



FEATURES AND BENEFITS

- Detect perimeter intrusions over a distance of up to 5 km (3.1 mi)
- Up to 44 software-configurable detection zones
- 100% operational after a cable cut in redundant-loop configuration
- High Probability of detection (Pd) and low Nuisance Alarm Rate (NAR)
- No outdoor power or communication infrastructure required
- EMI and lightning immune
- No electronics or grounding points required in the field
- Accurate zone alarms for directing CCTV and/or response forces
- Field components intrinsically safe
- Multiple options for integration with SMS, VMS and PSIM platforms
- Easy to install and maintain
- Cost-effective and customizable

Fiber Optic Fence-Mounted Sensor

FiberPatrol-ZR's advanced fiber optic technology provides up to 5 km (3.1 mi) of perimeter protection. No powered or conductive items are required in the field, making the sensor completely immune to EMI and lightning, and intrinsically safe in the presence of explosive atmospheres.

FiberPatrol-ZR differentiates between localized disturbances caused by real intrusions and spatially-distributed environmental disturbances like wind and rain, resulting in reduced nuisance alarm rate compared to hardware-zoned systems.

FiberPatrol-ZR also continues to detect and accurately locate intrusions to the zone (or zones) even when there are multiple simultaneous intrusions or in the presence of spatially-distributed environmental noise that would effectively mask the detection capability of other long-range fiber optic sensors.

Cut immunity

When the sensor cable is cut, either in an attempt to defeat the sensor or accidentally, FiberPatrol-ZR immediately reports the incident, including the zone in which it occurs. Moreover, the sensor retains the ability to detect intrusions up to the point of the cut. When installed in a cut-immune configuration, the sensor continues to provide detection on the full perimeter even after a cable cut.

Detection settings

The advanced detection algorithm incorporates thresholds, spatial parameters and timing parameters. Detection settings include alarm threshold, disturbance threshold, event life persistence and duration threshold.



FiberPatrol-ZR sensor unit

Sensor cables

FiberPatrol-ZR uses single-mode fiber within telecommunications-grade cable. The sensing function requires two fibers – additional fibers within the cable can be used for other communications purposes like Ethernet and/or Senstar’s proprietary Silver Network protocol (for communication with other Senstar sensors, such as OmniTrax® buried RF, UltraWave™ microwave, or XField® electrostatic sensors).

Supported fence types

FiberPatrol-ZR can be used on most types of metallic fences including chain-link, welded mesh and expanded metal. A single pass of sensor cable provides effective protection for fences up to 3 m (10 ft) in height. The sensor may also be used on palisade-style fences depending on the specific characteristics of the fence.

The sensor provides protection on up to 5 km (3.1 mi) of cable in either linear or cut immune configurations. For planning purposes, 12.5% extra sensor cable must be budgeted over the fence length for use in service loops, extra coverage at brace and corner posts, and zone isolation loops.

The sensor cable can be mounted on swinging gates to provide gate protection.

Alarm display options

Several options are available for alarm display and integration with third-party devices. Customers requiring a single display dedicated to FiberPatrol-ZR perimeter monitoring can use the processor’s built-in alarm display. Senstar’s StarNet 2 Security Management System (SMS) provides enhanced capabilities for those requiring multiple workstations and maps as well as the management of additional security equipment.

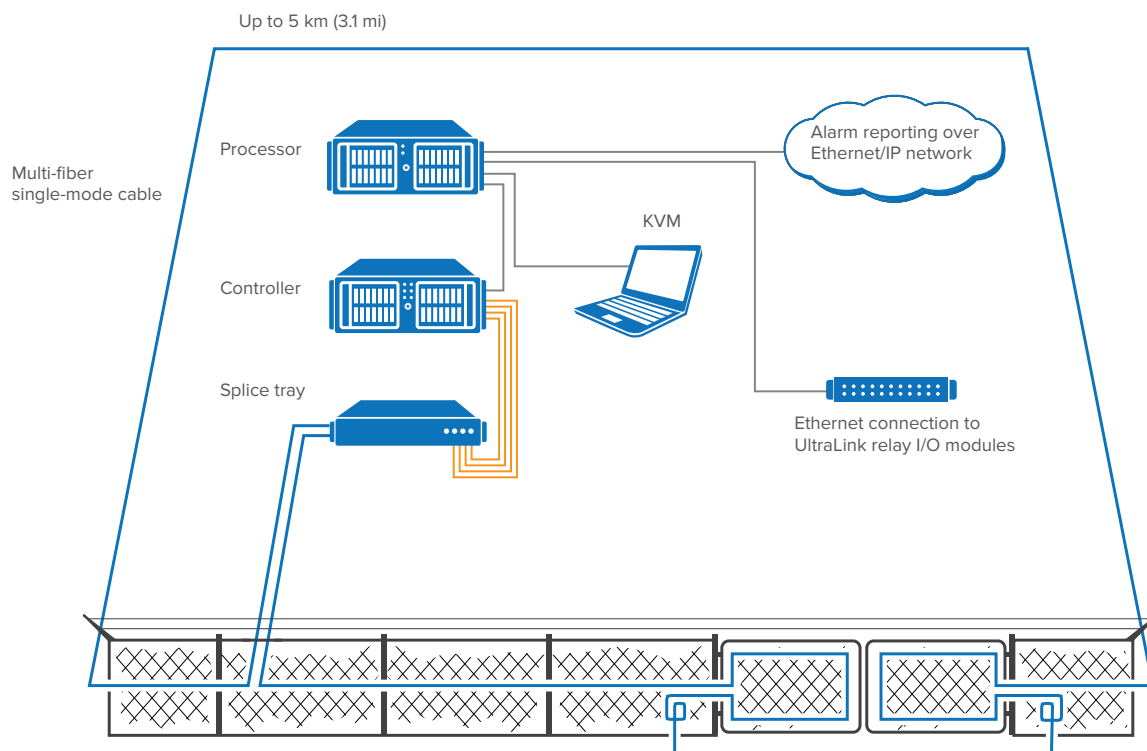
Third-party integration

Senstar’s UltraLink sensor integration components are used to integrate FiberPatrol-ZR with third-party sensors. The Network Manager software provides a common IP-based interface to Senstar’s other industry-leading sensors, including OmniTrax® buried RF cable sensors, XField® electrostatic sensors, UltraWave™ microwave units, and the FlexZone® cable-based fence sensor.

Alarms and status can also be presented on relays or open-collector outputs using UltraLink I/O modules.

Configurable zone capabilities

In its base configuration, FiberPatrol-ZR supports up to 8 or 12 zones depending on the version.



FiberPatrol-ZR fence protection site configuration

Technical Specifications

SENSOR UNIT

Main features

- Provides intrusion detection for mid-range perimeters from a central location
- Software assignment of detection zones
- Redundant bi-directional dual receiver operation provides industry-leading resilience to cut or damaged cable
- Centralized configuration of all sensor parameters
- Simple integration with Security Management Systems and CCTV systems



Intruder on a fence

SPECIFICATIONS

Sensor length

- Up to 5 km (3.1 mi) for fence-based perimeter protection
- 8 to 44 software-assignable detection zones
- 30 m (98 ft) minimum zone length

Detection performance

- Detection accuracy: To within the zone
- Pd: 95%
- FAR: Less than 1/km/month typical
- NAR: Site dependent

Cable cut detection

- Operation: As specified up to the cable cut
- Accuracy of cut location: To the zone

Optical

- Laser classification: Class 1, 1550 nm wavelength
- Connector type: FC / APC

Interfaces and Software

- Networking: Dual Gigabit Ethernet
- Operating system: Windows 7 Pro 64-bit
- HDD: minimum 2x500 RAID array
- Standard alarm interface – Senstar standard API over TCP/IP from Network Manager
- Optional alarm interface – relay closures via UltraLink I/O modules

Environmental (sensor unit)

- Operating temperature: 10 to 35 °C (50 to 95 °F)
- Humidity: 20% to 80% non-condensing

Energy consumption

- Voltage: 100 to 240 VAC, 50/60 Hz
- Power: 400 watts maximum

Mechanical

- Style: Standard 19-inch rack-mount, 51 cm (20 in) deep
- Rack space: Processor 4U, controller 3U, splice enclosure 1U, KVM 1U, total 9U
- Rack clearance required: 5 cm (2 in) front, 15 cm (6 in) back
- Weight: 48 kg (105 lbs) total with processor, controller and 1U splice enclosure

REGULATORY COMPLIANCE

- FCC Part 15 Class A
- CE: EC Low Voltage Directive 2006/95/EC

FIBER OPTIC SENSOR CABLE

Cable installation

- Attach cable to fence fabric with UV-rated cable ties

Cable construction

- Loose tube, 11.1 mm (0.44 in) diameter typical
- Black UV-stabilized medium density PE jacket
- 12–60 fiber count
- Armored cable options available

Optical fiber

- Single mode, 0.25 dB/km typical @ 1550 nm, optical loss or better

Weight

- 75 kg/km (50 lb/kft) typical

Cable mounting ties

- UV-resistant
- Stainless steel optional

Environmental

- Temperature: –40 to 70°C (–40 to 158°F)
- Humidity: No restrictions

Part	Description
FP1400-08	FiberPatrol-ZR sensor unit, up to 2.5 km (1.6 mi) of detection processing for fence applications, licensed for 8 independent reporting zones expandable to a maximum of 28 zones with the purchase of 4-zone add-on licenses FP1400-EXP-04
FP1400-EXP-04	4-zone add-on license for FP1400-08 (system limit of 4 add-ons total, for a maximum of 28 zones for a FP1400-08 system)
FP1400-12	FiberPatrol-ZR sensor unit, up to 5 km (3.1 mi) of detection processing for fence applications, licensed for 12 independent reporting zones expandable to a maximum of 44 zones with the purchase of 4-zone add-on licenses FP1400-EXP12-04
FP1400-EXP12-04	4-zone add-on license for FP1400-12 (system limit of 8 add-ons total, for a maximum of 44 zones for a FP1400-12 system)
GB0296-15	15 in 1U rackmount KVM (KB/LCD/Mouse)
FPEM0400	1U rack-mount splice enclosure kit (SPLENC)
FPMA0223	Dual Start/End module for FiberPatrol-ZR systems
GM0749-24	Field splice enclosure (24 splice capacity, 3 cable ports)
FPKT0200	Splice consumables kit
GH1080-08	3/16" x 08" (4.8 x 20.3 cm) stainless steel cable ties (100 ea)
GH1080-08C	3/16" x 08" (4.8 x 20.3 cm) black-coated stainless steel cable ties (100 ea)
GX0310	Tool – manual tension and cut-off tool for stainless steel cable ties
GX0311	Tool – upgraded manual tension and cut-off tool for stainless steel cable ties
FPKT0500	One (1) section of 5 cm (2 in) diameter split conduit 1 m (3 ft) long and two (2) hose clamps
FPSP0424	Fiber optic sensor/lead cable for fence applications, 24 fibers. Priced in 100 meter (328 ft) increments
00FG0220	Network Manager service version on CD
FP-TRAINING-2	Factory certification training at customer site (3-day course)
DTSR-SPEC	Technical support for FiberPatrol installations (per day)

Contact Senstar for required training and installation support services.
 Ask about Senstar's wide range of perimeter protection and security management solutions for fence, wall, buried and free-standing applications.



ISO 9001:2008 – CGSB Registered Certificate 95711
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