NRG 40C ANEMOMETER

The 40C Anemometer offers field-proven measurement accuracy at an economical price.

NRG 40C Anemometer | MEASNET Calibrated (#1900)

DESCRIPTION		
Sensor type	3 Cup Anemometer	
Applications	• Wind resource assessment • Meteorological studies • Environmental monitoring	
Sensor range	1 m/s to 96 m/s (2.2 mph to 215 mph) (highest recorded)	
Instrument compatibility	All RNRG loggers	
OUTPUT SIGNAL		
Signal type	Low level AC sine wave, frequency linearly proportional to wind speed	
Anemometer Transfer Function	• **Consensus Transfer Function: Scale Factor (Slope): 0.765 m/s/Hz (1.711 mph/Hz) Offset: 0.35 m/s (0.78 mph)** • **Refer to the white paper "The Maximum Type 40 Anemometer Calibration Project" for more information on the consensus transfer function** • **All RNRG 40C Anemometers are calibrated per IEC 61400-12-1, Annex F**	
Output voltage at threshold	**80 mV (peak-to-peak) minimum**	

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Output voltage at 60Hz	• **12 V (peak-to-peak) typical** • **Output amplitude NOT proportional to wind speed**	
Calibration	Each anemometer individually calibrated, calibration reports provided via electronic download	
Output signal range	0 Hz to 125 Hz (at 96m/s, highest recorded)	
Uncertainty	**Accuwind (Riso-R-1556) Classification:** • **Class 2.4A** • **Class 7.7B** **IEC 61400-12-1 operational standard uncertainty:** • **± 0.14 m/s at 10 m/s for Class A** • **± 0.45 m/s at 10 m/s for Class B** • **Refer to calibration sheet for information on calibration uncertainty** • **Refer to application note "#40C Anemometer Uncertainty" for definitions and more information**	
RESPONSE CHARACTERISTICS		
Distance constant (63% recovery)	• 2.55 m (8.37 feet) at 5m/s per ASTM D 5096-02 • 2.56 m (8.40 feet) at 10m/s per ASTM D 5096-02	

Moment of inertia	• 1.01 x 10^{-4} kg-m^2 • 74.5 x 10^{-6} S-ft^2	
Swept diameter of rotor	190 mm (7.5 inches)	
INSTALLATION		
Mounting	Onto a 13 mm (0.5") diameter mast with cotter pin and set screw	
Tools required	0.25 inch 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	
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") dia. • 81 mm (3.2") overall assembly height	
MATERIALS		
Cups	One piece injection-molded black polycarbonate	
Body	Housing is black ABS plastic	

Shaft	Beryllium copper, fully hardened	
Bearing	Modified Teflon, self-lubricating	
Magnet	Indox 1, 25 mm (1 inch) diameter, 13 mm (0.5 inch) 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	