

## EchoPoint™

### Point Locating Distributed Acoustic Sensors

The **EchoPoint™ EP9150™** and **EP9210™** Distributed Acoustic Sensors (DAS) utilize the latest technologies in fiber optic sensing and machine-learning algorithms to provide the most advanced solution for applications requiring long-range, point locating intrusion detection sensors. These advancements make **EchoPoint** sensors a key part of the solution in large sites where precise intrusion location is needed.



#### Key Features:

- Location accuracy of  $\pm 5\text{m}$
- Software zoning from 20m to 50km per zone
- GIS integrations
- Maximum fiber optic sensor length of up to 50km

The **EchoPoint** systems can identify within five meters where an intrusion is taking place. By interfacing directly with video systems, cameras can instantly provide an assessment of the perimeter. Integration into complete systems not only greatly increases the safety and security of the site but also allows for fewer cameras and infrastructure, thereby reducing the cost of the security system. If your VMS is not able to accept GIS information, virtual zoning allows for the system to be broken down into software-defined zones. Alarms in these zones can interface with video management systems via TCP/IP or relay contacts.

The **EchoPoint™** systems can create virtual zones as small as 20m to as large as the entire sensing cable length of an interrogator. If a sensor is cut, the system will continuously detect between the processor and the cut. Additionally, the systems can be configured to be cut tolerant by using two channels, one driven clockwise and the second counterclockwise. Each channel will utilize a discrete fiber core within the same sensor cable or a second cable. If configured to be cut tolerant, no sensing area will be lost with a single sensing cable cut.

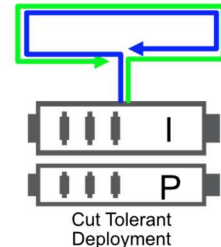
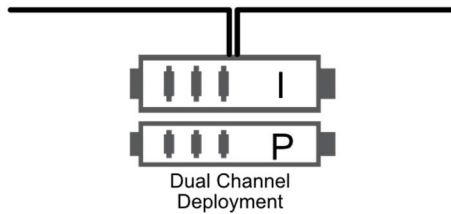
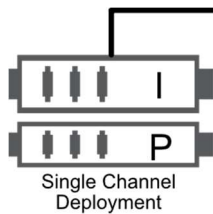
#### Applications:

- Airports
- Borders
- Refineries
- Data Conduits
- Railways

While being able to sense a disturbance is certainly one of the strong points for these sensors, equally important is the ability to process the signals. The **EchoPoint™** systems use an advanced machine-learning algorithm that has been proven to provide industry-leading performance. EchoPoint systems come pre-trained to identify fabric cuts, climbs, and other events that would indicate an intrusion attempt is in process. This approach also reduces the time and skill required to set up and tune the systems.

### *Higher security by design*

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Deployment Configurations (I: Interrogator; P: Processor)

PRODUCT SPECIFICATIONS	EP9150™	EP9210™
<b>System Type</b>	Distributed Acoustic Sensor, Intrusion Detection	Distributed Acoustic Sensor, Intrusion Detection
<b>Accuracy</b>	± 5m	± 5m
<b>Virtual Zones</b>	Yes – Software defined Minimum size: 20m Maximum size: 50km	Yes – Software defined Minimum size: 20m Maximum size: 10km
<b>Cut Tolerant Cable Configuration Option</b>	Yes	Yes
<b>Interrogator with Processor</b>	19-inch rack-mountable, 5U height	19-inch rack-mountable, 5U height
<b>Standard, External Power Supply</b>	100 – 240 VAC 47 to 63 Hz	100 – 240 VAC 47 to 63 Hz
<b>Interrogator Power Requirements</b>	130 Watts	130 Watts
<b>Communications</b>	TCP/IP with optional relay contacts	TCP/IP with optional relay contacts
<b>Range</b>	Single Channel Deployment: 50 Km Dual Channel Deployment: No Cut Tolerant Deployment: No	Single Channel Deployment: 10 Km Dual Channel Deployment: 20 Km Cut Tolerant Deployment: 10 Km
<b>Supported Sensing Fiber</b>	Fiber SenSys 12-Fiber Trunk Cable (600-02915)	Fiber SenSys 12-Fiber Trunk Cable (600-02915)
<b>FO Connector Type</b>	LC-APC	LC-APC
<b>Connectivity</b>	1 Gigabit Ethernet	1 Gigabit Ethernet
<b>Laser Class</b>	Class 3B Laser	Class 3B Laser
<b>Optical Wavelength</b>	1550 nm	1550 nm
<b>Temperature</b> (I: Interrogator; DPU: Data Processing Unit)	I: Indoor Operations: 5°C to 40°C I: Storage: -10°C to +50°C DPU: Indoor Operations: 10°C to 35°C DPU: Storage: -40°C to +65°C	I: Indoor Operations: 0°C to 50°C I: Storage: -30°C to +60°C DPU: Indoor Operations: 0°C to 40°C DPU: Storage: -40°C to +70°C
<b>Relative Humidity</b>	80% at +25°C	80% at +25°C
<b>Interrogator Mean Time Between Failures (MTBF)</b>	90000 Hours	83000 Hours
<b>Mean Time To Repair (MTTR)</b>	4 Hours	4 Hours
<b>Processor Redundant Power Supply</b>	Yes	Yes

Note: The Processor consists of algorithm, management, and user interface software pre-installed on an included rackmount computer.

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