



BURIED INTRUSION DETECTION SYSTEM



Border & Pipeline Protection

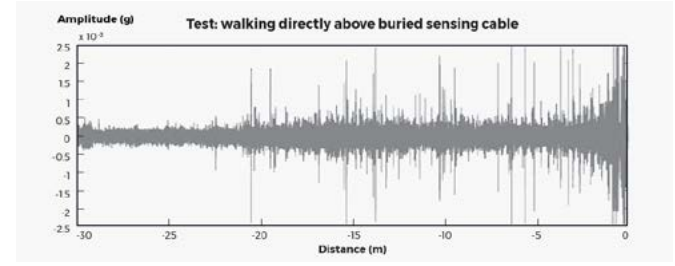
AgilFence BIDS for Border Security & Pipeline Protection is a buried fibre optics sensing solution that secures perimeters by detecting a range of threats above and below ground, e.g. illegal cross-border immigrants, oil pipeline theft attempt, mechanised digging that can potentially damage underground services or pipelines.

How It Works

Highly-sensitive fibre sensors are spaced a distance apart, linked by a fibre-optic cable, and installed below ground to create an “invisible perimeter” along the desired protection areas. Backend equipment, each covering few ten of kilometres, are housed in intermediary locations. Other than pipeline excavation attempts, this intricate sensing system is also able to detect small movements e.g. footsteps of an intruder crossing into a protected area.



Operational Concept



Overview of BIDS Advantages

Key Features

	Covert deployment of buried highly-sensitive fibre sensors		Zero field maintenance, easy operation
	Signal transmitted via low-loss fibre optic cable can be remotely monitored		Covers extremely long distance
	No electronics or power in the field, no lightning risk		Unlimited scalability
	Intrinsically safe, immune to EMI/RFI		Good accuracy of +/-25m

Advanced Features

(Compared With Conventional Distributed Acoustic Sensing)

	Positioning of discrete fibre sensors is flexible, adjustable and customisable depending on terrain		Signal processing software rides on COTS PC server, thus cheaper, fully reliable and supportable
	Extremely sensitive sensors for weak ground disturbance factors e.g. footsteps		Can scale down for shorter distance using fewer-channel Sensing Unit
	Offers alarm resolution, giving multiple alarms triggered by different fibre sensors		

Performance Specifications & System Architecture of BIDS

Detection Range	<ul style="list-style-type: none"> • Pipeline Pilferage 200 m / 100 m (above/below ground) • Footstep 25 m
Coverage (per two sets of equipment and 2 x 16-core SM OFC in each cluster; unlimited scalability)	<ul style="list-style-type: none"> • Pipeline Protection 50 km • Border Protection 12.8 km
Power Consumption	1,180 W per cluster