

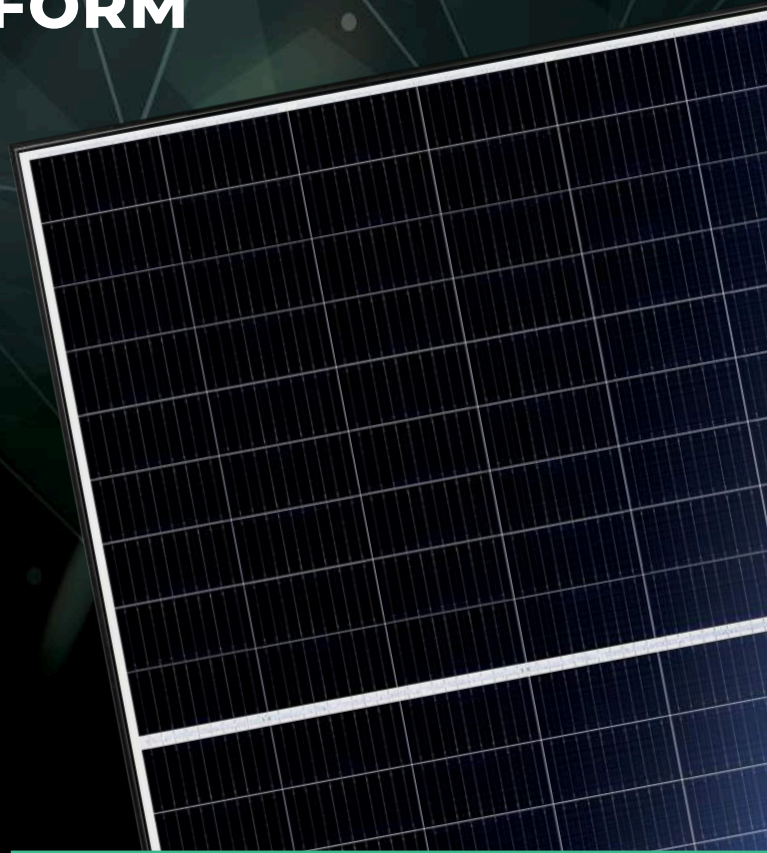
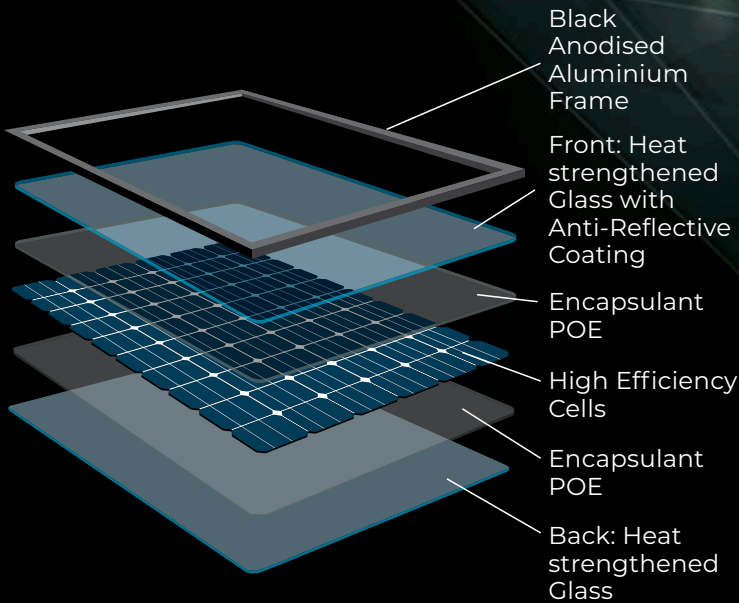
SUMEC

Phono[®] Solar
AUSTRALIA

415W
BIFACIAL

DIAMOND DUAL GLASS

BUILT TOUGH TO PERFORM IN AUSTRALIA



WHY DUAL GLASS MATTERS

LOWER GRADE, PLASTIC BACKSHEETS

Under harsh conditions, the plastic back sheet has been a common failure point of solar panels in Australia.



DIAMOND GLASS

A second layer of tempered glass in replacement of the plastic back sheet allows **Zero Vapour Penetration**. This change and the addition of POE means you can install next to the coastline or in Australia's harshest climates.



25 25 YEAR
PRODUCT
WARRANTY*



30 YEAR
PERFORMANCE
WARRANTY



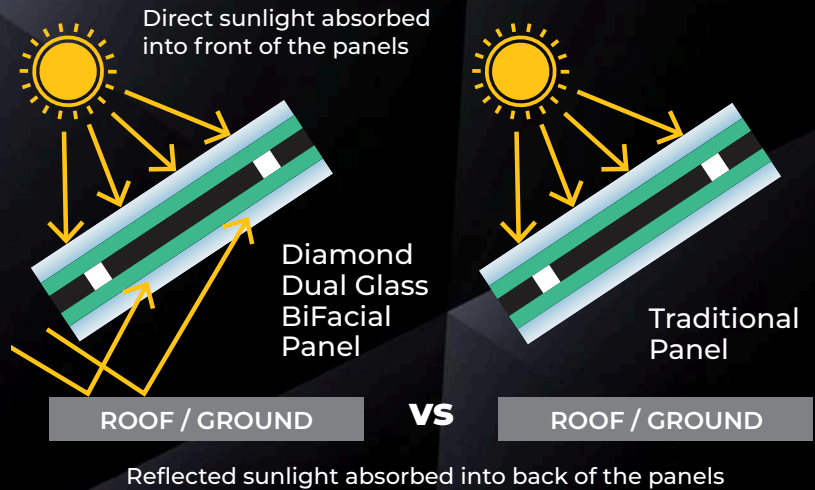
THE ENGINEERS' CHOICE

Working within Australia's harsh environment, Sumec Phono Solar manufacture a beautifully tough panel that's **simply different**.

BIFACIAL TECHNOLOGY

MORE POWER, PER PANEL

The Diamond Dual Glass solar panel can absorb power from both sides of the panel. In optimal install conditions, **up to 30% additional power yield can be gained** thanks to its Bifacial design.



SALT MIST CERTIFICATION
 To the highest Severity Level

CYCLONE TESTED
 Rated for Wind Regions like NT

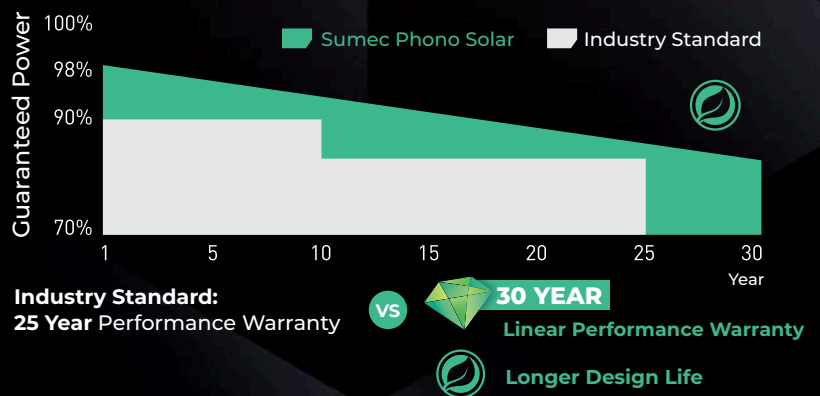
INCREASED HAIL TESTING
 For increased resilience

ROBUST DESIGN FOR HARSH AUSTRALIAN CONDITIONS

The Diamond Dual Glass Series is thoroughly tested and built for the extremes. From the high humidity of North Queensland to the Coastal regions where over 80% of Australian's live.

20% MORE WARRANTED POWER

The enhanced build quality of the Diamond Dual Glass Panel gives us the confidence to warrant its performance for three decades. **A longer lasting panel is the better choice for the environment.**



BLOOMBERG
 TIER 1 BRAND



OWNED BY
FORTUNE 500
 GLOBAL COMPANY



2022 TOP PERFORMING PANEL



30 YEAR PERFORMANCE WARRANTY

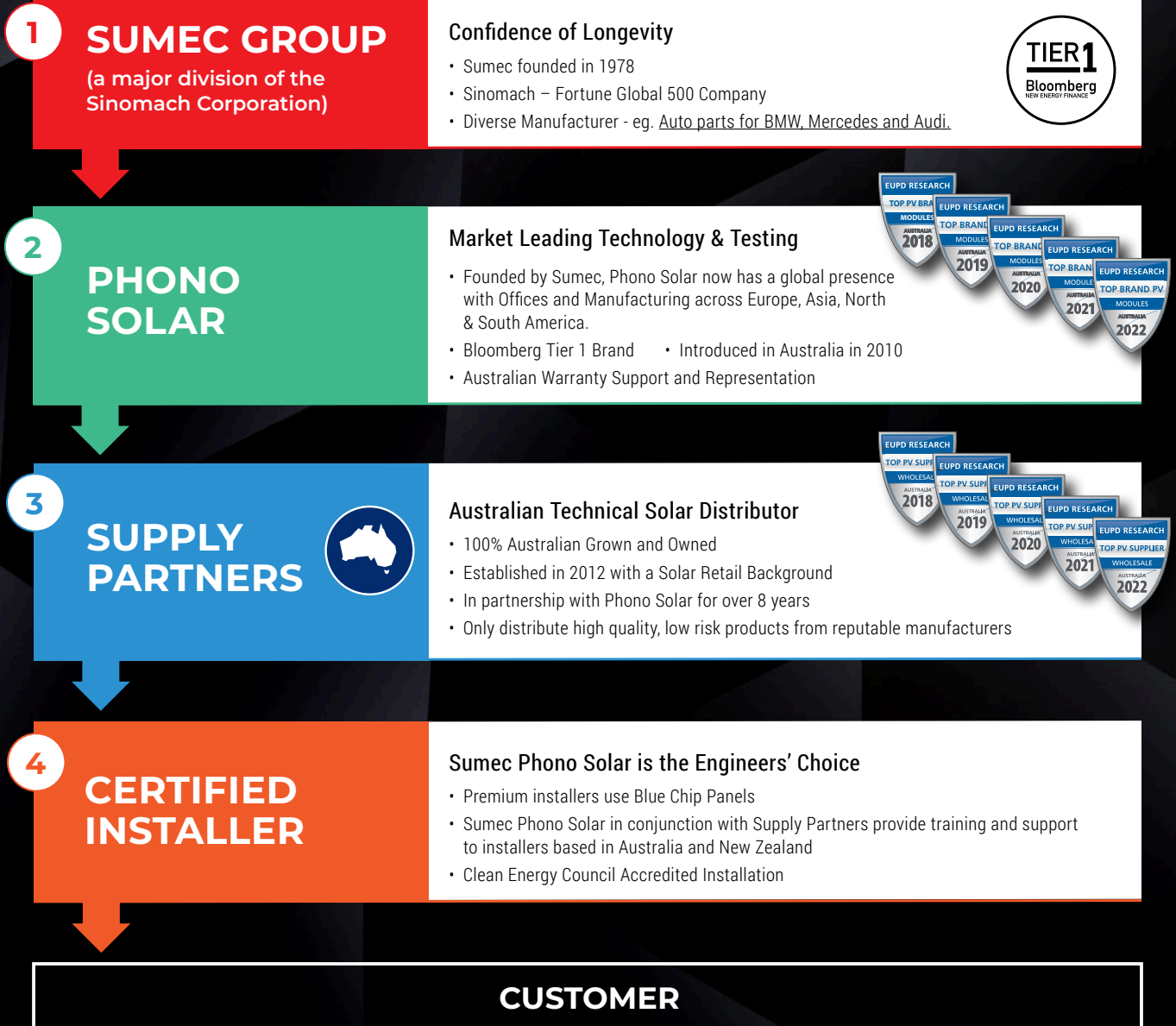
MAKE A SECURE INVESTMENT

4 LAYERS OF PROTECTION

In 2013 there were more than 400 Solar Panel Manufacturers approved for install in Australia and today there are fewer than 100.

SUMEC Group was founded over 40 years ago so, we understand a warranty is only as strong as the company behind it.

As a **Blue Chip brand**, Sumec Phono Solar has **longevity, commitment and stability** at every layer of protection. From the Fortune 500 Founding Corporation, through to the experienced Australian Distributor, **you can feel secure in your solar investment** for decades to come.



AUSTRALIAN
OFFICE AND
REPRESENTATION

SUMEC PHONO SOLAR AUSTRALIA
Level 35, Tower One, 100 Barangaroo Ave, Sydney, AUSTRALIA
TEL: 02 8114 4516 www.phonosolar.com.au

PHONO SOLAR INTERNATIONAL (SUMEC)
No. 1 Xinghuo Rd., Nanjing Hi-tech Zone, Nanjing, CHINA
www.phonosolar.com



DIAMOND DUAL GLASS MODULE

ELECTRICAL TYPICAL VALUES

Model	PS415M8GF-18/VH PS415M8GFH-18/VH	
Testing Condition	STC	NOCT
Rated Power (P _{mp}) ²	415W	307
Rated Current (I _{mp})	13.32	10.76
Rated Voltage (V _{mp})	31.16	28.51
Short Circuit Current (I _{sc})	14.03	10.99
Open Circuit Voltage (V _{oc})	37.32	35.08
Module Efficiency (%)	21.25	

TEMPERATURE CHARACTERISTICS

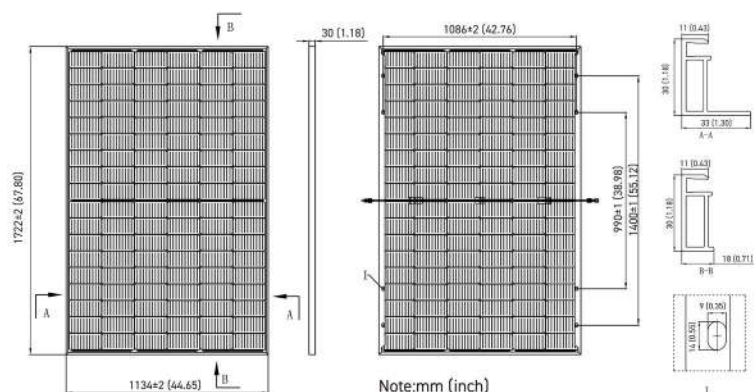
Voltage Temperature	-0.30%/°C
Coefficient Current Temp	+0.05%/°C
Coefficient Power Temp	-0.38%/°C
Power Tolerance	0~+5w
NOCT	45±2-C:
Bifaciality	70±5%

MECHANICAL CHARACTERISTICS

Cell Type	Monocrystalline 182mm x 91 mm
Dimensions	Length: 1722mm, Width: 1134mm Height: 30mm
Weight	22.0kg
Front/Back Glass	1.6/1.6mm Toughened Glass
Frame	Anodised Aluminium Alloy
Cable	1100mm (incl. connector)
Junction Box	IP 68 rated
Connectors	EVO2 Connector, MC4

PACKING CONFIGURATION

Container	20' GP	40' GP
Pieces per container	216	936



BIFACIAL ELECTRICAL VALUES

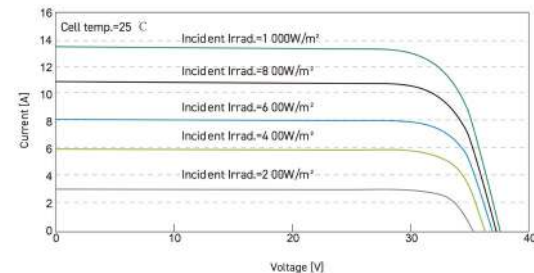
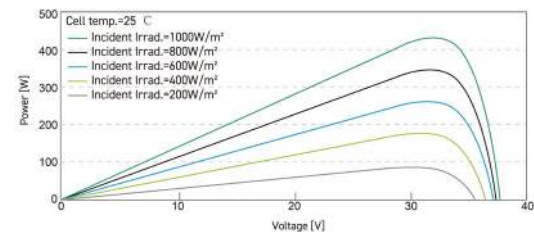
Back Power Gain	5%	10%	15%	20%	25%	BNPI
P _{max} /W	430	444	459	473	488	454
Module Efficiency	22.02	22.74	23.51	24.22	24.99	23.25
V _{oc} /V	37.32	37.32	37.32	37.32	37.32	37.32
I _{sc} /A	14.53	15.00	15.51	15.98	16.49	15.34
V _{mp} /V	31.16	31.16	31.16	31.16	31.16	31.16
I _{mp} /A	13.80	14.25	14.73	15.18	15.66	14.57

Additional back power gain will vary according to the ground clearance and surface reflectivity at the installation location. Higher ground clearance and surface albedo will provide better results.

ABSOLUTE MAXIMUM RATING

Operating Temperature	From -40 to +85°C
Hail Diameter @ 97.92km/h	Up to 35mm
Maximum Test Load Two Rails (push/pull)	5,400Pa/4,000Pa
Maximum Test Load Three Rails (push/pull)	8,500Pa/6,000Pa
Maximum Series Fuse Rating	30A
PV Module Classification	II
Module Rating (IEC 61730)	C
Maximum System Voltage	DC 1000V/1500V

ELECTRICAL CHARACTERISTICS



- In compliance with our warranty terms and conditions.
- Measurement conditions under irradiance level of Standard Test Conditions (STC): Irradiance 1000W/m², AM 1.5, Cell Temperature 25°C.



30-year linear performance warranty to 84.95% at year 30.
This amounts to 2% degradation in the first year, 0.45% annually.

* 25 year Product Warranty applies to Residential System Installations.
Commercial System Installations are eligible for 15 year Product Warranty.
Please see our warranty document for full terms, conditions and details.

NOTE: This datasheet is not legally binding. Phono Solar reserves the right to make specifications changes without notice.
Further information can be found on our website: www.phonosolar.com.au

Sumec Phono Solar modules are proudly manufactured in our facility in Nanjing, China.