



**kestrel**  
wind turbines

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# e230i

Up to 800 watts of power from a high performance three blade turbine  
Affordable clean electricity, adaptable to your needs  
Reliable and convenient with a long-life design  
Suitable for urban living

## Specifications

The e230i is an innovative small wind turbine with an advanced pitch control system that maintains full power in any wind that exceeds the rated wind speed optimising energy harvest capacity.

Compact and durable, the e230i has a low cut-in speed resulting from the advanced technology incorporated in this machine. Modern living demands more applications that require energy usage. The e230i optimises small scale renewable energy output for increased energy efficiency in any specific application.

## Design

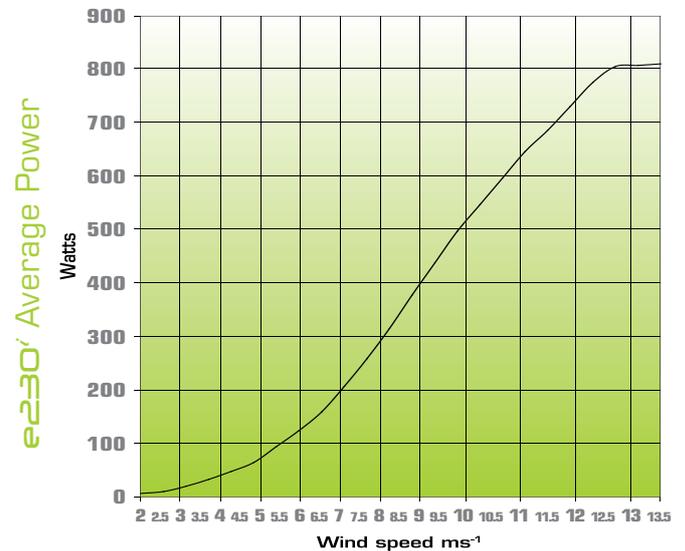
The e230i design minimises start-up torque, which means energy is generated in low wind speeds. The passive pitch control system and power output at low wind speeds increases the energy harvest on an annualised basis, increasing returns to the owner.

The standard finish of an etching marine primer, an intermediate protective coat and a polyurethane two pack finishing coat ensures protection from the elements. With a diameter of 2.3m the e230i is discreet in all installations and is suitable for urban environments.

## Applications

- Replaces noisy generators for back-up power, which pollute due to the reliance on fossil fuels
- Boost solar & other renewable energy installations increasing productivity, reliability & cost effectiveness
- Water pumping systems with optional water pump controller to reduce utility costs
- 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
- Adaptable to meeting many specific electrical needs

## Power • Quality • Affordability



renewable power for life



|                          |  |
|--------------------------|--|
| Small Wind Turbine Class | II                                       |
| Rated Output             | 800W                                     |
| Maximum Power            | 850W at 13ms <sup>-1</sup>               |
| Rated Wind speed         | 12.5ms <sup>-1</sup>                     |
| Cut-in Wind speed        | 2.5ms <sup>-1</sup>                      |
| Generator Type           | Permanent-magnet<br>Axial flux brushless |
| Rotor Diameter           | 2.3m                                     |
| Number of Blades         | 3  |
| Blade Material           | Fibre glass                              |
| Tower Top Mass           | 45kg                                     |
| Tower Height             | 9-18m                                    |
| Tower Type               | Scissor or Guyed                         |
| Overspeed Protection     | Pitch Control                            |
| Controller Type          | Charge or Dump                           |
| Output Voltage           | 12, 24, 36*, 48, 110*<br>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. Rated output is maintained by limiting the output using pitch control in high winds, which prevents over speeding inefficiencies.

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.

The e230i 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.

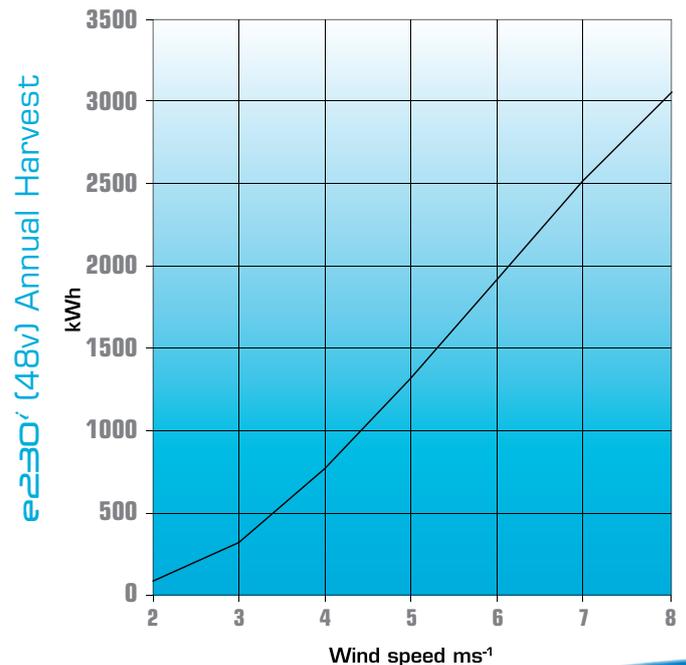
Kestrel is continuously improving current small wind turbines in the Kestrel range to ensure that the highest quality product is distributed. All Kestrel dealers share these values and are trained to support Kestrel's customers in understanding their power requirements and the local wind resource available 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 continuous power rating of 800W, annual energy harvests can exceed 3000kWh. 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 blade pitch control. 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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