

Wind Monitor - SE

Wind Speed and Direction Sensor with serial output



The Model WS-09101 Wind Monitor (the Wind Monitor-SE) combines the performance and durability of the standard Wind Monitor with a unique optical encoder wind direction transducer and serial output signal.

The Wind Monitor-SE offers maximum versatility in a conventional wind sensor. An optical encoder is utilised for vane angle measurement thereby eliminating the characteristic deadband and wear of potentiometer transducers. The encoder is an absolute type so direction output remains accurate even if the power is interrupted.

The wind speed sensor is a 4 bladed helicoid propeller that turns a multi-pole magnet. Rotation induces a variable frequency signal in a stationary coil thus eliminating the need for slip rings and brushes.

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.

Wind speed and direction signals are converted to a serial output by the on-board microprocessor circuit. The serial signal is fully addressable for up to 16 separate sensors. Conventional voltage outputs may also be selected by moving an internal jumper.

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

SPECIFICATIONS:

Range:

Speed: 0-60m/s (216 km/hour)
gust survival 100m/s (360 km/hour)
Direction: 0-360 degrees

Accuracy:

Speed: ± 0.3 m/s (1.1 km/hr)
Direction: ± 2 degrees

Resolution:

Wind Speed 0.1 unit (m/s, knots, mph, kph)
Wind Direction: 1 degree

Threshold:

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

Dynamic Response:

Damped natural wavelength 7.4m
Undamped natural wavelength 7.2m
Damping ratio: 0.3

Available Outputs:

Voltage output: WS 0-5VDC for 0-100m/s
WD 0-5VDC for 540°
Serial RS-485: RMY, NCAR or NMEA protocols.
Polled or continuous output

Operating Temperature:

-50°C to +50°C

Power requirement:

11-24VDC, 20mA

ORDERING INFORMATION:

Model	Order Code
Wind Monitor-SE	WS-09101