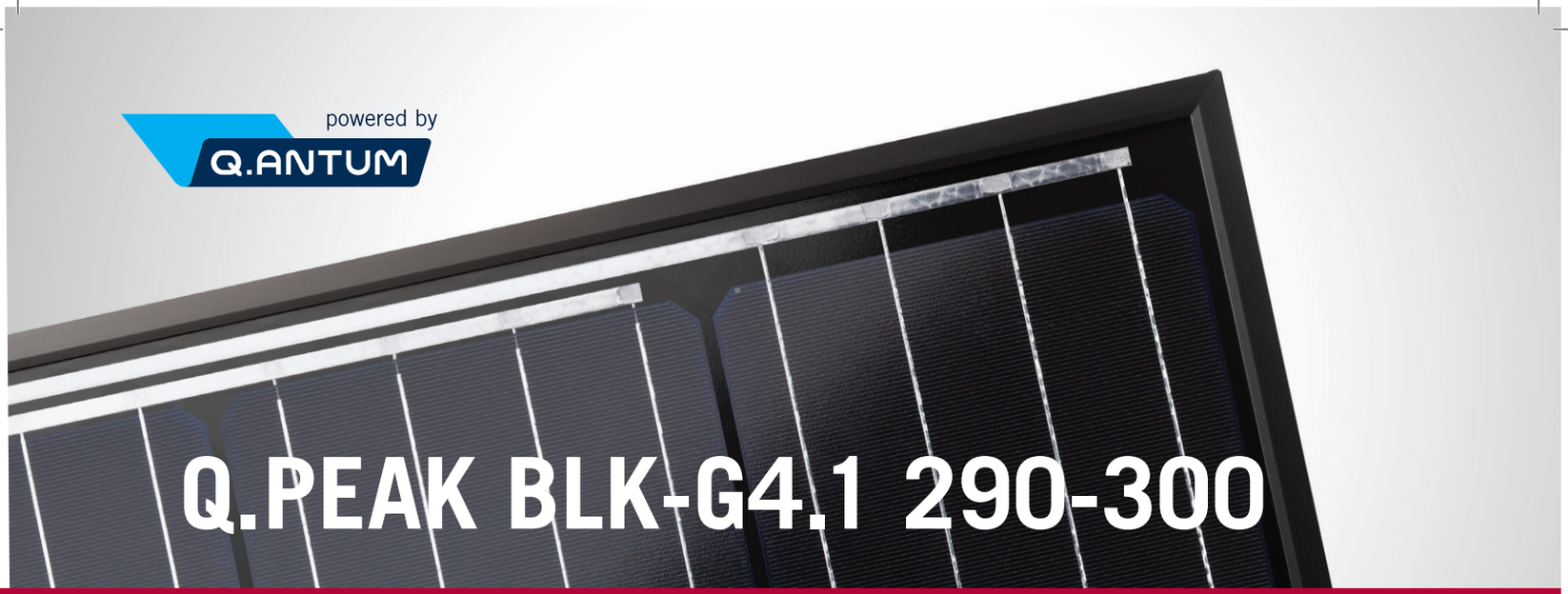


Q.PEAK BLK-G4.1 290-300

Q.ANTUM SOLAR MODULE

With its top performance and completely black design the new Q.PEAK BLK-G4.1 is the ideal solution for all residential rooftop 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 and lower BOS costs thanks to higher power classes and an efficiency rate of up to 18.3%.

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-PID Technology[1], 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[2].

EUPD RESEARCH TOP BRAND PV MODULES USA 2016

Q CELLS YIELD SECURITY
- ANTI PID TECHNOLOGY (APT)
- HOT-SPOT PROTECT (HSP)
- TRACEABLE QUALITY (TRA.Q™)

VDE Quality Tested
- high reliability
- low degradation
- frequent product surveillance

ID. 40032587

Photon
Q CELLS
Best polycrystalline solar module 2014
Q.PRO-G2 235
174 modules tested

[1] APT test conditions: Cells at -1500 V against grounded, with conductive metal foil covered module surface, 25 °C, 168 h

[2] See data sheet on rear for further information.

THE IDEAL SOLUTION FOR:

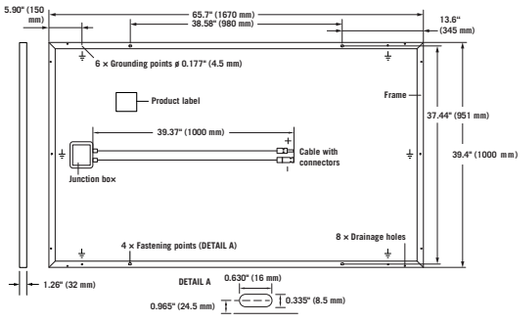
Rooftop arrays on residential buildings

Engineered in **Germany**

Q CELLS

MECHANICAL SPECIFICATION

Format	65.7 in × 39.4 in × 1.26 in (including frame) (1670 mm × 1000 mm × 32 mm)
Weight	41.45 lbs (18.8 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodized aluminum
Cell	6 × 10 monocrystalline Q.ANTUM solar cells
Junction box	2.60-3.03 in × 4.37-3.54 in × 0.59-0.75 in (66-77 mm × 111-90 mm × 15-19 mm), Protection class IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) ≥ 39.37 in (1000 mm), (-) ≥ 39.37 in (1000 mm)
Connector	Multi-Contact MC4 or MC4 intermateable, IP68

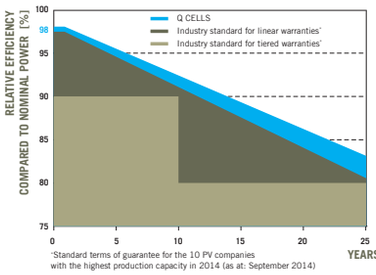


ELECTRICAL CHARACTERISTICS

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

[1] 1000 W/m², 25 °C, spectrum AM 1.5 G [2] Measurement tolerances STC ±3 %; NOC ±5 % [3] 800 W/m², NOCT, spectrum AM 1.5 G * typical values, actual values may differ

Q CELLS PERFORMANCE WARRANTY

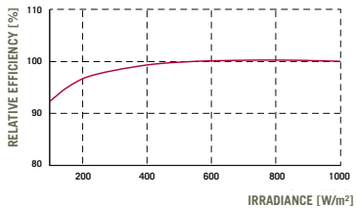


*Standard terms of guarantee for the 10 PV companies with the highest production capacity in 2014 (as at: September 2014)

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/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	**Temperature Coefficient of V_{OC}**	β	[%/K]	−0.28
Temperature Coefficient of P_{MPP}	γ	[%/K]	−0.39	**Normal Operating Cell Temperature**	NOCT	[°F]	113 ±5.4 (45 ±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)
Design load, push (UL)[2]	[lbs/ft²]	75 (3600 Pa)	**Permitted module temperature on continuous duty**	−40 °F up to +185 °F (−40 °C up to +85 °C)
Design load, pull (UL)[2]	[lbs/ft²]	55.6 (2666 Pa)	[2] see installation manual	

QUALIFICATIONS AND CERTIFICATES

UL 1703; VDE Quality Tested; CE-compliant;
IEC 61215 (Ed.2); IEC 61730 (Ed.1) application class A

C Certified UL 1703 (254141)

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	1435 lbs (651 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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