Power Optimizer
For North America
P320 / P340 / P370 / P400 / P405 / P505

PV power optimization at the module-level

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Fast installation with a single bolt
- Next generation maintenance with module-level monitoring
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- Module-level voltage shutdown for installer and firefighter safety
## Power Optimizer
### For North America
#### P320 / P340 / P370 / P400 / P405 / P505

<table>
<thead>
<tr>
<th>Optimizer model (typical module compatibility)</th>
<th>P320 (for 60-cell modules)</th>
<th>P340 (for high-power 60-cell modules)</th>
<th>P370 (for higher-power 60 and 72-cell modules)</th>
<th>P400 (for 72 &amp; 96-cell modules)</th>
<th>P405 (for thin film modules)</th>
<th>P505 (for higher current modules)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INPUT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated Input DC Power(1)</td>
<td>320</td>
<td>340</td>
<td>370</td>
<td>400</td>
<td>405</td>
<td>505</td>
</tr>
<tr>
<td>Absolute Maximum Input Voltage (Voc at lowest temperature)</td>
<td>48</td>
<td>60</td>
<td>80</td>
<td>125(2)</td>
<td>125(2)</td>
<td>87(2)</td>
</tr>
<tr>
<td>MPPT Operating Range</td>
<td>8 - 48</td>
<td>8 - 60</td>
<td>8 - 80</td>
<td>12.5 - 105</td>
<td>12.5 - 105</td>
<td>12.5 - 87</td>
</tr>
<tr>
<td>Maximum Short Circuit Current (Isc)</td>
<td>11</td>
<td>11</td>
<td>10.1</td>
<td>14</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Maximum DC Input Current</td>
<td>13.75</td>
<td>12.5</td>
<td>12.5</td>
<td>17.5</td>
<td>17.5</td>
<td></td>
</tr>
<tr>
<td>Maximum Efficiency</td>
<td>99.5</td>
<td>100</td>
<td></td>
<td>98.8</td>
<td>98.6</td>
<td>%</td>
</tr>
<tr>
<td>Weighted Efficiency</td>
<td>98.8</td>
<td>100</td>
<td></td>
<td>98.6</td>
<td>98.6</td>
<td>%</td>
</tr>
<tr>
<td>Overvoltage Category</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREDGE INVERTER)**
- Maximum Output Current: 15 A
- Maximum Output Voltage: 60 V

**OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR SOLAREDGE INVERTER OFF)**
- Safety Output Voltage per Power Optimizer: 1 ± 0.1 V

**STANDARD COMPLIANCE**
- EMC: FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3
- Safety: IEC62109-1 (class II safety), UL1741
- Material: UL94 V-0, UV Resistant
- RoHS: Yes

**INSTALLATION SPECIFICATIONS**
- Maximum Allowed System Voltage: 1000 V
- Compatible inverters: All SolarEdge Single Phase and Three Phase inverters

**PV System Design Using a SolarEdge Inverter**

### Single Phase
- **HD-Wave**
- **Single phase**
- **Three Phase 208V**
- **Three Phase 480V**

<table>
<thead>
<tr>
<th>Minimum String Length (Power Optimizers)</th>
<th>Single Phase</th>
<th>Single Phase HD-Wave</th>
<th>Three Phase 208V</th>
<th>Three Phase 480V</th>
</tr>
</thead>
<tbody>
<tr>
<td>P320, P340, P370, P400</td>
<td>8</td>
<td>10</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>P405 / P505</td>
<td>6</td>
<td>8</td>
<td>14</td>
<td></td>
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</tr>
</thead>
<tbody>
<tr>
<td>5700 (6000 with SE7600-US - SE11400-US)</td>
<td>5250</td>
<td>6000(6)</td>
<td>12750(9)</td>
<td></td>
</tr>
</tbody>
</table>

**Parallel Strings of Different Lengths or Orientations:**
- Yes

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(1) Rated power of the module at STC will not exceed the optimizer “Rated Input DC Power”. Modules with up to +5% power tolerance are allowed

(2) NEC 2017 requires max input voltage be not more than 80V

(3) For other connector types please contact SolarEdge

(4) For ambient temperature above +85°C / +185°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details.

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