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.

**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 17.4%.

**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™.

**LIGHT-WEIGHT QUALITY FRAME**
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\(^2\).

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1. APT test conditions: Cells at -1500 V against grounded, with conductive metal foil covered module surface, 25°C, 168h
2. See data sheet on rear for further information.

**THE IDEAL SOLUTION FOR:**
- Rooftop arrays on residential buildings
- Rooftop arrays on commercial/industrial buildings
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
Cable 4 mm² Solar cable; (±) ≥ 1000 mm, (-) ≥ 1000 mm
Connector Genuine Multi-Contact MC4, IP68

ELECTRICAL CHARACTERISTICS

POWER CLASS 275 280 285

MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC1 (POWER TOLERANCE ±5 W /-0 W)

Power at MPP
Short Circuit Current*\(I_{SC}\) [A]
Open Circuit Voltage*\(V_{OC}\) [V]
Current at MPP*\(I_{MP}\) [A]
Voltage at MPP*\(V_{MP}\) [V]
Efficiency*\(\eta\) [%]

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC3

Power at MPP
Short Circuit Current*\(I_{SC}\) [A]
Open Circuit Voltage*\(V_{OC}\) [V]
Current at MPP*\(I_{MP}\) [A]
Voltage at MPP*\(V_{MP}\) [V]

Q CELLS PERFORMANCE WARRANTY

PERFORMANCE AT LOW IRRADIANCE

The typical change in module efficiency at an irradiance of 200 W/m² in relation to 1000 W/m² (both at 25 °C and AM 1.5 G spectrum) is -2.5 % (relative).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of \(I_{SC}\) \(\alpha\) [% / K] + 0.04
Temperature Coefficient of \(V_{OC}\) \(\beta\) [% / K] − 0.29
Temperature Coefficient of \(P_{MP}\) \(\gamma\) [% / K] − 0.40
Normal Operating Cell Temperature NOCT [°C] 45

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage \(V_{SYS}\) [V] 1000
Maximum Reverse Current \(I_{B}\) [A] 20
Wind/Snow Load (in accordance with IEC 61215) \(P_{WP}\) 4000/5400

QUALIFICATIONS AND CERTIFICATES

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

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.