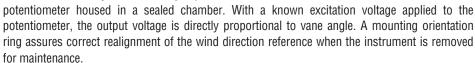
# High Performance Wind Sensor



The Wind Monitor is a high performance, rugged wind sensor. Its simplicity and corrosion-resistant 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



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 terminations 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. Separate signal conditioning for voltage or current outputs is available.

The Wind Monitor is available with two additional output signal options. **Model 05103V** offers calibrated 0-5 VDC outputs, convenient for use with many dataloggers. **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 InformationMODELWIND MONITOR05103WIND MONITOR 0-5 VDC OUTPUTS05103VWIND MONITOR 4-20 MA OUTPUTS05103LWIND MONITOR-MA (MARINE MODEL)05106WIND SENSOR INTERFACE (FOR USE WITH 05106) 0-5 VDC05603CWIND LINE DRIVER (FOR USE WITH 05106) 4-20 MA05631C

# **Specifications**

#### Range:

Wind speed: 0-100 m/s (224 mph)
Azimuth: 360° mechanical, 355° electrical (5° open)

#### ccuracy:

Wind speed: ±0.3 m/s (0.6 mph) or 1% of reading Wind direction: ±3 degrees

#### Threshold:\*

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

#### 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)

#### Weinht.

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 0-5 VDC outputs

### Power Requirement:

8-24 VDC (5 mA @ 12 VDC)

#### **Operating Temperature:**

-50 to 50° C

#### Output Signals:

0-5.00 VDC full scale

# MODEL 05103L 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

C Complies with applicable CE directives.
Specifications subject to change without notice.

