

**SUMEC**

**Phono<sup>®</sup> Solar**  
AUSTRALIA

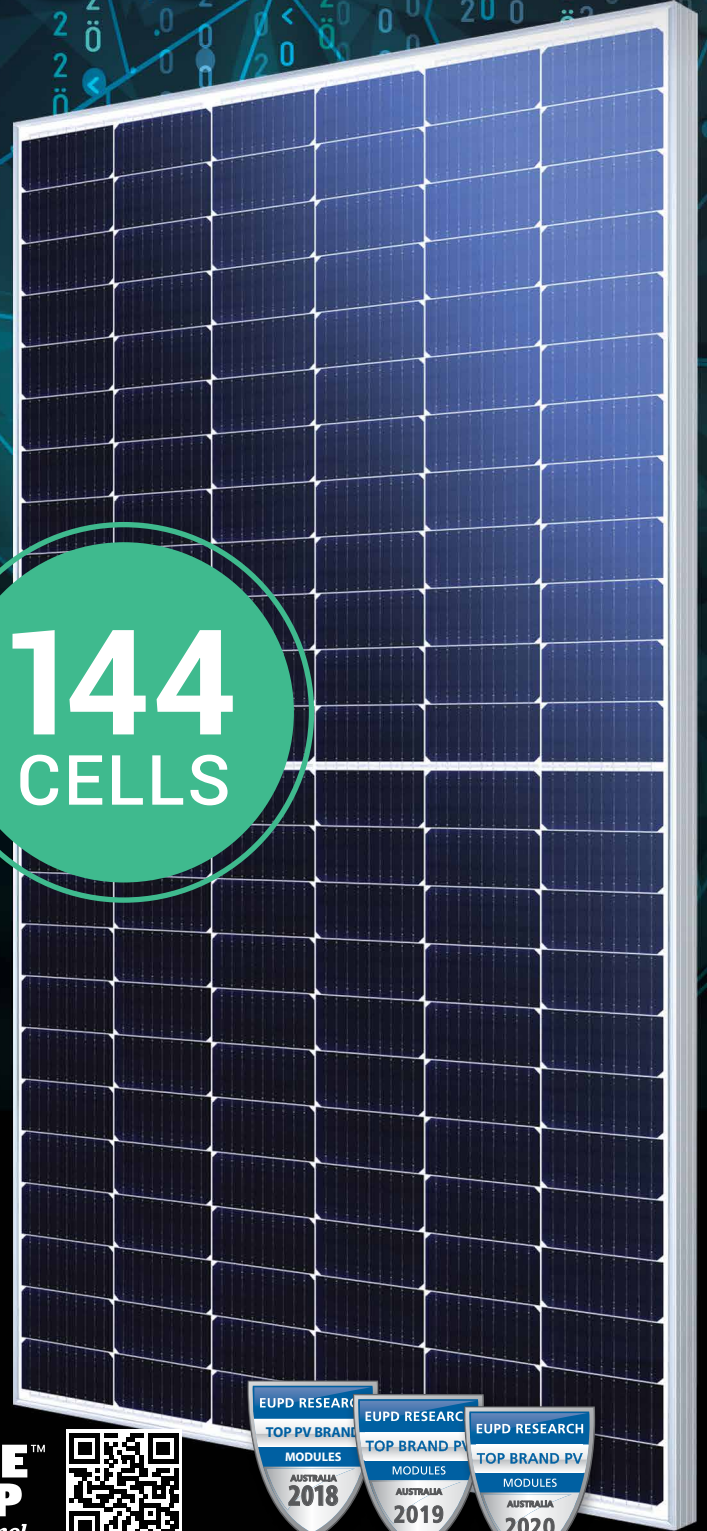
**450W**

**DIAMOND MODULE TECHNOLOGY**

# TWIN PLUS SERIES

- ✓ Standard 15 Year Product Warranty
- ✓ Outstanding Module Efficiency
- ✓ PID Resistant
- ✓ Better Performance Under Shading Effect
- ✓ Salt Mist Certified to the Highest Severity Level

**144  
CELLS**



**DIAMOND  
MODULE  
TECHNOLOGY**

**15 YEAR  
PRODUCT  
WARRANTY**



**BLUE  
CHIP<sup>™</sup>**  
Solar Panel





# 40+ YEARS OF EXPERIENCE

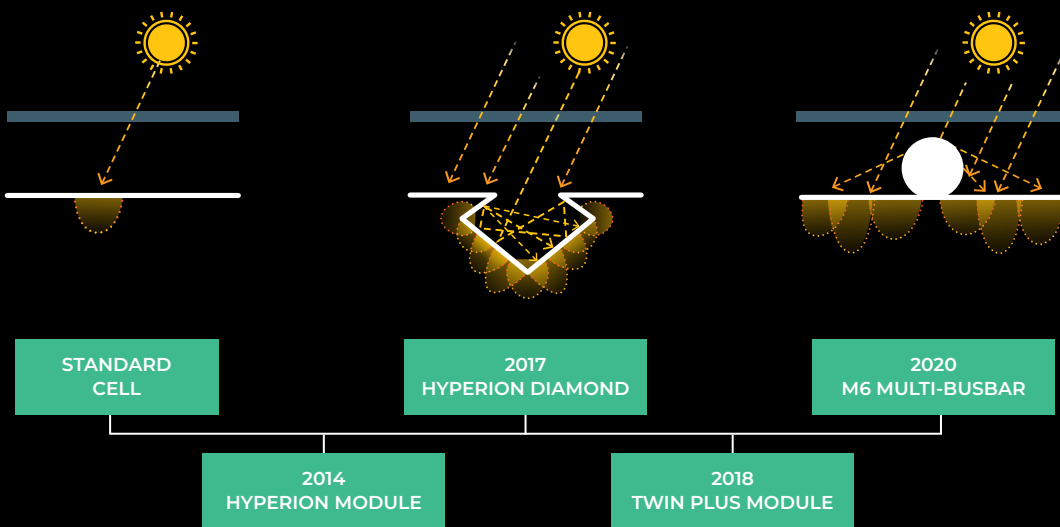
<p><b>1978</b></p> <p>Sumec starts business</p>	<p><b>2010</b></p> <p>Phono Solar first sell solar panels in Australia</p> <p>Diamond Module Technology is pioneered</p>	<p><b>2018</b></p> <p>Phono re-brands to Sumec Phono Solar</p>	<p><b>2019</b></p> <p>Introduction of Market Leading 15 Year Product Warranty</p>	<p><b>2020</b></p> <p>New manufacturing facility opens for production</p>
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“ We have invested in a brand new, state of the art, manufacturing line and are proud to introduce our latest Diamond Module Technology and leading Warranty to the Australian market. ”

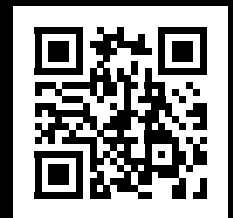
President Zhao, Sumec Phono Solar



## ADVANCED DIAMOND MODULE TECHNOLOGY



SCAN CODE TO WATCH VIDEO



Learn about the evolution of Diamond Module Technology



BLOOMBERG TIER 1 BRAND



OWNED BY FORTUNE 500 GLOBAL COMPANY



2019 TOP PERFORMING PANEL



25 YEAR PERFORMANCE WARRANTY

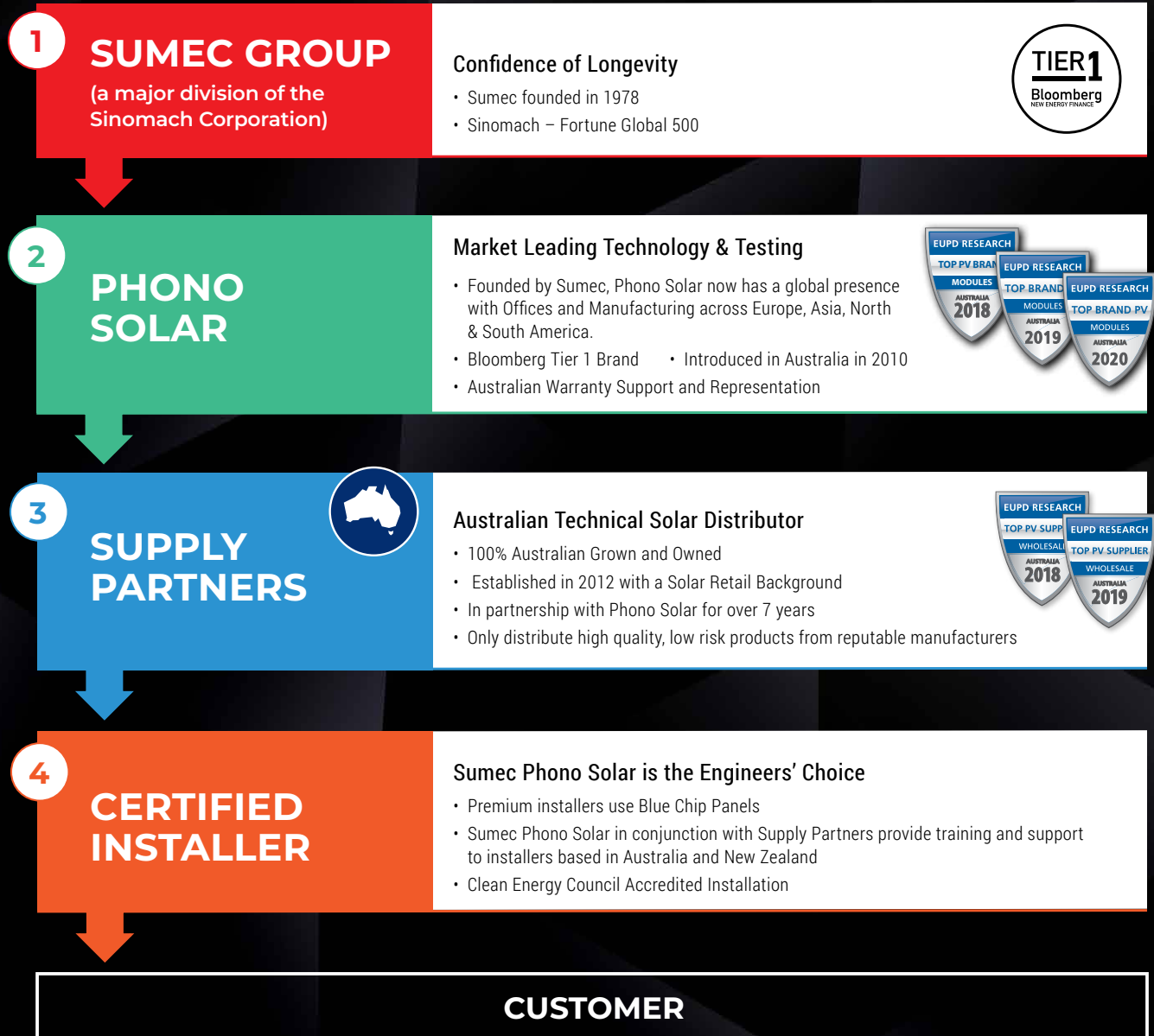
# MAKE A SECURE INVESTMENT

## 4 LAYERS OF PROTECTION

Your choice of Solar Panels is a critical part of your solar investment that affects how well your system can generate renewable energy and savings.

Choosing the right manufacturer to protect your investment is essential when you consider that **in 2013 there were more than 400** Solar Panel Manufacturers approved for install in Australia and **today there are fewer than 100**.

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](http://www.phonosolar.com.au)

**PHONO SOLAR INTERNATIONAL (SUMEC)**  
No. 1 Xinghuo Rd., Nanjing Hi-tech Zone, Nanjing, CHINA  
[www.phonosolar.com](http://www.phonosolar.com)



# TWIN PLUS SERIES

## ELECTRICAL TYPICAL VALUES

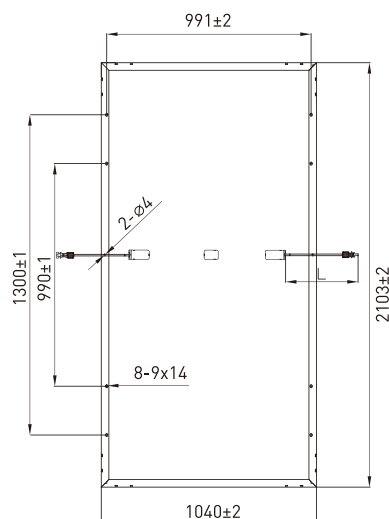
Model	PS450M4-24/TH PS450M4H-24/TH
Cell Type	144 x Monocrystalline 166mm x 83mm
Rated Power (Pmpp) <sup>2</sup>	<b>450W</b>
Tolerance	0~+5
Rated Current (Impp)	10.87
Rated Voltage (Vmpp)	41.40
Short Circuit Current (Isc)	11.38
Open Circuit Voltage (Voc)	49.24
Module Efficiency (%)	20.58
NOCT (Nominal Operation Cell Temperature)	43°C ± 2°C
Voltage Temperature Coefficient	-0.30%/°C
Current Temperature Coefficient	+0.050%/°C
Power Temperature Coefficient	-0.38%/°C

## MECHANICAL CHARACTERISTICS

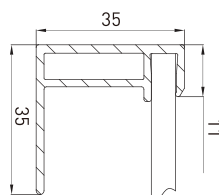
Dimensions	Length: 2103mm, Width: 1040mm Height: 35mm
Weight	25.0kg
Front Glass	3.2mm toughened glass
Frame	Anodised aluminium alloy
Cable	4mm <sup>2</sup> (IEC), 1250mm
Junction Box	IP 68 rated
Connectors	Genuine MC4 (1000V) / MC4-EVO 2 (1500V)

## PACKING CONFIGURATION

Container	Pallet	20'GP	40'HQ
Pieces per container	31	255	682



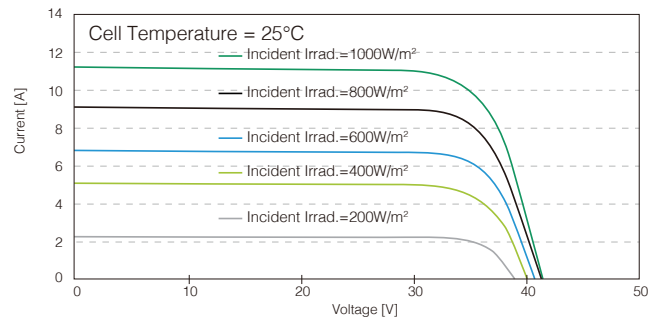
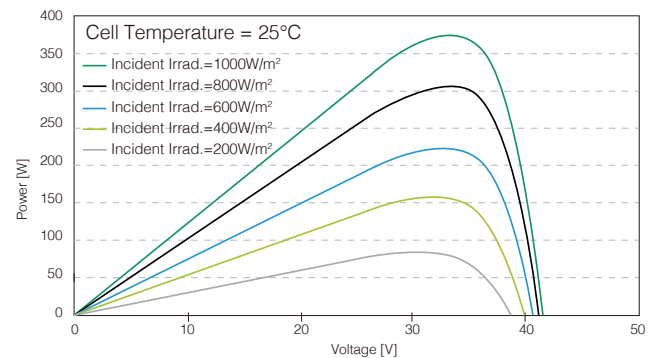
- In compliance with our warranty terms and conditions.
- Measurement conditions under irradiance level of Standard Test Conditions (STC): Irradiance 1000W/m<sup>2</sup>, AM 1.5G, Cell Temperature 25°C.



## ABSOLUTE MAXIMUM RATING

Operating Temperature	From -40 to +85°C
Hail Diameter@ 80km/h	Up to 25mm
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Maximum Series Fuse Rating	20A
PV Module Classification	II
Module Fire Performance (UL 1703)	Type 4
Maximum System Voltage	DC 1000V/1500V

## ELECTRICAL CHARACTERISTICS



- 15 year product warranty
- 25-year linear performance warranty to 84.8%

NOTE: This datasheet is not legally binding. Phono Solar reserves the right to make specifications changes without notice.

- In compliance with our warranty terms and conditions.

Further information can be found on our website: [www.phonosolar.com](http://www.phonosolar.com)