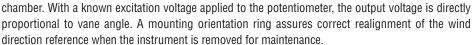


The Wind Monitor is a high performance, rugged wind sensor. Its simplicity and corrosionresistant construction make it ideal for a wide range of wind measuring applications.

The wind speed sensor is a four blade helicoid propeller. Propeller rotation produces an AC sine wave voltage signal with frequency directly proportional to wind speed. Slip rings and brushes are eliminated for increased reliability.

The wind direction sensor is a rugged yet lightweight vane with a sufficiently low aspect ratio to assure good fidelity in fluctuating wind conditions. Vane angle is sensed by a precision potentiometer housed in a sealed



PULL

The instrument is made of UV stabilized plastic with stainless steel and anodized aluminum fittings. Precision grade, stainless steel ball bearings are used. Transient protection and cable termina-



tions are in a convenient junction box. The instrument mounts on standard 1 inch pipe.

For offshore and marine use, **Model 05106**, **Wind Monitor-MA** features special waterproof bearing lubricant and a sealed, heavy duty cable pigtail in place of the standard junction box. Seperate signal conditioning for voltage or current outputs is available.

The Wind Monitor is available with two additional output signal options. **Model 05103V** offers calibrated 0-1 VDC outputs (0-5 VDC optional), convenient for use with many datajoggers.

**Model 05103L** provides a calibrated 4-20 mA current signal for each channel, useful in high noise areas or for long cables (up to several kilometers). Signal conditioning electronics are integrated into the sensor junction box.

# Ordering Information MODEL WIND MONITOR .05103 WIND MONITOR 0-1 VDC OUTPUTS .05103V\* WIND MONITOR 4-20 MA OUTPUTS .05103L\* WIND MONITOR-MA (MARINE MODEL) .05106 WIND SENSOR INTERFACE (FOR USE WITH 05106) 0-1 VDC .05603B\* WIND LINE DRIVER (FOR USE WITH 05106) 4-20 MA .05631B\* \*SPECIFY SUFFIX FOR DESIRED WIND SPEED SCALE: .050 M/S 0-100 MPH .05100 MPH 0-100 KNOTS .050 M/S



### Range:

Wind speed: 0-60 m/s (134 mph) Gust survival: 100 rn/s (220 mph)

Azimuth: 360° mechanical, 355° electrical (5° open)

### Accuracy:

Wind speed: ±0.3 rn/s (0.6 mph) Wind direction: ±3 degrees

### Threshold:†

Propeller: 1.0 m/s (2.2 mph) 05103, 1.1 m/s (2.4 mph) 05106 Vane: 1.1 m/s (2.4 mph) 05103, 1.3 m/s (2.9 mph) 05106

### Dynamic Response:\*

Propeller distance constant (63% recovery) 2.7 m (8.9 ft) Vane delay distance (50% recovery) 1.3 m (4.3 ft) Damping ratio: 0.3

Damped natural wavelength: 7.4 m (24.3 ft) Undamped natural wavelength: 7.2 m (23.6 ft)

### Signal Output:

Wind speed: magnetically induced AC voltage, 3 pulses per revolution. 1800 rpm (90 Hz) = 8.8 m/s (19.7 mph) Azimuth: analog DC voltage from conductive plastic potentiometer- resistance 10K  $\Omega$ , linearity 0.25%, life expectancy- 50 million revolutions

# Power Requirement:

Potentiometer excitation: 15 VDC maximum

### **Dimensions:**

Overall height: 37 cm (14.6 in) Overall length: 55 cm (21.7 in) Propeller: 18 cm (7 in) diameter

Mounting: 34 mm (1.34 in) diameter (standard 1 inch pipe)

## Weight:

Sensor weight: 1.0 kg (2.2 lbs) Shipping weight: 2.3 kg (5 lbs)

\*Nominal values, determined in accordance with ASTM standard procedures

# MODEL 05103V **0-1 VDC outputs**

# Power Requirement:

8-24 VDC (5 mA @ 12 VDC)

# Operating Temperature:

-50 to 50° C

# **Output Signals:**

0-1.00 VDC full scale 0-5.00 VDC optional

# MODEL 05631 4-20 mA outputs

### Power Requirement:

8-30 VDC (40 mA max.)

# Operating Temperature:

-50 to 50° C

# Output Signals:

4-20 mA full scale



R.M. YOUNG COMPANY

2801 Aero-Park Drive Traverse City, Michigan 49686 U.S.A. TEL: (616) 946-3980 FAX: (616) 946-4772

E-mail: met.sales@youngusa.com