

EUPD RESEARCH

TOP BRAND PV MODULES

2020





ENDURING HIGH PERFORMANCE



Q.ANTUM TECHNOLOGY: LOW LEVELIZED COST OF ELECTRICITY

Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 20.1%.



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INNOVATIVE ALL-WEATHER TECHNOLOGY

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



ENDURING HIGH PERFORMANCE

Long-term yield security with Anti LID and Anti PID Technology¹, Hot-Spot Protect and Traceable Quality Tra.Q™.



EXTREME WEATHER RATING

High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).



A RELIABLE INVESTMENT

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



STATE OF THE ART MODULE TECHNOLOGY

Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.

 1 APT test conditions according to IEC/TS 62804-1:2015, method B (–1500 V, 168 h) 2 See data sheet on rear for further information

THE IDEAL SOLUTION FOR:



Rooftop arrays on residential buildings

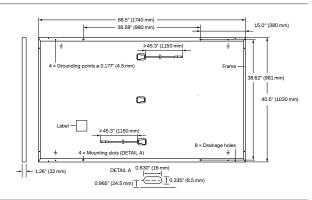


Rooftop arrays on commercial/industrial buildings



MECHANICAL SPECIFICATION

Format	68.5 × 40.6 × 1.26 in (including frame) (1740 × 1030 × 32 mm)
Weight	43.9 lbs (19.9 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodized aluminum
Cell	6 × 20 monocrystalline Q.ANTUM solar half cells
Junction Box	2.09-3.98 × 1.26-2.36 × 0.59-0.71 in (53-101 × 32-60 × 15-18 mm), Protection class IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) ≥45.3 in (1150 mm), (-) ≥45.3 in (1150 mm)
Connector	Stäubli MC4; IP68

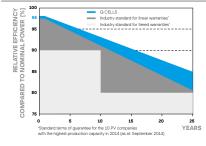


ELECTRICAL CHARACTERISTICS

WER CLASS			340	345	350	355
IIMUM PERFORMANCE AT STANDAR	D TEST CONDITIO	NS, STC ¹ (POWI	ER TOLERANCE +5 W / -0)W)		
Power at MPP ¹	P _{MPP}	[W]	340	345	350	355
Short Circuit Current ¹	I _{sc}	[A]	10.68	10.73	10.79	10.84
Open Circuit Voltage ¹	V _{oc}	[V]	40.24	40.49	40.73	40.98
Current at MPP	I _{MPP}	[A]	10.16	10.22	10.27	10.33
Voltage at MPP	V _{MPP}	[V]	33.45	33.76	34.07	34.38
Efficiency1	η	[%]	≥19.0	≥19.3	≥19.5	≥19.8
IIMUM PERFORMANCE AT NORMAL	OPERATING CON	DITIONS, NMOT	2			
Power at MPP	P _{MPP}	[W]	254.5	258.2	261.9	265.7
Short Circuit Current	I _{sc}	[A]	8.60	8.65	8.69	8.74
Open Circuit Voltage	V _{oc}	[V]	37.94	38.17	38.41	38.65
Current at MPP	I _{MPP}	[A]	8.00	8.04	8.09	8.13
Voltage at MPP	V	[V]	31.81	32.10	32.40	32.69
	Power at MPP ¹ Short Circuit Current ¹ Open Circuit Voltage ¹ Current at MPP Voltage at MPP Efficiency ¹ IIMUM PERFORMANCE AT NORMAL Power at MPP Short Circuit Current Open Circuit Voltage Current at MPP	IIMUM PERFORMANCE AT STANDARD TEST CONDITIO Power at MPP ¹ P _{MPP} Short Circuit Current ¹ I _{SC} Open Circuit Voltage ¹ V _{OC} Current at MPP I _{MPP} Voltage at MPP V _{MPP} Efficiency ¹ ¶ IIMUM PERFORMANCE AT NORMAL OPERATING COND Power at MPP P _{MPP} Short Circuit Current I _{SC} Open Circuit Voltage V _{OC} Current at MPP I _{MPP}	IIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWE Power at MPP ¹ P_{MPP} [W] Short Circuit Current ¹ I_{SC} [A] Open Circuit Voltage ¹ V_{oC} [V] Current at MPP I_{MPP} [A] Voltage at MPP V _{MPP} [V] Efficiency ¹ η [%] IIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOTTOR Power at MPP Power at MPP P_{MPP} [W] Short Circuit Current I_{SC} [A] Open Circuit Voltage V_{OC} [V] Current at MPP I_{MPP} [A]	IIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5 W / -CPower at MPP ¹ P_{MPP} [W]340Short Circuit Current ¹ I_{SC} [A]10.68Open Circuit Voltage ¹ V_{OC} [V]40.24Current at MPP I_{MPP} [A]10.16Voltage at MPP V_{MPP} [V]33.45Efficiency ¹ η [%]>19.0IIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT ² Power at MPP P_{MPP} Power at MPP P_{MPP} [W]254.5Short Circuit Current I_{SC} [A]8.60Open Circuit Voltage V_{OC} [V]37.94Current at MPP I_{MPP} [A]8.00	$\begin{tabular}{ c c c c c c c } \hline IIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC1 (POWER TOLERANCE +5 W / -0 W) \\ \hline Power at MPP1 & P_{MPP} [W] & 340 & 345 \\ \hline Short Circuit Current1 & I_{SC} [A] & 10.68 & 10.73 \\ \hline Open Circuit Voltage1 & V_{OC} [V] & 40.24 & 40.49 \\ \hline Current at MPP & I_{MPP} [A] & 10.16 & 10.22 \\ \hline Voltage at MPP & V_{MPP} [V] & 33.45 & 33.76 \\ \hline Efficiency1 & \eta [\%] & \geq 19.0 & \geq 19.3 \\ \hline IIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT2 \\ \hline Power at MPP & P_{MPP} [W] & 254.5 & 258.2 \\ \hline Short Circuit Current & I_{SC} [A] & 8.60 & 8.65 \\ \hline Open Circuit Voltage & V_{OC} [V] & 37.94 & 38.17 \\ \hline Current at MPP & I_{MPP} [A] & 8.00 & 8.04 \\ \hline \end{tabular}$	NIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5 W / -0 W) Power at MPP ¹ P_{MPP} [W] 340 345 350 Short Circuit Current ¹ I_{SC} [A] 10.68 10.73 10.79 Open Circuit Voltage ¹ V_{OC} [V] 40.24 40.49 40.73 Current at MPP I_{MPP} [A] 10.16 10.22 10.27 Voltage at MPP V_{MPP} [V] 33.45 33.76 34.07 Efficiency ¹ η [%] ≥19.0 ≥19.3 ≥19.5 IIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT ² Power at MPP P_{MPP} [W] 254.5 258.2 261.9 Short Circuit Current I_{SC} [A] 8.60 8.65 8.69 Open Circuit Voltage V_{OC} [V] 37.94 38.17 38.41 Current at MPP I_{MPP} [A] 8.00 8.04 8.09

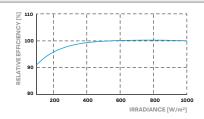
¹Measurement tolerances P_{MPP} ± 3%; I_{SC}; V_{oc} ± 5% at STC: 1000 W/m², 25 ± 2°C, AM 1.5 according to IEC 60904-3 • ²800 W/m², NMOT, spectrum AM 1.5





At least 98% of nominal power during first year. Thereafter max. 0.54% degradation per year. At least 93.1% of nominal power up to 10 years. At least 85% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organization 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}	Y	[%/K]	-0.36	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]	20	Fire Rating based on ANSI / UL 61730	TYPE 2
Max. Design Load, Push / Pull ³	[lbs/ft ²]	75 (3600Pa)/55 (2667Pa)	Permitted Module Temperature	-40°F up to +185°F
Max. Test Load, Push / Pull ³	[lbs/ft ²]	113 (5400 Pa)/84 (4000 Pa)	on Continuous Duty	(-40°C up to +85°C)
³ See Installation Manual			•	

QUALIFICATIONS AND CERTIFICATES

PACKAGING INFORMATION

JL 1703, CE-compliant, /DE Quality Tested EC 61215:2016, EC 61730:2016, J.S. Patent No. 9,893,215 solar cells)	^	CE	C C Certified US					کر اف	53' D	40'HC	
				Horizontal packaging	70.1in 1780mm	42.5 in 1080 mm	47.6 in 1208 mm	1485 lbs 674 kg	28 pallets	26 pallets	32 modules
			UL 1703 (254141)	Vertical packaging	71.5 in 1815 mm	45.3 in 1150 mm	48.0 in 1220 mm	1505 lbs 683 kg	28 pallets	24 pallets	32 modules

Note: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product. Q CELLS supplies solar modules in two different stacking methods, depending on the location of manufacture (modules are packed horizontally or vertically). You can find more detailed information in the document "Packaging and Transport Information", available from Q CELLS

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