

powered by

Q.ANTUM DUO Z

DRAFT

Q.PEAK DUO ML-G11.2

480-500

ENDURING HIGH
PERFORMANCE



BREAKING THE 21% EFFICIENCY BARRIER

Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 21.7%.



LOW ELECTRICITY GENERATION COSTS

Higher yield per surface area, lower BOS costs and up to 85 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 (5400 Pa) and wind loads (2400 Pa).



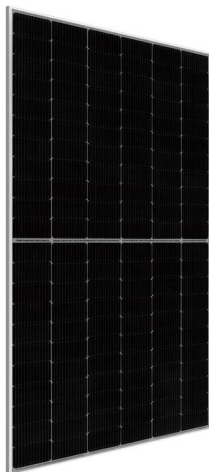
A RELIABLE INVESTMENT

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 12-busbar design 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.

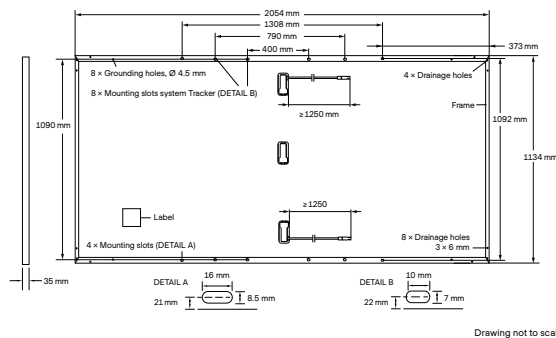
THE IDEAL SOLUTION FOR:



Ground-mounted
solar power plants

MECHANICAL SPECIFICATION

Format	2054 mm × 1134 mm × 35 mm (including frame)
Weight	27.4 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	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 mm ² Solar cable; (+) ≥ 1250 mm, (-) ≥ 1250 mm
Connector	Stäubli MC4-Evo2, Hanwha Q CELLS HQC4; IP68

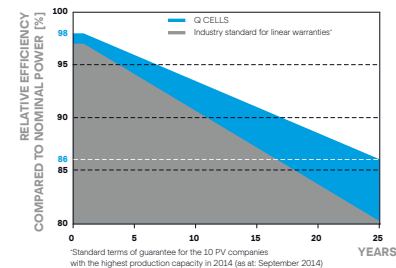


ELECTRICAL CHARACTERISTICS

POWER CLASS		480	485	490	495	500
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5 W / -0 W)						
Minimum	Power at MPP ¹	P _{MPP} [W]	480	485	490	495
	Short Circuit Current ¹	I _{SC} [A]	13.51	13.54	13.57	13.60
	Open Circuit Voltage ¹	V _{OC} [V]	45.59	45.62	45.65	45.67
	Current at MPP	I _{MPP} [A]	12.78	12.83	12.89	12.95
	Voltage at MPP	V _{MPP} [V]	37.57	37.79	38.02	38.24
	Efficiency ¹	η [%]	20.6	20.8	21.0	21.3
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT ²						
Minimum	Power at MPP	P _{MPP} [W]	360.1	363.8	367.6	371.3
	Short Circuit Current	I _{SC} [A]	10.89	10.91	10.94	10.96
	Open Circuit Voltage	V _{OC} [V]	43.00	43.02	43.05	43.08
	Current at MPP	I _{MPP} [A]	10.04	10.09	10.14	10.19
	Voltage at MPP	V _{MPP} [V]	35.87	36.07	36.26	36.45

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 • 2800 W/m², NMOT, spectrum AM 1.5

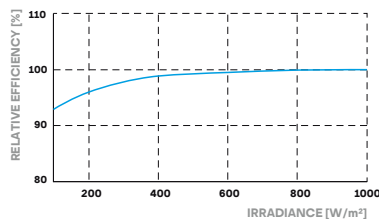
Q CELLS PERFORMANCE WARRANTY



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]	25	Fire Rating	C
Max. Design Load, Push / Pull	[Pa]	3600 / 1600	Permitted Module Temperature on Continuous Duty	-40°C - +85°C
Max. Test Load, Push / Pull	[Pa]	5400 / 2400		

QUALIFICATIONS AND CERTIFICATES

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



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

Sonnenallee 17-21, 06766 Bitterfeld-Wolfen, Germany | **TEL** +49 (0)3494 66 99-23444 | **FAX** +49 (0)3494 66 99-23000 | **EMAIL** sales@q-cells.com | **WEB** www.q-cells.com