



# Q.PLUS L-G4.1 330-340

## Q.ANTUM SOLAR MODULE

The **Q.ANTUM** solar module **Q.PLUS L-G4.1** is the strongest module of its type on the market globally. Powered by 72 Q CELLS solar cells **Q.PLUS L-G4.1** was specially designed for large solar power plants to reduce BOS costs. Only Q CELLS offers German engineering quality with our unique triple Yield Security.



### Q.ANTUM TECHNOLOGY: LOW LEVELIZED COST OF ELECTRICITY

Higher yield per surface area and lower BOS costs and higher power classes.



### INNOVATIVE ALL-WEATHER TECHNOLOGY

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



### ENDURING HIGH PERFORMANCE

Long-term yield security with Anti PID Technology<sup>1</sup>, Hot-Spot Protect and Traceable Quality Tra.Q™.



### EXTREME WEATHER RATING

High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (2400 Pa).



### A RELIABLE INVESTMENT

Inclusive 12-year product warranty and 25-year linear performance warranty<sup>2</sup>.



### THE IDEAL SOLUTION FOR:



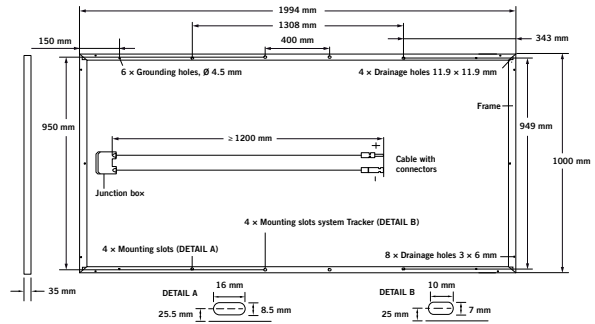
Engineered in **Germany**

<sup>1</sup> APT test conditions: Cells at -1500V against grounded, with conductive metal foil covered module surface, 25 °C, 168h

<sup>2</sup> See data sheet on rear for further information.

## MECHANICAL SPECIFICATION

<b>Format</b>	1994 mm × 1000 mm × 35 mm (including frame)
<b>Weight</b>	24 kg
<b>Front Cover</b>	3.2 mm thermally pre-stressed glass with anti-reflection technology
<b>Back Cover</b>	Composite film
<b>Frame</b>	Anodised aluminium
<b>Cell</b>	6 × 12 Q.ANTUM solar cells
<b>Junction box</b>	85-111 × 60-80 × 15-19 mm, Protection class ≥ IP67, with bypass diodes
<b>Cable</b>	4 mm <sup>2</sup> Solar cable; (+) ≥ 1200 mm, ≥ (-) 1200 mm
<b>Connector</b>	JMTHY PV-JM601 or Tonglin TL-Cable01S, IP67

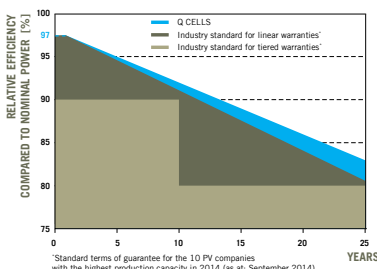


## ELECTRICAL CHARACTERISTICS

POWER CLASS		330	335	340	
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC <sup>1</sup> (POWER TOLERANCE +5 W /- 0 W)					
Minimum	Power at MPP <sup>2</sup>	$P_{MPP}$	330	335	340
	Short Circuit Current*	$I_{SC}$	9.49	9.54	9.59
	Open Circuit Voltage*	$V_{OC}$	46.55	46.81	47.07
	Current at MPP*	$I_{MPP}$	8.91	8.97	9.03
	Voltage at MPP*	$V_{MPP}$	37.02	37.33	37.63
	Efficiency <sup>2</sup>	$\eta$	≥16.5	≥16.8	≥17.1
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC <sup>3</sup>					
Minimum	Power at MPP <sup>2</sup>	$P_{MPP}$	244.7	248.4	252.1
	Short Circuit Current*	$I_{SC}$	7.65	7.69	7.73
	Open Circuit Voltage*	$V_{OC}$	43.44	43.68	43.92
	Current at MPP*	$I_{MPP}$	6.99	7.04	7.09
	Voltage at MPP*	$V_{MPP}$	35.01	35.29	35.56

<sup>1</sup>1000 W/m<sup>2</sup>, 25°C, spectrum AM 1.5G    <sup>2</sup>Measurement tolerances STC ±3%; NOC ±5%    <sup>3</sup>800 W/m<sup>2</sup>, NOCT, spectrum AM 1.5G    \* typical values, actual values may differ

## Q CELLS PERFORMANCE WARRANTY

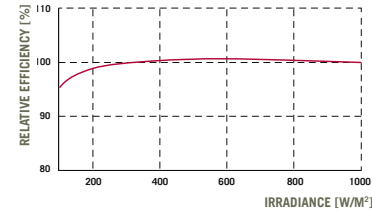


At least 97% of nominal power during first year. Thereafter max. 0.6% degradation per year.  
At least 92% of nominal power up to 10 years.  
At least 83% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organisation of your respective country.

\*Standard terms of guarantee for the 10 PV companies with the highest production capacity in 2014 (as at: September 2014)

## PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25°C, 1000W/m<sup>2</sup>).

## TEMPERATURE COEFFICIENTS

Temperature Coefficient of $I_{SC}$	$\alpha$	[%/K]	+0.04	Temperature Coefficient of $V_{OC}$	$\beta$	[%/K]	-0.29
Temperature Coefficient of $P_{MPP}$	$\gamma$	[%/K]	-0.40	Normal Operating Cell Temperature	NOCT	[°C]	45

## PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	$V_{SYS}$	[V]	1000 (IEC) / 1000 (UL)	Safety Class	II
Maximum Reverse Current	$I_R$	[A]	15	Fire Rating	C / TYPE 1
Wind/Snow Load (in accordance with IEC 61215)		[Pa]	2400/5400	Permitted Module Temperature On Continuous Duty	-40°C up to +85°C

## QUALIFICATIONS AND CERTIFICATES

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



## PARTNER

**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.

Hanwha Q CELLS Corp.  
Hanwha Building, 86 Cheonggyecheon-ro Jung-gu, Seoul, Republic of Korea 101-797  
TEL +82 (0)2 729 1312 | WEB [www.q-cells.com](http://www.q-cells.com)

Engineered in Germany

