

DAS-DCH-5KM-X | D-5 Dual Channel

FOTAS D-5 is a laser interrogator—a device that emits laser pulses into an optical fiber and analyzes the backscattered light to detect acoustic signals—enabling Distributed Acoustic Sensing (DAS) technology for safeguarding critical infrastructure and valuable assets. It provides continuous monitoring over distances ranging from a few kilometers up to several thousand when deployed with multiple units, detecting intrusions, illegal crossings, unauthorized excavations, and a wide range of other security threats. With dual sensing channels, the system supports cut-resilient configurations to ensure dependable and uninterrupted operation.



Unit Specifications

Number of Channels	2 Channels (Suitable for Cut Resilience and Redundancy)
Range per Channel	Up to 5km per Channel (Total up to 10km)
Sensing Technology	Coherent Optical Time Domain (COTDR)
Embedded Server CPU	12-core Arm® Cortex® 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
Event Accuracy Resolution	+/- 10 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

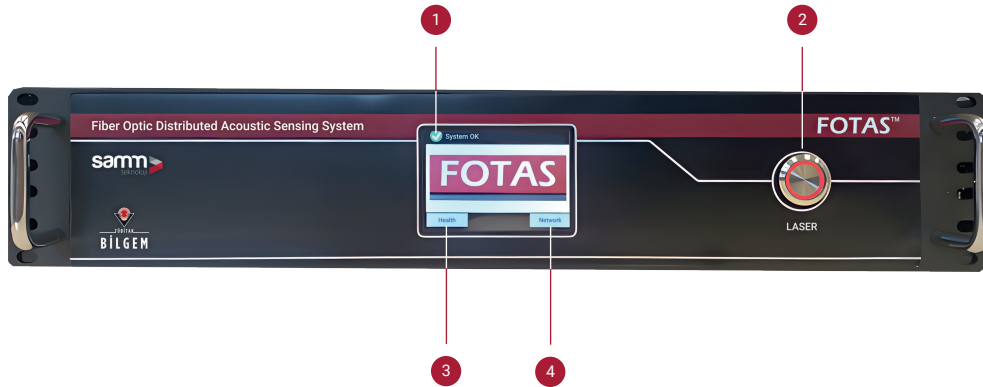
Laser Safety	IEC 60825-1, 21CFR1040.10
Quality Management	ISO 9001
Electro-Magnetic Compatibility	(EMC) 2014/30/EU, EN 55032:2015 Class A, EN IEC 61000-3-2:2019+A1:2019, EN 61000-3-3:2013+A1:2019, EN 55035:2017+A1:2020,
	EN 61000-4-2:2009,
	EN 61000-4-3:2020,
	EN 61000-4-4:2012,
	EN 61000-4-5:2014+A1:2017,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

