

Class 1 Anemometer



Precise

Reliable

Proven

Value

- 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

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Renewable NRG Systems | Hinesburg, Vermont 05461 | USA 802.482.2255 | www.renewablenrgsystems.com



Class 1 Anemometer

Description	<p>Sensor type</p> <ul style="list-style-type: none"> ■ 3-cup anemometer <p>Sensor range</p> <ul style="list-style-type: none"> ■ 1 m/s to 96 m/s (2.2 mph to 215 mph) (highest tested) <p>Instrument compatibility</p> <ul style="list-style-type: none"> ■ all NRG Systems data loggers 	<p>Applications</p> <ul style="list-style-type: none"> ■ wind resource assessment ■ meteorological studies ■ environmental monitoring
Output Signal	<p>Signal type</p> <ul style="list-style-type: none"> ■ low level AC sine wave, frequency linearly proportional to wind speed <p>Anemometer transfer function</p> <ul style="list-style-type: none"> ■ refer to individual calibration report for anemometer transfer function ■ all NRG Class 1 anemometers are calibrated per IEC 61400-12-1, Annex F <p>Output voltage at threshold</p> <ul style="list-style-type: none"> ■ 80 mV (peak-to-peak) minimum <p>Output voltage at 60 Hz</p> <ul style="list-style-type: none"> ■ 12 V (peak-to-peak) typical ■ output amplitude NOT proportional to wind speed 	<p>Calibration</p> <ul style="list-style-type: none"> ■ individually calibrated, calibration report provided via electronic download <p>Output signal range</p> <ul style="list-style-type: none"> ■ 0 Hz to 125 Hz <p>Uncertainty IEC 61400-12-1 Classification</p> <ul style="list-style-type: none"> ■ Class 1.01A ■ Class 8.44B <p>IEC 61400-12-1 operational standard uncertainty</p> <ul style="list-style-type: none"> ■ ± 0.06 m/s at 10 m/s for Class A ■ ± 0.49 m/s at 10 m/s for Class B ■ refer to individual calibration report for information on calibration uncertainty
Response Characteristics	<p>Threshold</p> <ul style="list-style-type: none"> ■ 0.79 m/s (1.77 mph) per ASTM D 5096-02 <p>Swept diameter of rotor</p> <ul style="list-style-type: none"> ■ 190 mm (7.5 in) 	<p>Distance constant (63% recovery)</p> <ul style="list-style-type: none"> ■ 2.36 m (7.74 ft) at 5 m/s per ASTM D 5096-02 ■ 2.28 m (7.48 ft) at 10 m/s per ASTM D 5096-02 <p>Moment of inertia</p> <ul style="list-style-type: none"> ■ 1.01×10^{-4} kg-m² ■ 74.5×10^{-6} S-ft²
Installation	<p>Mounting</p> <ul style="list-style-type: none"> ■ Onto a 13 mm (0.5 in) diameter mast with cotter pin and set screw 	<p>Tools required</p> <ul style="list-style-type: none"> ■ 0.25 in nut driver, petroleum jelly, electrical tape
Environmental	<p>Operating temperature range</p> <ul style="list-style-type: none"> ■ -55 °C to 60 °C (-67 °F to 140 °F) 	<p>Operating humidity range</p> <ul style="list-style-type: none"> ■ 0% to 100% RH
Materials	<p>Cups</p> <ul style="list-style-type: none"> ■ one piece injection-molded black polycarbonate <p>Body</p> <ul style="list-style-type: none"> ■ black ABS plastic <p>Shaft</p> <ul style="list-style-type: none"> ■ hardened 400 series stainless steel <p>Bearing</p> <ul style="list-style-type: none"> ■ ball bearings 	<p>Magnet</p> <ul style="list-style-type: none"> ■ Indox 1, 25 mm (1 in) diameter, 13 mm (0.5 in) long, 4 poles <p>Coil</p> <ul style="list-style-type: none"> ■ single coil, bobbin wound, 4100 turns of #40 wire, shielded for ESD protection <p>Boot</p> <ul style="list-style-type: none"> ■ protective PVC sensor terminal boot included <p>Terminals</p> <ul style="list-style-type: none"> ■ brass
Physical	<p>Connections</p> <ul style="list-style-type: none"> ■ 4-40 brass hex nut/post terminals <p>Weight</p> <ul style="list-style-type: none"> ■ 0.14 kg (0.3 lbs) 	<p>Dimensions</p> <ul style="list-style-type: none"> ■ 3 cups of conical cross-section, 51 mm (2 in) diameter ■ 81 mm (3.2 in) overall assembly height

Calibrated Anemometer: item #5966
MEASNET Calibrated Anemometer: item #5967

For more information:
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