

Data you want, when you want it...

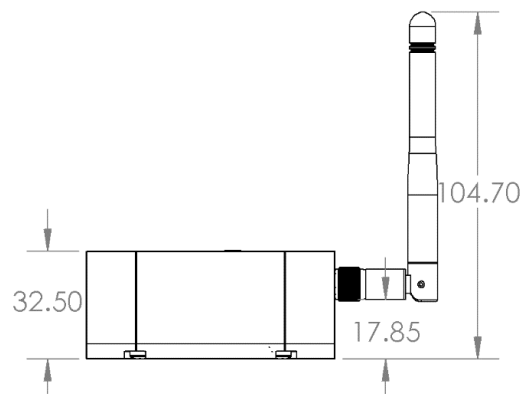
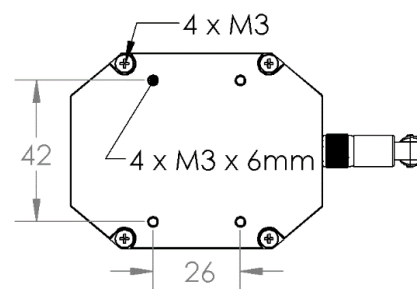
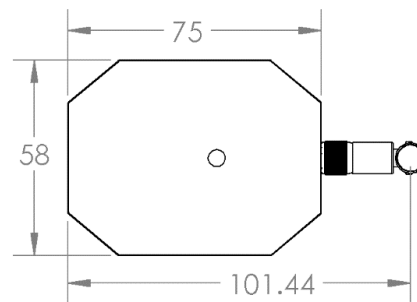


A high precision wireless MEMS vibration sensor with built-in temperature compensation. The sensor has functions similar to an analogue geophone with additional functionality of sending proactive alerts when user defined PPV thresholds are exceeded. The sensor can be remotely configured in the field and upgraded on the fly to a multi-function sensor, with additional modes including 3D orientation, 2D tilt, 1D impact.

Features

- No Cables - Complete Wireless Solution ^{*1}
- Easy to Install and Uninstall – No Technician Needed
- IP68 Case with Magnet On/Off Switch
- Remotely Managed and Configured
- Alert Management Functionality
- Up to 100 Sensors per Wireless Mesh Network
- Network can Span Kilometers
- Low Power Battery Operation – Can Last Years
- Powered by Replaceable and Readily Available Alkaline Batteries
- High Reliability Network and Data Transfer
- Heartbeat Message (with Data)
- Energy Harvesting Option ^{*2}
- Built-in Temperature Compensation
- Resolution (PPV): 0.1 to 4,998mm/sec

Dimensions



Applications

- Blast Monitoring
- Foundation and Piling Works
- Structural Health Monitoring (Buildings, Bridges, Tunnels)
- Large Area and Long Distance Monitoring (Construction Sites, Pipelines, Conveyors)

*1 Requires Management Node

*2 Requires External Solar Panel

Vibration Specifications			
Vibration Limit	X ±16G, Y ±16G, Z ±16G		
Conformance	DIN 45669		
Response	DC to 500Hz		
Accuracy	±5%		
Samples/Reading	1024		
Sample Rate	1000Hz		
Principal Frequency	Range 1Hz to 500Hz		
Peak Particle Velocity			
Minimum	0.1 mm/sec		
Maximum	4998 mm/sec		
Heartbeat Interval	1/sec to 1/day		
Buffer Size	128Kb		
Alert Thresholds	0.1 to 624mm/sec (@ 2G Range)		
Rearm Stable	1 sec to 300 sec		
General Specifications			
Integrated Sensors	Dual tri-axial Accelerometers, Dual tri-axial Gyroscopes, tri-axial Magnetometer and multiple Temperature sensors		
Product reference	WMS-01 series		
Data Outputs	Zero Crossing. Peak amplitude/frequency values (1Hz to 500Hz), Peak Particle velocity (mm/s). Threshold alerts, historical trend readings.		
Operating Parameters			
Communication			
Standards	2.4 GHz 6LoWPAN and 802.15.4e standards		
Range	100m to 300m line of sight with internal / external antenna		
Reliability	>99.999%		
Upload Rate	~3.2Kb/s		
Security	Secure Mesh with 128-bit AES Encryption. NIST Certified Security		
Consumption	<50 µA in when routing		
Time Stamping	Highly Accurate Time Stamping to 1millisecond/node		
Power Consumption	<ul style="list-style-type: none"> • 4.5mA to Receive a Packet • 5.4mA to Transmit at 0dBm • 9.7mA to Transmit at 8dBm 		
Power & Environmental			
Internal Battery Life (2 AA batteries)	741 days		
With Solar Cell (8volt 40ma)	2390 days		
Operating Temperature	-10 °C TO +85 °C (Alkaline batteries)		
Mechanical Shock Limit	500 G (Calibration Unaffected) 1000 G (Bias Affected) 5000 G (Survivability)		
MTBF	1.1 Million Hours (Telcordia Method I, GF/30C) 0.4 Million Hours (Telcordia Method I, GM/35C)		
Dimensions of Base Unit	Ø 74mm x H 38.6mm with internal Antenna		
Flanged Base	Ø 126mm x H 5mm		
Weight	~200grams		
Regulatory Compliance	ROHS, CE	Korea: CRM LT9 Eterna Japan: 208-130008	IC: 5853A Eterna2 FCC ID: SJC Eterna2
Integration			
Software	Tilt and Vibration Management Application (Windows XP,7,8 and 10)		
Options			
Audible and Visual Alerts	Supports audible and visual beacon alerts		
Text and Email Alerts	Supports text message and email alerts		
Cases	Various mounting options are available		