

Fiber Optic Sensor for Perimeter Fence Intrusion Detection

Technology Overview

This demonstration shows one of our core competencies in fiber optics sensors – FBG-based sensor for perimeter fence intrusion detection. The Perimeter Intrusion Detection System (PIDS) field trial was conducted at a critical local installation in December 2010. The sensor was put through a series of both simulated and live intrusion scenarios to test the stability and suitability in operating in the local environmental conditions and to determine its capabilities in detecting and reporting these intrusions accurately to the control station. Such a sensor array can provide fine granularity perimeter intrusion detection with a stated pin-pointing accuracy. The various types of intrusions included aided or unaided climbs, tampering and cutting of the fence, etc. The unique sensor packaging structure provides improved sensitivity, crush resistance, and protection against rodents. Such sensors can be applied to real-time intrusion detection for perimeter security, pipeline security and communications link security.

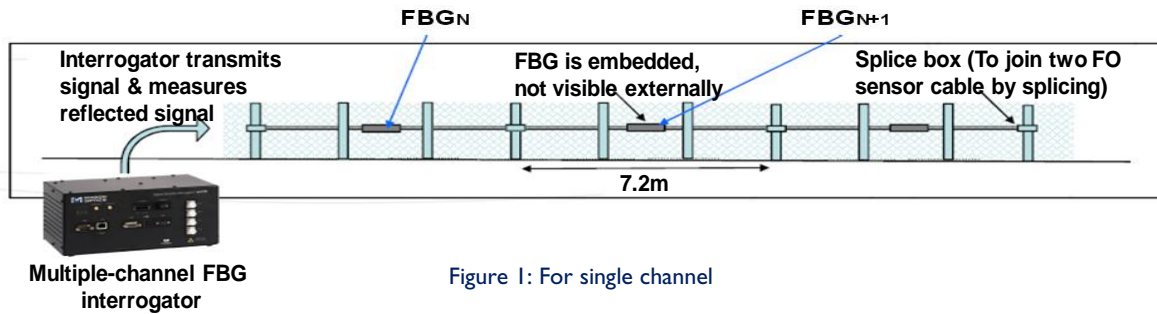


Figure 1: For single channel

Technology Features

- Easy for customisation to any desired spatial resolution and sensitivity.
- Can be formed into an array form, to monitor and detect intrusion events over a long stretch of fence line.
- Special packaging structure provides high sensitivity, crush resistance, and protection against rodents.
- High detection efficiency.

Potential Applications

- Perimeter security
- Pipeline security
- Communications link security

Benefits

- Cost-effective system
- High accuracy
- High detection efficiency
- Simple structure and small size of the optical sensor provide advantage of camouflage

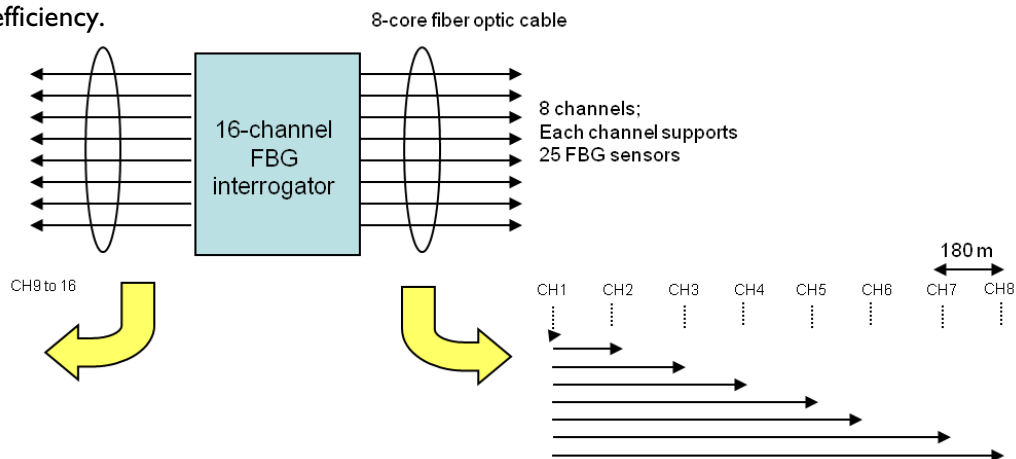


Figure 2: For multiple channels

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