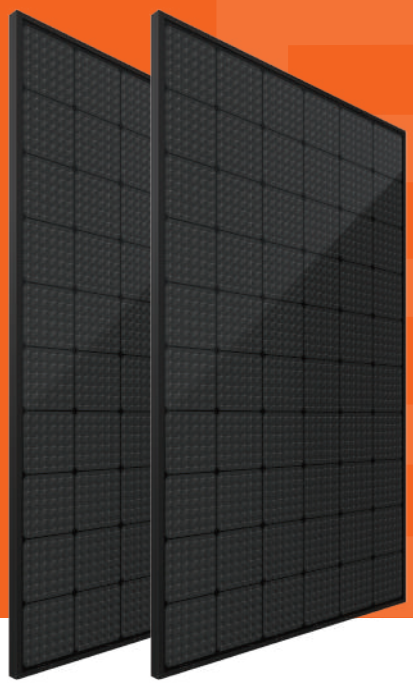


Sunport

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

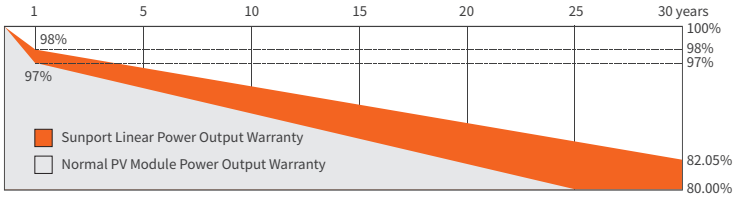
**High ROI**
Higher return of investment with higher power output

**Lead Free**
Eco-friendly PV design achieves Lead-free without soldering materials

## Reinsurance Coverage for 30 Years

**12year** Quality Warranty

**30year** Performance Warranty




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

## Insured by PICC and LLOYD'S

PICC LLOYD'S

## Comprehensive Qualifications & Certifications

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


**Jiangsu Sunport Power Corp., Ltd**

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## 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(Im) | A | 9.69 | 9.79 | 9.88 | 9.97 | 10.07 |
| Open-Circuit Voltage(Voc) | V | 39.2 | 39.4 | 39.6 | 39.8 | 40.0 |
| Short-Circuit Current(Isc) | A | 10.20 | 10.28 | 10.36 | 10.44 | 10.52 |
| Module Efficiency(ηm) | % | 19.1 | 19.4 | 19.7 | 20.0 | 20.3 |
| STC: AM=1.5，Irradiation 1000W/m$^2$，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(Im) | A | 7.93 | 8.01 | 8.09 | 8.17 | 8.25 |
| Open-Circuit Voltage(Voc) | V | 35.9 | 36.0 | 36.1 | 36.2 | 36.3 |
| Short-Circuit Current(Isc) | A | 8.35 | 8.43 | 8.51 | 8.59 | 8.67 |
| NMOT: Irradiation 800W/m$^2$, ambient temperature 20°C, Wind Speed 1m/s | | | | | | |

## Temperature Coefficient

| | |
|---|---|
| Nominal Module Operating Temperature | 43±2°C |
| Temperature coefficient of Pmax | -0.36%/°C |
| Temperature coefficient of Voc | -0.28%/°C |
| Temperature coefficient of Isc | 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

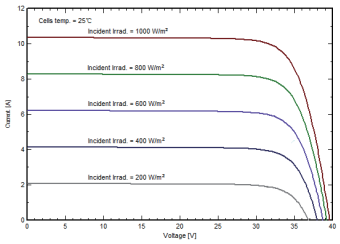
| | |
|---|---|
| Dimension(L×W×H) | 1640mmx992mmx35mm |
| Weight | 18.5kg |
| Glass Type | High Transmittance Anti-reflective Coated Tempered Glass / 3.2mm |
| Solar Cell | 60(10x6) / Mono / 158.75mm |
| Encapsulant | EVA |
| Frame | Anodized Aluminum Alloy / Black |
| Junction Box | IP67 / IP68 |
|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

## Operating Conditions

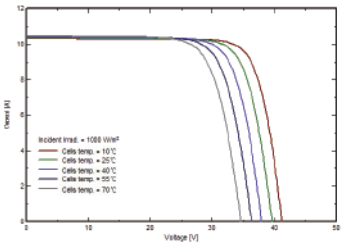
| | |
|---|---|
| Max System Voltage | 1500V(TUV) |
| Max Fuse Rated Current | 15A |
| Operating Temperature Range | -40°C～+85°C |
| Mechanical Load | 5400Pa (front) /2400Pa (rear) |
| Max Allowable Hail Load | ϕ25mm hail, from 1m of distance at 23 m/s |
| Application Class | Class A |

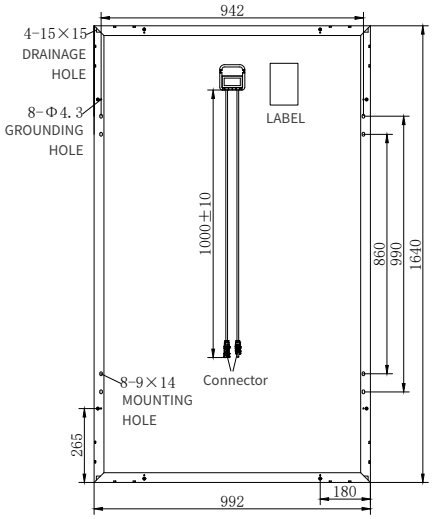
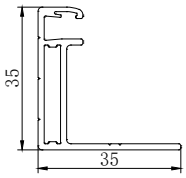
## I-V Curve

I-V Curve at different irradiation (SPP325M60H)




I-V Curve at different temperature (SPP325M60H)




## Module Size