



tindo. Karra 410W G2H

With over 10 years and six generations of high-tech Australian manufacturing excellence at Technology Park Mawson Lakes, **Tindo's** latest module is the first from the new purpose built state-of-the-art manufacturing facility.

Tindo is synonymous for the highest standards of quality, durability and reliability. Recent independent reviews of module performance at the Government funded Desert Knowledge Australia Solar Centre (DKASC Alice Spings), confirms that **Tindo** outperforms ALL manufacturers modules tested currently available in Australia. Check out the **Tindo Solar** performance for yourself <http://dkasolarcentre.com.au/locations/alice-springs/graphs?sources=64>

Tindo is committed to **ethical and sustainable supply chains** We are a proud signatory of the UN Global Compact supporting a set of core values and policies regarding human rights, labour standards, the environment, and contributing to the UN Sustainable Development Goals.



A Reliable Investment
Inclusive 25-year product warranty and 25-year linear performance warranty.



Enduring high performance
Long-term yield security with Anti LID technology, anti PID technology, hot spot protect and traceable quality.



Low Electricity generation costs
Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency of up to 20.1%.



State of the art module technology
Tindo Karra combines cutting edge cell separation and innovative wiring technology.

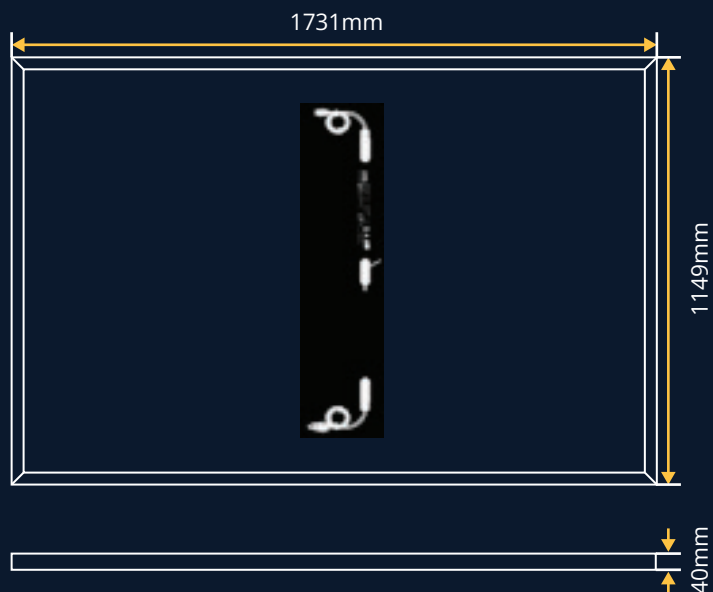


Innovative All Weather Technology
Optimal yields, whatever the weather with excellent low-light and temperature behaviour, plus high salt mist resistance.



Multi busbar half cut cell with PERC technology
Laser-cut monocrystalline cells reduce internal resistance for higher output, higher efficiency and increased durability.

Tindo Karra 410W G2H



Mechanical Characteristics

Cells per panel	108 Half Cells
Cell Type	Mono-crystalline PERC (182x182mm)
Panel Dimension (Lx Wx Hx)	1731 x 1149 x 40mm
Panel Weight	21.5 Kg
Front Glass	Fully tempered ARC Glass (High Transmission)
Frame	Black Anodized Aluminum Alloy (T6)
Junction Box	With bypass diode / IP68 rated
Connector Type	KST4-EV02(M), KBT4-EVO2(F) /Stabli-MC4

System Integration Parameters

Temperature Range	-40°C ~ +85°C
Maximum System Voltage	1,500 VDC (IEC)
Maximum Series Fuse Rating	25 A

Electrical Characteristics

108 Cell Module Item	Unit	Karra - 410G2H	
		*STC	*NMOT
Max. Power (Pmax)	Wp	410	301
Max. Power voltage (Vmp)	V	31.11	28.6
Max. Power current (Imp)	A	13.18	10.5
Open circuit voltage (Voc)	V	37.11	34.3
Short circuit current (Isc)	A	13.93	11.3
Panel efficiency	%	20.6	
Positive power tolerance	W	0 + ~ 5	

*STC (Standard Test Condition): 1,000 W/m², AM 1.5, 25°C / *NMOT (Nominal Module Operating Temperature): 800W/m², 20°C, wind speed 1m/s, Tolerance of Pmax, Voc & Isc ± 3% within each watt class at STC.

Qualification Test

Thermal cycling test	-40°C to 85°C for 200 cycles
Damp heat test	85°C and 85% relative humidity for 1000 hr
Front Load test	5400Pa
Rear Load test	2400Pa
Hail Impact test	25mm hail at 23m/s from 1m distance

Cyclone tested by Structural Engineering Consultants Australia (SECA) Pty Ltd - certificate available on request.

Safety factor of *static load test: 1.5 (Test load = Design load x Safety factor)

Thermal Characteristics

Rating	Unit	Value	
*NMOT	C	44	
Temperature Coefficient	Isc	%/C	+ 0.05
	Voc	%/C	- 0.26
	Pmax	%/C	- 0.34

NMOT: Nominal Module Operating Temperature

Safety Ratings & Warranties

Safety Application Class	Class II
Fire Safety Classification	Class C
Certifications	IEC 61215, IEC 61730
Warranty	25 years limited product warranty
Performance Guarantee	25 years limited warranty 80% power

Packaging

Stacking Method	Horizontal / Palletised
Panels per Pallet	25
Pallet Dimensions & Weight	1780 x 1200 x 1200, 570kg
Panels per 20-ft container	240 Panels
Panels per 40-ft container high cube	550 Panels

Note:

- The specifications included in this datasheet are subject to change without notice.
- The electrical data given here is for reference purpose only.
- Please confirm your exact requirements with the sales representative while placing your order.
- Manufactured in Australia by Tindo Operations Co Pty Ltd, 6-8 Park Way, Mawson Lakes, SA 5095

