





Advanced Fiber Optic Sensing Solutions:

FenceSentry

With ever increasing threat levels it is important that organisations properly secure their assets. This starts at the perimeter of their sites where there has never been a more important time to deploy robust, reliable and secure detection strategies to mitigate operational risk.

Prompt and highly accurate location information of a would-be intruder ensures a fast and appropriate response to minimise any loss. Ensuring that your perimeter intrusion detection system is fully integrated into your security solution provides real time data with the ability to track and respond to intruders.

Fiber optic technology is fast becoming the technology of choice for those organisations looking to deploy a cost-effective reliable solution with significantly lower full life cost of ownership.

Monitored | Secured | Safe





KEY FEATURES

Resistance to Cable Cut & Sabotage

Bandweaver's FenceSentry is offered in single or dual channel variants with each channel monitoring up to 5km of cable.

Minimising Nuisance Alarms

Using AI technology, our market leading detection algorithms are able to develop an acoustic fingerprint of different events, enabling the distinction between genuine security risks and extraneous environmental noise.

Location Accuracy

Advanced signal processing technology combined with intelligent algorithms enables fast and accurate identification of the specific location of a potential threat to within ±2m.

Lower Cost of Ownership

Overall reduced cost of installation and maintenance when compared with alternative technologies, plus no power needed in the field.

Integration

MaxView integrated monitoring platform is capable of seamlessly integrating FenceSentry with a wide variety of commonly used 3rd party systems, giving operational teams real-time information from a range of devices via a single interface. In addition, FenceSentry has 24 onboard replays for hardware interfacing.

Multiple Fence Types

Due to its unique configuration capabilities, FenceSentry is suitable for every fence type without compromising location accuracy.

HOW IT WORKS

FenceSentry utilises Coherent Optical Time Domain Reflectometry (COTDR), which is similar to time of flight principle or RADAR.

A laser sends an encoded light signal down a standard single mode fiber cable. This light will reflect back to the controller from micro imperfections in the side of the glass fiber (referred to as Rayleigh backscatter).

When the cable is exposed to vibration the characteristics of the backscatter changes and the controller analyses these changes against advanced algorithms.

If a pattern is recognized an alarm event will be generated and a location will be identified based upon the length of time the light took to reflect back to the controller.



Light is travelling at around 124,000 miles per second inside the cable

SCHEMATIC OVERVIEW



CONNECTIONS

1. 220V AC power supply terminals

2. Ground terminal: for grounding protection;

3. Relay connection label: to instruct relay connection ways;

4. Relay output panel: 24 relays for alarm outputs.

5. Relay extension board: space reserved for another 24 relay extensions;

6. RS485/RS232/RJ-45 extension board: space reserved for RS485/ RS232/RJ45 extension;



7. Reset switch: Normally in the down position under the "If broken" sticker. Removing this sticker without Bandweaver's authorisation invalidates the warranty on the unit.

8. RS485 connector: For connection to an IPC.

9. RS232 connector: For connection to an IPC.

10. RJ-45: For connection to an IPC.

11. FC/APC connector: For connection to the fiber optic sensor cable.



CUT RESILIENCE

The dual-channel variant will continue to provide uninterrupted detection along the perimeter, even if the cable is cut or damaged when installed in a loop configuration.

When wired in a linear configuration then FenceSentry will monitor up to the point of cut.

PERIMETER TYPES



Chain Link Fence



Mesh Fence



Palisade Fence



KEY SPECIFICATIONS

- > Number of channels: 1 or 2
- > Range per channel: 5km
- Event accuracy: 1 to 5n
- > Optical budget: 4 dB
- > Cable type: Single mode 9/125
- Laser safety classification: Class 1M
- > Relays: 24 total
- > Dimensions: 431 x 132 x 384 mm
- > Weight: 10 kg
- > Operating temperature: 0° to +45°C

See datasheet for full specification.

SOFTWARE CONFIGURATION

FenceSentry is configured utilising the Optical Fiber Security System Configuration Manager software or OFSSCM.





FenceSentry also utilises Bandweaver's MaxView software as a Graphical User Interface (GUI) to provide operators with a intuitive Human Machine Interface (HMI). **K** Typical MaxView page layout



CABLES

The Bandweaver FenceLine cable is optimised for fence or wall mounted Perimeter Intrusion Detection System (PIDS) applications. The rugged yet lightweight design provides the optimum balance between mechanical protection and prevention of fluid ingress, while maintaining flexibility and ease of installation.

FenceLine has a protective tube construction for water ingress protection, a steel protective layer for impact resistance and strength members to enhance longitudinal strength. The cable contains single mode sensing fibers, which are optimised for use with Bandweaver DAS systems.



Polyethylene outer sheath
Water blocking belt
Fiber core
Armoured layer
Steel strength member
Gel
PE tube

ORDERING INFORMATION

Product

FenceSentry 5Km, 1Ch: 5km total range (DU/PU/MaxView for Fence) FenceSentry 5Km, 2Ch: 10km total range (DU/PU/MaxView for Fence) FenceLine - G.652 Single Mode (4 fibers)

FENCELINE KEY SPECIFICATIONS

- Number of fibers: 4 as standard (more on request)
- > Outer diameter: 7.7mm
- > Colour: Black
- > Outer sheath: MDPE 2mm thickness
- > Fiber type: 9/125 (G.652 or similar)
- > Attenuation: 0.21 dB (@ 1550 nm)
- > Temperature range: -40 to 70oC
- > Weight per km: 49kg

See datasheet for full specification.

Part Code

DAS-FS-01-05-1CH Kit DAS-FS-01-05-2CH Kit CAB-SM9-FS-04

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