HSL 72 | Poly UL

Hanwha Solar

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

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Electrical Characteristics

Electrical Characteristics at Standard Test Conditions (STC)

Power Class	285 W	290 W	295 W	300 W	305 W	310 W
Maximum Power (P_{max})	285 W	290 W	295 W	300 W	305 W	310 W
Open Circuit Voltage (V_{oc})	44.8 V	45.0 V	45.2 V	45.4 V	45.5 V	45.7 V
Short Circuit Current (I_{sc})	8.56 A	8.65 A	8.73 A	8.82 A	8.90 A	8.98 A
Voltage at Maximum Power (V_{mpp})	35.2 V	35.4 V	35.6 V	35.8 V	36.1 V	36.3 V
Current at Maximum Power (I_{mpp})	8.10 A	8.20 A	8.29 A	8.38 A	8.45 A	8.54 A
Module Efficiency (%)	14.7 %	15.0 %	15.3 %	15.5 %	15.8 %	16.0 %

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	285 W	290 W	295 W	300 W	305 W	310 W
Maximum Power (P_{max})	208 W	211 W	215 W	219 W	223 W	226 W
Open Circuit Voltage (V_{oc})	41.7 V	41.9 V	42.1 V	42.3 V	42.5 V	42.7 V
Short Circuit Current (I_{sc})	6.90 A	6.97 A	7.03 A	7.11 A	7.17 A	7.26 A
Voltage at Maximum Power (V_{mpp})	31.9 V	32.0 V	32.2 V	32.4 V	32.7 V	32.8 V
Current at Maximum Power (I_{mpp})	6.53 A	6.60 A	6.68 A	6.76 A	6.82 A	6.90 A
Module Efficiency (%)	13.5 %	13.6 %	13.9 %	14.2 %	14.4 %	14.6 %

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	1956mm ×988mm ×45 mm
Weight	27±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 × 156 mm (6in ×6in)
Number of Cells (Pieces)	72 (6 × 12)
Junction Box	Protection class IP67 with bypass-diode
Output Cables	Solar cable: 4 mm²; length: 1200 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	22 pieces per pallet
Loading Capacity (40 ft. HQ Container)	484 pieces

Nomenclature:

eg. HSL72P6-PB-4-300QW

HSL72P6-PB-_-xxx

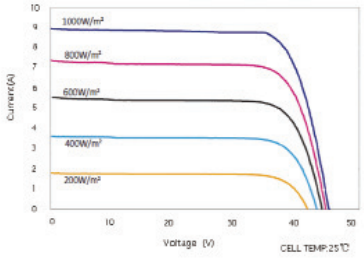
Code	Certification
3	1000V (IEC&UL)
4	1000V (UL)

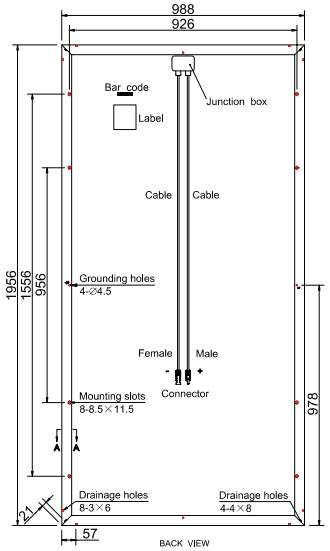
Code	Frame / Backsheet
Q	Silver / White
QW	Black / White
QB	Black / Black

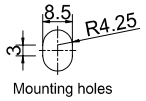
Performance at Low Irradiance:

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 %.

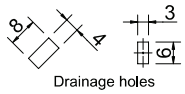
Various Irradiance Levels





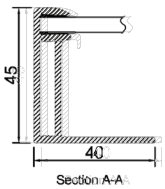


Mounting holes



Drainage holes

Grounding holes



Section A-A

Hanwha Solar