

# G-MAX – IVS-R123

## Fence Mounted Vibration System In an innovated cutting edge technology

### WHITE PAPER



## **G-MAX - IVS-R123**

### **INTRODUCTION**

G-Max Inertia Fence-Mounted Vibration System (IVS) is an innovated cutting edge technology based on multiple sensing transducers to provide perimeter intrusion detection. It is an add-on system to any type of fence, wall or other perimeter equipment.

The IVS provides excellent detection system with resolution of 3 meters (10 feet). Each IVS sensor includes addressable communication. Digital signal processor detection algorithms, including adaptive functions for each detector, can be updated by the user.

### **OVERVIEW**

The IVS sensors are fastened to the fence and receive electronic signals from G-Max advanced sensors/transducers which detect the vibrations caused by attempts to dismantle, climb over or cut through the fence.

Electronics signals indicating vibration are analyzed by the system field controller, which includes advance smart adaptive signal processing to achieve a high level of detection probability while eliminating false alarm due to vibration caused by wind, rain, hail and many other environment disturbances.

All signals from G-Max IV sensor are monitored individually by the G-Max IVS Field Controller to analyze the status of each particular electronic sensor. The G-Max IVS Field Controller detects the changes in the status of each individual sensor and reconciles and analyzes them as a group, providing accurate and reliable information on alarms while rejecting false alarms. A typical system configuration is based on modular design with each module consisting of one G-Max IVS Field Controller with two sectors.

All modules are connected to the alarm center via data and power cables. All sensors of each sector are connected to each other in chain configuration and also to the G-Max IVS Field Controller.

Individual sensors/transducers are highly reliable because they have no moving parts.

## **SOLUTION DETAILS**

- **Resolution is located to within of 3 meters (10 feet).**
  - software based zoning enables improved operational flexibility and identification of the precise location of an intruder . This precision enables a camera to be immediately pointed at the intruder
  - IVS enables the simultaneous detection and location of multiple intrusions
  
- **Adjustable sensitivity of individual sensors**
  - The IVS system adjusts the sensitivity of each sensor per sensor – The defiance of level of tension long the fence will not influence on the detection of others detectors on the sensor line.
  - Because each sensor can be calibrated separately, it is possible to use the same system for more than one type of mechanical barrier that can protect separate areas (for example, a wall and a fence) with the same chain of detectors.
  
- **Sensors built-in test; automatic or manually by remote activation.**
  - Built-in test - Automatic testing can be conducted based on the number of times per second a sensor sends information for further processing along or through "sign of life" procedures.
  - Remote Test Command - an operator can send a manual command to perform detector integrity checking from the command and control center.
  
- **Very low False Alarm Rate (FAR)**
  - Since each sensor is analyzed separately with improved algorithms which capture detailed statistics from many sensors, alarms are triggered only when a specific sensor is continuously being disturbed.
  
- **Most reliability & Very Low maintenance**
  - Sensor operation is entirely electronic and does not utilize mechanical parts for detection. This avoids high wear and also corrosion, which can produce either a high rate of false detection or failures to detect genuine intrusions.
  - All electronic, as opposed to mechanical, sensors also avoids
  - Sensors are fully encased and protected by an all weather housing with an ingress protection rating of 67 (dust-tight and water-immersion resistant)
  - Individual sensors and other exposed systems are hardened against vandalism.
  - Diagnosis and maintenance is easy.

## System Advantages

- Precise location of the intruder- enables pointing a camera to the specific intrusion location.
- Flexible software zones- enables improved operational flexibility.
- Sensors built-in test, either automatic or manually by remote activation.
- Smart Computerize Test Unit- for easy diagnostic & maintenance.
- Detects and locates simultaneous multiple intrusions
- Increased Immunity rain and harsh weather conditions- achieved through improved algorithms which capture detailed statistics from many sensors.
- Most reliability & Very Low maintenance-since the sensor base on pure electronic
- Sensor no mechanical active parts, the sensors fully encapsulated – IP67 standard.
- Easy-to-install and integrate
- Easy Linked to existing CCTV or alarm panel
- Adaptable to most types of existing fences or wall.

## SYSTEM APPLICATION

- Upgrading existing systems that have high maintenance costs or increasing the required Security
- Installation on existing or new fences

### G-MAX-IVS-R123 - SPECIFICATIONS

#### System

##### Resolution/Intrusion Detection:

- Down to 3m (9.8ft), access to each node.

##### Physical Data Input/output to transducers:

- Optional RS485 with G-Max Protocol
- Relay Cards
- RS232
- TCP/IP

##### General:

- Vibration, Magnetic, Active Self-Testing

##### Platform:

- Embedded platform
- Built in database storage

#### G-Max controller

##### Input Voltage:

- 48-12VDC Less than 1A

##### Data Exchange with G-Max controller:

- Vibration alarm with classification
- Magnetic event
- Line tamper
- Wind condition
- Live signal – active self-test

##### Operating Temperature:

- -20°C to 70°C

##### Configuration:

- Support 2 chains of 250m / 1050m

#### Transducer

##### Humidity:

- 0% - 100%
- Fully encapsulated

##### Transducer Enclosure:

- IP67 – Fully encapsulated
- Water & weather proof

##### Operating Temperature:

- -20°C to 70°C

##### Physical Data:

- R123 with G-Max Protocol

