

Q.PLUS DUO BFR-G5 290-310

EXCELLENT RELIABILITY
AND OUTSTANDING YIELDS



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 Technology¹, 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 guarantee².



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, 168h)

² See data sheet on rear for further information

THE IDEAL SOLUTION FOR:



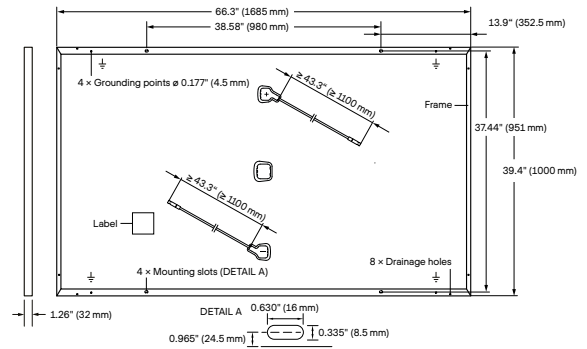
Rooftop arrays on residential buildings



Rooftop arrays on commercial and industrial buildings

MECHANICAL SPECIFICATION

Format	66.3in × 39.4in × 1.26in (including frame) (1685mm × 1000mm × 32mm)
Weight	41.2lbs (18.7kg)
Front Cover	0.13in (3.2mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black Anodized aluminum
Cell	6 × 20 multicrystalline Q.ANTUM solar half cells
Junction Box	2.09-3.98in × 1.26-2.36in × 0.59-0.71in (53-101mm × 32-60mm × 15-18mm), IP67, with bypass diodes
Cable	4mm ² Solar cable; (+) ≥43.3in (1100mm), (-) ≥43.3in (1100mm)
Connector	Stäubli MC4, Amphenol UTX, Renhe 05-6, Tongling TL-Cable01S, JMTHY JM601; IP68 or Friends PV2e; IP67

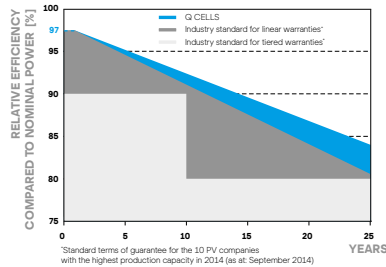


ELECTRICAL CHARACTERISTICS

POWER CLASS		290	295	300	305	310	
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5W / -0W)							
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

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

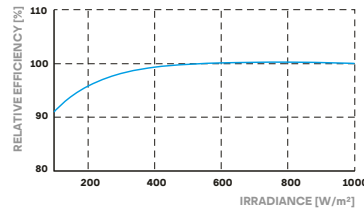
Q CELLS PERFORMANCE WARRANTY



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, 1000W/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 [°F]	109±5.4 (43±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 based on ANSI / UL 1703	C (IEC)/TYPE 2 (UL)
Max. Design Load, Push / Pull ³	[lbs / ft ²]	75 (3600Pa) / 55 (2667Pa)	Permitted Module Temperature on Continuous Duty	-40°F up to +185°F (-40°C up to +85°C)
Max. Test Load, Push / Pull ³	[lbs / ft ²]	113 (5400Pa) / 84 (4000Pa)		

³ See Installation Manual

QUALIFICATIONS AND CERTIFICATES

UL 1703, VDE Quality Tested, CE-compliant, IEC 61215:2016, IEC 61730:2016, Application Class II



PACKAGING INFORMATION

Number of Modules per Pallet	32
Number of Pallets per 53' Trailer	30
Number of Pallets per 40' HC-Container	26
Pallet Dimensions (L × W × H)	69.3 × 45.3 × 46.9in (1760 × 1150 × 1190mm)
Pallet Weight	1415lbs (642kg)

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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