ENERGIA TEST
Strada Vicinale Battifoglia Z.I.
06132 S. Andrea delle Fratte
Perugia
(39) 075 87 88 003 tel.
(39) 075 97 24 354 tel.
(39) 075 87 88 013 fax.
(39) 335 61 58 054 direzione
sito: www.testenergia.it
email: acquisti@testenergia.it

MULTICRYSTALLINE SOLAR MODULE

Q.PRO 225-240

Raising the bar for highly reliable energy output

Q-Cells is now applying the skills perfected over years of solar cell manufacture to solar module production. Q.PRO modules achieve maximum efficiencies and have outstanding performance characteristics, making them ideal for residential rooftop arrays or smaller-scale commercial and industrial applications.

GERMAN ENGINEERING FOR HIGHLY RELIABLE YIELDS:

- Highest product quality through use of branded components according to German standards
- Maximum efficiency through use of multicrystalline solar cells, manufactured in-house, with cell efficiencies of up to 17%
- High output due to excellent performance in low-light conditions – even under the most challenging circumstances
- Further optimization of output due to positive sorting +5/-0 Wp

STURDY, WEATHER-RESISTANT CONSTRUCTION:

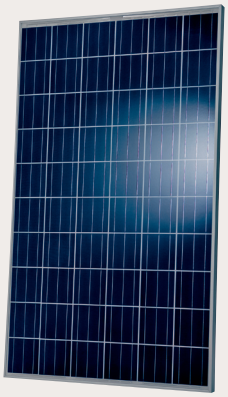
- Protection against overheating includes a junction box with integrated bypass diodes and 100% hotspot-free cells
- Approved for increased snow and wind loads up to 5400 Pa, with tempered glass and a flex-resistant frame
- Long-term weather resistance with integrated drainage holes in the frame

SIMPLE, COST-EFFECTIVE INSTALLATION:

- Compatible with all the latest standard, commercially available inverters and mounting systems
- Minimal wiring effort required, as the module itself has high reverse current resistance (25A)

STEADY, GUARANTEED PERFORMANCE:

- 10-year product warranty
- 25-year performance warranty*
- Free module recycling through membership in the PV Cycle Association**



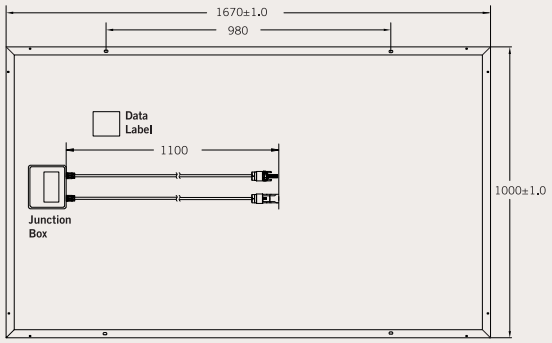
* 90 % OF THE INITIAL EFFICIENCY UP TO 10 YEARS, 80 % UP TO 25 YEARS
** IN PV CYCLE MEMBER COUNTRIES ONLY, SEE: WWW.PVCYCLE.COM

Q.CELLS

MECHANICAL SPECIFICATION

Format	1670 x 1000 x 50 mm (including frame)
Weight	20 kg
Front Cover	Thermally pre-stressed solar glass
Back Cover	Composite film
Frame	Anodized aluminum
Cell Type	Multicrystalline solar cell with 3 busbars (156 mm x 156 mm)
Number of cells	6 x 10
Junction box	Protection class IP 67, with bypass diodes
Cable length	(+) 1100 mm; (-) 1100 mm
Cable type	Solar cable 4 mm²
Connector	Yamaichi Y-SOL4 (combinable with MC4)

TECHNICAL DRAWING



ELECTRICAL CHARACTERISTICS

PERFORMANCE AT STANDARD TEST CONDITIONS (STC: 1000 W/m², 25 °C, AM 1.5 SPECTRUM)

POWER CLASS			210	215	220	225	230	235	240	245
Nominal Power (+5/-0 Wp)	P_{MAX}	[W]	210	215	220	225	230	235	240	245
Short Circuit Current	I_{SC}	[A]	8.09	8.12	8.20	8.25	8.30	8.38	8.45	8.52
Open Circuit Voltage	V_{OC}	[V]	35.83	36.00	36.15	36.36	36.61	36.92	37.20	37.48
Current at Maximum Power	I_{MPP}	[A]	7.57	7.60	7.69	7.77	7.84	7.89	7.96	8.03
Voltage at Maximum Power	V_{MPP}	[V]	28.35	28.82	29.04	29.29	29.56	29.89	30.20	30.55

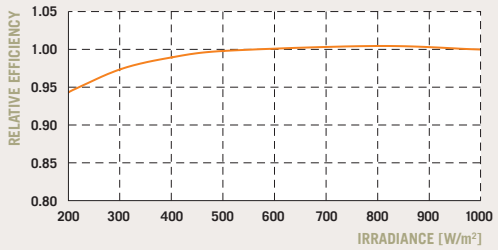
The measuring tolerance is +/- 3 % referred to the measured performance.

PERFORMANCE AT NORMAL OPERATING CELL TEMPERATURE (NOCT: 800 W/m², 47±3 °C, AM 1.5 SPECTRUM)

POWER CLASS			210	215	220	225	230	235	240	245
Nominal Power (+5/-0 Wp)	P_{MAX}	[W]	155.4	158.6	161.6	164.8	167.7	170.8	173.9	177.0
Short Circuit Current	I_{SC}	[A]	6.56	6.58	6.65	6.69	6.73	6.79	6.85	6.91
Open Circuit Voltage	V_{OC}	[V]	32.61	32.76	32.90	33.09	33.31	33.60	33.88	34.16
Current at Maximum Power	I_{MPP}	[A]	6.03	6.06	6.13	6.19	6.25	6.29	6.34	6.38
Voltage at Maximum Power	V_{MPP}	[V]	25.80	26.22	26.42	26.65	26.89	27.19	27.49	27.80

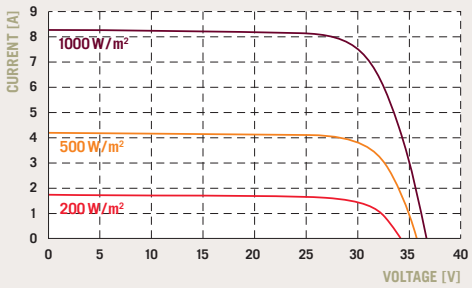
The measuring tolerance is +/- 5 % referred to the measured performance.

PERFORMANCE AT LOW IRRADIANCE



The typical relative change in module efficiency at an irradiance of 200 W/m² in relation to 1000 W/m² (both at 25 °C and AM 1.5 spectrum) is less than 6 %.

TYPICAL CHARACTERISTICS AT DIFFERENT TEMPERATURES AND IRRADIANCES



TEMPERATURE COEFFICIENTS (AT 1000 W/m², 25 °C, AM 1.5 SPECTRUM)

Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	**Temperature Coefficient of V_{OC}**	β	[%/K]	−0.30
Temperature Coefficient of P_{MAX}	γ	[%/K]	−0.41				

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V_{SYS}	[V]	1000	**Safety Class**	II
Maximum Reverse Current I_R	[A]	25	**Fire Rating**	C
Wind / Snow Load	[Pa]	5400	**Permitted operating temperature on continous duty**	-40 °C up to +85 °C

QUALIFICATIONS AND CERTIFICATES

CE-Compliant; IEC 61215 (Ed.2); IEC 61730 (Ed.1)

Safety Class II

PARTNER

NOTE: Installation instructions must be followed. See the installation and operating manual or contact the technical service for further information on approved installation and use of this product.

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sito: www.testenergia.it
email: acquisti@testenergia.it

Q-CELLS SE
OT Thalheim, Sonnenallee 17–21
06766 Bitterfeld-Wolfen, Germany
TEL +49 (0)3494 66 99-0
FAX +49 (0)3494 66 99-199
EMAIL modules@q-cells.com
WEB www.q-cells.com