



TRUE ECO-NOMY

# Polycrystalline Solar Modules

**SUNGEN SGM-P Series 200W/210W/220W/230W**



## Product Features

- High conversion efficiency photovoltaic modules made of polycrystalline silicon solar cells.
- Integrated bypass diodes in the junction box reduce the power loss effect in a string caused by events such as shading.
- Module is glass to back sheet laminated.
- Water-protected connector system, easy for installation.

## Quality and Safety

- Product warranty: Free from defects in material and workmanship for 5 years.
- Power warranty:
  - Maintain more than 90% of minimum rated power for 10 years.
  - Maintain more than 80% minimum rated power for 25 years.
- According to IEC 61215.
- According to IEC 61730.
- According to UL 1703.
- TUV, UL certified.

## Brief Information

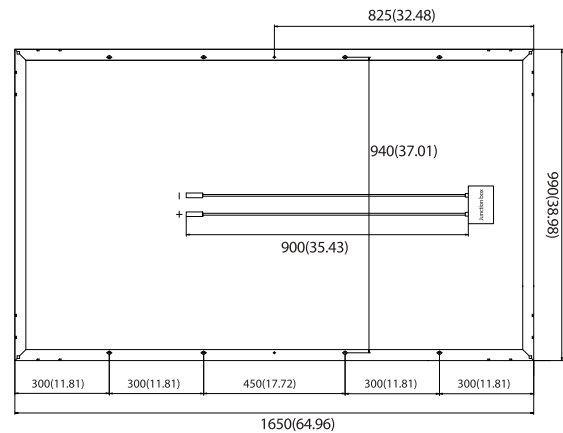
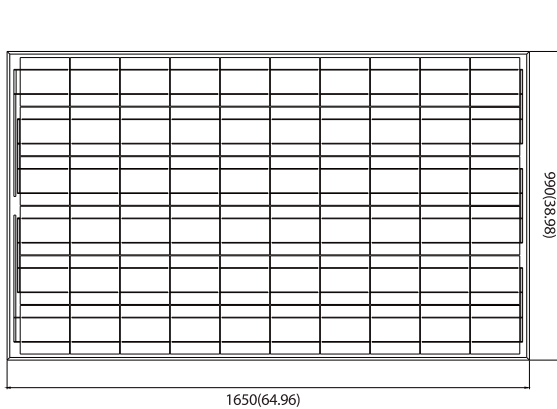
- 156mm×156mm(6.14inches×6.14inches) polycrystalline solar cells.
- 60 cells in series(6×10).
- 2,400N/m<sup>2</sup>(50psf) mechanical load-bearing capacity 245kg/m<sup>2</sup>(50pounds/foot<sup>2</sup>).
- 1000VDC(IEC)/600VDC(UL) maximum system voltage.

## Applications

- On-grid PV Systems.
- Off-grid PV Systems.
- Residential Roof Top Systems.
- Commercial Roof Top Systems.
- Ground Installations.

Please read our extensive installation guide carefully prior to installing the photovoltaic modules.





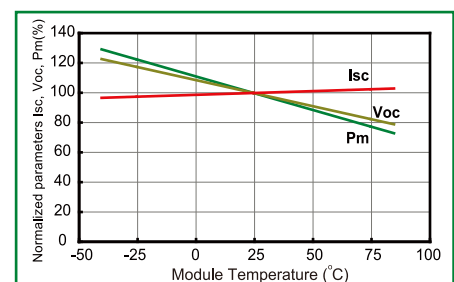
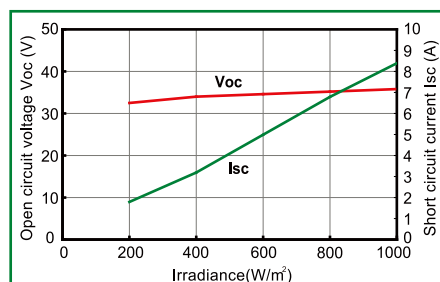
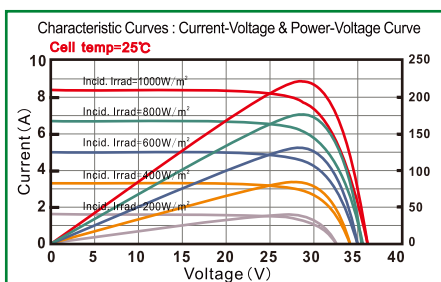
## Characteristics

Model	SGM-200P	SGM-210P	SGM-220P	SGM-230P
Max-power Voltage (Vmp)	29.1V	29.3V	29.4V	29.7V
Max-power Current (Imp)	6.87A	7.17A	7.48A	7.74A
Open-circuit Voltage (Voc)	34.92V	35.45V	35.87V	36.23V
Short-circuit Current (Isc)	7.85A	8.11A	8.40A	8.70A
Max-power (Pm)	200W	210W	220W	230W
Module Efficiency (η)	12.28%	12.89%	13.52%	14.13%
Temperature Coefficient of Pm		-0.45%/K		
Temperature Coefficient of Voc		-0.35%/K		
Temperature Coefficient of Isc		0.05%/K		
NOCT		48°C+/-2°C (118.4°F+/-3.6°F)		
Operating Temperature		-40°C~+85°C (-40°F~+185°F)		
Maximum System Voltage		1000VDC (IEC)/ 600 VDC (UL)		

## Specifications

Cell	156mm x 156mm (6.14 inches x 6.14 inches)	Dimensions of Module	1650mm x 990mm x 40mm (64.96 inches x 38.98 inches x 1.57 inches)
Tolerance	-1%~+3%	Weight	19.5kg(42.97lbs)
No. of Cells	60 (10 x 6)		
Standard Test Conditions: Irradiance 1000W/m <sup>2</sup> , Spectrum AM1.5 at 25°C, Voc or Isc can be customized.			

## Characteristic Curves (SGM-220P)



Please note the graphs above will have a ±3% tolerance.

SUNGEN reserves the rights to modify these specifications and warranties without notice.

