Skyvane Wind Sensor Model 2100

- Heavy-duty wind speed and direction sensor
- For installation in severe environments
- A threshold of 2 mph, will withstand and accurately measure winds up to 200 mph

DESCRIPTION

The Model 2100 Skyvane is a heavy-duty wind speed and direction sensor designed for installation in severe environments. It combines the features of a rugged instrument with response characteristics similar to those of some lightweight cup and vane systems. The Skyvane has a threshold of 2 mph, and will withstand and accurately measure winds up to 200 mph, for limited durations. It is constructed completely of corrosion-resistant materials, and the entire body assembly is balanced to allow use on ships and ocean buoys.

Wind speed is measured by a 4blade propeller coupled to one of three transducers - a high frequency tachometer, an AC generator, or a DC generator. The balanced propeller is fabricated from a special high-impact plastic for maximum sensitivity and strength.

MODELS

The Model 2100 with a HF tachometer transducer is recommended for applications where greatest responsiveness is required because this measuring system is virtually frictionless. It consists of a slotted disc rotating between an oscillator and a receiver; the output is a series of square waves with a frequency proportional to wind speed.

The Model 2101 Skyvane features an AC generator transducer. The brushless design of this generator provides a long life and reliable performance at low temperatures.

The DC generator transducer in the Model 2102 Skyvane is used with devices that require a DC input voltage.

FEATURES

A counterbalanced tail monitors wind direction. Aerodynamic design assures excellent alignment with the wind. The wind direction transducer may be either a conductive plastic potentiometer or a synchro. The 5K-ohm potentiometer has a range of 0° to 360°; electronic switching in the signal conditioning module provides an optional range of 0° to 540°. Potentiometer linearity is 0.5%. The synchro allows continuous indication with no discontinuity at north. It operates on 115 VAC input power provided by the recording or indicating device, which may utilize either 115 or 230 VAC.

MOUNTING

A mast adapter (Model 21101) may be used to mount the Skyvane to a 1.5" (38 mm) O.D. mast.

SENSORS

SPECIFICATIONS

SKYVANE

Wind Speed

Sensor: ..... 4-blade polycarbonate propeller, 13.75" diameter

Transducer:

- Model 2100: ..... high frequency tachometer
- Models 2101, 2106: ..... AC generator
- Model 2102: ..... DC generator

Output:

- Model 2100: ..... 461.34 Hz at 100.0 mph
- Models 2101, 2106: ..... 20.15 Vac at 100 mph
- Model 2102: ..... 13.85 Vdc at 10() mph

Range: ..... 0-200 mph (0-90 m/s)
Accuracy: ..... ±1 mph <30 mph; ±3% >30 mph
Threshold: ..... 2 mph (0.9 m/s)
Tracking: ..... 3 mph (1.3 m/s)
Distance constant: ..... 6.2' (1.9 m)
Input Voltage, HF Tachometer: ..... 12 Vdc
Power, HF Tachometer: ..... 0.12 VA

Wind Direction

Sensor: ..... counterbalanced tail
Transducer:

- Model 2100, 2101, 2102: ..... 5k-ohm potentiometer, single wiper
- Model 2106: ..... AC synchro

Output:

- Potentiometer: ..... 0 to 5000 ohms
- Synchro: ..... 115 Vdc, delta configuration

Range:

- Potentiometer: ..... 0-360° or 0-540°
- Synchro: ..... 0-360°

Accuracy: ..... ±2°, 5° deadband at North
Resolution: ..... <1°
Potentiometer:

- Linearity: 0.5%
- Threshold: ..... 2 mph
- Damping Ratio: 0.36

Input Voltage:

- Potentiometer: ..... 5 Vdc through 2.5k series precision resistor
- Synchro: ..... 115 VAC

Power:

- Potentiometer: ..... 0.01 VA
- Synchro: 25VA

Overall:

- Operating Temperature: ..... -70° to +60°C
- Materials: ..... fiberglass, stainless steel, brass, aluminum, polycarbonate
- Size: ..... 30" H x 29.75" L (762 x 756 mm)
- Mounting: ..... pre-drilled flanged base
- Weight/shipping: ..... 12 lbs/25 lbs (5.4 kg/11.3 kg)

ORDERING INFORMATION

SKYVANE

2100	Skyvane, high frequency tachometer and potentiometer
2101	Skyvane, AC generator and potentiometer
2102	Skyvane, DC generator and potentiometer
2106	Skyvane, AC generator and synchro
21101	Mast Adapter to mount Skyvane to 1.5" (38 mm) o.d. mast
T600505	Cable, 5-conductor, 20 AWG shielded; for 2101, 2102
T600507	Cable, 7-conductor, 20 AWG shielded; for 2100, 2106

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