

## Benchmark II SPP370-400M72

### 370-400W MWT Module

### Mono 72 Cells

# 20.6%

Module efficiency up to 20.6%

### MWT Solar Cell

- New cell structure and different manufacturing process.
- No bus-bar on the front. 3% less shadow and better use of sunlight.
- Effectively avoid the micro crack caused by the pressure between cell edge and ribbon.
- Compatible with other cell types including PERC, HIT, Black Silicon etc.

### Insured by PICC and LLOYD'S

**PICC** **LLOYD'S**

### Comprehensive Qualifications & Certifications

- ★ IEC 61215, IEC 61730, IEC 61701, IEC 62716, IEC 60068-2-68.
- ★ CQC&CGC Top Runner Advanced Technology Certification (4A class)
- ★ ISO 9001; 2015 Quality Management System
- ★ ISO 14001; 2015 Environment Management System
- ★ OHSAS 18001; 2007 Occupation Health Safety Management System
- ★ TUV NORD and UK NQA Quality System Certification



### Benchmark MWT PV Module



#### Higher Efficiency

The highest efficiency of the series is up to 20.6%.



#### Higher Yield

Higher power generation on the same installation.



#### Lower Degradation

At least 98% of the initial effective output at the 1<sup>st</sup> year and 80% at the 30<sup>th</sup> year.



#### Heat-Resistant

Remain peak performance in hot days thanks to the improved temperature coefficient as low as  $-0.36\%/^{\circ}\text{C}$ .



#### Corrosion-Resistant

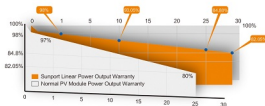
Certified for Ammonia Resistance and Salt Mist Corrosion to maximum severity level 6.



#### Anti-PID

Certified for Anti-PID under  $85^{\circ}\text{C}/85\%\text{RH}$ , for 288hrs.

### 30 Years Performance Warranty



## Electrical Characteristics at Standard Test Conditions(STC)

| Spec/Model                              | Unit | SPP370M72 | SPP375M72 | SPP380M72 | SPP385M72 | SPP390M72 | SPP395M72 | SPP400M72 |
|---|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Max-Power(Pm)                           | W    | 370       | 375       | 380       | 385       | 390       | 395       | 400       |
| Power Tolerance                         | %    |           |           |           | 0~+3%     |           |           |           |
| Max-Power Voltage(Vm)                   | V    | 38.3      | 38.5      | 38.7      | 38.9      | 39.2      | 39.4      | 39.7      |
| Max-Power Current(I <sub>m</sub> )      | A    | 9.67      | 9.75      | 9.83      | 9.90      | 9.96      | 10.03     | 10.08     |
| Open-Circuit Voltage(Voc)               | V    | 47.0      | 47.2      | 47.4      | 47.6      | 47.8      | 48.0      | 48.2      |
| Short-Circuit Current(I <sub>sc</sub> ) | A    | 10.09     | 10.15     | 10.21     | 10.27     | 10.34     | 10.41     | 10.48     |
| Module Efficiency(η <sub>m</sub> )      | %    | 19.1      | 19.3      | 19.6      | 19.8      | 20.1      | 20.4      | 20.6      |

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 | SPP370M72 | SPP375M72 | SPP380M72 | SPP385M72 | SPP390M72 | SPP395M72 | SPP400M72 |
|---|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Max-Power(Pm)                           | W    | 276       | 279       | 283       | 287       | 290       | 294       | 298       |
| Max-Power Voltage(Vm)                   | V    | 35.0      | 35.1      | 35.3      | 35.5      | 35.6      | 35.8      | 36.0      |
| Max-Power Current(I <sub>m</sub> )      | A    | 7.89      | 7.95      | 8.02      | 8.09      | 8.15      | 8.22      | 8.28      |
| Open-Circuit Voltage(Voc)               | V    | 42.9      | 43.0      | 43.1      | 43.2      | 43.4      | 43.5      | 43.7      |
| Short-Circuit Current(I <sub>sc</sub> ) | A    | 8.25      | 8.31      | 8.37      | 8.43      | 8.50      | 8.55      | 8.61      |

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

## Temperature Coefficient

|   |           |
|---|-----------|
| Nominal Operating Cell Temperature          | 43 ± 2°C  |
| Temperature coefficient of P <sub>max</sub> | -0.36%/°C |
| Temperature coefficient of Voc              | -0.28%/°C |
| Temperature coefficient of I <sub>sc</sub>  | 0.06%/°C  |

## Package

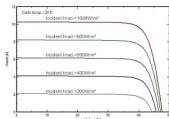
| Container Size | Quantity (pcs) | Quantity (palette) |
|----------------|----------------|--------------------|
| 20" GP         | 260            | 10                 |
| 40" GP         | 624            | 24                 |
| 40" HC         | 624            | 24                 |

## Mechanical Property

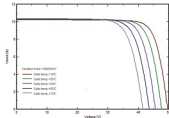
|                      |  |
|----------------------|--|
| Dimension(L × W × H) | 1956mm×992mm×40mm  |
| Weight               | 22.5kg   |
| Glass Type           | High Transmittance Anti-reflective Coated Tempered Glass 3.2mm |
| Solar Cell           | 72(12x6)Mono/6inches   |
| Encapsulant          | EVA  |
| Frame                | Anodized Aluminum Alloy / Silver                               |
| Junction Box         | IP65 & IP67  |
| Cable                | 1200mm / 4mm <sup>2</sup>                                      |
| Connector            | MC4 Compatible   |

## I-V Curve

I-V Curve at different irradiation (SPP385M72)



I-V Curve at different temperature (SPP385M72)



## Module Size



## Operating Conditions

|                             |   |
|-----------------------------|---|
| Max System Voltage          | DC1000V(TUV)                              |
| Max Fuse Rated Current      | 15A                                       |
| Operating Temperature Range | -40°C ~ +85°C                             |
| Mechanical Load             | 5400Pa/2400Pa                             |
| Max Allowable Hail Load     | φ25mm hail, from 1m of distance at 23 m/s |
| Application Class           | Class A                                   |

