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FOTAS

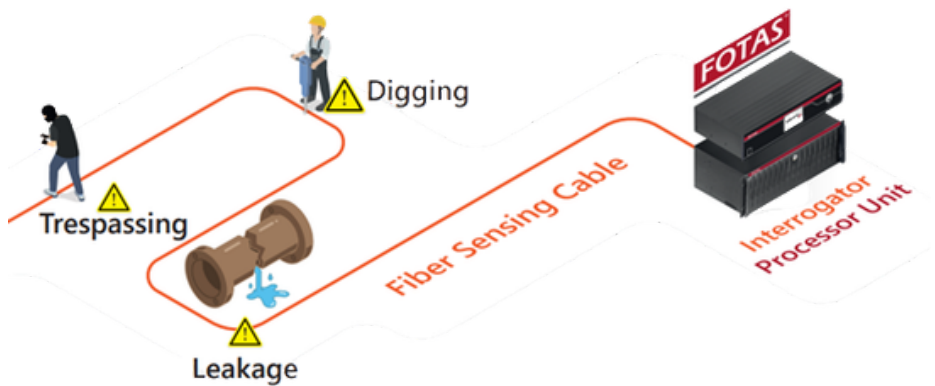
**FIBER OPTIC DISTRIBUTED
ACOUSTIC SENSING SYSTEM**

What is FOTAS DAS?

FOTAS DAS (Fiber Optic Distributed Acoustic Sensing System) is an advanced security technology capable of real-time detection and monitoring over long distances. This system utilizes standard fiber optic cables as passive sensors to detect mechanical and acoustic effects, identifying third party intrusions.

Primary Applications:

FOTAS DAS is used to ensure the security of critical infrastructures, pipelines, border areas, and telecommunications infrastructure. It enables real-time detection of activities such as digging, human movement, vehicle passage, fence cutting, and climbing, allowing security teams to respond immediately.



Why is FOTAS DAS essential?

- Provides a wider coverage area compared to traditional sensor systems.
- Includes imbedded AI-powered analysis mechanisms to reduce false alarm rates.
- Operates with passive sensing technology, requiring no electrical power.
- Offers long lifespan, durability, and low maintenance requirements.
- Resistant to environmental factors and immune to electromagnetic interference.

Technical features:

Interrogator	
Number of Channels	1 or 2 Channels (Cut-Resilient & Redundant)
Sensing Range (per Channel)	3 km / 5 km / 10 km / 15 km / 30 km / 50 km
Optical Connector	FC/APC
Supply Voltage	100–240 V AC, 50/60 Hz (Auto-Ranging)
Power Consumption	150 W (Redundant Power Supply)
HMI Display	Integrated Front-Panel Screen
System Monitoring	System Health & Status Indication
Laser Control	Hardware Laser ON/OFF Button
Management & Processor Unit	
Processor Type	Embedded Processor or External Processor
External Processor Unit	Supplied for range support up to 30 km.
Storage Type	RAID Disk Arrays
Embedded Processor Unit	Supplied for ranges of less than 30 km. (In the same box as the Interrogator device.)
Storage Type	Embedded NVMe disk (configurable capacity)

Technical features:

- **Real-Time Monitoring & Precision:** Provides coverage up to 100 km with pinpoint location accuracy, down to 4 meters.
- **Artificial Intelligence:** The system supports hybrid installation for both buried and fence applications, utilizing imbedded deep learning AI models to classify events such as digging, walking, vehicle movement, intrusion, climbing, and fence cutting.
- **False Alarm Prevention Algorithms:** Smart filtering system reduces false notifications by eliminating environmental noise.
- **Durability & Maintenance Requirements:** 20+ years of sensor lifespan with passive sensing, ensuring low maintenance costs.
- **Integration with Existing Systems:** Compatible with security platforms such as Genetec Security Center, Milestone XProtect, and other third-party security applications.
- **Web Interface:** User-friendly experience through a Web 2.0-based interface.
- **Integration Support:** Easily integrates with different security systems through ONVIF camera support, SMTP, SNMP, REST API, and SDK compatibility.
- **Alarm Notification System:** Sends real-time alerts via email and SMS
- **Compatible with standard existing single mode fiber optic cables**

Application areas:

 Perimeter Security Protects critical facilities including airports, power plants, and prisons.	 Airports Monitors airport perimeters and critical infrastructure to detect intrusions, unauthorized access, and security threats.	 Leak Detection Detects potential leakage, sabotage, and unauthorized intrusions.
 Border Security Monitors illegal crossings along national borders.	 Industrial Areas Protects industrial zones by detecting trespassing, sabotage, and abnormal activity around facilities and assets.	 Railway Monitors railway corridors to detect intrusions, track obstructions, vandalism, and third-party interventions.
 Telecom Infrastructure Monitoring Identifies third-party interventions and excavations affecting fiber networks.	 Traffic Control Supports traffic management systems by detecting incidents, infrastructure damage, and unauthorized activities along roads and intersections.	 Defense Provides early detection of intrusions and suspicious activities around military bases, defense facilities, and restricted zones.

Flexible Installation & Advanced Architecture:

FOTAS DAS stands out with its easy installation and adaptability to the security needs of different environments. The system offers three installation options: fence-mounted, buried, or hybrid installation. The hybrid configuration provides additional design flexibility and security by incorporating both fence-mounted and buried sensing, creating a dual-layer detection mechanism for enhanced accuracy.

Security Installation Design Options

- Fence-Mounted Installation: Ideal for detecting climbing or cutting activities on fences in perimeter security
- Buried Installation: Suitable for early warning detection and classification of TPI (Third Party Intrusion) approaching fiber optic cables. It detects excavation activities and human movement. It can perform leak detection and PIG tracking in pipeline monitoring.
- Hybrid Installation: A combination of fence mounted and buried methods, providing dual detection zones for customized alerts.

Architectural Durability Options

- Single or Dual Channel: The system can operate with single or dual fiber optic cables, ensuring redundancy and reliability.
- Cut Resistance: The system remains fully operational for sensing, even in the event of a fiber optic cable cut, thanks to its dual-channel architecture that ensures continuous and reliable monitoring.
- Fault Tolerance: The system is resilient to component failures, enhancing reliability

