## WINDSENSOR P2546-OPR CLASS 1 ANEMOMETER

CLASS 1 PERFORMANCE WITH UNRIVALED DURABILITY

- 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





## WINDSENSOR P2546-OPR

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.

- 3-cup anemometer Sensor range - 0 m/s to 75 m/s (0 mph to 168 mph) Instrument compatibility - all Renewable NRG Systems data loggers  Output Signal  Signal generator - P2546A-OPR: Colt - P2546A-OPR: Colt - P2546A-OPR: Low level AC sine wave, frequency linearly proportional to wind speed - P2546A-OPR: Square 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  Response  Characteristics - Class 1,714 - Class 1,714 - Class 1,714 - Class	Description	Sensor type	Applications
Output Signal  Signal generator P2546C-OPR: Coil P2546C-OPR: Bounce-free reed switch Signal types P2546A-OPR: Sugare wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly linear		· 3-cup anemometer	· wind resource assessment
Instrument compatibility		•	· wind power performance measurements,
Output Signal  Signal generator P2546C-OPR: Coil P2546C-OPR: Low level AC sine wave, frequency linearly proportional to wind speed P2546C-OPR: Square wave, frequency linearly proportional to wind speed P1546C-OPR: Square wave, frequency linearly proportional to wind speed P2546C-OPR: Square wave, frequency linearly proportional to wind speed P2546C-OPR: Square wave, frequency linearly proportional to wind speed P2546C-OPR: Square wave, frequency linearly proportional to wind speed P2546C-OPR: Square wave, frequency linearly proportional to wind speed P2546C-OPR: Square wave, frequency linearly proportional to wind speed P2546C-OPR: Square wave, frequency linearly proportional to wind speed P2546C-OPR: Square wave, frequency linearly proportional to wind speed P2546C-OPR: Square wave, frequency linearly proportional to wind speed P2546C-OPR: Square wave, frequency linearly liec 61400-12-1 Classification P2646C-OPR: Square wave, frequency liec favore liec favore liec function provided via electronic download Uncertainty P3646C-OPR: Square wave, frequency liec function provided via electronic download Uncertainty P3646C-OPR: Square wave, frequency linearly liec full via clibration reports with transfer function provided via electronic dovnload liec full via clibration report for information on calibration report f		Instrument compatibility	•
Output Signal  Signal generator 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 P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly linearly linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly lin			
Dutput Signal  - 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 - P2546A-OPR: Square wave, frequency linearly proportional to wind speed - P2546A-OPR: Square wave, frequency linearly proportional to wind speed - P2546A-OPR: Square wave, frequency linearly proportional to wind speed - P2546A-OPR: Square wave, frequency linearly proportional to wind speed - P2546A-OPR: Square wave, frequency linearly proportional to wind speed - P2546A-OPR: Square wave, frequency linearly proportional to wind speed - P2546A-OPR: Square wave, frequency linearly provided via electronic download - P2546C-OPR: Coil control of the speed		· all Renewable NRG Systems data toggers	
P2546A-OPR: Bounce-free reed switch Signal types P2546A-OPR: Low level AC sine wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed P2546A-OPR: Square wave, frequency linearly proportional to wind speed Output signal range Output signal	Output Signal	Signal generator	
Signal types   P25468C-OPR: Low level AC sine wave, frequency linearly proportional to wind speed   P2546A-OPR: Square wave, frequency linearly proportional to wind speed   P2546A-OPR: Square wave, frequency linearly proportional to wind speed   P2546A-OPR: Square wave, frequency linearly proportional to wind speed   Output signal range   Output signal range   Output signal range   Other to 120 Hz			<del>-</del>
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 Output signal range Output signal range Out mover dispersion of the proportional to wind speed Output signal range Output signal signal signal calibration report for individual calibration report so class 3.718  Output signal range Output signal signal signal calibration output signal sig			•
Linearly proportional to wind speed   P2546BA-OPR: Square wave, frequency linearly proportional to wind speed   Output signal range   Output signal rang		• • • • • • • • • • • • • • • • • • • •	•
P2546A-OPR: Square wave, frequency linearly proportional to wind speed Output signal range Out to 120 Hz  Part to 120 Hz  Class 3.71B Part fer to individual calibration report for information on calibration uncertainty  Part to 120 Hz  Threshold Characteristics Part diameter of rotor 188 mm (7.40 inches)  Installation Mounting Once a 25 mm (0.984 inch) diameter mast with two set screws With two set screws  Environmental Operating temperature range Part on 80°C (-36°F to 176°F)  Materials  Cups Parting temperature range Operating humidity range Objecting humidity range Objecting humidity range Shaft		· · ·	· · · · · · · · · · · · · · · · · · ·
proportional to wind speed Output signal range Characteristics  Threshold Obistance constant (63% recovery)  1.81±0.04 m (5.94 ±0.13ft) Moment of inertia Moment of inertia Output seep may (7.40 inches)  Tools required Output range Output seep may (0.984 inch) diameter mast With two set screws  Environmental Operating temperature range Output seep may (0.984 inch) diameter mast Output seep seep seep seep seep seep seep see			
Output signal range			· Class 1.32A
Response Characteristics Characteristics Threshold Characteristics  - < 0.4 m/s (0.9 mph) Swept diameter of rotor - 188 mm (7.40 inches)  Installation  Mounting - onto a 25 mm (0.984 inch) diameter mast with two set screws  Environmental Operating temperature range38 °C to 80 °C (-36 °F to 176 °F)  Materials  Cups - one-piece rotor, injection molded glass-fiber reinforced plastic Body - anodized aluminum  Physical  Integral connector - Lemo Series E Triaxial male connector  Cable mating connector - Lemo Series E Triaxial male connector - Cable mating connector - Lemo Series E Triaxial male connector - Cable mating connector - Cable ma			· Class 3.71B
Response Characteristics Chara			· refer to individual calibration report for
Characteristics  - < 0.4 m/s (0.9 mph) Swept diameter of rotor - 188 mm (7.40 inches)  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  Environmental  Operating temperature range38 °C to 80 °C (-36 °F to 176 °F)  Operating temperature range - one-piece rotor, injection molded glass-fiber reinforced plastic  Body - anodized aluminum  Physical  Integral connector - Lemo Series E Triaxial female connector Cable mating connector - Lemo Series E Triaxial male connector - Capper (6.77 inches) dispersion of conical cross-section, and contents of capper (6.78 inches) dispersion of conical cross-section, and capper (6.78 inches) dispersion of capper (6.78 inches) dispersion		· 0 Hz to 120 Hz	information on calibration uncertainty
Swept diameter of rotor	Response	Threshold	Distance constant (63% recovery)
Swept diameter of rotor	Characteristics	· < 0.4 m/s (0.9 mph)	· 1.81±0.04 m (5.94 ±0.13ft)
Installation  Mounting Operating temperature range - 38 °C to 80 °C (-36 °F to 176 °F)  Materials  Cups One-piece rotor, injection molded glass-fiber reinforced plastic  Body - anodized aluminum  Physical  Integral connector Cable mating connector - Lemo Series E Triaxial male connector - Lemo Series E Triaxial male connector - Cable mating connector - Control of the Mounting onto a 25 mm (7.40 inches) discussion with two set screws  Tools required - 4mm Allen wrench - 4mm Allen wren			Moment of inertia
- onto a 25 mm (0.984 inch) diameter mast with two set screws  Environmental Operating temperature range38 °C to 80 °C (-36 °F to 176 °F) O% to 100% RH  Materials Cups Shaft - one-piece rotor, injection molded glass-fiber reinforced plastic Bearing  Body - stainless steel ball bearings - anodized aluminum  Physical Integral connector - Lemo Series E Triaxial female connector Cable mating connector - Lemo Series E Triaxial male connector - 3 cups of conical cross-section, Toward (0.77 instant) disc			$\cdot 9.93 \text{ E-}05 \text{ kg-m}^2 (7.32 \times 10\text{-}5 \text{ S-ft}^2)$
Environmental Operating temperature range38 °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 One-piece rotor, injection molded glass-fiber reinforced plastic Body One-piece rotor, injection molded glass-fiber reinforced plastic One-piece rotor, injection molded glass-fiber reinforced plastic One-piece rotor, injection molded glass-fiber reinforced plastic One-piece rotor, injection molded glass-fiber Verification One-piece rotor, injection molded glass-fiber One-piece rotor One-	Installation	Mounting	Tools required
Environmental Operating temperature range38 °C to 80 °C (-36 °F to 176 °F) O% to 100% RH  Materials Cups - one-piece rotor, injection molded glass-fiber reinforced plastic Body - anodized aluminum  Physical Integral connector - Lemo Series E Triaxial female connector Cable mating connector - Lemo Series E Triaxial male connector - Lemo Series E Triaxial male connector - Cable mating connec		· onto a 25 mm (0.984 inch) diameter mast	· 4mm Allen wrench
38 °C to 80 °C (-36 °F to 176 °F)  • 0% to 100% RH   Materials  Cups • one-piece rotor, injection molded glass-fiber reinforced plastic  Bearing  Body • anodized aluminum  Physical  Integral connector • Lemo Series E Triaxial female connector • Cable mating connector • Lemo Series E Triaxial male connector • 3 cups of conical cross-section, 70 mm (0.76 inches) dis		with two set screws	
Materials  Cups  one-piece rotor, injection molded glass-fiber reinforced plastic  Body  anodized aluminum  Physical  Integral connector  Lemo Series E Triaxial female connector  Lemo Series E Triaxial male connector  To press (2.70 inches) disc	Environmental	Operating temperature range	Operating humidity range
Physical  Integral connector  Lemo Series E Triaxial male connector  To many (2.76 inches) discussions  To many (2.76 inches) discussions		· -38 °C to 80 °C (-36 °F to 176 °F)	· 0% to 100% RH
reinforced plastic  Body  anodized aluminum  Physical  Integral connector  Lemo Series E Triaxial female connector  Lemo Series E Triaxial male connector  Lemo Series E Triaxial male connector  Lemo Series E Triaxial male connector  To man (2.76 inches) disc	Materials	Cups	Shaft
Body - anodized aluminum  Physical Integral connector - Lemo Series E Triaxial female connector - Lemo Series E Triaxial male connector - Lemo Series E Triaxial male connector - Cable mating connector - Lemo Series E Triaxial male connector - To man (2.76 inches) disc		· one-piece rotor, injection molded glass-fiber	· stainless steel
Physical Integral connector Weight  • Lemo Series E Triaxial female connector  • Cable mating connector  • Lemo Series E Triaxial male connector  • Lemo Series E Triaxial male connector  • To graph (2.76 inches) disc		reinforced plastic	Bearing
Physical Integral connector  • Lemo Series E Triaxial female connector  • Cable mating connector  • Lemo Series E Triaxial male connector  • Series E Triaxial male connector  • Cappen (2.76 inches) disc		Body	· stainless steel ball bearings
<ul> <li>Lemo Series E Triaxial female connector</li> <li>Cable mating connector</li> <li>Lemo Series E Triaxial male connector</li> <li>3 cups of conical cross-section,</li> <li>70 mm (2.76 inches) dis</li> </ul>		· anodized aluminum	
<ul> <li>Lemo Series E Triaxial female connector</li> <li>Cable mating connector</li> <li>Lemo Series E Triaxial male connector</li> <li>3 cups of conical cross-section,</li> <li>70 mm (2.76 inches) dis</li> </ul>	Physical	Integral connector	Weight
Lemo Series E Triaxial male connector     3 cups of conical cross-section,  70 ppg (2.76 inches) dis-		•	•
<ul> <li>Lemo Series E Triaxial male connector</li> <li>3 cups of conical cross-section,</li> <li>70 mm (2.76 in do so) dis</li> </ul>		Cable mating connector	
70 (0.70 in also a) alia			· 3 cups of conical cross-section,
		(included in delivery)	70 mm (2.76 inches) dia.

## For more information:

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