

# Q.PEAK-G4.1 290-310

## Q.ANTUM SOLAR MODULE

The new high-performance module **Q.PEAK-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.



### LOW ELECTRICITY GENERATION COSTS

Higher yield per surface area, lower BOS costs, 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 behavior.



### 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 aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa) regarding IEC.



### MAXIMUM COST REDUCTIONS

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

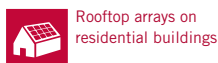


### A RELIABLE INVESTMENT

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



### THE IDEAL SOLUTION FOR:

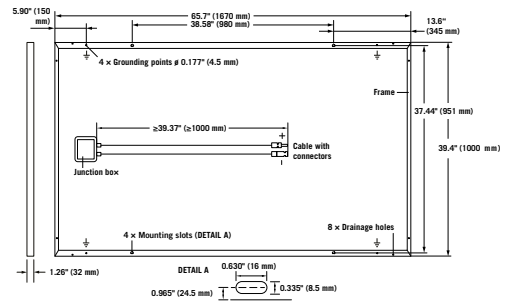


Engineered in **Germany**

<sup>1</sup> APT test conditions according to IEC/TS 62804-1:2015, method B (–1500V, 168h)  
<sup>2</sup> See data sheet on rear for further information.

## MECHANICAL SPECIFICATION

<b>Format</b>	65.7 in × 39.4 in × 1.26 in (including frame) (1670 mm × 1000 mm × 32 mm)
<b>Weight</b>	40.8 lbs (18.5 kg)
<b>Front Cover</b>	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
<b>Back Cover</b>	Composite film
<b>Frame</b>	Black anodised aluminum
<b>Cell</b>	6 × 10 monocrystalline Q.ANTUM solar cells
<b>Junction box</b>	2.60-3.03 in × 3.54-4.53 in × 0.59-0.75 in (66-77 mm × 90-115 mm × 15-20 mm), Protection class ≥ IP67, with bypass diodes
<b>Cable</b>	4 mm <sup>2</sup> Solar cable; (+) ≥ 39.37 in (1000 mm), (–) ≥ 39.37 in (1000 mm)
<b>Connector</b>	Multi-Contact MC4, IP68

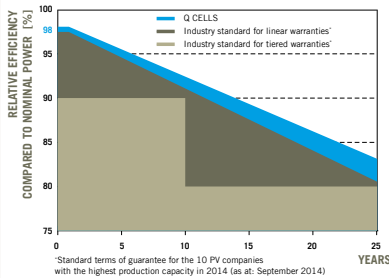


## ELECTRICAL CHARACTERISTICS

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>1</sup>	$P_{MPP}$ [W]	290	295	300	305	310
	Short Circuit Current <sup>1</sup>	$I_{SC}$ [A]	9.63	9.70	9.77	9.84	9.91
	Open Circuit Voltage <sup>1</sup>	$V_{OC}$ [V]	39.19	39.48	39.76	40.05	40.33
	Current at MPP	$I_{MPP}$ [A]	9.07	9.17	9.26	9.35	9.44
	Voltage at MPP	$V_{MPP}$ [V]	31.96	32.19	32.41	32.62	32.83
	Efficiency <sup>1</sup>	$\eta$ [%]	≥ 17.4	≥ 17.7	≥ 18.0	≥ 18.3	≥ 18.6
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT <sup>2</sup>							
Minimum	Power at MPP	$P_{MPP}$ [W]	216.4	220.1	223.9	227.6	231.3
	Short Circuit Current	$I_{SC}$ [A]	7.76	7.82	7.87	7.93	7.99
	Open Circuit Voltage	$V_{OC}$ [V]	36.87	37.14	37.41	37.68	37.95
	Current at MPP	$I_{MPP}$ [A]	7.12	7.20	7.28	7.35	7.43
	Voltage at MPP	$V_{MPP}$ [V]	30.39	30.58	30.76	30.94	31.12

<sup>1</sup>Measurement tolerances  $P_{MPP} \pm 3\%$ ;  $I_{SC}, V_{OC} \pm 5\%$  at STC: 1000 W/m<sup>2</sup>, 25 ± 2 °C, AM 1.5G according to IEC 60904-3 - <sup>2</sup>800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5G

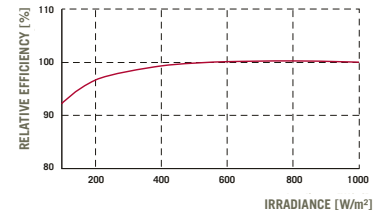
## Q CELLS PERFORMANCE WARRANTY



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 organization 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 $I_{SC}$	$\alpha$ [%/K]	+0.04	Temperature Coefficient of $V_{OC}$	$\beta$ [%/K]	-0.28
Temperature Coefficient of $P_{MPP}$	$\gamma$ [%/K]	-0.39	Normal Module Operating Temperature	NMOT [°F]	109 ± 5.4 (43 ± 3 °C)

## PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage $V_{SYS}$	[V]	1000 (IEC) / 1000 (UL)	Safety Class	II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating	C (IEC) / TYPE 1 (UL)
Max. Design Load, Push / Pull <sup>2</sup>	[lbs/ft <sup>2</sup> ]	75 (3600 Pa) / 55 (2667 Pa)	Permitted module temperature on continuous duty	-40 °F up to +185 °F (-40 °C up to +85 °C)
Max. Test Load, Push / Pull <sup>2</sup>	[lbs/ft <sup>2</sup> ]	113 (5400 Pa) / 84 (4000 Pa)		<sup>2</sup> see installation manual

## QUALIFICATIONS AND CERTIFICATES

UL 1703; VDE Quality Tested; CE-compliant; IEC 61215:2016; IEC 61730:2016, application class A



## PACKAGING INFORMATION

Number of Modules per Pallet	32
Number of Pallets per 53' Container	30
Number of Pallets per 40' Container	26
Pallet Dimensions (L × W × H)	68.7 in × 45.3 in × 46.1 in (1745 mm × 1150 mm × 1170 mm)
Pallet Weight	1396 lbs (633 kg)

**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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