

The YOUNG Model 81000 Ultrasonic Anemometer is a 3-axis, no moving parts wind sensor. It is perfectly suited for applications requiring fast response, high resolution and three-dimensional wind measurement.

The sensor features durable corrosion-resistant construction with 3 opposing pairs of ultrasonic transducers supported by stainless steel members. The transducers are arranged so that measurements are made through a common volume. A fast, 160 Hz internal sampling rate ensures superior measurement resolution. Output rates from 4 to 32 Hz may be selected. Each 81000 is individually wind-tunnel tested and calibrated to compensate for wind shadow effects of the support structure.

Model 81000 features four voltage output channels. Serial RS-232 and RS-485 outputs are available as well. For applications requiring synchronized analog measurement Model 81000V includes four voltage input channels instead of voltage outputs. Wind, sonic temperature and voltage input data are transmitted serially. For each model, a variety of preset or custom output format options may be selected by the user.

Both models install on standard 1 inch pipe. Wiring connections are housed in a convenient weatherproof junction box.



Specifications

Wind Speed: 0 to 40 m/s (0 to 90 mph)
Resolution: 0.01 m/s
Threshold: 0.01 m/s
Accuracy: $\pm 1\%$ rms ± 0.05 m/s (0 to 30 m/s)
 $\pm 3\%$ rms (30 to 40 m/s)

Wind Direction 0 to 360 degree
Elevation Range: ± 60 degree
Resolution: 0.1 degree
Accuracy: ± 2 degrees (1 to 30 m/s)
 ± 5 degrees (30 to 40 m/s)

Speed of Sound 300 to 360 m/s
Resolution: 0.01 m/s
Accuracy: $\pm 0.1\%$ rms ± 0.05 m/s (0 to 30 m/s)

Sonic Temperature -50 to +50 °C
Resolution: 0.01 °C
Accuracy: ± 2 °C (0 to 30 m/s)

Serial Output:
RS-232 or RS-485
1200 to 38400 baud
4 to 32 Hz (user-selected)
User Programmable ASCII output configuration
(select from U, V, W, Speed of sound, Sonic temperature, 2D speed, 3D speed, Azimuth Elevation)
Preset outputs
NMEA- Marine Standard
RMYT- Young Wind Tracker
Units: m/s, cm/s, MPH, Knots, Km/hr

Analog Voltage Outputs (81000)
4 voltage outputs, 0 to 5000 m
(select from U, V, W, Sonic temperature c Speed, Azimuth, Elevation, Sonic temperature)

Voltage Input (81000V)
Range: 0 to 5000 mV, V1 & V2
0 to 1000 mV, V3 & V4
Resolution: 1 part in 4000
Accuracy: $\pm 0.1\%$ of full scale

Power Requirement
12 to 24 VDC, 110 mA

Operating Temperature
-50 to +50 °C

Dimensions:
56cm high x 17cm radius (3 support arms)
Weight: 1.7 kg (3.8 lb)
Shipping Weight: 4.5 kg (10 lbs)

Ordering Information

MODEL

ULTRASONIC ANEMOMETER- VOLTAGE & SERIAL OUTPUTS	81000
ULTRASONIC ANEMOMETER- VOLTAGE INPUTS, SERIAL OUTPUTS ONLY	81000V

CE Complies with applicable CE Directives



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