

**60 CELL MONO-CRYSTALLINE PERC  
SOLAR PANEL WITH SMARTWIRE TECHNOLOGY**

up to **315W**



**Smartwire  
Technology**

**Bi-facial  
PERC Cells**

**American Premium**



## SMART FEATURES



### Superior Energy Production

Module efficiency up to **19.3%** achieved by utilizing the most advanced technology in the solar industry.



### SmartWire Technology (SWT)

The revolutionary process for connecting solar cells that outrivals busbars by spreading the electric current through 18 micro-wires.



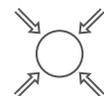
### Advanced PERC Technology

An advanced mono-crystalline cell which improves energy production by adding a special layer to capture more sunlight.



### Exceptional at Low-Light Conditions

The round shape of SmartWire reduces shading by 25% and introduces a light trapping effect.



### Remarkable Connection Durability

SWT acts as a protective layer for the solar cell, ensuring reliable contact points for decades of consistent performance.



### Industry Leading Warranty

Accomplished with superior materials proven to perform better against potential induced degradation (PID).

## Electrical Characteristics STC

|  | PERC - Black on Black - 300 | PERC - Black on Black - 305 | PERC - Black on Black - 310 | PERC - Black on Black - 315 |
|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|

|                              |               |       |       |       |
|------------------------------|---------------|-------|-------|-------|
| Average Power                | 300W          | 305W  | 310W  | 315W  |
| Max Module Efficiency (%)    | 18.4%         | 18.7% | 19.0% | 19.3% |
| Voltage at Max power (Vmp)   | 33.6V         | 33.9V | 34.1V | 34.4V |
| Current at Max power (Imp)   | 8.9A          | 9.0A  | 9.1A  | 9.2A  |
| Open Circuit Voltage (Voc)   | 40.1V         | 40.5V | 40.8V | 41.1V |
| Short Circuit Current (Isc)  | 9.5A          | 9.5A  | 9.6A  | 9.7A  |
| Operating Module Temperature | -40°C - 85°C  |       |       |       |
| Maximum System Voltage       | 1000V DC (UL) |       |       |       |
| Maximum Series Fuse          | 20A           |       |       |       |
| RatingPower Sorting          | -0/+5W        |       |       |       |

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; Best in Class AAA solar simulator used, power measurement uncertainty is within +/- 3%

## NOCT

|  | 300W | 305W | 310W | 315W |
|--|------|------|------|------|
|--|------|------|------|------|

|                              |        |        |        |        |
|------------------------------|--------|--------|--------|--------|
| Max. Power at NOCT (Pmax)    | 215.4W | 219.0W | 222.6W | 226.2W |
| Voltage Max. Power (Vmp)     | 30.6V  | 30.8V  | 31.1V  | 31.3V  |
| Current Max. Power (Imp)     | 7.1A   | 7.1A   | 7.2A   | 7.2A   |
| Open Circuit Voltage (Voc)*  | 37.0V  | 37.3V  | 37.6V  | 38.0V  |
| Short Circuit Current (Isc)* | 7.5A   | 7.5A   | 7.6A   | 7.7A   |

NOCT: 800 W/m<sup>2</sup> Irradiance, 20 °C ambient temperature, AM=1.5, wind speed 1 m/s  
 Values are based on RETC certified results from a light-soaked module.

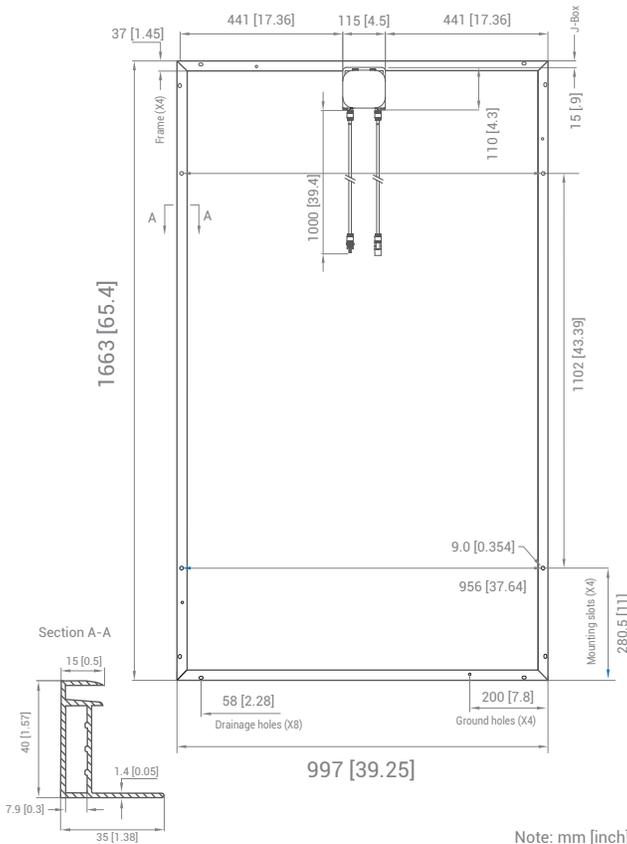
## Temperature Characteristics

|                                     |             |
|-------------------------------------|-------------|
| Nominal Operating Cell Temp. (NOCT) | 45.02°C     |
| Temperature Coefficient of Pmax     | -0.366 %/°C |
| Temperature Coefficient of Voc      | -0.280 %/°C |
| Temperature Coefficient of Isc      | +0.043 %/°C |

## Mechanical Characteristics

|                     |   |
|---------------------|---|
| Laminate Structure  | Glass / TPO / Cells / TPO / Backsheet                                 |
| Weight              | Approx. 18 kg [40lbs]   |
| Cell Type           | Mono-Crystalline PERC (156.75mm)                                      |
| Cell Connection     | 60 cells (Serial)   |
| Junction Box        | IP65/IP67 with 3 Bypass Diodes  |
| Cables Length       | 1m [39.4 in]  |
| Connectors Type     | MC4   |
| Module Dimensions   | 997 x 1663 x 40mm [39.25 x 65.4 x 1.65]                               |
| Encapsulant         | (TPO) Hydrophobic   |
| Front Load *        | 5500 Pa / 115 Psf   |
| Rear Load *         | 5500 Pa / 115 Psf   |
| Collection Pathways | 18 Micro-wires  |
| Glass Thickness     | 3.2mm [125] Anti-reflective Tempered Solar Glass (≥94% Transmittance) |

\*Mechanical load test report per Solar PTL (IEC 61730)



## CEC Testing Results

|  | PERC - Black on Black - 300 | PERC - Black on Black - 305 | PERC - Black on Black - 310 | PERC - Black on Black - 315 |
|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|

|                       |        |        |        |        |
|-----------------------|--------|--------|--------|--------|
| Maximum Power at PTC  | 278.2W | 282.8W | 287.7W | 292.3W |
| PTC Percentage of STC | 92.7%  | 92.8%  | 92.8%  | 92.9%  |

## Shipping Configurations

|                       | GP * | HC  | Trailer |
|-----------------------|------|-----|---------|
| Container Length      | 20'  | 40' | 53'     |
| Pallets Per Container | 12   | 24  | 36      |
| Modules Per Pallet    | 20   | 23  | 23      |
| Modules Per Container | 240  | 552 | 828     |

\* Extended lead time required. International transport only.

## Certifications & Warranty

|                              |                  |
|------------------------------|------------------|
| Safety                       | UL1703           |
| Modules Fire Performance     | Type 2 (UL1703)  |
| Product Warranty             | 15 Years         |
| Performance Warranty of Pmax | 30 Years Linear* |

1st year 97%, 30th year 80%. Details of these warranties can be found at [www.solartechuniversal.com](http://www.solartechuniversal.com), under "Downloads"