TVS

SENSING SOLUTIONS

FOSS

FOSS
KAVACH

High Performance *Distributed Acoustic Sensing* based perimeter intrusion detection system.

KAVACH

POWER   STATE   LINK

Fiber Optic Sensing Solutions Private Limited

(A subsidiary of TVS Sensing Solutions Private Limited)

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FOSS KAVATCH DATASHEET

KEY FEATURES:

TECHNOLOGY:

- The state-of-art true phased Distributed Acoustic Sensing Technology.
- High signal-to-noise ratio (SNR) supported over a long range of fiber with true phase-based DAS system.
- 24X7 Real-Time Alert Monitoring & Intrusion Detection.

LOCATION ACCURACY AND CONTROLLER RANGE:

- Pin-point intrusion location accuracy up to 5 meters.
- Interrogators available in different ranges to suit the premises and reduce the inventory cost on product.
- Comes with 20km, 50km, 70km and 100km ranges.

CHANNEL VARIANTS AND REDUNDANCY:

- Available in single channel and simultaneous two-channel lasers for redundancy.
- On request 4 channels & 8 channels systems are available.

DEEP LEARNING ALOGORITHM:

- FOSS Alert Monitoring System (FAMS) software provides excellent event classification capabilities with highest Probability of Detection (PoD) and nearly zero nuisance alarms.
- Artificial Intelligence & Deep Learning algorithms precisely analyses acoustic/vibrations patterns and reliably classifies the events.

EASY DEPLOYMENT:

- Simple sensor cable deployment on over-ground and underground sensing applications.
- Works exceptionally well even in extreme environmental conditions.

FOSS KAVATCH DATASHEET

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
Distance Range:	20 kms	50 kms	70 kms	100 kms
Optical Wavelength:	1550 nm			
Optical Channel Options:	Standard: 1 Channel Options: 2 Channels, 4 Channels, 8 Channels			
Gauge Length Settings: (dependent of measurement configurations)	5m, 10m, 20m, 40m, 80m			
Pulse Rate: (dependent of fiber length)	0.5 to 20 KHz			
Spatial Sampling Interval: (dependent of measurement configurations)	1.25m, 2.5m, 5m, 10m, 20m, 40m			

LASER SAFTY CLASS:

Class 1 Laser Product

(IEC 60825-1:2014; EN 60825-1: 2014 FDA 21CFR1040.10 + Laser Notice no.50)

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) – Power
	FOSS Alert Monitoring System Software (FAMS) – Pipeline
	Unidirectional & Bidirectional 3rd Party Software Integration
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	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 ˚C	
Storage Temperature Range	−20 to +60 ˚C	
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

Product by:
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Note: Product Specifications & Description in this datasheet are subject to change without prior notice.

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