

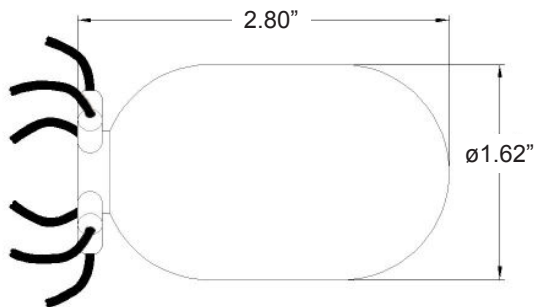
Mid-frequency vector sensor

VS-209

SPECIFICATIONS

Output sensitivity, nominal¹:	
Accelerometer	1.5 V/g
Hydrophone	-164 dB re 1.0 V/μPa
Full scale input range:	
Accelerometer	1.0 g peak
Hydrophone	200 Pa peak
Frequency response, ±3 dB:	
Accelerometer	3.0 Hz - 7.0 kHz
Hydrophone	8.0 Hz - 7.0 kHz
Transverse sensitivity, max	5%
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	1,500 psi
Absolute max	2,500 psi
Operating temperature	-10° to +60°C
Diameter	1.62 in.
Length	2.80 in.
Buoyancy in water	-65%
Weight, without cables	95 grams
Cable²	6 cables, 15 ft. each
External material	polyurethane

Options: Connector; cable length



- Notes:**
- ¹ Actual values of X, Y, Z, and H are recorded on calibration sheet.
 - ² Cable: twisted, shielded pair, polyurethane jacket.
 - ³ Cable shield is not connected in the sensor.
 - ⁴ B (EIA-485): also known as TX+ / RX+ or D+ as alternative for B (high for MARK i.e. idle)
 - ⁵ A (EIA-485): also known as TX- / RX- or D- as alternative for A (low for MARK i.e. idle)
 - ⁶ A and B are compliant with other VS legacy sensors with digital RS-485.
 - ⁷ I.C manufacturers of RS-485 parts use an incorrect (but consistent) A/B naming designation.
 - ⁸ Sensor case connects to ground in the sensor.



Key features

- Three orthogonal axis accelerometers and one omni-directional 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 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.