Outdoor security

SmarterFence™

Detection that never sleeps

SmarterFence is a fiber optic intrusion detection system that intelligently detects and warns of intruders while minimizing nuisance alarms. Engineered for reliability and durability, SmarterFence stands up to both nature and intruders.

Benefits

More secure
> Field-proven reliability
> Secure from tap or tamper

High accuracy
> Minimizes nuisance alarms
> Unaffected by lightning or other electromagnetic interference
> Set-up and alignment are easy compared to other systems

Easy to own
> Cost-effective linear protection for zones up to 3,000 feet
> Easy to install and maintenance-free operation
> Field-based repairs can be made using a fusion splicer

Flexible
> Protects a wide range of fence fabrics and gates
> Can also fasten to walls, other building fabrics, and roofs

Fence Sensor

Technology
The fence sensor system, which consists of a processor module that transmits a laser beam through a fiber optic sensor cable, makes accurate detection possible. It is sensitive to a wide range of vibration, flexing, compression, and cutting, but filters nuisances and non-localized natural events, such as wind and rain.

Installation and maintenance
SmarterFence cable is easy to install. Field repair or replacement of a damaged section of cable is straightforward, using a fusion splicer.

Safety
The system is intrinsically safe, because light does not radiate signals or succumb to electrical interference. This safety makes it particularly suitable for use in hazardous industrial locations where there is risk of fire or explosion.

Processor Module

Design
The processor is designed for use with SmarterFence's proprietary fence-mounted cables. Disturbance of the fiber optic sensor cable is detected in the processor and analyzed using a micro-controller with a digital signal processor.

Operation
When a disturbance exceeds pre-set conditions, an alarm is generated. Additionally, automatic environmental compensation algorithms ensure the highest probability of detection while minimizing nuisance alarms.

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Outdoor models

SmarterBeam | **SmarterFence**

Configuration

SmarterFence processor is factory set to enable rapid installation and commissioning. Application-specific configuration parameters can be adjusted in the field using built-in switches and a LED display. SmarterFence processor can also be configured and adjusted remotely using the integral serial communication ports and optional software tools.

SmarterFence processor seamlessly integrates with third-party data collection and alarm management systems. The configuration enables external alarm threshold adjustment and additional ports for sensors or control devices.

Options

> SmarterFence Software: allows for easy adjustment of operating parameters remotely
> Buried Sensor: for use in sterile areas or over open ground where intruder detection is necessary

Technical specifications

Processor
> High performance micro-controller with integral digital signal processor (DSP) and analog-to-digital (A to D) converter

Sensor cable and connections
> The processor is designed for use with the SmarterFence sensor cables

Method of detection
> Laser diode transmitter with optical interference pattern detection using photo diode receiver

Power requirement
> 11.0-14.0 V DC at 300 mA

Alarm output relay
> Up to 1A at 12 V DC

Ancillary outputs (open collector)
> Two open collector outputs with a maximum rating of 100 mA at 24 V DC

Serial communication ports
> One isolated RS232/RS485 serial port for alarm transmission, remote set-up or diagnostics
> One non-isolated RS232 serial port for local high level diagnostics

Status/digital inputs
> Three tamper protected status inputs are available which may derived from switches or relay contacts, open collectors or CMOS/TTL level digital signal
> Digital signal inputs provide the means by which external equipment may control the unit's auto-threshold values

Installation, test and diagnostic aids
> The SmarterFence processor module incorporates a simple user interface comprising toggle switch, pushbutton and 3 seven-segment displays and allows all necessary settings to be easily configured without the need for specialized test equipment.

A number of operation and diagnostic LED indicators are also included to facilitate test and commissioning. An audio monitor output is also available which may be used as an additional commissioning aid.

> An optional PC-based software package is available to enable local or remote, high level test, set-up and diagnostics.

Connections
> Electrical connections to the processor module are made via quick disconnect screw terminals
> Serial communications is via a PCB mounted RJ45 connector

Environmental specification
> Operating temperature range: 14ºF to 158ºF
> Operating humidity: up to 95% at 104ºF non-condensing
> Storage temperature range: -40ºF to 158ºF

Electromagnetic compatibility (EMC)
> SmarterFence meets the requirements of EN55022:1998 and low voltage directive 93/68/EEC

Dimensions
> Printed circuit board: 6.22 inches x 4.37 inches (158 mm x 111mm)

Due to continuous improvements, specifications are subject to change without prior notice.

Details

SmarterFence installation diagram
(weaved installation)