

# Q.PLUS-G3 270-280

## Q.ANTUM SOLAR MODULE

The new high-performance module **Q.PLUS-G3** is the ideal solution for all 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. **Q.PLUS-G3** is distinguished by optimal output yield, operating reliability and durability, as well as a more intelligent design and quick installation.

### INNOVATIVE ALL-WEATHER TECHNOLOGY

- Maximum yields with excellent low-light and temperature behaviour.
- world-record cell concept Q.ANTUM.

### ENDURING HIGH PERFORMANCE

- Long-term Yield Security due to Anti PID Technology<sup>1</sup>, Hot-Spot Protect, and Traceable Quality Tra.Q™.
- Long-term stability due to VDE Quality Tested – the strictest test program.

### SAFE ELECTRONICS

- Protection against short circuits and thermally induced power losses due to breathable junction box and welded cables.
- Increased flexibility due to MC4-intermateable connectors.

### PROFIT-INCREASING GLASS TECHNOLOGY

- Reduction of light reflection by 50 %, plus long-term corrosion resistance due to high-quality »Sol-Gel roller coating« processing.

### LIGHTWEIGHT QUALITY FRAME

- Stability at wind loads of up to 5400 Pa with a module weight of just 19 kg due to slim frame design with high-tech alloy.

### MAXIMUM COST REDUCTIONS

- Up to 29 % lower logistics costs due to higher module capacity per box.

### EXTENDED WARRANTIES

- Investment security due to 12-year product warranty and 25-year linear performance warranty<sup>2</sup>.



### THE IDEAL SOLUTION FOR:



Rooftop arrays on commercial/industrial buildings



Ground-mounted solar power plants



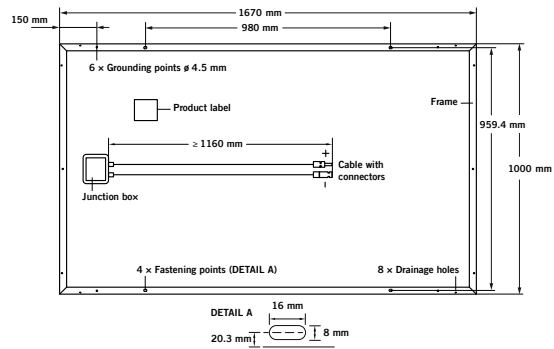
Rooftop arrays on residential buildings

<sup>1</sup> APT test conditions: Cells at -1000V 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>       | 1670 mm × 1000 mm × 35 mm (including frame)                          |
| <b>Weight</b>       | 19 kg                                                                |
| <b>Front Cover</b>  | 3.2 mm thermally pre-stressed glass with anti-reflection technology  |
| <b>Back Cover</b>   | Composite film                                                       |
| <b>Frame</b>        | Anodised aluminium                                                   |
| <b>Cell</b>         | 6 × 10 Q.ANTUM cells                                                 |
| <b>Junction box</b> | 110 mm × 115 mm × 23 mm<br>Protection class IP67, with bypass diodes |
| <b>Cable</b>        | 4 mm <sup>2</sup> Solar cable; (+) ≥ 1160 mm, (-) ≥ 1160 mm          |
| <b>Connector</b>    | SOLARLOK PV4, IP68                                                   |



## ELECTRICAL CHARACTERISTICS

PERFORMANCE AT STANDARD TEST CONDITIONS (STC: 1000 W/M<sup>2</sup>, 25 °C, AM 1.5 G SPECTRUM)<sup>1</sup>

| NOMINAL POWER (+5 W/-0 W)         | [W]                        | 270    | 275    | 280    |
|-----------------------------------|----------------------------|--------|--------|--------|
| <b>Average Power</b>              | <b>P<sub>MPP</sub></b> [W] | 272.5  | 277.5  | 282.5  |
| <b>Short Circuit Current</b>      | <b>I<sub>SC</sub></b> [A]  | 9.48   | 9.55   | 9.62   |
| <b>Open Circuit Voltage</b>       | <b>V<sub>OC</sub></b> [V]  | 38.86  | 39.14  | 39.41  |
| <b>Current at P<sub>MPP</sub></b> | <b>I<sub>MPP</sub></b> [A] | 8.85   | 8.93   | 9.00   |
| <b>Voltage at P<sub>MPP</sub></b> | <b>V<sub>MPP</sub></b> [V] | 30.78  | 31.08  | 31.38  |
| <b>Efficiency (Nominal Power)</b> | <b>η</b> [%]               | ≥ 16.2 | ≥ 16.5 | ≥ 16.8 |

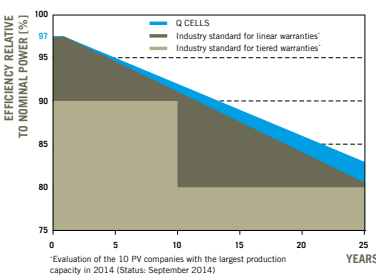
PERFORMANCE AT NORMAL OPERATING CELL TEMPERATURE (NOCT: 800 W/M<sup>2</sup>, 45 ± 3 °C, AM 1.5 G SPECTRUM)<sup>2</sup>

| NOMINAL POWER (+5 W/-0 W)         | [W]                        | 270   | 275   | 280   |
|-----------------------------------|----------------------------|-------|-------|-------|
| <b>Average Power</b>              | <b>P<sub>MPP</sub></b> [W] | 201.2 | 204.9 | 208.6 |
| <b>Short Circuit Current</b>      | <b>I<sub>SC</sub></b> [A]  | 7.64  | 7.70  | 7.76  |
| <b>Open Circuit Voltage</b>       | <b>V<sub>OC</sub></b> [V]  | 36.27 | 36.52 | 36.78 |
| <b>Current at P<sub>MPP</sub></b> | <b>I<sub>MPP</sub></b> [A] | 6.93  | 6.99  | 7.05  |
| <b>Voltage at P<sub>MPP</sub></b> | <b>V<sub>MPP</sub></b> [V] | 29.03 | 29.31 | 29.59 |

<sup>1</sup> Measurement tolerances STC: ± 3% (P<sub>MPP</sub>); ± 10% (I<sub>SC</sub>, V<sub>OC</sub>, I<sub>MPP</sub>, V<sub>MPP</sub>)

<sup>2</sup> Measurement tolerances NOCT: ± 5% (P<sub>MPP</sub>); ± 10% (I<sub>SC</sub>, V<sub>OC</sub>, I<sub>MPP</sub>, V<sub>MPP</sub>)

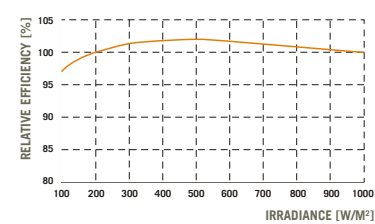
## Q CELLS PERFORMANCE WARRANTY



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. Full warranties in accordance with the warranty terms of the Q CELLS sales organisation of your respective country.

## PERFORMANCE AT LOW IRRADIANCE



The typical change in module efficiency at an irradiance of 200 W/m<sup>2</sup> in relation to 1000 W/m<sup>2</sup> (both at 25 °C and AM 1.5 G spectrum) is 0% (relative).

TEMPERATURE COEFFICIENTS (AT 1000 W/M<sup>2</sup>, 25 °C, AM 1.5 G SPECTRUM)

|                                                   |                |       |                                                  |                |       |
|---------------------------------------------------|----------------|-------|--------------------------------------------------|----------------|-------|
| <b>Temperature Coefficient of I<sub>SC</sub></b>  | <b>α</b> [%/K] | +0.04 | <b>Temperature Coefficient of V<sub>OC</sub></b> | <b>β</b> [%/K] | -0.29 |
| <b>Temperature Coefficient of P<sub>MPP</sub></b> | <b>γ</b> [%/K] | -0.41 |                                                  |                |       |

## PROPERTIES FOR SYSTEM DESIGN

|                                                      |      |      |                                                        |                     |
|------------------------------------------------------|------|------|--------------------------------------------------------|---------------------|
| <b>Maximum System Voltage V<sub>sys</sub></b>        | [V]  | 1000 | <b>Safety Class</b>                                    | II                  |
| <b>Maximum Reverse Current I<sub>R</sub></b>         | [A]  | 20   | <b>Fire Rating</b>                                     | C                   |
| <b>Wind/Snow Load (in accordance with IEC 61215)</b> | [Pa] | 5400 | <b>Permitted module temperature on continuous duty</b> | -40 °C up to +85 °C |

## QUALIFICATIONS AND CERTIFICATES

VDE Quality Tested, IEC 61215 (Ed. 2); IEC 61730 (Ed. 1), Application class A  
This data sheet complies with DIN EN 50380.



## PARTNER

**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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**Q CELLS**