

Q.PEAK DUO ML-G12S SERIES



650 - 675 Wp | 132 Cells
21.7 % Maximum Module Efficiency



MODEL Q.PEAK DUO ML-G12S.3/BFG



Highest Power Class Module

With the new G12, Qcells heralds the next generation of solar modules' enabling more power generation than ever before.



Bifacial energy yield gain of up to 20 %

Bifacial Q.ANTUM solar cells make efficient use of light shining on the module rear-side for radically improved LCOE.



Low electricity generation costs

Q.ANTUM DUO technology with optimized module layout to boost module power and improve LCOE.



A reliable investment

Double glass module design enables extended lifetime with 12-year product warranty and improved 30-year performance warranty¹.



Enduring high performance

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



Frame for versatile mounting options

High-tech aluminum alloy frame protects from damage, enables use of a wide range of mounting structures and is certified regarding IEC for high snow (5400 Pa) and wind loads (2600 Pa)³.



Innovative all-weather technology

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

¹ See data sheet on rear for further information.

² APT test conditions according to IEC/TS 62804-1:2015 method B (-1500V, 168h) including post treatment according to IEC 61215-1-1 Ed. 2.0 (CD)

³ See Installation Manual for instructions

The ideal solution for:



Ground-mounted
solar power plants



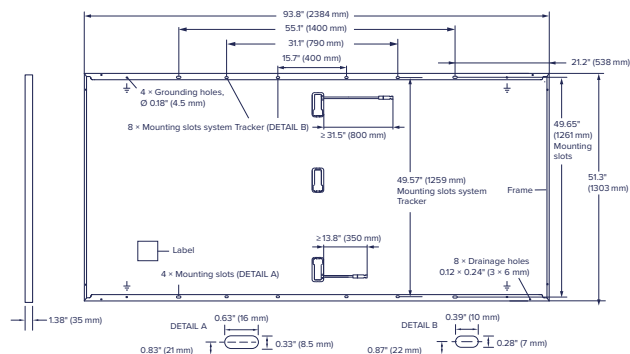
Solar power plants
with tracker



Q.PEAK DUO ML-G12S SERIES

Mechanical Specification

Format	93.8 in × 51.3 in × 1.38 in (including frame) (2384 mm × 1303 mm × 35 mm)
Weight	84.2 lbs (38.2 kg)
Front Cover	0.08 in (2.0 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	0.08 in (2.0 mm) semi-tempered glass
Frame	Anodized aluminum
Cell	6 × 22 monocrystalline Q.ANTUM solar half cells
Junction box	2.09-3.98 × 1.26-2.36 × 0.59-0.71 in (53-101 mm × 32-60 mm × 15-18 mm), Protection class IP68, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 31.5 in (800 mm), (-) ≥ 13.8 in (350 mm)
Connector	Stäubli MC4 - IP68



Electrical Characteristics

Power Class	650	655	660	665	670	675
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MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE +5 W/-0 W)

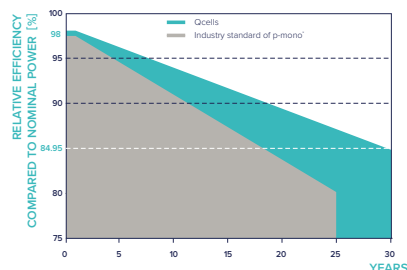
Minimum	Power at MPP ¹	P _{MPP}	[W]	650	655	660	665	670	675
	Short Circuit Current ¹	I _{SC}	[A]	18.30	18.33	18.36	18.39	18.42	18.45
	Open Circuit Voltage ¹	V _{OC}	[V]	45.64	45.66	45.68	45.70	45.72	45.74
	Current at MPP	I _{MPP}	[A]	17.28	17.34	17.39	17.45	17.51	17.56
	Voltage at MPP	V _{MPP}	[V]	37.62	37.78	37.94	38.11	38.27	38.43
	Efficiency ¹	η	[%]	≥ 20.9	≥ 21.1	≥ 21.2	≥ 21.4	≥ 21.6	≥ 21.7

MINIMUM PERFORMANCE AT BIFACIAL NAMEPLATE IRRADIANCE, BNPI¹

Minimum	Power at MPP ¹	P _{MPP}	[W]	711.0	716.5	721.9	727.4	732.9	738.4
	Short Circuit Current ¹	I _{SC}	[A]	20.03	20.06	20.10	20.13	20.16	20.20
	Open Circuit Voltage ¹	V _{OC}	[V]	45.80	45.82	45.84	45.86	45.88	45.90
	Current at MPP	I _{MPP}	[A]	18.91	18.97	19.03	19.09	19.16	19.22
	Voltage at MPP	V _{MPP}	[V]	37.61	37.77	37.94	38.10	38.26	38.42

¹ Measurement tolerances: P_{MPP} ± 3%; I_{SC}, V_{OC} ± 5% at STC/BNPI: front 1000 W/m²; BNPI: rear 135 W/m²; φ_{I_{SC}}, P_{MPP} = 0.70 ± 0.05, φ_{V_{OC}} = 0.99 ± 0.03; 25 ± 2 °C, AM 1.5 according to IEC 60904-3. Data given are rated (nominal) values.

Qcells Performance Warranty

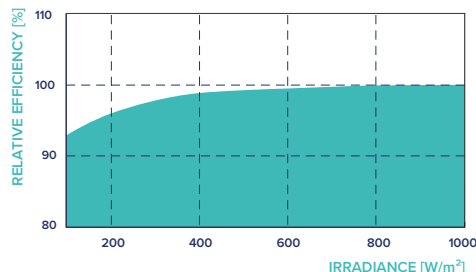


*Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2021)

At least 98% of nominal power during first year. Thereafter max. 0.45% degradation per year. At least 93.95% of nominal power up to 10 years. At least 84.95% of nominal power up to 30 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells 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				

Properties for System Design

Maximum System Voltage	V _{sys}	[V]	1000 (IEC)/1500 (UL)	PV module classification	Class II
Maximum Series Fuse Rating	I _R	[A DC]	35	Fire Rating based on ANSI/UL 61730	C / TYPE 29
Max. Push Load ³ , Test/Design		[lbs / ft ²]	113 (5400 Pa) / 75 (3600 Pa)	Permitted Module Temperature on Continuous Duty; (T _{98 max})	-40 °F up to +158 °F (-40 °C up to +70 °C)
Max. Pull Load ³ , Test/Design		[lbs / ft ²]	50 (2400 Pa) / 33 (1600 Pa)		

³ See Installation Manual for instructions

Qualifications and Certificates

UL61730-1 & UL61730-2,
CE-compliant,
IEC 61215:2021,
IEC 61730:2023,
U.S. Patent No. 9,893,215
(solar cells)



* Contact your Qcells Sales Representative for details regarding the module's eligibility to be Buy American Act (BAA) compliant.

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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