

# stirling solar

#### **Clean Power Ahead**

#### Up to Twice the kWh Daily kWh - AC Power to Customer 3.5 3 2.5 AC Output (kW) Infinia 3kW System 2 1.5 1 3kW (STC) PV System **Fixed Mount** 0.5 0 5 11 13 15 17 19

Infinia data based on NSRDB weather data for Daggett, CA, mid-summer day. PV data from NREL's PVWATTS version 1 for Daggett, CA, mid-summer day. PV system is 3kW STC and uses PVWATTS' default "DC to AC Derate Factor" of 0.77

Hour

Infinia's Stirling Solar product concentrates sunlight onto Infinia's 3 kW free-piston Stirling engine to generate clean, emissions free electricity. With a conversion efficiency of approximately 24%, Stirling Solar will produce up to twice as many kilowatthours of electricity than similarly sized crystalline silicon PV systems. The proven reliability of the Infinia free-piston Stirling engine enables extended periods of unattended operation. This minimizes O&M costs and improves economic performance versus other forms of power generation.

**Great looks, more power...** and a sunny disposition that will

change how the world uses energy!



- 3kW <u>AC</u> output 120/240 VAC 1Ø, 208/230 VAC 3Ø
- Low O&M costs
  - No engine lubrication or maintenance
  - Tracking system maintenance same as dual axis PV
- Dual axis tracking system provides maximum energy production
- Simple installation
- 6kW thermal energy available as product option
- · Emissions Avoidance

A single 3kW Stirling Solar located in Daggett, California, will produce over 8MWh annually. By replacing grid-supplied electricity, a megawatt array will remove 1,867 tons of carbon dioxide; 7 tons of nitrogen oxides and 11 tons of sulfur dioxide from the atmosphere annually.

Source: NREL estimates

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Power Output*	
Peak Power*	3kW (+/- 5%)
Voltage	120/240 VAC 1Ø - 208/230 VAC 3Ø **
Frequency **	Automatically sensed and adjusted between 47 – 62 Hz

<sup>\*</sup> at rated input direct normal insolation (DNI) >= 850W/m2, at 20°C (68°F) ambient temperature, net power out @ terminal, clean reflector.

#### Other

Power Quality - <5% THD, IEEE 519

Power Factor - >.95 Leading or Lagging

Protective Relay Functions - UL 1741

Utility Interconnection - IEEE 1547, CA Rule 21

1900 lb (864 kg)

Anti-Islanding

Weights & Dimensions	
Width	15.4 feet (4.7 meters)
Length	15.4 feet (4.7 meters)
Height	22 feet (6.7 meters)

# Certifications

Weight

ETL, CE, and CEC Listing

### **Ambient Conditions**

Operating Temperature Range	-4°F to 131°F (-20°C to 55°C)
Operating Elevation Range	Up to 6,200 feet (1,890 meters) above sea level
Operating Relative Humidity Range	0 to 100%
Wind Speed – Maximum*	100 mph (162 km/h, 45 m/s)
Snow Load, Maximum, Stowed*	20.9 psf (1 kN/m2) on inverted dish
Ice Load, Maximum, Stowed*	2 inch (5 cm on one side)

<sup>\*</sup> non-concurrent

Preliminary - Design and specifications are subject to change Version 501336rB

<sup>\*\*</sup> voltage and frequency automatically sensed and adjusted according to voltages on output terminals (grid connect)
Conversion Efficiency: 24% Peak (Net AC Output divided by Rated direct normal insolation x collector area)