



IEC Class 1 performance

Ideal for wind energy applications

Overview

The P2546A is a Class 1 anemometer used in wind energy applications. It primarily provides wind speed resource assessment, and wind turbine power performance monitoring. Wind speed is sensed by a three-cup rotor assembly. Magnets mounted on the shaft cause a switch to close and open two times per revolu-

tion. Our dataloggers measure the switch closure and convert the signal to engineering units (mph, m/s, knots).

The P2546A is constructed with durable anodized aluminum and stainless steel. Its switch has no bounce and has a mechanism that reduces the variation in operating time over the frequency range.

Benefits and Features

- › IEC Class 1 performance
- › Constructed from only durable materials such as anodized aluminum and stainless steel
- › No bounce switch
- › Mechanism reduces the variation in operating time over the frequency range
- › Compatible with all of our dataloggers

Ordering Information

Anemometer

P2546A-L WINDSENSOR Wind Anemometer Sensor with user-specified length. Enter length, in feet, after the -L. Must choose a cable termination option (see below).

Cable Termination Options (choose one)

- PT** Cable terminates in stripped and tinned leads for direct connection to a datalogger's terminals.
- PW** Cable terminates in a connector for attachment to a prewired enclosure.

Common Accessories

27739 Mounting Pipe, 30-in. length.

Specifications*

- › Starting Threshold: $< 0.4 \text{ ms}^{-1}$
- › Starting Speed: 0.27 ms^{-1}
- › Gain: 0.6201 m
- › Distance Constant: $\lambda_0 = 1.81 \pm 0.04 \text{ m}$
- › Standard Deviation of Offset: 0.014 ms^{-1}
- › Standard Deviation of Gain: 0.027 m
- › Variation Among Units: $\pm 1\%$
- › Nonlinearity: $< 0.04 \text{ ms}^{-1}$
- › Temperature Influence (-15° to 60°C): $< 0.05 \text{ ms}^{-1}$
- › Signal Type: potential free contact closure
- › Duty Cycle: 40% to 60%
- › Maximum Switching Voltage: 30 V
- › Maximum Recommended Switching Current: 10 mA
- › Series Resistance: 330Ω , 1 W
- › Operating Temperature: -35° to 60°C

**The specifications are based on 80 wind tunnel calibrations performed according to the Measnet Cup Anemometer Calibration Procedure. The specified offset and gain figures represent the mean values of these calibrations. Variation among units designates the maximum deviation of any unit from the straight line representing these mean values. All units are run-in for 225 hours at 9 ms^{-1} , in order to reduce the initial bearing friction to a level close to the steady state value. After run-in, bearing friction is tested at -15°C and at room temperature. The allowed limits for this test assures that the temperature influence on the calibration is within the specified limit.*