

# HS-100™

## 3-Axis Horizontal-Head Research Anemometer



### Key Features

- Precision 3-axis sonic anemometer
- 100Hz Output Rate
- 0-45m/s wind speed
- 0-359° wind direction
- U, V, W Vector Outputs
- Fitted Inclinometer
- Horizontal Head for Minimal Flow Disturbance
- Stainless steel construction

The HS-100 3-axis anemometer features a horizontal head design, which allows for accurate measurement of vertical flows with minimum flow interruption from the anemometer geometry.

Ideal for scientific research applications, HS-100 is capable of monitoring wind speeds of 0-45m/s and offers a fast update rate of 100Hz for precision wind analysis.

The head of the anemometer features a built-in inclinometer to allow the instrument to be accurately positioned on a tower or mast. Access to the PRT and analogue inputs is provided via a separate electronic enclosure. The instrument is ideal for analysis of surface turbulence and can be positioned close to the ground or crop and tree canopies.



### Wind Speed

Range	0 - 45 m/s
Accuracy	<1% RMS
Resolution	0.01 m/s

### Direction

Range	0 - 359°
Accuracy*	<±1° RMS
Resolution	1°

### Ultrasonic Measurement

Ultrasonic sampling rate	100 Hz
Parameters	UVW, Speed of Sound

### Speed of Sound

Range and resolution	300 - 370m/s, 0.01/s
Accuracy	<±0.5% @20°C

### Digital Output

Communication	RS422 full duplex, 8 data bits, 1 stop bit, no parity
Baud rates	2400 - 115200
Output rate	Selectable 0.4 - 100 Hz

### Analogue Inputs

Quantity	6 differential inputs
Sampling rate	100 Hz
Input range/resolution	±5V, 14 bits
Accuracy	<0.1% of FSR

### Analogue Outputs (Via supplied PCIA)

Quantity	7 (U, V, W, SoS, PRT+2 analogue outputs)
Scale	±10, ±20, ±30, ±60m/s
Update rate	0.4 to 100 Hz
Range and resolution	±2.5V, 14 bits
Accuracy	<0.25% of FSR

### PRT Input (PRT100 not included)

Input resolution	0.01°C
Input accuracy	<0.01°C (from 0°C to +50°C) <0.15°C (from -40°C to +60°C)

### Inclinometer

Range/resolution	±20°, 0.01°
Null repeatability	±0.15°
Accuracy	±0.3° (from -10° to +10° of inclination)

### Power Requirement

Anemometer	9-30 VDC (<150mA @ 24 VDC or 300mA @ 12 VDC)
------------	--

### Environmental

Operating temperature	-40°C to +60°C
Protection class	IP65
Precipitation	300mm/hr
EMC	EN 50081-1: 1992 (Emissions) EN 50082-1: 1992 (Immunity)
Suitable for exposure to a marine environment.	

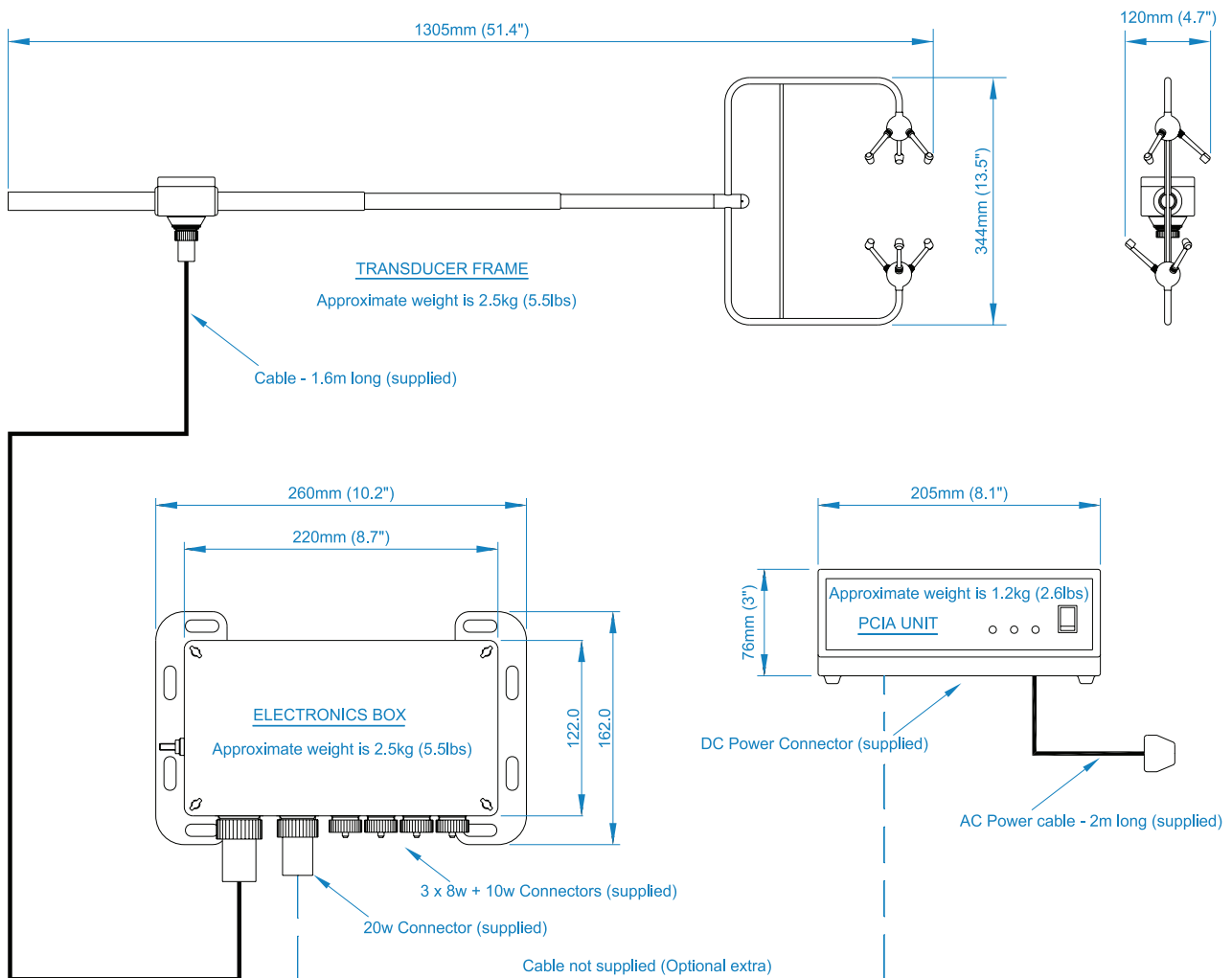
\*Accuracy specification applies for wind speed <32m/s and for wind incidence < ±50° in the horizontal plane and up to ±50° from the horizontal

# HS-100™

## 3-Axis Horizontal-Head Research Anemometer

### Typical Applications

- Wind Turbulence Measurement
- Component Wind Velocity UVW
- Wind Profiling
- Remote Research facilities
- Off-shore installations
- Test Sites



Specifications may be subject to change without prior notice.



**Gill Instruments Ltd**  
Saltmarsh Park  
67 Gosport Street  
Lymington  
Hampshire  
SO41 9EG, UK

T: +44 (0) 1590 613 500  
F: +44 (0) 1590 613 555  
E: [anem@gill.co.uk](mailto:anem@gill.co.uk)

[www.gill.co.uk](http://www.gill.co.uk)



Copyright © Gill Instruments 2011  
D1103 - Iss 1

Gill Instruments Ltd  
Reg No. 3154453 Registered Office: The George Business Centre, Christchurch Road, New Milton, BH25 6QJ