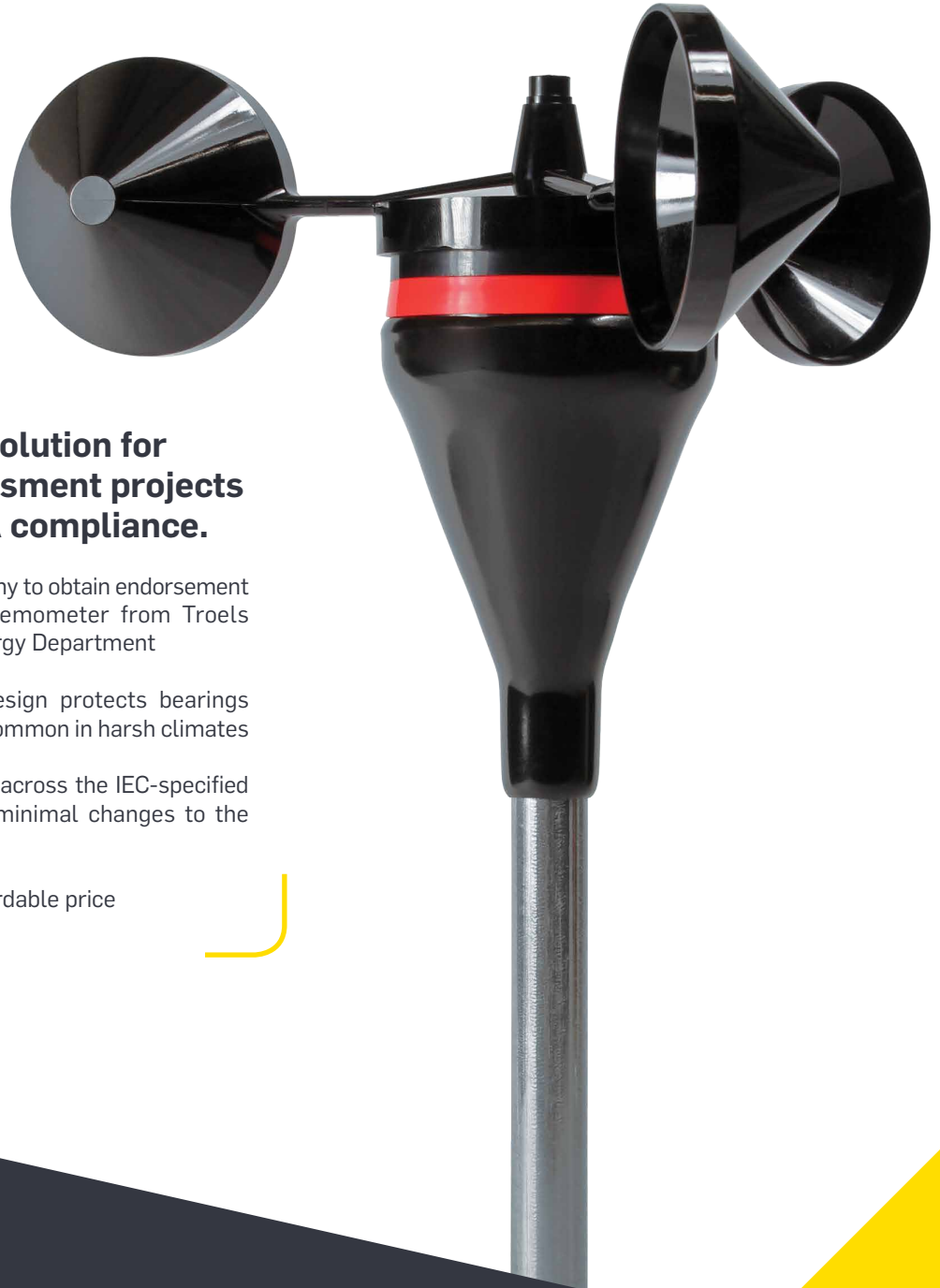


# NRG CLASS 1 ANEMOMETER



**The ideal, low-cost solution for wind resource assessment projects that require class 1A compliance.**

- NRG Systems is the first company to obtain endorsement in the classification of an anemometer from Troels Pedersen of the DTU Wind Energy Department
- Patent-pending, dual shaft design protects bearings from debris and impact loads common in harsh climates
- Excellent friction performance across the IEC-specified temperature range, ensuring minimal changes to the calibrated transfer function
- Class 1 performance at an affordable price



**NRG**Systems™

<b>Description</b>	<b>Sensor type</b> <ul style="list-style-type: none"><li>3-cup anemometer</li></ul> <b>Sensor range</b> <ul style="list-style-type: none"><li>1 m/s to 96 m/s (2.2 mph to 215 mph) (highest tested)</li></ul> <b>Instrument compatibility</b> <ul style="list-style-type: none"><li>all NRG Systems data loggers</li></ul>	<b>Applications</b> <ul style="list-style-type: none"><li>wind resource assessment</li><li>meteorological studies</li><li>environmental monitoring</li></ul>
<b>Output Signal</b>	<b>Signal type</b> <ul style="list-style-type: none"><li>low level AC sine wave, frequency linearly proportional to wind speed</li></ul> <b>Anemometer transfer function</b> <ul style="list-style-type: none"><li>refer to individual calibration report for anemometer transfer function</li><li>all NRG Class 1 anemometers are calibrated per IEC 61400-12-1, Annex F</li></ul> <b>Output voltage at threshold</b> <ul style="list-style-type: none"><li>80 mV (peak-to-peak) minimum</li></ul> <b>Output voltage at 60 Hz</b> <ul style="list-style-type: none"><li>12 V (peak-to-peak) typical</li><li>output amplitude NOT proportional to wind speed</li></ul>	<b>Calibration</b> <ul style="list-style-type: none"><li>individually calibrated, calibration report provided via electronic download</li></ul> <b>Output signal range</b> <ul style="list-style-type: none"><li>0 Hz to 125 Hz</li></ul> <b>Uncertainty</b> IEC 61400-12-1 Classification <ul style="list-style-type: none"><li>Class 1.01A</li><li>Class 8.44B</li></ul> IEC 61400-12-1 operational standard uncertainty <ul style="list-style-type: none"><li><math>\pm 0.06</math> m/s at 10 m/s for Class A</li><li><math>\pm 0.49</math> m/s at 10 m/s for Class B</li></ul> <ul style="list-style-type: none"><li>refer to individual calibration report for information on calibration uncertainty</li></ul>
<b>Response Characteristics</b>	<b>Threshold</b> <ul style="list-style-type: none"><li>0.79 m/s (1.77 mph) per ASTM D 5096-02</li></ul> <b>Swept diameter of rotor</b> <ul style="list-style-type: none"><li>190 mm (7.5 in)</li></ul>	<b>Distance constant</b> (63% recovery) <ul style="list-style-type: none"><li>2.36 m (7.74 ft) at 5 m/s per ASTM D 5096-02</li><li>2.28 m (7.48 ft) at 10 m/s per ASTM D 5096-02</li></ul> <b>Moment of inertia</b> <ul style="list-style-type: none"><li><math>1.01 \times 10^{-4}</math> kg-m<sup>2</sup></li><li><math>74.5 \times 10^{-6}</math> S-ft<sup>2</sup></li></ul>
<b>Installation</b>	<b>Mounting</b> <ul style="list-style-type: none"><li>Onto a 13 mm (0.5 in) diameter mast with cotter pin and set screw</li></ul>	<b>Tools required</b> <ul style="list-style-type: none"><li>0.25 in nut driver, petroleum jelly, electrical tape</li></ul>
<b>Environmental</b>	<b>Operating temperature range</b> <ul style="list-style-type: none"><li>-55 °C to 60 °C (-67 °F to 140 °F)</li></ul>	<b>Operating humidity range</b> <ul style="list-style-type: none"><li>0% to 100% RH</li></ul>
<b>Materials</b>	<b>Cups</b> <ul style="list-style-type: none"><li>one piece injection-molded black polycarbonate</li></ul> <b>Body</b> <ul style="list-style-type: none"><li>black ABS plastic</li></ul> <b>Shaft</b> <ul style="list-style-type: none"><li>hardened 400 series stainless steel</li></ul> <b>Bearing</b> <ul style="list-style-type: none"><li>ball bearings</li></ul>	<b>Magnet</b> <ul style="list-style-type: none"><li>Indox 1, 25 mm (1 in) diameter, 13 mm (0.5 in) long, 4 poles</li></ul> <b>Coil</b> <ul style="list-style-type: none"><li>single coil, bobbin wound, 4100 turns of #40 wire, shielded for ESD protection</li></ul> <b>Boot</b> <ul style="list-style-type: none"><li>protective PVC sensor terminal boot included</li></ul> <b>Terminals</b> <ul style="list-style-type: none"><li>brass</li></ul>
<b>Physical</b>	<b>Connections</b> <ul style="list-style-type: none"><li>4-40 brass hex nut/post terminals</li></ul> <b>Weight</b> <ul style="list-style-type: none"><li>0.14 kg (0.3 lbs)</li></ul>	<b>Dimensions</b> <ul style="list-style-type: none"><li>3 cups of conical cross-section, 51 mm (2 in) diameter</li><li>81 mm (3.2 in) overall assembly height</li></ul>

**For more information:**

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