

Q.PLUS-G4.1 275-285

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.



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 17.4 %.



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-PID Technology¹, Hot-Spot-Protect and Traceable Quality Tra.Q™.



LIGHT-WEIGHT QUALITY FRAME

High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).



MAXIMUM COST REDUCTIONS

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



SAFE ELECTRONICS

Protection against short circuits and thermally induced power losses due to breathable junction box and welded cables.



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

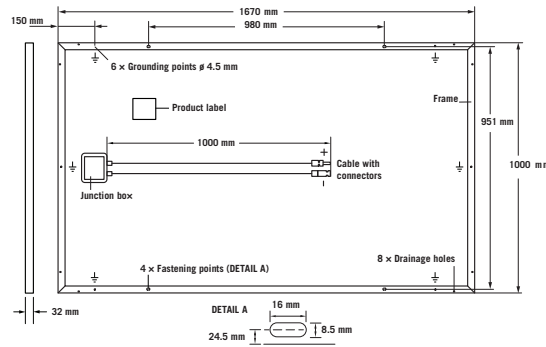


¹ APT test conditions: Cells at -1000V against grounded, with conductive metal foil covered module surface, 25°C, 168h

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

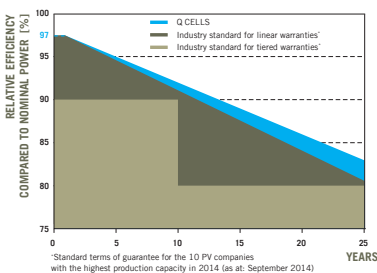


ELECTRICAL CHARACTERISTICS

POWER CLASS		275	280	285	
MINIMUM PERFORMANCE AT STANDARD TESTING CONDITIONS, STC¹ (POWER TOLERANCE +5W /- 0W)					
Minimum	Power at MPP²	P_{MPP}	275	280	285
	Short Circuit Current[*]	I_{SC}	9.41	9.47	9.53
	Open Circuit Voltage[*]	V_{OC}	38.82	39.08	39.33
	Current at MPP[*]	I_{MPP}	8.84	8.91	8.98
	Voltage at MPP[*]	V_{MPP}	31.12	31.43	31.74
	Efficiency²	η	≥16.5	≥16.8	≥17.1
MINIMUM PERFORMANCE AT NORMING OPERATING CONDITIONS, NOC³					
Minimum	Power at MPP²	P_{MPP}	203.9	207.6	211.3
	Short Circuit Current[*]	I_{SC}	7.59	7.64	7.69
	Open Circuit Voltage[*]	V_{OC}	36.22	36.46	36.71
	Current at MPP[*]	I_{MPP}	6.93	6.99	7.05
	Voltage at MPP[*]	V_{MPP}	29.43	29.71	29.99

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

Q CELLS PERFORMANCE WARRANTY

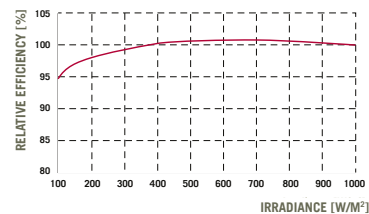


At least 97 % of nominal power during first year. Thereafter max. 0.6 % degradation per year.
At least 92 % of nominal power after 10 years.
At least 83 % of nominal power after 25 years.

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

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

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 Q CELLS GmbH

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Engineered in Germany