



**kestrel**  
wind turbines

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**e160<sup>i</sup>**

## Specifications

The e160<sup>i</sup> is one of the smaller turbines in the Kestrel range. Every feature is designed to optimise small scale renewable energy output, making clean energy accessible to everyone. Its cut-in speed is low in order to facilitate continuous generation, creating a reliable, auxiliary energy source that reduces traditional energy costs.

The durability of the e160<sup>i</sup> has been proven through many installations that experience wind speeds in excess of 150km/h. Modern living requires a massive amount of energy that is depleting fossil fuels.

## Design

The heart of the machine comprises of a single axial flux permanent magnet brushless alternator. The five blade design is a self-regulating aerodynamic rotor that achieves speed control through blade turbulence, which controls the speed of the rotor with no moving parts and no obtrusive noise.

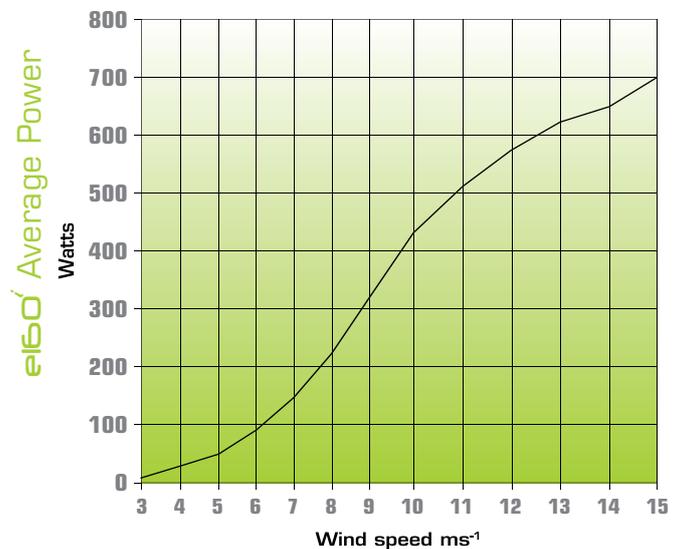
This allows the e160<sup>i</sup> to be one of the quietest small wind turbines on the market. Being only 1.6m in diameter and inconspicuous, it is suitable for urban areas as it harvests energy by harnessing the clean, abundant and renewable resource of wind.

## Applications

- Boost solar & other renewable energy installations increasing productivity, reliability & cost effectiveness
- Grid tie applications using approved inverters to reduce energy costs
- Power for energy requirements where there is no connection to the national grid
- Generate dedicated power for signage eliminating high operating costs
- Suitable as an educational tool, demonstrating renewable energy generation
- Adaptable to meeting many specific electrical needs

- Up to 600 watts of power from a unique five blade turbine
- Affordable clean electricity, adaptable to your needs
- Reliable and convenient with a long-life design
- Suitable for urban living

## Power • Quality • Affordability



renewable power for life



Small Wind Turbine Class	II
Rated Output	600W
Maximum Power	700W at 14ms <sup>-1</sup>
Rated Wind speed	13.5ms <sup>-1</sup>
Cut-in Wind speed	2.5ms <sup>-1</sup>
Generator Type	Permanent-magnet Axial flux brushless
Rotor Diameter	1.6m
Number of Blades	5
Blade Material	Fibre glass
Tower Top Mass	30kg
Tower Height	9-18m
Tower Type	Scissor or Guyed
Overspeed Protection	Rotor Turbulence
Controller Type	Charge or Dump
Output Voltage	12, 24, 36*, 48, 110* and 200 Vdc
Application	Battery-charging
	Grid Tie
	Hybrid

\*Available on request

## Technical Specifications

Rated output is the optimal power rating of the turbine at the rated wind speed at sea level. Without a cut-out wind speed power generation is continuous.

The Axial Flux Alternator remains cool while maximum energy is being generated in the form of polyphase high frequency output, reducing inefficiency through energy losses.

The full aerofoil blades are moulded from fibre glass to protect against dust and moisture damage. Rotor turbulence causes self stalling, which allows for almost silent power generation without passive speed control.

The e160<sup>1</sup> conforms to IEC standards and follows the provisions in the directives IEC61400-2 (small wind turbines).

Kestrel Wind Turbines and its global affiliates and dealers are committed to renewable energy generation as well as reducing the use of fossil fuels. Wind power addresses most of the current issues of present renewable power generation options. Kestrel is continuously developing small wind turbine technology to supply personal or business energy demands.

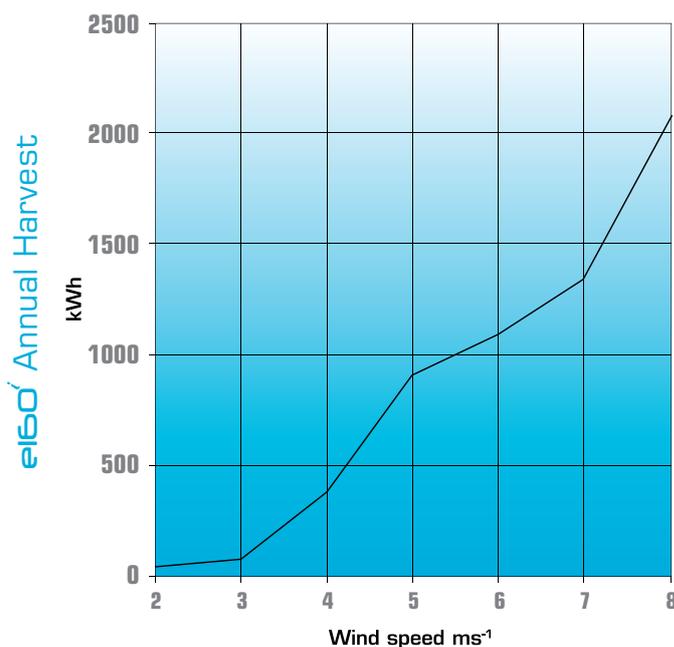
Kestrel is continuously improving current small wind turbines in the Kestrel range to ensure that the highest quality product is distributed. All Kestrel dealers share these values and are trained to support Kestrel's customers in understanding their power requirements and the local wind resource available to them. Also, to evaluate the turbines in the Kestrel range that best accommodates these requirements, assist installations and advise on maintenance procedures.

## Power Generation

Generating your own renewable power is low maintenance as routine maintenance is largely based on visual assessments. Maintenance schedules are designed to suit the local, respective, wind area and power class. With a maximum instantaneous power rating of 700W, annual energy harvests can exceed 2600kWh. Energy may be harvested at any wind speed above the cut-in speed and rated output is maintained at any wind speed exceeding the rated wind speed through rotor turbulence. Energy output is intrinsically linked to regional wind distribution, topology and altitude as well as tower height. Potential energy harvest is estimated using an average wind speed in order to tailor the most suitable Kestrel wind system to your electrical need.

Results may vary based on wind distribution, topology, tower height and altitude. In order to estimate ones own potential energy harvest an average wind speed can be used to give a fair indication

Note: Specifications may vary with continuing development and innovation.



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