

FD508 Alarm Processor Unit

Specification Sheet

Designed to detect potential intruders attempting to breach a perimeter, the **FD508™** alarm processing unit (APU) is a 1-U rack-mounted instrument designed for standard 19-inch equipment racks. The **FD508** detects intruders using a fiber-optic sensor that is deployed on the perimeter. For fence-protected perimeters, the sensing fiber is installed on the fence inside specially designed UV resistant polyethylene conduit. The sensing fiber can also be deployed on decorative metal fences, cement walls, etc. The fiber-optic sensor works by measuring laser signals resulting from potential intruders who vibrate the structure to which the fiber is attached. When the **FD508** detects intruders, it sends alarm messages to a head end, and also switches relay contacts that can be used to manage lights, cameras, sound alarms, etc.



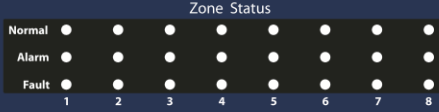
The **FD508** monitors up to eight different sensing fibers (zones). Each sensing fiber can be installed up to 800 meters (2,624 feet) in length for maximum perimeter protection. The front of the APU has indicator lights that show the status of each zone; a steady green light indicates normal/secure operation, and red lights come on during an attempted intrusion (alarm), or if the fiber is cut (fault), and provides instant notification of unauthorized physical access and accidental intrusion attempts.

This system detects intruders by sensing small disturbances caused by vibrations induced within a fiber-optic sensor attached to the perimeter. When intruders attempt to cross the perimeter, they create slight vibrations that disturb the sensing fiber. These disturbances are then detected by the APU, which generates the appropriate alarm(s).

Features	Applications
Remote APU deployment with insensitive lead-in cable capability	Electrical Substations
Nuisance alarm discrimination with built-in tuning software	Oil and Gas Facilities
Integration capability with head end / annunciator panels	Nuclear Power Plants
Immune to EMI, RFI and lightning	Solar Power Generation Facilities
Environmental noise compensation	Military and Government Facilities
Linear, uniform sensitivity	Commercial Installations

Fiber SenSys

Fiber Defender Model FD508
Power ●



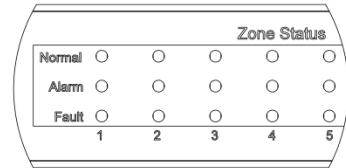
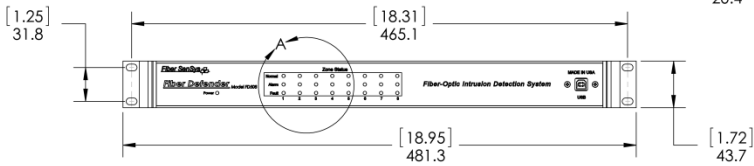
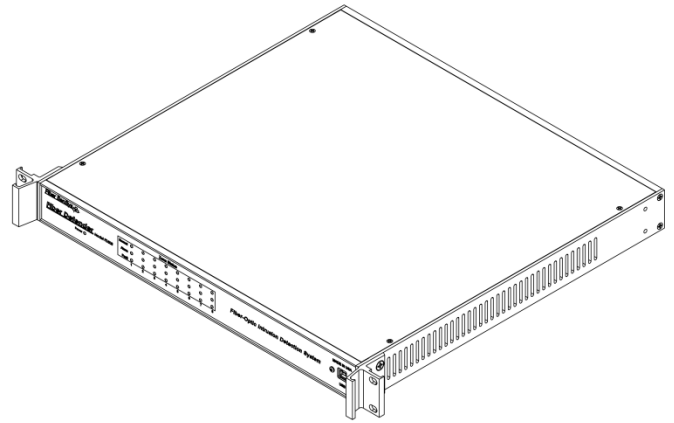
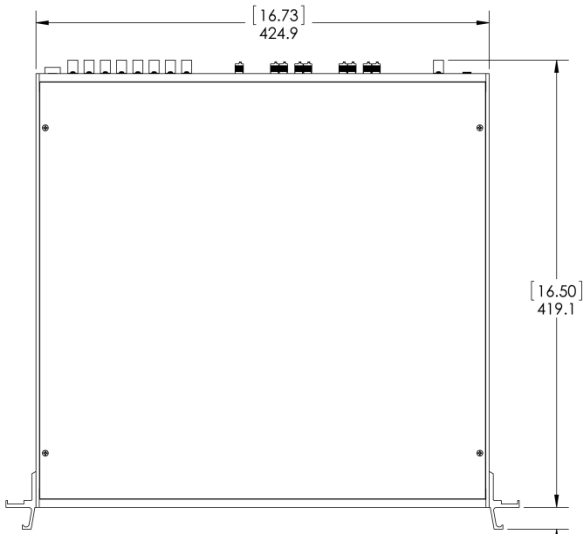
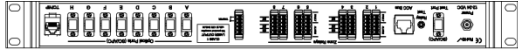
Fiber-Optic Intrusion Detection System

MADE IN USA



USB

FD508 Alarm Processor Unit (APU) Diagram

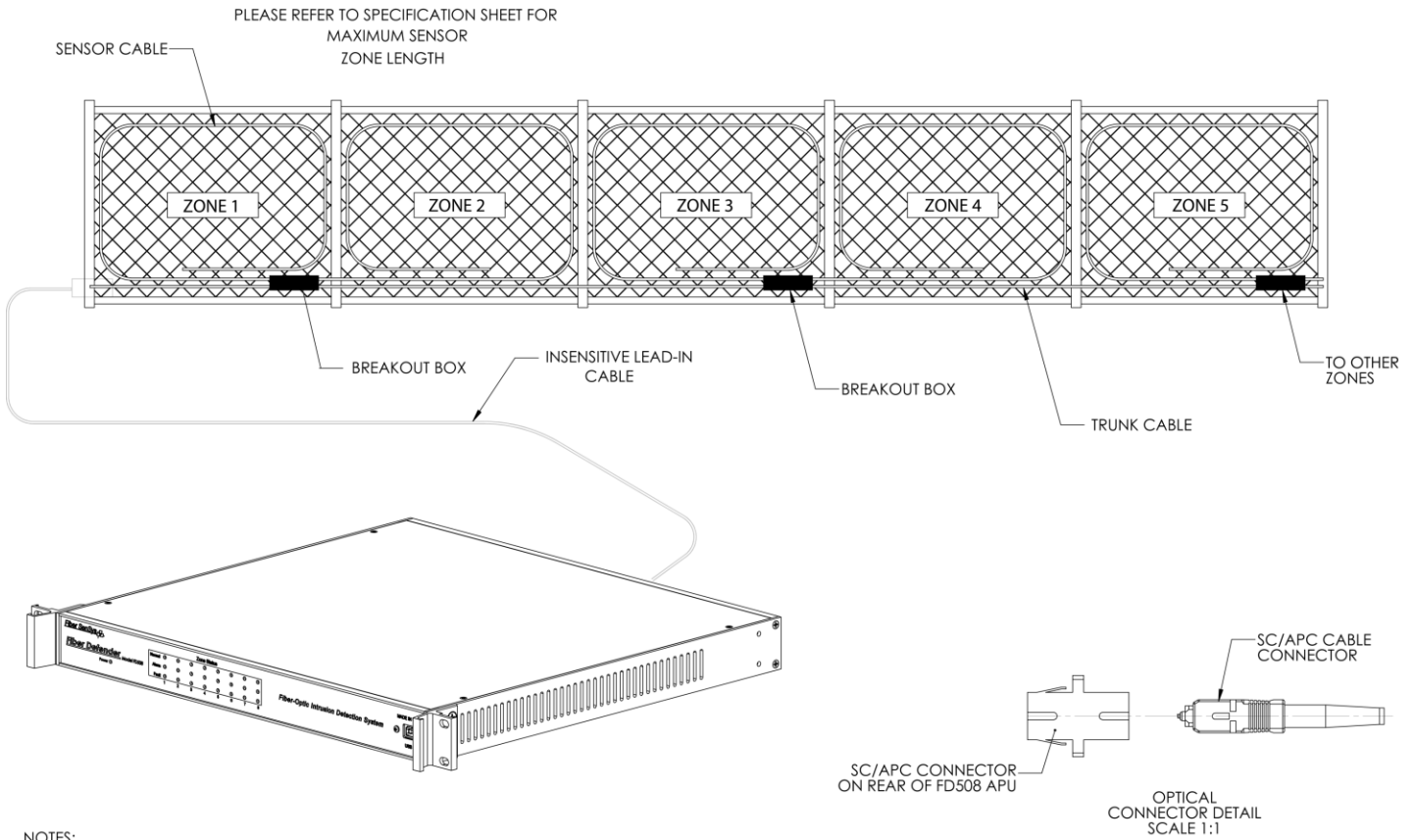


ZONE STATUS LEDS
DETAIL A
SCALE 1 : 1

NOTES:

1. ALLOW 4 INCHES / 102mm MINIMUM FREE SPACE BEHIND UNIT FOR CABLING AND REMOVAL OF RELAY MODULE PLUGS.
2. DIMENSIONS SHOWN AS [INCHES]/mm.

FD508 Application Diagram



NOTES:

1. CABLE ASSEMBLY IS BUILT ON SITE.
2. MAXIMUM 8 ZONES PER ALARM PROCESSOR UNIT (APU)
3. 1 OR 2 ZONES PER BREAKOUT BOX



Breakout Box

FD508 Product Specifications

Application	Perimeter Fence
Sensor configuration	Fully independent zones, installed with a multi-fiber trunk cable and breakout boxes (assembled in the field)
Number of zones per APU	Up to eight fully independent zones
Sensing fiber	Multimode fiber, custom manufactured to FSI specifications
Insensitive lead-in fiber	Single-mode fiber, custom manufactured to FSI specifications
Sensing Cable / Zone lengths ¹	<ul style="list-style-type: none"> For each zone, sensing fiber + insensitive lead-in cable ≤ 5 km Sensing fiber length ≤ 800 meters
Trunk cable	Outdoor-rated cable containing (minimum) one single-mode insensitive lead-in fiber for each zone
APU power requirements	<ul style="list-style-type: none"> 12 -24 VDC input 19 watts power consumption (maximum)
Standard, external power supply	<ul style="list-style-type: none"> 12 volt external power supply Maximum power output: 24 watts
Front-panel display	LED indicators for normal, fault, and alarm conditions for each zone
Communications	<ul style="list-style-type: none"> USB serial port for tuning and for assigning zones to optical ports TCP/IP port for alarm output and XML communication Individual dry contact alarm and fault relays for each zone
Relay contact ratings	100 mA @ 24 V Normally closed
Alarm relay default	Normally open, or normally closed
ACC bus fault relay default	Normally closed
Individual Zone Fault Relays	Normally closed
Dimensions	<ul style="list-style-type: none"> Height : 4.5 cm (1.77 inch) - 1U Width: 42.5 cm (16.75 inch) Depth: 40.6 cm (16 inch); Compatible with standard 19" rack
Operating temperature range	0°C to 55°C
Operating humidity range	0 to 95% non-condensing
Regulatory Compliance	CE, FCC Part 15, RoHS

¹ Sensing fiber is available pre-installed into conduit (FSI product SC3C), for directly attaching to the fence using stainless steel wire ties. The maximum length of pre-installed sensing fiber in conduit is 800 meters. If longer lengths are required, please contact your territory representative.

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