

## MULTICRYSTALLINE SOLAR MODULE

# Q.PRO - G2 230-250

Reliability and safety have a new name

The multicrystalline solar module **Q.PRO - G2** is our classic for residential rooftop installations. **Q.PRO - G2** is the safest and most reliable multicrystalline solar module because thanks to our new Q-Cells technologies, it is the worldwide first PID free<sup>1</sup> and Hot-Spot free solar module on the market. This makes **Q.PRO - G2** your safe choice for secure yields.

### THE NEW Q-CELLS GENERATION

- Anti PID Technology (APT)<sup>1</sup>: **No power loss caused by potential induced degradation.**
- Traceable Quality (Tra.Q™): **First traceable and forgery proof solar module on the market.**
- New cell concept with reduced serial resistance: **Increased power on module level.**
- VDE Quality Tested with continuous aging tests: **Long-term secure quality.**

### THE PROVEN Q-CELLS VALUES

- Hot-Spot Protect (HSP): **Increased fire and performance safety.**
- Positive sorting +5/-0 W: **Extra output.**
- Tested for wind/snow loads up to 5400 Pa: **Strong in every weather condition.**
- 25-year performance warranty, 10-year product warranty<sup>2</sup>: **Secure investment.**



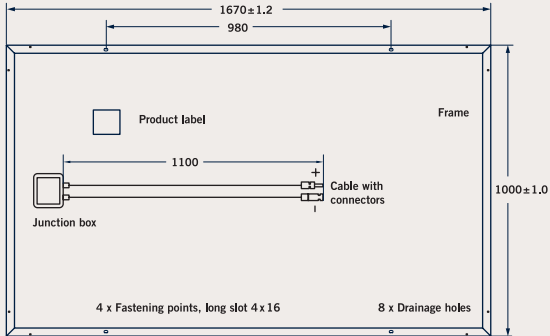
THE IDEAL  
SOLUTION FOR:



ROOFTOP ARRAYS ON  
RESIDENTIAL BUILDINGS

<sup>1</sup> APT test conditions: Cells at -600 V against frame, wet module surface, 25 °C, 300 h

<sup>2</sup> Performance warranty: min. 97 % of nominal power in year 1; max. 0.6 % degradation per year from year 2; min. 83 % of nominal power after 25 years. Full product and performance warranties in accordance with the valid regional warranty terms.

MECHANICAL SPECIFICATION		TECHNICAL DRAWING
Format	1670 mm x 1000 mm x 50 mm (including frame)	
Weight	20 kg	
Front Cover	3.2 mm thermally pre-stressed solar glass	
Back Cover	Composite film	
Frame	Anodised aluminum	
Cell	6 x 10 multicrystalline solar cells	
Junction box	120 mm <sup>±5</sup> x 170 mm <sup>±17</sup> x 24 mm <sup>±4</sup> Protection class IP 67, with 3 bypass diodes	
Cable	4 mm <sup>2</sup> Solar cable; (+) 1100 mm, (-) 1100 mm	
Connector	Yamaichi Y-SOL4 (combinable with MC4), IP 68	
Grounding points	ø 4.5 mm	

ELECTRICAL CHARACTERISTICS

PERFORMANCE AT STANDARD TEST CONDITIONS (STC: 1000 W/m<sup>2</sup>, 25 °C, AM 1.5 SPECTRUM)<sup>1</sup>

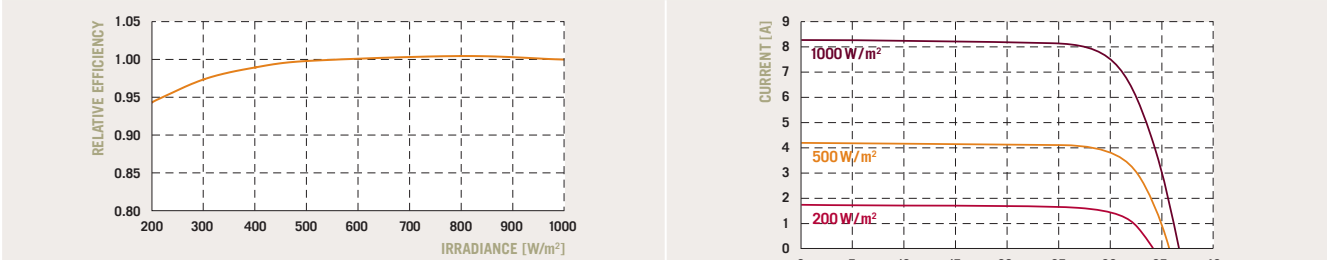
POWER CLASS			215	220	225	230	235	240	245	250
Nominal Power (+5 / -0 W)	P <sub>MPP</sub>	[W]	215	220	225	230	235	240	245	250
Short Circuit Current	I <sub>SC</sub>	[A]	8.39	8.47	8.55	8.63	8.71	8.79	8.87	8.95
Open Circuit Voltage	V <sub>OC</sub>	[V]	36.08	36.32	36.55	36.79	37.02	37.26	37.50	37.73
Current at Maximum Power	I <sub>MPP</sub>	[A]	7.79	7.88	7.96	8.04	8.13	8.21	8.29	8.38
Voltage at Maximum Power	V <sub>MPP</sub>	[V]	28.48	28.68	28.87	29.07	29.26	29.46	29.65	29.85
Efficiency	η	[%]	≥12.9	≥13.2	≥13.5	≥13.8	≥14.1	≥14.4	≥14.7	≥15.0

PERFORMANCE AT NORMAL OPERATING CELL TEMPERATURE (NOCT: 800 W/m<sup>2</sup>, 47 ± 3 °C, AM 1.5 SPECTRUM)<sup>2</sup>

POWER CLASS			215	220	225	230	235	240	245	250
Nominal Power (+5 / -0 W)	P <sub>MPP</sub>	[W]	158.6	161.6	164.8	167.7	170.8	173.9	177.0	180.1
Short Circuit Current	I <sub>SC</sub>	[A]	6.58	6.65	6.69	6.73	6.79	6.85	6.91	6.96
Open Circuit Voltage	V <sub>OC</sub>	[V]	32.76	32.90	33.09	33.31	33.60	33.88	34.16	34.44
Current at Maximum Power	I <sub>MPP</sub>	[A]	6.06	6.13	6.19	6.25	6.29	6.34	6.38	6.42
Voltage at Maximum Power	V <sub>MPP</sub>	[V]	26.22	26.42	26.65	26.89	27.19	27.49	27.80	28.10

<sup>1</sup> Measurement tolerances STC: ± 3 % (P<sub>MPP</sub>); ± 10 % (I<sub>SC</sub>, V<sub>OC</sub>, I<sub>MPP</sub>, V<sub>MPP</sub>) <sup>2</sup> Measurement tolerances NOCT: ± 5 % (P<sub>MPP</sub>); ± 10 % (I<sub>SC</sub>, V<sub>OC</sub>, I<sub>MPP</sub>, V<sub>MPP</sub>) \* Core class

PERFORMANCE AT LOW IRRADIANCE TYPICAL CHARACTERISTICS AT DIFFERENT IRRADIANCES



The typical change in module efficiency at an irradiance of 200 W/m<sup>2</sup> in relation to 1000 W/m<sup>2</sup> (both at 25 °C and AM 1.5 spectrum) is less than -6 % (relative).

TEMPERATURE COEFFICIENTS (AT 1000 W/m<sup>2</sup>, 25 °C, AM 1.5 SPECTRUM)




Temperature Coefficient of I <sub>SC</sub>	α	[%/K]	+0.04	Temperature Coefficient of V <sub>OC</sub>	β	[%/K]	-0.32
Temperature Coefficient of P <sub>MPP</sub>	γ	[%/K]	-0.45				

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V <sub>sys</sub>	[V]	1000	Safety Class	II
Maximum Reverse Current I <sub>r</sub>	[A]	20	Fire Rating	C
Wind/Snow Load	[Pa]	5400	Permitted module temperature on continous duty	-40 °C up to +85 °C

QUALIFICATIONS AND CERTIFICATES PARTNER

IEC 61215 (Ed.2); IEC 61730 (Ed.1), Application class A  
This data sheet complies with DIN EN 50380.



Specifications subject to technical changes © Q-Cells SE Q-PRO-G2\_English\_AUS\_2011-07\_02

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.