



SC-VSS Vibration Sensing System

SC-VSS is an ideal perimeter intrusion detection system, and its performance indicators meet the security requirements. SC-VSS detects any attempt to cut, climb or damage the fence. The system consists of special sensing cables, the communication processor and the terminator that is easy to install and configure.

SC-VSS can work around the clock and is not affected by sunlight, temperature, rain, fog and other factors. It can be installed on most types of the fences, such as chain-link, standard welded mesh, expanded metal mesh and palisade fences, etc.

SC-VSS can easily integrate with local alarm system, CCTV video management system and most of the security management system.

Suitable Application

SC-VSS can install not only on the fence but also on the top of the wall, underground and along the pipeline. It can be extensively installed in various premises / locations such as:

- Residential
- Warehouse
- School
- Theme Park
- Factory/Plant
- Depot
- Pipeline
- Electrical Substation

Vibration Sensing Cable

The system makes use of a low-frequency vibration cable, which consists of a core wire, a pressure-sensitive film, a shielding layer, and a jacket. The characteristic of this cable is to sense pressure and deformation.

Features and Benefits

- Detect perimeter intrusions over a distance of up to 200 meters per processor
- Each processor defines 2 zones, each zone up to 100 meters
- High Probability of detection (Pd)
- Sensing cables are easily installed on most of fence types
- Easy integration with 3rd party security system
- Sustained sensitivity
- Unaffected by adverse weather conditions
- Low power consumption
- High Price/Performance Ratio for small & mid size sites

Working Principle:

When external intrusion causes vibration, the front-end vibration sensing cable converts the vibration signal into an electrical signal and transmits it to the processor's signal processing unit that will amplify, shape and filter the received weak electrical signal, and then undergo a certain Algorithm processing determines whether to output an alarm signal.

Sensitivity & Anti-Interference of the sensing cables can be adjustable according to the environment.

Trigger Alarm:

If the alarm threshold is exceeded, an alarm will be confirmed. The relay will operate, and the alarm signal will be output to the alarm host through the CAN bus or dry contact to the security management system.

Waiting time to trigger alarm can be adjustable according to the user requirement.

Communication Processor:



- Power supply mode: AC110-240
12V to 24V DC
- Power Consumption: $\leq 15W$
- Communication Method: CAN bus, dry contact, TCP/IP (require additional module)
- Zones: 2
- Dry contact input: 4
- Dry contact output: 2
- External alarm output: 12V
- IP Level : IP65

Physical Description:

- Per zone length: ≤ 100 meters recommended
- Zone geometry: No restriction, end user defined
- Cable Layout vs. Fence Height: Straight-Line, S-shape, Double-Pass
- Force trigger alarm: Climb, Cut, break-through

Performance:

- Nuisance Alarm Rate (NAR): $\leq 2\%$
- False Alarm Rate (FAR): 0
- Sensitivity: 1 – 8, adjustable
- Anti-Interference : 1 – 5, adjustable
- Waiting time to trigger alarm: ≤ 2 sec, adjustable

Working Conditions:

- Temperature Range : -25 to $70^{\circ}c$
- Humidity: 0 to 95%, non condensing

Technical Features:

- Built-in self-checking, self-balancing, self-adaptive functions
- Built-in intrusion alarm, equipment failure and tamper alarm functions
- Built-in lightning protection for both input and output
- Reduce false alarm function: the system will trigger an alarm when it detects an intrusion over the preset time (e.g. 1 sec)