FOSS KAVACH

HIGH PERFORMANCE
DISTRIBUTED ACOUSTIC SENSING BASED
PERIMETER INTRUSION DETECTION SYSTEM

MIDFIELD ESTATE, MIDSTREAM
NETWORKSENSE.TECH

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NETWORK SENSE AFRICA

PIONEERING ADVANCED FIBER OPTIC SENSING TECHNOLOGY

DISTRIBUTED ACOUSTIC SENSING (DAS)

TECHNOLOGY FEATURES

NETWORK SENSE AFRICA

ADVANCED TECHNOLOGY FOR UNMATCHED SECURITY

Our state-of-the-art true-phased Distributed Acoustic Sensing (DAS) technology delivers exceptional security and reliability. With a high signal-to-noise ratio (SNR) and long-range fiber optic support, our system ensures superior threat detection with real-time monitoring —24/7 intrusion detection and alert monitoring.

UNRIVALED LOCATION ACCURACY & SCALABLE COVERAGE

Our system provides pinpoint intrusion detection with an accuracy of up to 5 meters, ensuring precise threat identification. To meet the unique needs of different premises, we offer a range of interrogators that optimize coverage while minimizing inventory costs. Whether your facility requires 20km, 50km, 70km, or 100km coverage, we have the right solution to keep your perimeter secure.

FLEXIBLE CHANNEL VARIANTS & BUILT-IN REDUNDANCY

For added reliability, our system is available in single-channel and dual-channel laser configurations, ensuring continuous protection even in the event of a failure. For larger or more complex installations, we also offer 4-channel and 8-channel options upon request, providing flexible scalability to match your security needs.

AI-POWERED DEEP LEARNING FOR SUPERIOR DETECTION

The FOSS Alert Monitoring System (FAMS) leverages advanced Artificial Intelligence and Deep Learning algorithms to provide highly accurate event classification with an industry-leading Probability of Detection (PoD) and near-zero false alarms. Our system precisely analyzes acoustic and vibration patterns, ensuring that real threats are reliably identified while minimizing nuisance alerts.

EFFORTLESS DEPLOYMENT & EXTREME DURABILITY

Designed for seamless and hassle-free installation, our sensor cables can be deployed both above and underground, making them suitable for a wide range of applications. Built to withstand harsh environmental conditions, our system delivers consistent, long-term performance, ensuring reliable security in even the most challenging environments.

ALERT TYPES

Manual Digging	Machinery Digging	Walking	Leakage Detection
Motor Vehicle	Train Traffic	Fault Location	Rock Fall
Acoustic Profiling	Pig Tracking	Subsea Hazard	Reservoir Monitoring

FUNCTIONAL SPECIFICATIONS

DEVICE VARIANT	KAVACH-20	KAVACH-50	KAVACH-70	KAVACH-100
DEVICE RANGE:	20 KMs	50 KMs	70 KMs	100 KMs
OPTICAL WAVELENGTH:	1550 nm			
CHANNEL OPTIONS:	Standard: 1 Channel | Options: 2 Channels, 4 Channels, 8 Channels			
GAUGE LENGTH SETTINGS:	5m | 10m | 20m | 40m | 80m			
PULSE RATE:	0.5 KHZ - 20 KHz			
SPATIAL SAMPLING INTERVAL:	1.25m | 2.5m | 5m | 10m | 20m | 40m			
MTBF:	100 000 hours			
MTTR:	< 20 Minutes			

LASER SAFETY CLASS

This is a Class 1 Laser Product, safe for normal use. It meets IEC 60825-1:2014, EN 60825-1:2014, and FDA 21CFR1040.10 + Laser Notice No. 50 safety standards.

INTERFACES & INDICATORS

OPTICAL CONNECTOR / SENSOR FIBER	E2000 APC 8° angled
	Single Mode 9/125 µm SMF28e or equivalent
	ITU-T G.652 (standard single mode)
	ITU-T G.654 (cut-off shifted)
	ITU-T G.655 (NZDSF)
	ITU-T G.656 (wideband NZDSF)
	ITU-T G.657 (bend insensitive)
USER INTERFACE	4 LEDs for Power, Laser ON, Fault & Alarm
	Windows based DAS configurator client
	OTDR functionality included
	FOSS Alert Monitoring System Software (FAMS) – Perimeter
	FOSS Alert Monitoring System Software (FAMS) – Pipeline
	Unidirectional & Bidirectional 3rd Party Software Integration
	ALL TCP/IP Based Communication - LAN,WAN, WIFI,EMAIL,SMS
	Client Server Architecture with a central data base & redundancy options
	App based alarm Management software , also client access via remote desktop
	Single Alarm Management software for Multiple interrogators & Software customization options available
COMPUTER INTERFACE	2 X Ethernet (1GbE/10GbE) | 2 X USB 3.0
TIME SYNCHRONIZATION	Option GPS: GPS / GNSS [Global Navigation Satellite System]
	Synchronization of internal reference clock
	A1400A: External GPS/GNSS antenna and accessories
	(GPS requires the connection of external GPS/GNSS antenna)
DATA STORAGE CAPACITY	Internal 2 x 4 TB SSD (Standard)
	Option S16 internal 2 x 8 TB SSD
	External rack mount data storage unit up to 54 TB
	External rack mount data storage unit (high temp) up to 19 TB
	External rack mount data storage unit (high temp) up to 38 TB
FILE FORMAT	HDF5

HOUSING, POWER & ENVIRONMENTAL

	INTERROGATOR UNIT	DATA PROCESSING UNIT
HOUSING:	19” Rack | 2U	
INPUT VOLTAGE:	10 to 30 VDC	100 to 230 VAC, 50-60Hz (Std.) Option VDC 18 to 36 VDC
POWER CONSUMPTION:	30 Watts	Typical 125 Watts | Max. 230 Watts
OPERATING TEMPERATURE RANGE:	0 to 50 Degrees Celsius	
STORAGE TEMPERATURE RANGE:	-20 to 60 Degrees Celsius	
OPERATING HUMIDITY RANGE:	0 to 95 % r. h. Non-Condensing	
DIMENSIONS (H X W X D):	90 x 437 x 370 mm	88 x 437 x 420 mm
WEIGHT:	7.5 kg	11 kg

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