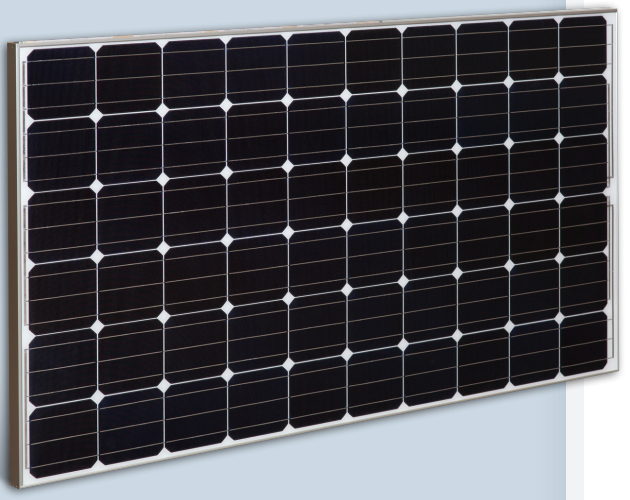


Suniva®
The Brilliance of Solar Made Sensible®

SUNIVA OPTIMUS® SERIES MONOCRYSTALLINE SOLAR MODULES

OPT SERIES: OPT 60 CELL MODULES (SILVER 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. and North America 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 275-285W
- Positive only power tolerance
- Marine grade aluminum frame with hard anodization or powder coating
- 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

ENGINEERING EXCELLENCE

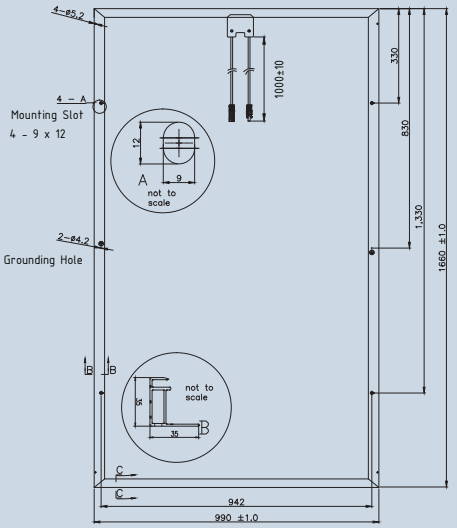
- Built exclusively with **Suniva's premium ARTisun Select cells**, providing one of the highest power outputs per square meter at an affordable price
- **The leading US-born, US-operated crystalline silicon cell and module manufacturer**, spun out of Georgia Tech's University Center of Excellence in 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

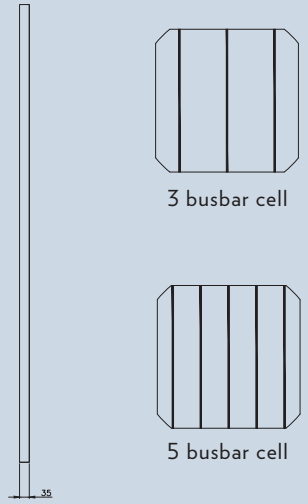
QUALITY & RELIABILITY

- 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 tests[1] based on IEC 61215 conducted at Fraunhofer ISE
- PAN files are independently validated

www.suniva.com

OPTIMUS SERIES: OPT 60 CELL MODULES



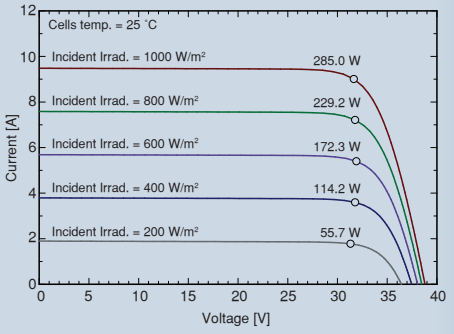


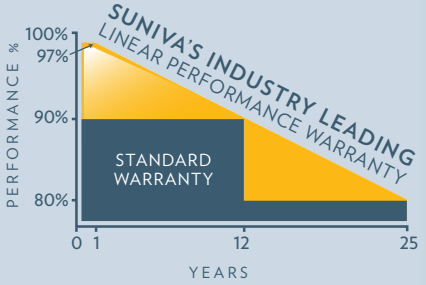
3 busbar cell

5 busbar cell

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

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





PLEASE RECYCLE

AUGUST 19, 2015 (REV. 2) [SAMD_0060]

ELECTRICAL DATA (NOMINAL)

The rated power may only vary by -0/+10W and all other electrical parameters by ± 5%

Model Number	OPT275-60-4-100	OPT280-60-4-100	OPT285-60-4-100
Power Classification (Pmax)	275 W	280 W	285 W
Module Efficiency (%)	16.73%	17.04%	17.34%
Voltage at Max. Power Point (Vmp)	31.7 V	31.8 V	31.9 V
Current at Max. Power Point (Imp)	8.68 A	8.81 A	8.93 A
Open Circuit Voltage (Voc)	38.7 V	38.8 V	38.9 V
Short Circuit Current (Isc)	9.43 A	9.57 A	9.71 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	Anodized or powder coated aluminum alloy
Glass	Tempered (low-iron), anti-reflective coating
Junction Box	NEMA IP67 rated; 3 internal bypass diodes
Cable & Connectors	12 AWG (4 mm²) PV Wire with multiple connector options available; cable length 1000 mm

MECHANICALS

Cells / Module	60 (6 x 10)
Module Dimensions	1660 x 990 mm (65.35 x 38.98 in.)
Module Thickness (Depth)	35 mm (1.37 in.)
Approximate Weight	17.9 +/- 0.25 kg. (39.5 +/- 0.5 lb.)

TEMPERATURE COEFFICIENTS

Voltage	ß, 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.

[1]UV 90 kWh, TC 400, DH 2000.

Please read installation manual before installing or working with module.

Product	Modules per pallet	Pallets per 53´ truck	Total modules
OPT - 60 cell (silver and black)	25	36	900

HEADQUARTERS

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Tel: +1 404 477 2700

www.suniva.com

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