



Five Key Features

- 1 Guaranteed quality: 12 year product warranty, 25 year linear performance warranty *
- 2 Innovation solutions: UL certified up to 1000V for optimized system designs
- 3 Robust design: certified to withstand up to 4000 Pa wind load and up to 7000 Pa snow load**
- 4 Developed Technology: New Hanwha Q CELLS-cell based module
- 5 Anti-PID : Modules are qualified to withstand PID***

* Please refer to Hanwha Solar Product Warranty for details
** Please refer to Hanwha Solar Module Installation Guide
*** PID test conditions : module charged -1000V with Al-foil covered surface, 25 °C, 168h

Quality and Environmental Certificates

- ISO 9001 quality standards and ISO 14001 environmental standards
- OHSAS 18001 occupational health and safety standards
- UL 1703 1000V certification
- CEC listed



About Hanwha Solar

Hanwha Solar is a vertically integrated manufacturer of photovoltaic modules designed to meet the needs of the global energy consumer.

- High reliability, guaranteed quality, and excellent cost-efficiency due to vertically integrated production and control of the supply chain
- Optimization of product performance and manufacturing processes through a strong commitment to research and development
- Global presence throughout Europe, North America and Asia, offering regional technical and sales support

Electrical Characteristics

Electrical Characteristics at Standard Test Conditions (STC)

Power Class	240 W	245 W	250 W	255 W	260 W
Maximum Power (P_{max})	240W	245W	250 W	255 W	260 W
Open Circuit Voltage (V_{oc})	37.3 V	37.5 V	37.7 V	37.9 V	38.1 V
Short Circuit Current (I_{sc})	8.64A	8.73 A	8.82 A	8.91A	8.99 A
Voltage at Maximum Power (V_{mpp})	29.4V	29.6 V	29.8V	30.0 V	30.1 V
Current at Maximum Power (I_{mpp})	8.17 A	8.28 A	8.39A	8.51 A	8.64A
Module Efficiency (%)	14.8 %	15.1 %	15.5 %	15.8 %	16.1 %

P_{max} , V_{oc} , I_{sc} , V_{mpp} , and I_{mpp} tested at Standard Testing Conditions (STC) defined as irradiance of 1000W/m² at AM 1.5 solar spectrum and a temperature of 25±2°C. Module power class have positive power sorting: 0 to +5W. Measurement tolerance: +/- 3% (P_{max})

Electrical Characteristics at Normal Operating Cell Temperature (NOCT)

Power Class	240 W	245 W	250 W	255 W	260 W
Maximum Power (P_{max})	175 W	179 W	182 W	186 W	190 W
Open Circuit Voltage (V_{oc})	34.9V	35.1 V	35.3 V	35.5 V	35.7 V
Short Circuit Current (I_{sc})	6.96 A	7.03 A	7.11 A	7.18 A	7.24 A
Voltage at Maximum Power (V_{mpp})	26.6 V	26.8 V	26.9 V	27.1 V	27.2 V
Current at Maximum Power (I_{mpp})	6.58 A	6.68 A	6.77 A	6.87 A	6.99 A
Module Efficiency (%)	13.5 %	13.8 %	14.1 %	14.4 %	14.7 %

P_{max} , V_{oc} , I_{sc} , V_{mpp} , and I_{mpp} tested at Normal Operating Cell Temperature (NOCT) defined as irradiance of 800W/m²; 20°C; Wind speed 1m/s. Measurement tolerance: +/- 3% (P_{max})

Temperature Characteristics

Normal Operating Cell Temperature (NOCT)	45°C +/- 3°C
Temperature Coefficients of P	-0.43 % / °C
Temperature Coefficients of V	-0.31 % / °C
Temperature Coefficients of I	+0.04 % / °C

Maximum Ratings

Maximum System Voltage	1000 V
Series Fuse Rating	15 A
Maximum Reverse Current	Series fuse rating multiplied by 1.35

Mechanical Characteristics

Dimensions	1636mm x 988mm x 40 mm
Weight	19±0.5kg
Frame	Aluminum alloy, available in silver or black finish
Front	Tempered glass
Encapsulant	EVA
Back Cover	White or black back sheet
Cell Technology	Polycrystalline
Cell Size	156 mm x 156 mm (6 in x 6 in)
Number of Cells (Pieces)	60 (6 x 10)
Junction Box	Protection class IP 67; with bypass-diode
Output Cables	Solar cable: 4 mm ² ; length: 1000 mm
Connector	Amphenol H4

System Design

Operating Temperature	- 40 °C to 85 °C
Hail Safety Impact Velocity	25 mm at 23 m/s
Fire Safety Classification (IEC 61730)	Class C
Static Load Wind /Snow	4000Pa/7000Pa

Packaging and Storage

Storage Temperature	- 40 °C to 85 °C
Packaging Configuration	24 pieces per pallet
Loading Capacity (40 ft. HQ Container)	672 pieces

Nomenclature:

eg. HSL60P6-PB-4-250QW

HSL60P6-PB- -XXX

Code	Certification	Code	Frame / Backsheet
3	1000V (IEC&UL)	Q	Silver / White
4	1000V (UL)	QW	Black / White
		QB	Black / Black

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 5 %.

