

PERFORMANCE 3 | 495 W

Power Plant Solar Panel

SunPower Performance Panels wrap conventional front contact cells with 35 years of SunPower materials, engineering and manufacturing expertise to enhance panel strength and durability. The weakest points of Conventional Panel design are eliminated to deliver superior power, reliability and value.¹

Limited Product Availability: Performance P3-UPP panels are engineered to meet the unique needs of large-scale solar power plants. Please note that this product is built-to-order for large-scale, multi-megawatt installations only. Please contact your sales representative with further questions.



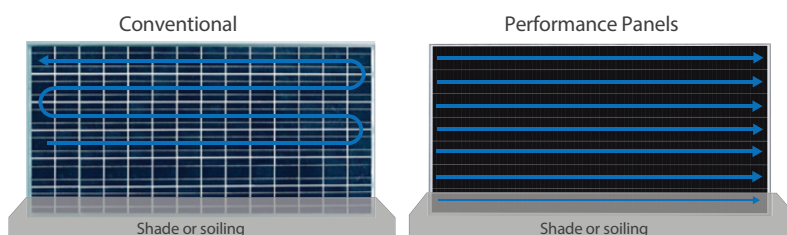
More Energy

By exposing more active surface area across more mono PERC cells, Performance P3-UPP panels optimize power density, while lowering system costs. The result is a high power panel uniquely suited for the needs of power plant developers, maximizing energy production within available space.

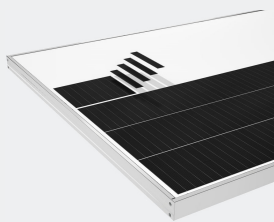


Trusted Durability

SunPower Performance panels are engineered to withstand a host of environmental challenges, such as daily temperature swings, high humidity and shading. In the case of shading, the unique parallel circuitry of Performance panels maximizes energy production during morning and evening row-to-row shading, or when panels become soiled.



Making the conventional, exceptional



- Redundant cell connections create flexible paths for continuous electricity flow.
- Aerospace-grade conductive adhesive delivers superior durability.
- A proprietary encapsulant minimizes cell degradation from environmental exposure.
- Smaller cells extend panel life, optimizing current to keep cells cooler when shaded.³



Proven Reliability

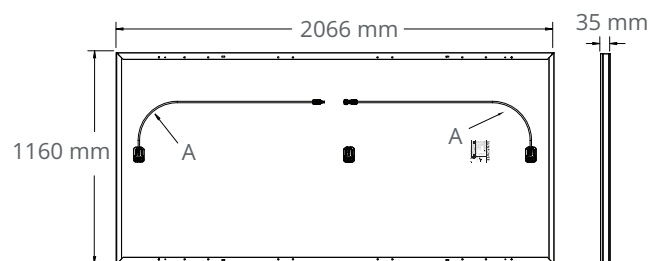
An innovative shingled cell design mitigates the leading reliability challenges associated with conventional front contact panels by designing out fragile ribbons and solder bonds on the cells. SunPower stands behind each Performance panel with a comprehensive 25-year power and product warranty. With proven results in real-world conditions, SunPower Performance Panels have become the most deployed shingled solar panel in the world.²

Electrical Data						
Model	SPR-P3-500-UPP	SPR-P3-495-UPP	SPR-P3-490-UPP	SPR-P3-485-UPP	SPR-P3-480-UPP	SPR-P3-475-UPP
Nominal Power (P _{nom}) ⁴	500 W	495 W	490 W	485 W	480 W	475 W
Power Tolerance	+3/-0%	+3/-0%	+3/-0%	+3/-0%	+3/-0%	+3/-0%
Efficiency	20.9%	20.7%	20.5%	20.2%	20.0%	19.8%
Rated Voltage (V _{mpp})	45.6 V	45.2 V	44.9 V	44.6 V	44.3 V	43.9 V
Rated Current (I _{mpp})	10.98 A	10.95 A	10.92 A	10.89 A	10.85 A	10.83 A
Open-Circuit Voltage (V _{oc})	54.6 V	54.2 V	53.9 V	53.6 V	53.3 V	53.0 V
Short-Circuit Current (I _{sc})	11.63 A	11.60 A	11.57 A	11.53 A	11.49 A	11.46 A
Maximum System Voltage	1500 V IEC					
Maximum Series Fuse	20 A					
Power Temp. Coef.	-0.34% / ° C					
Voltage Temp. Coef.	-0.28% / ° C					
Current Temp. Coef.	0.06% / ° C					

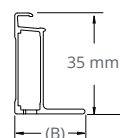
Tests And Certifications (Pending)	
Standard Tests ⁵	IEC 61215, IEC 61730 Rated to 1500 V
Quality Certs	ISO 9001:2008, ISO 14001:2004
EHS Compliance	OHSAS 18001:2007, Recycling Scheme
Ammonia Test	IEC 62716
Desert Test	MIL-STD-810G
Salt Spray Test	IEC 61701 (maximum severity)
LeTID Test ⁶	IEC 61215 (MQT 23.1 LeTID detection) draft standard
PID Test	Potential-Induced Degradation free: 1500 V
Available Listings	TUV, MCS

Warranties
25-year Product Workmanship Warranty
25-year Power Warranty
(Please refer to product warranty for details)

Operating Condition And Mechanical Data	
Temperature	-40° C to +85° C
Impact Resistance	25 mm diameter hail at 23 m/s
Solar Cells	Monocrystalline PERC
Tempered Glass	High-transmission tempered anti-reflective
Junction Box	IP-67, MC4 Compatible, 3 bypass diodes
Weight	25 kg
Max. Load	Wind: 2400 Pa, 245 kg/m ² front & back Snow: 5400 Pa, 550 kg/m ² front
Frame	Class 2 silver anodized



FRAME PROFILE



(A) Cable Length: 1000 mm +/-15 mm
(B) Long Side: 32 mm
Short Side: 24 mm

Read safety and installation instructions before using this product.

1 Independent Shade Study by CFV Laboratory.

2 Osborne. "SunPower supplying P-Series modules to a 125 MW NextEra project." PV-Tech.org, March 2017.

3 SunPower Performance Series – Thermal Performance, Z.Campeau 2016.

4 Measured at Standard Test Conditions (STC): irradiance of 1000 W/m², AM 1.5, and cell temperature 25° C.

5 Class C fire rating per IEC 61730.

6 Fraunhofer CSP LID Sensitivity according to IEC 61215 (MQT 23.1 LeTID detection), <1% power loss.

Designed in USA, assembled in China.

See www.sunpower.com for more reference information.

Specifications included in this datasheet are subject to change without notice.

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