

6533

WIND SPEED AND DIRECTION INSTRUMENT



MODEL A



The 6533 Wind speed and direction instrument is a high performance RM young sensor. It combines simplicity and lightweight corrosion resistant construction with a low threshold, fast response, and excellent fidelity.

The wind speed sensor is a four blade helicoid propeller. Propeller rotation produces a sinewave voltage output where frequency is directly proportional to wind speed. Slip rings and brushes are not used.

The wind direction sensor is a lightweight vane with sufficiently high damping ratio and low aspect ratio to ensure excellent fidelity in rapidly fluctuating winds. Vane position is sensed by a precision conductive plastic potentiometer. With a known excitation voltage applied to the potentiometer, the output signal is directly proportional to azimuth.

The instrument is made of UV stabilised plastic with stainless steel and anodised aluminium fittings. All bearings are precision grade stainless steel. A Unidata's micro-power interface circuit, housed in a junction box on the mounting post, converts the sinewave to a 5V signal and potentiometer output to a calibrated 2.50 V signal, suitable for connection to the regular data logger.

An 8 core cable can be used to connect the instrument to the logger. The instrument mounts on standard 1 inch pipe.

SPECIFICATIONS

PHYSICAL SPECIFICATIONS	
SIZE:	370mm x 550mm tall (HxL), Propeller Diameter 180mm
WEIGHT:	1kg grams
OPERATING TEMPERATURE:	-50°C to 50°C. Not affected by humidity
ELECTRICAL SPECIFICATIONS	
WIND SPEED	
RANGE:	0 ... 100 m/s (224mph)
ACCURACY:	±0.3% or 1% of reading
THRESHOLD:	Propeller 1.0m/s (2.2mph)

OUTPUT SIGNAL:	8 or 16 bit counter channel, 3 pulses per revolution
WIND DIRECTION	
AZIMUTH:	0 ... 360° mechanical, 355° electrical (5° open)
ACCURACY:	±3°
THRESHOLD:	Vane 1.1m/s (2.4mph)
OUTPUT SIGNAL:	1 analog channel. 0 to 2.5V calibrated 0° to 359°
OPERATING VOLTAGE:	15 VDC maximum
MOUNTING:	Standard 1 inch pipe