

# MS-SERIES 390-430 WATT

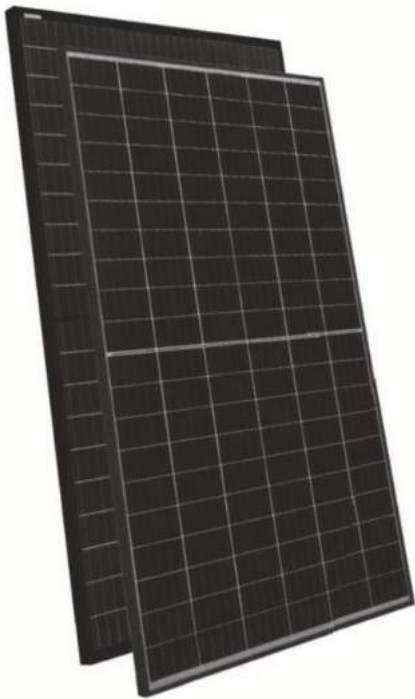
MONOCRYSTALLINE MODULE  
POSITIVE POWER  
TOLERANCE OF 0/+3%  
IEC61215, IEC61730  
CERTIFIED PRODUCTS

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 negative
- High temperature operation
- Easy module replacement
- Quality control and traceability by stringent QMS system

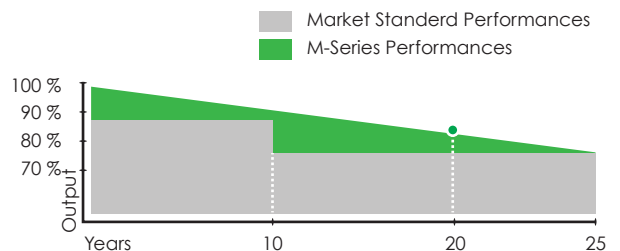
## CERTIFICATIONS

- 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

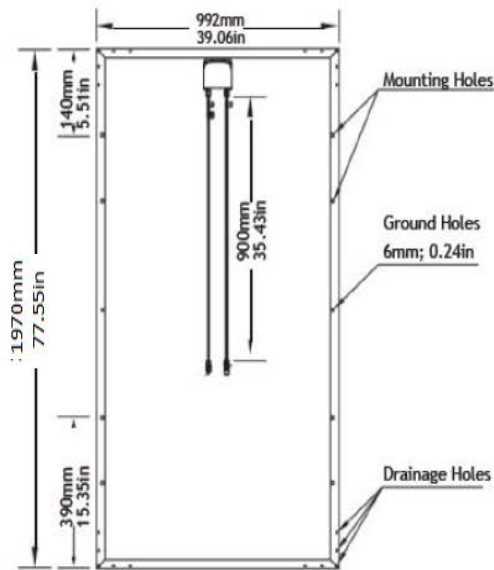


## PERFORMANCE WARRANTY

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: 1970mm x 992mm x 40mm

Modules	MS-390-M144-H		MS-415-M144-H		MS-430-M144-H	
	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	390Wp	290Wp	415Wp	305Wp	430Wp	325Wp
Maximum Power Voltage (Vmp)	41.2V	39.5V	42.3V	41.8V	41.1V	40.0V
Maximum Power Current (Imp)	10.0A	7.78A	9.8A	7.87A	10.47A	7.93A
Open-circuit Voltage (Voc)	48.7V	39.7V	49.8V	48.1V	49.4V	48.3V
Short-circuit Current (Isc)	10.17A	7.21A	10.55A	7.25A	11.11A	7.31A
Module Efficiency STC (%)	19.6%		19.9%		20.07%	
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/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1 m/s

STC : Irradiance 1000 W/m<sup>2</sup>, 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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