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EnergyPal

Solar Panel Guide Specification Data Sheet

**MSquare Energy Pty Ltd
MS-Series 290-330W
MS-290-M120-H**

Also available on the web at
EnergyPal.com/msquare-energy-pty-ltd-solar-panels/ms-290-m120-h

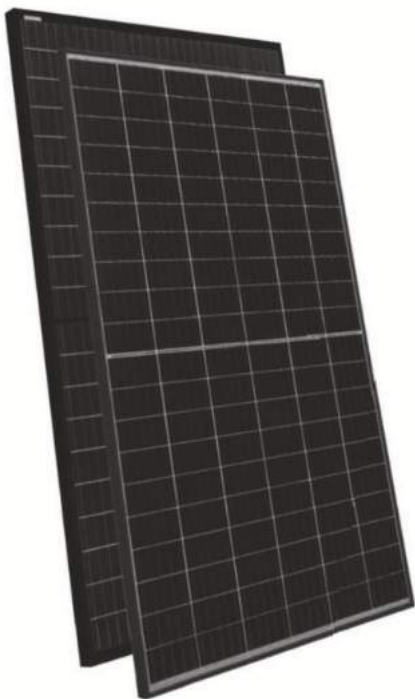
MS-SERIES
290-330 WATT
 MONOCRYSTALLINE MODULE
 POSITIVE POWER
 TOLERANCE OF 0/+3%
 IEC61215, IEC61730
 CERTIFIED PRODUCTS

*Fully
 Automatic
 Manufacturing
 Facility*



OUR APPROACH

Msquare Energy believes high quality solar power should be produced locally at globally competitive pricing. Meticulous manufacturing, testing and quality assurance standards, TÜV certified raw materials and developed QMS system ensures consistent quality and traceability.



AUSTRALIAN QUALITY STANDARD

- Excellent mechanical loads 3600 PA positive & 1600 PA negative
- High temperature operation
- Easy module replacement
- Quality control and traceability by stringent QMS system

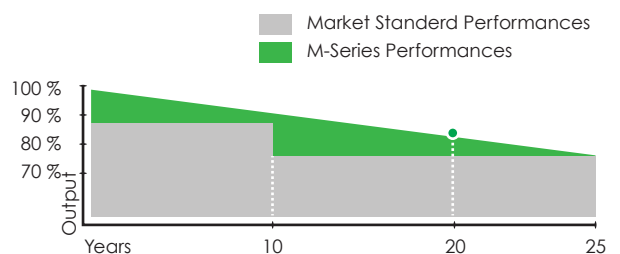
CERTIFICATIONS

- TÜV & SÜD
- CSA, IEC 61730 and IEC 61215
- State of ART fully automatic facility
- Earth leakage tested to 3600V DC
- Double Electro-Luminescence (EL) tested
- Built to perform in low light condition
- Module exceeds the fire class C performance per UL790

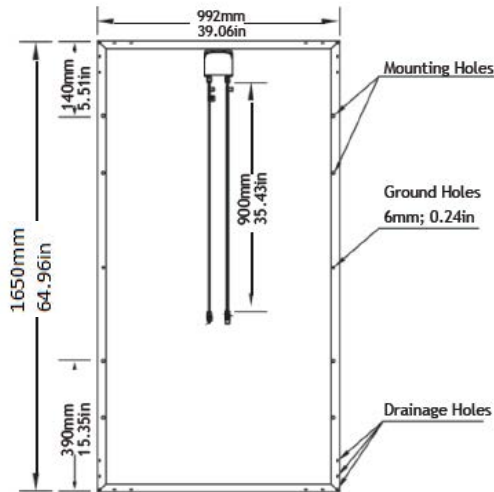


PERFORMANCE WARRANTY

Max power decrease **0.5%/year**
97% at the end of **first** year
90% at the end of **20th** year
87% at the end of **25th** year



MODULE DESIGN



PV Connector Model - TT01, 1000V, 30A, IP67

SPECIFICATIONS

Solar Cells: 5 bus-bar, Mono Perc

Solar Glass: 3.2mm, tempered, low iron, high transparency solar safety glass.

Encapsulation: EVA

Backsheet: White

Frame: Extruded, black anodized aluminum

Junction Box: IP67 rated, 900mm cable,

Weight : 18-24KG

External Dimension: 1650mm x 992mm x 35mm

Modules	MS-290-M120-H		MS-300-M120-H		MS-310-M120-H		MS-315-M120-H		MS-330-M120-H	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	290Wp	216Wp	300Wp	225Wp	310Wp	230Wp	315Wp	234Wp	330Wp	241Wp
Maximum Power Voltage (Vmp)	32.5V	30.4V	33V	30.9V	33.5V	31.2V	33.7V	31.5V	34.4V	31.9V
Maximum Power Current (Imp)	8.93A	7.11A	9.10A	7.29A	9.26A	7.43A	9.35A	7.43A	9.60A	7.49A
Open-circuit Voltage (Voc)	38.6V	36.2V	39.2V	36.8V	39.8V	37.2V	40.1V	37.5V	40.8V	37.9V
Short-circuit Current (Isc)	9.46A	7.53A	9.62A	7.79A	9.77A	7.81A	9.85A	7.86A	10.11A	7.92A
Module Efficiency STC (%)	18.8%		19.1%		19.4%		19.7%		20.03%	
Operating Temperature (°C)	-40°C ~+85°C									
Maximum System Voltage	1000VDC (UL and IEC)									
Maximum Series Fuse Rating	20A									
Power Tolerance	0~+3%									

Short Circuit Current Tolerance - +/-4%

Open Circuit Voltage Tolerance - +/-2%

NOCT : Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s

STC : Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3

TEMPERATURE RATINGS

Nominal Operating Cell Temp	45°C (±2°C)
Tempcoefficient of Pmax	-0.31%/°C
Tempcoefficient of Voc	-0.31%/°C
Tempcoefficient of Isc	0.03%/°C

MAXIMUM RATINGS

Operational Temp	-40 to +85°C
Max system Voltage	1000V DC (IEC)
Max Series Fuse Rating	20A
Mechanical Load	3600pa

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MS-071901