

## Low Power Consumption

### Velocity Seismometer



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## Overview

This is a servo type velocity-meter with a measurement band of 10 seconds to 70Hz, and reduced power consumption and self-noise. It is possible to observe for about 2 months (\*1) with alkaline AA batteries (4pcs). It can be used for observation in fields that were difficult with conventional servo seismographs, such as mobile observation, volcano observation, and mounting on ocean bottom seismometers etc. (\*1) 1-axis measurement



Vertical type (VSE-15L1V)



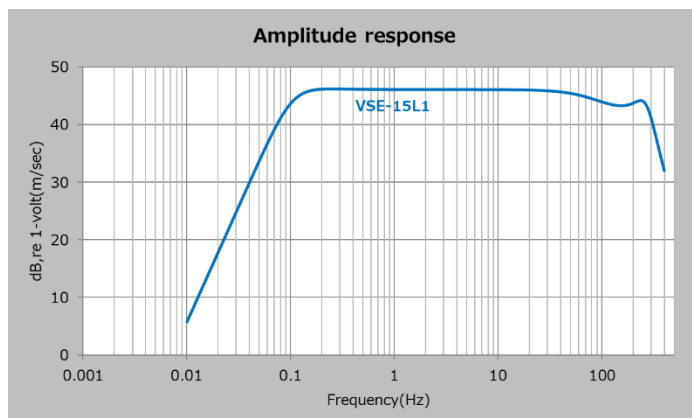
Horizontal type (VSE-15L1H)

## Feature

- Frequency flatness characteristics of 0.1Hz to 70Hz
- Compact, portable, and easy to install and adjust
- Reduces low frequency noise  
(Approximately 1/3 reduction compared to our VSE-15D-6)
- Battery-powered by a special power supply unit (PL-15L)
  - 2 months continuous observation is possible by using 4pcs of AA battery in PL-15L.
  - The power supply unit also supports an external power supply (DC12V).  
(0.03W or less @ DC12V when measuring 3-axis )


## Useful for

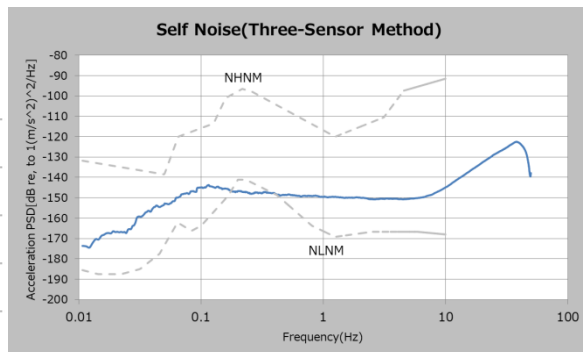
- Power-saving observation system
  - Micro-tremor
  - Volcanic activity and After shock
  - OBS (Ocean Bottom Seismometer)
- High-rise building, Bridge, Earthquake and Wind
- Shaking of Wooden building



Response Characteristic

# Specifications

Model	VSE-15L1  Measurement direction H : Horizontal V : Vertical
Configuration	1-axis (H or V)
Frequency band	0.1 Hz to 70 Hz(-3db)
Sensitivity	2×200V(m/sec)
Output Voltage	Max. ±2.5 V(differential)
Resolution (*2)	< 3×10 <sup>-8</sup> (m/sec) @1Hz
Linearity	< 0.05%(of Full Scale)
Cross sensitivity	< 0.03G/G
Temperature range	-10°C to 50°C
Power (Consumption current)	DC±3~±15V(< 1mA@DC±3V)
External dimension	55(w)×69.5(d)×72(h) mm
Weight	< 0.23 kg
Waterproof	IP66



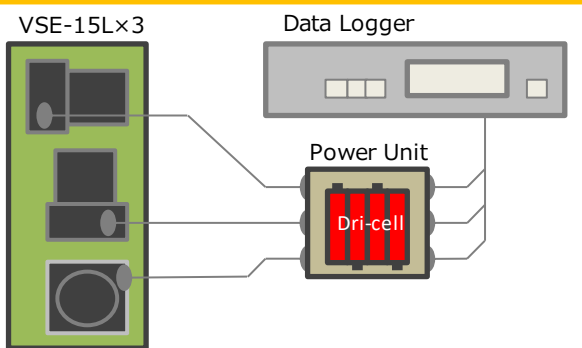
Self Noise (Three-Sensor Method)



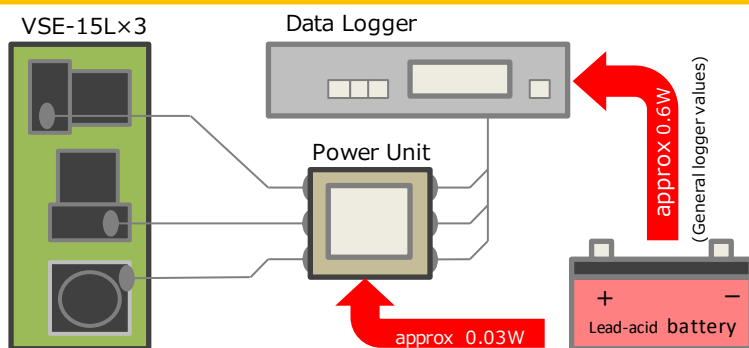
3-axis observation

(\*2)Root of PSD(Three-sensor method)

## Connection Diagram



VSE-15L 1 x 3-axis driven by dry batteries  
(⇒ Operates for about 3 weeks by measuring 3-axis)



VSE-15L1 x 3-axis driven by external power supply  
(⇒ Power is 1/20 of the data logger and can be almost ignored)

## Power Supply Unit (PU-15L)

Configuration	1 to 3-axis
Output voltage	DC±3V(max. 25mA)
Built-in Battery	AA size battery × 4 pcs
External power input	DC5V to 15V
External Dimension	100(w)×100(d)×35(h) mm
Weight	< 0.28kg (excl. battery)



Connection diagram with power supply unit PU-15L