



Serial Output Wind Monitor S1422

- 220 mph survival
- Extremely rugged
- Helicoid propeller
- Easy maintenance or replacement

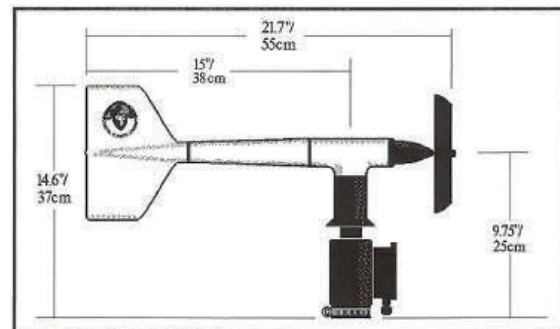
Simplicity and lightweight corrosion resistant construction were principal design considerations for this wind monitor. Slip rings and brushes have been eliminated, resulting in improved reliability with lower cost. Extensive use of modern thermoplastic materials improves resistance to corrosion from sea air environments and from atmospheric pollutants.

The wind speed sensor is an injection molded helicoid shaped propeller. The propeller is four blade, 18 cm diameter by 30 cm pitch, with a distance constant of 3.3 m (10 ft). Wind speed threshold is 1.0 m/s (2.2 mph). Propeller rotation produces an AC sine wave voltage signal with frequency directly proportional to wind speed. The AC voltage signal is induced in a centrally mounted coil by a six pole magnet mounted on the propeller shaft. The coil is located on the non-rotating central portion of the main mounting assembly, eliminating the need for slip rings and brushes.

Vane angle is detected by a custom optical encoder. The encoder is an absolute type, so direction output remains accurate, even if power is interrupted.

Construction is principally of rigid U.V. stabilized thermoplastic with stainless steel and anodized aluminum fittings. Propeller shaft bearings and vertical shaft bearings are stainless steel precision grade ball bearings.

Wind speed and direction signals are converted to a serial output by the on-board microprocessor. The RS-485 sensor is fully addressable, and works in a single or multi-drop fashion with the ZENO[®] Universal Serial Interface.





Technical Specifications

S1422

Speed

Range:	0 - 60 m/s (134 mph) (0 - 125 Kts)
Survival:	100 m/s (220 mph)
Threshold:	1.0 m/s (2.2 mph); 2.0 Kts with select bearings
Distance Constant:	3.3 m (10 ft)
Signal Output:	Sine wave - 90 Hz/8.8 m/s

Direction

Range:	360° - no dead band
Survival:	100 m/s (220 mph)
Threshold:	1.0 m/s (2.2 mph) at 10° displacement
Delay Distance:	1.3 m (4.3 ft)
Signal Output:	RS-485
Power:	Regulated reference voltage for 10K potentiometer

PHYSICAL

Height Overall:	14.6 in (37 cm)
Length Overall:	21.7 in (55 cm) - includes vane & propeller
Propeller Diameter:	7.1 in (18 cm)
Weight:	2.2 lb (1.0 kg)