WindSensor P2546-OPR

Class 1 Anemometer

- **Class 1** anemometer with excellent performance in both flat and complex terrain for low measurement uncertainty on any site
- Precision-molded one-piece rotor (OPR) introduced in 2011 provides unrivaled **durability** and consistent sensor-to-sensor repeatability
- Distinctive rotor geometry provides **unmatched gust response** for accurate turbulence intensity measurements and complex wind sites
- Uniquely suitable for **offshore** and coastal environments due to superior corrosion resistance and environmental protection

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Class 1 Anemometer

WindSensor's P2546-OPR anemometer combines Class 1 performance with unrivaled durability, for the most certain measurements in any environment. Originally designed for marine environments, the P2546-OPR is ideally suited for wind resource assessment and power performance studies both onshore and off.

Description

Sensor type
- 3-cup anemometer

Sensor range
- 0 m/s to 75 m/s (0 mph to 168 mph)

Applications
- wind resource assessment
- wind power performance measurements, per IEC 61400-12-1
- meteorological studies
- environmental monitoring

Output Signal

S
- P2546C-OPR: Coil
- P2546A-OPR: Bounce-free reed switch

Signal types
- P2546C-OPR: Low level AC sine wave, frequency linearly proportional to wind speed
- P2546A-OPR: Square wave, frequency linearly proportional to wind speed

Output signal range
- 0 Hz to 120 Hz

Calibration
- each anemometer individually calibrated, calibration reports with transfer function provided via electronic download

Uncertainty

IEC 61400-12-1 Classification
- Class 1.32A
- Class 3.71B
- refer to individual calibration report for information on calibration uncertainty

Response Characteristics

Threshold
- < 0.4 m/s (0.9 mph)

Swept diameter of rotor
- 188 mm (7.40 inches)

Distance constant (63% recovery)
- 1.81±0.04 m (5.94 ±0.13ft)

Moment of inertia
- 9.93 E-05 kg-m² (7.32 × 10-5 S-ft²)

Installation

Mounting
- onto a 25 mm (0.984 inch) diameter mast with two set screws

Tools required
- 4mm Allen wrench

Environmental

Operating temperature range
- -38 °C to 80 °C (-36 °F to 176 °F)

Operating humidity range
- 0% to 100% RH

Materials

Cups
- one-piece rotor, injection molded glass-fiber reinforced plastic

Body
- anodized aluminum

Shaft
- stainless steel

Bearing
- stainless steel ball bearings

Physical

Integral connector
- Lemo Series E Triaxial female connector

Cable mating connector
- Lemo Series E Triaxial male connector (included in delivery)

Weight
- 0.40 kg (0.9 pounds)

Dimensions
- 3 cups of conical cross-section, 70 mm (2.76 inches) dia.
- 282 mm (11.10 inches) overall assembly height