



wind

## *Marine Wind Sensor*



Model 05106  
**Wind Monitor MA**



# YOUNG

## 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. Extremely durable oversized ceramic bearings are used throughout. In addition to being more wear resistant, ceramic bearings are more corrosion resistant in environments that are hostile to steel bearings. 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.



Wind Monitor – MA pictured with Marine Wind Tracker display.



Ceramic bearings are long lasting and corrosion resistant.

### Specifications

#### Range:

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

#### Accuracy:

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

#### Threshold\*:

Propeller: 1.1 m/s (2.4 mph)  
Vane: 1.1 m/s (2.4 mph)

#### 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)

#### Power Requirement:

Potentiometer excitation: 15 VDC maximum

#### Operating Temperature:

-50 to +60° C

#### 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

#### 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 +60° 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 +60° C

#### Output Signals:

4-20 mA full scale

 Complies with applicable CE directives.  
Complies with EN60945

*Specifications subject to change without notice.*

### Ordering Information

### MODEL

WIND MONITOR MA – 3M CABLE PIGTAIL, NO CONNECTOR .....	05106
WIND MONITOR MA – 8M CABLE PIGTAIL, NO CONNECTOR .....	05106-8M
WIND MONITOR MA – 12M CABLE PIGTAIL, NO CONNECTOR .....	05106-12M
WIND MONITOR MA – 3M CABLE, WATERPROOF CONNECTOR .....	05106C
* FOR LONGER CABLE LENGTHS, PLEASE CONTACT US FOR PRICING	
WIND SENSOR INTERFACE (0-5 VDC).....	05603C
WIND LINE DRIVER (4-20 mA) .....	05631C
Sensor Cable (6 COND SHIELDED) .....	18721



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