Q.ANTUM TECHNOLOGY: LOW LEVELISED COST OF ELECTRICITY
Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 20.5%.

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

ENDURING HIGH PERFORMANCE
Long-term yield security with Anti LID Technology, Anti PID Technology1, Hot-Spot Protect and Traceable Quality Tra.Q™.

EXTREME WEATHER RATING
High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (2400 Pa).

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

STATE OF THE ART MODULE TECHNOLOGY
Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.

THE IDEAL SOLUTION FOR:
- Rooftop arrays on commercial/industrial buildings
- Ground-mounted solar power plants

1 APT test conditions according to IEC/TS 62804-1:2015, method B (-1500 V, 168 h)
2 See data sheet on rear for further information.
MECHANICAL SPECIFICATION

| Format | 81.9 in x 40.6 in x 1.38 in (including frame) (2080 mm x 1030 mm x 35 mm) |
| Weight | 55.1 lbs (25 kg) |
| Front Cover | 0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology |
| Back Cover | Composite |
| Frame | Anodized aluminum |
| Cell | 6 × 24 monocrystalline Q.ANTUM solar half cells |
| Junction Box | 2.09-3.98 × 1.26-2.36 × 0.59-0.71 in (53-101 × 32-60 × 15-18 mm), Protection class IP67, with bypass diodes |
| Cable | 4 mm² Solar cable; (+) ≥ 55.1 in (1400 mm), (−) ≥ 55.1 in (1400 mm) |
| Connector | Stäubli MC4-Evo2, Hanwha Q CELLS HQC4, Amphenol UTX, Renhe 05-8, JMTTHY JM601A, Tongling Cable01S-F, IP68 or Friends PV2e, IP67 |

ELECTRICAL CHARACTERISTICS

POWER CLASS  | 415 | 420 | 425 | 430 | 435
---|---|---|---|---|---
Power at MPP(1) | P_{MPP} [W] | 415 | 420 | 425 | 430 | 435
Short Circuit Current(1) | I_{SC} [A] | 10.74 | 10.79 | 10.83 | 10.88 | 10.92
Open Circuit Voltage(1) | V_{OC} [V] | 48.63 | 48.88 | 49.13 | 49.38 | 49.62
Current at MPP | I_{MP} [A] | 10.23 | 10.27 | 10.32 | 10.36 | 10.41
Voltage at MPP | V_{MP} [V] | 40.58 | 40.89 | 41.20 | 41.50 | 41.81
Efficiency(1) | η [%] | ≥ 19.4 | ≥ 19.6 | ≥ 19.8 | ≥ 20.1 | ≥ 20.3

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

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT(2)

Q CELLS PERFORMANCE WARRANTY

Typical module performance under low irradiance conditions in comparison to STC conditions (25°C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

<table>
<thead>
<tr>
<th>Table</th>
<th>Temperature Coefficient of I_{SC}</th>
<th>α [% / K]</th>
<th>+0.04</th>
<th>Temperature Coefficient of V_{OC}</th>
<th>β [% / K]</th>
<th>−0.27</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Coefficient of P_{MPP}</td>
<td>γ [% / K]</td>
<td>−0.36</td>
<td>Nominal Module Operating Temperature</td>
<td>NMOT</td>
<td>°C</td>
<td>109 ± 5.4 (43 ± 3 °C)</td>
</tr>
</tbody>
</table>

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V_{PV} [V] | 1500 (IEC)/1500 (UL) |
Maximum Series Fuse Rating [A DC] | 20 |
Max. Design Load, Push/Pull(3) [lbs/ft²] | 75 (3600Pa)/33 (1800Pa) |
Max. Test Load, Push/Pull(3) [lbs/ft²] | 113 (5400Pa)/50 (2400Pa) |

QUALIFICATIONS AND CERTIFICATES


PACKAGING INFORMATION

Horizontal packaging | 83.9 in | 42.6 in | 47.1 in | 1687 lbs | 24 pallets | 22 modules |
Vertical packaging | 84.6 in | 45.3 in | 48.0 in | 1717 lbs | 26 pallets | 22 modules |

Note: Installation instructions must be followed. See the technical service department for further information on approved installation and use of this product. Q CELLS supplies solar modules in two different stacking methods, depending on the location of manufacture (modules are packed horizontally or vertically). You can find more detailed information in the document “Packaging and Transport Information”, available from Q CELLS.