



SYP190S-M~SYP200S-M

MONOCRYSTALLINE MODULE 72x5"

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

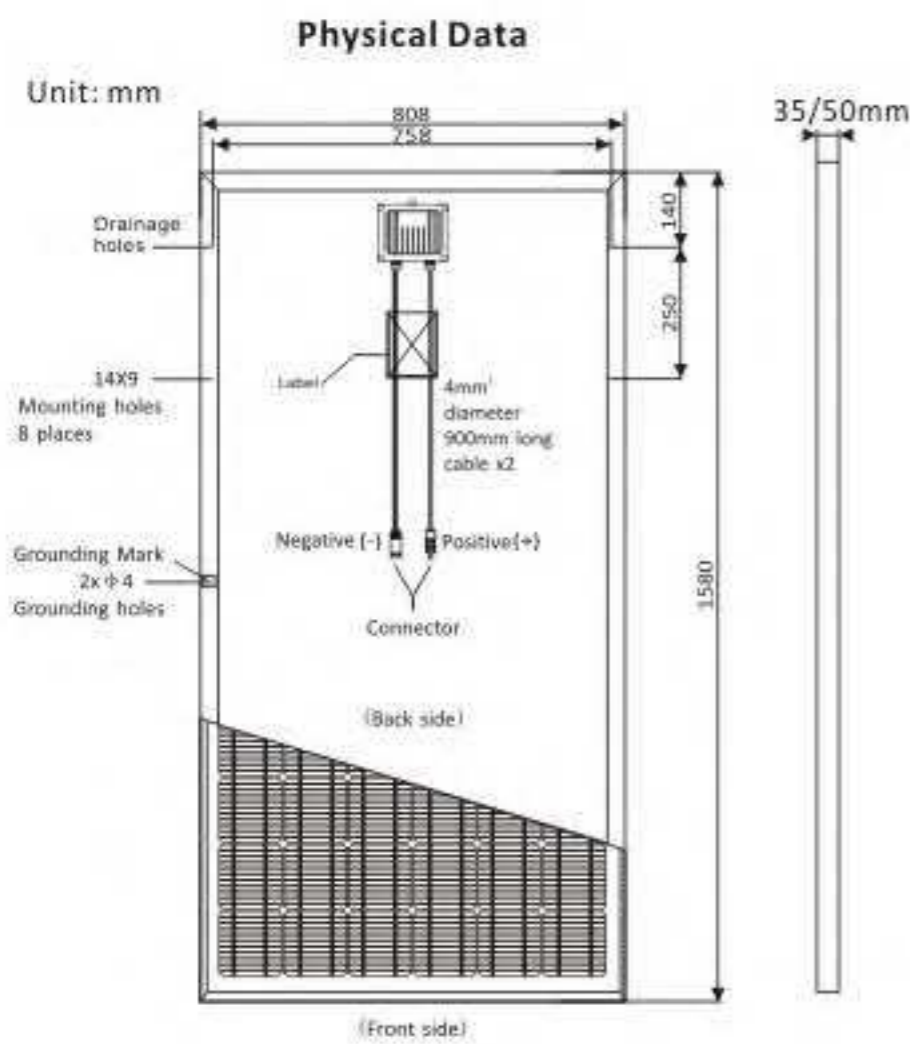
25 Year Linear Power Guarantee

- **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.



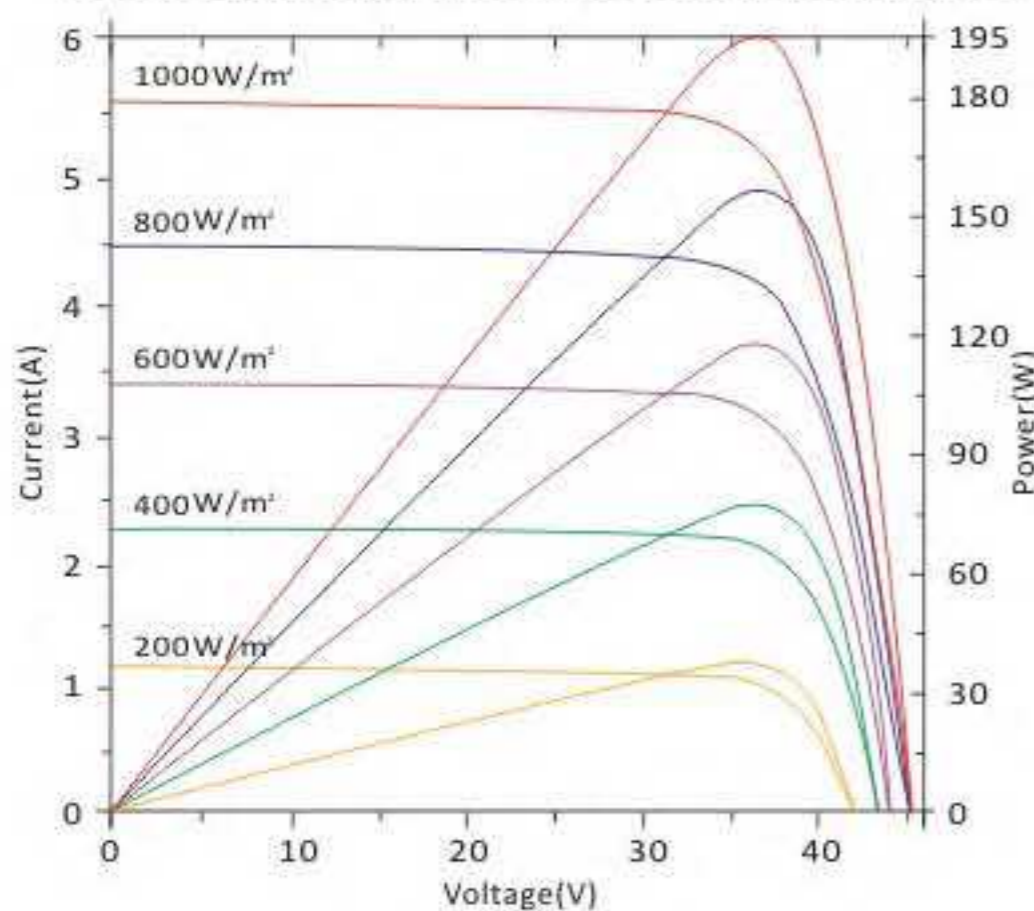
Qualified: IEC61215
Qualified: IEC61730



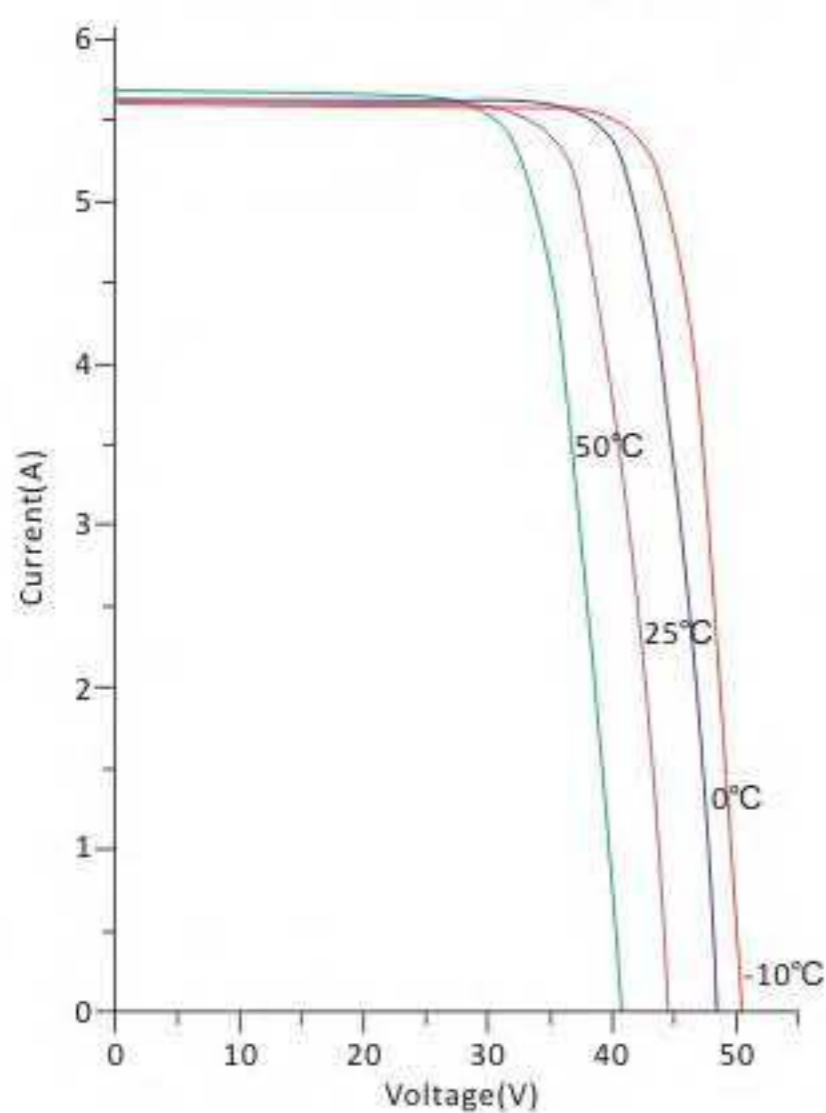


SYP195S-M

Electrical characteristics at different irradiances (25°C)



I-V characteristics at different cell temperatures (AM1.5, 1000W/m²)



Electrical Characteristics at STC

Type		SYP190S-M	SYP195S-M	SYP200S-M
Maximum Power	P _{max} (W)	190W	195W	200W
Tolerance Value for Power	%	0~+3%	0~+3%	0~+3%
Maximum Power Voltage	V _{mpp} (V)	36.60	36.80	36.82
Maximum Power Current	I _{mpp} (A)	5.20	5.30	5.30
Open Circuit Voltage	V _{oc} (V)	45.10	45.30	45.50
Short Circuit Current	I _{sc} (A)	5.60	5.60	5.86
Module Efficiency	η	>14.88%	>15.27%	>15.66%

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		SYP190S-M	SYP195S-M	SYP200S-M
Maximum Power	P _{max} (W)	138.03	142.15	146.88
Maximum Power Voltage	V _{mpp} (V)	32.92	33.22	33.41
Maximum Power Current	I _{mpp} (A)	4.19	4.28	4.37
Open Circuit Voltage	V _{oc} (V)	40.63	40.72	40.81
Short Circuit Current	I _{sc} (A)	4.39	4.58	4.66

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

Temperature Coefficients(T_c)

NOCT(Nominal Operating Cell temperature)	45±2°C
Temperature Coefficient of VOC(β)	-0.32%/°C
Temperature Coefficient of ISC(α)	+0.02%/°C
Temperature Coefficient of P _{max}	-0.40%/°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	Monocrystalline cell,5"(6x12)
Junction Box	IP67,combined with 3 by-pass diodes
Front Glass Thickness	3.2mm
Connecting Cable/Connector	MC4 compatible connector/4mm ² diameter, 900mm length
Frame Dimension	1580x808x35/50mm
Weight	15KG/16.5KG

Packing Features

Frame Height	35mm	50mm
Qty/Pallet (PCS)	70	54
Qty/40GP container (PCS)	980	756