

Q.TRON M-G2+ SERIES



410 - 435 Wp | 108 Cells
22.3% Maximum Module Efficiency

MODEL Q.TRON M-G2+



High performance Qcells N-type solar cells

Q.ANTUM NEO Technology with optimized module layout boosts module efficiency up to 22.3%.



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, Hot-Spot Protect.



Extreme weather rating

High-tech aluminium alloy frame, certified for high snow (8100 Pa) and wind loads (3600 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 (-1500 V, 96 h)

The ideal solution for:



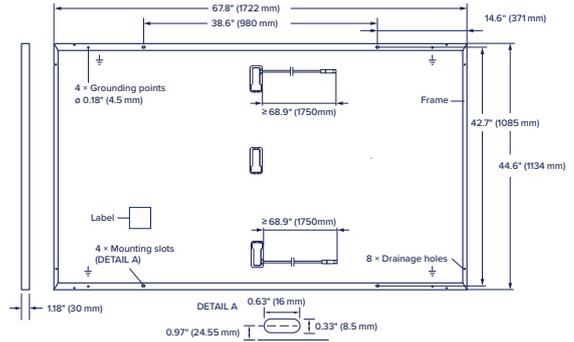
Rooftop arrays on residential buildings



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Mechanical Specification

Format	67.8 in × 44.6 in × 1.18 in (including frame) (1722 mm × 1134 mm × 30 mm)
Weight	46.7 lbs (21.2 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 18 monocrystalline Q.ANTUM NEO solar half cells
Junction box	2.09-3.98 in × 1.26-2.36 in × 0.59-0.71 in (53-101 mm × 32-60 mm × 15-18 mm), Protection class IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 68.9 in (1750 mm), (-) ≥ 68.9 in (1750 mm)
Connector	Stäubli MC4; IP68

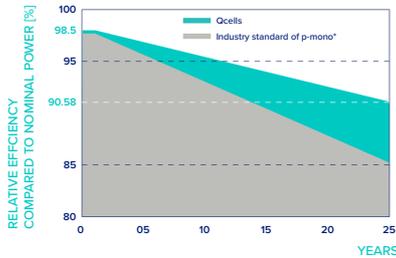


Electrical Characteristics

POWER CLASS			410	415	420	425	430	435
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5 W / -0 W)								
Minimum	Power at MPP ¹	P_{MPP} [W]	410	415	420	425	430	435
	Short Circuit Current ¹	I_{SC} [A]	13.56	13.64	13.73	13.81	13.89	13.97
	Open Circuit Voltage ¹	V_{OC} [V]	37.93	38.21	38.48	38.76	39.04	39.32
	Current at MPP	I_{MPP} [A]	12.89	12.96	13.03	13.11	13.18	13.26
	Voltage at MPP	V_{MPP} [V]	31.82	32.02	32.22	32.42	32.62	32.82
	Efficiency ¹	η [%]	≥ 21.0	≥ 21.3	≥ 21.5	≥ 21.8	≥ 22.0	≥ 22.3
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT ²								
Minimum	Power at MPP	P_{MPP} [W]	309.9	313.7	317.5	321.2	325.0	328.8
	Short Circuit Current	I_{SC} [A]	10.93	10.99	11.06	11.13	11.19	11.26
	Open Circuit Voltage	V_{OC} [V]	35.98	36.25	36.51	36.78	37.04	37.31
	Current at MPP	I_{MPP} [A]	10.14	10.20	10.25	10.31	10.37	10.42
	Voltage at MPP	V_{MPP} [V]	30.57	30.77	30.96	31.16	31.35	31.54

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

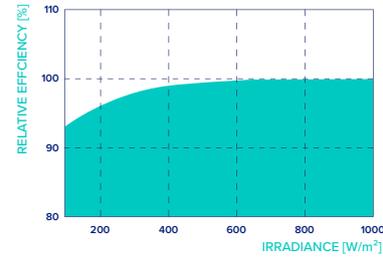


At least 98.5% of nominal power during first year. Thereafter max. 0.33% degradation per year. At least 95.53% of nominal power up to 10 years. At least 90.58% of nominal power up to 25 years.

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]	-0.24
Temperature Coefficient of P_{MPP}	γ [%/K]	-0.30	Nominal Module Operating Temperature	NMOT [°F]	109 ± 5.4 (43 ± 3 °C)

Properties for System Design

Maximum System Voltage	V_{SYS} [V]	1000 (IEC)/1000 (UL)	PV module classification	Class II
Maximum Series Fuse Rating	[A DC]	25	Fire Rating based on ANSI / UL 61730	C / TYPE 2
Max. Design Load, Push/Pull ³	[lbs / ft ²]	113 (5400 Pa) / 50 (2400 Pa)	Permitted Module Temperature on Continuous Duty	-40 °F up to +185 °F (-40 °C up to +85 °C)
Max. Test Load, Push/Pull ³	[lbs / ft ²]	169 (8100 Pa) / 75 (3600 Pa)		

³ See Installation Manual

Qualifications and Certificates

UL61730-1 & UL61730-2, CE-compliant, Quality Controlled PV - TÜV Rheinland, IEC 61215:2016, IEC 61730:2016, U.S. Patent No. 9,893,215 (solar cells).



*UL and California Energy Commission (CEC) listings pending

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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