The polycrystalline solar module Q.PRO L solar module with power classes up to 310 W is the strongest module of its type on the market globally. Powered by 72 Q CELLS solar cells and with a size of 2 m² Q.PRO L was specially designed for large solar power plants to reduce BOS costs. But there is even more to our polycrystalline modules. Only Q CELLS offers German engineering quality with our unique triple Yield Security.

**YOUR EXCLUSIVE TRIPLE YIELD SECURITY**

- **Anti PID Technology (APT)** reliably prevents power loss resulting from unwanted leakage currents (potential-induced degradation)\(^1\).
- **Hot-Spot Protect (HSP)** prevents yield losses and reliably protects against module fire.
- **Traceable Quality (Tra.Q™)** is the ‘Finger Print’ of a solar cell. Tra.Q™ ensures continuous quality control throughout the entire production process from cells to modules while making Q CELLS solar modules forgery proof.

**ONE MORE ADVANTAGE FOR YOU**

- **Reduced BOS costs**: Optimised design to reduce costs per Wp.
- **Improved energy yield**: The actual output of all Q CELLS solar modules is up to 5 Wp higher than the nominal power thanks to positive sorting.
- **Guaranteed performance**: Q CELLS offers the best warranties on the market. A 12-year product warranty plus a 25-year linear performance warranty\(^2\).

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\(^1\) APT test conditions: Cells at -1000 V against grounded, with conductive metal foil covered module surface, 25 °C, 168 h (TÜV test conditions)

\(^2\) See data sheet on rear for further information.
MECHANICAL SPECIFICATION

Format
77 in x 38.9 in x 1.77 in (including frame)
(1956 mm x 988 mm x 45 mm)

Weight
59.52 lb (27.0 kg)

Front Cover
0.16 in (4.0 mm) thermally pre-stressed glass with anti-reflection technology

Back Cover
Composite film

Frame
Anodized aluminum

Cell
6 x 12 polycrystalline solar cells

Junction box
Protection class IP67, with bypass diodes

Cable
4 mm² Solar cable; (+) 47.64 in (1210 mm), (-) 47.64 in (1210 mm)

Connector
SOLARLOK PV4, IP68

QUALIFICATIONS AND CERTIFICATES

PARTNER

UL 1703; VDE Quality Tested; CE-compliant; IEC 61215 (Ed.2); IEC 61730 (Ed.1) application class A

PERFORMANCE AT STANDARD TEST CONDITIONS (STC: 1000 W/M², 25 °C, AM 1.5 G SPECTRUM)

<table>
<thead>
<tr>
<th>NOMINAL POWER (+5/-0 W)</th>
<th>290</th>
<th>295</th>
<th>300</th>
<th>305</th>
<th>310</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Power P₀PP (W)</td>
<td>292.5</td>
<td>297.5</td>
<td>302.5</td>
<td>307.5</td>
<td>312.5</td>
</tr>
<tr>
<td>Efficiency (Nominal Efficiency) η (%)</td>
<td>≥14.8</td>
<td>≥15.0</td>
<td>≥15.3</td>
<td>≥15.5</td>
<td>≥15.8</td>
</tr>
<tr>
<td>Short Circuit Current I_SC (A)</td>
<td>8.79</td>
<td>8.86</td>
<td>8.93</td>
<td>9.01</td>
<td>9.08</td>
</tr>
<tr>
<td>Open Circuit Voltage V_OC (V)</td>
<td>44.89</td>
<td>45.10</td>
<td>45.32</td>
<td>45.53</td>
<td>45.75</td>
</tr>
<tr>
<td>Current at P₀PP I₀PP (A)</td>
<td>8.23</td>
<td>8.33</td>
<td>8.44</td>
<td>8.54</td>
<td>8.65</td>
</tr>
<tr>
<td>Voltage at P₀PP V₀PP (V)</td>
<td>35.54</td>
<td>35.69</td>
<td>35.85</td>
<td>36.00</td>
<td>36.15</td>
</tr>
</tbody>
</table>

1 Measurement tolerances STC: ±3 % (P MPP); ±10 % (I SC, V OC, I MPP, V MPP)

ELECTRICAL CHARACTERISTICS

PERFORMANCE AT LOW IRRADIANCE

For irradiance of 200 W/m² in relation to 1000 W/m² (both at 25 °C and AM 1.5 G spectrum) is -3 % (relative).

At least 97 % of nominal power during first year. Thereafter max. 0.6 % degradation per year.
At least 92 % of nominal power after 10 years.
At least 83 % of nominal power after 25 years.

All data within measurement tolerances.

Q CELLS PERFORMANCE WARRANTY

The typical change in module efficiency at an irradiance of 200 W/m² in relation to 1000 W/m² (both at 25 °C and AM 1.5 G spectrum) is -3 % (relative).

Temperature Coefficient of P MPP α [%/K] +0.04
Temperature Coefficient of V OC β [%/K] −0.33

TEMPERATURE COEFFICIENTS (AT 1000 W/m², AM 1.5 G SPECTRUM)

Temperature Coefficient of I_SC γ [%/K] −0.43

TEMPERATURE COEFFICIENTS

Maximum System Voltage V_SYS (V) 1000 (IEC) / 600 (UL)

Safety Class II

Maximum Series Fuse Rating [A DC] 20

Fire Rating C

Wind/Snow load (IEC)² [lbs/ft²] 112 (5400 Pa)

Permitted module temperature on continuous duty [°F] -40 up to 185 (-40 °C up to 85 °C)

Max. Load (UL)² [lbs/ft²] 75 (3600 Pa)

Load Rating (UL)² [lbs/ft²] 75 (3600 Pa)

PROPERTIES FOR SYSTEM DESIGN

NOTES: Metric units are definitive. Installation instructions must be followed. See the installation and operating manual or contact technical service for further information on approved installation and use of this product.

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