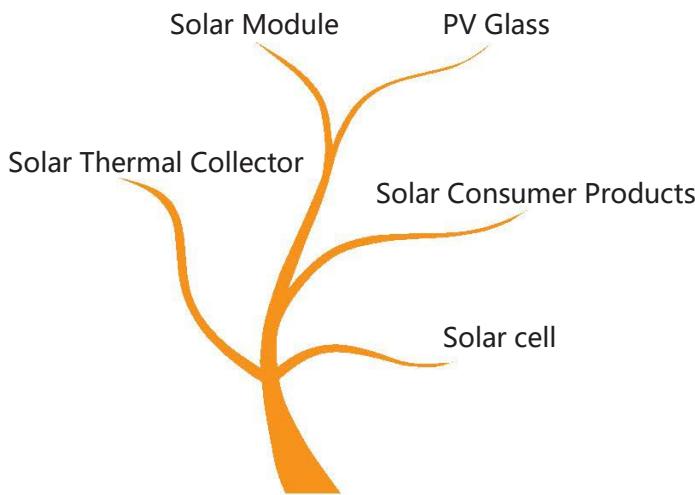




## Not Your Average Solar Provider

### Our Products Categories



### Guaranteed Performance\*\*

10 Years Manufacturing Warranty

12 Years Warranty, 90% Power Output

25 Years Warranty, 80% Power Output

Free module recycling through  
membership in the PV Cycle Association

### Recommended For



Utility Scale Ground Mounted

TPSh-M2M60SF1W

272-285W

Mono Crystalline Photovoltaic Module

### Key Feature



High module efficiency



Plus power tolerance: 0~+ 3%.



Independently developed anti-reflective and self-cleaning glass surface reduces power loss from dirt and dust.



Excellent performance under low light environments, create better kWh/kW ratio and produce 2- 3% more electricity average in average.



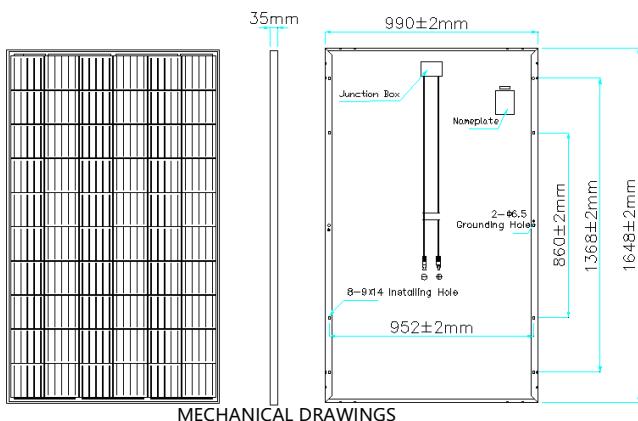
Certified by TUV to withstand high level of wind loads (2400Pa) and snow loads (5400Pa)\*.

### Best Quality

- Junction box and bypass diodes guarantee the modules free of overheating and "hot spot effect".
- Compatible with industry standard inverters and Mounting systems. Guarantee minimal maintenance effort required.
- 100% EL double-inspection ensures modules free of defects.
- Potential Induced Degradation (PID) free.

\*Please refer to Topray Safety and Installation Manual for details.

\*\*Please refer to Topray Limited Product Warranty for details.



## TPSh-M2M60SF1W 275-285W Mono Crystalline Photovoltaic Module

### ELECTRICAL CHARACTERISTICS

#### MECHANICAL SPECIFICATION

Cell Type	Mono Crystalline 157x157mm
Number of cells	60 (6x10)
Dimensions (AxBxC)	1648x990x35mm
Weights	17.5kg
Front Glass	3.2 mm Low iron tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP 67,with bypass diodes
Connector	MC4 compatible
Output Cables	TÜV standard, length 900mm, 4.0mm <sup>2</sup>

The typical relative change in module efficiency at an irradiance of 200W/m<sup>2</sup> in relation to 1000W/m<sup>2</sup> (both at 25°C and AM 1.5 spectrum) is less than 6%.

#### PACKING CONFIGURATION

Container	20' GP	40' GP	40' HQ
Pieces per container	372	868	924

#### TEMPERATURE CHARACTERISTICS

Nominal Operating Cell Temperature (NOCT)	44±3°C
Temperature Coefficient of Pmax (γ)	- 0.4%/k
Temperature Coefficient of Voc (β)	- 0.37%/k
Temperature Coefficient of Isc (α)	0.05%/k

#### SYSTEM INTEGRATION PARAMETERS

Maximum system voltage	DC 1500V
Maximum Series Fuse	15A
Maximum reverse current	21.5A
Increased snowload acc. to IEC 61215	5400Pa
Operating Temperature	-40~+85°C
Number of bypass diodes	3

#### DEALER INFORMATION BOX

#### PERFORMANCE AT STANDARD TEST CONDITION (STC:1000W/m<sup>2</sup>,25°C,AM1.5)

Module Series	TPSh-M2M60SF1W-XXXW		
Maximum Power at STC(Pmax)	275W	280W	285W
Short Circuit Current(Isc)	9.30A	9.35A	9.40A
Open Circuit Voltage(Voc)	39.30V	39.40V	39.50V
Maximum Power Current(Impp)	8.80A	8.90A	9.00A
Maximum Power Voltage(Vmpp)	31.25V	31.47V	31.67V
Module Efficiency	16.86%	17.16%	17.47%
Power Tolerance	0/+3%	0/+3%	0/+3%

#### QUALIFICATIONS AND CERTIFICATES

CE-Compliant, IEC 61215 (Ed.2), IEC 61730 (Ed.1) application classA, TÜV Safety Class II, UL 1703

