G SOLAR
energy solutions

GSM 270W/275W/280W/285W

270 W - 285 W MONO-CRYSTALLINE SOLAR MODULE

- ✔ Premium series: High reliability of power output
- ✔ PV glass design improves oblique irradiance performance and enhances module yield in low-light and medium-angle-light condition
- ✔ Junction box and by-pass diodes guarantee the modules free of overheating and “hot spot effect”
- ✔ Strong anodized aluminum alloy frame
- ✔ Certified by TÜV to withstand up to 2400 Pa wind load and up to 5400 Pa snow load
- ✔ Easy installation and minimal maintenance with compatibility to industry standard inverters and mounting systems
- ✔ Special PV Module Insurances by world leading insurance company guarantees the benefit to PV investors and PV module users

QUALIFICATIONS AND CERTIFICATES

CE-Compliant, IEC 61215 (Ed.1) application class A, TÜV Safety Class II, UL 1703

ISO IEC CE TÜV NORD Safety Class II UL

WARRANTY

10 Years: Manufacturing Warranty
12 Years Warranty: 90% Power Output
25 Years Warranty: 80% Power Output

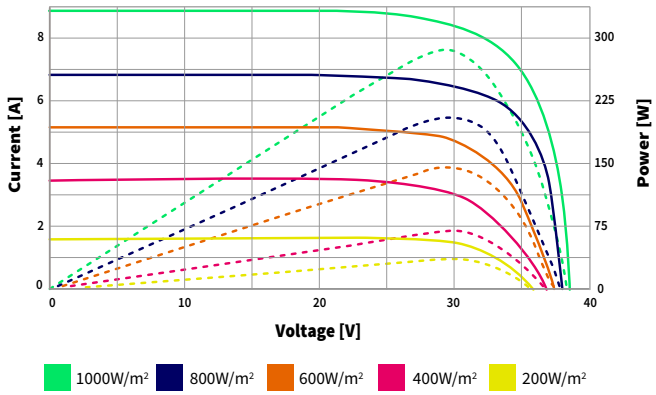
MECHANICAL CHARACTERISTICS

Cell type	Mono-crystalline
Cell Dimensions	156.75 × 156.75 mm
Cell Arrangement	60 (6 × 10)
Weight	18.5 kg
Module Dimensions	1650 × 992 × 35 mm (also available: 1650 × 992 × 30 mm)
Glass	3.2 mm, high transmission, tempered
Connector	MC4 compatible
Cable Length	900 mm
Cable Cross-section Size	4 mm^2
No. of Bypass Diodes	3/6

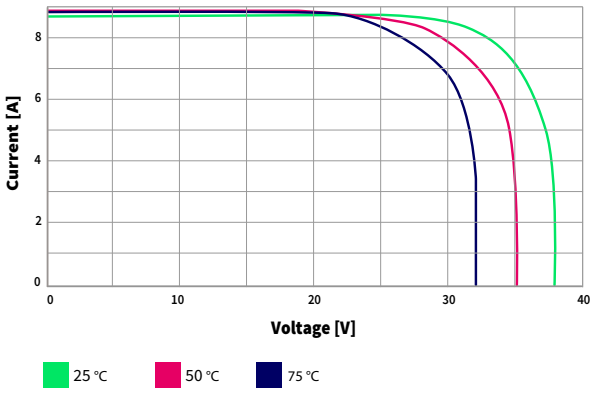
ELECTRICAL CHARACTERISTICS

SOLAR CELLS	MONO-CRYSTALLINE 156.75 × 156.75MM 60 PCS. (6×10) – 5 BUS BARS			
Model	**GSM 270**	**GSM 275**	**GSM 280**	**GSM 285**
Performance at Standard Test Conditions (STC): 1000 W/m², 25°C, AM 1.5, power tolerance -/+3 %				
Maximum Power (Pmax)	270 Wp	275 Wp	280 Wp	285 Wp
Operating Voltage (Vmpp)	31.3 V	31.5 V	31.8 V	32.1 V
Operating Current (Impp)	8.64 A	8.73 A	8.81 A	8.88 A
Open-Circuit Voltage (Voc)	38.5 V	38.7 V	38.9 V	39.1 V
Short-Circuit Current (Isc)	9.24 A	9.30 A	9.35 A	9.41 A
Module Efficiency	16.5 %	16.8 %	17.1 %	17.4 %
Performance at Nominal Operating Cell Temperature (NOCT) : 800 W/m², 20°C, AM 1.5, wind speed 1m/s				
Maximum Power (Pmax)	200 Wp	203 Wp	207 Wp	210 Wp
Operating Voltage (Vmpp)	28.8 V	29.0 V	29.3 V	29.6 V
Operating Current (Impp)	6.95 A	7.00 A	7.06 A	7.11 A
Open-Circuit Voltage (Voc)	35.7 V	35.8 V	36.0 V	36.2 V
Short-Circuit Current (Isc)	7.47 A	7.51 A	7.55 A	7.60 A
Temperature Coefficient				
Temperature Coefficient at Pmax	– 0.39 % / °C			
Temperature Coefficient at Voc	– 0.30 % / °C			
Temperature Coefficient at Isc	+ 0.05 % / °C			
Nominal Operating Cell Temperature	45 ± 2 °C			
Operating conditions				
Maximum System Voltage	1000 V / DC (IEC)			
Operating Temperature	-40 °C to +85 °C			
Maximum Series Fuse	15 A			
Static Loading	5400 Pa			
Conductivity at Ground	≤ 0.1 Ω			
Resistance	≥ 100 MΩ			
Safety Class	II			

I-V Curves at different irradiance



I-V Curves at different temperature



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