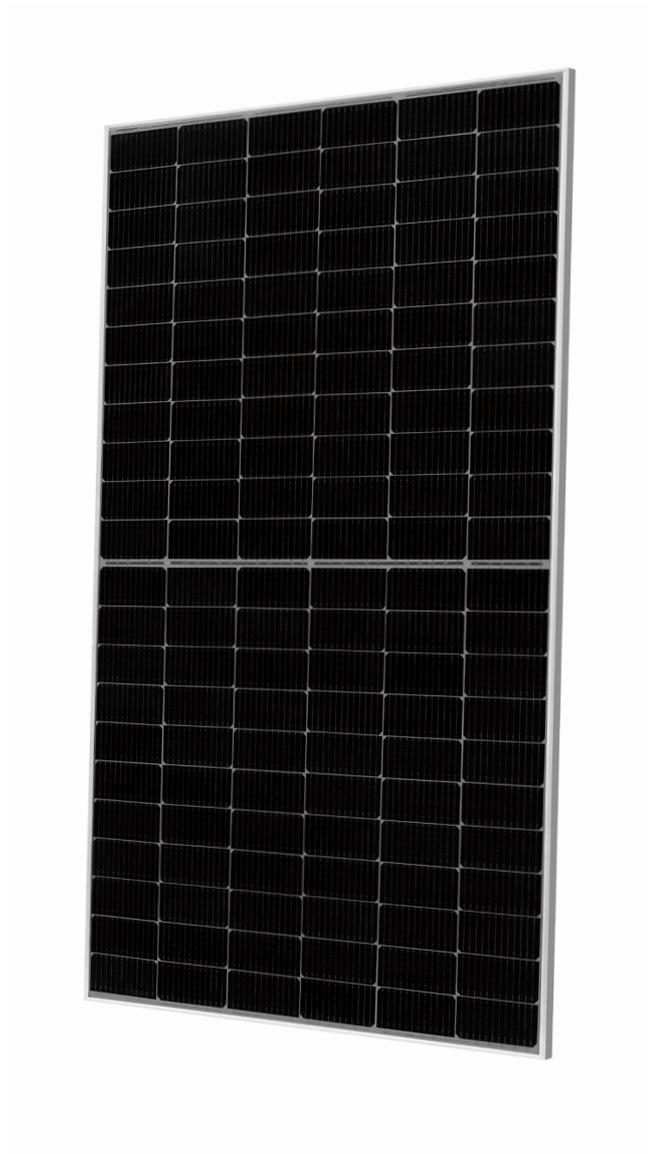


Q.PEAK DUO ML-G11S+ SERIES



490 - 510 Wp | 132 Cells
21.5 % Maximum Module Efficiency

MODEL Q.PEAK DUO ML-G11S.2+



Breaking the 21% efficiency barrier

Q.ANTUM DUO Technology with optimized module layout boosts module power.



Warranty
Product & Performance

A reliable investment

Inclusive 25-year product warranty and 25-year linear performance warranty¹.



Enduring high performance

Long-term yield security with Anti LeTID Technology, Anti PID Technology², and Hot-Spot Protect.



Extreme weather rating

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



Innovative all-weather technology

Optimal yields, whatever the weather with excellent low-light and temperature behaviour.



The most thorough testing programme in the industry

Qcells 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.

¹ See data sheet on rear for further information.

² APT test conditions according to IEC/TS 62804-1:2015, method A (~1500V, 96h)

The ideal solution for:



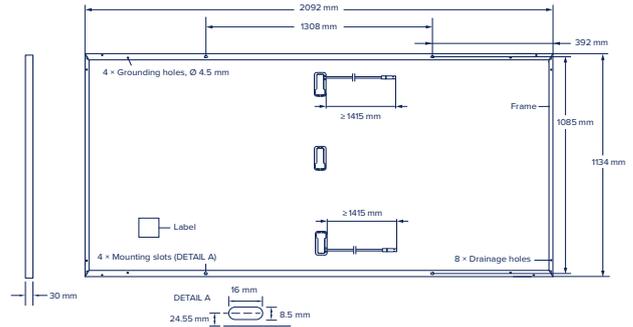
Rooftop arrays on commercial/industrial buildings



Q.PEAK DUO ML-G11S+ SERIES

Mechanical Specification

Format	2092 mm × 1134 mm × 30 mm (including frame)
Weight	25.7 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Anodized 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; (+) ≥1415 mm, (-) ≥1415 mm
Connector	Stäubli MC4-Evo2, Hanwha Q CELLS HQC4; IP68

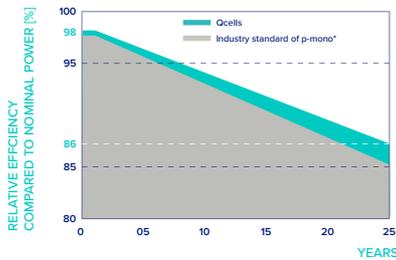


Electrical Characteristics

POWER CLASS			490	495	500	505	510
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5 W/-0 W)							
Minimum	Power at MPP ¹	P_{MPP} [W]	490	495	500	505	510
	Short Circuit Current ¹	I_{SC} [A]	13.88	13.91	13.94	13.97	14.00
	Open Circuit Voltage ¹	V_{OC} [V]	45.30	45.32	45.35	45.38	45.41
	Current at MPP	I_{MPP} [A]	13.16	13.22	13.28	13.34	13.39
	Voltage at MPP	V_{MPP} [V]	37.23	37.44	37.66	37.87	38.08
	Efficiency ¹	η [%]	≥20.7	≥20.9	≥21.1	≥21.3	≥21.5
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT ²							
Minimum	Power at MPP	P_{MPP} [W]	367.6	371.4	375.1	378.9	382.6
	Short Circuit Current	I_{SC} [A]	11.18	11.21	11.23	11.26	11.28
	Open Circuit Voltage	V_{OC} [V]	42.72	42.74	42.77	42.79	42.82
	Current at MPP	I_{MPP} [A]	10.35	10.40	10.45	10.50	10.55
	Voltage at MPP	V_{MPP} [V]	35.52	35.71	35.89	36.07	36.25

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

Qcells PERFORMANCE WARRANTY

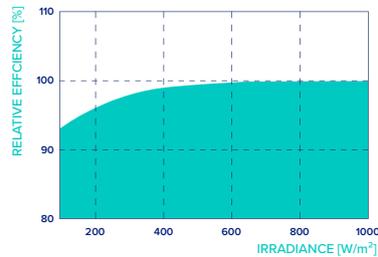


At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells sales organisation of your respective country.

*Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2021)

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 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

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



Qcells pursues minimizing paper output in consideration of the global environment.

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation 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.qcells.com

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