



POLYCRYSTALLINE SILICON PHOTOVOLTAIC MODULE WITH 230W~245W POWER

Himin Clean Energy Holdings Co., Ltd, as the main holder of the fourth International Solar City Congress (Dezhou city, 2010) and the constructor of China Solar Valley, has concentrated on solar energy research since 1995.

Himin's HG-230P~245P photovoltaic module is designed for large electrical power requirements, this module has super durability to withstand rigorous operating conditions and is suitable for grid connected systems.

Quality & Reliability

Robust, corrosion resistant aluminum frames independently tested to withstand wind loads of up to 2400Pa and snow loads of up to 5400Pa ensuring a stable mechanical life.

Module independently tested to ensure conformance with certification and regulatory standards.

Manufacturing factory certified by ISO 9001 and ISO 14001.

Guarantees and certifications

Product warranty	10 years
Performance guarantee	Guaranteed output of 90% for 10 years and 80% for 25 years
Approvals and certificates	TUV:IEC 61215 Edition II, IEC 61730 I and II, MCS

In the absence of confirmation by specification sheets, Himin takes no responsibility for any defects that any occur in equipment using any Himin products shown in catalogs, data books, etc.

Contact Himin in order to obtain the latest specification sheets, before using any Himin products.

Specifications are subject to change without notice.



Specifications

HG-230P~245P

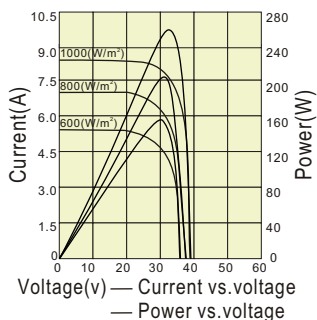
Cell	Polycrystalline silicon solar cells, 156mm square
Number of cells and connections	60 in series
Application	DC 24V system
Maximum system voltage	DC 1,000V
Series fuse rating	15A
Nominal power	230W~245W
Dimensions	1640×992×50mm
Weight	19.6Kg
Type of output terminal	Lead wire with connectors
Junction box	3 bypass diodes

Electro-optical characteristics

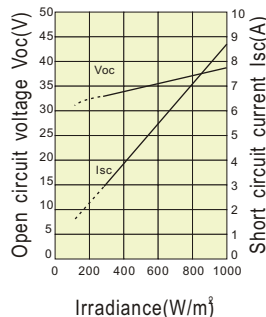
Parameters	Symbol	HG-230P	HG-235P	HG-240P	HG-245P
Open circuit voltage	Voc	36.9V	37.1V	37.4V	37.7V
Maximum power voltage	Vmp	30.8V	31.0V	31.4V	31.7V
Short circuit current	Isc	8.01A	8.05A	8.15A	8.24A
Maximum power current	Imp	7.47A	7.58A	7.64A	7.73A
Maximum power	Pm	230W	235W	240W	245W
Encapsulated solar cell efficiency	η_c	15.8%	16.0%	16.4%	16.8%
Module efficiency	η_m	14.1%	14.4%	14.8%	15.1%
Power output tolerance		0~3%	0~3%	0~3%	0~3%

Characteristics

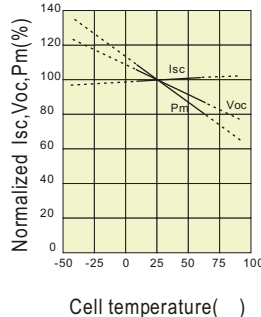
Current, power vs. voltage characteristics 245W (cell temperature: 25°C)



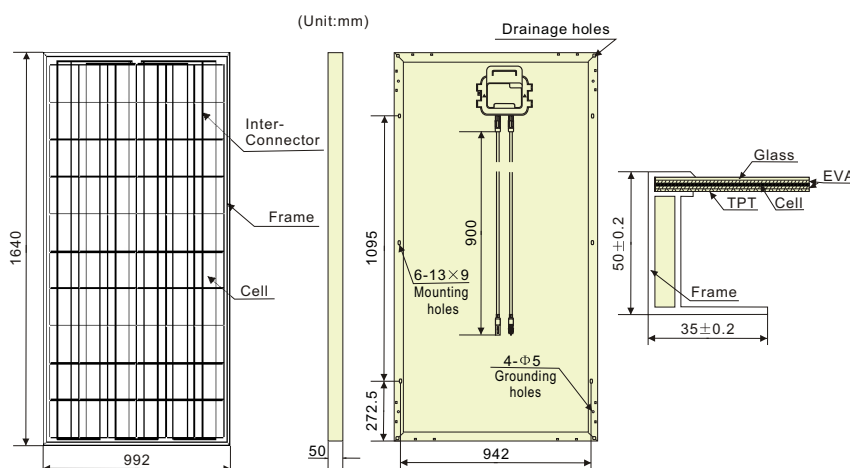
Open circuit voltage, short circuit current, vs. irradiance characteristics (cell temperature: 25°C)



Normalized Isc, Voc, Pm vs. cell temperature characteristics



Outline dimensions



Packaging Specifications

Number of modules per pallet	46
Number of pallets per 40' container	11
Packaging box dimensions (L / W / H)	2260 × 1020 × 2160mm
Box weight	942Kg

Conditions

Standard test conditions (STC)

Irradiance: 1,000W/m²

AM1.5

Module temperature: 25°C

Temperature coefficients

Parameters	Rating
Operating temperature	-40 to +85°C
Storage temperature	-40 to +85°C
α Pm	-0.470%/K
α Isc	+0.035%/K
α Voc	-0.351%/K
NOCT	46 ± 2/ °C

Mechanical specification

Cable	Solar cable ,900mm length 4mm ² prefabricated with plugs (male/female)
Front glass	Transparent toughened safety glass, 3.2mm
Cell encapsulation	EVA(Ethylene-Vinyl-Acetate), 0.5mm
Backside	Composite film
Frame	Anodised aluminium cavity frame
Maximum surface load	(screwless) with drainage holes Entire module certified to withstand high wind loads (2400Pa) snow loads (5400Pa)
Hail resistance	Maximum diameter of 25mm with impact speed 83km/h