Mid-frequency vector sensor
VS-209

SPECIFICATIONS

Output sensitivity, nominal:
- 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

Cable:
- 6 cables, 15 ft. each

External material: polyurethane

Options: Connector; cable length

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 ISO 9001 facility

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 manufactures of RS-485 parts use an incorrect (but consistent) A/B naming designation.
8. Sensor case connects to ground in the sensor.

Cable	Lead color	Function
Power
- White	PWR (+)
- Black	PWR (–)
- Shield	Cable shield

Digital (RS-485)\(^6\)
- White	B (EIA-485)\(^4\)
- Black	A (EIA-485)\(^5\)
- Shield	Cable shield

X-axis (Differential Out)
- White	Signal (+)
- Black	Signal (–)
- Shield	Cable shield

Y-axis (Differential Out)
- White	Signal (+)
- Black	Signal (–)
- Shield	Cable shield

Z-axis (Differential Out)
- White	Signal (+)
- Black	Signal (–)
- Shield	Cable shield

H-axis (Differential Out)
- White	Signal (+)
- Black	Signal (–)
- Shield	Cable shield

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.

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