

# Fiber Defender

Fiber Optic Intrusion Detection Systems



Perimeter Security Solutions



When your intrusion detection system cannot be allowed to fail, you need to know for certain that it won't.

Fiber SenSys brings you solid perimeter security with the Fiber Defender series, a lineup of intrusion detection systems that use a thin, inert fiber optic cable as the sensor.



Attach the sensor cable to the mesh of a perimeter fence or strap it to a wall and the system's corresponding electronic Alarm Processing Unit (APU) detects vibrations from any intruder climbing or cutting through the barrier. The Fiber Defender series is a user-calibrated system, allowing you to program the APU to screen out signals from non-threatening events, such as wind or small animals, while optimizing detection of valid signals from intruders. "Smart" digital signal processors in each APU can be programmed to automatically compensate for disturbances from wind, giving you a system that provides maximum zone protection in nearly all circumstances.

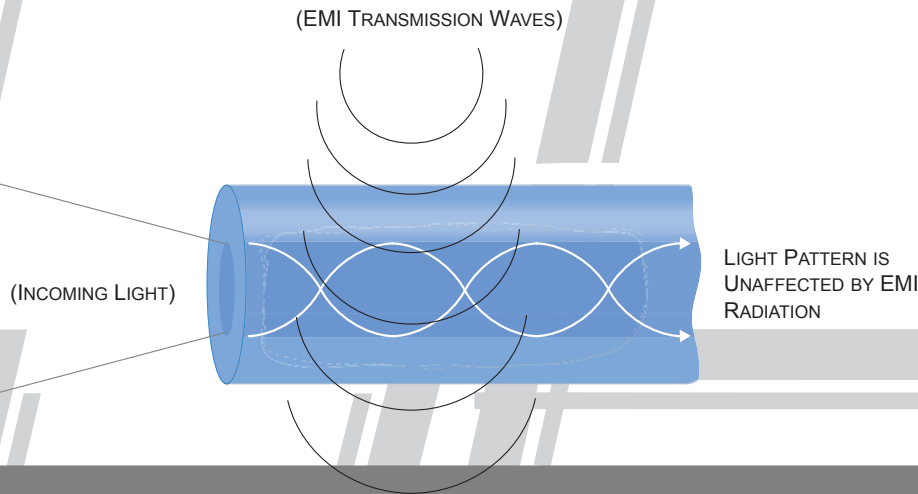
Far from being limited to chain link fence applications, the Fiber Defender series is capable of adapting to protect many physical platforms, including wrought iron fences, walls, grates, concertina wire, and razor coils. Protective, flexible conduit allows the sensor cable to be attached to multiple barrier types while giving it the durability required for nearly all permanent outdoor installations.

Two Fiber Defender lineups are available: The FD-200 and the FD-300 series. The FD-200 series features the FD-220P - an entry-level fiber optic system - and the FD-208, a system incorporating insensitive lead-in cables up to 20 km long for remote deployment of the sensor cable. The FD-300 series features dual-zone or single-zone APUs and an anemometer option (FD-33X models only) for increased wind compensation. All models in the FD-300 series are available with direct network connectivity, supporting XML communications protocol or Fiber Security Network functionality.

Available Models	FD-220P	FD-208	FD-331	FD-332	FD-341	FD-342
Fence Line Applications	●	●	●	●	●	●
Advanced Programming		●	●	●	●	●
Anemometer Option			●	●		
Insensitive Leads		●			●	●
IP/XML Communication			●	●	●	●
FSN Compatible	●	●	●	●	●	●
RS-232 Communication	●	●	●	●	●	●
Single-Zone APU	●	●	●		●	
Dual-Zone				●		●

Six Fiber Defender models are available with a variety of features to choose from. Each comes standard with an RS-232 calibration/communication interface. A NEMA-4X fiberglass enclosure, complete with built-in tamper switch, is also available for mounting the alarm processing units.

# The Power of Fiber Optics



## The Fiber Optic Advantage

Wherever your barrier is located, the fiber optic sensor cable is immune to the effects of EMI, lightning, radio frequency transmissions, and magnetic fields, giving you a reliable and durable sensor. The Fiber Defender series is highly resistant to the effects of wind and rain, and is also extremely difficult to defeat. Because of the nature of the inert fiber optic cable, the Fiber Defender systems are safe for deployment in potentially volatile environments such as chemical depots, petroleum refineries, or electrical substations.

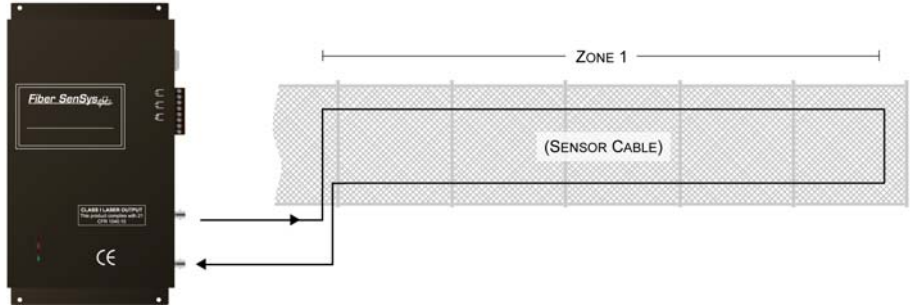


## How the System Works

The Fiber Defender series is a vibration-detection platform.

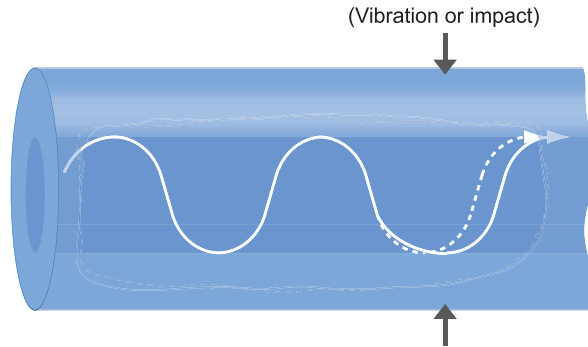
The Fiber Defender product line consists of two primary components: The Alarm Processing Unit (APU) and the fiber optic sensor cable. The system works because the APU transmits laser light through the sensor cable in a coherent pattern. When the sensor cable is deployed on a chain link fence or other perimeter barrier, vibrations from any intruder attempting to climb or cut through the barrier disrupt the pattern of light temporarily, resulting in an alarm.

(ALARM PROCESSING UNIT)



Each APU provides users with both a normally-open and normally-closed set of Form C relay contacts. The APU communicates an alarm condition by a change-of-state in its relay contacts.

*Vibrations from any intruder attempting to climb or cut through the barrier disrupt the pattern temporarily, resulting in an alarm*



## General Specifications

System Type:	Closed-Loop, Vibration-Sensing Intrusion Detection System
Sensing Element:	Fiber Optic Sensor Cable
Alarm Processing Unit	
Programming Input:	RS-232
Communications Type:	RS-232
	RJ-45 (FD-300 series only for IP/XML Communication)
	Fiber Security Network (FSN) Optical Communications Loop
Output:	100 mA DC (1 amp for FD-200 series) Normally-Open and Normally-Closed Relays
Signal Discrimination:	Digital Signal Processing
Maximum Zone Length:	5 km/3.1 miles (2 km/6500 ft for FD-220P)
Sensor Sensitivity:	Uniform Over Entire Length

CLASS 1 LASER OUTPUT  
This product complies with 21 CFR 1040.10

