S-10 Single Channel Perimeter Security

FOTAS S-10 is a fiber optic distributed acoustic sensing system that can be used easily in different situations. S-10 keeps your fences and borders safe and sends early warnings of threats. It is one of the proven early systems for security. FOTAS detects third-party intervention, illegal crossing attempts, and unauthorized excavations along a line spanning several kilometers.

S-10 Technical Details

Fiber Optic Cable	Single-mode fiber optic cable
Detection Channels	Single fiber channel of real time independent intrusion detection
Detection Distance	10 km
Sensing Technology	Coherent Optical Time Domain Reflectometer (COTDR)
Maximum Fiber Loss	10dB (typical max distance ~ 10km /ch)
Operating Life	> 10 years (dependent on operating environment and regular maintenance)
Artificial Intelligence	Deep-learning-based intrusion detection algorithms optimize sensitivity and probability of detection. Locations can be changed with parameters to avoid nuisance alarms. Different algorithms exist for buried and fence applications. The system is hybrid since both are applicable.
Detection Resolution	10 m (32.8 ft) between detection points along sensing fiber (100 measurements per km of sensing fiber) 100 m (328 ft) minimum cable separation between individually reported disturbances (simultaneous)
System Interface	Web 2.0
Sensor Sections	Software configurable, independent sensor sections (detection zones).
Temperature Range	Sensing Cable: -40~70 °C / S-10 Device: 0~40 °C (AC environment)
Connection Ports	TCP/IP (Ethernet)
Inputs and Outputs	FC/APC single mode optical connector (back, for sensing cable) 1 x USB2 ports (on back) 1 x Ethernet ports (10/100/1000 Mbps, on back)
Power Supply	110 to 240 Vac, 47 to 63 Hz, auto ranging.
Power Consumption	85 W typical, 125 W max
Dimensions / Rack -Clearance / Weight	49 cm (19") x 50 cm x 8.9 cm(2U), 8 kg
Laser Safety Class	Class 1 (IEC 60825-1, 21CFR1040.10), shutoff: key switch on front panel.
MTBF	> 80,000 hours
Warranty	2 years, with optional per year warranty extension available.
Regulatory Certification	ISO9001 accredited design and manufacturing is CE certified (Electromagnetic compatibility Directive (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) The low voltage directive (LVD) (2014/35/EU) (IEC 62368-1:2018, EN IEC 62368-1:2020 + A11:2020)

FOTAS™

Fiber Optic Distributed Acoustic Sensing System

Applications

- ✔ Perimeter Security
- ✔ Pipeline Surveillance
- ✔ Smart Cities
- ✔ Highway Monitoring
- ✔ Railway Monitoring
- ✔ Infrastructure Monitoring