



The Sonic Anemometer is designed to measure wind-related conditions without moving parts. Pairs of electro-acoustic transducers in the anemometer send sonic pulses back and forth, and measure the time it takes for the pulse to travel from one to the other. This time is affected by the movement of the air, which allows the anemometer to calculate wind speed and direction, calibrated by temperature measurements. The sonic anemometer has its own solar panel, so requires no external power. It can be used with an EnviroMonitor® Node to add wind data to an EnviroMonitor system, as well as a replacement anemometer to your Davis weather station. Installed in a Sensor Transmitter, it can be used to include additional wind stations in your existing system when reporting to a WeatherLink Live™.

## General

Operating Temperature.....	+5°F to +131°F (–15°C to +55°C)
Sensor Type .....	Ultrasonic sensor
Attached Cable Length .....	40' (12 m)
Cable Type .....	4-conductor, 26 AWG
Connector .....	Modular connector (RJ-11)
Maximum Cable Length .....	250' (76 m)

Note: Maximum displayable wind speed decreases as cable increases.

Material	
Control Head .....	Polyacetal
Anemometer Arm .....	Clear-anodized aluminum
Dimensions (length x width x height) .....	15.0" x 2.4" (380 mm x 60 mm)
Weight .....	7 oz. (200 g)

## Sensor Output

### Wind Direction

Display Resolution .....	16 points (22.5°) on compass rose, 1° in numeric display
Accuracy .....	±2 degrees at wind speeds ≥ 7 mph (6 kts, 110 km/h, 3 m/s) ±4 degrees at wind speeds < 7 mph (6 kts, 110 km/h, 3 m/s)

### Wind Speed

Resolution and Units .....	Measured in 1 mph. Other units are converted from mph and rounded to nearest 1 km/h, 0.1 m/s, or 1 knot
Range .....	0 to 89 mph, 0 to 78 knots, 0 to 40 m/s, 0 to 144 km/h
Accuracy .....	±2 mph (2 kts, 3 km/h, 1 m/s) or ±4%, whichever is greater
Maximum Cable Length .....	250' (76 m). Maximum wind speed reading decreases as length of cable increases.

## Input/Output Connections

Black .....	Wind speed contact closure to ground
Red .....	Ground
Green .....	Wind direction pot wiper (20KΩ potentiometer)
Yellow .....	Pot supply voltage
Wind Speed Translation Formula .....	$V = P(2.25/T)$ ( $V$ = speed in mph, $P$ = no. of pulses per sample period $T$ = sample period in seconds)
Wind Direction Translation .....	Variable resistance 0 - 20KΩ; 10KΩ = south, 180°

## Package Dimensions

Product #	Package Dimensions (Length x Width x Height)	Package Weight	UPC Codes
6415	16.5" x 4.5 x 5.5" (419 mm x 114 mm x 140 mm)	2.0 lbs. (.9 kg)	011698013913