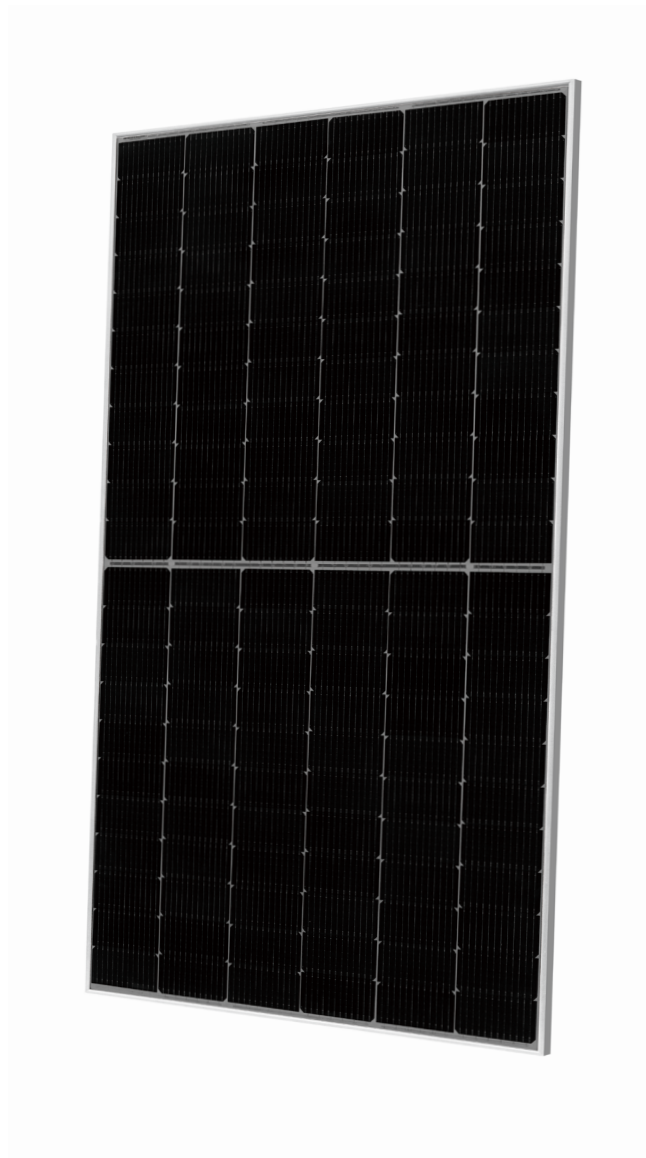


Q.PEAK DUO ML-G11 SERIES



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

MODEL Q.PEAK DUO ML-G11.2



Breaking the 21% efficiency barrier

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



Enduring high performance

Long-term yield security with Anti LeTID Technology, Anti PID Technology¹ and 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.



A reliable investment

Inclusive 12-year product warranty and 25-year linear performance warranty².



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 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 commercial/industrial buildings



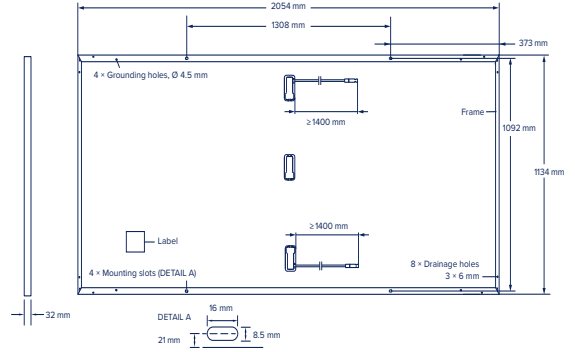
Ground mounted solar panels



Q.PEAK DUO ML-G11 SERIES

Mechanical Specification

Format	2054 mm × 1134 mm × 32 mm (including frame)
Weight	26.0 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	53-101 mm × 32-60 mm × 15-18 mm Protection class IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥1400 mm, (-) ≥1400 mm
Connector	Stäubli MC4-Evo2, Hanwha Q CELLS HQC4; IP68

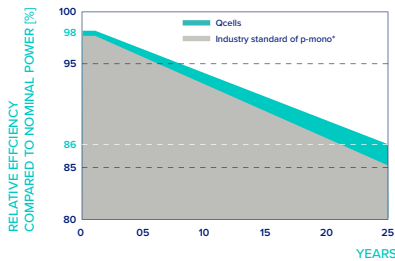


Electrical Characteristics

POWER CLASS			480	485	490	495	500
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5W/-0 W)							
Minimum	Power at MPP ¹	P_{MPP} [W]	480	485	490	495	500
	Short Circuit Current ¹	I_{SC} [A]	13.51	13.54	13.57	13.60	13.63
	Open Circuit Voltage ¹	V_{OC} [V]	45.59	45.62	45.65	45.67	45.70
	Current at MPP	I_{MPP} [A]	12.78	12.83	12.89	12.95	13.00
	Voltage at MPP	V_{MPP} [V]	37.57	37.79	38.02	38.24	38.45
	Efficiency ¹	η [%]	≥20.6	≥20.8	≥21.0	≥21.3	≥21.5
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT ²							
Minimum	Power at MPP	P_{MPP} [W]	360.1	363.8	367.6	371.3	375.1
	Short Circuit Current	I_{SC} [A]	10.89	10.91	10.94	10.96	10.98
	Open Circuit Voltage	V_{OC} [V]	43.00	43.02	43.05	43.08	43.10
	Current at MPP	I_{MPP} [A]	10.04	10.09	10.14	10.19	10.24
	Voltage at MPP	V_{MPP} [V]	35.87	36.07	36.26	36.45	36.63

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

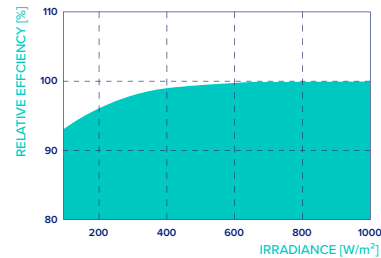


At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% of nominal power up to 25 years.

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]	3600/1600	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. 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

qcells

Axpert VM 4 TWIN Off-Grid Inverter

OFF-GRID INVERTER



- Dual output for smart load management
- Maximum PV input current 27A
- Wide PV input voltage range 60VDC~450VDC
- Customizable status LED ring with RGB lights
- Touchable button with large 4.3" colored LCD
- Built-in Wifi for mobile monitoring (Android/iOS App available)
- Supports USB On-the-Go function
- Data log event stored in the inverter
- Reserved communication port (RS485, CAN-BUS or RS232) for BMS
- Battery independent design
- Battery equalization extends lifecycle
- Enhanced charging power
- Built-in anti-dust kit

Axpert VM 4 TWIN Off-Grid Inverter Selection Guide

MODEL	Axpert VM 4 TWIN 4K	Axpert VM 4 TWIN 6K
RATED POWER	4000VA/4000W	6000VA/6000W
INPUT		
Voltage	230 VAC	
Selectable Voltage Range	170-280 VAC (For Personal Computers) 90-280 VAC (For Home Appliances)	
Frequency Range	50 Hz/60 Hz (Auto sensing)	
OUTPUT		
AC Voltage Regulation (Batt. Mode)	230VAC ± 10%	
Surge Power	8000VA	12000VA
Efficiency (Peak)	90% ~ 93%	
Transfer Time	10 ms (For Personal Computers) 20 ms (For Home Appliances)	
Waveform	Pure sine wave	
BATTERY		
Battery Voltage	24 VDC	48 VDC
Floating Charge Voltage	27 VDC	54 VDC
Overcharge Protection	33 VDC	63 VDC
SOLAR CHARGER & AC CHARGER		
Solar Charger type	MPPT	
Maximum PV Array Power	5000W	6000W
MPP Range @ Operating Voltage	60 ~ 450 VDC	60 ~ 450 VDC
Maximum PV Array Open Circuit Voltage	500 VDC	500 VDC
Maximum PV Input Current	27A	
Maximum Solar Charge Current	120A	120A
Maximum AC Charge Current	100A	100A
Maximum Charge Current	120A	120A
PHYSICAL		
Dimension, D x W x H (mm)	119 x 313.6 x 457.5	
Net Weight (kgs)	10	12
Communication Interface	USB/RS232/RS485/WiFi/Dry-contact	
OPERATING ENVIRONMENT		
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Operating Temperature	-10°C to 50°C	
Storage Temperature	-15°C to 60°C	

Product specifications are subject to change without further notice.