powered by Q.ANTUM DUO

Q.PEAK DUO L-G6.3 / BFG
405-420

BIFACIAL DOUBLE GLASS MODULE WITH EXCELLENT RELIABILITY AND ADDITIONAL YIELD

EUPD RESEARCH TOP BRAND PV MODULES EUROPE 2020

Q CELLS Yield Security

BIFACIAL ENERGY YIELD GAIN OF UP TO 20 %
Bifacial Q.ANTUM solar cells make efficient use of light shining on the module rear-side for radically improved LCOE.

LOW ELECTRICITY GENERATION COSTS
Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology for higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 19.8 %.

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™.

FRAME FOR VERSATILE MOUNTING OPTIONS
High-tech aluminum alloy frame protects from damage, enables use of a wide range of mounting structures and is certified regarding IEC for high snow (5400 Pa) and wind loads (3000 Pa).

A RELIABLE INVESTMENT
Double glass module design enables extended lifetime with 12-year product warranty and improved 30-year performance warranty[2].

[1] APT test conditions according to IEC / TS 62804-1:2015 method B (–1500 V, 168 h) including post treatment according to IEC 61215-1-1 Ed. 2.0 (CD)
[2] See data sheet on rear for further information

THE IDEAL SOLUTION FOR:

Rooftop arrays on commercial / industrial buildings

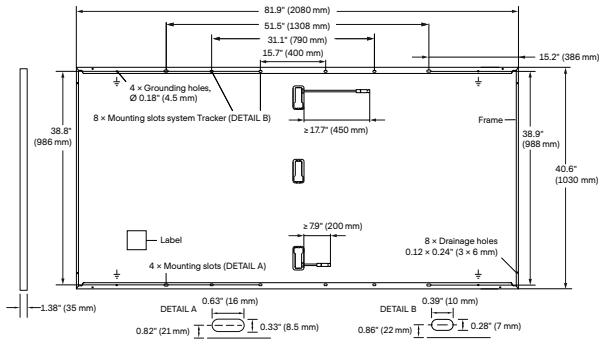
Ground-mounted solar power plants

Engineered in Germany

Q CELLS

MECHANICAL SPECIFICATION

Format	81.9 in × 40.5 in × 1.37 in (including frame) (2080 mm × 1030 mm × 35 mm)
Weight	62.8 lbs (28.5 kg)
Front Cover	0.07 in (2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	0.07 in (2 mm) semi-tempered glass
Frame	Anodized aluminum
Cell	6 × 24 monocrystalline Q.ANTUM solar half cells
Junction Box	3.42-3.94 in × 1.26-1.51 in × 0.73 in (87-100.3 mm × 32-38.5 mm × 18.7 mm), IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) ≥17.7 in (450 mm), (–) ≥7.87 in (200 mm)
Connector	Stäubli MC4-Evo2, Hanwha Q CELLS HQC4, Amphenol UTX, Renhe 05-8, JMTHY JM601A, Tongling Cable01S-F; IP68 or Friends PV2e; IP67



ELECTRICAL CHARACTERISTICS

POWER CLASS				405		410		415		420	
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] AND BSTC[1] (POWER TOLERANCE +5 W / –0 W)					BSTC*		BSTC*		BSTC*		BSTC*
Minimum	Power at MPP[1]	P_{MPP}	[W]	405	443.0	410	448.5	415	453.9	420	459.4
	Short Circuit Current[1]	I_{SC}	[A]	10.65	11.66	10.70	11.71	10.74	11.76	10.79	11.81
	Open Circuit Voltage[1]	V_{OC}	[V]	48.14	48.31	48.39	48.56	48.63	48.81	48.88	49.05
	Current at MPP	I_{MPP}	[A]	10.14	11.09	10.18	11.14	10.23	11.19	10.27	11.24
	Voltage at MPP	V_{MPP}	[V]	39.95	39.94	40.27	40.26	40.58	40.57	40.89	40.88
	Efficiency[1]	η	[%]	≥18.9	≥20.7	≥19.1	≥20.9	≥19.4	≥21.2	≥19.6	≥21.4

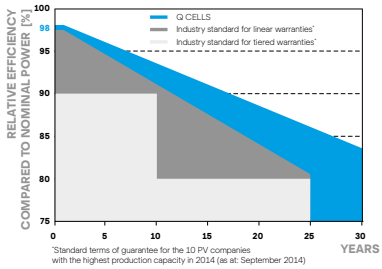
Bifaciality of P_{MPP} and I_{SC} 70 % ±5 % • Bifaciality given for rear side irradiation on top of STC (front side) • According to IEC 60904-1-2

[1] Measurement tolerances P_{MPP} ±3 %; I_{SC}, V_{OC} ±5 % at STC: 1000 W/m²; *at BSTC: 1000 W/m² + φ × 135 W/m², φ = 70 % ±5 %, 25 ± 2 °C, AM 1.5 according to IEC 60904-3

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2]						
Minimum	Power at MPP	P_{MPP}	[W]	303.3	307.0	310.8	314.5
	Short Circuit Current	I_{SC}	[A]	8.58	8.62	8.65	8.69
	Open Circuit Voltage	V_{OC}	[V]	45.39	45.62	45.86	46.09
	Current at MPP	I_{MPP}	[A]	7.98	8.01	8.05	8.09
	Voltage at MPP	V_{MPP}	[V]	38.01	38.31	38.61	38.90

[2] 800 W/m², NMOT, spectrum AM 1.5

Q CELLS PERFORMANCE WARRANTY

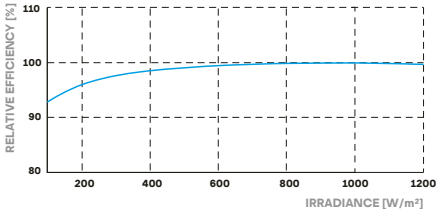


*Standard terms of guarantee for the 10 PV companies with the highest production capacity in 2014 (as at: September 2014)

At least 98 % of nominal power during first year. Thereafter max. 0.5 % degradation per year. At least 93.5 % of nominal power up to 10 years. At least 83.5 % of nominal power up to 30 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]	–0.27
Temperature Coefficient of P_{MPP}	γ	[%/K]	–0.35	Nominal Module Operating Temperature	NMOT	[°F]	108 ± 5.4 (42 ± 3 °C)

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V_{SYS}	[V]	1500 (IEC) / 1500 (UL)	PV module classification	Class II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating based on ANSI / UL 61730	TYPE 29[4]
Max. Design Load, Push / Pull[3]	[lbs/ft²]	75 (3600 Pa) / 42 (2000 Pa)	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/ft²]	113 (5400 Pa) / 63 (3000 Pa)		

[3] See Installation Manual

[4] New Type is similar to Type 3 but with metallic frame

QUALIFICATIONS AND CERTIFICATES

UL 61730, CE-compliant,
IEC 61215:2016,
IEC 61730:2016,
U.S. Patent No. 9,893,215
(solar cells)

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CE

C SP US Certified UL 61730

PACKAGING AND TRANSPORT INFORMATION

Horizontal packaging	83.8 in 2130 mm	42.5 in 1080 mm	47.1 in 1196 mm	1912 lbs 867.4 kg	22 pallets	22 pallets	29 modules

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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