

VE-53 Triaxial Velocity Sensor

Features

- Full scale 2 x 500 V/m/s, DIN 2 x 50 V/m/s
- Bandwidth 1 to 50 Hz, 0.2 to 80 Hz or DIN 1 to 315 Hz.
- Complies with DIN 45669 Class 1
- Dynamic range > 120 dB
- Excellent temperature stability
- Seismic activity monitoring, Civil Engineering, Vibration, Blast applications
- Downhole version (VE-5x-DH) is also available
- Different housing and mounting options are available



Outline

The VE-5x sensor is based on a standard exploration geophone mass-spring system with electronic feedback. This type of sensor yields a very good stability under temperature changes or aging effects because of the very unsophisticated principle.

The VE-5x sensor package is a triaxial velocity sensor designed for field or industrial survey and monitoring applications concerning vibration or explosion, such as civil engineering.

The VE-5x is housed in a sealed cast aluminium housing 193 x 112 x 94 mm. The housing also incorporates a single bolt mount with three levelling screws. Stainless steel packaging options are available. A downhole version, VE-53-DH is also available.

The VE-5x sensor is directly compatible with the GSR / GCR / GBV recorders and CR-4 networks designed for Weak-Motion and Vibration applications.

Specifications VE-53 Triaxial Velocity Sensor

General Characteristics

Application: Seismic activity monitoring,
Vibration and Explosion Data Acquisition
Systems, Civil Engineering

Configurations:

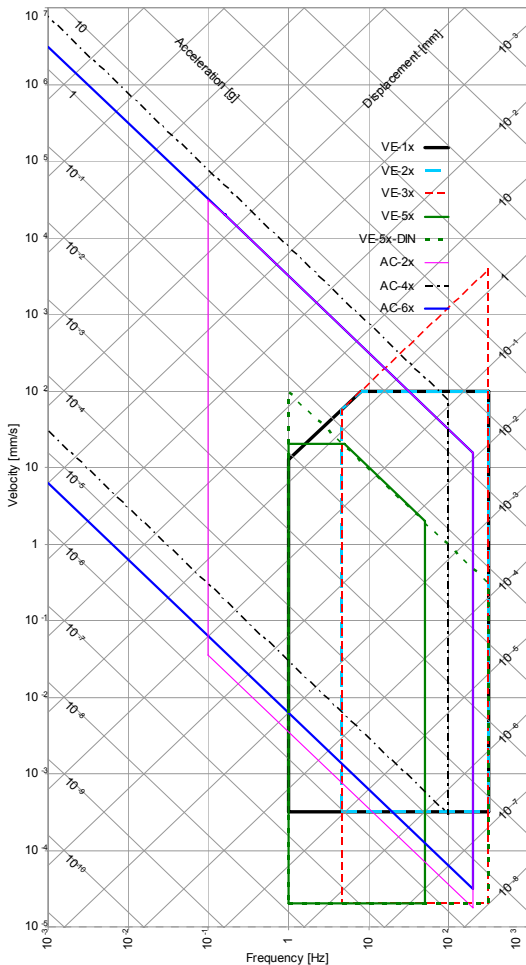
	Triaxial	Biaxial	Uniaxial	Axes	Alignment**
VE-53:	■			X - Y - Z	H - H - V
VE-52-H:		■		X - Y	H - H
VE-52-V:			■	X (or Y) - Z	H - V
VE-51-H:			■	X (or Y)	H
VE-51-V:			■	Z	V

** H: Horizontal, V: Vertical

Full Scale Range: 2 x 500 (1000) V/m/s
optional DIN: 2 x 50 (100) V/m/s

Sensor Element

Type: Over damped geophones
Dynamic Range: > 120 dB
Linearity: ± 0.05 % of full scale maximum
Accuracy: ± 0.2 dB max over the bandwidth
Cross Axis Sensitivity: ± 1 % typical
± 3 % maximum
Bandwidth: 1 to 50 Hz (-3 dB)
optional DIN: 1 to 315 Hz
optional BB: 0.2 to 80 Hz
Damping: 0.7 critical
Full Scale Output: 0 ± 10 V differential
optional 0 ± 5 V pseudo-differential
Measuring Range: See plot



Power

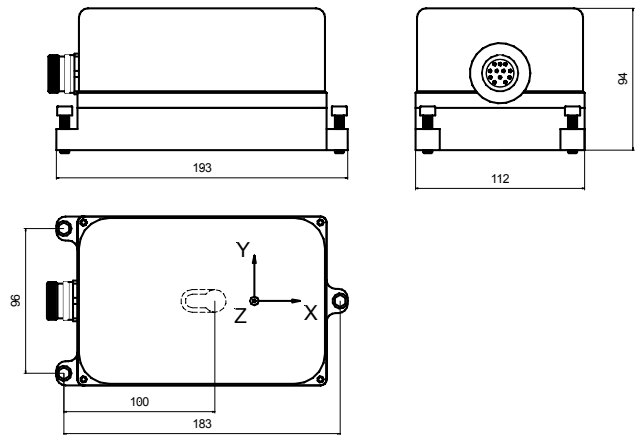
Supply Voltage: 10 to 15 VDC
Consumption: 45 mA at 12 VDC
Connector: Metallic, Shielded, IP67, 12 pins, male optional MIL, Bendix PT07A 14-19P Binder / Coninvers type RC
Mating:
Overvoltage Protection: All pins are protected

Connector Pin Configuration

Pin 1-2, 3-4, 5-6: Signal output for axis X, Y, Z
Pin 7-8: Test input, Digital test-pulse (0 - 12 V)
Pin 9-10: +12 VDC Power Supply
Pin 11-12: not connected
Case: Shielded Ground

Environment/Housing

Housing Type: Cast aluminium
Sealed access cover
Housing Size: 193 x 112 x 94 mm
Weight: 2.5 kg
Index of Protection: IP 65
optional IP 68
Temperature Range: -20 to 70 °C (operating)
-30 to 80 °C (non-operating)
0 to 100 % (non-condensing)
Humidity:
Orientation: Floor mount
optional Wall mount
Mounting: Single bolt, surface mount, adjustable within ± 10°



Standard VE-5x

Floor mounted, full scale 1000 V/m/s,
2 m cable with sensor mating connector
concrete anchor and user manual on CD

Options

Cable & connector: Sealed cable inlet, replaces connector
Cable with shielded twisted pairs for any length (including mating sensor connector) with open end
Cables for connection to GeoSIG recorder
Connector on user specification mounted at cable end
Housing: Watertight IP68 housing
Downhole housing
Stainless steel protective housing

Ordering Information

Specify: Type of VE-5x, full scale range, and other applicable options