



SYP230S~SYP245S

POLYCRYSTALLINE MODULE 60x6"

Characteristics & Performance

- Use of only certified materials at highest quality standards.
- The process of cell and module production is fully automated with 100% quality control and product traceability.
- Heavy load mechanical resistance: TÜV certified (5400Pa tested against snow and 2400Pa test against wind)
- Excellent performances even during low solar radiation
- Guaranteed positive tolerance 0 to +3% of power for each module

Certifications for Incentives

■ Quality, Environment, Health & Safety

ISO9001:2008, ISO14001:2004, OHSAS18001:2007

Full Member PV Cycle Association AISBL

■ Product Certifications

Quality and Robustness: IEC61215:2005

Safety: IEC61730 -1/-2, MCS, CEC, UL

Resistance to salt corrosion (salt fog): IEC61701:2000

Resistance to ammonia fumes: Ammonia Resistance Test

25 Year Linear Power Guarantee

■ Commercial

10 years on material and manufacturing defects

■ Performance

Power not less than 90% of power peak during the first 12 years

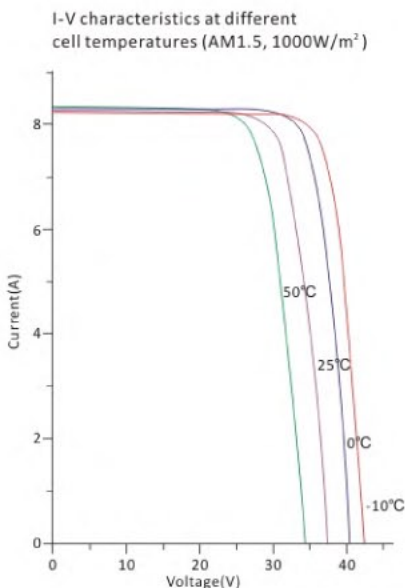
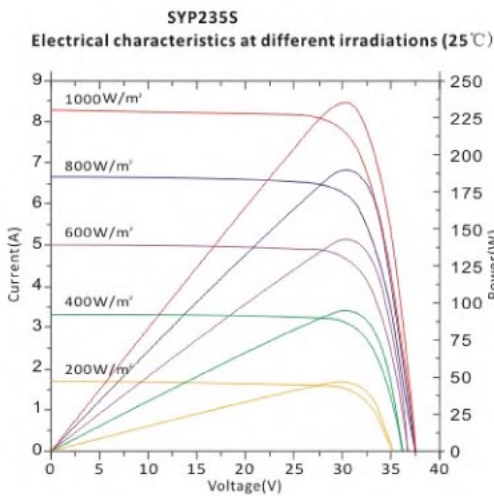
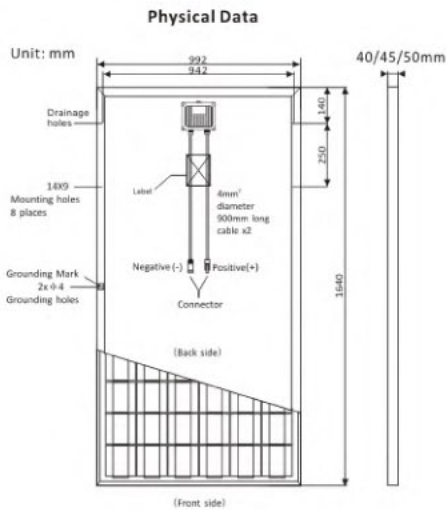
Power not less than 82% of power peak during the subsequent 13 years.



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Electrical Characteristics at STC

Type	SYP230S	SYP235S	SYP240S	SYP245S	
Maximum Power	Pmax(W)	230W	235W	240W	245W
Tolerance Value for Power	%	0~+3%	0~+3%	0~+3%	0~+3%
Maximum Power Voltage	Vmpp(V)	29.80	30.00	30.20	30.30
Maximum Power Current	Impp(A)	7.73	7.84	7.96	8.09
Open Circuit Voltage	Voc(V)	37.00	37.10	37.20	37.30
Short Circuit Current	Isc(A)	8.22	8.28	8.33	8.34
Module Efficiency	η	>14.16%	>14.46%	>14.78%	>15.07%

Performance at STC: Irradiance of 1000W/m², Module temperature 77±3.6°F (25±2°C)
AM 1.5 Power measurement tolerance: ±3%

Electrical Characteristics at NOCT

Type	SYP230S	SYP235S	SYP240S	SYP245S	
Maximum Power	Pmax(W)	163.24	168.04	173.04	178.24
Maximum Power Voltage	Vmpp(V)	26.56	26.56	26.56	26.56
Maximum Power Current	Impp(A)	6.15	6.33	6.52	6.71
Open Circuit Voltage	Voc(V)	33.34	33.65	33.65	33.65
Short Circuit Current	Isc(A)	6.62	6.72	6.8	6.82

Performance at NOCT: Irradiance 800W/m², Ambient temperature 20°C, Wind speed 1m/s
Power measurement tolerance: ±3%

Temperature Coefficients(Tc)

NOCT(Nominal Operating Cell temperature)	45±2°C
Temperature Coefficient of VOC(β)	-0.33%/°C
Temperature Coefficient of ISC(α)	+0.033%/°C
Temperature Coefficient of Pmax	-0.39%/°C

Permissible Operating Conditions

Maximum System Voltage	1000 V
Operating Temperature Range	-40°C ~ +85°C
Maximum Surface Load Capacity	Test up to 5400Pa according to IEC61215 (Advanced test)
Resistance Against Hail	Maximum diameter of 1in.(25mm) impact speed of 51.5mph(23m/s)

Mechanical specifications

Cells	Polycrystalline cell with 3-busbars,6"(6x10)
Junction Box	IP67,combined with 6 by-pass diodes
Front Glass Thickness	3.2mm
Connecting Cable/Connector	MC4 compatible connector/4mm ² diameter, 900mm length
Frame Dimension	1640x992x40/45/50mm
Weight	19.5KG/20KG/20.5KG

Packing Features

Frame Height	40mm	45mm	50mm
Qty/Pallet (PCS)	27	24	22
Qty/40HC container (PCS)	756	672	616