

# Full-Black Series

## D6 · 310-330W MWT All Black Module Mono 60 Cells

### 20.3%

Module efficiency up to 20.3%

### Full Black Series MWT PV Module

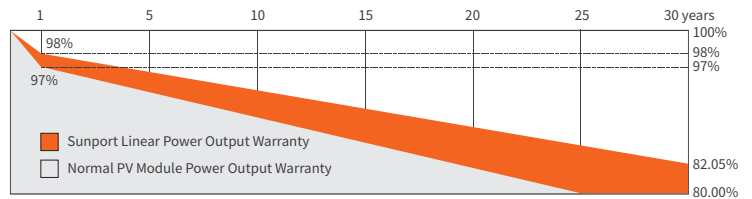
- Full Black**  
All black design for more elegant rooftop
- High Efficiency**  
MWT back contact cell and modules with busbar-free design and higher efficiency
- High Reliability**  
Conductive back sheet 2D encapsulation without soldering, resulted lower degradation under multiple extreme testing condition
- Superior Warranty**  
The only single-glass module with 30-year power warranty by LLOYD'S & PICC worldwide
- High ROI**  
Higher return of investment with higher power output
- Lead Free**  
Eco-friendly PV design achieves Lead-free without soldering materials

### Reinsurance Coverage for 30 Years

**12 year**  
Quality  
Warranty

**30 year**  
Performance  
Warranty

Insured by PICC and LLOYD'S



※ 1st year degradation less than 2%, 30 years linear power output 82% guaranteed.

### Comprehensive Qualifications & Certifications

- ★ CQC & CGC Top Runner Advanced Technology Certification (4A class)
- ★ TUV NORD Certification
- ★ ISO 9001:2015 Quality Management System
- ★ ISO 14001:2015 Environment Management System
- ★ ISO 45001:2018 Occupation Health Safety Management System



Jiangsu Sunport Power Corp., Ltd

Add: No.20, Xishi Road, Xinwu District, Wuxi, China 214028

Email: info@sunportpower.com

Web: www.sunportpower.com

## Electrical Characteristics at Standard Test Conditions(STC)

Spec/Model	Unit	SPP310M60H	SPP315M60H	SPP320M60H	SPP325M60H	SPP330M60H
Max-Power(Pm)	W	310	315	320	325	330
Power Tolerance	W			0~+5		
Max-Power Voltage(Vm)	V	32.0	32.2	32.4	32.6	32.8
Max-Power Current(I <sub>m</sub> )	A	9.69	9.79	9.88	9.97	10.07
Open-Circuit Voltage(V <sub>oc</sub> )	V	39.2	39.4	39.6	39.8	40.0
Short-Circuit Current(I <sub>sc</sub> )	A	10.20	10.28	10.36	10.44	10.52
Module Efficiency(η <sub>m</sub> )	%	19.1	19.4	19.7	20.0	20.3

STC: AM=1.5, Irradiation 1000W/m<sup>2</sup>, Module Temperature 25°C

## Electrical Characteristics at Nominal Module Operating Temperature (NMOT)

Spec/Model	Unit	SPP310M60H	SPP315M60H	SPP320M60H	SPP325M60H	SPP330M60H
Max-Power(Pm)	W	232	236	240	244	248
Max-Power Voltage(Vm)	V	29.3	29.5	29.7	29.9	30.1
Max-Power Current(I <sub>m</sub> )	A	7.93	8.01	8.09	8.17	8.25
Open-Circuit Voltage(V <sub>oc</sub> )	V	35.9	36.0	36.1	36.2	36.3
Short-Circuit Current(I <sub>sc</sub> )	A	8.35	8.43	8.51	8.59	8.67

NMOT: Irradiation 800W/m<sup>2</sup>, ambient temperature 20°C, Wind Speed 1m/s

## Temperature Coefficient

Nominal Module Operating Temperature	43±2°C
Temperature coefficient of P <sub>max</sub>	-0.36%/°C
Temperature coefficient of V <sub>oc</sub>	-0.28%/°C
Temperature coefficient of I <sub>sc</sub>	0.06%/°C

## Package

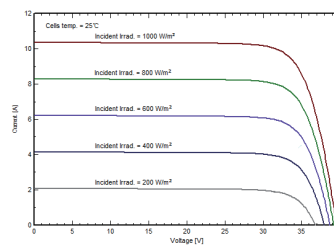
Transportation	Container Size	Quantity(pcs)	Quantity(per pallet)
Container	20' GP	372	31
Container	40' HC	868/938	31

## Mechanical Characteristics

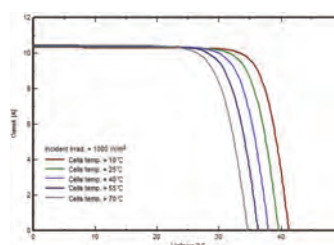
Dimension(L×W×H)	1640mmx992mmx35mm
Weight	18.5kg
Glass Type	High Transmittance Anti-reflective Coated Tempered Glass / 3.2mm
Solar Cell	60(10x6) / Mono / 158.75mm
Encapsulant	EVA
Frame	Anodized Aluminum Alloy / Black
Junction Box	IP67 / IP68
Cable	1000mm / 4mm <sup>2</sup>
Connector	MC4 Compatible

## I-V Curve

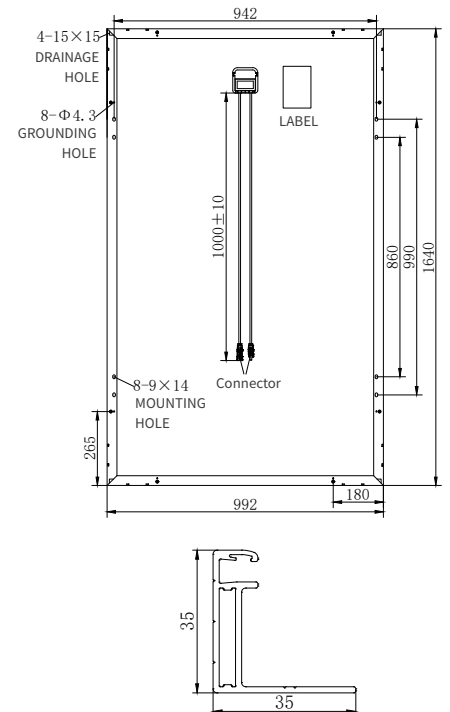
I-V Curve at different irradiation (SPP325M60H)



I-V Curve at different temperature (SPP325M60H)



## Module Size



## Operating Conditions

Max System Voltage	1500V(TUV)
Max Fuse Rated Current	15A
Operating Temperature Range	-40°C~+85°C
Mechanical Load	5400Pa (front) /2400Pa (rear)
Max Allowable Hail Load	φ25mm hail, from 1m of distance at 23 m/s
Application Class	Class A