

DAS-DCH-3KM-X / D-3 Dual Channel

The FOTAS D-3 is a fiber optic Distributed Acoustic Sensing (DAS) system designed to provide early warning alerts for the protection of critical infrastructure. It detects events such as third-party intrusions, illegal crossings, unauthorized excavations, and also provides leak detection capabilities through DTGS (Distributed Temperature Gradient Sensing). This enables continuous monitoring of both mechanical and thermal anomalies along the asset. The system can protect assets ranging from a few kilometers to several thousand kilometers. Equipped with two independent sensing channels, the D-3 supports cut-resilient configurations, ensuring uninterrupted monitoring even in the event of a fiber break.

Unit Specifications

Number of Channels	2 Channels (Suitable for Cut Resilience and Redundancy)
Range per Channel	Up to 3km per Channel (Total up to 6km)
Sensing Technology	Coherent Optical Time Domain (COTDR) + Phase OTDR
Embedded Server CPU	8-core NVIDIA Arm® Cortex A78AE v8.2 64-bit
Embedded Server GPU	NVIDIA® Ampere architecture
Embedded Device Disk	1 TB NVMe M.2 Disk

Optical Data

Laser Wavelength	1550nm
Optical Budget	10dB
Connector Type	FC/APC
Cable Type	Single Mode
Laser Safety Classification	Class 1

Electrical Data

Supply Voltage	100V-240V AC / 50 Hz to 60 HZ Auto Ranging
Power Consumption	150W (Redundant)

Physical/Mechanical Data

Dimensions	490x500x89 mm / 19.29x19.69x 3.50 in / 2U
Weight	11.5 kg. / 25.35 lb.
Shipping Dimensions	1 Box / 80x70x43 cm
Shipping Weight	Gross Weight 35.0 Kg

Interfaces

USB	1 x USB 2.0 Port
Fiber Interface	2 x FC/APC Single Mode Optical Connectors
Communication Protocols	Available in a range of data types matched to the application
Ethernet	1 Port 1Gbps
Display Interface	HDMI Port Type A



Data Acquisition

Acquisition Frequency	10 Hz to 2,000 Hz
Location Resolution	+/- 4 meters

Environmental Data

Operating Temperature	0°C to +40°C
Sensing Cable Temperature	-40°C to +70°C
Relative Humidity	0 to 95% RH, Non-condensing
Storage Temperature	-25°C to +60°C

Operating System And Software

Operating System	Ubuntu
Software	Artificial Intelligent and Data Acquisition Engine, FOTAS Web User Interface and Database

Certifications

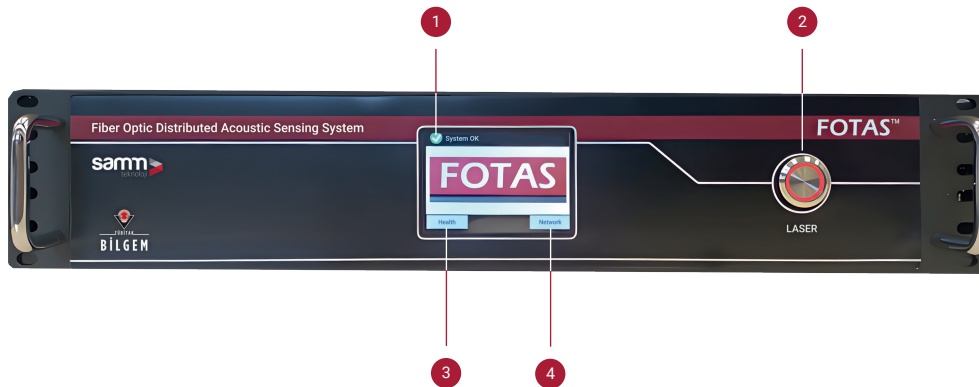
Laser Safety	IEC 60825-1, 21CFR1040.10
Quality Management	ISO 9001
Electro-Magnetic Compatibility	(EMC) 2014/30/EU, EN 55032:2015 Class A, EN IEC 61000-3-2:2019+A1:2019, EN 61000-3-3:2013+A1:2019, EN 55035:2017+A1:2020,
	EN 61000-4-2:2009,
	EN 61000-4-3:2020,
	EN 61000-4-4:2012,
	EN 61000-4-5:2014+A1:2017, EN 61000-4-6:2014, EN 61000-4-8:2010, EN 61000-4-11:2020.
Low Voltage Directive (LVD)	2014/35/EU, IEC 62368-1:2018, EN IEC 62368-1:2020 + A11:2020.
Reliability and Functional Safety	SIL-2 (IEC 61508 Standard)



Physical Interfaces and Controls

Front View

- 1 **System Status Indicator** Error or System OK
- 2 **Laser Button** Turns the laser on or off. Pressed = on
- 3 **Check System Health**
- 4 **Change Network Settings**



Back View

- 5 **Power Input & Fuse** 100V-240V AC / 50 Hz to 60 Hz Auto Ranging
- 6 **FC-APC Connector** First Channel
- 7 **FC-APC Connector** Second Channel
- 8 **Ethernet Port** 1 Gbps
- 9 **USB Port** 2.0 Type-B

