

wind

Marine Wind Sensor



Model 05106
Wind Monitor MA

The Wind Monitor MA is an accurate and reliable wind sensor specifically designed for the rigors of the marine environment.

The wind speed sensor is a four blade helicoid propeller. Unique transducer produces a pulse signal without electrical contacts or slip rings.

The wind direction sensor is a durable molded vane. Vane angle is sensed by a precision potentiometer housed in a sealed chamber. With a known voltage applied to the potentiometer, the output voltage is directly proportional to vane angle.

All materials are carefully selected for corrosion resistance and maximum durability in the harsh marine environment. Stainless steel bearings are used throughout. Special waterproof lubricant further enhances reliability. The instrument mounts on standard 1 inch pipe.

For specific applications, separate signal conditioning devices are available. **Model 05603C**



Wind Sensor Interface offers calibrated 0-5VDC outputs for wind speed and wind direction. **Model 05631C Wind Line Driver** provides calibrated 4-20 mA current signals for each channel, useful in high noise areas or for long cables of up to several kilometers. Each interface circuit is supplied in a weatherproof junction box with mounting hardware for installation near the sensor.

Specifications

Range:

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

Accuracy:

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 Ω , 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 05603C 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 05631C 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

 Complies with applicable CE directives.
Complies with EN60945

Specifications subject to change without notice.

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