

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 Technology¹, 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 warranty².



THE IDEAL SOLUTION FOR:



Rooftop arrays on commercial/industrial buildings



Ground-mounted solar power plants



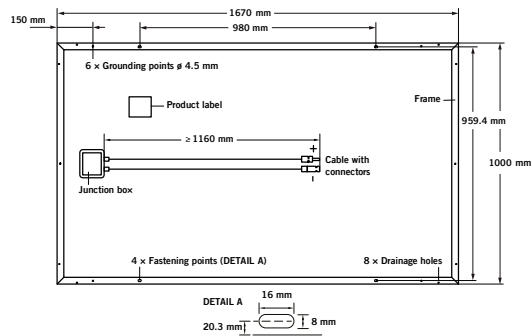
Rooftop arrays on residential buildings

¹ APT test conditions: Cells at -1000V against grounded, with conductive metal foil covered module surface, 25 °C, 168 h

² See data sheet on rear for further information.

MECHANICAL SPECIFICATION

Format	1670 mm × 1000 mm × 35 mm (including frame)
Weight	19 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Anodised aluminum
Cell	6 × 10 Q.ANTUM cells
Junction box	110 mm × 115 mm × 23 mm Protection class IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 1160 mm, (-) ≥ 1160 mm
Connector	SOLARLOK PV4, IP68



ELECTRICAL CHARACTERISTICS

PERFORMANCE AT STANDARD TEST CONDITIONS (STC: 1000 W/M², 25 °C, AM 1.5 G SPECTRUM)¹

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

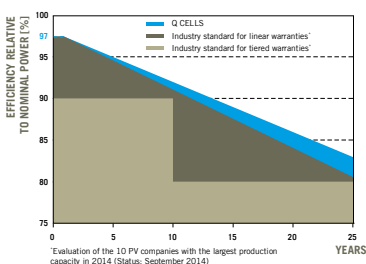
PERFORMANCE AT NORMAL OPERATING CELL TEMPERATURE (NOCT: 800 W/M², 45 ± 3 °C, AM 1.5 G SPECTRUM)²

NOMINAL POWER (+5 W/-0 W)	[W]	270	275	280
Average Power	P_{MPP} [W]	201.2	204.9	208.6
Short Circuit Current	I_{SC} [A]	7.64	7.70	7.76
Open Circuit Voltage	V_{OC} [V]	36.27	36.52	36.78
Current at P_{MPP}	I_{MPP} [A]	6.93	6.99	7.05
Voltage at P_{MPP}	V_{MPP} [V]	29.03	29.31	29.59

¹ Measurement tolerances STC: ± 3% (P_{MPP}); ± 10% (I_{SC}, V_{OC}, I_{MPP}, V_{MPP})

² Measurement tolerances NOCT: ± 5% (P_{MPP}); ± 10% (I_{SC}, V_{OC}, I_{MPP}, V_{MPP})

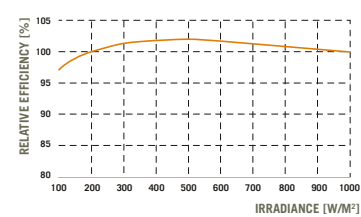
Q CELLS PERFORMANCE WARRANTY



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/m² in relation to 1000 W/m² (both at 25 °C and AM 1.5 G spectrum) is 0% (relative).

TEMPERATURE COEFFICIENTS (AT 1000 W/M², 25 °C, AM 1.5 G SPECTRUM)

Temperature Coefficient of I_{SC}	α [%/K]	+0.04	Temperature Coefficient of V_{OC}	β [%/K]	-0.29
Temperature Coefficient of P_{MPP}	γ [%/K]	-0.41			

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V_{sys}	[V]	1000	Safety Class	II
Maximum Reverse Current I_R	[A]	20	Fire Rating	C
Wind/Snow Load (in accordance with IEC 61215)	[Pa]	5400	Permitted module temperature on continuous duty	-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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Engineered in Germany

