powered by Q.ANTUM

Q.PLUS BFR-G4.1 270-280

Q.ANTUM SOLAR MODULE

The new high-performance module Q.PLUS BFR-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 17.1 %.

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[1], 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.

A RELIABLE INVESTMENT

Inclusive 12-year product warranty and 25-year linear performance warranty[2].

EUPD RESEARCH TOP BRAND PV MODULES EUROPE 2015

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

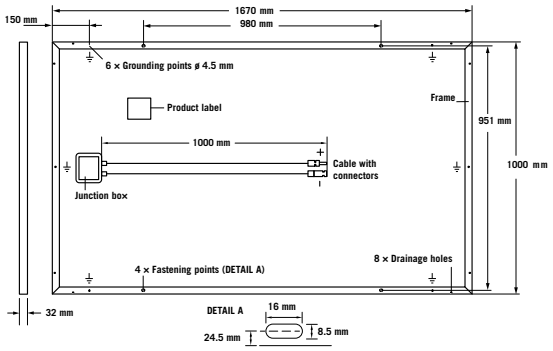
Rooftop arrays on commercial / industrial buildings

Engineered in **Germany**

Q CELLS

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 solar cells
Junction box	77 mm × 90 mm × 15.8 mm Protection class IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) 1000 mm, (-) 1000 mm
Connector	MC4, IP68

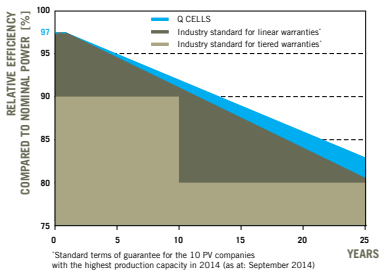


ELECTRICAL CHARACTERISTICS

POWER CLASS			270	275	280
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / -0 W)					
Minimum	Power at MPP[2]	P_{MPP}	270	275	280
	Short Circuit Current*	I_{SC}	9.29	9.35	9.41
	Open Circuit Voltage*	V_{OC}	38.46	38.72	38.97
	Current at MPP*	I_{MPP}	8.70	8.77	8.84
	Voltage at MPP*	V_{MPP}	31.04	31.36	31.67
	Efficiency[2]	η	≥16.2	≥16.5	≥16.8
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC[3]					
Minimum	Power at MPP[2]	P_{MPP}	199.6	203.3	207.0
	Short Circuit Current*	I_{SC}	7.49	7.54	7.58
	Open Circuit Voltage*	V_{OC}	35.89	36.13	36.37
	Current at MPP*	I_{MPP}	6.81	6.87	6.93
	Voltage at MPP*	V_{MPP}	29.30	29.59	29.87

[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

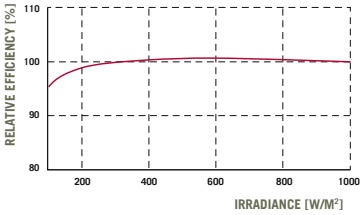
Q CELLS PERFORMANCE WARRANTY



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.

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]	−0.29
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 (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**