PS-4001-48461-A

G-MAX IVS R123 Vibration Sensors Perimeter Intrusion Detection System

Product Specifications

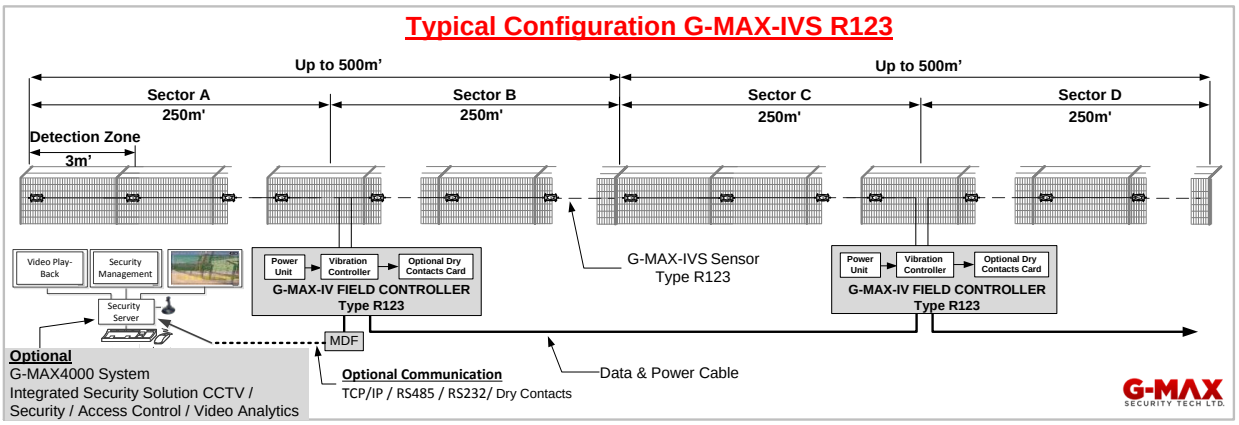
G-Max Security Tech Ltd

General

G-Max-IVS-R123 is a powerful electronic system specifically designed for total perimeter protection of critical infrastructure facilities: Civil, Industry, Military & Governmental.

G-Max-IVS-R123 is based on a unique advanced fence detection system which protects facilities at the outer perimeter circle, providing early warning of intrusion attempts giving the precise location of the intruder (at up to 3m' resolution); enables pointing a camera to the specific intrusion location.

The system is compatible with all types of detection sensors for indoor/outdoor use and can be easily interfaced for integration and control of complementary systems, such as CCTV systems which will be installed at key points to provide real time assessment capability.

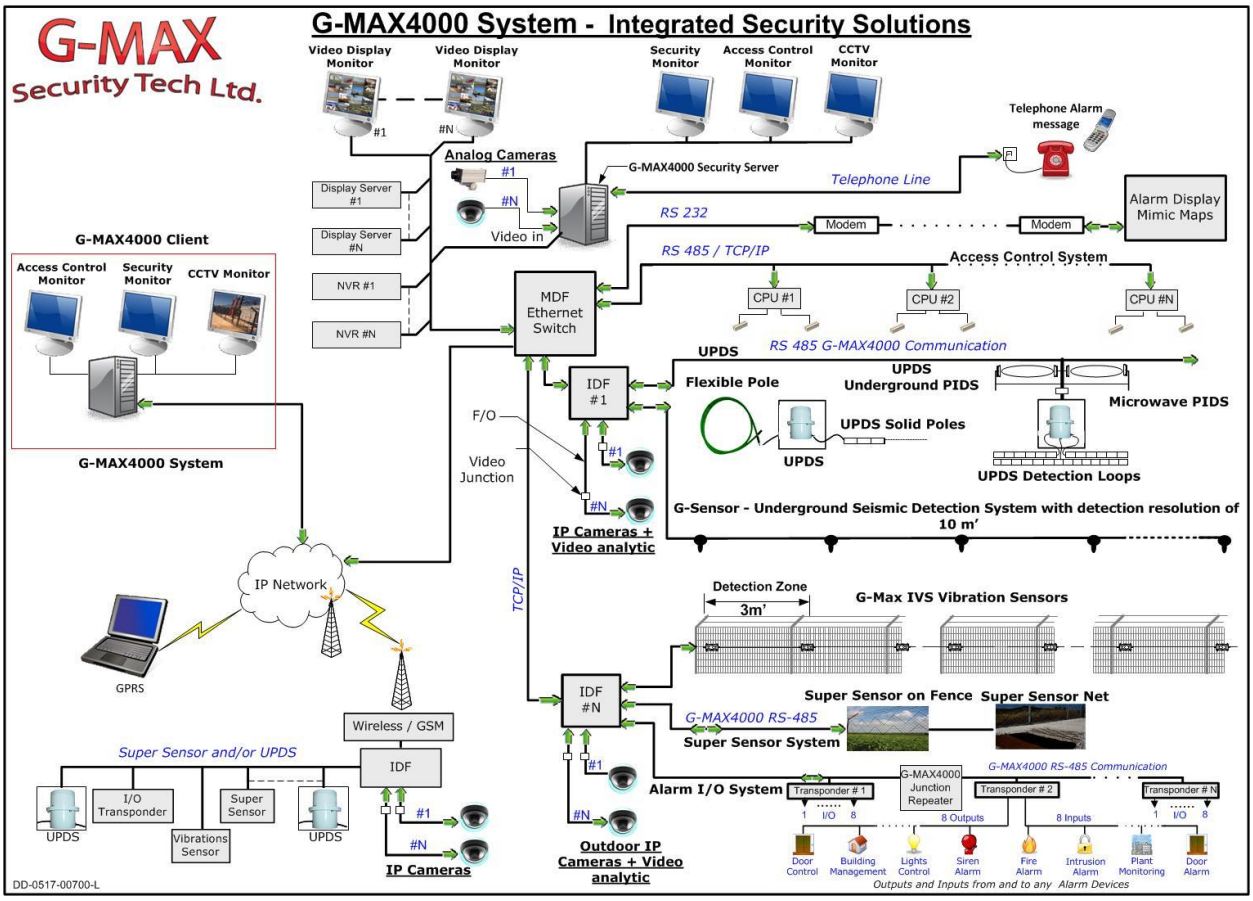


G-Max-IVS-R123 has 3 options for central control:

1. **G-Max4000 command & Control system:**

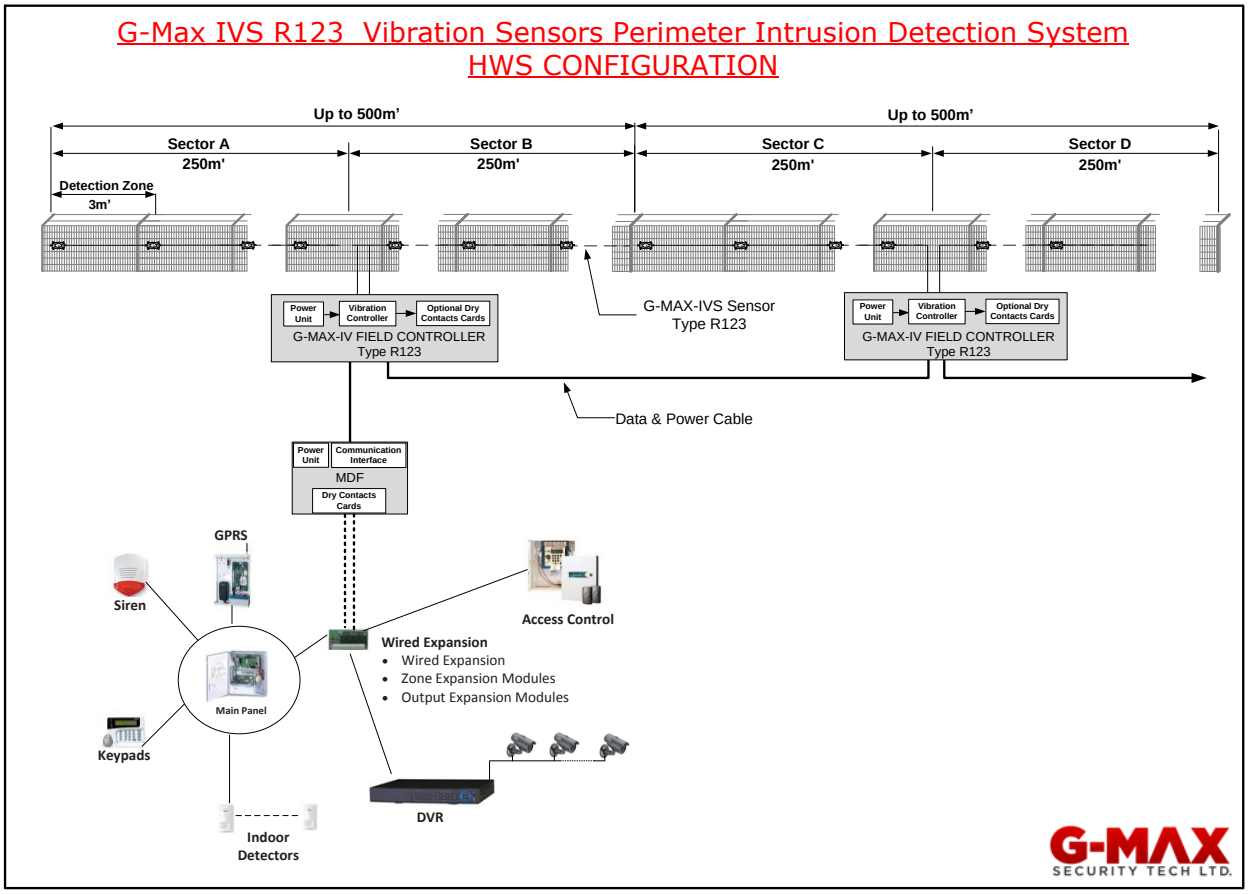
   The G-Max4000 is an integrated management of indoor security, fire system, perimeter security, CCTV and Access control into one centrally monitored and controlled package.

   When an alarm input or event is activated it is automatically displayed on the relevant map, along with an audio buzzer and digital voice. The internal CCTV automatically displays the alarm cameras (which will automatically home in on incidents), the internal DVR\NVR start recording the relevant cameras including the pre-defined pre alarm. Any pre-defined outputs can be operated automatically. The online display includes precise descriptions and instructions on how to respond to each incoming alarm.



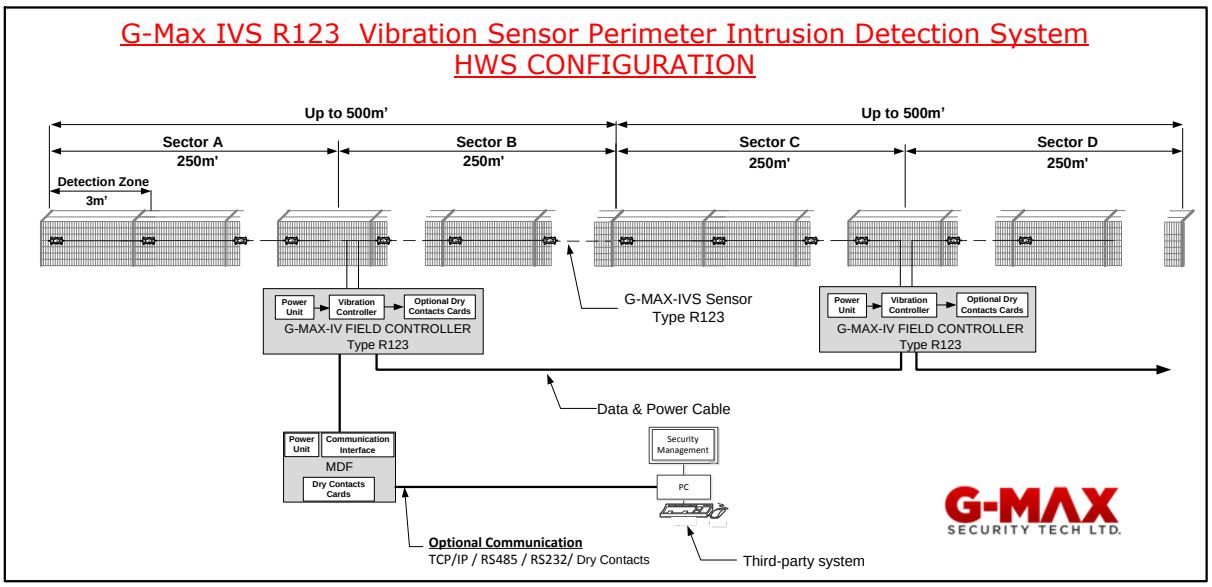
2. **Easy Linked to existing alarm panel:**

The G-Max-IVS-R123 Controller \ MDF enable Easy Linked to existing alarm panel via chain of relay cards of 8 outputs each. The controllers have 8 inputs that can be programed to activate system test commands.



3. **Integration to 3 party systems:**

Via G-Max open protocol on top of: TCP/IP, RS232, RS485, Hard Wires via relays cards.



System Advantages

- **Locating resolution of 3 meters (10 ft.)** with software based zoning enables improved operational flexibility, Precise location of the intruder;
    - Enables pointing a camera to the specific intrusion
    - Detection and location of simultaneous multiple intrusions

- **Negligible False Alarm and nuisance alarm rates**; 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.
    - The system enables to **adjustable sensitivity per sensor** – The defiance of level of tension long the fence will **not influence on the detection of others detectors** con the sensor line.
    - **Because each detector in segment can be calibrated separately**, it is possible to use the same system for more than one type of mechanical barrier, that can protect a wall or fence and the two types of fence, etc. with the same chain of detectors

- **Easy-to-install and integrate** with G-Max4000 command & Control center or with any existing alarm panel.

    - **No need** to balance during installation.
    - The detectors can combine both internal and external **protection on hard elements** (such as ceilings, walls, floors, window grilles, external fuel tanks, generators, antennas, pipes, etc.)
    - Modular construction to fit all variable site requirements.

- **Most reliability & Very Low maintenance**; since the sensor base on pure electronic sensor no mechanical active parts, the sensors fully encapsulated – IP67 standard.

    - Damaging the fence and removal of detectors balance, **will not disable it**.
    - Maintenance and testing of detectors **do not require going out to the field** which rising the ongoing maintenance costs.
    - **Detection do not based on mechanical element,** therefore the detector do not have high wear, (High wear can create structural change creates a state of constant detection or worse, failure to detect without the operator is aware of this).
    - Detection base on **pure electronic** sensor, **no corrosion** on the contacts / balls over time.
    - Vandal proof, solid and sturdy construction

- **Smart Computerize Test Unit**; for easy diagnostic & maintenance.

- **Sensors build-in test**; automatic or manually by remote activation.
    - Number of times a second detector sends the information for further processing along with the "sign of life" and normal mode.
    - Operator can send manual command to perform detector integrity checking.

G-Max-IVS-R123 Sensor Line

The G-Max-IVS-R123 is an outdoor vibration (or shaker) electronic sensor specifically designed for installation on various types of perimeter barriers such us chain-link or welded mesh fences, barbed concertina coils, as well as concrete or brick walls.

Due to its appearance, the G-Max-IVS-R123 answers a dual requirement; one of detection, the other of deterrence. The G-Max-IVS-R123 is suitable for medium to high-risk installations such as:

- **Civil:** Residential Complexes, Sports Complexes, Holiday Resorts and other facilities.
- **Industry:** Refineries, Pipe Lines, Oil-Farms, Industrial Parks, Industrial plants.
- **Military:** Borders, Military Bases, Ammunition Depots.
- **Governmental:** High-risk governmental sites: Airports, Harbors, Nuclear, Plants, Hydro-Electric Power Stations, Train-Stations, Prisons.

G-Max-IVS-R123 - Electronic Vibration Sensors are pre-assembled on a cable that is simply strung along the barrier to the full length of the perimeter. The Vibration Sensors are physically attached to the barrier, at any angle along, requiring no compensation needed for position.

Any attempt to climb or cut through fence fabric, or break through a wall is immediately detected and pin-pointed to the specific sensor or virtual zone where the intrusion attempt has taken place.

Triggered by an intruder, the electronic sensor sensing the vibration & converts it to electronic signals and sends the information via the R123 protocol over the communication line to the Smart G-Max-IVS-R123 controller for analysis.

On the basis of pre-set parameters and a unique, proprietary adaptive algorithm developed by G-Max Security. The Smart G-Max-IVS-R123 controller then decides if an alarm should be forwarded to the Control Room.

G-Max-IVS-R123 maintains lowest possible false alarm rate continuously. The system's vandal proof and tamper resistant G-Max-IVS-R123 vibration sensors are the heart of the system. An intruder attempting to climb a fence or cut through it;

attempts to lift, cut, or circumvent the cable or the sensor itself, will trigger the alarm.

The system's sturdy structure and positioning on the fence is affected only by human disturbances. Extreme weather conditions, vegetation movement, or animals have no effect on the system.

False alarm rates are further reduced during bad weather conditions as weather change is monitored by the G-Max-IVS-R123 controller Weather Compensation logic. The Weather Compensation logic have statistic of individually each sensor in the system and automatically adjusts the sensitivity for each sensor individually for varying wind conditions rain or hail with in the pre-defined range.

The G-Max-IVS-R123 system continuous coverage of a specific perimeter area including gates, without blind spots, detects intrusion attempts by any of the following methods:

- Climbing
- Cutting with wire cutters or saw
- Physical deformation of fence (unraveling)
- Damage to the electronic system

The sensors are factory pre-assembled on the sensor cable at intervals of approximately 3 meters (9.8 ft.) between sensors. This represents an industry standard of approximately one sensor between two fence posts.

The external sensor housing is made of a unique type of high resistance plastic material which provides protection against UV radiation, the electronic circuit within the sensor shielded from the effects of RFI and molded polymer targeted to seal it hermetically from dust and moisture, the detector has no moving parts and no mechanical components that may go bad.

The sensor consists of a small printed circuit board containing electronic components. Electronic components in the sensor detect movement on the fence and convert these movements into electronic signals. Each individual sensor processes data resulting from movements on the fence line and transmits this data to the G-Max-IVS-R123 controller; each individual sensor has its own ID. There are no moving parts in the sensor that are a common source of false alarms in other vibration detection systems.

The sensor has self-aligning capabilities which enables mounting at any provides accurate response to vibrations. The sensor is completely maintenance free, requiring no field calibration.

Sensor Specifications

- Operating temp.: -20°C (-4°F) to +70°C (+158°F).
- Communication: R123 (G-Max Protocol)
- Capsule Enclosure: Injection molded high resistant plastic &
- Size of capsule: 90mm x 94mm x 38.2mm (3.5” x 3.7” x 1.5”)
- Weight: 150 gr.
- Comm Cable: Shielded twisted AWG gauge six wires cable.