

## VE-13 / VE-12 / VE-11-V / VE-11-H Velocity Sensor

### Features

- Wide Full Scale Range,  $\pm 1$  to  $\pm 100$  mm/s**
- Bandwidth 1 Hz to 315 Hz**
- Civil Engineering and general vibration measurement applications**
- Built-in Impulse Test Circuit**
- Single Bolt Mounted Housing provides up to  $\pm 10^\circ$  of Levelling Adjustment**



### Outline

The VE Velocity Sensors are engineered for consistent performance over a long lifetime. Advanced computerised testing, manufacturing techniques and quality control are used in the production process to provide both, the uniform parameters and the rugged qualities required in modern velocity sensors.

With the new VE-1x, 1 Hz Velocity Sensor now it is possible to measure vibrations in accordance with DIN 45669-1.

The sensor module has proven itself successfully worldwide for many years in different applications. The symmetrical rotating dual coil construction minimises the force on the spring arms. The use of precious metals ensure optimum electrical contact and a long operating life.

The VE Velocity Sensors operate from a wide range of input voltages and can be used for a variety of civil engineering and general vibration measurement applications. The VE-11-H is uniaxial horizontal, the VE-11-V uniaxial vertical, VE-12 biaxial and the VE-13 is a triaxial velocity sensor.

The VE Velocity Sensors are housed in a very compact 195 x 112 x 96 mm case. The sealed cast aluminium housing contains a MS style connector or a sealed cable inlet. The housing also incorporates a single bolt mount with three levelling screws, which offers extended adjusting capability during mounting.

# Specifications VE-13 / VE-12 / VE-11-V / VE-11-H Velocity Sensor

## General Characteristics

Application: Civil engineering, general vibration measurement

### Configurations:

	Triaxial	Biaxial	Uniaxial	Axes	Alignment**
VE-13:	■			X - Y - Z	H - H - V
VE-12-H:		■		X - Y	H - H
VE-12-HV:		■		X (or Y) - Z	H - V
VE-11-H:			■	X (or Y)	H
VE-11-V:			■	Z	V

\*\* H: Horizontal, V: Vertical

Full Scale Range:  $\pm 100$  mm/s  
optional:  $\pm 1, \pm 10$  mm/s

### Specification

Instrument Type: Digital grade long travel geo-phones  
Dynamic Range: > 96 dB  
Linearity: < 0.3 % of full scale  
Cross Axis Sensitivity: < 0.1 % of full scale  
Frequency Response: 1 to 315 Hz  
Damping: standard 0.7  
Full Scale Output:  $0 \pm 10$  V differential (20 Vpp)  
optional  $2.5 \pm 2.5$  V single-ended (5 Vpp)  
 $0$  to  $20$  mA current loop  
Output Impedance: <  $50 \Omega$   
Self Test: Impulse Test  
Measuring Range: See plot

## Power

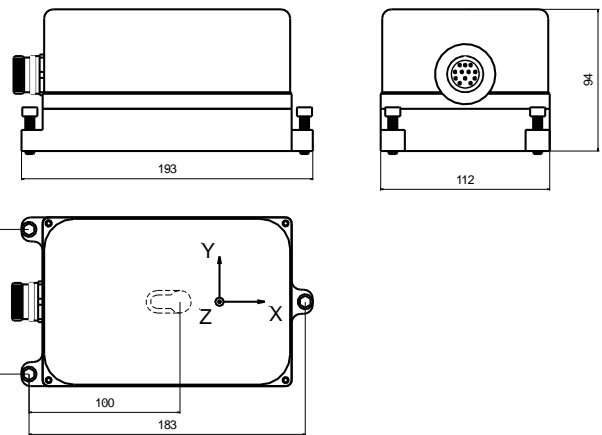
Supply Voltage: 9 to 15 VDC  
Consumption: VE-13: 26 mA typical, 31 mA max.  
@15 VDC

## 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: Sensor Mode  
Case: Shielded Ground

## Environment / Housing

Housing Type: Cast aluminium  
Sealed access cover  
Housing Size: 195 x 112 x 96 mm  
Weight: 2.0 kg  
Index of Protection: IP 65  
optional IP 68  
Temperature Range: -25 to 85 °C (operating)  
-40 to 100 °C (storage)  
Humidity: 0 to 100 % (non-condensing)  
Mounting: Single bolt, surface mount, adjustable within  $\pm 10^\circ$



### Standard VE-1x

Floor mounted, Full scale  $\pm 100$  mm/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  
Stainless steel protective housing  
Temperature Range: -25 to 100 °C (operating)  
Temperature Output: Temperature sensing at the sensor side

### Ordering Information

Specify: Type of VE-1x, full scale range, and other applicable options

