SUMEC
Phono® Solar
AUSTRALIA

455W

DIAMOND MODULE TECHNOLOGY

TWIN PLUS SERIES

✔ 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™ Solar Panel

EUPD RESEARCH TOP PV BRAND MODULES AUSTRALIA 2018

EUPD RESEARCH TOP BRAND MODULES AUSTRALIA 2019

EUPD RESEARCH TOP BRAND MODULES AUSTRALIA 2020

EUPD RESEARCH TOP BRAND PV MODULES AUSTRALIA 2021

SUMEC Phono® Solar AUSTRALIA

DIAMOND MODULE TECHNOLOGY | 15 YEAR PRODUCT WARRANTY

40+ YEARS OF EXPERIENCE

1978
Sumec starts business

2010
Phono Solar first sell solar panels in Australia

Diamond Module Technology is pioneered

2018
Phono re-brands to Sumec Phono Solar

2019
Introduction of Market Leading 15 Year Product Warranty

2020
New facility opens for production

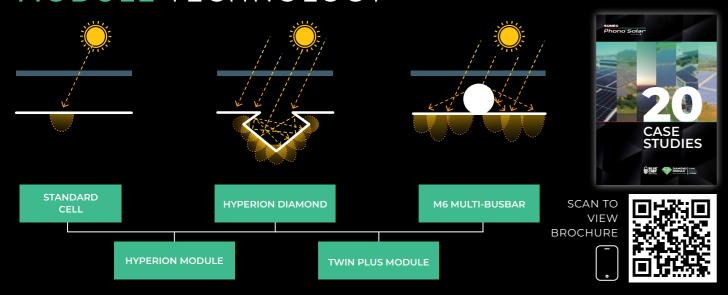**2021**
Ranked as a PVEL Top Performing Panel for 2021

> "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

STANDARD CELL	HYPERION DIAMOND	M6 MULTI-BUSBAR

HYPERION MODULE

TWIN PLUS MODULE

20 CASE STUDIES

SCAN TO VIEW BROCHURE

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 were founded over 40 years ago. 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.

1 SUMEC GROUP
(a major division of the Sinomach Corporation)

Confidence of Longevity
- Sumec founded in 1978
- Sinomach – Fortune Global 500

TIER1 Bloomberg NEW ENERGY FINANCE

2 PHONO SOLAR

Market Leading Technology & Testing
- Founded by Sumec, Phono Solar now has a global presence with Offices and Manufacturing across Europe, Asia, North & South America.
- Bloomberg Tier 1 Brand • Introduced in Australia in 2010
- Australian Warranty Support and Representation

EUPD RESEARCH TOP BRAND PV MODULES AUSTRALIA 2018 / 2019 / 2020 / 2021

3 SUPPLY PARTNERS

Australian Technical Solar Distributor
- 100% Australian Grown and Owned
- Established in 2012 with a Solar Retail Background
- In partnership with Phono Solar for over 8 years
- Only distribute high quality, low risk products from reputable manufacturers

EUPD RESEARCH TOP PV SUPPLIER WHOLESALE AUSTRALIA 2018 / 2019 / 2020 / 2021

4 CERTIFIED INSTALLER

Sumec Phono Solar is the Engineers' Choice
- Premium installers use Blue Chip Panels
- Sumec Phono Solar in conjunction with Supply Partners provide training and support to installers based in Australia and New Zealand
- Clean Energy Council Accredited Installation

CUSTOMER

SUMEC
Phono® Solar AUSTRALIA

BLUE CHIP™ Solar Panel **DIAMOND MODULE TECHNOLOGY**

455W

TWIN PLUS SERIES

15 YEAR PRODUCT WARRANTY

ELECTRICAL TYPICAL VALUES

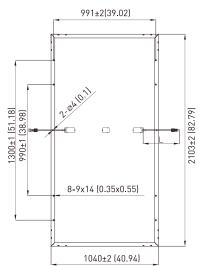| Model	PS455M4-24/TH PS455M4H-24/TH
Cell Type	Monocrystalline 166mm x 83mm
Rated Power (Pmpp) [2]	**455W**
Tolerance	0~+5w
Rated Current (Impp)	10.94
Rated Voltage (Vmpp)	41.60
Short Circuit Current (Isc)	11.47
Open Circuit Voltage (Voc)	49.37
Module Efficiency (%)	20.80
NOCT (Nominal Operation Cell Temperature)	43°C ± 2°C
Voltage Temperature Coefficient	-0.30%/°C
Current Temperature Coefficient	+0.05%/°C
Power Temperature Coefficient	-0.38%/°C

MECHANICAL CHARACTERISTICS

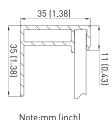| Dimensions	Length: 2103mm, Width: 1040mm Height: 35mm
Weight	25.0kg
Front Glass	3.2mm toughened glass
Frame	Anodised aluminium alloy
Cable	4mm² (IEC), 1250mm (incl.connector)
Junction Box	IP 68 rated
Connectors	Genuine MC4 (1000V) / MC4-EVO 2 (1500V)

PACKING CONFIGURATION

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

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
Fire Rating (IEC 61730)	C
Maximum System Voltage	DC 1500V/1000V

ELECTRICAL CHARACTERISTICS

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Phono® Solar AUSTRALIA

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

1. In compliance with our warranty terms and conditions.

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**

Voltage [V]

991±2(39.02)

2-Ø4 (0.1)

1300±1 (51.18)
990±1 (38.98)

2103±2 (82.79)

8-9x14 (0.35x0.55)

1040±2 (40.94)

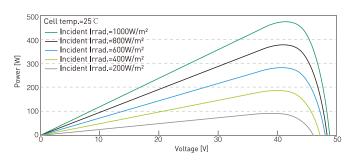35 (1.38)

35 (1.38)

11 (0.43)

Note:mm (inch)

1. In compliance with our warranty terms and conditions.
2. Measurement conditions under irradiance level of Standard Test Conditions (STC): Irradiance 1000W/m², AM 1.5G, Cell Temperature 25°C.
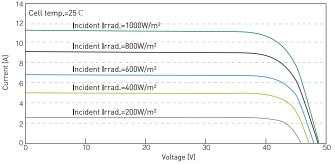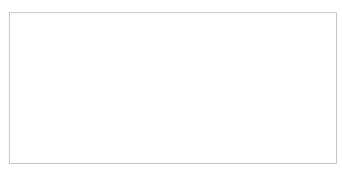
Sumec Phono Solar modules are proudly manufactured in China.