



ROOFTOP ARRAYS ON
RESIDENTIAL BUILDINGS



SMALL ROOFTOP ARRAYS
ON COMMERCIAL /
INDUSTRIAL BUILDINGS



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 branded components according to German standards
- Maximum efficiency through 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 optimisation 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 (25 A)

STEADY, GUARANTEED PERFORMANCE

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



* ACCORDING TO THE RESPECTIVE EFFECTIVE REGIONAL WARRANTY TERMS. PERFORMANCE WARRANTY: 90 % OF THE INITIAL EFFICIENCY UP TO 10 YEARS, 80 % UP TO 25 YEARS
** IN PV CYCLE MEMBER COUNTRIES ONLY, SEE: WWW.PVCYCLE.COM

MECHANICAL SPECIFICATION		TECHNICAL DRAWING	
Format	1670 x 1000 x 50 mm (including frame)		
Weight	20 kg		
Front Cover	Thermally pre-stressed solar glass		
Back Cover	Composite film		
Frame	Anodised 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 mm ²		
Connector	Yamaichi Y-SOL4 (combinable with MC4)		

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

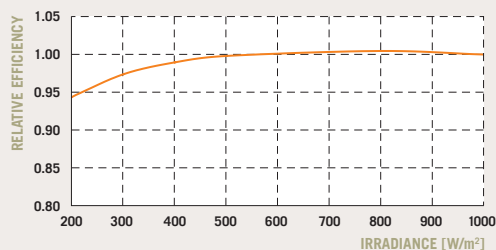
The measuring tolerance is ± 3 % referred to the measured performance.

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

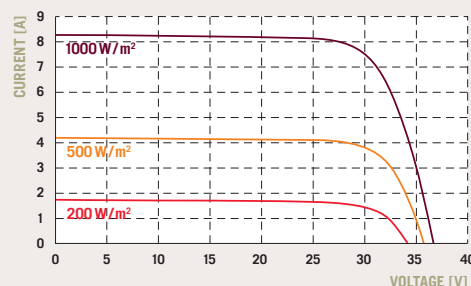
The measuring tolerance is ± 5 % referred to the measured performance.

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 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 module temperature on continuous duty	-40 °C up to +85 °C

QUALIFICATIONS AND CERTIFICATES

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



PARTNER

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