

# Q.PEAK BLK-G4.1 285-295

## Q.ANTUM SOLAR MODULE

With its top performance and completely black design the new **Q.PEAK BLK-G4.1** is the ideal solution for all residential rooftop applications thanks to its innovative cell technology **Q.ANTUM**. The world-record cell design was developed to achieve the best performance under real conditions – even with low radiation intensity and on clear, hot summer days.



### LOW ELECTRICITY GENERATION COSTS

Higher yield per surface area and lower BOS costs thanks to higher power classes and an efficiency rate of up to 18.0%.



### 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-PID Technology<sup>1</sup>, 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) regarding IEC.



### MAXIMUM COST REDUCTIONS

Up to 10% lower logistics costs due to higher module capacity per box.



### A RELIABLE INVESTMENT

Inclusive 12-year product warranty and 25-year linear performance guarantee<sup>2</sup>.



### THE IDEAL SOLUTION FOR:



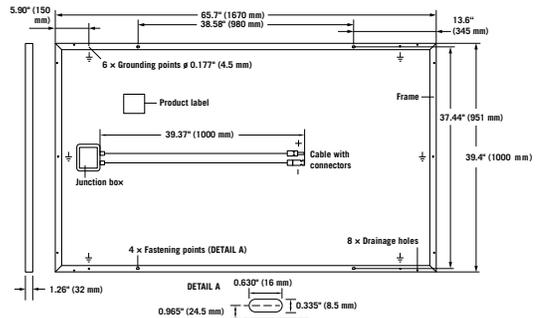
Engineered in **Germany**

<sup>1</sup> APT test conditions: Cells at -1500V against grounded, with conductive metal foil covered module surface, 25°C, 168h

<sup>2</sup> See data sheet on rear for further information.

## MECHANICAL SPECIFICATION

|                     |  |
|---------------------|--|
| <b>Format</b>       | 65.7 in × 39.4 in × 1.26 in (including frame)<br>(1670 mm × 1000 mm × 32 mm)   |
| <b>Weight</b>       | 41.45 lbs (18.8 kg)  |
| <b>Front Cover</b>  | 0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology  |
| <b>Back Cover</b>   | Composite film   |
| <b>Frame</b>        | Black anodised aluminum  |
| <b>Cell</b>         | 6 × 10 monocrystalline Q.ANTUM solar cells   |
| <b>Junction box</b> | 2.60-3.03 in × 4.37-3.54 in × 0.59-0.75 in<br>(66-77 mm × 111-90 mm × 15-19 mm), Protection class IP67, with bypass diodes |
| <b>Cable</b>        | 4 mm <sup>2</sup> Solar cable; (+) ≥ 39.37 in (1000 mm), (-) ≥ 39.37 in (1000 mm)  |
| <b>Connector</b>    | Multi-Contact MC4 or MC4 intermateable, IP68   |



## ELECTRICAL CHARACTERISTICS

| POWER CLASS   |                                 | 285                        | 290    | 295    |        |
|---|---------------------------------|----------------------------|--------|--------|--------|
| <b>MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC<sup>1</sup> (POWER TOLERANCE +5W / -0W)</b> |                                 |                            |        |        |        |
| <b>Minimum</b>  | <b>Power at MPP<sup>2</sup></b> | <b>P<sub>MPP</sub> [W]</b> | 285    | 290    | 295    |
|   | <b>Short Circuit Current*</b>   | <b>I<sub>SC</sub> [A]</b>  | 9.56   | 9.63   | 9.70   |
|   | <b>Open Circuit Voltage*</b>    | <b>V<sub>OC</sub> [V]</b>  | 38.91  | 39.19  | 39.48  |
|   | <b>Current at MPP*</b>          | <b>I<sub>MPP</sub> [A]</b> | 8.98   | 9.07   | 9.17   |
|   | <b>Voltage at MPP*</b>          | <b>V<sub>MPP</sub> [V]</b> | 31.73  | 31.96  | 32.19  |
|   | <b>Efficiency<sup>2</sup></b>   | <b>η [%]</b>               | ≥ 17.1 | ≥ 17.4 | ≥ 17.7 |
| <b>MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC<sup>3</sup></b>                          |                                 |                            |        |        |        |
| <b>Minimum</b>  | <b>Power at MPP<sup>2</sup></b> | <b>P<sub>MPP</sub> [W]</b> | 210.7  | 214.4  | 218.1  |
|   | <b>Short Circuit Current*</b>   | <b>I<sub>SC</sub> [A]</b>  | 7.71   | 7.77   | 7.82   |
|   | <b>Open Circuit Voltage*</b>    | <b>V<sub>OC</sub> [V]</b>  | 36.38  | 36.65  | 36.92  |
|   | <b>Current at MPP*</b>          | <b>I<sub>MPP</sub> [A]</b> | 7.04   | 7.12   | 7.20   |
|   | <b>Voltage at MPP*</b>          | <b>V<sub>MPP</sub> [V]</b> | 29.92  | 30.12  | 30.30  |

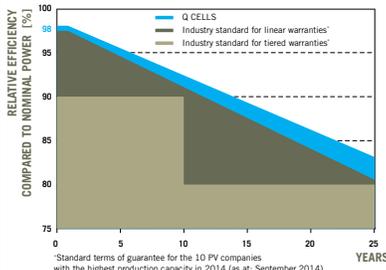
<sup>1</sup> 1000W/m<sup>2</sup>, 25°C, spectrum AM 1.5G

<sup>2</sup> Measurement tolerances STC ± 3%; NOC ± 5%

<sup>3</sup> 800W/m<sup>2</sup>, NOCT, spectrum AM 1.5G

\* typical values, actual values may differ

## Q CELLS PERFORMANCE WARRANTY

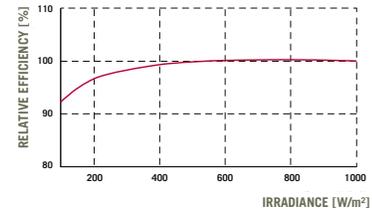


At least 98% of nominal power during first year. Thereafter max. 0.6% degradation per year. At least 92.6% of nominal power up to 10 years. At least 83.6% of nominal power up to 25 years.

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

\*Standard terms of guarantee for the 10 PV companies with the highest production capacity in 2014 (as at: September 2014)

## PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25°C, 1000W/m<sup>2</sup>).

## TEMPERATURE COEFFICIENTS

|   |          |              |       |  |             |              |                      |
|---|----------|--------------|-------|--|-------------|--------------|----------------------|
| <b>Temperature Coefficient of I<sub>SC</sub></b>  | <b>α</b> | <b>[%/K]</b> | +0.04 | <b>Temperature Coefficient of V<sub>OC</sub></b> | <b>β</b>    | <b>[%/K]</b> | -0.28                |
| <b>Temperature Coefficient of P<sub>MPP</sub></b> | <b>γ</b> | <b>[%/K]</b> | -0.39 | <b>Normal Operating Cell Temperature</b>         | <b>NOCT</b> | <b>[°F]</b>  | 113 ± 5.4 (45 ± 3°C) |

## PROPERTIES FOR SYSTEM DESIGN

|   |                             |                        |  |   |
|---|-----------------------------|------------------------|--|---|
| <b>Maximum System Voltage V<sub>sys</sub></b> | <b>[V]</b>                  | 1000 (IEC) / 1000 (UL) | <b>Safety Class</b>                                    | II  |
| <b>Maximum Series Fuse Rating</b>             | <b>[A DC]</b>               | 20                     | <b>Fire Rating</b>                                     | C (IEC) / TYPE 1 (UL)                     |
| <b>Design load, push (UL)<sup>2</sup></b>     | <b>[lbs/ft<sup>2</sup>]</b> | 75 (3600 Pa)           | <b>Permitted module temperature on continuous duty</b> | -40°F up to +185°F<br>(-40°C up to +85°C) |
| <b>Design load, pull (UL)<sup>2</sup></b>     | <b>[lbs/ft<sup>2</sup>]</b> | 55.6 (2666 Pa)         | <sup>2</sup> see installation manual                   |   |

## QUALIFICATIONS AND CERTIFICATES

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



## PACKAGING INFORMATION

|  |  |
|--|--|
| <b>Number of Modules per Pallet</b>        | 32   |
| <b>Number of Pallets per 53' Container</b> | 30   |
| <b>Number of Pallets per 40' Container</b> | 26   |
| <b>Pallet Dimensions (L × W × H)</b>       | 68.7 in × 45.3 in × 46.1 in<br>(1745 mm × 1150 mm × 1170 mm) |
| <b>Pallet Weight</b>                       | 1435 lbs (651 kg)  |

**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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