

# Q.PEAK-G4.1 290-305

## Q.ANTUM SOLAR MODULE

The new high-performance module **Q.PEAK-G4.1** is the ideal solution for residential buildings 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 18.6%.



### 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 Technology<sup>1</sup>, Hot-Spot Protect and Traceable Quality Tra.Q™.



### EXTREME WEATHER RATING

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.



### A RELIABLE INVESTMENT

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



### THE IDEAL SOLUTION FOR:



Rooftop arrays on residential buildings

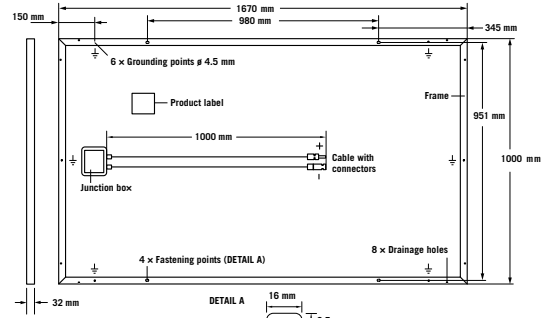
Engineered in **Germany**

<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>	1670 mm × 1000 mm × 32 mm (including frame)
<b>Weight</b>	18.8 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>	Black anodised aluminium
<b>Cell</b>	6 × 10 monocrystalline Q.ANTUM solar cells
<b>Junction box</b>	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; (+) 1000 mm, (-) 1000 mm
<b>Connector</b>	Genuine Multi-Contact MC4, IP68

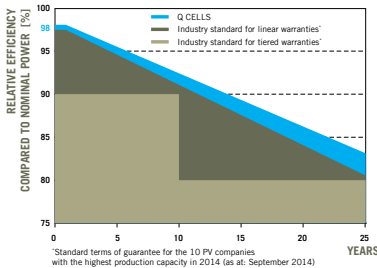


## ELECTRICAL CHARACTERISTICS

POWER CLASS			290	295	300	305
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC <sup>1</sup> (POWER TOLERANCE +5W / -0W)						
Minimum	Power at MPP <sup>2</sup>	$P_{MPP}$ [W]	290	295	300	305
	Short Circuit Current*	$I_{SC}$ [A]	9.63	9.70	9.77	9.84
	Open Circuit Voltage*	$V_{OC}$ [V]	39.19	39.48	39.76	40.05
	Current at MPP*	$I_{MPP}$ [A]	9.07	9.17	9.26	9.35
	Voltage at MPP*	$V_{MPP}$ [V]	31.96	32.19	32.41	32.62
	Efficiency <sup>2</sup>	$\eta$ [%]	≥ 17.4	≥ 17.7	≥ 18.0	≥ 18.3
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC <sup>3</sup>						
Minimum	Power at MPP <sup>2</sup>	$P_{MPP}$ [W]	214.4	218.1	221.8	225.5
	Short Circuit Current*	$I_{SC}$ [A]	7.77	7.82	7.88	7.94
	Open Circuit Voltage*	$V_{OC}$ [V]	36.65	36.92	37.19	37.46
	Current at MPP*	$I_{MPP}$ [A]	7.12	7.20	7.27	7.35
	Voltage at MPP*	$V_{MPP}$ [V]	30.12	30.30	30.49	30.67

<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

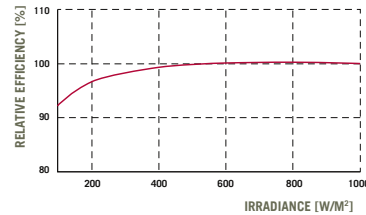


At least 98% of nominal power during first year. Thereafter max. 0.6% degradation per year.  
At least 92.6% of nominal power up to 10 years.  
At least 83.6% of nominal power up to 25 years.

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 <math>I_{SC}</math></b>	$\alpha$ [%/K]	+0.04	<b>Temperature Coefficient of <math>V_{OC}</math></b>	$\beta$ [%/K]	-0.28
<b>Temperature Coefficient of <math>P_{MPP}</math></b>	$\gamma$ [%/K]	-0.39	<b>Normal Operating Cell Temperature</b>	<b>NOCT</b> [°C]	45

### PROPERTIES FOR SYSTEM DESIGN

<b>Maximum System Voltage</b>	$V_{SYS}$ [V]	1000	<b>Safety Class</b>	II
<b>Maximum Reverse Current</b>	$I_r$ [A]	20	<b>Fire Rating</b>	C
<b>Wind/Snow Load</b> (Test-load in accordance with IEC 61215)	[Pa]	4000/5400	<b>Permitted Module Temperature</b> <b>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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Engineered in Germany

**Q CELLS**