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# **EnergyPal**

## **Solar Panel Guide Specification Data Sheet**

**Macsun Solar Energy Technology Co., Limited**  
**MS-MSP 310-340M**  
**MS-MSP 325/M**

Also available on the web at  
[EnergyPal.com/macsun-solar-energy-technology-co-limited-solar-panels/ms-msp-325-m](http://EnergyPal.com/macsun-solar-energy-technology-co-limited-solar-panels/ms-msp-325-m)



## Macsun Solar Energy Technology Co., Limited

No. 1, Huaxing road, Shanghengleng, Dalang, LongHua, Shenzhen, China

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### 72x6"/MSP310M~MSP340M

#### MONOCRYSTALLINE MODULE

##### 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



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### 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

- > 12 years on material and manufacturing defects

#### Performance

- > Power not less than 90% of power peak during the first 12 years
- > Power not less than 80% of power peak during the subsequent 13 years.



Made with selected materials and components to grant quality, duration, efficiency and through outputs, the 72-cell monocrystalline modules by MACSUN SOLAR (power output 310 up to 340Wp, black modules up to 340Wp) represent a highly flexible solution for diverse installation types, from industrial rooftop plants to small home PV systems or large ground surfaces. This allows you to produce clean energy whilst reducing your energy bill. MACSUN SOLAR'S 72-cell monocrystalline solar modules are tested and approved by international acknowledged laboratories, so that we can offer our customers a reliable and price-quality optimized product. The linear warranty on product outputs further ensures increased security and return on investments over time.

- High module efficiency up to 17.51%
- 25-year linear warranty on outputs
- Certified to withstand extreme static loads of 5400 Pa
- Free from PID (Potential Induced Degradation)
- Extensive green certificates
- ISO 9001 ISO 14001 OHSAS 18001



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### Electrical data

Model	MS-MSP 310/M	MS-MSP 315/M	MS-MSP 320/M	MS-MSP 325/M	MS-MSP 330/M	MS-MSP 335/M	MS-MSP 340/M
Nominal Power Watt P (W )	310	315	320	325	330	335	340
Power Output Tolerance P (%)	0~+3	0~+3	0~+3	0~+3	0~+3	0~+3	0~+3
Maximum Power Voltage V (V)	37.72	37.86	37.96	38.06	38.15	38.37	38.55
Maximum Power Current I (A)	8.22	8.32	8.43	8.54	8.65	8.73	8.82
Open Circuit Voltage V (V)	46.36	46.45	46.54	46.63	46.72	46.85	46.96
Short Circuit Current I (A)	8.82	8.91	8.99	9.09	9.19	9.28	9.36
Module Efficiency $\eta$ (%)	15.97	16.23	16.48	16.74	17.00	17.26	17.51

### Mechanical data

Solar cells	Mono 156×156 mm
Cells orientation	72 (6×12)
Module dimension	1957×992×40 mm
Weight	22.5 kg
Glass	High transparency, low iron, tempered glass 3.2mm (AR-coating)
Junction box	IP 67, 3 diodes
Cables	4 mm ,1200 mm
Connectors	MC4-compatible

### Temperature ratings

Nominal Operating Cell Temperature	45°C ±2°C
Temperature coefficient of $P_{max}$	-0.42%/K
Temperature coefficient of $V_{oc}$	-0.29%/K
Temperature coefficient of $I_{sc}$	0.04%/K



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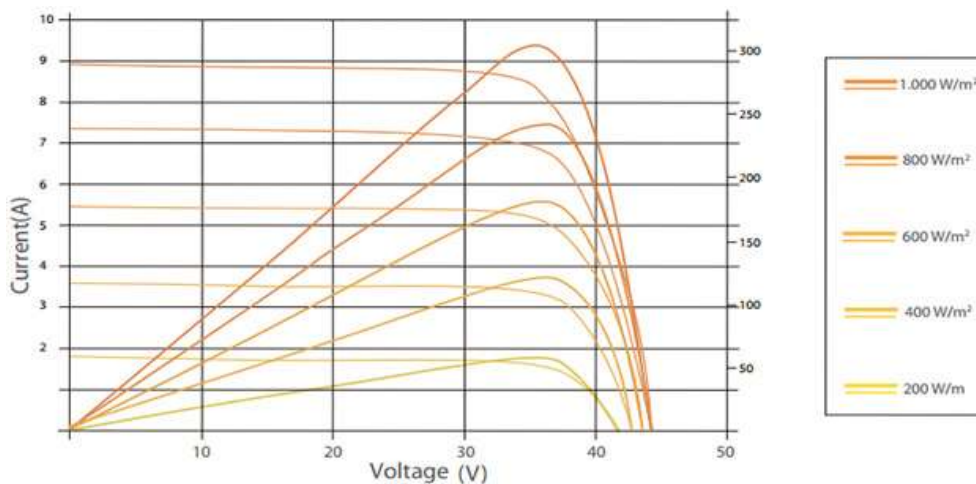
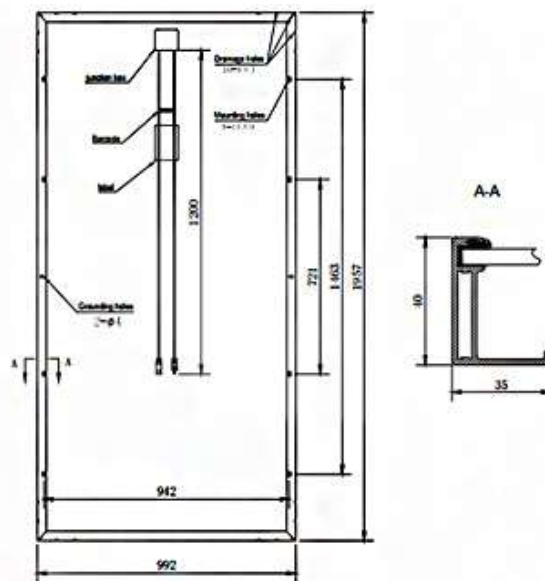
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Working conditions	
Maximum system voltage	1000 V DC(TÜV )
Operating temperature	-40℃~+85℃
Maximum series fuse	15 A
Maximum load (snow/wind)	5400 Pa / 2400 Pa



### Packing Features

Frame Height	40mm
Qty/Pallet (PCS)	26
Qty/40HC container (PCS)	616