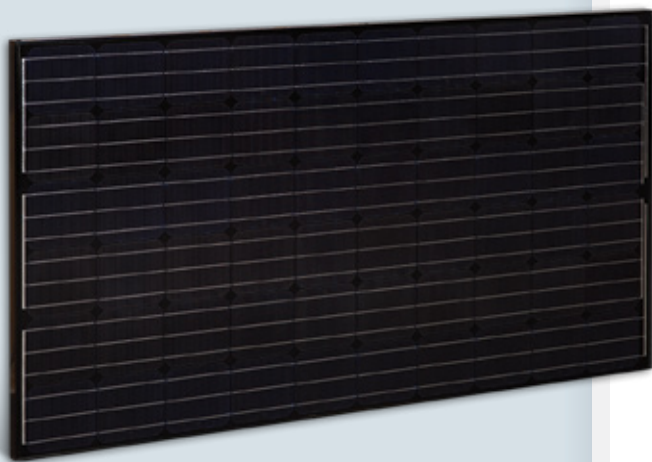




ENGINEERING EXCELLENCE

- Built exclusively with **Suniva's premium ARTisun Select cells**, providing one of the highest power outputs per square meter at an affordable price
- **The leading US-born, US-owned crystalline silicon cell and module manufacturer**, spun out of Georgia Tech's University Center of Excellence in Photovoltaics; one of only two such research centers in the U.S.
- Suniva's state-of-the-art manufacturing and module lab facilities feature the most advanced equipment and technology

QUALITY & RELIABILITY

- Suniva Optimus modules are manufactured and warranted to our specifications assuring consistent high performance and high quality.
- Rigorous in-house quality management tests beyond standard UL and IEC standards
- Performance longevity with advanced polymer backsheet
- UL1703 listed Type 2 PV module
- Passed the most stringent salt spray tests based on IEC 61701
- Passed enhanced stress tests¹ based on IEC 61215 conducted at Fraunhofer ISE²
- PAN files are independently validated



SUNIVA OPTIMUS® SERIES MONOCRYSTALLINE SOLAR MODULES

OPT SERIES: OPT 60 CELL MODULES (BLACK FRAME)

Optimus® modules are known for their superior quality and long-term reliability. These high-powered modules consist of Suniva's premium ARTisun® Select cell technology and are designed and manufactured in the U.S.A. using our pioneering ion implantation technology. Suniva's high power-density Optimus modules provide excellent performance and value.

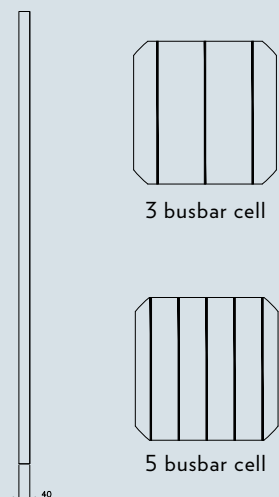
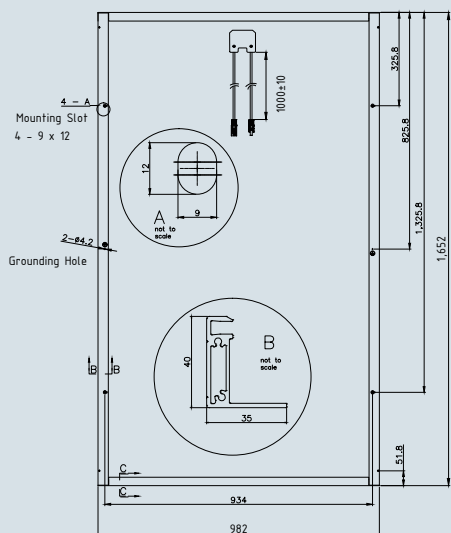
FEATURES

- ☀ Utilizes our premier American-made cell technology, ARTisun Select®
- ☀ Superior performance and reliability; enhanced stress tests conducted at Fraunhofer ISE
- ☀ Module families ranging from 270-285W
- ☀ Marine grade aluminum frame with durable black coating
- ☀ Passed most stringent salt spray tests
- ☀ Certified PID-free by PV Evolution Labs (PVEL)
- ☀ Made in North America
- ☀ Qualifies for Ex-Im Financing
- ☀ 1000V UL
- ☀ 25 year linear power warranty;
10 year product warranty



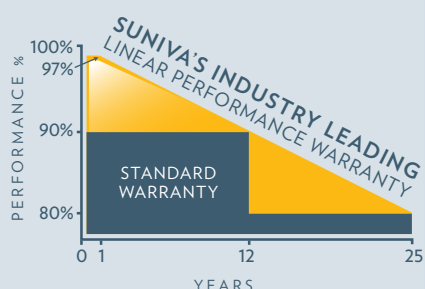
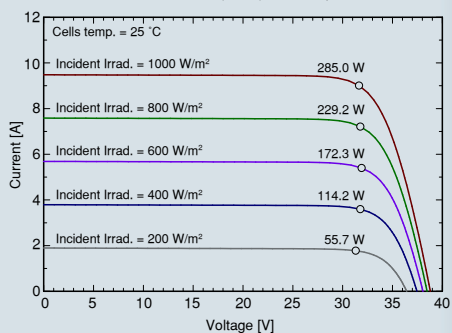
CERTIFICATIONS





PV module: Suniva, OPT285-60-4-100

Current-Voltage (IV) as a
Function of Irradiance (W/m²) and Temperature



PLEASE RECYCLE

JUNE 25, 2015 (REV. 20) [SAM0_0016]

OPTIMUS SERIES: OPT 60 CELL MODULES

ELECTRICAL DATA (NOMINAL)

The rated power may only vary by +/- 2.5Wp and all other electrical parameters by $\pm 5\%$

Model Number	OPT270-60-4-1B0	OPT275-60-4-1B0	OPT280-60-4-1B0	OPT285-60-4-1B0
Power Classification (Pmax)	270 W	275 W	280 W	285 W
Module Efficiency (%)	16.63%	16.95%	17.26%	17.57%
Voltage at Max. Power Point (Vmp)	31.00 V	31.50 V	31.90 V	31.80 V
Current at Max. Power Point (Imp)	8.70 A	8.74 A	8.78 A	8.96 A
Open Circuit Voltage (Voc)	38.40 V	38.60 V	38.80 V	38.80 V
Short Circuit Current (Isc)	9.18 A	9.28 A	9.31 A	9.48 A

The electrical data apply to standard test conditions (STC): Irradiance of 1000 W/m² with AM 1.5 spectra at 25°C.

CHARACTERISTIC DATA

Type of Solar Cell	High-efficiency ARTisun Select cells, 3 and 5 busbar options available
Frame	Marine grade aluminum frame with durable back coating
Glass	Tempered (low-iron), anti-reflective coating
Junction Box	NEMA IP67 rated; 3 internal bypass diodes
Cable & Connectors	12 AWG (4 mm ²) PV Wire cable with multiple connector options available; cable length approx. 1000 mm

MECHANICALS

Cells / Module	60 (6 x 10)
Module Dimensions	1652 x 982 mm (65.04 x 38.66 in.)
Module Thickness (Depth)	40 mm (1.57 in.)
Approximate Weight	17.9 +/- 0.25 kg. (39.5 +/- 0.5 lb.)

TEMPERATURE COEFFICIENTS

Voltage	β , Voc (%/°C)	-0.335
Current	α , Isc (%/°C)	+0.047
Power	γ , Pmax (%/°C)	-0.420
NOCT Avg	(+/- 2 °C)	46.0

LIMITS

Max. System Voltage	1000 VDC for IEC, 1000 VDC for UL
Max Series Fuse Rating	15 Amps
Operating Module Temperature	-40°C to +85°C (-40°F to +185°F)
Storm Resistance/Static Load	Tested to IEC 61215 for loads of 5400 Pa (113 psf); hail and wind resistant

Suniva® reserves the right to change the data at any time. View manual at suniva.com.

¹UV 90 kWh, TC 400, DH 2000. ²Tests were conducted on module type OPT 60 silver frame.

Please read installation manual before installing or working with module.

Product	Modules per pallet	Pallets per Container	Total Modules
OPT - 60 cell (silver and black)	25	28	700

HEADQUARTERS

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