Wind

NovaVane Wind Speed & Direction Sensors



200-2201 NovaVane Wind Speed & Direction Sensor

The NovaVane Wind Speed and Direction Sensor

is designed for use in high wind and marine environments. It features a sensitive four-blade propeller made of high impact plastic to withstand gale force winds. The body of the sensor is constructed of aluminum and high impact plastic. The base is aluminum with a mounting hole pattern that matches other marine style sensors. The NovaVane provides a single sensor design to measure both wind speed and wind direction. The use of internal wiring and slip rings enables speed and direction transducers to operate inside the same housing. The aerodynamic design of the housing and the materials used in the fabrication of the instrument contribute to the durability and the responsiveness of the sensor.

Wind speed is measured by the response of the propeller to the wind. The propeller is coupled directly to a precision-built four-pole AC generator which produces an alternating current with a voltage that is proportional to the wind velocity. The generator is brushless, providing long life and reliable performance at low temperatures. Wind direction is measured by the response of the aerodynamic body which aligns itself with the direction of the horizontal wind. The sensor shaft is attached directly to the wind direction transducer, producing an output signal which varies in proportion to the horizontal angle of the wind.

Specifications

Wind Speed

Sensor: 4-blade propeller, 13.78" (350 mm) diameter Transducer: AC generator, 4-pole Range: 0-200 mph (0-90 m/s) Output signal: 20 Vac 84 Hz, typical at 100 mph Accuracy: \pm 0.3 m/s for winds less than 10 m/s, \pm 3% for winds greater than 10 m/s (with 1.1K ohm load) Starting speed threshold: 1.5 mph (0.7 m/s) Distance constant: 9.9 ft (3 m)

Wind Direction

Sensor: aerodynamic counter-balanced body Transducer: 200-2201: 1K ohm potentiometer, single-wiper 200-2206: AC synchro, 115 Vac primary, 90 Vac secondary Range: 0-360° azimuth Resolution: 1° (depends upon monitoring device) Output signal: potentiometer 0-1000 ohms typical, synchro 90 Vac, three phase Accuracy: potentiometer linearity ± 2°, synchro ± 2 degrees Threshold: 1.5 mph (0.7 m/s) Damping ratio: 0.36 Power consumption Wind speed: none, self-generating Wind direction: potentiometer 0.1 VA, synchro 25 VA

General

Operating temperature: -50° to +60° C Dimensions: Height: 26.4" (670 mm) Body length: 27.2" (690 mm) Base diameter: 5.9" (150 mm) Weight/shipping: 11.5 lbs/22 lbs (5.2 kg/10 kg)

Ordering Information

200-2201	NovaVane Wind Speed & Direction Sensor,
	AC generator and potentiometer
200-2206	NovaVane Wind Speed & Direction Sensor,
	AC generator and synchro
200-21101	Mast Adaptor, for mounting NovaVane to 1.66"
	(42 mm) o.d. mast
200-03631	Current Loop Converter 4-20 mA
395-304	Termination J-Box
330-0524	Signal Cable for 200-2201, per foot
330-0820	Signal Cable for 200-2206, per foot

