

# Tindo Karra 300 PERC

295\* & 300 Watt  
Mono-Crystalline Module



## Engineered in Australia for Australian Conditions



### A Secure & Reliable Investment

Tindo Solar has extended the product warranty of our Karra panels by an additional 13 years, from 12 years to 25 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.  
\*295W fully black panel available on request.



### 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. [www.dkasolarcentre.com.au](http://www.dkasolarcentre.com.au)



### 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.

Tindo Solar  
Authorised Reseller

**SunnyAfternoons**  
*Solar*

1300 303 795

[www.sunnyafternoons.com.au](http://www.sunnyafternoons.com.au)

Tindo Operations Co Pty Ltd

1300 846 367

[www.tindosolar.com](http://www.tindosolar.com)

6 Second Avenue Mawson Lakes SA 5095

# Karra Series Data Sheet

## Electrical Characteristics

60 Cell Panel Description		Karra-295 Black		Karra-300	
Item	Unit	*STC	*NOC	STC	NOC
Max. Power (Pmax)	Wp	295	216.15	300	219.81
Max. Power voltage (Vmp)	V	32.56	29.56	32.93	29.90
Max. Power current (Imp)	A	9.06	7.31	9.11	7.35
Open circuit voltage (Voc)	V	39.80	36.72	40.10	37.00
Short circuit current (Isc)	A	9.60	7.82	9.65	7.86
Panel efficiency	%	17.7	13.0	18.0	13.2
Positive power tolerance	W	0 + ~ 5			

\*STC(Standard Test Condition) : 1,000W/m<sup>2</sup>, AM 1.5, 25 °C / \*NOC(Nominal Operating Condition) : 800W/m<sup>2</sup>, 20°C, wind speed 1m/s, NOCT

## Thermal Characteristics

Rating	Unit	Value
*NOCT	°C	45±2
Temperature Coefficient	Isc	%/°C + 0.045
	Voc	%/°C - 0.292
	Pmax	%/°C - 0.410

\*NOCT : Nominal Operating Cell Temperature

## 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

## Mechanical Characteristics

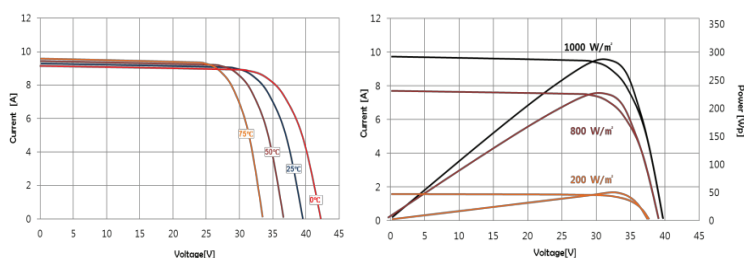
Cells per Panel	60Cells (6 x 10)
Cell Type	4BB Mono -crystalline
Panel Dimension (L x W x H)	1667 x 1000 x 40 mm
Panel Weight	18.2Kg
Front Glass	3.2mm Tempered Glass
Back Sheet	Tedlar film-based / Dupont
Frame	Anodized Aluminum
Junction Box	3 bypass diode / IP67
Output cable	(+, -) 1,000mm / 4mm <sup>2</sup> cable
Connectors type	PV-KST4 (male), PV-KBT4 (female) / Multi Contact
Edge seal & J -box Sealant	Dow Corning

## Safety Ratings & Warranties

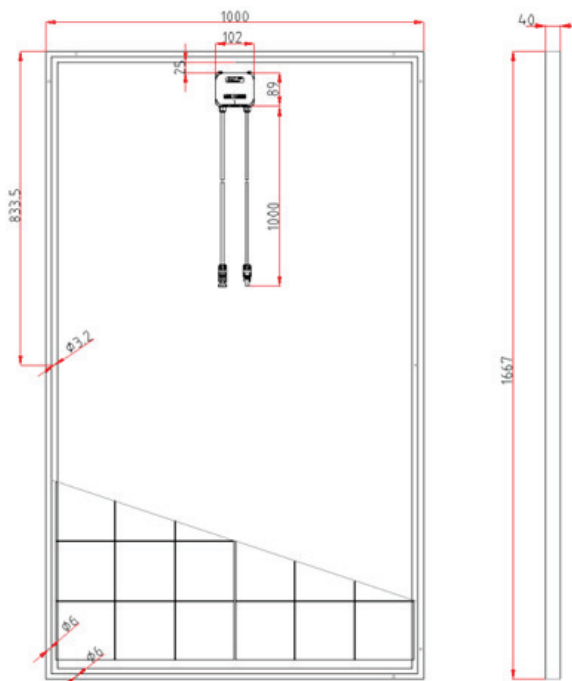
Safety application class	Class A
Fire Safety Classification	Class C
Certifications	IEC 61215, IEC 61730
Warranty	25 years limited product warranty
Performance guarantee	25 years limited warranty 80% power

## System Integration Parameters

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



[I-V Curves for 295]



[Panel Diagram]