



## WINDSONIC1-L

### 2-D Sonic Wind Sensor with RS-232 Output



## No Moving Parts

Minimizes routine maintenance costs

### Overview

The WindSonic1 is a two-dimensional ultrasonic anemometer for measuring wind direction and speed. It provides an alternative to traditional mechanical cup and vane or propeller and vane anemometers. This sonic wind sensor outputs an RS-232 signal that can be directly read by a compatible Campbell Scientific data logger. (See the [Compatibility section](#).)

The Windsonic1 is not recommended for conditions where rime, ice, or horizontal snow will occur. This sensor is not heated. Please contact Campbell Scientific for information on a heated 2-D sonic anemometer that will work in these conditions.

**Note:** The mounting equipment supplied with this sensor may vary depending on which Campbell Scientific regional office the sensor is ordered from.

### Benefits and Features

- ▶ Low maintenance—no moving parts significantly reduces maintenance cost and time
- ▶ Provides a minimum detectable wind speed of 0.01 meters per second
- ▶ Compatible with the SDM-SIO1A, which increases the number of sensors one data logger can measure

### Detailed Description

The WindSonic1 uses two pairs of orthogonally oriented transducers to sense the horizontal wind. The transducers bounce the ultrasonic signal from a hood, thus minimizing the effects of transducer shadowing and flow distortion.

Unlike mechanical anemometers, the WindSonic1 has no moving parts to be periodically replaced—minimizing routine maintenance costs.

Four WindSonic1 anemometers can be connected to a single CR1000, CR3000, CR300, CR310, CR6, or CR1000X datalogger. Two WindSonic1 anemometers can be connected to a single CR800 or CR850 datalogger.



## Specifications

Applications	<ul style="list-style-type: none"><li>› Extreme (Blowing sand. Very little maintenance required. Will handle salt spray.)</li><li>› General (Rain with light snow. Little or no riming or blowing sand. No salt spray.)</li></ul>
Sensor	2-dimensional ultrasonic anemometer
Measurement Description	Wind speed and direction
Input Voltage	9 to 30 Vdc
Typical Current Drain	~15 mA (continuous)
Operating Humidity Range	< 5% to 100% RH
Operating Temperature Range	-35° to +70°C
Storage Temperature Range	-40° to +80°C
Measurement Frequency	40 Hz block averaged to a 1 Hz output frequency
Outputs Parameters	Polar (direction and speed) or orthogonal ( $U_x$ and $U_y$ wind)
Output Signal	RS-232

Maximum Cable Capacitance	2500 pF
Maximum Cable Length	15.24 m (50 ft) For configurations requiring longer cable lengths, consider using the <a href="#">WindSonic4-L 2-D Sonic Wind Sensor with SDI-12 Output</a> instead, or contact Campbell Scientific for other options.
Diameter	14.2 cm (5.6 in.)
Length	16.0 cm (16.3 in.)
Weight	0.5 kg (1.1 lb)

### Wind Direction

Range	0° to 359° (no dead band)
Accuracy	±3°
Resolution	1°

### Wind Speed

Range	0 to 60 m/s
Accuracy	±2% (@ 12 m s <sup>-1</sup> )
Resolution	0.01 m/s

For comprehensive details, visit: [www.campbellsci.com/windsonic1](http://www.campbellsci.com/windsonic1) 



Campbell Scientific, Inc. | 815 W 1800 N | Logan, UT 84321-1784 | (435) 227-9120 | [www.campbellsci.com](http://www.campbellsci.com)  
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