



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

Global Leader In Wind Measurement Technology®

Complete Systems | Sensors | Remote Sensors | Tilt-Up Towers | Data Loggers | Turbine Control

NRG Systems, Inc. | Hinesburg, Vermont 05461 USA | 802.482.2255 | www.nrgsystems.com



Class 1 Anemometer

Description

Sensor type

- 3-cup anemometer

Sensor range

- 1 m/s to 96 m/s (2.2 mph to 215 mph) (highest tested)

Instrument compatibility

- all NRG Systems data loggers

Applications

- wind resource assessment
- meteorological studies
- environmental monitoring

Output Signal

Signal type

- low level AC sine wave, frequency linearly proportional to wind speed

Anemometer transfer function

- refer to individual calibration report for anemometer transfer function
- all NRG Class 1 anemometers are calibrated per IEC 61400-12-1, Annex F

Output voltage at threshold

- 80 mV (peak-to-peak) minimum

Output voltage at 60 Hz

- 12 V (peak-to-peak) typical
- output amplitude NOT proportional to wind speed

Calibration

- individually calibrated, calibration report provided via electronic download

Output signal range

- 0 Hz to 125 Hz

Uncertainty

- IEC 61400-12-1 Classification
 - Class 1.01A
 - Class 8.44B
- IEC 61400-12-1 operational standard uncertainty
 - ± 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

Threshold

- 0.79 m/s (1.77 mph) per ASTM D 5096-02

Swept diameter of rotor

- 190 mm (7.5 in)

Distance constant (63% recovery)

- 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

Moment of inertia

- 1.01×10^{-4} kg-m²
- 74.5×10^{-6} S-ft²

Installation

Mounting

- Onto a 13 mm (0.5 in) diameter mast with cotter pin and set screw

Tools required

- 0.25 in nut driver, petroleum jelly, electrical tape

Environmental

Operating temperature range

- -55 °C to 60 °C (-67 °F to 140 °F)

Operating humidity range

- 0% to 100% RH

Materials

Cups

- one piece injection-molded black polycarbonate

Body

- black ABS plastic

Shaft

- hardened 400 series stainless steel

Bearing

- ball bearings

Magnet

- Indox 1, 25 mm (1 in) diameter, 13 mm (0.5 in) long, 4 poles

Coil

- single coil, bobbin wound, 4100 turns of #40 wire, shielded for ESD protection

Boot

- protective PVC sensor terminal boot included

Terminals

- brass

Physical

Connections

- 4-40 brass hex nut/post terminals

Weight

- 0.14 kg (0.3 lbs)

Dimensions

- 3 cups of conical cross-section, 51 mm (2 in) diameter
- 81 mm (3.2 in) overall assembly height

Precise. Reliable. Proven. Value.

Calibrated Anemometer: item #5966

MEASNET Calibrated Anemometer: item #5967

To Place Your Order

Contact NRG Sales, 802-482-2255 or visit nrgsystems.com

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