

# **SOLARMILL®: SM1-2P**

# **Hybrid Clean Energy Generation**

### **Performance Advantages**

- Roof-Top Wind & Solar Hybrid Energy System.
- 24-hour power production capability.
- Higher power density per square foot.
- Scalable power generation.
- Mechanical braking at high-speed winds beyond 18.5 m/s.
- · Appropriate for on or off grid applications.
- Offsets peak energy pricing for grid-tied systems.
- Minimizes backup battery storage requirements.
- Online tool for power generation monitoring.
- Power generation starting at 2 m/s wind speed.

### **Benefits**

- Easy to mount on any rooftop; no complicated masts, guy wires, or towers.
- Simple ballasted installation that avoids roof penetration.
- Visually engaging design complementing building façade.
- Environment-friendly, silent operation.

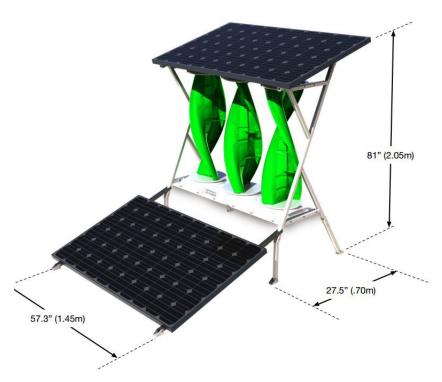
#### **Features**

- Low profile Vertical Axis Savonius Wind Turbines.
- Cut-in wind speed 2 m/s & Cut-out wind speed 18.5 m/s.
- Scalable to user defined KW need interconnection cables provided.
- Integrated Maximum Power Point Tracking (MPPT) with "smart" bus logic control technology – 48vDC.
- Simple mounting process.
- Easy assembly and maintenance.
- Minimal running maintenance required.
- Custom colors available.
- Temperature sensing electronics for thermal protection.
- Able to withstand temperature ranges from -30°C to 50°C.

## **Contact Information**

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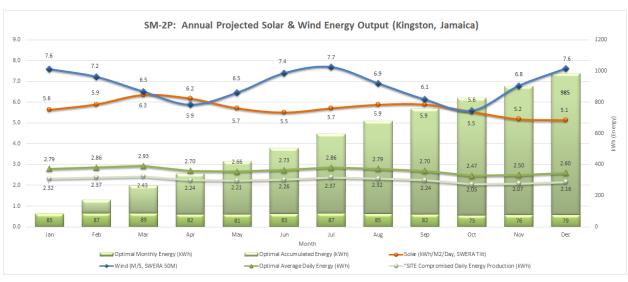
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## **Technical Specifications**



WIND COMPONENT	
Turbine Rated Power Output	143 W @ 11 m/s
Wind Component Maximum Power Output	500 W @ 17 m/s
Maximum Voltage	56 VDC
Maximum Current	30 Amps
Rotor Diameter	13 in  0.33 m
Cut-In Wind Speed	4.5 mph  2 m/s
Cut-Out Wind Speed	38 mph  18.5 m/s
Swept Area	1,519 in <sup>2</sup>  0.980 m <sup>2</sup>
Turbine Material	Galvanized G-90 Steel
SOLAR COMPONENT	
Maximum Power (Pmpp)	500 W
Voltage at Nominal Power (Vmpp)	29.65 V
Current at Nominal Power (Impp)	8.47 A
Open Circuit Voltage (Uoc)	37.98 V
Short Circuit Current (Isc)	8.80 A
*Reduction in module efficiency with decrease in irradiation level from 1000 W/m² to 200 W/m² (at 25 degrees C).	
Maximum System Voltage	1000 V
Solar Cells	Monocrystalline
No. of Cells	120
ENTIRE SYSTEM	
SolarMill Dimensions	1460 mm (L) x 1840 mm (W) x 1900 mm (H)
Weight	225 lbs   102.06 kgs
Cover Material	UV Resistant HDPE
Frame	Galvanized G-90 Steel and Aluminum
Electronics Enclosure Rating	IP53
Electrical Connection	On-Board Battery Charge Controller
	Grid-Tied Inverter (Optional)
Generator	Permanent Magnet Axial Gap
Design Life	20 Years
Levelized Cost of Energy	\$0.12/kWh