The FiberPatrol FP1150 for fence-mounted intrusion detection provides up to 10 km (6.2 mi) of protection in perimeter applications. Its fiber optic sensor technology requires no powered or conductive items in the field, making the sensor completely immune to EMI and lightning and intrinsically safe in the presence of explosive atmospheres.

The FP1150 accurately locates intrusions even when there are multiple simultaneous intrusions or in the presence of non-localized environmental noise that would overwhelm the location capability of other long-range fiber optic sensors.

The FP1150’s resilient design allows detection to continue right up to the point of a cut in the sensor cable.

**FEATUERS AND BENEFITS**

- Detect and locate perimeter intrusions over a distance of up to 10 km (6.2 mi)
- Pinpoint intrusions with a ±4 m (13 ft) accuracy
- Accurate ranging of multiple simultaneous intrusions
- Sensor cable continues to operate up to the point of a cut
- Dual sensor channels
- 100% operational after a cable cut in cut-immune configuration; maximum perimeter 5 km (3.1 mi)
- High Probability of detection (Pd) and low Nuisance Alarm Rate (NAR)
- Software-configurable detection zones
- No outdoor power or communication infrastructure required
- EMI and lightning immune
- No electronics or grounding points required in the field
- Accurate locating for directing surveillance cameras and/or response forces
- Field components intrinsically safe
- Alarms reported by zone number, cable distance and/or GPS coordinates
- Multiple options for integration with SMS, VMS and PSIM platforms
- Easy to install and maintain
- Economy-of-scale value

**Cut immunity**

When the sensor cable is cut, either accidentally or in an attempt to defeat the sensor, the FP1150 immediately reports the incident, including its exact location. Moreover, the sensor retains the ability to detect and localize intrusions up to the point of the cut. When installed in the cut-immune configuration, the sensor continues to provide detection on the full perimeter even after a cable cut. The maximum perimeter length in the cut-immune configuration is 5 km (3.1 mi).

**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.

**Detection and ranging of simultaneous intrusions**

The FP1150 is designed specifically to detect multiple simultaneous events. The full length of the cable is continuously analyzed and disturbances at different locations are reported independently.
Sensor cables
The FP1150 uses single-mode fiber within telecommunications-grade cable. The sensing function requires one fiber – 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 like Senstar LM100 intelligent perimeter lighting and sensing solution, OmniTrax® buried cable sensor, UltraWave™ microwave, or XField® electrostatic sensors).

Supported fence types
The FP1150 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.

System capabilities
The FP1150 provides sensing on up to 10 km (6.2 mi) of cable when the two sensor channels are used independently. In the cut-immune configuration, the FP1150 provides sensing on up to 5 km (3.1 mi) of cable. For planning purposes, 15% 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 FP1150 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. The FP1150 can report alarm locations by zone number, cable distance and/or GPS coordinates.

Third-party integration
Senstar’s Network Manager software is used to integrate the FP1150 with security management systems and video management systems. The Network Manager software provides an IP-based interface to the FP1150 that is common to Senstar’s other industry-leading sensors, including the OmniTrax® buried RF cable sensor, Senstar LM100 hybrid perimeter intrusion detection and intelligent lighting system, XField® electrostatic sensor, UltraWave™ microwave, 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.

Communication line protection
The FP1150 is an effective way to provide physical security against third-party interference for fiber optic data links and other cable infrastructure. The sensor’s ability to detect minute vibrations, movement, or other physical disturbances of the cable bundle or conduit enables it to detect TPI before communications are compromised.

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Up to 10 km (6.2 mi) with independent sensor configuration, or up to 5 km (3.1 mi) in cut-immune configuration

Fence Protection Site Configuration
Technical specifications

SENSOR UNIT

Main features
• Provides intrusion detection for long perimeters from a central location
• Localization of intrusions and software assignable detection zones
• Dual-channel sensor unit provides industry-leading resilience to cut or damaged cable
• Central adjustment of all sensor parameters
• Simple integration with SMS/VMS systems

SPECIFICATIONS

Sensor length
• Two sensor channels, each providing sensing on up to 5 km (3.1 mi) of cable

Detection zones
• Software-assignable
• Up to 1,440 zones

Detection performance
• Detection accuracy: ±4 m (13 ft) typical
• Detection resolution: 45 m (150 ft); minimum separation for two disturbances to be reported separately
• Pd: 95%
• FAR: less than 1/km/year typical
• NAR: site dependent
• Cut cable detection:
  • Operation: as specified up to the cable cut
  • Accuracy of cut location: 30 m (100 ft)

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

Interfaces and software
• Networking: Dual Gigabit Ethernet
• Operating system: Windows 10 Pro 64-bit
• SSD: minimum 2x100 RAID1 array
• Standard alarm interface – Senstar standard API over TCP/IP from Network Manager
• Optional alarm interface – relay closures via UltraLink I/O modules and ASCII output

Environmental (sensor unit)
• Operating temperature: 0 to 50°C (32 to 122°F)
• Humidity: 20% to 80% non-condensing

Power
• Dual redundant field-replaceable power supplies
• Voltage: 100 – 240 VAC, 50/60 Hz
• Power: 200W maximum

Mechanical
• Style: standard 19-inch rack-mount, 51 cm (20 in) deep
• Rack space: sensor unit 4U, KVM 1U, fiber connection module 1U
• Rack clearance required: 5 cm (2 in) front, 15 cm (6 in) back
• Weight: 23 kg (51 lbs)

REGULATORY COMPLIANCE
• FCC Part 15 Subpart B Class A
• CE: Conformant to EMC Directive 2014/30/EU
• Safety: EN 60950-1:2006 + A2:2013

FIBER OPTIC SENSOR CABLE

Cable installation
• Attach cable to fence fabric with cable ties

Typical 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, attenuation of 0.25 dB/km or less at 1550 nm

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

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP1150xx</td>
<td>FiberPatrol FP1150 sensor unit for fence-mounted intrusion detection. Provides up to xx km of detection processing per sensor, where xx can be 01 (for 1 km), 02, 03, 04, or 05 (1 km = 3280 ft).</td>
</tr>
<tr>
<td>FPMA0922</td>
<td>FiberPatrol fiber connection module for FP1150 systems. Includes two patch cords, two end modules, associated splice trays, and 1U rack-mount splice enclosure.</td>
</tr>
<tr>
<td>GB0296-15</td>
<td>15 in 1U rack mount KVM (KB/LCD/Mouse)</td>
</tr>
<tr>
<td>FPKT0400</td>
<td>8 port KVM switch with 2 sets of cables</td>
</tr>
<tr>
<td>GM0749-24</td>
<td>Dual End module for FiberPatrol FP1150</td>
</tr>
<tr>
<td>GB0296-15</td>
<td>Field splice enclosure (24 splice capacity, 3 cable ports) (SPLHW)</td>
</tr>
<tr>
<td>FPMA0222</td>
<td>Splice consumables kit (SPLCON)</td>
</tr>
<tr>
<td>GH1080-08C</td>
<td>3/16&quot; x 08&quot; (4.8 x 20.3 cm) stainless steel cable ties (100 ea)</td>
</tr>
<tr>
<td>GH1080-08C</td>
<td>3/16&quot; x 08&quot; (4.8 x 20.3 cm) black-coated stainless steel cable ties (100 each)</td>
</tr>
<tr>
<td>GX0310</td>
<td>Tool – manual tension and cut-off tool for stainless steel cable ties</td>
</tr>
<tr>
<td>GX0311</td>
<td>Tool – upgraded manual tension and cut-off tool for stainless steel cable ties</td>
</tr>
<tr>
<td>FPKT0500</td>
<td>Sensor cable management kit for swinging gates. One (1) section of 5 cm (2 in) diameter split conduit 1 m (3 ft) long and two (2) hose clamps.</td>
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<tr>
<td>FPSP0424</td>
<td>Fiber optic sensor/lead cable for fence applications, 24 fibers.</td>
</tr>
<tr>
<td>00FG0220</td>
<td>Network Manager service version on CD</td>
</tr>
</tbody>
</table>

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.