Wind Monitor - Wind Speed and Direction Sensors

The Model WS-05103 series Wind Monitors are professional quality sensors suitable for a wide range of wind measurements.
Originally developed for ocean buoy use, these sensors are rugged and corrosion resistant

Materials used have been carefully selected to maximise the accuracy and long life of the sensors. The main housing, nose cone, propeller and other internal parts are injection moulded U.V. stabilised plastic. Precision stainless steel bearings are used throughout. The bearings have light contacting teflon seals and are filled with a low torque, wide temperature range grease to help exclude contamination and moisture.

Propeller rotation produces an AC sine wave signal with frequency proportional to wind speed. Vane position is transmitted by a 10kΩ conductive plastic potentiometer with a life expectancy of 50 million revolutions. The potentiometer requires an excitation voltage.

Models are available giving 4-20mA or 0-5VDC analog outputs.

The sensors include a junction box and mounting for a standard 34mm pipe.

A special model, the Wind Monitor Marine, features special waterproof bearing lubricant and a fixed, sealed heavy duty cable rather than the standard junction box. The Marine model is designed for the challenging conditions encountered in marine and offshore use.

SPECIFICATIONS:

Range (base model):

Speed:	0-100m/s (360km/hour)
Direction:	mechanical: 360°
	electrical: 355°

Accuracy:

Speed:	0.3m/s (1.1 km/hr)
Direction:	±3°

Threshold:

Speed:	1.0m/s (3.6 km/hr)
Direction:	1.1m/s (4.0 km/hr) at 10°

Dynamic Response:

Speed:	Propeller distance constant - 2.7m.
Direction:	Vane delay distance - 1.3m.
Damping ratio:	0.3

Signal Output:

Speed:	AC sine wave, 3 pulse/rev.
	125mV p-p at 100 rpm.
	1800 rpm (90Hz) = 8.8 m/s (31. km/hr)
Direction:	Analog DC voltage from 10KΩ conductive plastic potentiometer with DC excitation

ORDERING INFORMATION:

Model	Description
WS-05103	Wind Monitor Anemometer and Vane Anemometer output is an AC frequency and the vane output is from a 10KΩ potentiometer. Includes junction box and post mount.
WS-05103L*	Wind Monitor Anemometer and Vane Outputs are 4-20mA DC full scale Includes junction box and post mount.
WS-05103V*	Wind Monitor Anemometer and Vane Outputs are 0-1V DC full scale 0-5V DC optional Includes junction box and post mount.
WS-05106	Wind Monitor-MA (Marine) Anemometer and Vane Includes fixed heavy duty sealed cable
WS-05603B*	Wind Sensor Interface for WS-05106 - Output 0-1VDC
WS-05631B*	Wind Line Driver for WS-05106 Outputs 4-20mA

*** Specify suffix for desired wind speed scale:**

0-100 m/s	Add suffix “M”
0-224 mph	Add suffix “P”
0-194 knots	Add suffix “N”
0-360 km/hr	Add suffix “K”

For example: WS-05103LM specifies a sensor with 4-20mA outputs scaled for 0-100 m/s.

Power Requirements:

WS-05103	15V DC maximum pot. excitation
WS-05103L	12-30V DC (40mA max.)
WS-05103V	12-24V DC (5mA at 12V DC)
WS-05631B	12-30VDC (40mA max)

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