

# G-MAX – Super Sensor Cable

Advanced concept in perimeter detection

WHITE PAPER



## **G-MAX – Super Sensor Cable**

## INTRODUCTION

Super Sensor Cable (SSC) is an advanced concept in perimeter detection, based on a unique sensor cable that can be mounted on a perimeter fence or wall. Mechanical stress on the sensor cable is converted to electronic signals processed by the digital and analog analyzers in the controller.

## OVERVIEW

SSC is designed to provide warnings in the control room in case of an attempted breach by climbing over, cutting, burning or melting or digging under a protected fence. SSC is designed to have a life span of more than 20 years. The cable is based on copper conductors with a heavy duty outer black PVC jacket. The sensor cable attached to a barrier with metal clips, which will hold more than 20 years. The metal clips do not affect the performance of the sensor cable. The sensor cable has been used for more than 25 years without degradation.



## SOLUTION DETAILS

The standard low-cost cable is sensitive to any deformation or cuts, allowing for flexibility and different applications:

- SSC can be installed on any type of fence without special requirements
- SSC can be installed with a barbed wire concertina on top of the fence for additional obstacle and warning, without false alerts.
- Due to a unique analog filtering, wind will not trigger false alarms nor affect SSC's sensitivity, a common error in vibration sensor cables).
- Rain and hail, as well as other acoustic noises, neither influences SSC's signal nor lower its sensitivity.
- Plug and Play: SSC controller learns and calibrates itself automatically to the installation environment, adjusting its parameters automatically in order to maintain the best detection and eliminate false alerts. It keeps a 10 hour statistics log and optimizes itself accordingly.
- Underground Applications: SSC can be buried underground and, since it is completely passive, will not interfere with other installed systems, and will not be detected remotely.
- SSC can be integrated with a concrete wall under a fence to detect any attempt at a breach.
- The SSC is a low-cost alternative to a cement wall under the fence. Several lines of SSC can be buried under the fence in order to identify any attempt to cross under the fence.
- Heartbeat testing: The fence system continuously checks the status of its electronic components:

## Manual testing from the control room:

- The operator can manually test the status of the system's electronic components, without the need for onsite inspection.

## Advanced communication:

- The system is operated from the control room via duplex RS485 or TCP/IP in a ring topology which provides solutions to large sites and prevents the "disruption" of the system by cutting the communication lines.

## No mechanical parts:

- This results in a much higher mean time between failures and system durability

## Long life:

- SSC can function more than 20 years without any deterioration of its sensitivity, even after cuts and reconnections.

## Fence mounting:

- SSC is attached to the fence with metal clips that do not require maintenance.

Installation does not require glue or plastic bands which must be periodically replaced due to weather.

## Low electrical requirement:

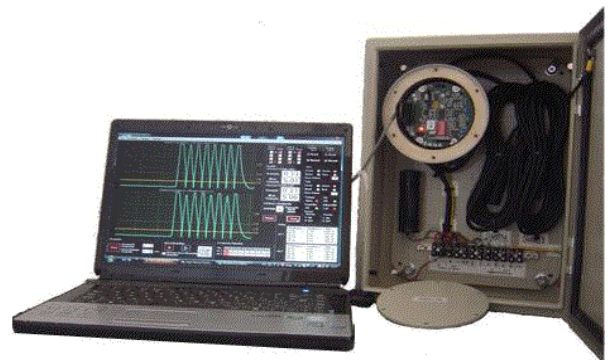
- 110V/220V electricity is required every 7KM.
- The SSC may be used as long as the fence exists, with minimal maintenance cost.

## High performance:

- Very few false alarms, unlike the competition.

## System Advantages

- Unique, smart perimeter detection system
- Cost –effective operation
- Very low false alarm rate
- Easy to install on any mesh fence, concertina, barbed wire, wall or under ground
- HWS version connects to any standard alarm panel
- CMS version connects to G-MAX4000 software
- Simple to install and maintain



**SYSTEM APPLICATION**

- Upgrading existing systems for which operators wish to reduce high maintenance costs; upgrading perimeter security on existing fences or new facilities.
- In order to defeat digging under a fence, SSC can be installed as a low-cost substitute for underground poured concrete.
- Providing solutions for special situations such as protection of lighting and cameras poles, gates, etc., including integration with existing systems.
- Protection against heat-cutting of fences, upgrading existing systems and the level of protection

Technical Specifications

<b>Part Number</b>	<b>1GSM016-C</b>	<b>1GSM018-C</b>
<b>Data Communication</b>	Two Channels - HWS controller	Two Channels RS-485 CMS controller
<b>Sensor cable #4CBL1041</b>	Up to 1200 meters for each detection channel	Up to 1200 meters for each detection channel
<b>Power requirement</b>	11-28VDC 30 mA	11-28VDC 50 mA
<b>Alarm Output</b>	Two Relays dry contacts, one for each detection channel	Multiplex Data communication color graphic display with G-MAX4000 software
<b>Operating temperature</b>	-30°C to 55°C	-30°C to 55°C
<b>Controller Dimensions</b>	13 cm diameter, 9 cm height	13 cm diameter, 9 cm height
<b>Humidity</b>	Up to 100%	Up to 100%
<b>Sealing</b>	Spray proof IP65	Spray proof IP65