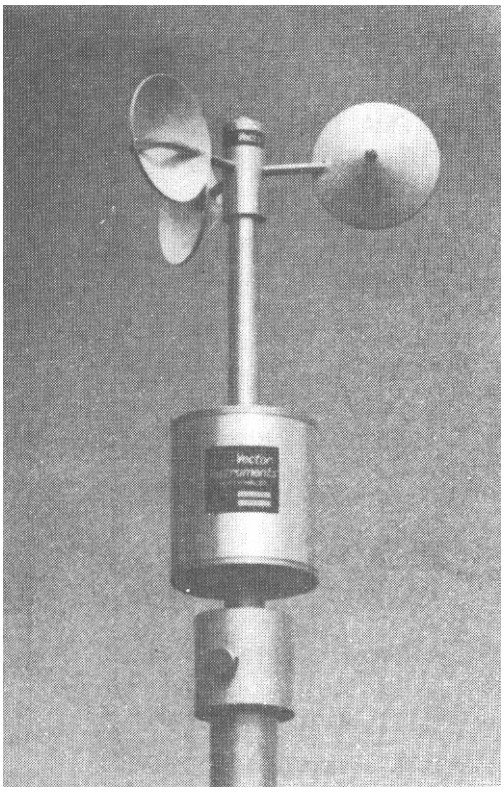
PULSE OUTPUT ANEMOMETER A101M



A photo electronic anemometer in which a multi-slotted disc turns with the rotor spindle and interrupts the infra-red light beam in an Opto-Schmitt switch integrated circuit. The five terminals of this device are brought out for user application circuits.

Output pulses may be used to obtain a direct reading in metres per second on any standard electronic counter/timer.

Robust, all weather construction using corrosion resistant materials throughout.

Precision ball-race mounted with protection against the moisture droplets and dust.

The 3 cup rotor (type R30) is attached by means of a patented gravity-sensitive fastener which will not release unless the anemometer is inverted.

Performance

Max. windspeed:	Over 75m/s (=170mph, = 150 Knots)
Threshold:	0.15m/s.
Non-linearity:	0.7% (10-55m/s speed range).
Accuracy:	1% full range output (10-55m/s range) relative to typical cal. curve data provided.
Distance constant:	5m (R30 rotor).
Calibration:	10Hz per m/s +2% (10 pulses per metre, closer tolerances to order).
Resolution:	10cm. *Rotor calibration data is provided based on NPL standard calibrated rotor at fixed speed (.:1%)* .
Temp. range:	-40 to +70°C (operating). -55 to +70°C (storage).

Mechanical

Weight:	310g total. 30g rotor.
Fixing:	¼ BSW/UNC screw into base. 6° taper fitting (type 128-1) also available. Photo shows 405 single mount adaptor for 1" dia. mast top .
Materials:	Anodised aluminium alloy, stainless steel and weather resisting plastics.

Options

Alternative output versions :

A101K: 10Hz per Knot (10 pulses per 1.69ft.) resolution = 5.15cm.
A101S: 0.8Hz per m/s (1 pulse per 1.25m) resolution = 125cm.
Also available are: 6-cup fast response rotor (R60) non-standard cable lengths, screened cables, junction boxes, extension cables, fitted plugs and anti-icing heater.

A101M

Electrical

Absolute maximum allowable ratings:

Light Emitting Diode (LED)

Forward current, I_f:	50mA
Forward voltage, V_f:	l.5V (@I_f =20mA).
Reverse current, I_r:	l0uA (@V_r =3V).
Reverse voltage, V_r:	3V.
Max. Dissipation, P_{tot}:	100 mW (derate linearly 3.3mW/°C above 25°C).

Opto-schmitt photo sensor IC

Supply Voltage, V_{cc}:	20V
o/p Sink Current, I_{sink}:	50 mA
Max Dissipation, P_{tot}:	250mW (derate linearly 3.3mW/°C above 25°C).

Operating Conditions

Light emitting diode (LED)

Forward current, $I_{ft;}$	10 mA required

Opto-schmitt photo sensor IC:

Supply voltage, V_{cc}	4.5 V min, 16 V max
Output voltage, V_o	0.4V max, output 'low' V_{cc}, output 'high'.
Schmitt hysteresis	30% max, 10% min
Total Current (LED+IC)	18mA typ., 30mA max
Cables	6 core, 7/0.2mm, 3 metres long.

Dimensions & Schematic