

GSS 5GV Vibration Monitor

FOR STRUCTURAL AND OCCUPANT MONITORING



The 5GV is a cutting-edge MEMS Vibration and Tilt monitor that boasts exceptional precision and an integrated 3G/4G gateway, making it the ideal solution for a wide range of industries. Its user-friendly design ensures that it is easy to configure, install, and manage remotely, reducing the need for time-consuming on-site visits.

Thanks to its low-power design and external power options, the 5GV minimizes maintenance activities, allowing you to focus on what really matters. With user-defined alert thresholds, you will receive notifications directly when something requires your attention. Live data flows to MeasurEye, NTi Audio's cloud platform.

Features

- Standalone Sensor with Internal Storage
- No Cables - Complete Wireless Solution
- Indicator LEDs – Visually Confirm Operation
- Totally Sealed Case with Magnet On/Off
- Remotely Managed and Configured via SMS, MQTT explorer
- Locally managed via Bluetooth Mobile Application or USB attached PC Application
- Real-time SMS Alerts, FTP and HTTP Uploads
- Modular Communications (Bluetooth + 4G or Bluetooth + WiFi)
- 12x Nitecore NL1840HP at 4000 mAh
- Low Power Battery Operation
- Can Operate on External Power, No Batteries installed
- Real-Time Clock synced to Cell Tower/ NTP
- CSV/JSON/BIN Data Output, Easy GISIntegration
- Built-in Temperature Compensation

Technical Specifications

Conformance	DIN 45669-1 (Class 1), ISO 2631, ISO 8041, ISEE																											
Management Access Port	USB serial interface, Bluetooth (BLE)																											
Storage	Industrial MicroSD Card - 512 MB standard or 8 GB (optional upgrade)																											
Time Keeping	Real Time Clock (retains time for up to 3 months), Synched to NTP / Cell Tower																											
Vibration Limit (X, Y, Z)	±2 / 4 / 8 / 10* / 20* / 40* g (*Not available in US)																											
Maximum Response	1 Hz to 1 KHz																											
Accuracy	±2 %																											
Sample Rate (Hz)	1000, 2000, 4000 samples/second																											
Reading interval	30 to 3600 sec																											
Peak Particle Velocity (by design)	0.003 mm/sec to 620 mm/sec																											
Peak Particle Velocity (validated)	Up to 620 mm/sec																											
Peak Ground Acceleration (by design)	0.003 g																											
Time Stamping	Down to 1 millisecond																											
Buffer Size	8 MB																											
Alerts	Thresholds: 1 to 150 mm/sec (@ 2G Range) SMS Numbers: Can notify up to 5 mobile phones																											
Cloud Platform	MeasurEye - real-time data publication, event alerts (SMS/email), custom CSV reports																											
Battery type	12 x Nitecore NL1840HP 18650 Li-ion, 4000 mAh / 3.6V each (total 48,000 mAh / 173 Wh)																											
Battery consumption	<table><tr><th>Mode</th><th>Interval</th><th>Power-save</th><th>Autonomy</th></tr><tr><td>Structural Damage / MQTT</td><td>1 min</td><td>On</td><td>92 days</td></tr><tr><td>Structural Damage / MQTT</td><td>1 min</td><td>Off</td><td>42 days</td></tr><tr><td>Structural Damage / MQTT</td><td>15 min</td><td>Off</td><td>86 days</td></tr><tr><td>Structural Damage / MQTT</td><td>15 min</td><td>On</td><td>97 days</td></tr><tr><td>Structural Damage / MQTT</td><td>1 s</td><td>Off</td><td>19 days</td></tr></table>				Mode	Interval	Power-save	Autonomy	Structural Damage / MQTT	1 min	On	92 days	Structural Damage / MQTT	1 min	Off	42 days	Structural Damage / MQTT	15 min	Off	86 days	Structural Damage / MQTT	15 min	On	97 days	Structural Damage / MQTT	1 s	Off	19 days
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Structural monitoring	PPV & dominant frequency (ZC/FFT) Filters for ISEE, DIN 4150-3, BS 7385, AS 2817-2, ÖNORM S 9012 +10 standards																											
Occupant Comfort	VDV according to BS 6472 AWT according to ISO 2631 KBFT according to DIN 4150-2 1/3-octave spectrum (velocity, acceleration, dBV)																											

Technical Specifications

Structural Damage (Filters)	— ISEE seismograph — DIN 4150:3 — DIN 4150:2 — BS 7385 — AS 2817.2-2006 — ÖNORM S 9012 — IN 1226 — ICPE Circulaire 1986	— NS 8176 COMFORT — NS 8141 CONSTRUCTION — NS 8141-1 — ISO 8569 ACC — SS 02211 SHAFT — SS 4604861 COMFORT — SS 4604866 BLAST
Occupant Comfort (Weightings)	— ISO 2631:1989 — ISO 2631:2003 — UNI 9614-2017	— BS6472-2008 — VC curves
GSM Modems	EG25 (3G/4G) Global bands (uses nanoSIM) BG96 (3G/4G) Global bands (uses microSIM)	
Antennas	GSM, Bluetooth, GPS (optional)	
Operating Temperature	-40 °C TO +85 °C	
Dimensions	W 152 x L 108 x D 41 mm	
Ingress Protection	IP67	
Weight	1.35 kg (with batteries)	
USB/External	Power 6-pin LEMO keyed connector with metal cap (IP68) and chain	
Comes with	mounting bracket, USB cable, field carry bag, magnet and lanyard	
Order Information NTi Audio #	600 070 001	

Tilt Specifications

Tilt Readings	Pitch $\pm 90^\circ$, Roll $\pm 90^\circ$
Resolution	0.0035°
Accuracy	+/- 0.005°
Alert Thresholds	0.05° to 70.0°
Temperature Stability	+/- 0.005° (-45° to 85°)
Stabilisation Time	10 secs
Reading Interval	10 sec to 12 hours

All information is subject to change without notice.