powered by Q.ANTUM DUO Z

Q.PEAK DUO ML-G10.2
395-415

ENDURING HIGH PERFORMANCE

ntv GERMANY'S MOST POPULAR PROVIDER Life & Living Award 2021 1st Place Solar Technology Customer rating from 11 brands www.disq.de DEUTSCHES INSTITUT FÜR SERVICE-QUALITÄT GmbH & Co. KG

EUPD RESEARCH TOP BRAND PV MODULES EUROPE 2021

Q CELLS Yield Security

BREAKING THE 21% 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 behaviour.

ENDURING HIGH PERFORMANCE
Long-term yield security with Anti LID Technology, Anti PID Technology[1], Hot-Spot Protect and Traceable Quality Tra.Q™.

EXTREME WEATHER RATING
High-tech aluminium 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 warranty[2].

[1] APT test conditions according to IEC/TS 62804-1:2015, method A (–1500 V, 96 h)
[2] See data sheet on rear for further information.

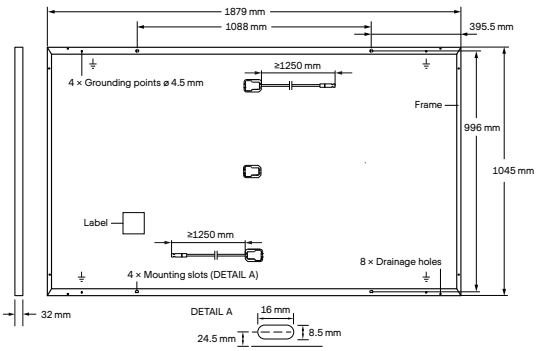
THE IDEAL SOLUTION FOR:
Rooftop arrays on residential buildings

Engineered in Germany

Q CELLS

MECHANICAL SPECIFICATION

Format	1879 mm × 1045 mm × 32 mm (including frame)
Weight	22.0 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 22 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 mm² Solar cable; (+) ≥1250 mm, (–) ≥1250 mm
Connector	Stäubli MC4-Evo2, Hanwha Q CELLS HQC4; IP68

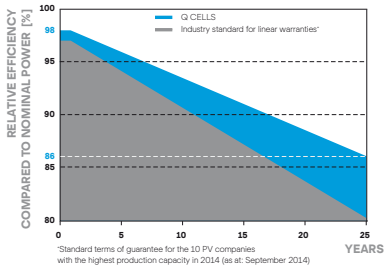


ELECTRICAL CHARACTERISTICS

POWER CLASS				395	400	405	410	415
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / –0 W)								
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

[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

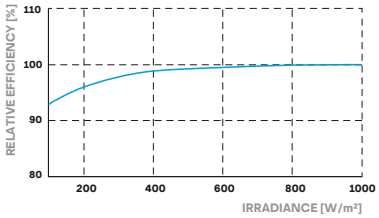
Q CELLS PERFORMANCE WARRANTY



At least 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 / 2660	Permitted Module Temperature on Continuous Duty			–40 °C - +85 °C
Max. Test Load, Push / Pull		[Pa]	5400 / 4000				

QUALIFICATIONS AND CERTIFICATES

Quality Controlled PV - TÜV Rheinland; IEC 61215:2016; IEC 61730:2016.
This data sheet complies with DIN EN 50380.
QCPV Certification ongoing.

TÜVRheinland CERTIFIED
www.tuv.com ID 1111220277

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PACKAGING INFORMATION

Horizontal packaging	1940 mm	1100 mm	1220 mm	751 kg	28 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.

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