Yingli Solar

Yingli Energy (China) Company Limited, known as “Yingli Solar”, is one of the world’s leading solar panel manufacturers with the mission to provide affordable green energy for all. Yingli Solar makes solar power possible for communities everywhere by using our global manufacturing and logistics expertise to address unique local challenges.

**YLM-J 144 CELL (M10)**

**IMPROVED POWER NEVER SETTLE FOR LESS**

YLM series product, using multi-busbar design, reduced the cells silver paste consumption, improved cells efficiency, achieved the higher modules power output.

- **Higher Durability**
  The multi-busbar design can decrease the risk of the cell micro-cracks and fingers broken.

- **High Power Density**
  High conversion efficiency and more power output per square meter, by lower series resistance and improved light harvesting.

- **Half-cell Design**
  Less energy loss caused by shading due to new cell string layout and split J-box, and lower cell connection power loss due to half-cell design.

- **Large size cell**
  The large cell design effectively increases module peak power and effectively reduces BOS costs, thereby reducing system costs.

**22.5% CELL EFFICIENCY**

**12 YEAR PRODUCT WARRANTY**

**0 - 5W POWER TOLERANCE**

**25 Years Linear Warranty**

**YINGLISOLAR.COM**
**YLM-J 144 CELL** (M10)

**ELECTRICAL PERFORMANCE**

### Electrical parameters at Standard Test Conditions (STC)

<table>
<thead>
<tr>
<th>Module type</th>
<th>P&lt;sub&gt;max&lt;/sub&gt; W</th>
<th>V&lt;sub&gt;mp&lt;/sub&gt; V</th>
<th>I&lt;sub&gt;mp&lt;/sub&gt; A</th>
<th>η&lt;sub&gt;m&lt;/sub&gt; %</th>
<th>ΔP&lt;sub&gt;max&lt;/sub&gt; W</th>
<th>T&lt;sub&gt;mp&lt;/sub&gt; °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>YLxxxD-49e 1/2 (xxx=P&lt;sub&gt;max&lt;/sub&gt;)</td>
<td>530</td>
<td>41.40</td>
<td>12.81</td>
<td>20.51</td>
<td>20.70</td>
<td>20.89</td>
</tr>
<tr>
<td>YLxxxD-49e 1500V 1/2 (xxx=P&lt;sub&gt;max&lt;/sub&gt;)</td>
<td>535</td>
<td>41.55</td>
<td>12.88</td>
<td>20.70</td>
<td>20.90</td>
<td>21.09</td>
</tr>
<tr>
<td>YLxxxD-49e 3000V 1/2 (xxx=P&lt;sub&gt;max&lt;/sub&gt;)</td>
<td>540</td>
<td>41.70</td>
<td>12.95</td>
<td>21.09</td>
<td>21.28</td>
<td></td>
</tr>
<tr>
<td>YLxxxD-49e 4500V 1/2 (xxx=P&lt;sub&gt;max&lt;/sub&gt;)</td>
<td>545</td>
<td>41.85</td>
<td>13.03</td>
<td>21.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YLxxxD-49e 6000V 1/2 (xxx=P&lt;sub&gt;max&lt;/sub&gt;)</td>
<td>550</td>
<td>42.00</td>
<td>13.10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

STC: 1000W/m<sup>2</sup> irradiance, 25°C module temperature, AM1.5g spectrum according to EN 60904-3.

Average relative efficiency reduction of 3.3% at 200W/m<sup>2</sup> according to EN 60904-1.

### Electrical parameters at Nominal Operating Cell Temperature (NOCT)

<table>
<thead>
<tr>
<th>Module type</th>
<th>P&lt;sub&gt;max&lt;/sub&gt; W</th>
<th>V&lt;sub&gt;mp&lt;/sub&gt; V</th>
<th>I&lt;sub&gt;mp&lt;/sub&gt; A</th>
<th>η&lt;sub&gt;m&lt;/sub&gt; %</th>
<th>ΔP&lt;sub&gt;max&lt;/sub&gt; W</th>
<th>T&lt;sub&gt;mp&lt;/sub&gt; ºC</th>
</tr>
</thead>
<tbody>
<tr>
<td>YLxxxD-49e 1/2 (xxx=P&lt;sub&gt;max&lt;/sub&gt;)</td>
<td>394.3</td>
<td>38.5</td>
<td>10.25</td>
<td>0.30</td>
<td>0.40</td>
<td>0.50</td>
</tr>
<tr>
<td>YLxxxD-49e 1500V 1/2 (xxx=P&lt;sub&gt;max&lt;/sub&gt;)</td>
<td>398.0</td>
<td>38.6</td>
<td>10.30</td>
<td>0.32</td>
<td>0.42</td>
<td>0.52</td>
</tr>
<tr>
<td>YLxxxD-49e 3000V 1/2 (xxx=P&lt;sub&gt;max&lt;/sub&gt;)</td>
<td>401.8</td>
<td>38.8</td>
<td>10.36</td>
<td>0.34</td>
<td>0.44</td>
<td>0.54</td>
</tr>
<tr>
<td>YLxxxD-49e 4500V 1/2 (xxx=P&lt;sub&gt;max&lt;/sub&gt;)</td>
<td>405.5</td>
<td>38.9</td>
<td>10.42</td>
<td>0.36</td>
<td>0.46</td>
<td>0.56</td>
</tr>
<tr>
<td>YLxxxD-49e 6000V 1/2 (xxx=P&lt;sub&gt;max&lt;/sub&gt;)</td>
<td>409.2</td>
<td>39.0</td>
<td>10.48</td>
<td>0.38</td>
<td>0.48</td>
<td>0.58</td>
</tr>
</tbody>
</table>

NOCT: open-circuit module operation temperature at 800W/m<sup>2</sup> irradiance, 20°C ambient temperature, 1m/s wind speed.

### THERMAL CHARACTERISTICS

- **Nominal operating cell temperature**: NOCT
- **Temperature coefficient of P<sub>max</sub>** η<sub>m</sub> %/ºC
- **Temperature coefficient of V<sub>mp</sub>** β<sub>mp</sub> %/ºC
- **Temperature coefficient of I<sub>mp</sub>** α<sub>mp</sub> %/ºC

### OPERATING CONDITIONS

- **Max. system voltage**: 1000V<sub>ac</sub> or 1500V<sub>ac</sub>
- **Max. series fuse rating**: 25A
- **Operating temperature range**: -40°C to 85°C
- **Max. static load, front (e.g., snow)**: 5400Pa
- **Max. static load, back (e.g., wind)**: 2400Pa
- **Max. hailstone impact (diameter / velocity)**: 25mm / 23m/s

**WARNING**: Do not connect fuse in combiner box with two or more strings in parallel connection.

### CONSTRUCTION MATERIALS

- **Front cover (material / thickness)**: low-iron tempered glass / 3.2mm
- **Cell (quantity / material)**: 144 / monocrystalline silicon
- **Frame (material)**: anodized aluminum alloy
- **Junction box (protection degree)**: ≥ IP67
- **Cable (length / cross-sectional area)**: 300 mm / 4mm²

### PACKAGING SPECIFICATIONS

- **Number of modules per pallet**: 31
- **Number of pallets per 40’ container**: 20
- **Packaging box dimensions** (L / W / H): 2279×1134×35 mm
- **Box weight**: 28.6kg

### QUALIFICATIONS & CERTIFICATES

- OHSAS 18001:2007

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Warning: Read the Installation and User Manual in its entirety before handling, installing and operating Yingli Solar modules.