

## Optical fence

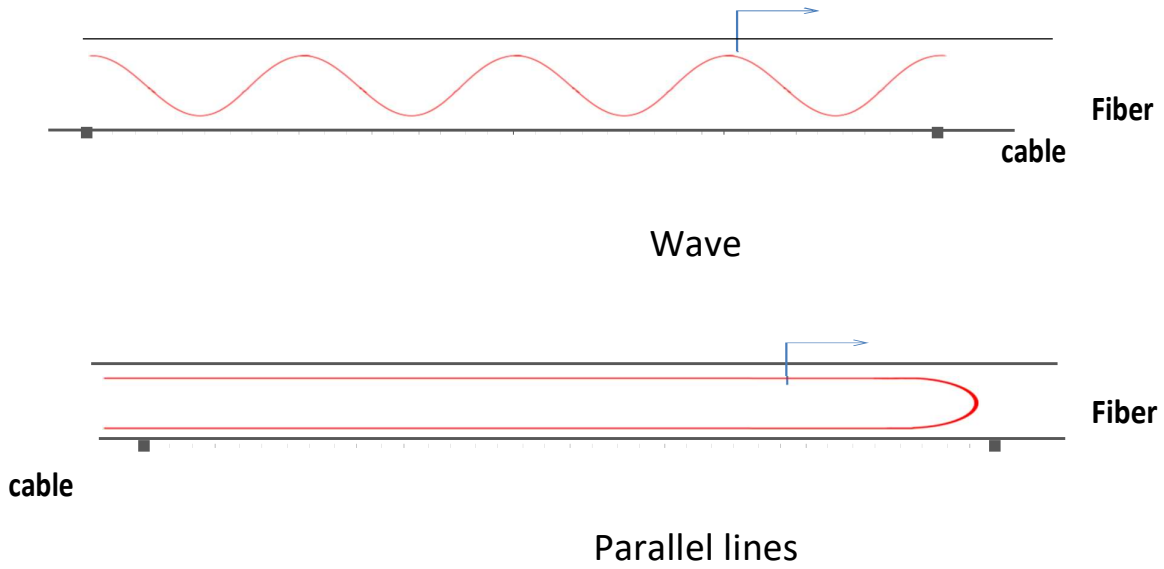
Fiber optic fence systems use light rather than electricity to detect intruders. During operation, light pulses are transmitted through fiber optic cable, which is typically installed on existing perimeter fencing. These light pulses are continually monitored for any change in light pattern or optical power, as may occur when the fiber is bent or broken during an intrusion attempt.

### **Fiber Optic Fence systems offer many advantages over other sensing technologies:-**

- Immunity to electromagnetic interference (EMI) - Compared to electronic, microwave, and electric field sensors, fiber optic sensors are not subject to interference from EMI.
- Safe for all environments - Fiber optic sensing cable does not carry or conduct electricity; it is safe for use around fuels, gases and combustible materials.
- Exceptional range - Fiber optic monitoring systems operate over far greater range than electronic sensing systems.
- Low incident of nuisance alarms - Fiber optic fence systems are not subject to interference due to small animals, adverse weather, changing light conditions, EMI, and so forth.
- Cost effective - Fiber optic sensing cable is easily incorporated into all types of existing fences and walls. The cable can also be mounted on posts as a standalone system. Fiber optic sensors typically do not require electrical power in the field.



## Deployment of fiber cable



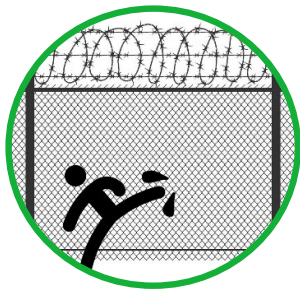
**These behaviors may trigger alarm.**



**Climb over the Fence**



**Put a ladder upon the**



**Kick the Fence**



**Cut the fiber**

## FIBER OPTIC PERIMETER INTRUSION DETECTION SYSTEM (FOPIDS)



FOPIDS are models of optical fiber sensor products on Fiber optic distributed sensing technology utilized to detect the acoustic vibration around an area thus leading it to sense the intruders in highly secured perimeter areas under surveillance.

### FOPIDS Features:-

Fiber Optic Perimeter Intrusion Detection System has several advanced features as listed

- Use of single-mode fiber cable
- Immune to Electro Magnetic Interference (EMI) and RFI
- Alarm and alert system is integrated
- Zone Based Intrusion detection
- Exceptionally low noise density and reduced false alarms
- Small, lightweight and cost effective
- High reliability and environmental stability
- Plug-and-play system
- Armored/unarmored optical fiber cable can be used
- Passive sensor network in the perimeter area
- Minimum power utilization at control units
- Distributed Acoustic Fiber Optic Sensor system
- Underground /over ground installation of the system

### FOPIDS Devices:-

The main device of FOPIDS is a package, with optic fiber cable leading out and optional power supply and alarm output cable. Zone based FOPIDS will support a several zones according to area of deployment, availability of resources and client requirement. Each zone deployment consists of FOPIDS control unit installation co-working with leading fiber cable and passive outdoor terminals.

The FOPIDS main device consists of the alarm indicators, optical interfaces, notification unit, transmitter-receiver units, power supply and GUI interfaces. The important particulars of device are the following

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## TECHNICAL SPECIFICATION:-

<b>Device Series</b>	FOPIDS-ZX-CN-SN
<b>Device Functionality</b>	Zone Based Perimeter Intrusion Detection
<b>Zone Length(max)</b>	250m
<b>Number of channels</b>	1 to 16
<b>Optical connector</b>	FC/APC
<b>Optical source wavelength</b>	1550nm
<b>Optical Detection</b>	IR region
<b>Number of optical source channels</b>	1 to 8
<b>Maximum Optical output power per channel</b>	1mW
<b>Number of Detector</b>	1 to 16
<b>Power Supply</b>	110-230V AC, 12V DC
<b>Current range</b>	0-5A
<b>Dry contacts</b>	NO/NC contact for each zone
<b>Display</b>	LCD display optical source and receiver parameter
<b>Visual Alarm Indicator</b>	LED
<b>Audio Alarm indicator(optional)</b>	Buzzer
<b>Power Backup(optional)</b>	12V DC Battery
<b>Interface</b>	TCP/IP, RJ45 connector
<b>LED Indicators</b>	(a)Device Status (b)Alarm status (zone wise) (c)Alarm Acknowledgment status
<b>Alarm treatment</b>	(a)Switches provided for manual alarm acknowledgment function (b)Alarm treatment and update option manually in software GUI
<b>Optical sensor</b>	9/125um Single Mode optical fiber
<b>Optical combiners/splitters</b>	Bandpass:1550nm+/-40nm, FC/APC connector
<b>Deployment</b>	(a)Underground (b)Overground
<b>Enclosures</b>	19-inch rack mountable
<b>Multiple Device Operation</b>	Device cascading facility

All Intrusion detection systems are seamlessly integrated with RBH Security Management System, RBH View and RBH Central control & command center application to give highly reliable award-winning alarm management and integration features.