

# Reliable, Accurate Wind Speed

Compatible with all Campbell  
Scientific dataloggers



## Overview

The 034B combines a three-cup anemometer and vane into a single integrated package to measure wind speed and direction.

It is cabled for use with our dataloggers, and can provide measurements for a variety of applications.

## Benefits and Features

- › Designed for continuous, long term, unattended operation in adverse conditions
- › Constructed of light-weight aluminum

## Technical Description

### Wind Speed

The 034B monitors wind speed using a three-cup anemometer that contains a sealed magnetic reed switch. Rotation of the cup wheel produces a pulse that is directly proportional to wind speed. The

frequency of the pulse is measured by the datalogger pulse count channel, then converted to engineering units (mph,  $m s^{-1}$ , knots).

### Wind Direction

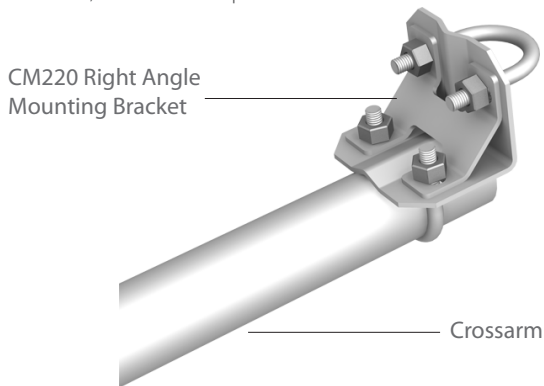
Wind direction is sensed with a potentiometer. With the precision excitation voltage from the datalogger applied to the potenti-

ometer element, the output signal is an analog voltage that is directly proportional to the azimuth of the wind direction.



## Mounting

The 034B can be attached to a Campbell Scientific crossarm using a 17953 Nu-Rail fitting or a CM220 Right Angle Mounting Bracket. Alternatively, the 034B can be attached to the top of our stainless-steel tripods via the CM216 Sensor Mounting Kit. The CM216 extends 4 inches above the mast of a CM106B, CM110, CM115, or CM120 tripod.



A closeup of the CM220 Right Angle Mounting Bracket shows the construction and crossarm attachment.

## Ordering Information

### Wind Speed and Direction Sensor

**034B-L** 034B Wind Set with user-specified cable length. Enter length in feet after the -L. A cable termination option is required (see below).

### Cable Termination Options (choose one)

- PT** Cable terminates in stripped and tinned leads for direct connection to a datalogger's terminals.
- PW** Cable terminates in a connector for attachment to a pre-wired enclosure.
- RQ** Cable terminates in connector for attachment to a RAW5 weather station.

### Mounts

- CM220** Right Angle Mounting Bracket for attaching the 034B to a crossarm, such as a CM202, CM204, or CM206.
- 17953** 1-inch-by-1-inch Nu-Rail Fitting for mounting the 034B to a crossarm, such as a CM202, CM204, or CM206.
- CM216** Sensor Mounting Kit for attaching the 034B to the top of a CM106B, CM110, CM115, or CM120 tripods or CM300-series poles.

### Cable Length Recommendations<sup>1</sup>

CM106B <sup>2</sup>	CM110 <sup>2</sup>	CM115 <sup>2</sup>	CM120 <sup>2</sup>	UT10	UT20	UT30
4 m (13 ft)	4 m (13 ft)	6 m (19 ft)	7 m (24 ft)	4 m (13 ft)	7 m (24 ft)	10 m (34 ft)

#### Notes:

1. The lengths assume the sensor is mounted atop the tripod/tower at the end of a 2 ft crossarm.
2. The lengths assume the enclosure is mounted to the tripod mast. If it is mounted to the leg base, add 0.6 m (2 ft) to the cable length.

## Specifications

- › Operating Temperature Range: -30° to +70°C
- › Weight: 907 g (2 lb)

### Wind Direction

- › Range
  - Mechanical: 360°
  - Electrical: 356° (4° open)
- › Accuracy: ±4°
- › Resolution: <5°
- › Damping Ratio: 0.25
- › Potentiometer Resistance: 0 to 10 kΩ open at crossover
- › Vane Length: 33.5 cm (13.2 in)

### Wind Speed

- › Range: 0 to 75 m s<sup>-1</sup> (0 to 167 mph)
- › Accuracy
  - < 10.14 m s<sup>-1</sup> (22.7 mph): 0.1 m s<sup>-1</sup> (0.25 mph)
  - > 10.14 m s<sup>-1</sup> (22.7 mph): ±1.1% of true
- › Resolution: (0.7998 m s<sup>-1</sup>)/(scan rate in seconds) or (1.789 mph)/(scan rate in seconds)
- › Starting Threshold: 0.4 m s<sup>-1</sup> (0.9 mph)
- › Sensor Output: Pulsed contact closure
- › Anemometer Height: 24.4 cm (9.6 in)
- › Anemometer Radius: 10.7 cm (4.2 in)

**Note:** The 034B is manufactured by Met One Instruments (Grants Pass, OR) but is cabled by Campbell Scientific for use with our dataloggers.



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