SunPower® P19-405-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

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¹ Named as a Top Performer in all DNV/GL reliability tests.
² Reduced panel temperature due to unique electrical bussing.
³ 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.
## Electrical Data

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Power (Pnom)</td>
<td>405 W</td>
<td>400 W</td>
<td>395 W</td>
<td>390 W</td>
<td>385 W</td>
<td>380 W</td>
</tr>
<tr>
<td>Power Tolerance</td>
<td>+5/~0%</td>
<td>+5/~0%</td>
<td>+5/~0%</td>
<td>+5/~0%</td>
<td>+5/~0%</td>
<td>+5/~0%</td>
</tr>
<tr>
<td>Efficiency</td>
<td>19.6%</td>
<td>19.4%</td>
<td>19.1%</td>
<td>18.9%</td>
<td>18.7%</td>
<td>18.4%</td>
</tr>
<tr>
<td>Rated Voltage (Vmp)</td>
<td>43.6 V</td>
<td>43.4 V</td>
<td>43.2 V</td>
<td>43.1 V</td>
<td>42.8 V</td>
<td>42.6 V</td>
</tr>
<tr>
<td>Rated Current (Imp)</td>
<td>9.28 A</td>
<td>9.22 A</td>
<td>9.14 A</td>
<td>9.05 A</td>
<td>8.99 A</td>
<td>8.92 A</td>
</tr>
<tr>
<td>Open-Circuit Voltage (Voc)</td>
<td>52.9 V</td>
<td>52.7 V</td>
<td>52.5 V</td>
<td>52.3 V</td>
<td>52.0 V</td>
<td>51.8 V</td>
</tr>
<tr>
<td>Short-Circuit Current (Isc)</td>
<td>9.87 A</td>
<td>9.80 A</td>
<td>9.72 A</td>
<td>9.63 A</td>
<td>9.58 A</td>
<td>9.49 A</td>
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<tr>
<td>Maximum System Voltage</td>
<td>1000 V IEC</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Power Temp. Coef.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>−0.36% / °C</td>
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<tr>
<td>Voltage Temp. Coef.</td>
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<td></td>
<td></td>
<td></td>
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<td>−0.29% / °C</td>
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<tr>
<td>Current Temp. Coef.</td>
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<td></td>
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<td>0.05% / °C</td>
</tr>
</tbody>
</table>

## Tests And Certifications

- Standard Tests: IEC 61215, IEC 61730
- EHS Compliance: OHSAS 18001:2007, Recycling Scheme
- Ammonia Test: IEC 62716
- Desert Test: 10.1109/PVSC.2013.6744437
- Salt Spray Test: IEC 61701 (maximum severity)
- PID Test: Potential-Induced Degradation free: 1000 V

## 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
  Snow: 5400 Pa, 550 kg/m² front
- Frame: Class 2 silver anodized

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1. Independent Shade Study by CFV Laboratory.
2. SunPower 405 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), 0.5%/yr degradation (Performance Series Review Leidos). 2018
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.

See [www.sunpowercorp.co.uk/company/about-sunpower](http://www.sunpowercorp.co.uk/company/about-sunpower) for more reference information.

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