

The Solent Research HS-50 has been designed to meet researchers' exacting requirements.

The horizontal symmetrical head allows for more accurate measurement of vertical flows, with minimum interruption from the anemometer geometry.

It can be easily positioned close to the ground or to the crop & tree canopies for accurate measurement of surface turbulence.

Many features are included as standard and it is designed to be simple to use. The head and built in inclinometer allow for easy yet accurate positioning of the instrument on a tower or mast and the separate electronic unit allows simple access to the 6 analogue inputs and PRT 100 input.

The improved head design and rugged stainless steel construction of the HS ensures long term stability and makes it ideal for use in most environments and harsh climates.

\*Supplied Accessories - RCOM operating system with a graphical interface (data presentation and storage; flux calculations); electronics unit incorporating Analogue and PRT inputs cable to head; power supply (PCIA); Inclinometer; Transit Case.

Optional Accessories - Analogue Inputs via Power and Communications Interface Unit (PCIA)

## Key Features

- 50Hz Data Rate
- Custom Calibrated
- Optional Analogue Outputs
- Speed of Sound and Sonic Temperature Outputs
- Analogue Inputs + PRT Input
- Inclinometer Included
- Carry Case Included

## Specification

### Wind Speed

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

### Direction

Range	0 - 360°
Accuracy*	<±1° RMS
Resolution	1°

### Ultrasonic Measurement

Ultrasonic sampling rate	50Hz
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 - 50Hz

### Analogue Inputs

Quantity	6 differential inputs
Sampling rate	100s <sup>-1</sup>
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 inputs)
Sampling	±10, ±20, ±30, ±60m/s
Update rate	0.4 to 50Hz
Output range/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	±.15°
Accuracy	±0.3° (from -10° to 10° of inclination)

### Power Requirement

Anemometer	9-30VDC <4w (eg. <150mA @ 24VDC or 300mA @ 12VDC)
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### Environmental

Operating temperature	-40°C to +60°C
Moisture ingress	IP65
Precipitation	300mm/hr
EMC	EN 50081-1: 1992 Emissions EN 50082-1: 1992 Immunity

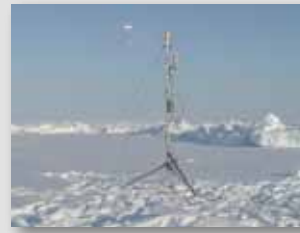
### General

Suitable for exposure to a marine environment. Instruments housing manufactured in stainless steel.
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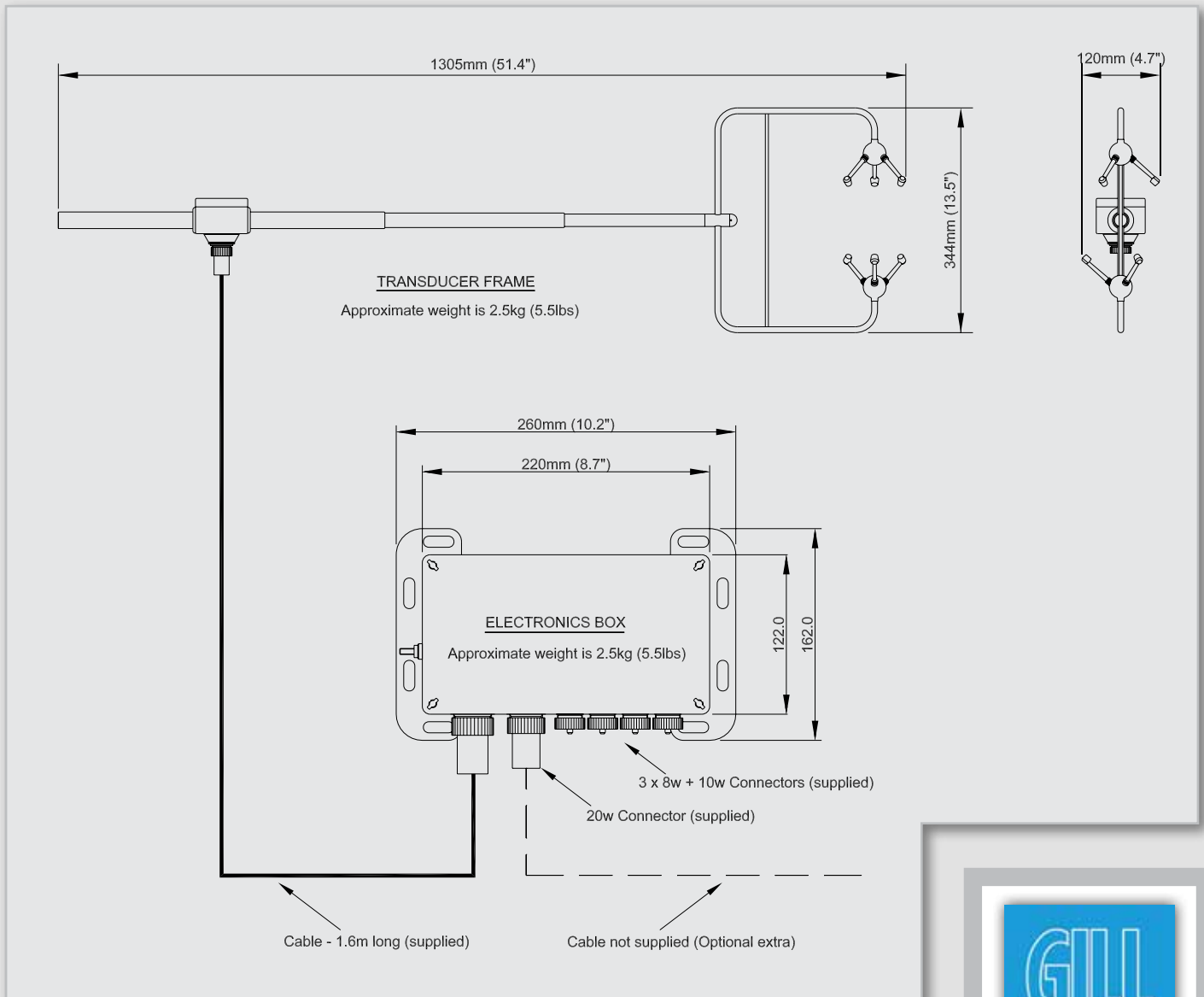
\*Accuracy specification applies for wind speeds <32m/s and for wind incidence <±150° in the horizontal plane and up to ±50° from the horizontal

## Typical Applications

- Wind Turbulence Measurement
- Component Wind Velocity UVW
- Wind Profiling
- Maintenance Free
- Robust Construction
- Operates in Precipitation



## Dimensions



The HS-50 is part of the Solent range of ultrasonic anemometers. The range is in continuous development and therefore specifications may be subject to change without prior notice.

