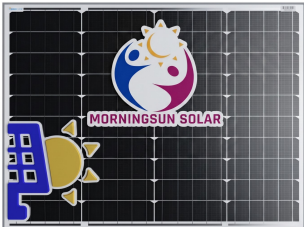


MS-M85

85W Monocrystalline Photovoltaic Module | 12V System

MS-M85 is a high-efficiency monocrystalline photovoltaic module designed for 12V battery charging applications. Manufactured with Grade A monocrystalline silicon cells and advanced encapsulation technology, the MS-M85 delivers stable performance under a wide range of environmental conditions.

Its compact size (550 × 760 × 25 mm) and lightweight aluminum frame make it ideal for residential, mobile and off-grid systems, including RVs, marine use, security devices, and small-scale solar installations. The robust construction and IP67-rated junction box ensure long-term reliability in outdoor environments, while the pre-drilled mounting holes allow quick and easy installation on various surfaces.



KEY FEATURES

Maximum Power

85 W

Cell Type

Monocrystalline

System Voltage

12 V

Junction Box

IP67

Warranty

5 years product / 25 years power

PRODUCT FEATURES

- High-efficiency Grade A monocrystalline silicon cells
- Excellent low-light performance and weak-light response
- Anti-reflective tempered glass with high light transmission
- Anodized aluminum frame for corrosion resistance
- IP67-rated junction box with bypass diodes
- Robust EVA encapsulation for long-term durability
- Maximum system voltage up to 1000 V DC
- Pre-drilled mounting holes for easy installation

APPLICATIONS

- Battery charging for 12V and 24V systems
- RVs, motorhomes, caravans and boats
- Off-grid rural and remote installations
- Residential rooftop solar lighting systems
- Security cameras and CCTV systems
- Water pumping and irrigation systems
- Telemetry, GPS trackers and IoT devices
- Educational and DIY solar projects

ELECTRICAL CHARACTERISTICS (STC)

Parameter	Symbol	Value	Unit
Maximum Power	<i>P_{max}</i>	85	W
Maximum Power Voltage	<i>V_{mp}</i>	18.0	V
Maximum Power Current	<i>I_{mp}</i>	4.73	A
Open Circuit Voltage	<i>V_{oc}</i>	21.6	V
Short Circuit Current	<i>I_{sc}</i>	5.05	A
Power Tolerance	—	± 3	%
Maximum Fuse Current	—	10	A
Maximum System Voltage	<i>V_{max}</i>	1000	V DC

TEMPERATURE COEFFICIENTS		OPERATING CONDITIONS	
Coeff. of Pmax	-0.41 %/°C	Operating Temp.	-40°C to +85°C
Coeff. of Voc	-0.31 %/°C	Storage Temp.	-40°C to +85°C
Coeff. of Isc	+0.05 %/°C	Relative Humidity	0 – 100%
NOCT	45 ± 2 °C	Max. Snow Load	5400 Pa

MECHANICAL CHARACTERISTICS

Dimensions (L × W × H)	550 × 760 × 25 mm
Weight	≈ 5.5 kg
Cell Type	Monocrystalline silicon
Front Glass	Tempered, anti-reflective, high transmission
Frame	Anodized aluminum alloy
Encapsulant	EVA (Ethylene Vinyl Acetate)
Back Sheet	TPT / Composite film, UV-resistant
Junction Box	IP67 with bypass diodes
Application Class	Class A
Output Cables	4 mm² PV cable with MC4-compatible connectors

WARRANTY

5 years limited product warranty against manufacturing defects.

10 years performance warranty: ≥ 90% of nominal power output.

25 years performance warranty: ≥ 80% of nominal power output.

CERTIFICATIONS

- IEC 61215 — Crystalline silicon PV modules
- IEC 61730 — PV module safety qualification
- CE — European conformity
- RoHS — Restriction of hazardous substances
- ISO 9001 — Quality management
- ISO 14001 — Environmental management

Standard Test Conditions (STC): Irradiance 1000 W/m², cell temperature 25°C, AM 1.5 spectrum. Electrical specifications may vary by ± 3% from the values shown. Values measured under controlled laboratory conditions; field performance may vary based on installation, orientation, irradiance and ambient conditions.

Dongguan Morningsun Solar Sci & Tech Co., Ltd. reserves the right to modify specifications without prior notice. All trademarks and product names mentioned in this document are property of their respective owners.