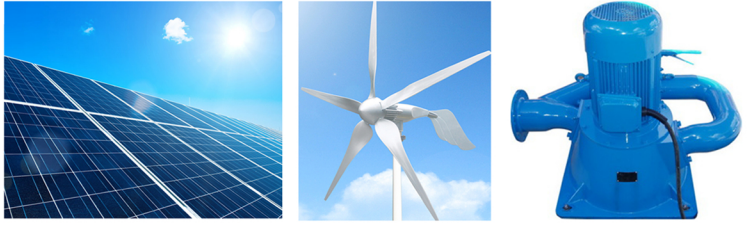


2014

Wind Turbine Catalogue

Solar Energy Group
(Pty) Ltd

S E G



Solar Energy Group (Pty) Ltd - Wind Generators



The Solar Energy Group (SEG) Wind range of wind turbines have been designed and manufactured to the highest quality standards to be perfectly suited to a vast amount of applications where alternate renewable energy sources are required.

The entire range of SEG wind generators have been selected by the World Wind Energy Association for a Global high quality small and medium wind generator product award as well as been drafted into the WWEA top quality product catalogue.

Featuring a patented anti-corrosion and light weight design, unprecedented 5 year Warranty and 15-18 year designed life. The SEG Wind range of small wind turbines are a long lasting high quality compact product to supply a lasting source of renewable energy, combating the effect on our environment resulting from the use of conventional non renewable energy sources.

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A small home wind turbine is a long term investment. Before one purchases a wind turbine:

The first factor to consider is if the energy produced by a wind turbine can finance itself off in 5 years or less. In order to achieve this, the unit must be a high quality, reliable, maintenance free unit featuring excellent performance.

The second factor to consider is installation and ownership cost. Poor reliability, low quality and high maintenance will greatly increase ownership cost and make the wind turbine impossible to finance itself.

The third factor is environment and safety. A small home wind turbine should be safe for high winds, quiet and have no vibration to make it residential and home friendly.

All SEG wind turbines exceed the above requirements in the areas of:

<i>5 YEAR WARRANTY</i>	Unprecedented 5 year warranty.15-18 years designed working life, incorporating a brushless generator & permanent neodymium magnet technology. Ip56 rated aluminum turbine housing.
<i>QUALITY MATERIALS</i>	#304 stainless steel rotor. Aluminum turbine body, nickel plated accessories. Automotive paint finish, SKF bearings for best durability and weather resistance.
<i>POWER & PROTECTION</i>	MPPT controller technology for maximum power from the wind. Smart blade aerodynamic braking and electromagnetic speed limitation.
<i>NOISE & VIBRATION</i>	Amazingly quiet operation no vibration. Conforming to the IEC 61400-11 wind turbine standard for noise measurement.
<i>RELIABILITY</i>	Highly reliable, two-moving-part maintenance free design. Patented slip ring design, guarantees twist free cables.
<i>LOW WIND STARTUP</i>	Permanent neodymium magnet, the unique winding and multi pole design reduces the start-up.
<i>BLADES</i>	High-strength nylon-fiberglass patented blades featuring a twisted aerodynamic design and high blade efficiency. Blade sets are produced utilizing advanced thermoplastic engineering and precision injection.
<i>INSTALLATION</i>	Easy installation, flange connection.
<i>AWARDS</i>	ROHS & ETL compliant WWEA: world wide wind energy association high Quality Product Award.

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Blade Count 5 Blades or 3 Blades

Wind Turbines utilizing a 3 or 5 bladed design feature advantages in both regards.

5 bladed wind Turbines have shown greater efficacy and the ability to achieve rotation and power production at lower wind Speed.

Due to the increased drag coefficient resulting from the 5 bladed design, a 5 bladed Wind Turbine is limited from higher rotational speeds to that of which a 3 bladed wind Turbine can achieve at a given wind speed.

3 Bladed wind turbine designs have the ability to achieve higher rotation speed vs. 5 bladed wind turbines at a given wind speed. However 3 bladed designs lack the ability to achieve rotation and power production at lower wind speeds.

In conclusion: 5 bladed options demonstrate greater effectiveness in power yield areas with lower to medium high wind speeds. 3 Bladed options should be considered for areas with high wind speeds.



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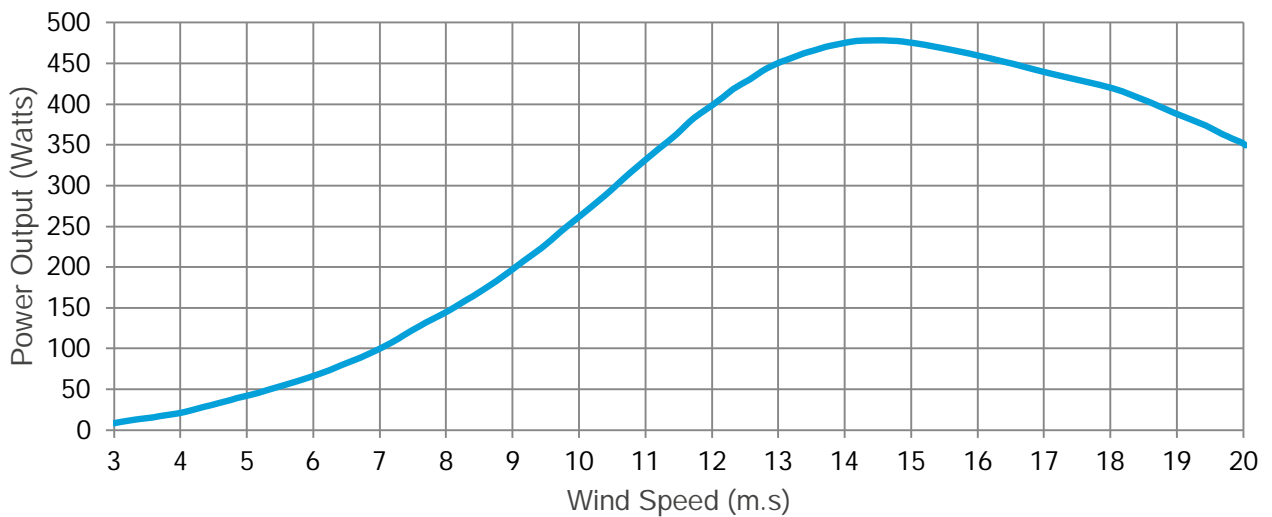
SEG wind turbine models

SEG 400W WIND TURBINE

- *Nominated for Top Quality Award World Wind Energy Association*
- *5 Year Warranty*
- *15 Year Design Life*
- *Automotive Paint Finnish*
- *Anticorrosion*
- *Aluminum Turbine Housing*
- *Precision Stainless Steel Rotor*
- *Permanent Neodymium Magnet Technology*
- *Bolt on Clamp or Flange Tower Connection*
- *Smart Blade Aerodynamic and Electromagnetic Braking*
- *Highly Reliable, two-moving-part maintenance free design.*
- *Super Low noise & Vibration Free*



Power Curve
SEG-400W



Type	Horizontal
Rated power	400W

Max power	500W
Rated voltage (V)	12V or 24V Version Available
Generator	Permanent High Performance Neodymium Magnet
Rated RMP	750RPM
Generator Material	Aluminum Alloy body & precision stainless steel rotor
Mounting Connection	Flange Connection or Bolt on Clamp
Start-up	≤2m/s
Cut-in	≤2.5m/s
Rated wind speed	12m/s
Survival wind	≥50m/s
Blade	5
Diameter	1.55m
Blade material	Glass fiber, Strengthen Nylon
Weight	23kg. Package:149×38×27cm
Noise Level	<20dB @ 5m In 5m/s
Wind efficiency	>0.36 (CP)
Operating temperature	-40°C~60°C
Design working life & Warranty	15 Years Maintenance Free , 5 Years
Approval & Quality Award	CE, ISO9001:2008,ROHS,CE,ETL & WWEA SELECTED

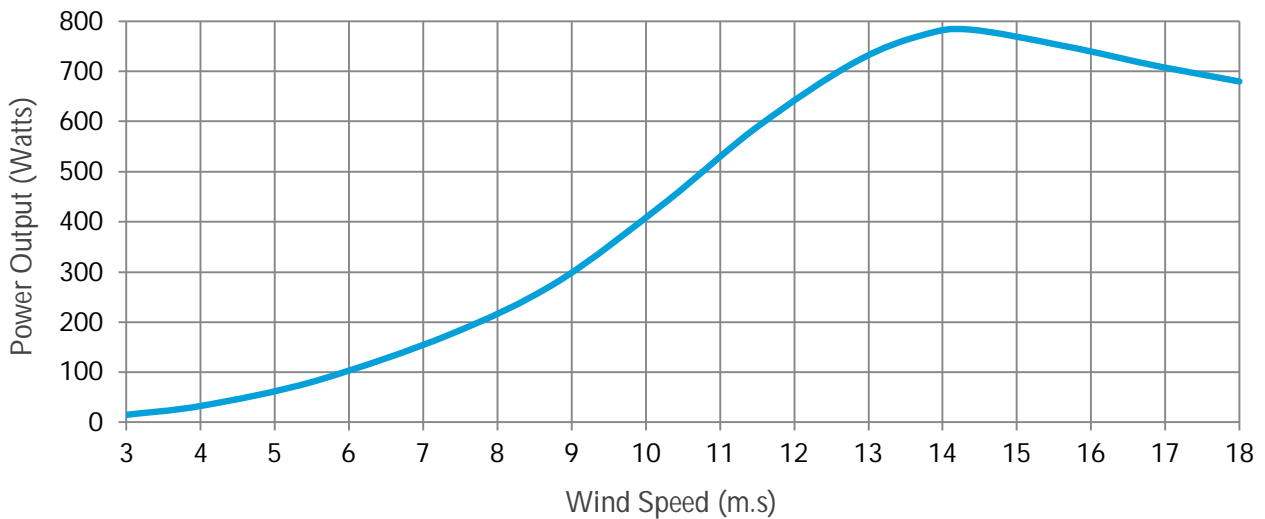
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SEG 600W WIND TURBINE

- *Nominated for Top Quality Award World Wind Energy Association*
- *5 Year Warranty*
- *15 Year Design Life*
- *Automotive Paint Finish*
- *Anticorrosion*
- *Aluminum Turbine Housing*
- *Precision Stainless Steel Rotor*
- *Permanent Neodymium Magnet Technology*
- *Bolt on Clamp or Flange Tower Connection*
- *Smart Blade Aerodynamic and Electromagnetic Braking*
- *Highly Reliable, two-moving-part maintenance free design.*
- *Super Low noise & Vibration Free*



**Powe Curve
SEG-600W**



Type	Horizontal
Rated power	600W

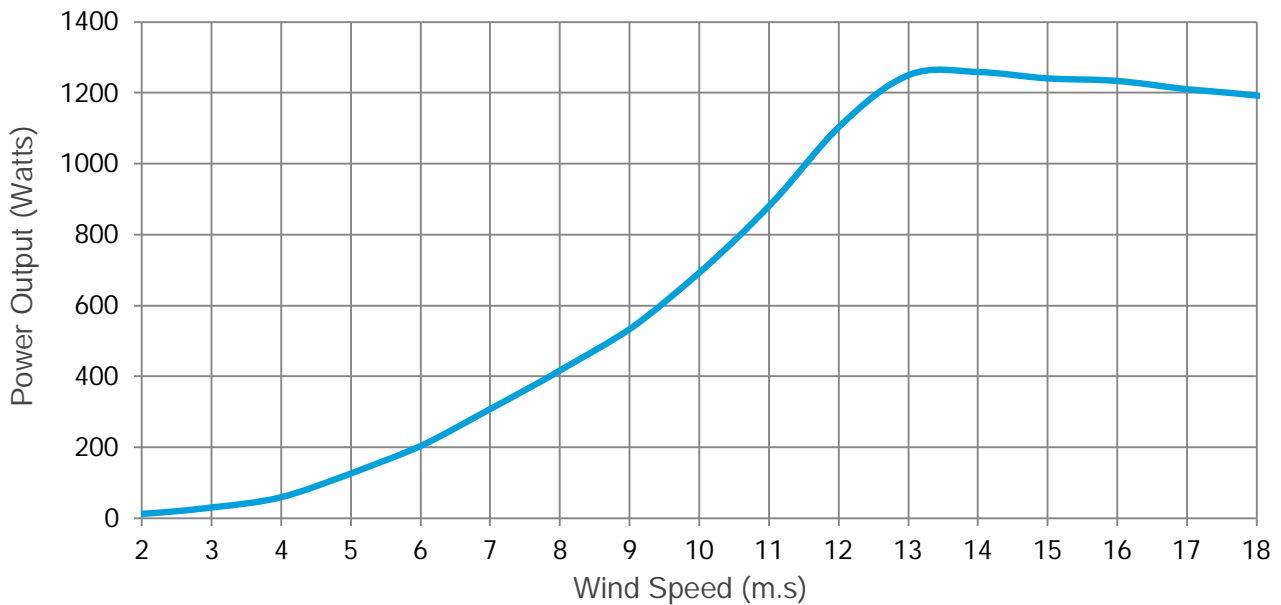
Max power	750W
Rated voltage (V)	12V 24V 36V 48V Version Available
Generator	Brushless 3-phase with Permanent High Performance Neodymium Magnet
Rated RMP	750RPM
Generator Material	Aluminum alloy body & precision stainless steel rotor
Mounting Connection	Flange Connection or Bolt on Clamp
Start-up	$\leq 2\text{m/s}$
Cut-in	$\leq 2.5\text{m/s}$
Rated wind speed	12m/s
Cut-out	$\geq 20\text{m/s}$
Survival wind	$\geq 50\text{m/s}$
Blade	5
Diameter	1.75m
Blade material	Glass fiber, Strengthen Nylon
Weight	27kg. Package:148×49×27cm
Noise Level	<20dB @ 5m In 5m/s
Wind efficiency	>0.36
Braking	Electromagnetic braking, blade Aerodynamic braking
Operating temperature	-40°C~60°C
Design working life & Warranty	15 Years Maintenance Free , 5 Years
Approval	CE, ISO9001:2008,ROHS,CE,ETL

SEG 1000W WIND TURBINE

- *Nominated for Top Quality Award World Wind Energy Association*
- *5 Year Warranty*
- *15 Year Design Life*
- *Automotive Paint Finish*
- *Anticorrosion*
- *Aluminum Turbine Housing*
- *Stainless Steel Rotor*
- *Cast tail unit*
- *Neodymium Magnet Technology*
- *Bolt on Clamp or Flange Tower Connection*
- *Smart Blade Aerodynamic and Electromagnetic Braking*
- *Highly Reliable, two-moving-part maintenance free design.*
- *Vibration Free*



**Power Curve
SEG-1000W**



Type	Horizontal
Rated power	1000W

Max power	1200W
Rated voltage (V)	24V 36V 48V 110V Version Available
Generator	Brushless 3-phase with Permanent High Performance Neodymium Magnet
Rated RMP	750RPM
Generator Material	Aluminum alloy body & precision stainless steel rotor
Mounting Connection	Flange Connection or Bolt on Clamp
Start-up	≤2m/s
Cut-in	≤2.5m/s
Rated wind speed	12m/s
Survival wind	≥50m/s
Blade	5
Diameter	1.96m
Blade material	Glass fiber, Strengthen Nylon
Weight	29kg. Package:148×50×28cm
Noise Level	<20dB @ 5m In 5m/s
Wind efficiency	>0.36
Braking	Electromagnetic braking, blade Aerodynamic braking
Operating temperature	-40°C~60°C
Design working life & Warranty	15 Years Maintenance Free , 5 Years
Approval	CE, ISO9001:2008,ROHS,CE,ETL

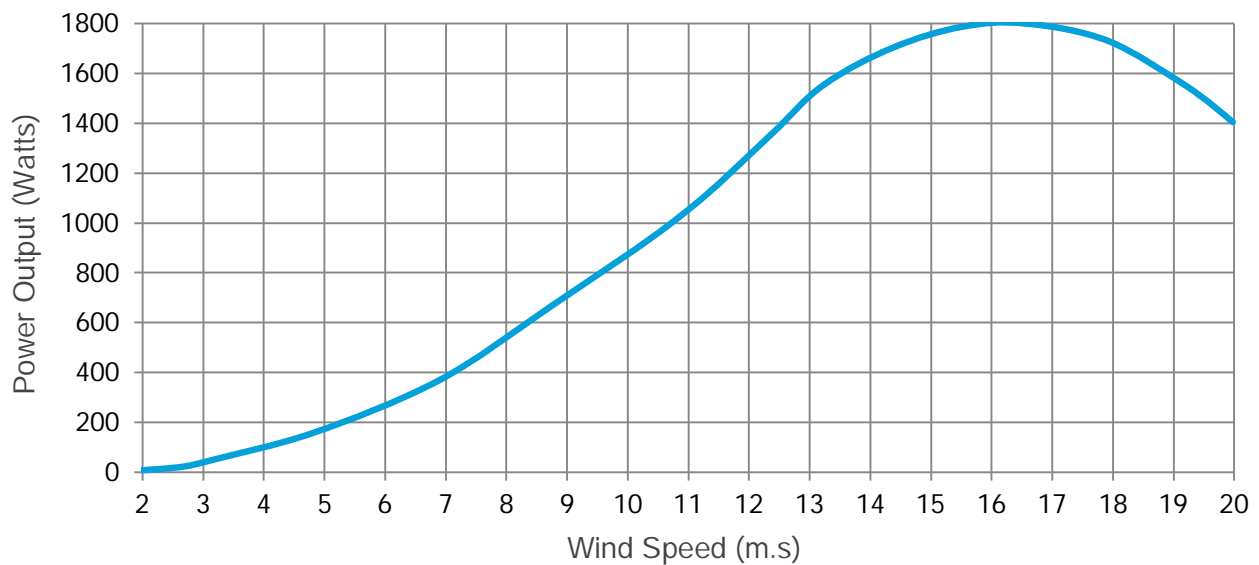
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SEG 1500W WIND TURBINE – Special Edition

- *Nominated for Top Quality Award World Wind Energy Association*
- *5 Year Warranty*
- *18 Year Design Life*
- *Automotive Paint Finish*
- *Anticorrosion*
- *Aluminum Turbine Housing*
- *Stainless Steel Rotor*
- *Cast tail unit*
- *Neodymium Magnet Technology*
- *Bolt on Clamp or Flange Tower Connection*
- *Smart Blade Aerodynamic and Electromagnetic Braking*
- *Highly Reliable, two-moving-part maintenance free design.*
- *Vibration Free*



Power Curve
SEG-1500W SE



Type	Horizontal
Rated power	1500W
Max power	1800W
Rated voltage (V)	24V 36V 48V 110V 220V Version Available
Generator	Brushless 3-phase with Permanent High Performance Neodymium Magnet
Rated RMP	700RPM
Generator Material	Aluminum alloy body & precision stainless steel rotor
Mounting Connection	Flange Connection or Bolt on Clamp
Start-up	≤1.5m/s
Cut-in	≤2.5m/s
Rated wind speed	13m/s
Survival wind	≥60m/s
Blade	5
Diameter	2.05m
Blade material	Glass fiber, Strengthen Nylon
Weight	35kg. Package:154×61×28cm
Noise Level	<20dB @ 5m In 5m/s
Wind efficiency	>0.42
Braking	Electromagnetic braking, blade Aerodynamic braking
Operating temperature	-40°C~60°C
Design working life & Warranty	18 Years Maintenance Free , 5 Years
Approval	CE, ISO9001:2008,ROHS,CE,ETL

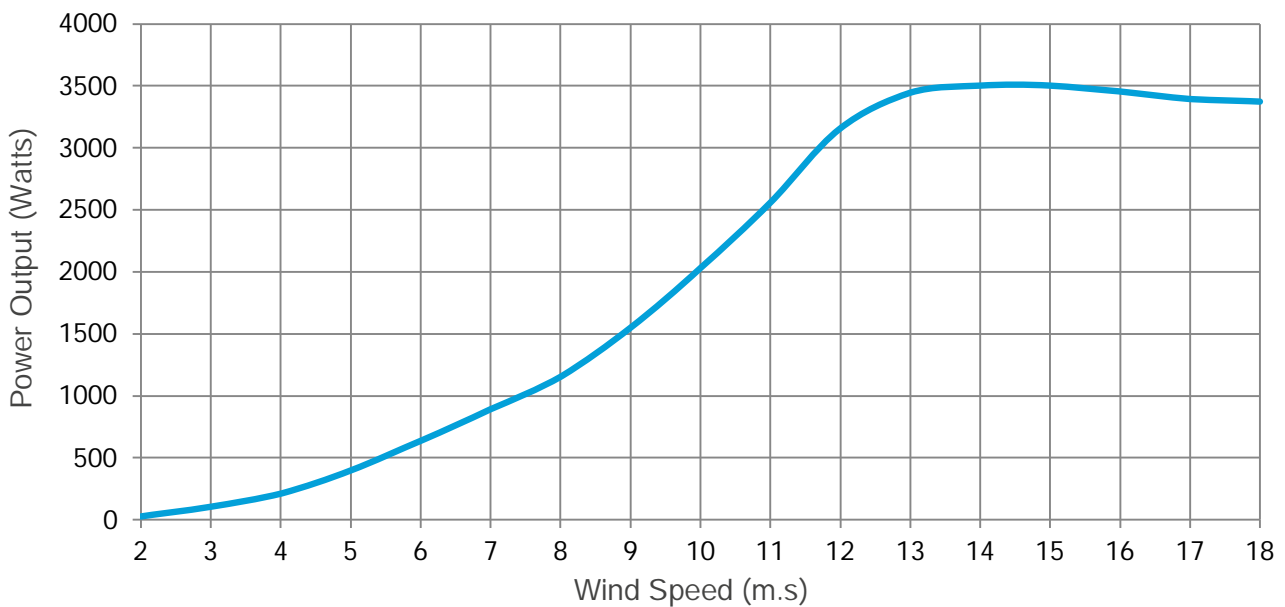
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SEG 3000W WIND TURBINE

- *Nominated for Top Quality Award World Wind Energy Association*
- *5 Year Warranty*
- *15 Year Design Life*
- *Automotive Paint Finnish*
- *Anticorrosion*
- *Aluminum Turbine Housing*
- *Stainless Steel Rotor*
- *Cast tail unit*
- *Neodymium Magnet Technology*
- *Bolt on Clamp or Flange Tower Connection*
- *Smart Blade Aerodynamic and Electromagnetic Braking*
- *Highly Reliable, two-moving-part maintenance free design.*
- *Vibration Free*



Power Curve
SEG-3000W



Type	Horizontal
Rated power	3000W

Max power	3500W
Rated voltage (V)	36V 48V 110V 220V Version Available
Generator	Brushless 3-phase with Permanent High Performance Neodymium Magnet
Rated RMP	700RPM
Generator Material	Aluminum alloy body & precision stainless steel rotor
Mounting Connection	Flange Connection or Bolt on Clamp
Start-up	≤2.5m/s
Cut-in	≤3m/s
Rated wind speed	12m/s
Survival wind	≥50m/s
Blade	5
Diameter	3.05m
Blade material	Glass fiber, Strengthen Nylon
Weight	70kg. Package:160×65×38cm
Noise Level	<30dB @ 5m In 5m/s
Wind efficiency	>0.36
Braking	Electromagnetic braking, blade Aerodynamic braking
Operating temperature	-50°C~60°C
Design working life & Warranty	15 Years Maintenance Free , 5 Years
Approval	CE, ISO9001:2008,ROHS,CE,ETL

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Wind Turbine Matching Controller

Wind Turbine and Hybrid Controller

Information

SEG MPPT CONTROLLER



- Wind and Solar Hybrid Controller
- MPPT:
- Maximum Power Point Tracking
- LCD Screen
- Electronic Brake
- Adjustable Parameters & Monitoring Software
- Recommended for:
- SEG 400W
- SEG 600W
- SEG 1000W
- SEG 1500W

Midnite Classic Wind Turbine Controller



- MPPT for wind turbines, Solar and Hydro
- Worlds only arc fault detecting controller
- Built in DC-GFP saves money
- Ethernet, USB and RS232 interface standard
- Two aux outputs/inputs
- High voltage versions available:
- Wizard driven set up
- User upgradeable firmware
- Graphical display vs. alpha numeric
- Stores 380 days of data
- Graphs of data available on the display and PC and internet
- Time, date and location settings
- Voice Announcements
- Ethernet output allows easy Wi-Fi hook up
- Display is re-locatable up to 1000 feet
- Recommended For:
- SEG 1500W
- SEG 3000W

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Wind Turbine & Matching Controller Costing

Wind Turbine and Hybrid Controller	Cost Excluding Vat
SEG 400W 12V or 24V Version Available 5 Year Warranty 15 Year Design Life Automotive Paint Finnish Anticorrosion Stainless Steel Rotor Aluminum Turbine Body SKF Bearing SEG MPPT CONTROLLER	R8200 excl. VAT R3200 excl. VAT
SEG 600W 12v 24V 36V 48V Version Available 5 Year Warranty 15 Year Design Life Automotive Paint Finnish Anticorrosion Stainless Steel Rotor Aluminum Turbine Body SKF Bearing SEG MPPT CONTROLLER	R11600 excl. VAT R3200 excl. VAT
SEG 1000W 12v 24V 36V 48V Version Available 5 Year Warranty 15 Year Design Life Automotive Paint Finnish Anticorrosion Stainless Steel Rotor Aluminum Turbine Body SKF Bearing SEG MPPT CONTROLLER	R16200 excl. VAT R5400 excl. VAT

SEG 1500W 24V 36V 48V Version Available 5 Year Warranty 15 Year Design Life Automotive Paint Finnish Anticorrosion Stainless Steel Rotor Aluminum Turbine Body SKF Bearing SEG MPPT CONTROLLER	R21500 excl. VAT R5800 excl. VAT
SEG 3000W 36V 48V 110V 220V Version Available 5 Year Warranty 15 Year Design Life Automotive Paint Finnish Anticorrosion Stainless Steel Rotor Aluminum Turbine Body SKF Bearing Midnite Classic Wind Turbine Controller	R36200 excl. VAT R9600 excl. VAT

Price Book Terms:

- * Prices in this price book are subject to change without notice
- * Solar Energy Group (Pty) Ltd (SEG) standard terms and conditions apply
- * Solar Energy Group (Pty) Ltd (SEG) shall not be held liable to stock availability
- * All prices are ex-VAT and ex-works Solar Energy Group (Pty) Ltd (SEG), Pretoria, Gauteng, South Africa.
- * All products have a back to back warranty and guarantee to the supplier's guarantee
- * Batteries and Wind Turbines made to order might have longer lead times
- * For Unlisted Items , Please Contact +27(0)12 770 3310
 or e-mail our sales & marketing team: sales@SolarEnergyGroup.co.za