alpha$ | [%/K] | +0.045 |
| Voc TEMP coefficient              | $\beta$  | [%/K] | -0.25  |
| P <sub>mpp</sub> TEMP coefficient | $\gamma$ | [%/K] | -0.29  |
| Nominal operating TEMP            | NOCT     | [°C]  | 45±2   |

The temperature coefficient described is a linear value.

## Industry Leading Linear Quality Assurance



## Passed Multiple IEC Standards With 3x Reliability And Weather Resistance Testing Procedures

|        |  |
|--------|--|
| 1x IEC | Average Standard                         |
| 3x IEC | The Lowest Testing Level Of Orisolartech |

<sup>1</sup> Power test according to IEC 60904-3, test tolerance: 0~+3%

<sup>2</sup> STC condition: Light intensity 1000 W/m<sup>2</sup>, Component temperature 25 °C, AM1.5G spectral conditions

<sup>3</sup> NMOT: nominal component operating temperature, light intensity 800 W/m<sup>2</sup>, AM1.5G spectral conditions, ambient temperature 20 °C