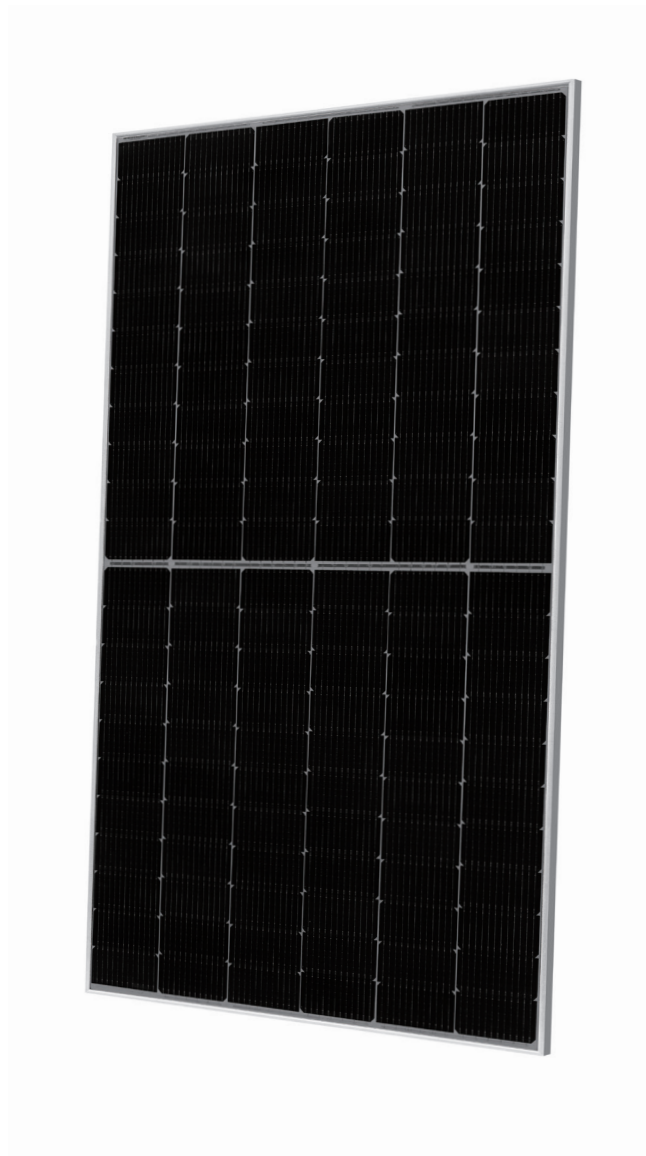


# Q.PEAK DUO ML-G11A+ SERIES



480 - 500 Wp | 132 Cells  
21.5 % Maximum Module Efficiency

MODEL Q.PEAK DUO ML-G11A.2+



## Breaking the 21% efficiency barrier

Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 21.5%.



## A reliable investment

Inclusive 25-year product warranty and 25-year linear performance warranty<sup>1</sup>.



## Enduring high performance

Long-term yield security with Anti LeTID Technology, Anti PID Technology<sup>2</sup>, Hot-Spot Protect.



## Extreme weather rating

High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (2400 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.

<sup>1</sup> See data sheet on rear for further information.

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

### The ideal solution for:



Rooftop arrays on commercial/industrial buildings



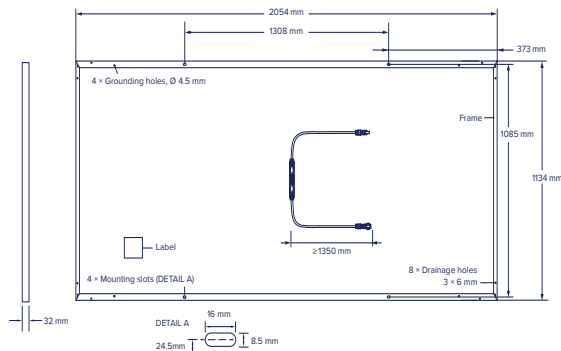
Ground mounted solar panels



# Q.PEAK DUO ML-G11A+ SERIES

## Mechanical Specification

Format	2054 mm × 1134 mm × 32 mm (including frame)
Weight	25.8 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Silver anodised aluminium
Cell	6 × 22 monocrystalline Q.ANTUM solar half cells
Junction box	225 mm × 30 mm × 15 mm Protection class IP67, with bypass diodes
Cable	4 mm <sup>2</sup> Solar cable; (+) ≥1350 mm, (-) ≥1350 mm
Connector	Stäubli MC4-Evo2, Hanwha Q CELLS HQC4; IP68



## Electrical Characteristics

POWER CLASS		480	485	490	495	500
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MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC<sup>1</sup> (POWER TOLERANCE +5W/-0W)

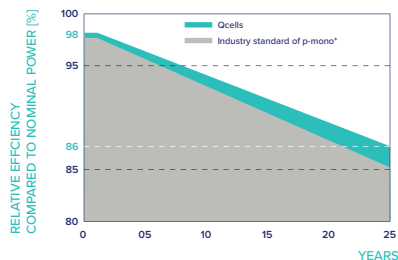
Minimum	Power at MPP <sup>1</sup>	P <sub>MPP</sub> [W]	480	485	490	495	500
	Short Circuit Current <sup>1</sup>	I <sub>SC</sub> [A]	13.51	13.54	13.57	13.60	13.63
	Open Circuit Voltage <sup>1</sup>	V <sub>OC</sub> [V]	45.59	45.62	45.65	45.67	45.70
	Current at MPP	I <sub>MPP</sub> [A]	12.78	12.83	12.89	12.95	13.00
	Voltage at MPP	V <sub>MPP</sub> [V]	37.57	37.79	38.02	38.24	38.45
	Efficiency <sup>1</sup>	η [%]	≥20.6	≥20.8	≥21.0	≥21.3	≥21.5

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT<sup>2</sup>

Minimum	Power at MPP	P <sub>MPP</sub> [W]	360.1	363.8	367.6	371.3	375.1
	Short Circuit Current	I <sub>SC</sub> [A]	10.89	10.91	10.94	10.96	10.98
	Open Circuit Voltage	V <sub>OC</sub> [V]	43.00	43.02	43.05	43.08	43.10
	Current at MPP	I <sub>MPP</sub> [A]	10.04	10.09	10.14	10.19	10.24
	Voltage at MPP	V <sub>MPP</sub> [V]	35.87	36.07	36.26	36.45	36.63

<sup>1</sup>Measurement tolerances P<sub>MPP</sub> ±3%; I<sub>SC</sub>, V<sub>OC</sub> ±5% at STC: 1000 W/m<sup>2</sup>, 25 ±2°C, AM 1.5 according to IEC 60904-3 • <sup>2</sup>800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5

## Qcells PERFORMANCE WARRANTY

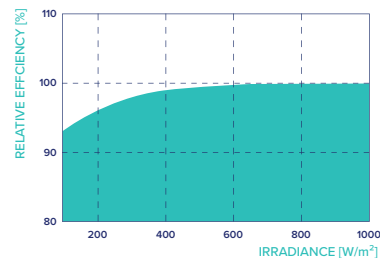


At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% of nominal power up to 25 years.

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

<sup>\*</sup>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/m<sup>2</sup>).

## TEMPERATURE COEFFICIENTS

Temperature Coefficient of I <sub>SC</sub>	α [%/K]	+0.04	Temperature Coefficient of V <sub>OC</sub>	β [%/K]	-0.27
Temperature Coefficient of P <sub>MPP</sub>	γ [%/K]	-0.34	Nominal Module Operating Temperature	NMOT [°C]	43 ± 3

## Properties for System Design

Maximum System Voltage	V <sub>sys</sub> [V]	1500	PV module classification	Class II
Maximum Reverse Current	I <sub>R</sub> [A]	25	Fire Rating based on ANSI/UL 61730	C / TYPE 1
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

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.

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