BREAKING THE 20% EFFICIENCY BARRIER
Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 21.4%.

THE MOST THOROUGH TESTING PROGRAMME IN THE INDUSTRY
Q CELLS is the first solar module manufacturer to pass the most comprehensive quality programme in the industry: The new “Quality Controlled PV” of the independent certification institute TÜV Rheinland.

INNOVATIVE ALL-WEATHER TECHNOLOGY
Optimal yields, whatever the weather with excellent low-light and temperature behavior.

ENDURING HIGH PERFORMANCE
Long-term yield security with Anti LID Technology, Anti PID Technology², Hot-Spot Protect and Traceable Quality Tra.Q™.

EXTREME WEATHER RATING
High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).

A RELIABLE INVESTMENT
Inclusive 12-year product warranty and 25-year linear performance warranty².

¹ APT test conditions according to IEC/TS 62804-1:2015, method A (-1500 V, 96 h)
² See data sheet on rear for further information.

THE IDEAL SOLUTION FOR:
Rooftop arrays on residential buildings

Engineered in Germany
MECHANICAL SPECIFICATION

Format 74.0 in × 41.1 in × 1.26 in (including frame) (1879 mm × 1045 mm × 32 mm)
Weight 48.5 lbs (22.0 kg)
Front Cover 0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover Composite film
Frame Black anodized aluminum
Cell 6 × 22 monocrystalline Q.ANTUM solar half cells
Junction Box 2.09-3.98 in × 1.26-2.36 in × 0.59-0.71 in
Power 6 × 22 monocrystalline Q.ANTUM solar half cells
Potential Difference 2.09-3.98 in × 1.26-2.36 in × 0.59-0.71 in

ELECTRICAL CHARACTERISTICS

POWER CLASS 395 400 405 410 415

MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC 1 (POWER TOLERANCE +5 W / −0 W)

<table>
<thead>
<tr>
<th>Power at MPP</th>
<th>P_{MPP} [W]</th>
<th>395</th>
<th>400</th>
<th>405</th>
<th>410</th>
<th>415</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Circuit Current</td>
<td>I_{SC} [A]</td>
<td>11.13</td>
<td>11.16</td>
<td>11.19</td>
<td>11.22</td>
<td>11.26</td>
</tr>
<tr>
<td>Open Circuit Voltage</td>
<td>V_{OC} [V]</td>
<td>45.03</td>
<td>45.06</td>
<td>45.09</td>
<td>45.13</td>
<td>45.16</td>
</tr>
<tr>
<td>Current at MPP</td>
<td>I_{MP} [A]</td>
<td>10.58</td>
<td>10.64</td>
<td>10.70</td>
<td>10.76</td>
<td>10.82</td>
</tr>
<tr>
<td>Voltage at MPP</td>
<td>V_{MP} [V]</td>
<td>37.32</td>
<td>37.59</td>
<td>37.85</td>
<td>38.11</td>
<td>38.37</td>
</tr>
<tr>
<td>Efficiency</td>
<td>η [%]</td>
<td>≥ 20.1</td>
<td>≥ 20.4</td>
<td>≥ 20.6</td>
<td>≥ 20.9</td>
<td>≥ 21.1</td>
</tr>
</tbody>
</table>

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT 2

<table>
<thead>
<tr>
<th>Power at MPP</th>
<th>P_{MP} [W]</th>
<th>296.4</th>
<th>300.1</th>
<th>303.9</th>
<th>307.6</th>
<th>311.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Circuit Current</td>
<td>I_{SC} [A]</td>
<td>8.97</td>
<td>8.99</td>
<td>9.02</td>
<td>9.04</td>
<td>9.07</td>
</tr>
<tr>
<td>Open Circuit Voltage</td>
<td>V_{OC} [V]</td>
<td>42.46</td>
<td>42.49</td>
<td>42.52</td>
<td>42.56</td>
<td>42.59</td>
</tr>
<tr>
<td>Current at MPP</td>
<td>I_{MP} [A]</td>
<td>8.33</td>
<td>8.38</td>
<td>8.43</td>
<td>8.48</td>
<td>8.53</td>
</tr>
<tr>
<td>Voltage at MPP</td>
<td>V_{MP} [V]</td>
<td>35.59</td>
<td>35.82</td>
<td>36.04</td>
<td>36.27</td>
<td>36.49</td>
</tr>
</tbody>
</table>

Q CELLS PERFORMANCE WARRANTY

Performance at Low Irradiance

At least 96% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organisation of your respective country.

TEMPERATURE COEFFICIENTS

| Temperature Coefficient of I_{SC} | α [%/K] | +0.04 |
| Temperature Coefficient of V_{OC} | β [%/K] | −0.27 |
| Temperature Coefficient of P_{MPP} | γ [%/K] | −0.34 |

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V_{SYS} [V] 1000 (IEC)/1000 (UL) PV module classification Class II
Maximum Series Fuse Rating [A DC] 20 Fire Rating based on ANSI/ UL 61730 TYPE 2
Max. Design Load, Push / Pull 3 [lbs/ft²] 75 (3600 Pa)/55 (2660 Pa) Permitted Module Temperature on Continuous Duty −40 °F up to +185 °F
Max. Test Load, Push / Pull 3 [lbs/ft²] 113 (5400 Pa)/84 (4000 Pa)

QUALIFICATIONS AND CERTIFICATES


PACKAGING INFORMATION

Horizontal packaging 76.4 in | 43.1 in | 48.1 in | 166.6 lbs | pallets | pallets | modules

Note: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

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Specifications subject to technical changes © Q CELLS 2021

*Standard terms of guarantee for the 10 PV companies

**Minimum performance at standard test conditions (STC: 25 °C, 1000 W/m²)