VMS

Specifications

Sensor	4 MEMS tri-axial accelerometers and 3 Geophones		
Output	Acceleration and Velocity, 6 channels		
MEMS Spec	- Accuracy: X、Y axis ±2%, Z axis ±3% - Sensitivity: 0.1~1960 gal or ±2g - Range: [19.6 m/s² to -19.6 m/s² (E-W and N-S), 9.8 m/s² to -29.4 m/s² (U-D)] - Dynamic Range: 114 dB (250 sps) or 108 dB (50 sps)		
Geophone Spec	- Case to Coil Motion: 4 mm_{pp} - Moving Mass: 11.0 ±0.1 gram - Frequency Range: 0 to 500 Hz - Sensitivity: > 25 Vm/s - Spurious Frequencies: > 240 Hz - Allowed Tilt Angle: < 10° - Dynamic Range: 130 dB		
Sampling Rate	100 to 1000 Hz	Dynamic	24 bit
Memory	8 GB (May adjust to 16 GB, 32 GB or 64 GB)		
Algorithm	Pd、PGA、Displacement、STA/LTA		
Communication	Modbus TCP and RTU		
Power Consumption	1W	Operating Temperature	-10~60°C
Time Synch	NTP and GPS	Waterproof	IP 67
Battery	Lithium Polymer 11.1 V/6 Ah/66.6 Wh		
Dimension	180(L) x 160(W) x 75(H) mm		
Standard	DIN and ISEE		

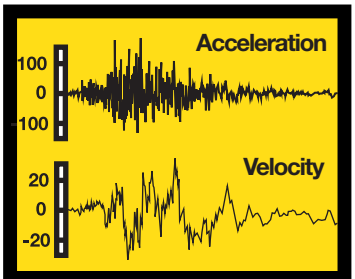
Introduction

VMS (Vibration Monitoring System) is the next generation instrumentation for vibration monitoring due to its computing algorithms and electronics architecture. VMS is an “all-in-one-design” device. It contains one 24-bit digitizer, MEMS sensors, Geophones, SHM (Structure Health Monitoring) and EEWS (Earthquake Early Warning System,) algorithms. In addition, VMS has 6-channel outputs (3 axis in acceleration and 3 axis in velocity) with precision time synchronization. Users may analyze a set of vibration data with acceleration and velocity at the same time. Moreover, with SHM and EEWS algorithms built-in, VMS is capable of calculating parameters on-site. This enhances faster data processing. By built-in many breakthrough features, VMS offers a total solution for vibration monitoring.

Application

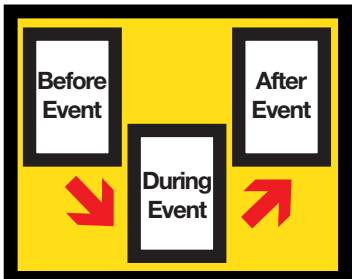
- Monitoring of seismic activities
- Monitoring of blast events
- Monitoring of construction site vibration
- Monitoring of heavy transportation
- Structure Health Monitoring
- Earthquake Early Warning

Features



Acceleration and Velocity Outputs

VMS has 6-channel outputs which include 3 axes of acceleration and 3 axes of velocity. All the sensors are built within the same device. As a result, VMS is capable of producing acceleration and velocity data streams with the same time frame.

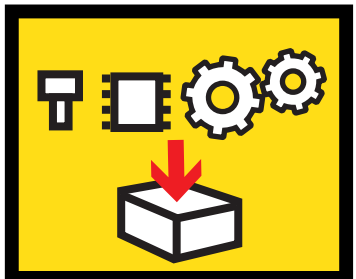


Total Solution for Seismic Activity

VMS consists of SHM (Structure Health Monitoring) and EEWS (Earthquake Early Warning System) algorithms. Since VMS has both algorithms built-in, the device is able to calculate SHM and EEWS parameters on-site. On-site computing may enhance faster analysis and data mining. Due to VMS’ brilliant hardware and software abilities, it can provide early warning before S waves strike, current intensity during events and structure health conditions after events. Thus, VMS is a total solution for monitoring seismic activity.

SD Card Storage

The standard storage of VMS is supported by 8GB mini SD cards. Larger capacity are available on request.



All-in-One Design

All the sensors and electronics are assembled within the same housing. Thus, it is easy for users to deploy on site and prevent environmental contamination. In addition, VMS meets the standards of DIN and ISEE.

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