



Q.PLUS-G4.1 270-280

Q.ANTUM SOLAR MODULE

The new high-performance module Q.PLUS-G4.1 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.

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Q.ANTUM TECHNOLOGY: LOW LEVELIZED COST OF ELECTRICITY
Higher yield per surface area and lower BOS costs and higher power classes and an efficiency rate of up to 17.1 %.
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INNOVATIVE ALL-WEATHER TECHNOLOGY
Optimal yields, whatever the weather with excellent low-light and temperature behaviour.
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ENDURING HIGH PERFORMANCE
Long-term yield security with Anti-PID Technology¹, Hot-Spot-Protect and Traceable Quality Tra.Q™.
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LIGHT-WEIGHT QUALITY FRAME
High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).
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MAXIMUM COST REDUCTIONS
Up to 10 % lower logistics costs due to higher module capacity per box.
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SAFE ELECTRONICS
Protection against short circuits and thermally induced power losses due to breathable junction box and welded cables.
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A RELIABLE INVESTMENT
Inclusive 12-year product warranty and 25-year linear performance warranty².



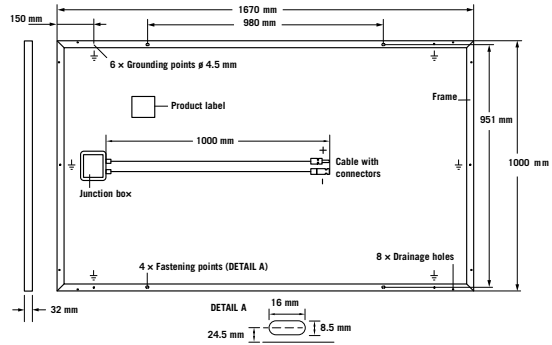
THE IDEAL SOLUTION FOR:

-  Rooftop arrays on residential buildings
-  Rooftop arrays on commercial/industrial buildings
-  Ground-mounted solar power plants

¹ APT test conditions: Cells at -1000V against grounded, with conductive metal foil covered module surface, 25 °C, 168h
² See data sheet on rear for further information.

MECHANICAL SPECIFICATION

Format	1670 mm × 1000 mm × 32 mm (including frame)
Weight	18.8 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 10 Q.ANTUM dark solar cells
Junction box	110 mm × 115 mm × 23 mm Protection class IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) 1000 mm, (-) 1000 mm
Connector	Tyco, Solarlok PV4, IP68

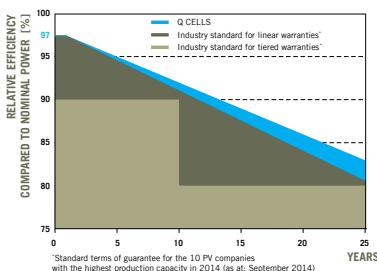


ELECTRICAL CHARACTERISTICS

POWER CLASS		270	275	280	
MINIMUM PERFORMANCE AT STANDARD TESTING CONDITIONS, STC¹ (POWER TOLERANCE +5W /- 0W)					
Minimum	Power at MPP²	P_{MPP}	270	275	280
	Short Circuit Current*	I_{SC}	9.35	9.41	9.47
	Open Circuit Voltage*	V_{OC}	38.56	38.82	39.08
	Current at MPP*	I_{MPP}	8.77	8.84	8.91
	Voltage at MPP*	V_{MPP}	30.80	31.12	31.43
	Efficiency²	η	≥16.2	≥16.5	≥16.8
MINIMUM PERFORMANCE AT NORMING OPERATING CONDITIONS, NOC³					
Minimum	Power at MPP²	P_{MPP}	200.2	203.9	207.6
	Short Circuit Current*	I_{SC}	7.54	7.59	7.64
	Open Circuit Voltage*	V_{OC}	35.98	36.22	36.46
	Current at MPP*	I_{MPP}	6.87	6.93	6.99
	Voltage at MPP*	V_{MPP}	29.15	29.43	29.71

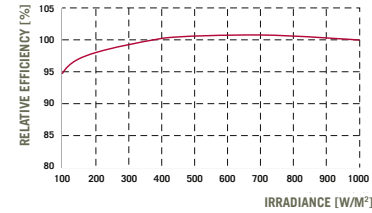
¹1000 W/m², 25°C, spectrum AM 1.5 G ²Measurement tolerances STC ±3%; NOC ±5% ³800 W/m², NOCT, spectrum AM 1.5 G * typical values, actual values may differ

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 -1.5% (relative).

TEMPERATURE COEFFICIENTS

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]	-0.40	Normal Operating Cell Temperature	NOCT	[°C]	45

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]	4000/5400	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.

Hanwha SolarOne (Qidong) Co., Ltd.

Engineered in Germany

Q CELLS