



# Q.PLUS BFR-G4.1 275-285

## 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 17.4%.



### 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>.



www.VDEinfo.com  
ID: 40032587

### THE IDEAL SOLUTION FOR:



Rooftop arrays on residential buildings



Rooftop arrays on commercial/industrial buildings



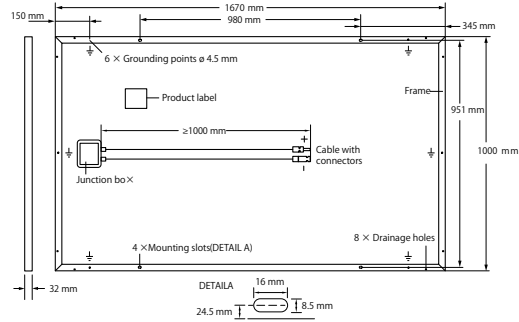
Ground-mounted solar power plants

<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 × 1000mm × 32mm (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 Q.ANTUM solar cells
<b>Junction box</b>	66-77 mm × 115-90mm × 15-19mm Protection class IP67, with bypass diodes
<b>Cable</b>	4 mm <sup>2</sup> Solar cable; (+) 1000 mm, (-) 1000 mm
<b>Connector</b>	Multi-Contact, MC4, IP65 and IP68

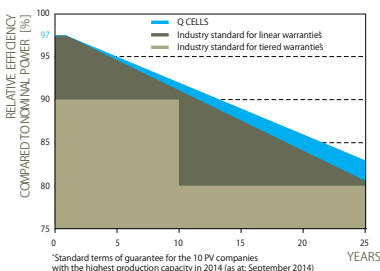


## ELECTRICAL CHARACTERISTICS

POWER CLASS		275	280	285	
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, (POWER TOLERANCE ±0.5% / -0.0W)					
Minimum	Power at MPP	$P_{MPP}$ [W]	275	280	285
	Short Circuit Current*	$I_{SC}$ [A]	9.35	9.41	9.46
	Open Circuit Voltage*	$V_{OC}$ [V]	38.72	38.97	39.22
	Current at MPP*	$I_{MPP}$ [A]	8.77	8.84	8.91
	Voltage at MPP*	$V_{MPP}$ [V]	31.36	31.67	31.99
	Efficiency <sup>2</sup>	$\eta$ [%]	≥ 16.5	≥ 16.8	≥ 17.1
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC					
Minimum	Power at MPP	$P_{MPP}$ [W]	203.3	207.0	210.7
	Short Circuit Current*	$I_{SC}$ [A]	7.54	7.58	7.63
	Open Circuit Voltage*	$V_{OC}$ [V]	36.13	36.37	36.61
	Current at MPP*	$I_{MPP}$ [A]	6.87	6.93	6.99
	Voltage at MPP*	$V_{MPP}$ [V]	29.59	29.87	30.15

<sup>1</sup> 1000 W/m<sup>2</sup>, 25 ° C, spectrum AM 1.5G <sup>2</sup> Measurement tolerances STC ± 0.5%; NOC ± 0.5% <sup>3</sup> 800 W/m<sup>2</sup>, NOCT, spectrum AM 1.5 G \*typical values, actual values may differ

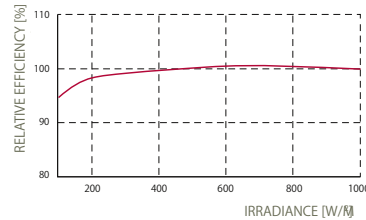
### QCELLS PERFORMANCE WARRANTY



At least 97 % of nominal power during first year. Thereafter max. 0.6 % degradation per year.  
At least 92 % of nominal power up to 10 years.  
At least 83 % of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the QCELLS sales organisation of your respective country.

### 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

Temperature Coefficient of $I_{SC}$	$\alpha$ [%/K]	+0.04	Temperature Coefficient of $V_{OC}$	$\beta$ [%/K]	-0.29
Temperature Coefficient of $P_{MPP}$	$\gamma$ [%/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

