powered by Q.ANTUM DUO Z

Q.BOOST ML-G2
405-415

ENDURING HIGH PERFORMANCE

Q CELLS
Yield Security

BREAKING THE 20% EFFICIENCY BARRIER
Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 21.4%.

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, 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 20-year product warranty and 25-year linear performance warranty[1].

STATE OF THE ART MODULE TECHNOLOGY
Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.

[1] See data sheet on rear for further information.

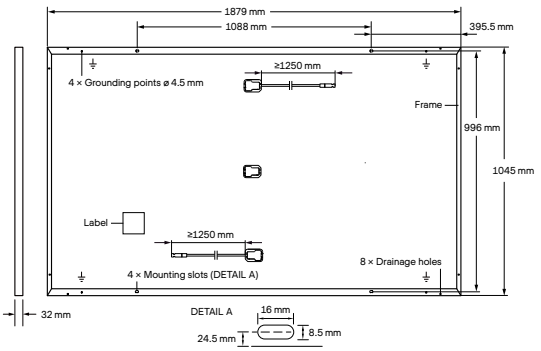
THE IDEAL SOLUTION FOR:
Rooftop arrays on residential buildings

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; IP68

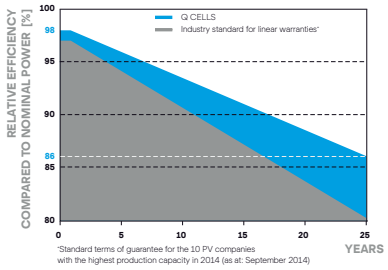


ELECTRICAL CHARACTERISTICS

POWER CLASS				405	415
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / –5 W)					
Minimum	Power at MPP[1]	P_{MPP}	[W]	405	415
	Short Circuit Current[1]	I_{SC}	[A]	11.19	11.26
	Open Circuit Voltage[1]	V_{OC}	[V]	45.09	45.16
	Current at MPP	I_{MPP}	[A]	10.70	10.82
	Voltage at MPP	V_{MPP}	[V]	37.85	38.37
	Efficiency[1]	η	[%]	≥20.6	≥21.1
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2]					
Minimum	Power at MPP	P_{MPP}	[W]	303.9	311.4
	Short Circuit Current	I_{SC}	[A]	9.02	9.07
	Open Circuit Voltage	V_{OC}	[V]	42.52	42.59
	Current at MPP	I_{MPP}	[A]	8.42	8.53
	Voltage at MPP	V_{MPP}	[V]	36.04	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

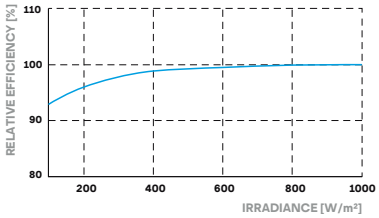
Q CELLS PERFORMANCE WARRANTY



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]	1000	PV module classification	Class II
Maximum Reverse Current	I_R	[A]	20	Fire Rating based on ANSI / UL 61730	C / TYPE 2
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

IEC 61215:2016; IEC 61730:2016.
This data sheet complies with DIN EN 50380.
Certification holder:
Hanwha Q CELLS Australia Pty Ltd

TÜVRheinland CERTIFIED
www.tuv.com
ID 1111225531

CE

PACKAGING INFORMATION

Vertical packaging	1970 mm	1150 mm	1215 mm	765 kg	28 pallets	24 pallets	33 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.

Made in Malaysia

Hanwha Q CELLS Australia Pty Ltd
Suite 1, Level 1, 15 Blue Street, North Sydney, NSW 2060, Australia | **TEL** +61 (0)2 9016 3033 | **FAX** +61 (0)2 9016 3032 | **EMAIL** q-cells-australia@q-cells.com | **WEB** www.q-cells.com/au

Specifications subject to technical changes © **Q CELLS** Q.BOOST ML-G2_405-415_2021-11_Rev02_AU

Engineered in Germany

Q CELLS