**Key Features**

- Precision 3-Axis Sonic Anemometer
- Horizontal Head for Minimal Flow Disturbance
- 0-45 m/s wind speed
- 0-359° wind direction

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 0-45 m/s and offers a fast update rate of 100 Hz 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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>0 - 45 m/s</td>
</tr>
<tr>
<td>Accuracy</td>
<td>&lt;1% RMS</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.01 m/s</td>
</tr>
</tbody>
</table>

### DIRECTION

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>0 - 359°</td>
</tr>
<tr>
<td>Accuracy*</td>
<td>&lt;±1° RMS</td>
</tr>
<tr>
<td>Resolution</td>
<td>1°</td>
</tr>
</tbody>
</table>

### ULTRASONIC MEASUREMENT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrasonic sampling rate</td>
<td>100 Hz</td>
</tr>
<tr>
<td>Parameters</td>
<td>U, V, W, Speed of Sound</td>
</tr>
</tbody>
</table>

### SPEED OF SOUND

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range and resolution</td>
<td>300 - 370 m/s, 0.01/s</td>
</tr>
<tr>
<td>Accuracy</td>
<td>&lt;±0.5% @20°C</td>
</tr>
</tbody>
</table>

### DIGITAL OUTPUT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>RS422 full duplex, 8 data bits, 1 stop bit, no parity</td>
</tr>
<tr>
<td>Baud rates</td>
<td>2400 - 115200</td>
</tr>
<tr>
<td>Output rate</td>
<td>Selectable 0.4 - 100 Hz</td>
</tr>
</tbody>
</table>

### ANALOGUE INPUTS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>6 differential inputs</td>
</tr>
<tr>
<td>Sampling rate</td>
<td>100 Hz</td>
</tr>
<tr>
<td>Input range/resolution</td>
<td>±5V, 14 bits</td>
</tr>
<tr>
<td>Accuracy</td>
<td>&lt;0.1% of FSR</td>
</tr>
</tbody>
</table>

*Accuracy specification applies for wind speed <3.2 m/s and for wind incidence <±50° in the horizontal plane and up to ±50° from the horizontal.

### ANALOGUE OUTPUTS (VIA SUPPLIED PCIA)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>7 (U, V, W, SoS, PRT+2 analogue outputs)</td>
</tr>
<tr>
<td>Scale</td>
<td>±10, ±20, ±30, ±60 m/s</td>
</tr>
<tr>
<td>Update rate</td>
<td>0.4 to 100 Hz</td>
</tr>
<tr>
<td>Range and resolution</td>
<td>±2.5V, 14 bits</td>
</tr>
<tr>
<td>Accuracy</td>
<td>&lt;0.25% of FSR</td>
</tr>
</tbody>
</table>

### PRT INPUT (PRT100 NOT INCLUDED)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input resolution</td>
<td>0.01°C</td>
</tr>
<tr>
<td>Input accuracy</td>
<td>&lt;0.01°C (from 0°C to +50°C)</td>
</tr>
<tr>
<td></td>
<td>&lt;0.15°C (from -40°C to +60°C)</td>
</tr>
</tbody>
</table>

### INCLINOMETER

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range/resolution</td>
<td>±20°, 0.01°</td>
</tr>
<tr>
<td>Null repeatability</td>
<td>±0.15°</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±0.3° (from -10° to +10° of inclination)</td>
</tr>
</tbody>
</table>

### POWER REQUIREMENT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anemometer</td>
<td>9-30VDC (&lt;150mA at 24VDC or 300mA at 12VDC)</td>
</tr>
</tbody>
</table>

### ENVIRONMENTAL

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature</td>
<td>-40°C to +60°C</td>
</tr>
<tr>
<td>Protection class</td>
<td>IP65</td>
</tr>
<tr>
<td>Precipitation</td>
<td>300mm/hr</td>
</tr>
<tr>
<td>EMC</td>
<td>EN 50081-1: 1992 (Emissions)</td>
</tr>
<tr>
<td></td>
<td>EN 50082-1: 1992 (Immunity)</td>
</tr>
</tbody>
</table>

Suitable for exposure to a marine environment.
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.