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 8100C 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.

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**Specifications**

- **Wind Speed**: 0 to 40 m/s (0 to 90 mph)
- **Resolution**: 0.01 m/s
- **Threshold**: 0.01 m/s
- **Accuracy**: ± 1% rms ± 0.05 m/s (0 to 30 m/s) ± 3% rms (30 to 40 m/s)
- **Wind Direction**: 0 to 360 degrees
- **Elevation Range**: ± 60 degrees
- **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**: ± 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 bau
- 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

**Analog Voltage Outputs (81000V):**
- 4 voltage outputs, 0 to 5000 mV (select from U, V, W, Sonic temperature)
- 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: ± 0.1% of full scale

**Power Requirements:**
- 12 to 24 VDC, 110 mA

**Operating Temperature:**
- -50 to +50 °C

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

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**Ordering Information**

<table>
<thead>
<tr>
<th>ULTRASONIC ANEMOMETER - VOLTAGE &amp; SERIAL OUTPUTS</th>
<th>81000</th>
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<tr>
<td>ULTRASONIC ANEMOMETER - VOLTAGE INPUTS, SERIAL OUTPUTS ONLY</td>
<td>81000V</td>
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