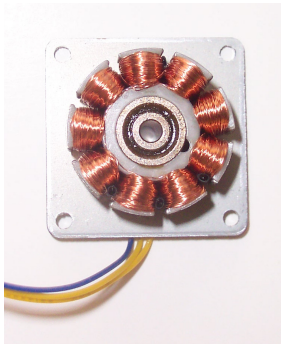
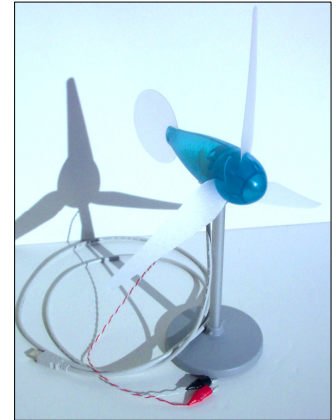




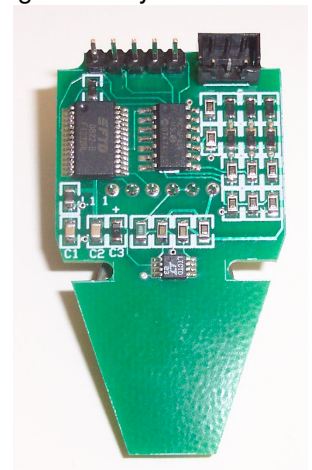
## WindLab 3-Phase Wind Turbine – Quick Look

The **WindLab™ 3-Phase Wind Turbine Interface** is based on a unique 3-phase alternator wind turbine that mimics the operation of commercial wind turbines that dot our countryside. What looks like a toy is really a powerful renewable energy teaching tool.

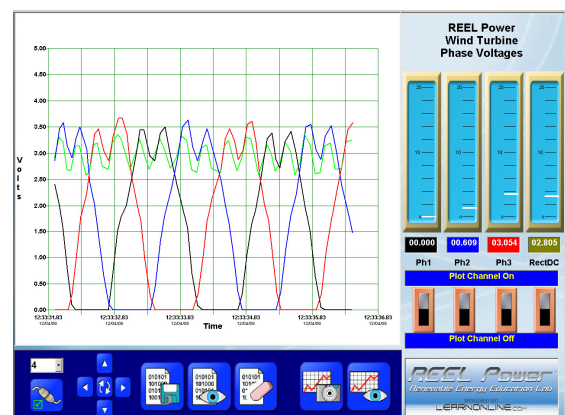
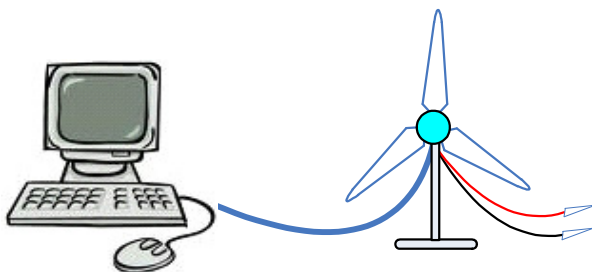


The **WindLab™ 3-Phase Wind Turbine** uses a 3-phase alternator (pictured here) to produce “commercial grade” electrical power. Plus, the alternator is packaged in a rugged and attractive plastic enclosure that will insure positive experimental results. This is an important distinction since all commercial wind turbines are ruggedly built and have 3-phase alternators, so by studying how the **WindLab™ 3-Phase Wind Turbine** works, you will learn how the commercial wind turbines work to make clean, non-polluting electricity.

However, what makes the **WindLab™ 3-Phase Wind Turbine Interface** especially interesting is the microprocessor-based circuit board supplied with this product that fits inside the plastic enclosure and interfaces the 3-phase alternator to your computer via a USB port. With this capability you can study the 3-phase nature of electricity (below) as well as the effects of resistive loads on the alternator – similar to the loads presented to commercial wind turbines. The graphical computer display shows the relationship among voltage, current and power along with the speed of the propeller rotation in revolutions per minute (RPM) that is critical to the power output of the alternator.



Just plug in the custom USB cable to your computer, add a resistor or capacitor load to the clip leads and witness how the wind turbine performs with 3 or 6 blades under different wind conditions that you generate. All commercial wind turbines use 3-phase power generating alternators, so why not study a model wind turbine built around the same technology.



In addition to learning about electrical and mechanical principles with the **WindLab™ 3-Phase Wind Turbine Interface**, you will also learn about blade design and how it affects power output. When you put your mind to it, you will come away learning not only about wind turbine technology but about the electrical and mechanical parameters that go into making it work.