First Solar Series 6 Plus photovoltaic (PV) modules set the industry benchmark for reliable energy production, optimized design and environmental performance. The advanced design is optimized for every stage of your application, significantly reducing balance of system, shipping, and operating costs.

More Lifetime Energy per Nameplate Watt
- Industry’s best (0.3%) warranted degradation rate
- Superior temperature coefficient, spectral response and shading behavior
- Unlike crystalline silicon modules, First Solar’s thin film technology does not experience the losses associated with LID and LeTID
- Anti-reflective coated glass enhances energy production

Innovative Module Design
- Series 6 Plus SL modules offer a value-balanced design delivering maximized savings in low wind-speed areas
- Series 6 Plus HL modules offer a more robust design for projects in higher wind-speed areas
- Under-mount frame provides the cleaning and snowshedding benefits of a frameless module while protecting edges against breakage
- Innovative SpeedSlots achieve the industry’s fastest installation times and lowest mounting hardware costs
- Dual junction box design optimizes module-to-module connections and eliminates the need for wire management

Best In-Class Reliability & Durability
- Manufactured under one roof with 100% traceable QA/QC
- Independently tested and certified for reliable performance that exceeds IEC standards in high temperature, high humidity, extreme desert and coastal applications
- Inherently immune to and warranted against power loss from cell cracking

More Lifetime Energy per Nameplate Watt
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Best Environmental Profile
- Fastest energy payback time in the industry
- Carbon footprint that is 2.5X lower and a water footprint that is 3X lower than mono crystalline silicon panels on a life cycle basis
- Global PV module recycling services available through First Solar or customer-selected third-party

19.0% MAXIMUM EFFICIENCY
30YR LINEAR PERFORMANCE WARRANTY
98% WARRANTY START POINT
0.3% WARRANTED ANNUAL DEGRADATION RATE

Learn more about First Solar and Series 6 Plus at firstsolar.com/S6
**Series 6 Plus**

**Electrical Specifications**

**RATINGS AT STANDARD TEST CONDITIONS (1000W/m², AM 1.5, 25°C)**

### SERIES 6 PLUS SL MODEL TYPES: FS-6XXX-P-I / FS-6XXXA-P-I

<table>
<thead>
<tr>
<th>Nominal Power (W)</th>
<th>455</th>
<th>460</th>
<th>465</th>
<th>470</th>
<th>475</th>
<th>480</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency (%)</td>
<td>18.1</td>
<td>18.3</td>
<td>18.5</td>
<td>18.7</td>
<td>18.9</td>
<td>19.0</td>
</tr>
<tr>
<td>Voltage at Pmax (V)</td>
<td>187.8</td>
<td>188.8</td>
<td>189.8</td>
<td>191.1</td>
<td>191.5</td>
<td>192.8</td>
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<tr>
<td>Current at Pmax (A)</td>
<td>2.42</td>
<td>2.44</td>
<td>2.45</td>
<td>2.46</td>
<td>2.48</td>
<td>2.49</td>
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<tr>
<td>Open Circuit Voltage (V)</td>
<td>222.0</td>
<td>222.9</td>
<td>223.8</td>
<td>224.3</td>
<td>224.8</td>
<td>225.4</td>
</tr>
<tr>
<td>Short Circuit Current (A)</td>
<td>2.58</td>
<td>2.59</td>
<td>2.60</td>
<td>2.61</td>
<td>2.61</td>
<td>2.62</td>
</tr>
<tr>
<td>Maximum System Voltage (V)</td>
<td>1500V</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Limiting Reverse Current (I)</td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Maximum Series Fuse (A)</td>
<td>5.0</td>
<td></td>
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</table>

### SERIES 6 PLUS HL MODEL TYPES: FS-6XXX-P / FS-6XXXA-P (XXX = NOMINAL POWER)

<table>
<thead>
<tr>
<th>Nominal Power (W)</th>
<th>343.6</th>
<th>347.3</th>
<th>351.3</th>
<th>355.0</th>
<th>358.8</th>
<th>362.4</th>
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<tbody>
<tr>
<td>Voltage at Pmax (V)</td>
<td>176.2</td>
<td>176.3</td>
<td>177.4</td>
<td>179.3</td>
<td>179.4</td>
<td>180.3</td>
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<tr>
<td>Current at Pmax (A)</td>
<td>1.95</td>
<td>1.97</td>
<td>1.98</td>
<td>1.98</td>
<td>2.00</td>
<td>2.01</td>
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<tr>
<td>Open Circuit Voltage (V)</td>
<td>209.6</td>
<td>210.4</td>
<td>211.3</td>
<td>211.8</td>
<td>212.3</td>
<td>212.7</td>
</tr>
<tr>
<td>Short Circuit Current (A)</td>
<td>2.08</td>
<td>2.09</td>
<td>2.10</td>
<td>2.10</td>
<td>2.11</td>
<td>2.11</td>
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</tbody>
</table>

**TEMPERATURE CHARACTERISTICS**

- Module Operating Temperature Range: (-40 to +85)
- Temperature Coefficient of Pmax: -0.32%/°C
- Temperature Coefficient of Voc: -0.28%/°C
- Temperature Coefficient of Isc: +0.04%/°C

### MECHANICAL DESCRIPTION

- Module/Glass Length: 2024mm/2016mm
- Module/Glass Width: 1245mm/1216mm
- Module/Glass Area: 2.52m²/2.45m²
- Module Weight: Series 6 Plus SL: 33.3kg
- Module Weight: Series 6 Plus HL: 34.0kg
- Leadwire: 2.5mm², 733mm (+) & Bulkhead (-)
- Connectors: TE Connectivity PV4-5, MC4-EVO 2, or alternate
- Junction Box: IP68 Rated
- Bypass Diode: N/A
- Cell Type: Thin film CdTe semiconductor, up to 268 cells
- Frame Material: Anodized Aluminum
- Front Glass: Heat strengthened
- Back Glass: Heat strengthened
- Encapsulation: Laminate material with edge seal
- Frame to Glass Adhesive: Silicone
- Load Rating: Series 6 Plus HL: +1/2400Pa

### CERTIFICATIONS & TESTS

- IEC 61701: Salt Mist Corrosion
- IEC 60068-2-68 Dust and Sand Resistance
- UL 61730 1500V Listed

**EXTENDED DURABILITY TESTS**

- IEC TS 63209-1: Extended Stress Test
- Long-Term Sequential Thresher Test
- PID Resistant

- ISO 9001:2015
- ISO 14001:2015
- ISO 45001:2018
- ISO 14064-3:2006
- EPEAT Silver Registered

**QUALITY & EHS**

- PID Resistant

**MECHANICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Model Type</th>
<th>Modules Per Pack</th>
<th>Packs per 40' Container</th>
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<tr>
<td>Series 6 Plus SL</td>
<td>30</td>
<td>18</td>
</tr>
<tr>
<td>Series 6 Plus HL</td>
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<td>18</td>
</tr>
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**Packaging Information**

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