

Q.TRON CLASSIC



440 - 455 Wp | 96 Cells
22.8% Maximum Module Efficiency

MODEL Q.TRON S-G3R.12+ / BFG



**Q.ANTUM
NEO**

High performance Qcells N-type solar cells

Q.ANTUM NEO solar cell technology with optimized module layout boosts module efficiency up to 22.8%.



A reliable investment

Inclusive 25-year product warranty and improved 30-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 (5400 Pa) and wind loads (2400 Pa).



Innovative all-weather technology

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



Far beyond the standard

Qcells' comprehensive quality program ensures high long-term yields and the reliability of your solar system.

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:



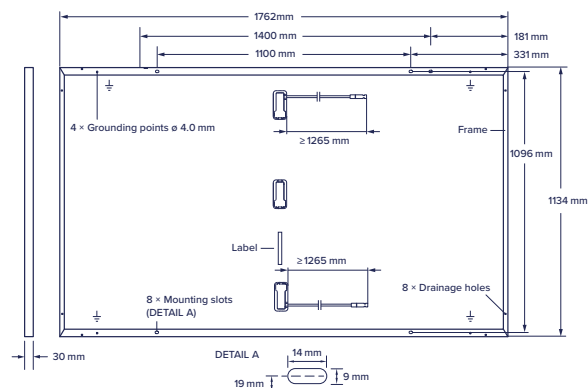
Rooftop arrays on
residential buildings



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Mechanical Specification

Format	1762 mm × 1134 mm × 30 mm (including frame)
Weight	20.9 kg
Front Cover	1.6 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	1.6 mm semi-tempered glass
Frame	Black anodised aluminium
Cell	6 × 16 monocrystalline Q.ATOM NEO solar half cells
Junction box	53-67 mm × 28 mm × 17 mm Protection class IP68, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥1265 mm, (-) ≥1265 mm
Connector	Stäubli MC4-Evo2; IP68



Electrical Characteristics

Power Class			440	445	450	455	
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5 W/-0 W)							
Minimum	Power at MPP ¹	P _{MPP}	[W]	440	445	450	455
	Short Circuit Current ¹	I _{SC}	[A]	15.89	15.92	15.95	15.98
	Open Circuit Voltage ¹	V _{OC}	[V]	35.35	35.55	35.75	35.95
	Current at MPP	I _{MPP}	[A]	14.83	14.87	14.91	14.95
	Voltage at MPP	V _{MPP}	[V]	29.67	29.93	30.19	30.44
	Efficiency ¹	η	[%]	≥22.0	≥22.3	≥22.5	≥22.8

Bifaciality of P_{MPP} and I_{SC} 80% ±10% • Bifaciality given for rear side irradiation on top of STC (front side) • According to IEC 60904-1-2

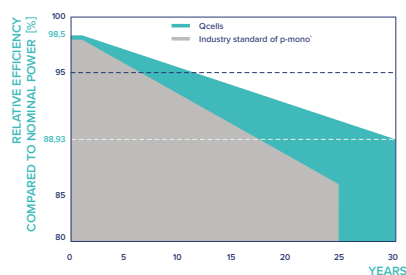
¹Measurement tolerances P_{MPP}, I_{SC}, V_{OC} ±3% at STC: 1000 W/m², 25 ±2°C, AM 1.5 according to IEC 60904-3

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT²

Minimum	Power at MPP	P _{MPP} [W]	332	336	340	344
	Short Circuit Current	I _{SC} [A]	12.83	12.85	12.88	12.90
	Open Circuit Voltage	V _{OC} [V]	33.65	33.84	34.03	34.22
	Current at MPP	I _{MPP} [A]	11.97	12.01	12.04	12.07
	Voltage at MPP	V _{MPP} [V]	27.74	27.98	28.24	28.51

²800 W/m², NMOT, spectrum AM 1.5

Qcells performance warranty

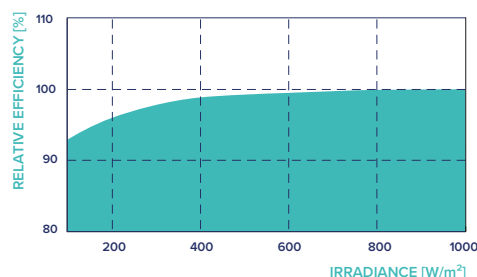


At least 98.5% of nominal power during first year. Thereafter max. 0.33% degradation per year. At least 95.53% of nominal power up to 10 years. At least 88.93% of nominal power up to 30 years.

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

*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]	-0.28	Nominal Module Operating Temperature	NMOT	[°C]	45 ±2

Properties for System Design

Maximum System Voltage	V _{sys}	[V]	1500	PV module classification	Class II
Maximum Reverse Current	I _r	[A]	30	Fire Rating based on ANSI/UL 61730	C
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

TÜV NORD;
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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