Model A75-104
Three Cup Anemometer

Document 1872E

Applications

- Research measurements in environmental studies
- Engineering studies on wind effects on structures
- Control anemometer for new or existing wind warning devices
- Anemometer for wind resource assessment instrumentation

Features

- Completely self-powered with self-contained alternator.
- Very simple, elegantly engineered construction
- Dirt and water resistant, modified Teflon bearing system
- All corrosion resistant materials
- Rotor assembly molded in one piece for repeatable performance
- Frequency output for ease of filtering and long cable runs
- Professional qualities at a minimum price

Note: Calibration reports available at additional cost.

Specifications

Accuracy:
5 m/s to 25 m/s (11 - 55 MPH) ± 0.1 m/s (0.2 MPH)

Threshold:
Starting threshold - 0.75 m/s (1.75 M.P.H.)
Cup distance constant (63% recovery) - 3.0 m (10 ft.)

Materials:
Rotor and housing body are both single piece injection molded black polycarbonate (Lexan) Shaft beryllium copper - fully hardened
Bearing modified Teflon, self-lubricating. Rated PV factor of 20,000 (at 6.7 m/s (15 MPH), PV is approx. 500; at 45 m/s (100 MPH) PV is approx 2,000) Upper Bearing is centered in the plane of cup thrust for optimal loading. Permanent magnet Indox 1, 25 mm (1 in) dia., 13 mm (0.5 in) long, 4 poles

Weight:
0.1 kg (0.2 lb.)

Dimensions:
3 cups conical cross-section - 51 mm (2 in) dia. Swept diameter of rotor - 190 mm (7.5 in) Overall height - 51 mm (3.2 in)
Moment of Inertia of rotor assembly = 68 x 10-6 S - ft2

Electrical:
Output signal is a sine wave with frequency changing linearly with wind speed - 60 Hz = 45 m/s (102 MPH)
Voltage is 2.0 VAC @ 60 cycles
Transfer function:
M/S = (Hz x 0.766) + 0324
MPH = (Hz x 1.714) + 0.725

Environmental:
Operating temperature: -55 to 60°C (-67 to 150°F)
Operating humidity range: 0 to 100% RH
Gust Survival Speed : 214 MPH
Lifespan: 3-5 years under normal conditions

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