

TUNNELGUARD



Core features

- Sensitive to digging, drilling, scraping, jack-hammering, etc.
- Filters out city noise (cars, etc.)
- Sophisticated algorithms enable very high Probability of detection (Pd)
- Very low False / Nuisance Alarm Rate (FAR / NAR)
- Easy to install around any building or asset
- Flexible integration to alarm panels through software or dry contacts

Description

TunnelGuard is a covert system that uses seismic sensors, buried near the walls or foundations of a structure, to detect tunneling attempts nearby protected assets.

TunnelGuard can recognize the seismic footprint of a variety of activities (digging, drilling, scraping, jack-hammering, etc.), measure their intensity and duration. The proprietary detection algorithms intelligently filter out non-threatening vibrations, from traffic on nearby roads and underground subways, in order to minimize false alarms.

Markets

TunnelGuard is a robust and modular solution for detecting any tunneling and digging nearby any infrastructure early enough before the actual breach occurs. It is typically used to protect bank vaults, prisons, museums and other cultural heritage sites.

How it works

Basic sensing unit

The core of the protection system is the TunnelGuard Sensor Unit (TGSU), which consists of a digital signal processor connected to four geophones by shielded cables. The digital signal processor is housed in an IP66 water proof enclosure that can be installed near the protected structure. The geophones are designed to be installed in variety types of soils.

System layout

A typical TunnelGuard system will consist of up to four TGSUs, connected to a Distribution Box – a hub for power and communication. A computer collects the serial data from each TGSU trough the Distribution Box. The computer typically hosts a dedicated SMS (Security Management System) application. Integration to a 3rd party SMS can be done through dry contacts.



Technical Specifications

TUNNELGUARD

TECHNICAL SPECIFICATIONS

GEOPHONE

- Natural frequency: 10 Hz
- Band pass: >250 Hz
- DC resistance: 395 ohms
- Sensitivity: 0.197 V / cm / s
- Weight: 86 g
- Diameter: 2.54 cm
- Operating and storage temperature: -45 to +100° C

TUNNELGUARD SENSOR UNIT (TGSU)

Four inputs processor with dry contact output relays or RS-232 communication

Inputs: 4 geophone inputs

Outputs:

RS-232 communication
5 relay dry contacts (5 alarm confidence levels) Input voltage: 6 VDC
Current consumption: 14 mA (no relay activated)
Temperature: -40 to +70° C
Humidity: 95% non-condensing
Enclosure: Weatherproof per NEMA 12 / 13, IP66
Unit size: 240 x 180 x 100 mm

DISTRIBUTION BOX

Power supply and junction box for communication and dry contacts

Inputs: 4 TGSU cables (power, communication and dry contacts) Outputs: • 4 RS-232 communication to PC • 20 relay dry contacts to 3rd party interface Input voltage: 110 / 230 VAC Power backup: Internal batteries provide power backup for 3 days Transient suppression: All inputs and outputs are lightning protected Temperature: -40 to +70° C Humidity: 95% non-condensing Enclosure: Weatherproof per NEMA 12 / 13, IP66 Unit size: 400 x 300 x 200 mm

Specifications are subject to change without prior notice.





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