THIES FIRST CLASS
ADVANCED ANEMOMETER

The Thies First Class Advanced (FCA) Anemometer is an ideal sensor for wind resource assessment and power performance testing at IEC 61400-12-1 Class A and B sites. Noted for its exceptional accuracy, the Thies FCA Anemometer delivers high-end performance in any terrain.

Key Benefits:

- Low power consumption
- Minimum over-speeding
- Excellent linearity: r > .99999
- Optimized dynamic behavior even at high turbulence intensity
- High survival speed
- Symmetrical geometry
- MEASNET calibrated
- Compatible with all NRG data loggers

NRG Systems®

SPECIFICATIONS		
Description	Sensor Type	3-Cup Anemometer
	Applications	• Wind Resource Assessment • Meteorological Studies • Environmental Monitoring
	Sensor Range	0.3 m/s to 75 m/s (0.7 mph to 168 mph)
	Instrument Compatibility	All NRG Data Loggers
Output Signal	Signal Type	Form: Square Wave Frequency: 1082 Hz @ 50 m/s (112 mph)
	Transfer Function	Refer to individual calibration report for sensor-specific transfer function. Typical transfer function between frequency and wind speed: • y = 0.0462f + 0.21
	Recommended Load Resistance	R > 1 kΩ (Push-pull output with 220 Ω in series) C < nF (corresponds to typical cable length < 1 km)
	Calibration	Each anemometer individually calibrated, calibration reports provided via electronic download • Nonlinearity < 1%
	Resolution	0.05 m wind run
	Uncertainty	IEC 61400-12-1 Classification • Class 0.9A • Class 3.0B • Class 0.5S
Response Characteristics	Threshold	< 0.3 m/s (0.7 mph)
	Distance constant (63% recovery)	< 3m (9.8ft) (according to ASTM D 5096 - 96)
	Moment of Inertia	3.41 x 10-4 kg-m²
Power Requirements	Supply Voltage	3.3 VDC to 42 VDC (galvanic isolation from housing)
	Supply Current	0.3 mA @ 3.3 V typical (w/o external load) (Less than 0.5 mA @ 5 V (w/o external load))
Installation	Mounting	Onto a 35 mm (1.38 inch) diameter mast with two set screws
	Tools Required	3 mm Allen wrench
Environmental	Operating Temperature Range	-50 °C to 80 °C (-58 °F to 176 °F)
	Operating Humidity Range	• 0 to 100% RH • Including dew moistening
Physical	Connections	8 pole plug-connection for shielded cable
	Weight	0.5 kg (1.1 lbs)
	Dimensions	• 3 cups of conical cross-section • 240 mm (9.45") rotor dia. • 290 mm (11.42") overall height
Materials	Cups	Carbon-fiber reinforced plastic
	Body	Anodized Aluminum
	Shaft	Anodized Aluminum
	Bearing	Stainless steel ball bearing

For more information:
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ISO 9001: 2015 Certified
ISO 14001:2015 Self-Certified

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