

HQ230P-220W,225W,230W SOLAR MODULE



POLYCRYSTALLINE SOLAR MODULE High-quality and high-efficiency

Features



High module conversion efficiency
Module efficiency up to 15.8% achieved through advanced cell technology and manufacturing capabilities



Self-cleaning & anti-reflective
Higher module efficiency from anti-reflective, hydrophobic layer with higher light absorption and minimal surface dust



Positive tolerance
Guaranteed positive tolerance of 5% delivers higher outputs reliably



Excellent weak light performance
Excellent performance under low light conditions

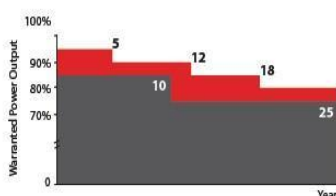


Extended wind and snow load tests
Module certified to withstand extreme wind (3800 Pascal) and snow loads (5400 Pascal) *



HQ solar current sorting process
System output maximized by reducing mismatch losses up to 2% with modules sorted & packaged by amperage

Industry-leading Warranty based on Pnom



- Based on nominal power (Pnom)
- 25-year transferrable power output warranty: 5 years/95%, 12 years/90%, 18 years/85%, 25 years/80% ***
- Warrants 6.7% more than the market standard over 25 years
- 10-year material and workmanship warranty



Superior Frame Design

Specially designed drainage holes and rigid construction prevent frames from deforming. Screwless frame design for a long term durability.

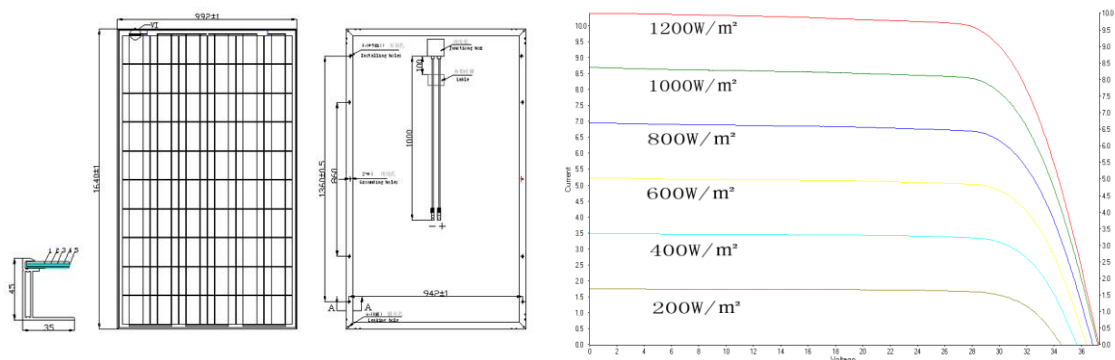
HQ Solar Co., Ltd. is a manufacturer of high quality mono- and poly -crystalline silicon PV modules in East China; with an annual capacity of 300MW. Our 160 research staff and workers dedicate themselves to providing inexhaustible and renewable energy.



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ELECTRICAL DATA (NOMINAL)

The rated power may only vary by $-0/+4.99W_p$ and all other electrical parameters by $\pm 5\%$

Power Classification	Pmax(w)	HQ230P-220W	HQ230P-225W	HQ230P-230W
Module efficiency	%	15.25	15.41	15.48
Model Number	OPT	230P-220W-60	230P-225W-60	230P-230W-60
Voltage at Max. Power Point	Vmp (V)	29.38	29.58	29.76
Current at Max. Power Point	Imp (A)	7.49	7.61	7.73
Open Circuit Voltage	Voc (V)	37.01	37.13	37.32
Short Circuit Current	Isc (A)	8.34	8.43	8.53

The electrical data apply to standard test conditions(STC): Irradiance of $1000W/m^2$ with AM 1.5 spectra at $25^\circ C$

DIMENSIONS AND WEIGHT

Cells/ Module	60(6*10)
Module Dimensions	1640*992mm
Module Thickness(Depth)	40mm
Approximate Weight	19.6kg

CHARACTERISITIC DATA

Type of Solar Cell	High-efficiency poly crystalline solar cells of 156*156mm
Frame	Silver anodized aluminum alloy; black frame availbale by custom order
Glass	Tempered(low-iron), anti-reflective coating
Junction Box	IP65 rated; 3 internal bypass diodes
Cable & Connections	4.00mm ² cable; cable length approximately 1000mm

TEMPERATURE COEFFICIENTS

Voltage	β , Voc(%/°C)	-0.356
Current	α , Isc(%/°C)	+0.024
Power	γ , Pmax(%/°C)	-0.45
NOCT Avg	(+/-2°C)	45

LIMITS

Max. System Voltage	1000 VDC for IEC(600 VDC for UL)
Operating Module Temperature	-40°C to +85°C
Storm Resistance/ Static Load	Tested to IEC 61215 for loads up to 5400 Pa; hail and wind resistant



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