

# Q.PEAK-G4.1 290-310

## 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 18.9%.



### 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 LID Technology, 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:



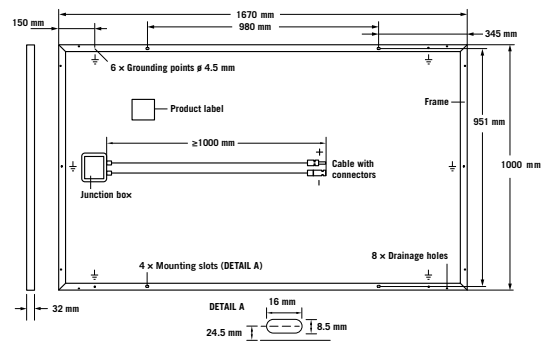
Rooftop arrays on  
residential buildings

<sup>1</sup> APT test conditions according to IEC/TS 62804-1:2015, method B (-1500 V, 168 h)

<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	310
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC <sup>1</sup> (POWER TOLERANCE +5 W / –0 W)							
Minimum	Power at MPP <sup>2</sup>	P <sub>MPP</sub> [W]	290	295	300	305	310
	Short Circuit Current*	I <sub>SC</sub> [A]	9.63	9.70	9.77	9.84	9.91
	Open Circuit Voltage*	V <sub>OC</sub> [V]	39.19	39.48	39.76	40.05	40.33
	Current at MPP*	I <sub>MPP</sub> [A]	9.07	9.17	9.26	9.35	9.44
	Voltage at MPP*	V <sub>MPP</sub> [V]	31.96	32.19	32.41	32.62	32.83
	Efficiency <sup>2</sup>	η [%]	≥ 17.4	≥ 17.7	≥ 18.0	≥ 18.3	≥ 18.6
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC <sup>3</sup>							
Minimum	Power at MPP <sup>2</sup>	P <sub>MPP</sub> [W]	214.4	218.1	221.8	225.5	229.4
	Short Circuit Current*	I <sub>SC</sub> [A]	7.77	7.82	7.88	7.94	7.99
	Open Circuit Voltage*	V <sub>OC</sub> [V]	36.65	36.92	37.19	37.46	37.73
	Current at MPP*	I <sub>MPP</sub> [A]	7.12	7.20	7.27	7.35	7.43
	Voltage at MPP*	V <sub>MPP</sub> [V]	30.12	30.30	30.49	30.67	30.87

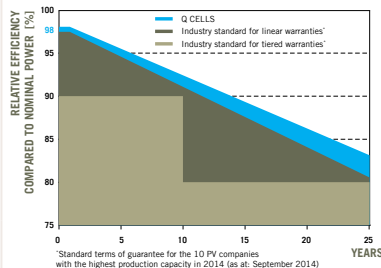
<sup>1</sup> 1000 W/m<sup>2</sup>, 25 °C, spectrum AM 1.5 G

<sup>2</sup> Measurement tolerances STC ± 3%; NOC ± 5%

<sup>3</sup> 800 W/m<sup>2</sup>, NOCT, spectrum AM 1.5 G

\* typical values, actual values may differ

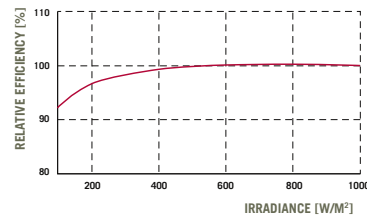
### Q CELLS PERFORMANCE WARRANTY



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.

### PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m<sup>2</sup>).

### TEMPERATURE COEFFICIENTS

Temperature Coefficient of I <sub>SC</sub>	α	[%/K]	+0.04	Temperature Coefficient of V <sub>OC</sub>	β	[%/K]	–0.28
Temperature Coefficient of P <sub>MPP</sub>	γ	[%/K]	–0.39	Normal Operating Cell Temperature	NOCT	[°C]	45

## PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	V <sub>sys</sub> [V]	1000	Safety Class	II
Maximum Reverse Current	I <sub>R</sub> [A]	20	Fire Rating	C
Wind/Snow Load (Test-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.

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Engineered in Germany

