



High Power Output
Low LCOE

Maximum Power
435W+

TWMND
N-type Half-cell
Monofacial Full-black Module (54)
54HB415-435W



www.tw-solar.com



Learn More

10 Reasons to Consider TW Solar

Australia is one of the sunniest countries in the world, making it the perfect place to switch to solar. But with so many different solar panel brands on the market, it's important to do your research before you make a choice to safeguard your savings from harnessing solar energy.

Here are 10 reasons to consider TW Solar for your home or business in Australia.

1. The World's Biggest Solar Cell & Polysilicon Manufacturer

We take pride in the volume of solar panels that we help produce across the globe and this gives us the confidence to offer long-term warranties. In 2023 our production capacity of just solar cells is 102GW - *that's enough solar cells to power over 15 million home systems (6.6kW system size).*

2. A History in Manufacturing Solar Panels for Australian Homes

For years, we have been *the manufacturer behind some of the most respected solar panel brands offered in Australia.* In the past 5 years we produced a popular Shingle Technology solar panel for the EU & AU markets.

3. Vertically Integrated PV Manufacturer with a Clean Value Chain

We are focused on sustainability through the **full value chain in solar panel (PV) production.** From the raw material (polysilicon) all the way through to combining them into a finished solar panel. This complete control allows us to optimise the performance of our without negatively affecting the final price to you.

4. Tier 1 Listed Solar Panel Manufacturer - Internationally Recognised

You can feel secure with your warranty as Tier 1 brands are internationally recognised for having a strong track record of **financial stability for sustainable, long-term service.**

5. Secure backing as the World's First and Only PV Company Listed by Fortune Global 500 in 2023

Peace of mind is important when choosing the company to back the system installed on the home or business that you take pride in. *Embrace solar with the confidence of our Fortune 500 expertise.*

6. Specialists in Research and Development

To offer advanced solar technology you must stay on the cutting edge. TW Solar is involved with *more than 1000 patents related to solar cell and module technology.*

7. 25 Year Product Warranty in Australia

With TW Solar Residential solar panels, you can rest assured knowing that you have chosen a reliable option, supported by a **25 year product warranty in Australia.**

8. Sustainability Focused - Green Food & Green Energy Manufacturer

We have a diverse range of businesses focused on agriculture and renewable energy. For example, **our parent company is proud to be the world's largest producer of fish food.**

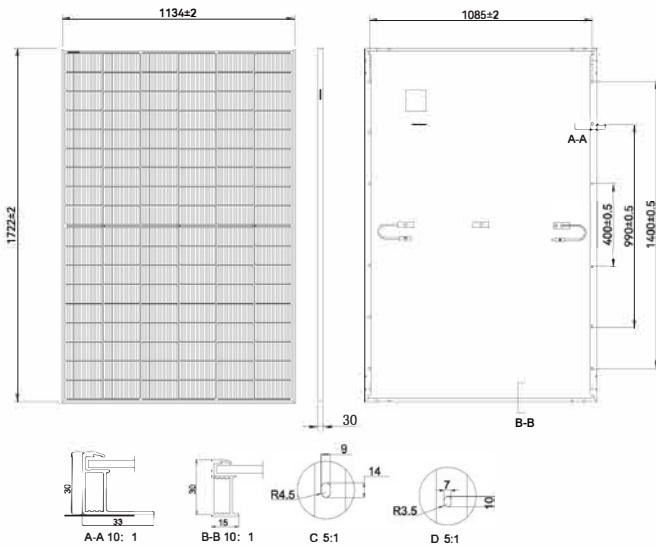
9. The Brand Behind Top Solar Brands

As the **largest solar cell supplier to the world's Top 10 Solar Panel Manufacturers,** we proudly share our extensive solar expertise with global impact.

10. Commitment to Australia

Australia is a global leader in solar energy, with **more solar power installed per capita** than any other country. We're very proud to contribute and are we're committed to a **brighter future for Australia powered by solar** energy.

DRAWINGS (Unit: mm)



ELECTRICAL CHARACTERISTICS (STC)

Module Type: TWMND-54HBXXX					
Maximum Power: Pmax [W]	415	420	425	430	435
Open Circuit Voltage: Voc [V]	38.70	38.85	39.00	39.15	39.30
Short Circuit Current: Isc [A]	13.52	13.57	13.62	13.67	13.72
Voltage at Maximum Power: Vmp [V]	32.75	32.92	33.09	33.26	33.43
Current at Maximum Power: Imp [A]	12.67	12.76	12.85	12.93	13.01
Module Efficiency: η [%]	21.3	21.5	21.8	22.0	22.3

ELECTRICAL CHARACTERISTICS (NMOT)

Maximum Power: Pmax [W]	312.0	316.0	320.0	324.0	327.8
Open Circuit Voltage: Voc [V]	36.73	36.89	37.04	37.19	37.33
Short Circuit Current: Isc [A]	10.84	10.90	10.96	11.02	11.06
Voltage at Maximum Power: Vmp [V]	30.47	30.64	30.81	30.98	31.14
Current at Maximum Power: Imp [A]	10.24	10.31	10.39	10.46	10.52

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass1.5, Measuring Tolerance: ±3%
* NMOT: Irradiance 800W/m², Ambient Temperature 20°C, Air Mass1.5, Wind Speed 1m/s

TEMPERATURE PARAMETERS

Temperature Coefficient (Pmax)	-0.30%/°C
Temperature Coefficient (Voc)	-0.25%/°C
Temperature Coefficient (Isc)	+0.046%/°C
NMOT	45±2°C

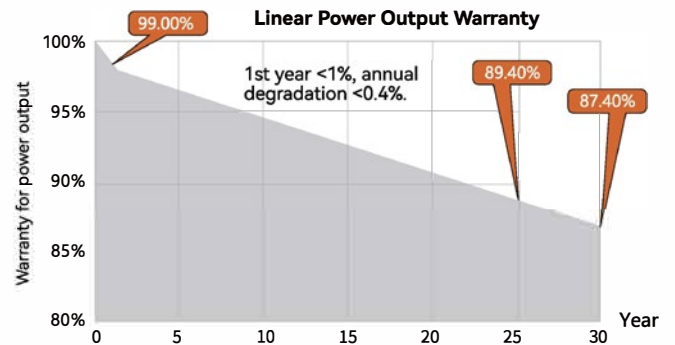
MAXIMUM RATINGS

Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	25A
Power Output Tolerance	+/- 3%

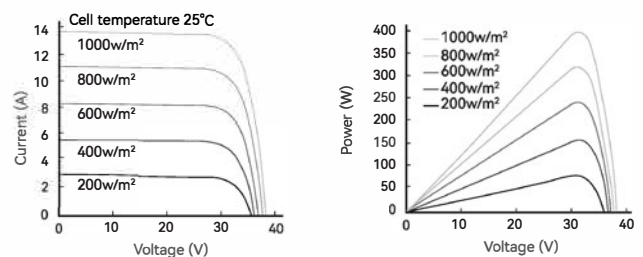
MECHANICAL PARAMETERS

Cells	TNC (N Type Monocrystalline Cell)
Cell Orientation	108[6X18]
Dimension	1722±2X1134±2X30mm
Weight	20.5kg
Front Glass	3.2mm high transmittance, AR coated tempered glass
Backsheet	Black inside and white outside/Black
Frame	Anodized aluminum alloy black frame
Junction Box	IP68, 3 diodes
Output Cable	4.0mm ²
Cable Length	±1200mm, length can be customized
Wind/Snow Load	2400Pa/5400Pa
Packaging	36pcs per pallet, 936pcs per 40'HC

WARRANTY



I-V CURVE



CERTIFICATIONS

Quality Management System and Product Certification

- ISO 9001:2015 / quality management system
- ISO 14001:2015 / environmental management system
- ISO 45001:2018 / occupation health safety management system
- ISO 50001:2011 / energy management system
- IEC TS 62941—2016 / PV industry quality management system
- IEC 61215/61730, IEC 62804(PID), IEC 61701(Salt), IEC 62716 (Ammonia), IEC 60068-2-68(Sand)

