NRG 40C ANEMOMETER

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

	NRG 40C Anemometer	MEASNET Calibrated (#1900)	NRG 40C Anemometer	CPH MEASNET Calibrated (#4350)
DESCRIPTION				
Sensor type	3 Cup Anemometer		3 Cup Anemometer	
Applications	• Wind resource assessment • Meteorological studies • Environmental monitoring		• Wind resource assessment • Meteorological studies • Environmental monitoring	
Sensor range	1 m/s to 96 m/s (2.2 mph to 215 mph) (highest recorded)		1 m/s to 96 m/s (2.2 mph to 215 mph) (highest recorded)	
Instrument compatibility	All RNRG loggers		All RNRG loggers	
OUTPUT SIGNAL				
Signal type	Low level AC sine wave, frequency linearly proportional to wind speed		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**		**See individual calibration report**	
Output voltage at threshold	**80 mV (peak-to-peak) minimum**		**80 mV (peak to peak) minimum**	
Output voltage at 60Hz	• **12 V (peak-to-peak) typical** • **Output amplitude NOT proportional to wind speed**		• **12 V (peak-to-peak) typical** • **output amplitude NOT proportional to wind speed**	
Calibration	Each anemometer individually calibrated, calibration reports provided via electronic download		Each anemometer individually calibrated, calibration reports provided via electronic download	
Output signal range	0 Hz to 125 Hz (at 96m/s, highest recorded)		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**		**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				

	NRG 40C Anemometer	MEASNET Calibrated (#1900)	NRG 40C Anemometer	CPH MEASNET Calibrated (#4350)
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		• 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		• 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)		190 mm (7.5 inches)	
INSTALLATION				
Mounting	Onto a 13 mm (0.5") diameter mast with cotter pin and set screw		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		0.25 inch nut driver, petroleum jelly, electrical tape	
ENVIRONMENTAL				
Operating temperature range	-55 °C to 60 °C (-67 °F to 140 °F)		-55 °C to 60 °C (-67 °F to 140 °F)	
Operating humidity range	0 to 100% RH		0 to 100% RH	
PHYSICAL				
Connections	4-40 brass hex nut/post terminals		4-40 brass hex nut/post terminals	
Weight	0.14 kg (0.3 lbs)		0.14 kg (0.3 lbs)	
Dimensions	• 3 cups of conical cross-section, 51 mm (2") dia. • 81 mm (3.2") overall assembly height		• 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		One piece injection-molded black polycarbonate	
Body	Housing is black ABS plastic		Housing is black ABS plastic	
Shaft	Beryllium copper, fully hardened		Beryllium copper, fully hardened	
Bearing	Modified Teflon, self-lubricating		Modified Teflon, self-lubricating	
Magnet	Indox 1, 25 mm (1 inch) diameter, 13 mm (0.5 inch) long, 4 poles		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		Single coil, bobbin wound, 4100 turns of #40 wire, shielded for ESD protection	
Boot	Protective PVC sensor terminal boot included		Protective PVC sensor terminal boot included	
Terminals	Brass		Brass	

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