

# Anemometer

## (Order Code ANM-BTA)



The Vernier Anemometer is a device for measuring wind speed. You can also

- Measure the wind speed of air generated by a variable speed fan.
- Use the anemometer and a Vernier Energy Sensor to investigate the effect of design, number, and size of rotors and blades of a windmill's electrical energy output.
- Use the anemometer and a Vernier Infrared Thermometer to determine how wind speed affects the rate of cooling of an object.
- Investigate why wind speed is slower over land than it is over the ocean.
- Use an anemometer and a compass to determine wind direction.

**Note:** Vernier products are designed for educational use. Our products are not designed nor recommended for any industrial, medical, or commercial process such as life support, patient diagnosis, control of a manufacturing process, or industrial testing of any kind.

### Compatible Software and Interfaces

See [www.vernier.com/manuals/anm-bta](http://www.vernier.com/manuals/anm-bta) for a list of software compatible with the Anemometer.

### Getting Started

1. Connect the sensor to the interface (LabQuest Mini, LabQuest 3, etc.).
2. Start the appropriate data-collection software (Vernier Graphical Analysis®, LabQuest® App, or Logger Pro™) if not already running, and choose New from File menu. The software will identify the sensor and load a default data-collection setup. You are now ready to collect data.

If you are collecting data using a Chromebook™, mobile device such as iPad® or Android™ tablet, or a Vernier wireless interface, please see the following link for up-to-date connection information:

[www.vernier.com/start/anm-bta](http://www.vernier.com/start/anm-bta)

### Using the Sensor

To use the anemometer, hold it so that the wind blows directly into the anemometer. This will cause the impeller to spin. The anemometer also has a standard 1/4 – 20 mount that will connect to any standard camera mount on a tripod.

### Calibration

You should not have to perform a new calibration when using the anemometer. We have set the sensor to match our stored calibration before shipping it. You can simply use the appropriate calibration value that is stored in the data-collection program.

### Specifications

Operational range	0.5–30 m/s
Power	7 mA @ 5VDC
Operating temperature	0°C to 50°C
Storage temperature	–20°C to 60°C

### How the Sensor Works

The Vernier Anemometer is an impeller-type anemometer with the axis of rotation parallel to the direction of the wind. It uses a magnet located in the impeller and an inductor. Wind causes rotation of the impeller, magnet, and shaft. The rotation of the magnet produces an electrical signal proportional to the wind speed.

### Troubleshooting

Troubleshooting information is available at [www.vernier.com/til/2320](http://www.vernier.com/til/2320)

### Repair Information

If you have followed the troubleshooting steps and are still having trouble with your Anemometer, contact Vernier Technical Support at [support@vernier.com](mailto:support@vernier.com) or call 888-837-6437. Support specialists will work with you to determine if the unit needs to be sent in for repair. At that time, a Return Merchandise Authorization (RMA) number will be issued and instructions will be communicated on how to return the unit for repair.

### Available Supporting Curricula

The *Renewable Energy with Vernier* lab book (order code REV) contains the following experiments for the Vernier Anemometer.

- Experiment 12 – "Turbine Efficiency"
- Experiment 13 – "Power Curves"

### Warranty

Warranty information for this product can be found on the Support tab at [www.vernier.com/anm-bta](http://www.vernier.com/anm-bta)

General warranty information can be found at [www.vernier.com/warranty](http://www.vernier.com/warranty)

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