



## Suniva® ART245-60 Monocrystalline Solar Modules



### Technology

The ART245-60 crystalline solar modules are powered by high-efficiency monocrystalline cells manufactured by Suniva® Inc., in the USA. The modules provide excellent value and performance for operation of both DC loads and in an inverter-equipped system for AC loads. The rated output and the efficient design of these modules are ideally suited for high power applications, such as grid-tied systems.

The module is designed for easy interconnection to achieve voltage and current configurations for grid-connected systems as well as stand-alone systems.

### Module Design

High-efficiency 6-inch (156 mm) monocrystalline solar cells form the core of the module. These 156 mm pseudosquare cells offer a homogeneous appearance, optimal use of the area, and are known

for high-energy yields. The use of glass, EVA and a multi-layer composite of PET film protect the module and cells from harsh environmental conditions. A torsion-resistant module frame made of anodized aluminum provides high mechanical strength, making the module resistant to snow and extreme wind and hail.

### Quality

Suniva® modules are manufactured and warranted through our assembly partners, who have years of experience in module manufacturing and built-in quality management systems in compliance with the International Quality System Standard ISO 9001-2000. Each module goes through quality assurance, visual inspections and mechanical and electrical tests, as per leading international testing and quality standards.

### Certifications

Suniva® modules are certified by both Underwriters Laboratory to UL1703, and by TÜV Rheinland, Germany to the new, stringent CEI/IEC 61215: 2005 standard. These modules have also passed the more severe IEC 61215 testing for static loads of 5400 pascals, withstanding gusts of wind up to 204 mph. ART245-60 modules also conform to the requirements of IEC 61730-2, Safety Class II for 1000 VDC applications, EWG guideline 89/932 (CE), and are approved for use in Florida with FSEC certification #SU09-NT90-0309, and in California, having met the safety and performance standards of the California Energy Commission (CEC), and approval by the CEC to be placed on the Eligible California Solar Initiative Photovoltaic Modules Renewables Equipment List.

## ART245-60



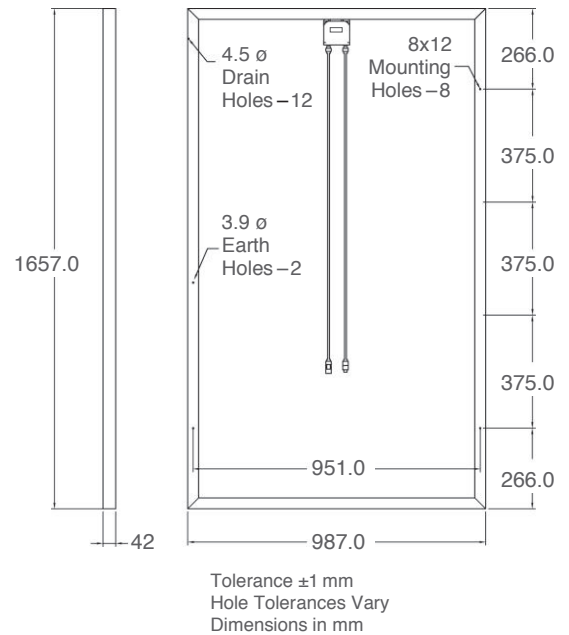
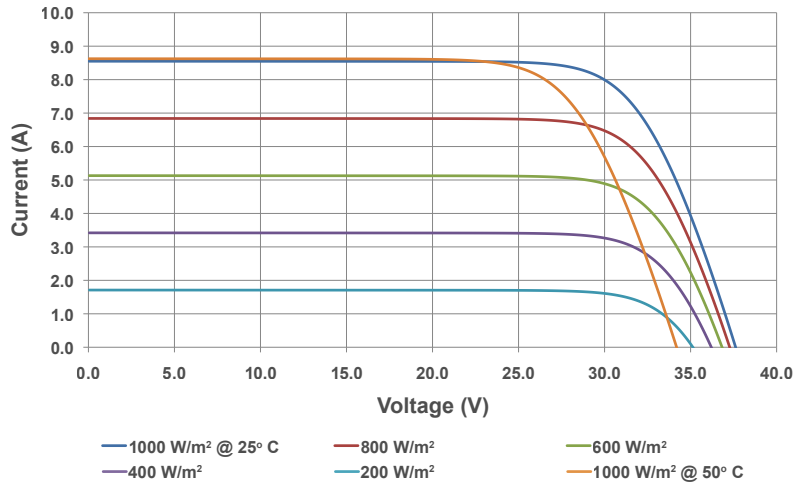
### FEATURES

1. Modules contain more than 85% U.S.-made content and are sourced from leading suppliers using high-quality components.
2. State-of-the-art, automated manufacturing facilities provide consistently high quality & performance.
3. Positive power tolerance (-0/+4.99 Wp) ensures extra power to the customer.
4. Certified by Underwriters Laboratory to UL1703; by TÜV Rheinland to CEI/IEC 61215: 2005 standard, and IEC 61730-2, Safety Class II for 1000 VDC, EWG guideline 89/932 (CE); Florida FSEC, and California CEC.
5. Industry-leading, 25-year warranty: 5 years with 100% product warranty; 12-year warranty at 90% rated performance and 25-year warranty at 80% rated performance.



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Current-Voltage (IV) as a Function of Insolation ( $\text{W/m}^2$ ) and Temperature



## Electrical Data (Nominal)

The electrical data apply to standard test conditions (STC): Irradiance of  $1000 \text{ W/m}^2$  with AM 1.5 spectra at  $25^\circ \text{C}$ .

Power Classification (Max.)	Pmax (W)	235	240	245
Voltage at Max. Power Point	Vmp (V)	29.48	29.62	29.80
Current at Max. Power Point	Imp (A)	8.00	8.12	8.25
Open Circuit Voltage	Voc (V)	37.50	37.62	37.68
Short Circuit Current	Isc (A)	8.52	8.55	8.57

The rated power may only vary by  $-0/+4.99 \text{ Wp}$  and all other electrical parameters by  $\pm 5\%$

## Dimensions and Weights

Cells / Module	60
Module Dimensions	1657 x 987 mm; 65.24 x 38.86 in.
Module Thickness (Depth)	42 mm; 1.65 in.
Approximate Weight	19 kg; 42 lbs.

## Characteristic Data

Type of Solar Cell	High-efficiency Suniva® 2 busbar monocrystalline cells of 156 x 156 mm
Frame	Silver anodized aluminum alloy
Glass	Low-iron & tempered with anti-reflective coating
Junction Box	IP65 rated; IEC & UL listed; Tyco; with internal bypass diodes
Cable & Connections	4 $\text{mm}^2$ cable with Tyco connectors

## Temperature Coefficients

Voltage	$\beta$ , Voc ( $\%/^\circ \text{C}$ )	-0.365
Current	$\alpha$ , Isc ( $\%/^\circ \text{C}$ )	+0.035
Power	$\gamma$ , Pmax ( $\%/^\circ \text{C}$ )	-0.46

## Limits

Max. System Voltage	1000 VDC
Operating Module Temperature	$-40^\circ \text{C}$ to $+90^\circ \text{C}$
Storm Resistance	Tested to IEC 61215 for wind loads of 5400 Pa (204 mph)

Suniva® reserves the right to change the data at any time.