GeoSIG Ltd
Ahornweg 5A
5504 Othmarsingen
Switzerland

Tel: +41 44 810 21 50
Fax: +41 44 810 23 50
E-mail: info@geosig.com
Web: www.geosig.com

VE-53 / VE 52 / VE 51 Short Period Seismometer

Features

- **Full scale** **2 x 500 (1000) V/m/s**
- **Bandwidth** **1 to 80 Hz (-3 dB)**
  0.2 to 160 Hz
- **Dynamic range > 120 dB (1 to 30 Hz)**
- **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 is a triaxial short period seismometer designed for field or survey and monitoring applications.

The VE-5x seismometer is based on a state of the art geophone mass-spring system with electronic feedback. It is ideally suited for installation in vaults with low to moderate noise. This type of sensor yields a very good stability under temperature fluctuations or against aging effects. In addition due to the innovative design of the unit no mass clamping is required.

The VE-5x is housed in a sealed cast aluminium housing. The housing also incorporates a single bolt mount with three levelling screws.

The broadband version, VE-53-BB, is suitable for monitoring applications involving an extended frequency range. Stainless steel packaging options and a downhole version, VE-53-DH, are also available.

The VE-5x seismometer is directly compatible with all GeoSIG systems.

Specifications VE-53 / VE 52 / VE 51 Short Period Seismometer

General Characteristics

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

Configurations:

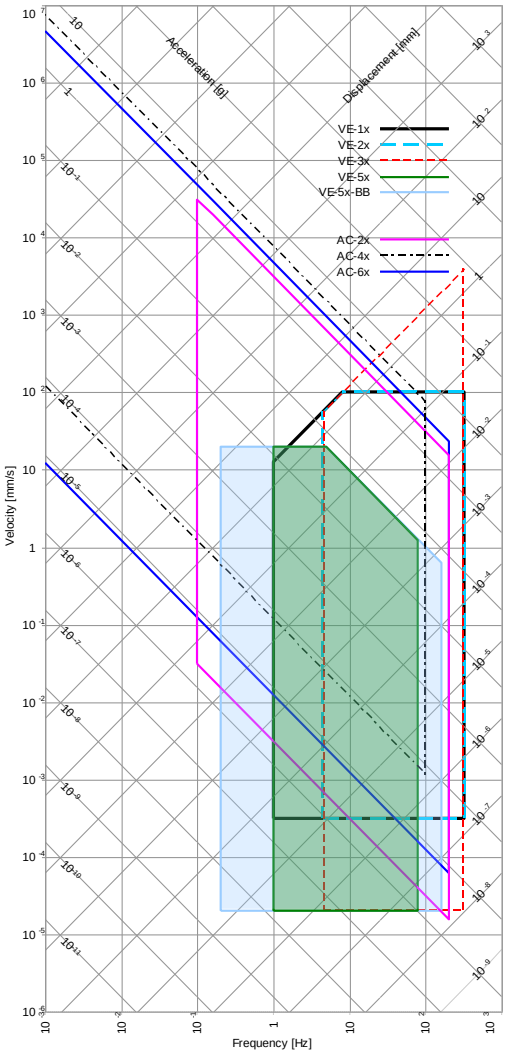
	Triaxial	Biaxial	Uniaxial	Axes	Alignment**
VE-53:	■			X – Y – Z	H – H – V
VE-52-H:		■		X – Y	H – H
VE-52-V:		■		X (or Y) – Z	H – V
VE-51-H:			■	X (or Y)	H
VE-51-V:			■	Z	V

** H: Horizontal, V: Vertical

Full Scale Range: 2 x 500 (1000) V/m/s

Sensor Element

Type: Over damped geophones
Dynamic Range: > 120 dB (1 to 30 Hz)
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 80 Hz (-3 dB)
optional BB: 0.2 to 160 Hz
Damping: 0.7 critical
Full Scale Output: 0 ± 10 V differential
optional 0 ± 5 V pseudo-differential
Measuring Range: See plot



Power

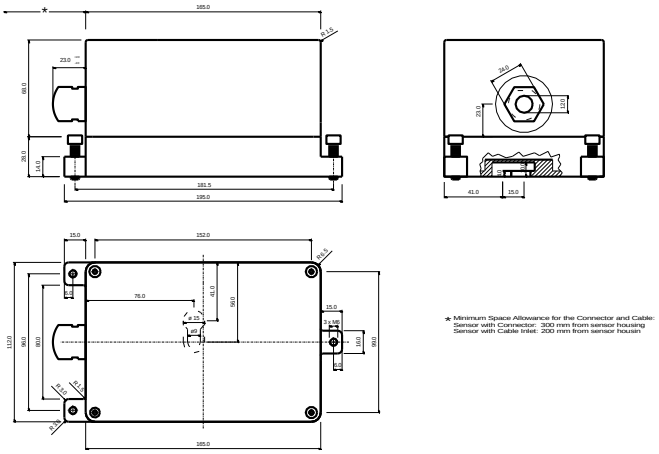
Supply Voltage: 10 to 15 VDC
Consumption: 45 mA at 12 VDC
Connector: Metallic, Shielded, IP67, 12 pins, male
optional MIL, Bendix PT07A 14-19P
Mating: Binder / Coninvers type RC
Overvoltage Protection: All pins are protected

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: 195 x 112 x 96 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)
Humidity: 0 to 100 % (non-condensing)
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