powered by Q.ANTUM DUO

Q.PLUS DUO BFR-G5
290-310

EXCELLENT RELIABILITY AND OUTSTANDING YIELDS

EUPD RESEARCH TOP BRAND PV MODULES AUSTRALIA 2016 2017 2018 2019

pv magazine award 2017 top innovation

VDE 11/2016 Quality Tested
high reliability
low degradation
optimized durability
continous line monitoring
www.VDEinfo.com
ID. 40032587

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

LOW ELECTRICITY GENERATION COSTS
Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 18.7%.

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 and 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).

A RELIABLE INVESTMENT
Inclusive 12-year product warranty and 25-year linear performance guarantee[2].

STATE OF THE ART MODULE TECHNOLOGY
Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.

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

THE IDEAL SOLUTION FOR:

Rooftop arrays on residential buildings

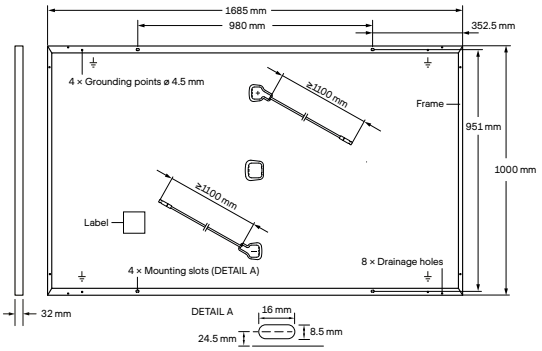
Rooftop arrays on commercial / industrial buildings

Engineered in Germany

Q CELLS

MECHANICAL SPECIFICATION

Format	1685 mm × 1000 mm × 32 mm (including frame)
Weight	18.7 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 20 multicrystalline Q.ANTUM solar half cells
Junction box	53-101 mm × 32-60 mm × 15-18 mm Protection class IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) ≥1100 mm, (–) ≥1100 mm
Connector	Stäubli MC4; IP68

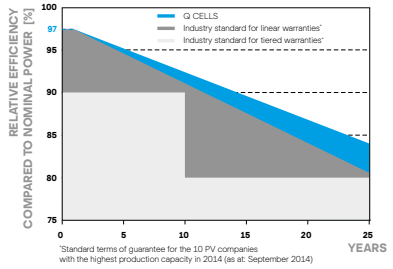


ELECTRICAL CHARACTERISTICS

POWER CLASS				290	295	300	305	310
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / –0 W)								
Minimum	Power at MPP[1]	P_{MPP}	[W]	290	295	300	305	310
	Short Circuit Current[1]	I_{SC}	[A]	9.76	9.82	9.87	9.93	9.98
	Open Circuit Voltage[1]	V_{OC}	[V]	38.54	38.77	39.00	39.23	39.46
	Current at MPP	I_{MPP}	[A]	9.19	9.27	9.35	9.42	9.50
	Voltage at MPP	V_{MPP}	[V]	31.54	31.82	32.10	32.37	32.63
	Efficiency[1]	η	[%]	≥17.2	≥17.5	≥17.8	≥18.1	≥18.4
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2]								
Minimum	Power at MPP	P_{MPP}	[W]	216.8	220.5	224.3	228.0	231.8
	Short Circuit Current	I_{SC}	[A]	7.86	7.91	7.95	8.00	8.04
	Open Circuit Voltage	V_{OC}	[V]	36.26	36.47	36.69	36.91	37.12
	Current at MPP	I_{MPP}	[A]	7.22	7.28	7.35	7.41	7.48
	Voltage at MPP	V_{MPP}	[V]	30.05	30.29	30.53	30.77	31.00

[1]Measurement tolerances P_{MPP} ±3%; I_{SC}; V_{OC} ±5% at STC: 1000 W/m², 25±2 °C, AM 1.5 according to IEC 60904-3 • [2]800 W/m², NMOT, spectrum AM 1.5

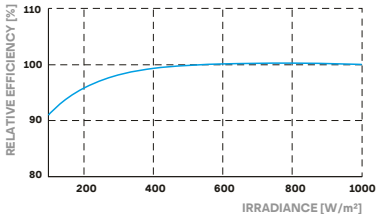
Q CELLS PERFORMANCE WARRANTY



At least 97% of nominal power during first year. Thereafter max. 0.54% degradation per year. At least 92.0% of nominal power up to 10 years. At least 84% 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]	–0.37	Normal Module Operating Temperature	NMOT	[°C]	43±3

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	V_{SYS}	[V]	1000	Safety Class	II
Maximum Reverse Current	I_R	[A]	20	Fire Rating based on ANSI / UL 1703	C / TYPE 2
Max. Design Load, Push / Pull		[Pa]	3600 / 2667	Permitted Module Temperature on Continuous Duty	–40 °C - +85 °C
Max. Test Load, Push / Pull		[Pa]	5400 / 4000		

QUALIFICATIONS AND CERTIFICATES

VDE Quality Tested, IEC 61215:2016; IEC 61730:2016, Application Class II, Certification holder: Hanwha Q CELLS GmbH; This data sheet complies with DIN EN 50380.

PACKAGING INFORMATION

Number of Modules per Pallet	32
Number of Pallets per Trailer (24 t)	30
Number of Pallets per 40' HC-Container (26 t)	26
Pallet Dimensions (L × W × H)	1760 × 1150 × 1190 mm
Pallet Weight	642 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.

Made in Malaysia

Hanwha Q CELLS Australia Pty Ltd
Suite 1, Level 1, 15 Blue Street, North Sydney, NSW 2060, Australia | **TEL** +61 (0)2 9016 3033 | **FAX** +61 (0)2 9016 3032 | **EMAIL** q-cells-australia@q-cells.com | **WEB** www.q-cells.com/au

Engineered in Germany