ADVENTUM TECH

Product Datasheet: Quake - GroundControl

Product code QGC-01-01

OVERDESIGN

CO2
FOOTPRINT
REDUCING

SAFETY
EXCELLENCE

CE RoHS compliant

Product Overview

Quake - GroundControl – (formerly QuakeControl) is an advanced wireless vibration monitoring sensor developed by Adventum Tech for construction and infrastructure environments. The sensor is designed to measure vibrations, particle velocity, and dynamic impacts generated by construction activities, traffic, blasting, or environmental sources.

Quake - GroundControl enables real-time compliance monitoring, protection of adjacent structures, and proactive risk management by providing immediate alerts when vibration levels exceed defined thresholds.

OVERDESIGN

CO2
FOOTPRINT
REDUCING

SAFETY
EXCELLENCE

CE

RoHS
compliant

Key Features

- Continuous real-time vibration and seismic monitoring
- Immediate alerts when vibration limits are exceeded
- Supports regulatory compliance and documentation
- Fully wireless deployment with rapid installation
- Suitable for temporary construction monitoring and long-term operation

Measured parameters

- Vibration acceleration
- Particle velocity and movement '
- Dynamic impact intensity

Construction Applications

- Retaining walls and diaphragm walls
- Secant pile and sheet pile walls
- Temporary excavation support systems
- Railway earthworks and retaining structures
- Bridges and Tunnels
- Urban construction sites
- Tunnelling and blasting operations
- Piling, compaction, and demolition works
- Railway and road construction near sensitive structures

Operational applications

- Long-term vibration monitoring of buildings and infrastructure
- Traffic-induced vibration monitoring
- Environmental impact and compliance monitoring

Software & Data Integration

- Real-time vibration visualisation
- Automated alerts and notifications
- Secure cloud-based data storage
- Project-specific dashboards
- Exportable reports for compliance and liability documentation
- API and third-party software integration

Safety, Risk & Asset Value

- Early detection of instability and settlement
- Reduced risk of structural failure
- Improved construction safety and compliance
- Extended lifespan of infrastructure assets

OVERDESIGN

CO2 FOOTPRINT REDUCING

SAFETY EXCELLENCE

CE RoHS Compliant

Technical Specification

Sensor type: Quake - GroundControl Sensor Specification		
Parameters details		
Type	MEMS sensor	3-axis (XYZ) accelerometer
Internal memory	256 kB	GW 32GB
Power/Battery	Li-SOCl$_2$	Size-D, 19 Ah
Quake - GroundControl Technical Specification		
Parameters details		
Range	g	±6g
Sensitivity error	%	±0.7
Linearity error	mg	±1
Noise density	µg/√Hz	37
Output Data Rate (ODR)	Hz	2000
Physical Specification		
Parameters details		
Dimensions	mm	100 x 100 x 50
Weight/Mass	g	250g
Protection	IP	IP 66
Material		PVC
Operating Temperature Range	Celsius, °	MEM: -40° +125°
	Celsius, °	Battery: -40° + 85°
Radio Specification		
Parameters details		
Range (estimation for urban and rural environment)		
Urban		0 - 1km
Sub-urban		1 - 3 km
Open space		3 - 5km
Fequency		868 MHz / 915 MHz
Data Transmission		Lora / LTE 5G
Configuration		Star Topology (Point to Point)
Battery Life (*estimation for static monitoring)		
Parameters details		
1 min		2 years
15 min		5 years
1h		10 years
6h		15 years
Dynamic mode battery lifetime depends on Project requirements and sensitivity		