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 19.6%.

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 Technology\(^1\), 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 (4000 Pa).

A RELIABLE INVESTMENT
Inclusive 12-year product warranty and 25-year linear performance warranty\(^2\).

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

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\(^1\) 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.

THE IDEAL SOLUTION FOR:
Rooftop arrays on residential buildings

Engineered in Germany
MECHANICAL SPECIFICATION

Format 1685 mm × 1000 mm × 32 mm (including frame)
Weight 18.7 kg
Front Cover 3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover Composite film
Frame Black anodised aluminium
Cell 6 × 20 monocrystalline Q.ANTUM solar half cells
Junction box 53-101 mm × 32-60 mm × 15-18 mm
Protection class IP67, with bypass diodes
Cable 4 mm² Solar cable; (+) ≥ 1100 mm, (−) ≥ 1100 mm
Connector Staubli MC4, IP68

ELECTRICAL CHARACTERISTICS

POWER CLASS 310 315 320 325

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

| Power at MPP P
<table>
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<tbody>
<tr>
<td>[W]</td>
<td>310</td>
<td>315</td>
<td>320</td>
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</tbody>
</table>
| Short Circuit Current I
| [A] | 9.83 | 9.89 | 9.94 | 10.00 |
| Open Circuit Voltage V
| [V] | 40.02 | 40.29 | 40.56 | 40.83 |
| Current at MPP I
| Voltage at MPP V
| [V] | 33.12 | 33.46 | 33.80 | 34.14 |
| Efficiency η [%] | ≥ 18.4 | ≥ 18.7 | ≥ 19.0 | ≥ 19.3 |

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT

| Power at MPP P
<table>
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<tbody>
<tr>
<td>[W]</td>
<td>232.0</td>
<td>235.8</td>
<td>239.5</td>
</tr>
</tbody>
</table>
| Short Circuit Current I
| [A] | 7.92 | 7.97 | 8.01 | 8.05 |
| Open Circuit Voltage V
| [V] | 37.73 | 37.99 | 38.24 | 38.50 |
| Current at MPP I
| [A] | 7.37 | 7.41 | 7.45 | 7.49 |
| Voltage at MPP V
| [V] | 31.50 | 31.82 | 32.14 | 32.46 |

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I
α [% / K] +0.04
Temperature Coefficient of V
β [% / K] −0.27
Temperature Coefficient of P
γ [% / K] −0.36

Q CELLS PERFORMANCE WARRANTY

PERFORMANCE AT LOW IRRADIANCE

At least 98 % of nominal power during first year. Thereafter max. 0.54 % degradation per year. At least 93.1 % of nominal power up to 10 years. At least 85 % 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.

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V
11 [V] 1000 Safety Class II
Maximum Reverse Current I
[C / TYPE 2]
Max. Design Load, Push / Pull [Pa] 3600 / 2667 Permitted Module Temperature on Continuous Duty −40 °C - +85 °C
Max. Test Load, Push / Pull [Pa] 5400 / 4000

QUALIFICATIONS AND CERTIFICATES

This data sheet complies with DIN EN 50380.

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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