

Low-frequency vector sensor

VS-101

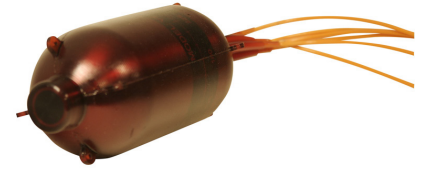
SPECIFICATIONS

| | |
|---|----------------------------|
| Output sensitivity, nominal¹: | |
| Accelerometer | 6.0 V/g |
| Hydrophone | -162 dB re 1.0 V/ μ Pa |
| Full scale input range: | |
| Accelerometer | 0.5 g peak |
| Hydrophone | 200 Pa peak |
| Frequency response, ± 3 dB: | |
| Accelerometer | 3.0 Hz - 2.0 kHz |
| Hydrophone | 8.0 Hz - 2.0 kHz |
| Transverse sensitivity, max | 2% |
| Power requirement: | |
| Voltage | 6.5 - 12.0 VDC |
| Current, nominal | 40 mA |
| Output type, differential | 2.1 - 2.6 V bias |
| Output impedance, max | 100 Ω |
| Pressure range: | |
| Operational, max | 1,000 psi |
| Absolute max | 1,500 psi |
| Operating temperature | -10° to +60°C |
| Diameter | 3.00 in. |
| Length | 7.41 in. |
| Buoyancy in water | -2% |
| Weight, without cables | 700 grams |
| Cable² | 6 cables, 15 ft. each |
| External material | polyurethane |

Options: Connector; cable length



- Notes:**
- Actual values of X, Y, Z, and H are recorded on calibration sheet.
 - Cable: twisted, shielded pair, polyurethane jacket.
 - Cable shield is not connected in the sensor.
 - B (EIA-485): also known as TX+ / RX+ or D+ as alternative for B (high for MARK i.e. idle)
 - A (EIA-485): also known as TX- / RX- or D- as alternative for A (low for MARK i.e. idle)
 - A and B are compliant with other VS legacy sensors with digital RS-485.
 - I.C manufacturers of RS-485 parts use an incorrect (but consistent) A/B naming designation.
 - Sensor case connects to ground in the sensor.



Key features

- Three orthogonal axis accelerometers and one omnidirectional hydrophone
- Four channel combination provides an approximately 4.8 dB improvement in signal to noise ratio
- Pitch and roll, heading
- Preamplifier and differential output
- Micro-controller with RS-485 link
- Manufactured in an ISO 9001 facility

| Cable | Lead color | Function |
|---------------------------------|------------|---------------------------|
| Power | White | PWR (+) |
| | Black | PWR (-) |
| | Shield | Cable shield ³ |
| Digital (RS-485) ^{6,7} | White | B (EIA-485) ⁴ |
| | Black | A (EIA-485) ⁵ |
| | Shield | Cable shield ³ |
| X-axis (Differential Out) | White | Signal (+) |
| | Black | Signal (-) |
| | Shield | Cable shield ³ |
| Y-axis (Differential Out) | White | Signal (+) |
| | Black | Signal (-) |
| | Shield | Cable shield ³ |
| Z-axis (Differential Out) | White | Signal (+) |
| | Black | Signal (-) |
| | Shield | Cable shield ³ |
| H-axis (Differential Out) | White | Signal (+) |
| | Black | Signal (-) |
| | Shield | Cable shield ³ |
| Sensor case ⁸ | N/A | PWR (-) via H-axis |

Note: Due to continuous process improvement, specifications are subject to change without notice. This document is cleared for public release.