Tindo Karra 300 PERC

Engineered in Australia for Australian Conditions

A Secure & Reliable Investment
Tindo Solar has extended the product warranty of our Karra panels by an additional 2 years, from 10 years to 12 years.

Great Visual Appearance
The Tindo Karra series has been designed with appearance in mind. Their deep black cells, with black frames and thinner wires give an aesthetically pleasing appearance.

High Efficiency
Higher module conversion efficiency (up to 18%) benefit from Passivated Emmitter Rear Contact (PERC) technology.

Proven Field Performance
Our panels are mounted and performing everyday at the Desert Knowledge Testing Centre in Alice Springs. The Karra series panels are consistently one of the highest performing panels at the centre.

Maximum Cost Reductions
Much lower logistics costs due to our modules being made in South Australia with flexible module numbers per pallet on request.

Innovative All Weather Technology
Optimal yields, whatever the weather with excellent low-light and temperature behaviour.

Low-light Performance
Advanced glass and solar cell surface texturing allow for excellent performance in low-light environment.
### Electrical Characteristics

<table>
<thead>
<tr>
<th>Item</th>
<th>Karra-285</th>
<th>Karra-290</th>
<th>Karra-295</th>
<th>Karra-300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Power (Pmax) Wp</td>
<td>285</td>
<td>208.84</td>
<td>290</td>
<td>212.51</td>
</tr>
<tr>
<td>Max. Power voltage (Vmp) V</td>
<td>31.81</td>
<td>28.88</td>
<td>32.19</td>
<td>29.23</td>
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<tr>
<td>Max. Power current (Imp) A</td>
<td>8.96</td>
<td>7.23</td>
<td>9.01</td>
<td>7.27</td>
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<tr>
<td>Open circuit voltage (Voc) V</td>
<td>39.20</td>
<td>36.17</td>
<td>39.50</td>
<td>36.44</td>
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<tr>
<td>Short circuit current (Isc) A</td>
<td>9.50</td>
<td>7.73</td>
<td>9.55</td>
<td>7.77</td>
</tr>
<tr>
<td>Panel efficiency %</td>
<td>17.1</td>
<td>12.5</td>
<td>17.4</td>
<td>12.7</td>
</tr>
<tr>
<td>Power tolerance %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*STC (Standard Test Condition) : 1,000W/m², AM 1.5, 25°C / *NOC (Nominal Operating Condition) : 800W/m², 20°C, wind speed 1m/s, NOCT

### Mechanical Characteristics

- **Cells per Panel**: 60Cells (6 x 10)
- **Cell Type**: 4BB Mono - crystalline
- **Panel Dimension (L x W x H)**: 1667 x 1000 x 40 mm
- **Panel Weight**: 18.2Kg
- **Front Glass**: 3.2mm Tempered Glass
- **Back Sheet**: Tedlar film-based / Dupont
- **Frame**: Anodized Aluminum
- **Junction Box**: 3 bypass diode / IP67
- **Output cable**: (+, -) 1,000mm / 4mm² cable
- **Connectors type**: PV-KST4 (male), PV-KBT4 (female) / Multi Contact
- **Edge seal & J - box Sealant**: Dow Corning

### System Integration Parameters

- **Temperature range**: -40°C to 85°C
- **Maximum system voltage**: 1,000 V DC(IEC)
- **Maximum over-current protection**: 15 A

### Safety Ratings & Warranties

- **Safety application class**: Class A
- **Fire Safety Classification**: Class C
- **Certifications**: IEC 61215, IEC 61730
- **Warranty**: 12 years limited product warranty
- **Performance guarantee**: 25 years limited warranty 80% power

### Qualification Test

- **Thermal cycling test**: -40°C to 85°C for 200 cycles
- **Damp heat test**: 85°C and 85% relative humidity for 1000hr
- **Front load test**: 5400Pa
- **Rear load test**: 3600Pa
- **Hail impact test**: 25mm hail at 23m/s from 1m distance