

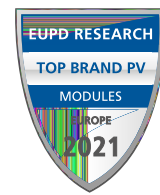
powered by

Q.ANTUM DUO Z

Q.PEAK DUO ML-G10.a+

395-415

ENDURING HIGH
PERFORMANCE



BREAKING THE 20% EFFICIENCY BARRIER

Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 21.4%.



THE MOST THOROUGH TESTING PROGRAMME IN THE INDUSTRY

Q CELLS is the first solar module manufacturer to pass the most comprehensive quality programme in the industry: The new "Quality Controlled PV" of the independent certification institute TÜV Rheinland.



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 Technology, 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 25-year product warranty and 25-year linear performance warranty².

¹ APT test conditions according to IEC / TS 62804-1:2015, method A (-1500V, 96h)

² See data sheet on rear for further information.



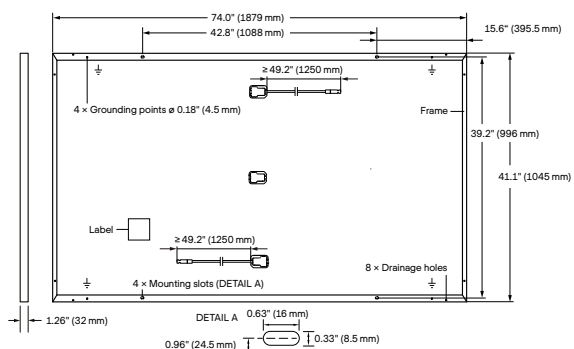
THE IDEAL SOLUTION FOR:



Rooftop arrays on
residential buildings

MECHANICAL SPECIFICATION

Format	74.0in × 41.1in × 1.26in (including frame) (1879mm × 1045mm × 32mm)
Weight	48.5lbs (22.0kg)
Front Cover	0.13in (3.2mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodized aluminum
Cell	6 × 22 monocrystalline 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; (+) ≥49.2in (1250mm), (-) ≥49.2in (1250mm)
Connector	Stäubli MC4; IP68

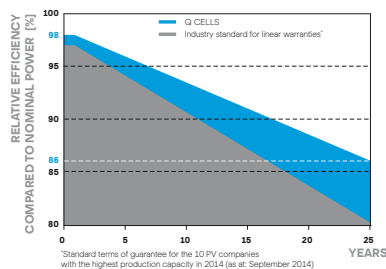


ELECTRICAL CHARACTERISTICS

POWER CLASS			395	400	405	410	415
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5W / -0W)							
Minimum	Power at MPP ¹	P _{MPP} [W]	395	400	405	410	415
	Short Circuit Current ¹	I _{SC} [A]	11.13	11.16	11.19	11.22	11.26
	Open Circuit Voltage ¹	V _{OC} [V]	45.03	45.06	45.09	45.13	45.16
	Current at MPP	I _{MPP} [A]	10.58	10.64	10.70	10.76	10.82
	Voltage at MPP	V _{MPP} [V]	37.32	37.59	37.85	38.11	38.37
	Efficiency ¹	η [%]	≥20.1	≥20.4	≥20.6	≥20.9	≥21.1
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT ²							
Minimum	Power at MPP	P _{MPP} [W]	296.4	300.1	303.9	307.6	311.4
	Short Circuit Current	I _{SC} [A]	8.97	8.99	9.02	9.04	9.07
	Open Circuit Voltage	V _{OC} [V]	42.46	42.49	42.52	42.56	42.59
	Current at MPP	I _{MPP} [A]	8.33	8.38	8.43	8.48	8.53
	Voltage at MPP	V _{MPP} [V]	35.59	35.82	36.04	36.27	36.49

¹Measurement 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 • *800 W/m², NMOT, spectrum AM 1.5

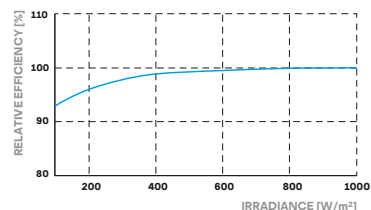
Q CELLS PERFORMANCE WARRANTY



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 [°F]	109 ± 5.4 (43 ± 3°C)

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V _{sys}	[V]	1000 (IEC)/1000 (UL)	PV module classification	Class II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating based on ANSI / UL 61730	TYPE 2
Max. Design Load, Push / Pull ³	[lbs/ft ²]	75 (3600 Pa) / 55 (2660 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/ft ²]	113 (5400 Pa) / 84 (4000 Pa)		

³ See Installation Manual

QUALIFICATIONS AND CERTIFICATES

UL 61730, CE-compliant.
Quality Controlled PV - TÜV Rheinland,
IEC 61215:2016, IEC 61730:2016,
U.S. Patent No. 9,893,215 (solar cells),
QCPV Certification ongoing.



PACKAGING INFORMATION

Horizontal packaging	76.4in 1940mm	43.3in 1100mm	48.0in 1220mm	1656lbs 751kg	24 pallets	24 pallets	32 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.

Hanwha Q CELLS America Inc.

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