

powered by

Q.ANTUM DUO Z

Q.PEAK DUO XL-G10.d

475-495

ENDURING HIGH
PERFORMANCE



BREAKING THE 21% EFFICIENCY BARRIER

Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 21.6%.



LOW ELECTRICITY GENERATION COSTS

Higher yield per surface area, lower BOS costs and up to 80 watts more module power than standard 144 half-cell modules.



ENDURING HIGH PERFORMANCE

Long-term yield security with Anti LID Technology, Anti PID Technology¹, Hot-Spot Protect and Traceable Quality Tra.Q™.



EXTREME WEATHER RATING

High-tech aluminium alloy frame, certified for high snow (5400Pa) and wind loads (3000Pa).



A RELIABLE INVESTMENT

Inclusive 12-year product warranty and 25-year linear performance warranty².



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 A (-1500V, 96h)

² See data sheet on rear for further information.

THE IDEAL SOLUTION FOR:



Ground-mounted
solar power plants

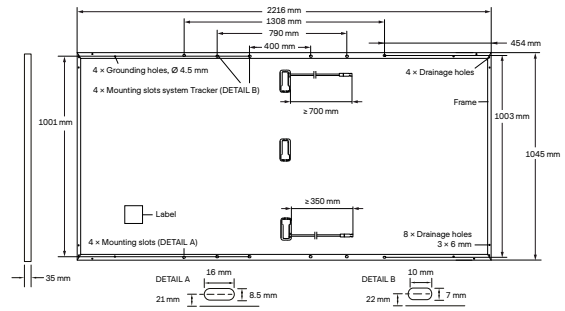
Engineered in Germany

Q CELLS

MECHANICAL SPECIFICATION

Format	2216 mm × 1045 mm × 35 mm (including frame)
Weight	26.0 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Anodised aluminium
Cell	6 × 26 monocrystalline Q.ANTUM solar half cells
Junction box	53-101 mm × 32-60 mm × 15-18 mm Protection class IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 700 mm, (-) ≥ 350 mm*
Connector	Stäubli MC4-Evo2, Hanwha Q CELLS HQC4; IP68

*Long cables (+) ≥ 1450 mm, (-) ≥ 1450 mm for landscape installation are available upon request.



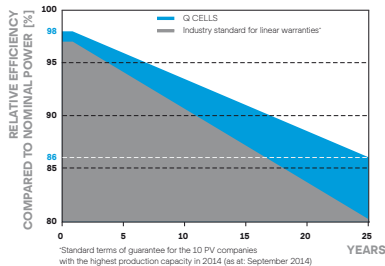
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ELECTRICAL CHARACTERISTICS

POWER CLASS		475	480	485	490	495	
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5 W / -0 W)							
Minimum	Power at MPP ¹	P_{MPP} [W]	475	480	485	490	495
	Short Circuit Current ¹	I_{SC} [A]	11.24	11.26	11.29	11.31	11.34
	Open Circuit Voltage ¹	V_{OC} [V]	53.58	53.61	53.64	53.68	53.71
	Current at MPP	I_{MPP} [A]	10.66	10.71	10.76	10.81	10.86
	Voltage at MPP	V_{MPP} [V]	44.54	44.81	45.07	45.33	45.59
	Efficiency ¹	η [%]	≥ 20.5	≥ 20.7	≥ 20.9	≥ 21.2	≥ 21.4
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT ²							
Minimum	Power at MPP	P_{MPP} [W]	356.4	360.1	363.9	367.6	371.4
	Short Circuit Current	I_{SC} [A]	9.05	9.07	9.09	9.12	9.14
	Open Circuit Voltage	V_{OC} [V]	50.53	50.56	50.59	50.62	50.65
	Current at MPP	I_{MPP} [A]	8.39	8.43	8.47	8.52	8.56
	Voltage at MPP	V_{MPP} [V]	42.49	42.72	42.94	43.17	43.39

¹Measurement tolerances $P_{MPP} \pm 3\%$; I_{SC} ; $V_{OC} \pm 5\%$ at STC: 1000 W/m², 25 ± 2°C, AM 1.5 according to IEC 60904-3 • 2800 W/m², NMOT, spectrum AM 1.5

Q CELLS PERFORMANCE WARRANTY

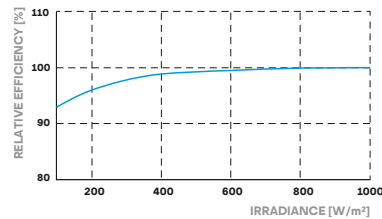


¹Standard terms of guarantee for the 10 PV companies with the highest production capacity in 2014 (as at September 2014)

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 86% 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]	-0.27
Temperature Coefficient of P_{MPP}	γ [%/K]	-0.34	Nominal Module Operating Temperature	NMOT [°C]	43 ± 3

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	V_{SYS} [V]	1500	PV module classification	Class II
Maximum Reverse Current	I_R [A]	20	Fire Rating based on ANSI / UL 61730	C / TYPE 1
Max. Design Load, Push / Pull	[Pa]	3600 / 2000	Permitted Module Temperature on Continuous Duty	-40°C - +85°C
Max. Test Load, Push / Pull	[Pa]	5400 / 3000		

QUALIFICATIONS AND CERTIFICATES

IEC 61215:2016;
IEC 61730:2016.
This data sheet complies with DIN EN 50380.

Certification in process.



www.tuv.com
ID 1111220277

PACKAGING INFORMATION

Horizontal packaging	2270 mm	1100 mm	1210 mm	807 kg	22 pallets	20 pallets	29 modules
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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.

Hanwha Q CELLS GmbH

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Engineered in Germany

Q CELLS