

Wind Speed and Direction Sensors

Met One 034A

The 034A Windset combines an anemometer and vane into a single integrated package. Manufactured by Met One, the 034A is cabled for use with our CR510, CR10(X), 21X, CR23X, CR7, CR5000, and CR9000(C) dataloggers. Constructed of light-weight aluminum, the 034A is a rugged instrument designed for continuous long-term operation.

Wind Speed

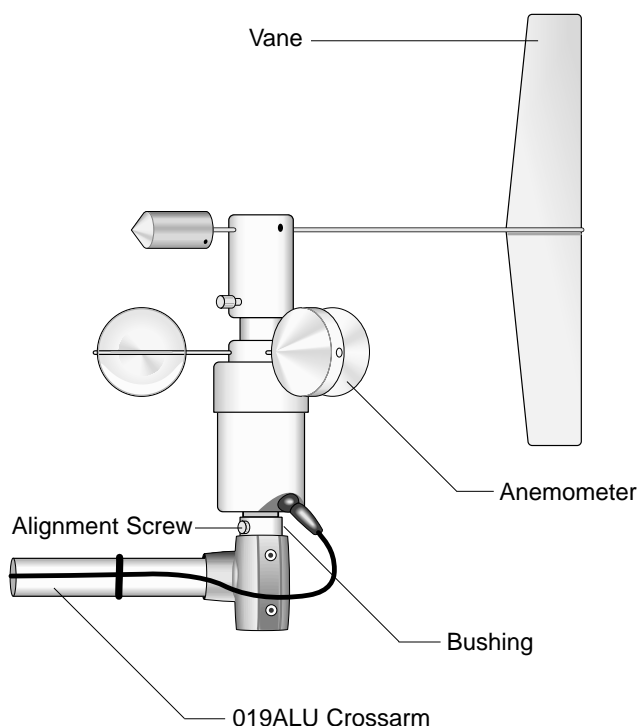
The wind speed sensor is a three-cup anemometer with a sealed magnetic reed switch. Rotation of the cupwheel produces a pulse that is directly proportional to wind speed. The frequency of the pulse is measured by the datalogger pulse count channel, then converted to engineering units (mph, $m\ s^{-1}$, knots).

Wind Direction

Wind direction is sensed with a potentiometer. With the precision excitation voltage from the datalogger applied to the potentiometer element, the output signal is an analog voltage that is directly proportional to the azimuth of the wind direction.

Mounting

The 034A is attached to the 019ALU Crossarm with a 0.75 x 1.0 inch Nu-Rail connector (supplied with 019ALU). The 034A/019ALU is mounted atop the masts of our CM6 and CM10 tripods and our UT10, UT20, and UT30 towers.



Ordering Information

034A-L User specifies lead length, which is entered in feet after L. Specify an 11-foot lead length (034A-L11) for a tripod or UT10 tower, a 23-foot lead length (034A-L23) for a UT20 tower, and a 34-foot lead length (034A-L34) for a UT30 tower.

Specifications

Wind Speed

Accuracy:	$\pm 0.11\ m\ s^{-1}$ ($\pm 0.25\ mph$) when less than $10.1\ m\ s^{-1}$ (22.7 mph) $\pm 1.1\%$ of true when more than $10.1\ m\ s^{-1}$ (22.7 mph)
Starting Threshold:	$0.4\ m\ s^{-1}$ (0.9 mph)
Operating range:	0 to $49\ m\ s^{-1}$ (110 mph)
Sensor Output:	Pulsed contact closure



CAMPBELL SCIENTIFIC, INC.

815 W. 1800 N. • Logan, Utah 84321-1784 • (435) 753-2342 • FAX (435) 750-9540 • www.campbellsci.com

Specifications (continued)

Wind Direction

Accuracy:	$\pm 4^\circ$
Starting Threshold:	0.4 m s ⁻¹ (0.9 mph)
Damping ratio:	0.25
Operating range:	0° to 360° mechanical 0° to 356° electrical
Resolution:	0.5°
Sensor Output:	10 kohm potentiometer

Assembly

Operating temperature range:	-30° to +70°C
Weight:	907 g (2 lbs)



CAMPBELL SCIENTIFIC, INC.

815 W. 1800 N. • Logan, Utah 84321-1784 • (435) 753-2342 • FAX (435) 750-9540
Offices also located in: Australia • Brazil • Canada • England • France • South Africa

Copyright © 1997, 2000
Campbell Scientific, Inc.
Printed April 2000