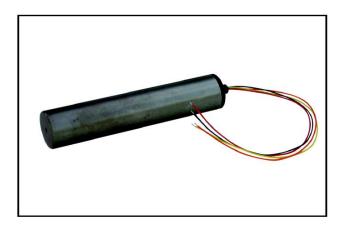


Heading Sensor

TOWED ARRAY

- Heading Accuracy 0.5° RMS
- Operates in dynamic environments with 360 degrees continuous roll
- Available in 1.1 inch, 1.0 inch or 0.9 inch diameter
- 2500 psi pressure rated housing
- RS232 or RS422 digital output



Applications

- Towed Sonar Arrays
- Seismic Streamers
- Buoy Orientation
- Magnetic Compassing

CHS Series

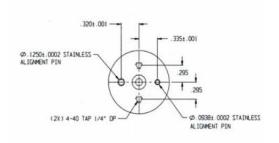
The CHS series of high performance fully calibrated, small diameter heading sensors are ideally suited for towed sonar array and seismic streamer applications.

The CHS heading sensor is a solidstate "strapdown" configuration that avoids the performance limitations of typical gimbaled systems and offers improved reliability. A 3-axis fluxgate magnetometer and 3-axis micro-machined accelerometer are combined with digital signal processing electronics and fully integrated within a small diameter pressure rated housing. The digital signal processor samples and converts the internal sensor signals to 16-bit digital data and automatically compensates for

any temperature and misalignment effects. Factory calibration of scale factor, bias and misalignment angles is achieved by placing the heading sensor in high precision fixtures that apply rotational and magnetic fields. Scale factor and bias calibration coefficients are measured over the operating temp-

erature range of the sensor.

The calculated roll, pitch, and azimuth angles are provided on a bidirectional serial data link that can be factory configured for RS232 or RS422 and is user programmable for data transfer rates of up to 9600 baud.





CHS110TB Dimensions

| Specifications | CHS110TB | CHS100TB | CHS090TB |
|----------------------------|--------------------------|--------------------------|--------------------------|
| Performance | | | |
| Digital Resolution | 16 bit | 16 bit | 16 bit |
| Heading (° rms) | 1.0 | 0.5 | 0.5 |
| Roll and Pitch (° rms) | 0.5 | 0.3 | 0.3 |
| Environmental | | | |
| Operating Temperature (°C) | -5 to +40 | -5 to +40 | -5 to +40 |
| Operating Pressure (psi) | 2500 | 2500 | 2500 |
| Electrical | | | |
| Power ¹ | +5V @ 75 mA | +5V @ 75 mA | +5V @ 75 mA |
| Output Data Rate (Hz) | 5 | 5 | 5 |
| Output Format ² | RS232 (300 to 9600 baud) | RS232 (300 to 9600 baud) | RS232 (300 to 9600 baud) |
| Physical | | | |
| Length (inches) | 5.25 | 5.25 | 5.25 |
| Diameter (inches) | 1.1 | 1.0 | 0.9 |
| Weight (oz.) | 5.0 | 5.0 | 4.5 |
| Electrical Interface | Flying leads 6" long | Flying leads 6"long | Flying leads 6"long |
| Housing | Anodized Aluminum | Anodized Aluminum | Anodized Aluminum |

Notes

- Other power input configurations available
- ² RS422 is also offered as an option

Specifications subject to change without not



| Wire Color | Function |
|------------|-------------------|
| Red | +5 VDC |
| Black | Ground |
| Orange | RS-232 serial in |
| Yellow | RS-232 serial out |

Pin Diagram for +5V RS232 Configuration

Ordering Information

| 5 · · · 5 | | | | |
|-----------|----------------|----------|--|--|
| Model | Description | Diameter | | |
| CHS110TB | Heading sensor | 1.1 inch | | |
| CHS100TB | Heading sensor | 1.0 inch | | |
| CHS090TB | Heading sensor | 0.9 inch | | |

CALL FACTORY FOR OTHER CONFIGURATIONS