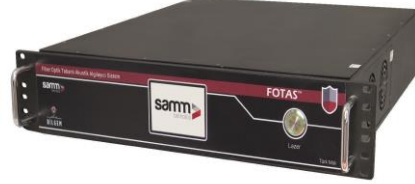


DAS-DTGS-DCH-50KM-S | Comparison Table

FOTAS D-50 is a laser interrogator that detects acoustic signals by analyzing the backscattered light along an optical fiber. Utilizing Distributed Acoustic Sensing (DAS) technology, it continuously monitors and detects threats such as perimeter intrusions, unauthorized access, digging activities, and leaks over distances of several kilometers.

In addition, the system enables leak detection through both acoustic data and integrated **DTGS (Distributed Temperature Gradient Sensing)** technology.



Specification / Model

FOTAS DAS-D-50

FOTAS DTGS-D-50

Definition	Distributed Acoustic Sensing (DAS)	Distributed Temperature Gradient Sensing (DTGS) + Distributed Acoustic Sensing (DAS)
Detection Principle	Microscopic backscattering of acoustic waves along the optical fiber	Microscopic backscattering due to acoustic disturbances and temperature gradient changes along the fiber is continuously monitored.
Main Function	Vibration / Acoustic Event Detection	Vibration/acoustic sensing with temperature gradient monitoring capabilities
Areas of Application	Border Security, Pipeline Monitoring, Railway Monitoring	Border Security, Pipeline Monitoring, Leak Detection, Tunnel and Substation Monitoring, Railway Monitoring
Detection Range (Typical)	Up to 50 km (per Channel)	Up to 50 km (may vary depending on resolution) (per Channel)
Spatial Resolution	10 m	From 4 to 10 meters (depending on configuration)
Temporal Resolution	1 ms – 10 ms	1 ms – 10 ms
Sensitivity	High sensitivity for detecting vibrations, digging activities, walking and vehicle movement	Can detects temperature changes as small as $\pm 0.001^{\circ}\text{C}$. High sensitivity for detecting vibrations, digging, walking, vehicle, and leak detection.
Data Type	Acoustic / Vibration Spectrum	Acoustic / Vibration Spectrum and Temperature Variation Data
Hardware Variations	Generally requires less sampling rate and processing power	Typically demands increased sampling frequency and computational resources
Cable Compatibility	Single-Mode Fiber (SMF)	Single-Mode Fiber (SMF)
User Interface / Software	Event Detection, Classification, and Alarm Generation	Event detection, classification, alarm generation, temperature profile visualization, and threshold definition
Power Consumption	120W Max	120W Max
Typical Users / Industries	Energy, Defense, Transportation	Energy, Defense, Transportation