

SA1000 FenceSecure[™] Perimeter Intrusion Detection System



SA1000 FenceSecure perimeter intrusion detection systems use Vibewire[™] - piezoelectric microphonic sensor cable as the detection medium.

Due to Vibewire[™] unique kinetic and highly sensitive microphonic properties Vibewire[™] can be used on all types of security fences.

The detection system is entirely passive and therefore cannot be compromised nor detected by the use of sophisticated RF detection equipment. The SA1000 system analyser is a well proven Perimeter Intrusion Detection system which provides a high probability of detection combined with exceptionally low nuisance or false alarm rate.

Vibewire[™] piezoelectric sensor cable is only 3.5mm in diameter and is manufactured from toughened polymers and is protected from the effects of climatic deterioration or atmospheric interference thus providing a high performance system which requires minimum maintenance. Vibewire[™] will operate from -40 to +70 degrees centigrade.

Vibewire[™] can be rapidly deployed either as a permanent or temporary installation and provides a high probability of detection. The system provides a high performance with the minimum of maintenance. For difficult or hostile environments Vibewire[™] can be supplied within a flexible stainless steel sheath or installed within a conduit secured to the protected surface. Vibewire[™] piezoelectric microphonic sensor cable is attached to the perimeter fence to reliably detect attempts to cut, climb, penetrate or jack up the protected fence.

Detection zones lengths can be from 1 to 300 metre long. Typically detection are planned in accordance with CCTV surveillance zone requirements or restricted to 100 metres for alarm monitoring and response. It is recommended that gates are installed on their own zone.



Example of FenceSecure™ system installed on Chain link fence for typical commercial applications. Fixings are available for all types of weld mesh and palisade fences.

Cutting, climbing, or jacking the protected fence creates a series of mechanical noises and vibrations which are detected by the Vibewire[™] sensor cable. The noises and vibrations are converted into electrical signals which are analysed by the SA1000.

The signals generated during an intrusion attempt are processed by the SA1000 analyser. The signals generated are monitored to determine if an intrusion is the source of the signal. Detection occurs when the monitored disturbance exceeds the pre-set predetermined limits. In addition FenceSecure[™] PIDs systems have built in detection modes to detect "Gross Attack", "Anti spoof" and equipment/sensor cable tamper.

Screen shots of typical detection signals



The pickup/detection characteristics of Vibewire[™] sensor cable is linear throughout its length and therefore provides uniform detection throughout its length for reliable detection along the length of each detection zone.

According to the risk and type of structure/fabric being protected the SA1000 Analyser is set up to detect various methods of attack i.e. cutting, climbing, jacking and penetration of the protected perimeter or structure.

Vibewire[™] piezoelectric sensor cable has optimum detection and signal to noise ratio for improved detection and reduced nuisance alarms. Vibewire[™] is extremely versatile and has almost no limitations with regard to detection capability from the protection of all types of security fencing fabric to solid structures typical applications include: - security fences, security cages, building cladding, walls, floors, roofs and statues. A complete range of installation accessories are available to cover all application requirements.



Enclosed within an IP67 housing SA1000 dual zone analysers are powered by 12 to 24 V DC, and draw less than 60 mA per SA1000. The SA1000 systems can be used as standalone detection systems or interfaced directly with alarm monitoring and CCTV systems, to provide early detection of intrusion attempts. Inputs and outputs are provided for the SA1000 to be directly interfaced with security management systems for remote control, testing and monitoring of each detection zone

Photograph of I.O. expander for remote control and monitoring of the SA1000 system over a data cable.

FenceSecure[™] SA1000 systems provide audio outputs for each zone. The audio outputs can be relayed back to remote monitoring locations for remote "listen in" to each detection zone for alarm verification.

Gates should be connected to individual zone(s) analysers for optimum sensitivity setting and system monitoring.



Illustration showing SA1000 FenceSecure system with upper detection zone on anti-Intruder weld mesh

