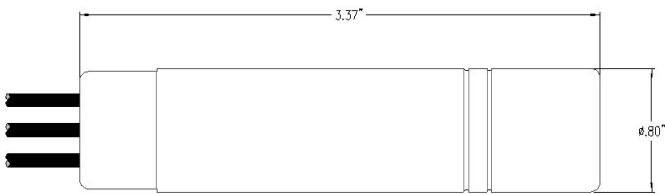


Low-frequency vector sensor VS-301



Wilcoxon's vector sensors measure the acoustic pressure and particle acceleration in three orthogonal axes. These four sensing elements are located in a single housing with a common acoustic phase center. The four channels of the vector sensor, when combined, produce a cardioid directivity pattern which provides approximately 4.8 dB improvement in the signal to noise ratio over a traditional omni-directional pressure sensor. In addition, engineering sensors are embedded within the housing and when combined with acoustic sensors, can provide a bearing to the target.



Pin out		
Cable	Lead color	Function
X	white black shield	X SIG + X SIG - X SHIELD
Y	white black shield	Y SIG + Y SIG - Y SHIELD
Z	white black shield	Z SIG + Z SIG - Z SHIELD
H	white black shield	H SIG + H SIG - H SHIELD
DIG	white black shield	DIG + DIG - DIG SHIELD
PWR	white black shield	PWR + PWR - PWR SHIELD

Key features

- Three orthogonal axis accelerometers and one omni-directional hydrophone
- Preamplifier and differential output
- Pitch and roll
- Heading
- Temperature
- Health check
- Micro-controller with RS485 link
- Power management capability

Applications

- Towed and stationary arrays
- Underwater monitoring stations
- Sonobuoys
- Oil & gas exploration
- Marine wildlife monitoring
- Acoustic research
- Harbor and inlet security
- Homeland security and military surveillance

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

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Wilcoxon Sensing Technologies
An Amphenol Company

Low-frequency vector sensor VS-301

SPECIFICATIONS

Output sensitivity		
	Accelerometer	10 V/g
	Hydrophone	-162 dB re 1.0 V/uPa
Full scale input range		
	Accelerometer	0.5 g pk
	Hydrophone	600 Pa pk
Frequency response, ± 3 dB		
	Accelerometer 0.2 Hz	3.0 Hz - 2.0 kHz
	Hydrophone 6.0 Hz	3.0 Hz - 2.0 kHz
Transverse sensitivity, max		
		<5%
Temperature accuracy		
		$\pm 1.0^\circ$ C
Power requirement		
	Voltage	6.5 - 9.0 VDC
	Current, nominal	40 mA
Output type, differential		
		3.2 V bias
Output impedance, max		
		100 Ω
Pressure range		
	Operational, max	800 psi
	Absolute max	1,200 psi
Operating temperature		
		-10 to +60 $^\circ$ C
Diameter		
		0.80 in
Length		
		3.37 in
Buoyancy in water		
		-68%
Weight, without cables		
		43 g
Cable¹		
		6 cables, 15 ft each
External material		
		Polyurethane

Notes: ¹ Cable: twisted, shielded pair, Polyurethane jacket

Note: Due to continuous process improvement, specifications are subject to change without notice.
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Options:

- Connector
- Cable length