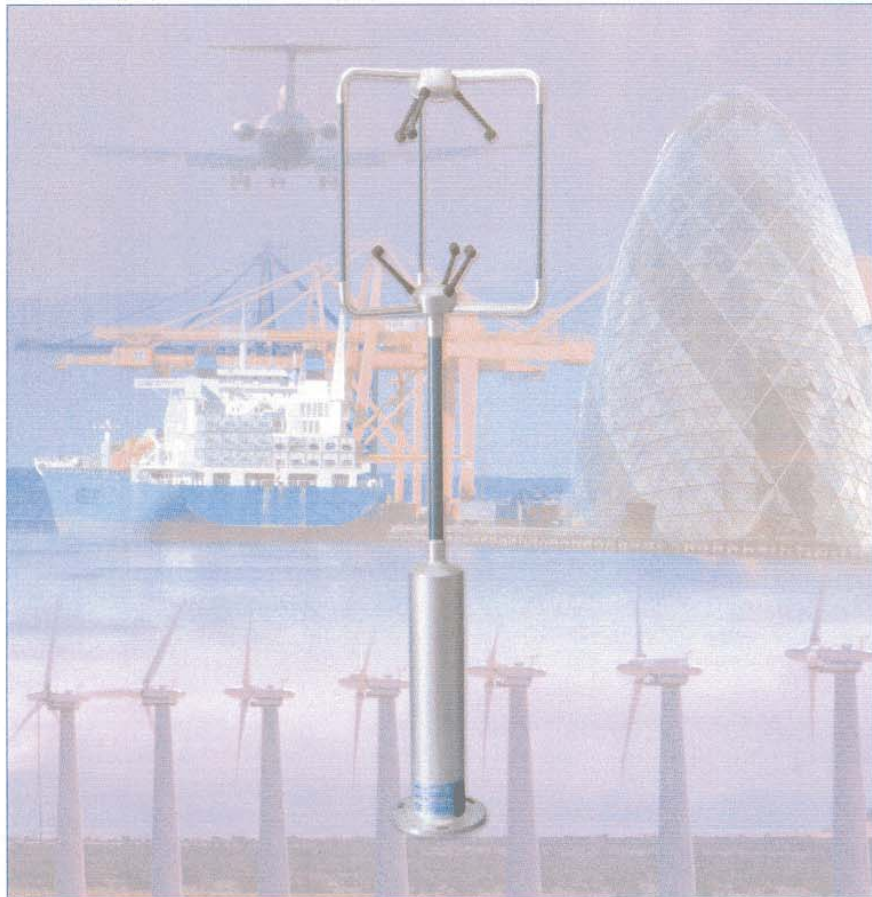




WindMaster

3 Axis Ultrasonic Anemometer

WINDMASTER



ALL WEATHER SENSING TECHNOLOGY

- METEOROLOGICAL SYSTEMS
- TRANSPORT SAFETY
- STRUCTURAL SAFETY
- WIND PROFILING
- MARINE RESEARCH
- WIND TURBINE SITE SURVEY
- MAINTENANCE FREE
- LIGHTWEIGHT CONSTRUCTION
- U, V, W, SOS & SONIC TEMP OUTPUT
- 20Hz OR OPTIONAL 32Hz DATA RATE
- OPTIONAL ANALOGUE INPUTS OR OUTPUTS

WINDMASTER - ULTRASONIC WIND SENSORS

The new WindMaster three axis anemometer is a robust instrument based on time of flight measurements and is essential in the understanding of turbulent flows, surface energy balance and scalar fluxes.

All these areas of research rely on accurate and precise measurements of mean and variance of (time averaged) wind velocities and Speed of Sound (SOS) derived temperature. This is particularly true in determining scalar fluxes using the eddy covariance technique. Gill employs the optimum mechanical configuration and electronic processing to minimise flow distortion and transducer shadow effects. Gill undertakes an individual calibration with a Gill wind tunnel test on each unit to provide the optimum performance. The WindMaster is available with a 20Hz data output rate with an option to increase this to 32Hz. The instrument is constructed in the familiar Aluminium/carbon fibre construction. The WindMaster is fitted with field proven standard Gill transducers with the ability to measure a top wind speed of 45 m/s.

Both software and electronics have been enhanced to provide improved vertical (W) resolution and SOS accuracy.

New design electronics has facilitated a reduction in power consumption to 30 mA at 12 V dc, a significant advantage when used on power sensitive sites.

A number of orderable options are available including: -

- Increase in data output rate to 32 Hz
- 4 analogue output channels with options for 12 or 14 bit resolution.
- 4 analogue input channels, with options for 12 or 14 bit resolution, additional PRT input also available.
- A flange mounting arrangement is provided as standard, with option to order a different mounting.
- Wind tunnel calibration in accordance with ISO 16622 and traceable to national standards.
- Travelling case

OUTPUTS		SONIC TEMPERATURE	
Internal sample rate	20 Hz or 32 Hz	Range	-40°C TO +70 °C
Output rate	1, 2, 4, 8, 10, 16, 20 & 32(option)	Resolution	0.01°C
Units of measure	m/s, mph, KPH, knots, ft/min	ANALOGUE OUTPUTS (OPTIONAL)	
Format	UVW, Polar or NMEA	Resolution 12 bits or 14 bits	4 channels available
Averaging	Flexible 0 - 3600 s	Selectable Range	User selectable full scale wind speed
WIND SPEED		Output Type	0-20mA, 4-20mA, 0-5V, ±2.5V, ±5V
Range	0 - 45 m/s	ANALOGUE INPUTS (OPTIONAL)	
Resolution	0.01 m/s	Resolution 12 bits or 14 bit	Up to 4 single ended or 2 differential
Accuracy (12 m/s) Generic	1.5% RMS *	Input Type	±5V
Accuracy (12 m/s) Custom	1% RMS *	GENERAL	
DIRECTION		Weight	1.0 kg
Range	0-359°	Size	750mm x 240mm
Resolution	0.1°	Environmental	IP65
Accuracy (12 m/s) Generic	2°	Operating Temp	-40°C to + 70°C
Accuracy (12 m/s) Custom	0.5°	Humidity	<5% to 100%
SPEED OF SOUND		Precipitation	Operation to 300mm/hour
Range	300 - 370 m/s	EMC	Emissions BS EN 61000 - 6- 3 Immunity BS EN 61000 - 6 -2
Resolution	0.01 m/s	* Accuracy spec applies for wind speed, and for wind incidence up to ± 30° from the horizontal	
Accuracy	< ± 0.5% @ 20°C		
POWER REQUIREMENT			
	9 - 30 Vdc, 30 mA @ 12 Vdc		
DIGITAL OUTPUT			
	RS232, 422, 485 network upto 26 anemometers		
Baud rates	2400-115200		
Format	ASCII / Binary		



GILL INSTRUMENTS LTD
Saltmarsh Park, 67 Gosport Street,
Lymington, Hampshire, SO41 9EG, UK
Tel: +44 (0) 1590 613500
Fax: +44 (0) 1590 613555
E-mail: anem@gill.co.uk
Website: www.gill.co.uk

© Gill Instruments 2005



ADC BioScientific Ltd
1st Floor Charles House,
Furlong Way
Great Amwell, Herts, SG12 9TA UK
Tel: +44 (0) 1920 487901
Fax: +44 (0) 1920 466289
Email: sales@adc.co.uk
Website: www.adc.co.uk