

## SunPower® P19-400-COM-MLSD

### SunPower® Performance Panel for Commercial Installations

Meets NEC 2017 requirements for Module-level shutdown through SunSpec compatible shutdown device.

SunPower® Performance Series panels wrap front contact cells with 30+ years of SunPower materials and manufacturing expertise. Created to deliver superior power, reliability, value and savings by removing the weakest points of Conventional Panel design.<sup>1</sup>



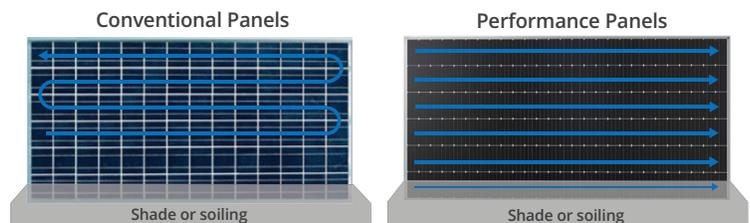
#### High Power

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



#### High Performance and Lifetime Savings

Up to 31% more energy in the same space over 25 years.<sup>2</sup> Unique parallel circuitry maximizes energy production during morning and evening row-to-row shading, or when panels become soiled.



#### 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



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



#### High Reliability, Backed with Confidence

SunPower Performance Panels are the most deployed shingled solar panel in the world.<sup>3</sup> 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 industry-leading Complete Confidence Warranty.



#### 25 Year Combined Warranty Protects your investment

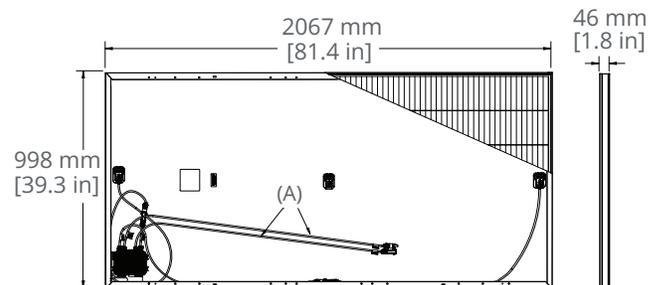


## P19-400-COM-MLSD SunPower® Performance Panel for Commercial Installation

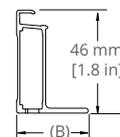
| Electrical Data                                |                      |                      |                      |                      |                      |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|
| Model  | SPR-P19-400-COM-MLSD | SPR-P19-395-COM-MLSD | SPR-P19-390-COM-MLSD | SPR-P19-385-COM-MLSD | SPR-P19-380-COM-MLSD |
| Nominal Power (P <sub>nom</sub> ) <sup>4</sup> | 400 W                | 395 W                | 390 W                | 385 W                | 380 W                |
| Power Tolerance                                | +5/-0%               | +5/-0%               | +5/-0%               | +5/-0%               | +5/-0%               |
| Efficiency                                     | 19.4%                | 19.2%                | 18.9%                | 18.7%                | 18.4%                |
| Rated Voltage (V <sub>mp</sub> )               | 44.8 V               | 44.4 V               | 44.1 V               | 43.8 V               | 43.3 V               |
| Rated Current (I <sub>mp</sub> )               | 8.93 A               | 8.90 A               | 8.85 A               | 8.80 A               | 8.78 A               |
| Open-Circuit Voltage (V <sub>oc</sub> )        | 53.6 V               | 53.4 V               | 52.9 V               | 52.5 V               | 52.2 V               |
| Short-Circuit Current (I <sub>sc</sub> )       | 9.50 A               | 9.47 A               | 9.45 A               | 9.44 A               | 9.43 A               |
| Maximum System Voltage                         | 1500 V UL            |                      |                      |                      |                      |
| Maximum Series Fuse                            | 15 A                 |                      |                      |                      |                      |
| Power Temp. Coef.                              | -0.36% / ° C         |                      |                      |                      |                      |
| Voltage Temp. Coef.                            | -0.29% / ° C         |                      |                      |                      |                      |
| Current Temp. Coef.                            | 0.05% / ° C          |                      |                      |                      |                      |

| Tests And Certifications (Preliminary) |  |
|--|--|
| Standard Tests <sup>5</sup>            | UL1703 (Type 2 Fire Rating)                |
| Quality Certs                          | ISO 9001:2008, ISO 14001:2004              |
| EHS Compliance                         | OHSAS 18001:2007                           |
| Ammonia Test                           | IEC 62716                                  |
| Desert Test                            | 10.1109/PVSC.2013.6744437                  |
| Salt Spray Test                        | IEC 61701 (maximum severity)               |
| PID Test                               | Potential-Induced Degradation free: 1500 V |
| Available Listings                     | UL   |

| Operating Condition And Mechanical Data |  |
|---|--|
| Temperature                             | -40° F to +185° F (-40° C to +85° C)   |
| Impact Resistance                       | 1 inch (25 mm) diameter hail at 52 mph (23 m/s)  |
| Solar Cells                             | Monocrystalline PERC   |
| Tempered Glass                          | High-transmission tempered anti-reflective   |
| Junction Box                            | IP-67, TE (PV4S)   |
| Weight                                  | 53 lbs (24.0 kg)   |
| Max. Load                               | Wind: 50 psf, 2400 Pa, 245 kg/m <sup>2</sup> front & back<br>Snow: 112 psf, 5400 Pa, 550 kg/m <sup>2</sup> front |
| Frame                                   | Class 2 silver anodized  |



FRAME PROFILE



- (A) Cable Length: 1200 mm +/-10 mm [47.2 in +/- 0.4 in]  
 (B) Long Side: 32 mm [1.3 in]  
 Short Side: 24 mm [0.9 in]

### REFERENCES:

- 1 Independent Shade Study by CFV Laboratory, 2016.
- 2 SunPower 400 W, 19.4% efficient, compared to a Conventional Panel on same-sized arrays (310 W, 16% efficient, approx. 2 m<sup>2</sup>), 3% more energy per watt (based on PVsyst pan files for avg US climate), 0.25%/yr slower degradation rate (Leidos Report. "SunPower P-Series Technology Technical Review." 2017).
- 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/m<sup>2</sup>, AM 1.5, and cell temperature 25° C.
- 5 Type 2 fire rating per UL1703:2013, Class C fire rating per UL1703:2002.

See [www.sunpower.com/company](http://www.sunpower.com/company) and [www.sunpower.com/solar-resources](http://www.sunpower.com/solar-resources) for more reference information.

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Read safety and installation instructions before using this product.

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