CSUN410-72MH
The Large Scale Project Solution

CSUN410-72MH  CSUN405-72MH
CSUN400-72MH  CSUN395-72MH
CSUN390-72MH  CSUN385-72MH

21.17%  
Module efficiency

410W  
Highest power output

10 years  
Material & Workmanship warranty

25 years  
Linear power output warranty

PID-free
World class mono efficiency
Tighter product performance
distribution and current sorting
reduces the mismatch power loss
in system operation
Positive tolerance offer
Good temperature coefficient
enables higher output in high
temperature regions
Excellent performance under
low light conditions
Certified for salt/ammonia
corrosion resistance
Load certificates: wind to
2400Pa and snow to 5400Pa

Sunergy California LLC is a CSUN-brand-licensed manufacturer in USA.
As one of the leading PV enterprises, CSUN has delivered more than
8GW of solar products to residential, commercial, utility and off-grid
projects all around the world.
Electrical Characteristics at Standard Test Conditions (STC)

<table>
<thead>
<tr>
<th>Module Type</th>
<th>CSUN410-72MH</th>
<th>CSUN405-72MH</th>
<th>CSUN400-72MH</th>
<th>CSUN395-72MH</th>
<th>CSUN390-72MH</th>
<th>CSUN385-72MH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum Power - Pmax (W)</strong></td>
<td>410</td>
<td>405</td>
<td>400</td>
<td>395</td>
<td>390</td>
<td>385</td>
</tr>
<tr>
<td><strong>Open Circuit Voltage - Voc (V)</strong></td>
<td>48.9</td>
<td>48.7</td>
<td>48.5</td>
<td>48.3</td>
<td>48.1</td>
<td>47.9</td>
</tr>
<tr>
<td><strong>Short Circuit Current - Isc (A)</strong></td>
<td>10.52</td>
<td>10.44</td>
<td>10.36</td>
<td>10.29</td>
<td>10.21</td>
<td>10.14</td>
</tr>
<tr>
<td><strong>Maximum Power Voltage - Vmpp (V)</strong></td>
<td>40.5</td>
<td>40.3</td>
<td>40.1</td>
<td>39.9</td>
<td>39.7</td>
<td>39.5</td>
</tr>
<tr>
<td><strong>Maximum Power Current - Impp (A)</strong></td>
<td>10.13</td>
<td>10.05</td>
<td>9.98</td>
<td>9.91</td>
<td>9.83</td>
<td>9.75</td>
</tr>
<tr>
<td><strong>Module Efficiency</strong></td>
<td>21.17%</td>
<td>20.91%</td>
<td>20.66%</td>
<td>20.40%</td>
<td>20.14%</td>
<td>19.88%</td>
</tr>
</tbody>
</table>

Standard Test Conditions (STC): irradiance 1,000 W/m²; AM 1.5; module temperature 25°C. Tolerance of Pmpp: 0~+3%.
Measuring uncertainty of power: ±3%.

Electrical Characteristics at Normal Operating Cell Temperature (NOCT)

<table>
<thead>
<tr>
<th>Module Type</th>
<th>CSUN410-72MH</th>
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<th>CSUN385-72MH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum Power - Pmax (W)</strong></td>
<td>303</td>
<td>299</td>
<td>296</td>
<td>292</td>
<td>288</td>
<td>285</td>
</tr>
<tr>
<td><strong>Open Circuit Voltage - Voc (V)</strong></td>
<td>45.1</td>
<td>45</td>
<td>44.8</td>
<td>44.6</td>
<td>44.4</td>
<td>44.3</td>
</tr>
<tr>
<td><strong>Short Circuit Current - Isc (A)</strong></td>
<td>8.5</td>
<td>8.43</td>
<td>8.37</td>
<td>8.31</td>
<td>8.25</td>
<td>8.19</td>
</tr>
<tr>
<td><strong>Maximum Power Voltage - Vmpp (V)</strong></td>
<td>37.8</td>
<td>37.6</td>
<td>37.4</td>
<td>37.2</td>
<td>37.1</td>
<td>36.8</td>
</tr>
<tr>
<td><strong>Maximum Power Current - Impp (A)</strong></td>
<td>8.02</td>
<td>7.96</td>
<td>7.9</td>
<td>7.85</td>
<td>7.78</td>
<td>7.73</td>
</tr>
</tbody>
</table>

Normal Operating Cell Temperature (NOCT): irradiance 800W/m²; wind speed 1 m/s; cell temperature 45°C; ambient temperature 20°C.
Measuring uncertainty of power: ±3%.

Temperature Characteristics

<table>
<thead>
<tr>
<th>NOCT</th>
<th>45°C (±2°C)</th>
<th>Maximum System Voltage [V]</th>
<th>1500</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Voltage Temperature Coefficient</strong></td>
<td>-0.307%/K</td>
<td>Series Fuse Rating [A]</td>
<td>20</td>
</tr>
<tr>
<td><strong>Current Temperature Coefficient</strong></td>
<td>+0.039%/K</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Power Temperature Coefficient</strong></td>
<td>-0.423%/K</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Material Characteristics

- Dimensions: 1982×1002×40mm (L×W×H)
- Weight: 22.4kg
- Frame: Anodized aluminum profile
- Front Glass: White toughened safety glass, 3.2 mm
- Cell Encapsulation: EVA (Ethylene-Vinyl-Acetate)
- Back Sheet: Composite film
- Cells: 6×12 pieces monocrystalline solar cells series strings (158.75mm×158.75mm)
- Junction Box: Rated current: 13A, IP: 67, TUV&UL
- Cable&Connector: Length 1200 mm, 1×4 mm², compatible with MC4

Packaging

- Dimensions (L=W+H): 2010×1130×1120mm
- Temperature Range: -40 °C to + 85 °C
- Container 20’: 270
- Container 40’: 648
- Container 40’HC: 708
- Maximum Surface Load: 5,600 Pa
- Application class: class A

System Design

- Temperature Range: -40 °C to + 85 °C
- Withstanding Hail: Maximum diameter of 25 mm with impact speed of 23 m·s⁻¹
- Maximum Surface Load: 5,400 Pa
- Application class: class A

Dimensions

[Diagram of a solar panel showing dimensions and layout]

IV-Curves

[Graphs showing IV curves under different conditions]