Solar Simplified.

Domestic Content Option Available

qcells





Q.TRON AC

Q.TRON BLK M-G2+/AC
Q.TRON BLK M-G2.H1+/AC

Q.TRON AC

AC module powered by
Q.ANTUM NEO Technology

Module-Level Monitoring & Control

- Easily and intelligently monitor system performance at the module level using the Q.OMMAND PRO App for installers
- Homeowners have PV production visibility at their fingertips with the user friendly Q.OMMAND HOME App
- Enhanced communications performance, thanks to high-bandwidth PLC communication technology

Streamlined Installation & Product Management

- Fast installation enabled by integrated Qcells microinverter
- QR codes on both module and embedded microinverter allow installer to map out arrays in the Q.OMMAND Pro app pre- or post-installation
- Improved inventory management enabled by reduced SKU counts and one complete module and MLPE solution by the same brand
- Seamlessly couples with Qcells' residential energy storage system to form one complete Q.HOME SMART system

Superior Module Performance

- Q.TRON AC is powered by Q.ANTUM NEO Technology, delivering up to 22.0 % efficiency
- Lowest module degradation rate compared with Tier 1 TOPCon competitors, translating to more power production over time (90%+ nominal power guaranteed after 25 years)

Top Quality Customer Support & Post-Sales Servicing

- Top tier, responsive customer support offered by Qcells for rapid system troubleshooting
- Detachable microinverter simplifies onsite maintenance when required
- Inbound module and microinverter related inquiries all supported by one brand

Dependably Backed by One Warrantor

- Inclusive 25-year product warranty and 25-year linear performance warranty
- Integrated module & microinverter solution backed by one bankable, leading complete solutions provider

Includes Domestic Content

- This product contains U.S. manufactured components which can contribute to qualifying for the 10% domestic content bonus to applicable tax credits under the Inflation Reduction Act of 2022.[1]
- Module and microinverter both assembled in the USA by America's No.1 residential module manufacturer

[1] This statement should not be relied on as tax advice and is subject to change based on changes made to the Inflation Reduction Act and its implementing rules and regulations. Please consult a qualified tax professional for specific guidance.

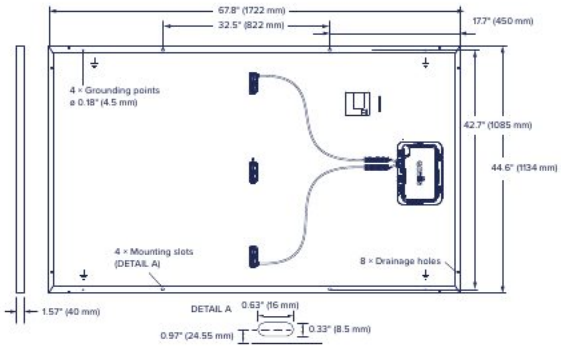
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Description

The Q.TRON AC SERIES is a N-Type TOPCon PV module with an integrated microinverter. The module, with its embedded microinverter, provides optimized power output while also acting as a rapid shutdown compliant solution for optimal system safety. The solution includes a microinverter, DC cables and a junction box, enabling a streamlined installation experience.

Mechanical Specification

Format	67.8 in × 44.6 in × 1.57 in (including frame) (1722 mm × 1134 mm × 40 mm)
Weight	50.59 lbs (22.95 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed ARC solar glass
Back Cover	Composite film
Frame	Black anodized aluminum
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 mm² Solar cable; (+) ≥ 25.8 in (655 mm), (−) ≥ 25.2 in (640 mm)
Connector	Stäubli MC4; IP68



AC Output Electrical Characteristics

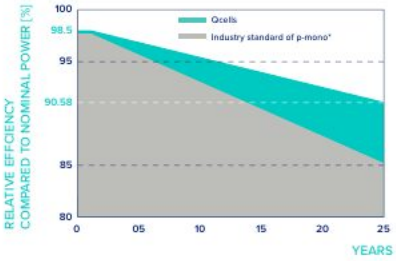
Q.MI.349B-G1 (Model Name)					
Peak Output Power	[VA]	366	**Power Factor (adjustable)**		0.85 leading...0.85 lagging
Max Continuous Output Power	[VA]	349	**Max. number of AC Modules per Q.HOME COMBINER 80 G1**	[ea]	44 (Q.HOME COMBINER CB : Max 4)
Nominal (L-L) Voltage / Range	[V]	240 / 211 to 264	**Max Units per 20 A (L-L) Branch Circuit**	[ea]	11
Nominal Rated Output Current	[A]	1.45	**Total Harmonic Distortion**	[%]	<5
Nominal Frequency / Range	[Hz]	60 / 59.3 to 60.5	**Overvoltage Class AC Port**		III
Extended Frequency Range	[Hz]	50 to 66	**Night-Time Power Consumption**	[mW]	60
Power Factor at Rated Power		1.0	**CEC Efficiency**	[%]	97

DC Power Electrical Characteristics

POWER CLASS				415	420	425	430	435	440
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC1 (POWER TOLERANCE +5 W / −0 W)									
Minimum	**Power at MPP**[1]	P_{MPP}	[W]	415	420	425	430	435	440
	Short Circuit Current[1]	I_{SC}	[A]	13.49	13.58	13.66	13.74	13.82	13.90
	Open Circuit Voltage[1]	V_{OC}	[V]	38.47	38.75	39.03	39.32	39.60	39.88
	Current at MPP	I_{MPP}	[A]	12.83	12.91	12.98	13.05	13.13	13.20
	Voltage at MPP	V_{MPP}	[V]	32.34	32.54	32.74	32.94	33.14	33.33
	Efficiency[1]	η	[%]	≥21.3	≥21.5	≥21.8	≥22.0	≥22.3	≥22.5
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT2									
Minimum	**Power at MPP**	P_{MPP}	[W]	313.7	317.5	321.2	325.0	328.8	332.6
	Short Circuit Current	I_{SC}	[A]	10.87	10.94	11.00	11.07	11.14	11.20
	Open Circuit Voltage	V_{OC}	[V]	36.50	36.77	37.04	37.31	37.58	37.84
	Current at MPP	I_{MPP}	[A]	10.10	10.15	10.21	10.27	10.33	10.38
	Voltage at MPP	V_{MPP}	[V]	31.07	31.26	31.46	31.65	31.84	32.03

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

Qcells PERFORMANCE WARRANTY

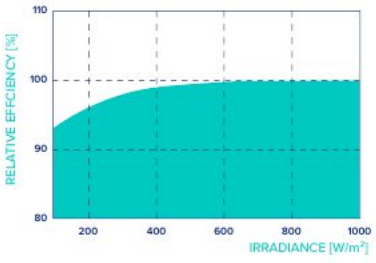


At least 98.5% of nominal power during first year. Thereafter max. 0.33% degradation per year. At least 95.53% of nominal DC power up to 10 years. At least 90.58% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells sales organization 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 (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 / ft²]	113 (5400 Pa) / 75 (3600 Pa)	**Permitted Module Temperature on Continuous Duty[2]**	−40 °F up to +140 °F (−40 °C up to +60 °C)
Max. Test Load, Push / Pull[3]		[lbs / ft²]	169 (8100 Pa) / 113 (5400 Pa)	**Storage Temperature Range[2]**	−4 °F up to +113 °F (−20 °C up to +6450 °C)

[2] According to the Q.MI.349B-G1, the maximum temperature is stated as "60 °C (+140 °F)", but the maximum temperature of the connected DC module is up to "+85 °C (+185 °F)".

[3] See Installation Manual

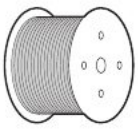
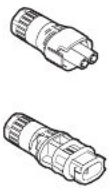
Qualifications and Certificates

Base DC module (Q.TRON BLK M-G2(.XY)+/AC solar module series, where "X" can be any letter between A to W and "Y" can be any number between 1 to 9.)
UL 61730-1 & UL 61730-2, CE-compliant;
Quality Controlled PV -TÜV Rheinland;
IEC 61215:2016;
IEC 61730:2016.
This data sheet complies with DIN EN 50380.

Qcells Microinverter (Q.MI.349B-G1 (Model Name))
This product is UL listed as PV Rapid Shut Down Equipment
UL1741, UL 1741SA, UL 1741SB, CSA C22.2 No 107

AC Module (Q.TRON BLK M-G2(.XY)+/AC solar module series, where "X" can be any letter between A to W and "Y" can be any number between 1 to 9.)
UL 1741, CSA C22.2 No. 107

Accessories (Additional parts, not included in AC module package)

Model		Category
 UL9703 E493181	CAS-HQ-LO-1000 CAS-HQ-SH-650	AC Cable Long (1000 mm) AC Cable Short (650 mm)
 UL3003 E533140	CAB-HQ-KIT-200	AC Cable (Raw) : 200 m cable without AC connector for the free design of AC PV installation. - Detail components : 200 meter (656 ft)
 UL6703 E479328	CON-HQ-KIT-20	AC Connector : To assemble the AC cable (CAB-HQ-KIT-200) by installer themselves. - Detail components : 20pcs Female + 20pcs Male
 UL9703 E493181	ECAP-HQ-KIT-20	End Cap : To close the end of AC cable. - Detail components : 20pcs Female + 20pcs Male
 UL9703 E493181	UNT-HQ-TOOL-G1	AC cable and DC cable Unlocking Tool

Specifications subject to technical changes © Qcells QTRON_AC_MODULE_series_DCA_415-440_2025-02_Rev07_NA