Fiber SenSys
PERIMETER SECURITY

FD525–HALO™ Intrusion Detection System
Streamlined Installation for up to 25 Zones

The FD525-HALO™ is an easy-to-install fiber-optic intrusion detection system with up to 25 independent zones, impressive probability of detection (PD) and un-matched nuisance alarm discrimination.

The **FD525–HALO™** from Fiber SenSys, Inc. (FSI) is a perimeter security intrusion detection system designed for quick and easy installation at a competitive price. This solution solves many perimeter security problems inherent at commercial, industrial and critical infrastructure facilities using a security system based on fiber optics. The **FD525–HALO™** reduces the installation cost of a typical perimeter security system and makes the FSI intrusion detection system more affordable than ever.

- **Streamlined installation with hybrid cable sensor**
- **Fusion splice capable**
- **Cut-tolerant design**
- **Nuisance alarm discrimination**

The **FD525–HALO™** uses proven technology that has been successfully deployed in thousands of high-security facilities throughout the world, in a low-priced and easy to use sensor. Built with maximum design flexibility, the **FD525–HALO™** uses the power of fiber optics to identify intrusion attempts along a perimeter. When one or more zones are breached, the system instantly identifies the zone of each intrusion attempt, while continuing to monitor the rest of the perimeter.

The **FD525–HALO™** detects multiple simultaneous intrusion attempts where and when they happen, making the Fiber SenSys system extremely difficult to defeat. This information is graphically displayed and immediately communicated for prompt incident response.
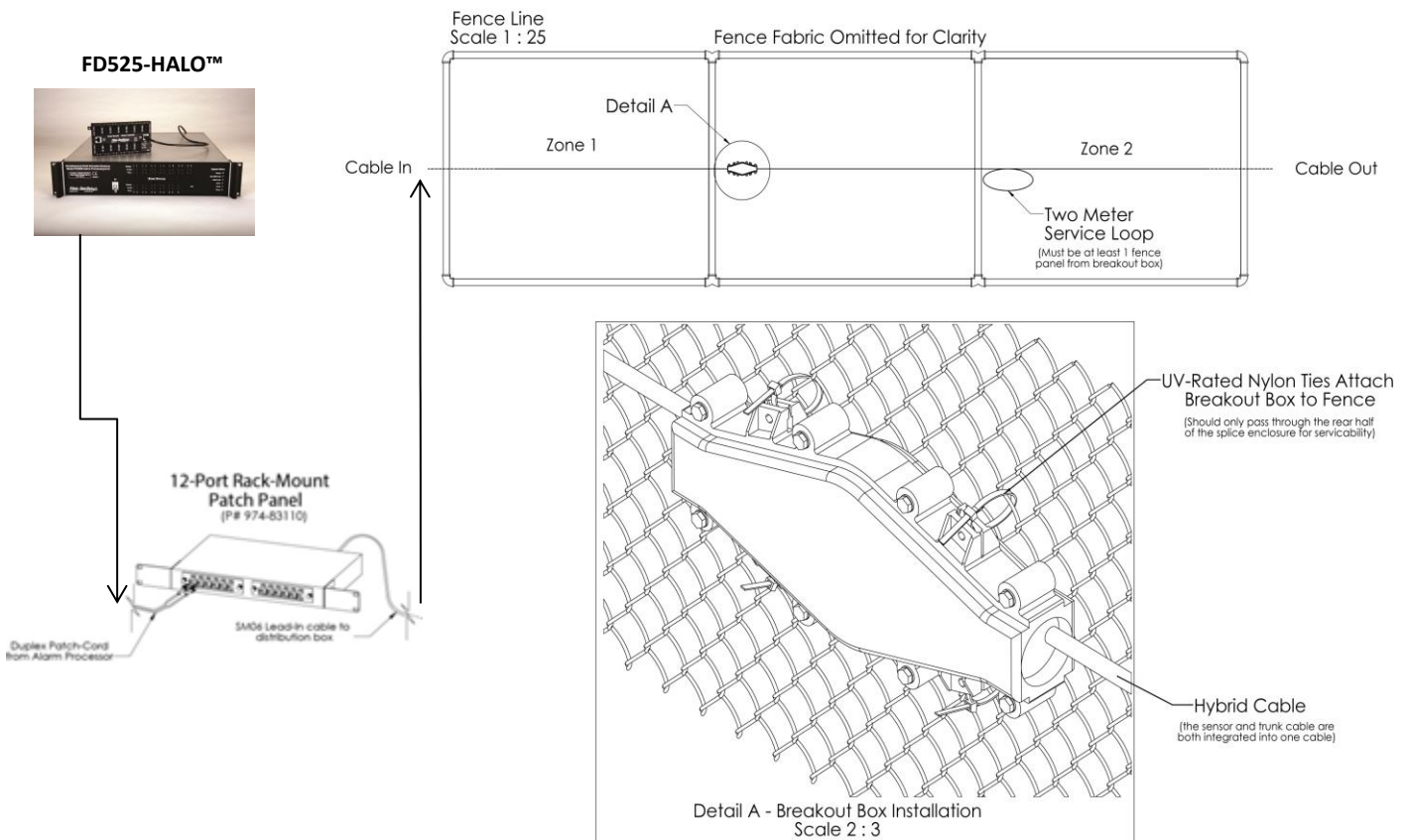
Applications:
- **Commercial and Industrial**
- **Power, Energy and Water Utility sites**
- **Transportation and Aviation facilities**
- **Fence or wall mount installations**

Fiber SenSys®

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Hillsboro, Oregon 97124, USA
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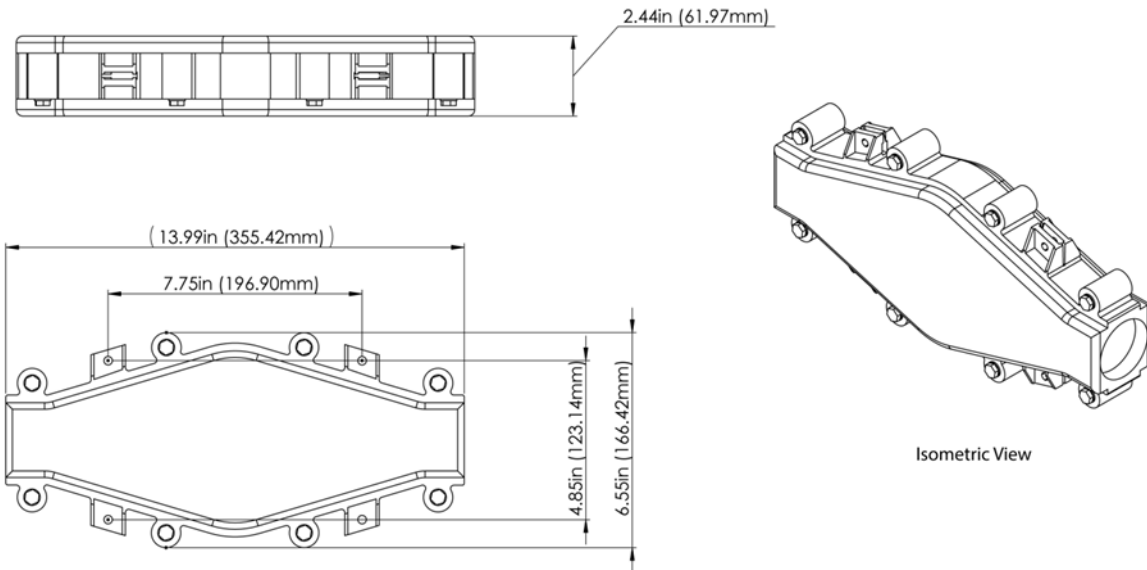**www.fibersensys.com**

FD525–HALO™ Features and Benefits

- Up to 25 fully independent zones with a maximum cable length of 5.8 km (3.6 miles)
- A unified cable design multiplexed through a multi-fiber hybrid cable and breakout boxes
- Durable fiber-optic sensing unaffected by chemical, electrical or environmental elements such as corrosion, RFI, EMI, and lightning
- XML via Ethernet and relay modules ensures a high level of integration and communication options
- The system can be fully integrated with head end systems for a total system solution when combined with other security elements such as video cameras and other third-party devices.
- Insensitive lead-in cable allows for remote APU deployment – up to 5 km maximum length
- Tuning and calibration discrimination software in the FD500 Series Software Suite eliminates nuisance alarms

FD525–HALO™ INSTALLATION DIAGRAM

FD525-HALO™

Fence Line
Scale 1 : 25   Fence Fabric Omitted for Clarity

Detail A

Zone 1   Zone 2

Cable In   Cable Out

Two Meter
Service Loop
(Must be at least 1 fence panel from breakout box)

12-Port Rack-Mount
Patch Panel
(P# 974-83110)

Duplex Patch-Cord
from Alarm Processor

SM06 Lead-In cable to
distribution box

UV-Rated Nylon Ties Attach
Breakout Box to Fence
(Should only pass through the rear half
of the splice enclosure for servicability)

Hybrid Cable
(the sensor and trunk cable are
both integrated into one cable)

Detail A - Breakout Box Installation
Scale 2 : 3

DISTRIBUTION ASSEMBLY SPECIFICATIONS

2.44in (61.97mm)

13.99in (355.42mm)

7.75in (196.90mm)

4.85in (123.14mm)

6.55in (166.42mm)

Isometric View

Distribution Assembly Specifications	
Exterior Dimensions	Width: 6.55 in (16.64 cm) Length: 14.00 in (35.54 cm) Height: 2.44 in (6.19 cm)
Industry Standards	ISO 9001 / 2000 manufacturing Compliance Modified Telcordia TR-NWT-000251
Operating Temperature	-40 degrees to +70 degrees centigrade (-40° to 158° F.)
Splicing Capacity	Supports up to 48 single-fusion splices.
Weight	3.5 lbs.

FD525-HALO™ SPECIFICATIONS

FD525-HALO™ Assembly	
Sensor configuration	Fully independent zones, time-domain multiplexed through a multi-fiber hybrid cable and breakout boxes.
Unified cable	One multimode fiber with five single mode fibers integrated into a rugged unified cable, custom manufactured to FSI specifications
Insensitive lead-in fiber	• Single-mode fiber, custom manufactured to FSI specifications • Maximum length: 5 km
Zone/cable lengths	• Minimum distance between nodes: 20 m (65.6 ft.) • Maximum distance between nodes: 800 m (2625 ft.) • Maximum cable length (not including insensitive lead-in): 5.8 km (3.6 mi)

Alarm Processing Unit	
System type	Vibration-sensing intrusion detection system
Number of zones per APU	Up to twenty-five fully independent zones.
APU power requirements	• 90 to 250 VAC input • 17 watts power consumption (maximum) • Fuse rating: 1.25 A
Communications	• USB serial port for assigning zones to optical ports, and for tuning • TCP/IP port for alarm output and XML communication • Individual dry contact alarm and fault relays for each zone • Dry contact alarm relay for tamper.
Contact ratings Fault relay default Alarm relay default ACC bus fault relay default	100 mA @ 24 VDC non-inductive Normally closed Normally open, and normally closed Normally closed
Network Port	Ethernet 10 Base-T/100 Base-TX (RJ-45)
Dimensions	Height = 8.81 cm (3.47 inch) Width = 48.16 cm (18.96 inch) Length = 42.52 cm (16.74 inch)
Operating temperature range Operating humidity range	0˚ C to 55˚ C (32⁰ F to 131⁰ F) 0 to 95% non-condensing
Compliance	CE, FCC Part 15, RoHS

The **FD525-HALO™** employs an insensitive lead-in cable, up to 25 individual zones, the distribution box and zone kit enclosures. The hybrid cable is attached to a fence, wall, or other perimeter barrier. If the barrier is disturbed, the **FD525-HALO™** immediately detects a change and instantly sends operators a message identifying the location of the intrusion attempt.

For more information, contact us at
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Fiber SenSys®

High Performance – High Reliability – High Security