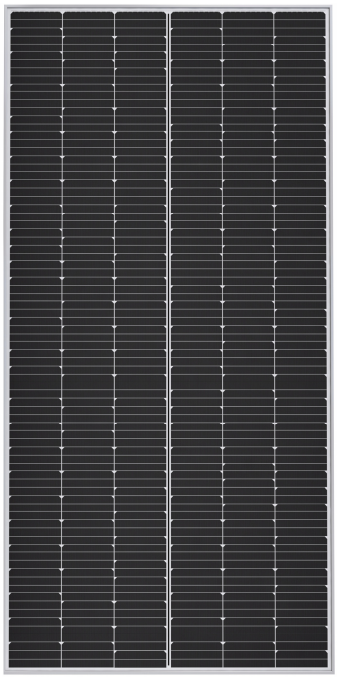
SUNPOWER®



## SunPower® P19-410-COM

# SunPower® Performance Panel for Commercial Installations

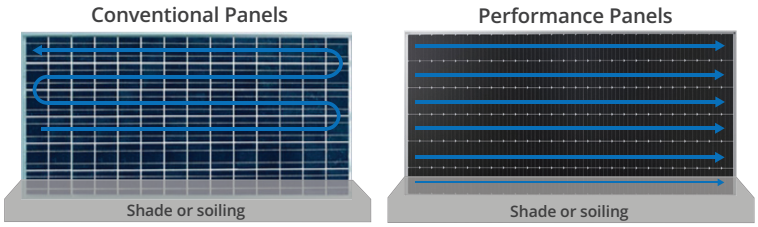
SunPower Performance Panels wrap front contact cells with 30+ years of SunPower materials and manufacturing expertise. The weakest points of Conventional Panel design are eliminated to deliver superior power, reliability, value and savings.[1]

### High Power

Enhanced active area and mono PERC cells optimize power density, while lowering system costs.

### High Performance

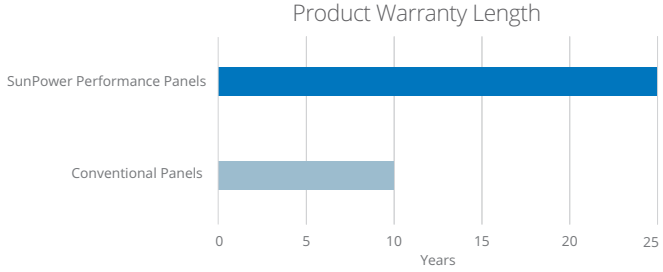
Up to 32% more energy in the same space over 25 years.[2] Unique parallel circuitry maximizes energy production during morning and evening row-to-row shading, or when panels become soiled.



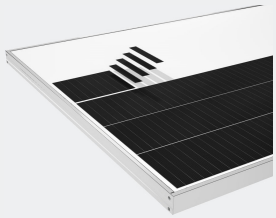

### High Reliability

SunPower Performance Panels are the most deployed shingled solar panel in the world.[3] Innovative cell shingling 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 its panels with its 25 year product and performance warranty.

#### 25 Year Combined Warranty
Protects your investment




## Engineered for Performance



Innovative Design

- Robust and flexible cell connection technology. Outstanding reliability.
- Conductive adhesive, proven in the aerospace industry.
- Redundant cell to cell connections.

Proven Performance

TOP PERFORMER 2018 DNV·GL PV MODULE RELIABILITY SCORECARD

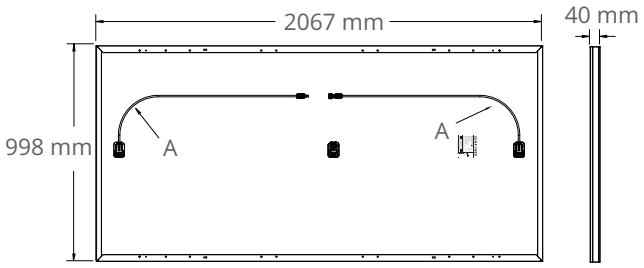
- Named as a Top Performer in all DNV/GL reliability tests.
- Reduced panel temperature due to unique electrical bussing.

## **P19-405-COM:** SunPower® Performance Panel for Commercial Installations

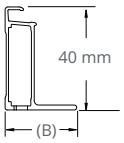
| Electrical Data | | | | | | |
|---|---|---|---|---|---|---|
| Model | SPR-P19-410-COM | SPR-P19-405-COM | SPR-P19-400-COM | SPR-P19-395-COM | SPR-P19-390-COM | SPR-P19-385-COM |
| Nominal Power (Pnom)[4] | 410 W | 405 W | 400 W | 395 W | 390 W | 385 W |
| Power Tolerance | +5/−0% | +5/−0% | +5/−0% | +5/−0% | +5/−0% | +5/−0% |
| Efficiency | 19.9% | 19.6% | 19.4% | 19.2% | 18.9% | 18.7% |
| Rated Voltage (Vmpp) | 45.7 V | 45.3 V | 44.8 V | 44.4 V | 44.1 V | 43.8 V |
| Rated Current (Impp) | 8.98 A | 8.94 A | 8.93 A | 8.90 A | 8.85 A | 8.80 A |
| Open-Circuit Voltage (Voc) | 54.5 V | 54.0 V | 53.6 V | 53.4 V | 52.9 V | 52.5 V |
| Short-Circuit Current (Isc) | 9.55 A | 9.53 A | 9.50 A | 9.47 A | 9.45 A | 9.44 A |
| Maximum System Voltage | 1000 V IEC | | | | | |
| Maximum Series Fuse | 18 A | | | | | |
| Power Temp. Coef. | −0.36% / ° C | | | | | |
| Voltage Temp. Coef. | −0.29% / ° C | | | | | |
| Current Temp. Coef. | 0.05% / ° C | | | | | |

| Tests And Certifications | |
|---|---|
| Standard Tests[5] | IEC 61215, IEC 61730 |
| 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) |
| PID Test | Potential-Induced Degradation free: 1000 V |
| Available Listings | TUV, MCS |

| 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, Multi-Contact (MC4), 3 bypass diodes |
| Weight | 23.1 kg |
| Max. Load | Wind: 2400 Pa, 245 kg/m² front & back<br>Snow: 5400 Pa, 550 kg/m² front |
| Frame | Class 2 silver anodized |
| Blocking Diode | None |




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 SunPower 400 W compared to a Conventional Panel on same sized arrays (310 W, 16% efficient, approx. 1.94 m²), 1% higher yield (Germany or California with 0.75 GCR, PVSim), 0.6%/yr degradation (Performance Series Review Leidos). 2018
3 Osborne. "SunPower supplying P-Series modules to a 125MW NextEra project." PV-Tech.org. March 2017.
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.

Designed in USA, assembled in China.

See www.sunpower.com.au/company for more reference information.
Specifications included in this datasheet are subject to change without notice.



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1 800 786 769