Fiber SenSys ®
P E R I M E T E R   S E C U R I T Y

FD34X Fiber–Optic Intrusion Detection System
Specification Sheet

Designed for remote deployment with no power or communications requirements in the field, the indoor and outdoor rated **Fiber Defender® Model FD341/FD342** Alarm Processing Unit (APU) is a next-generation alarm processor unit that utilizes insensitive fiber-optic cable in addition to sensing fiber. The use of insensitive lead-in cable allows the APU to be located up to 20 kilometers away from the protected zone. Movement or vibration in the physical environment causes the sensing fiber to report back to the APU that there is a disturbance. This feature makes the **FD341/FD342** an ideal platform for protecting areas in or near EMI/RFI fields, areas of extreme temperatures, high humidity climate or corrosive environments.

The **FD341** is a single-channel model, and the **FD342** is capable of supporting two separate zones of fiber-optic cable. Each channel in the APU can be programmed and tuned separately using the Fiber SenSys **SpectraView™** tuning and software.

Each **FD342** channel supports up to 5 km (16,400 feet/3.1 miles) of sensor cable. The **FD341/FD342's** digital signal processing enables detection and analysis of sensor cable. The Digital Signal Processor (DSP) also provides discrimination between natural phenomena and intrusion attempts. Using a proprietary algorithm, the **FD341/FD342** monitors wind effects and actively optimizes the system response to compensate. Two alarm relay outputs are provided in each **FD341/FD342** channel - a normally-open and a normally-closed set of relay contacts. Corresponding relays change state when the APU detects a sensor cable alarm condition. Also included is an RJ-45 connector for TCP/IP communication.

| Features	Applications
Immune to lightning, EMI and RFI	Electrical substations
Sensing cable up to 5 km per channel	Aviation and train locations
Intrinsically safe sensor	Oil and chemical facilities
20 km remote operation	Military facilities
TCP/IP communication option	Information technology networks
Linear, uniform sensitivity	Solar farms
Adaptive wind processing	Correctional facilities

Fiber SenSys ®

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6.272

5.606

2X 2.379

1.114

0.096

10.050

9.750

9.226

TCP/IP
RJ45

RS-232

ALARM B — 12
— 11
— 10
ALARM A — 9
— 8
— 7
FAULT — 6
— 5
TAMPER — 4
— 3
GND 2
+12-24 VDC 1

A

B

Fiber SenSys®
Fiber Defender
FD342-IP Alarm Processor
Fiber Optic Intrusion Detection System
MADE IN U.S.A.   800-555-4430

CLASS 1
LASER OUTPUT
This product complies
with 21 CFR 1040.10

RoHS✓   CE

Output   Output

Input   Input

CH B   Power   CH A
              Fault
              Event
              Alarm
              Test

Channel A
Optical
Connections

Channel B
Optical
Connections

APU Status
Indicators and
Test Buttons

Allow at least two inches
additional space per side
for optical cable connections

**Power, Relay, and Tamper
Connection Arrangement**

ALARM B — 12
— 11
— 10
ALARM A — 9
— 8
— 7
FAULT — 6
— 5
TAMPER — 4
— 3
GND 2
+12-24 VDC 1

DETAIL A
SCALE 1 : 1
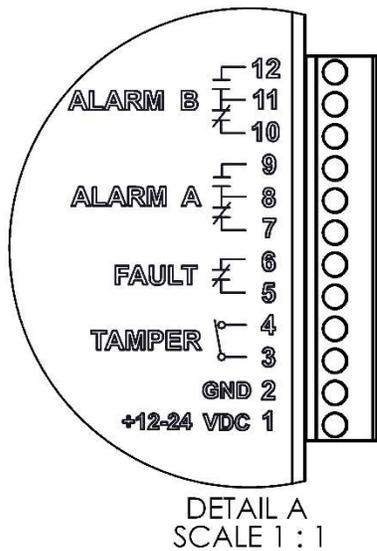
**Ethernet and Serial
Connections**

Ethernet Port
for monitoring

RS-232 Port
for configuration

DETAIL B
SCALE 1 : 1
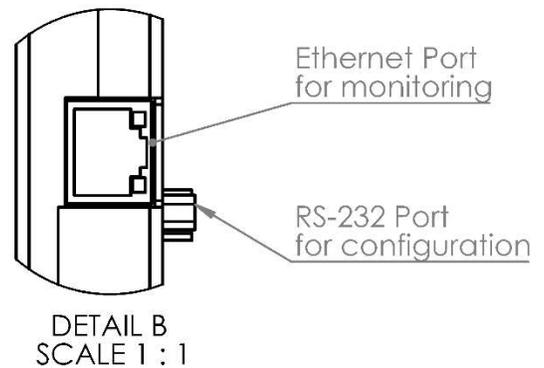
FD341/FD342 ENCLOSURE DIAGRAM

Optional Outdoor Enclosure
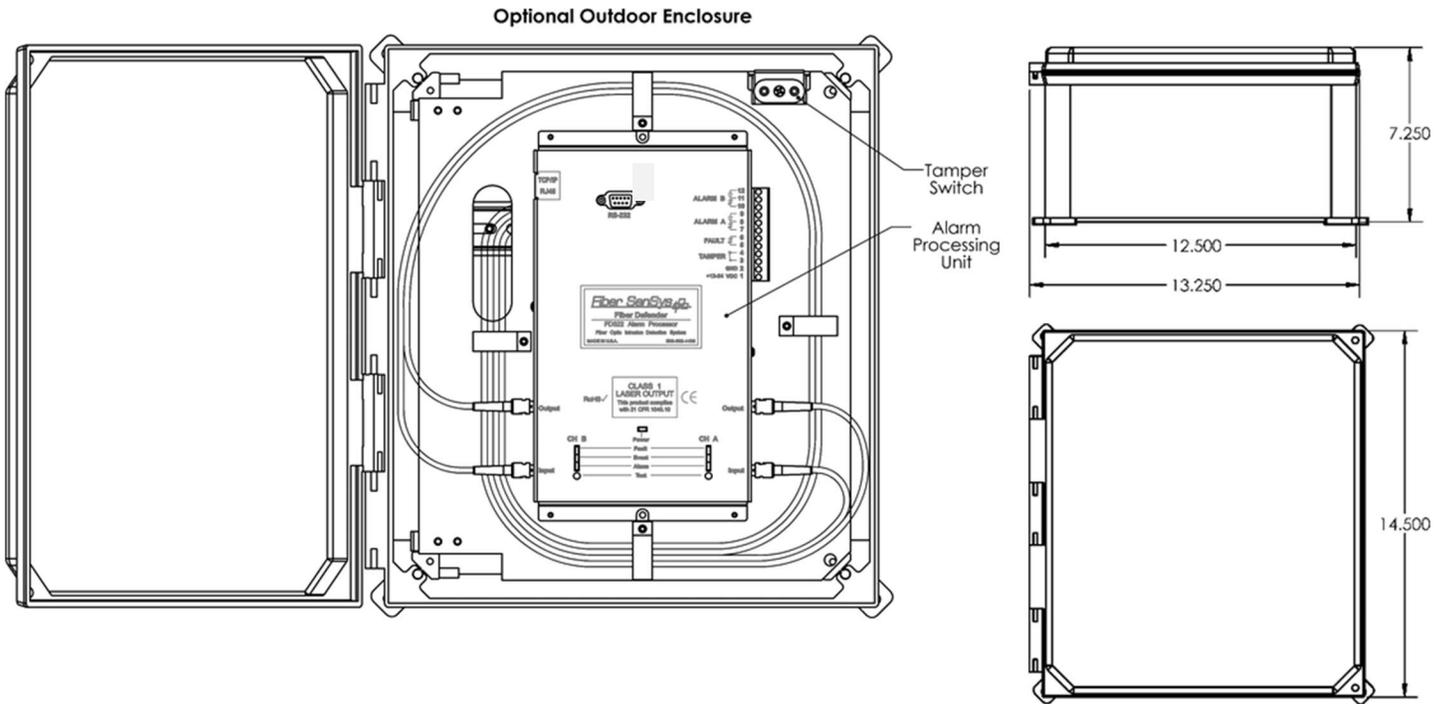
FD342 APPLICATION BLOCK DIAGRAM
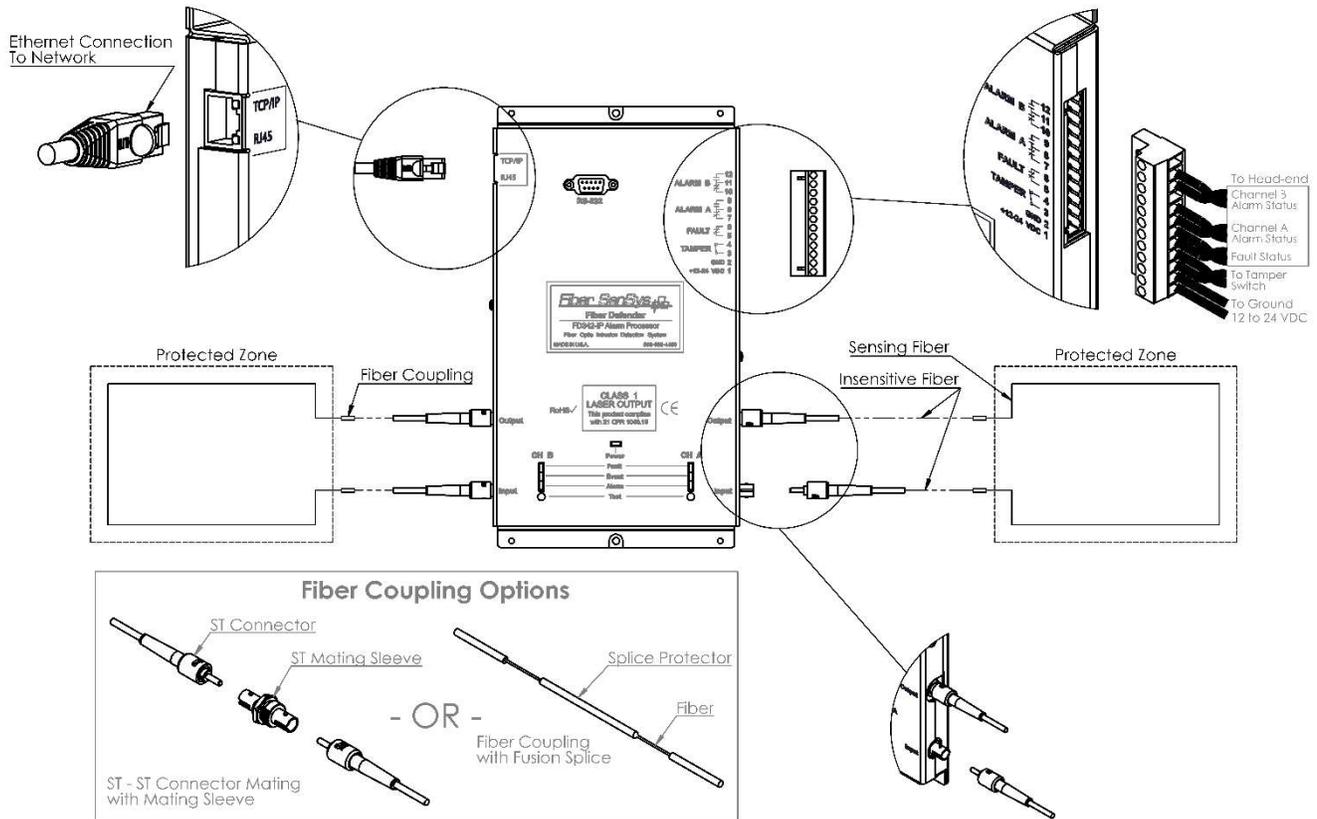
FD341/FD342 PRODUCT SPECIFICATIONS

Parameter	Specification
Number of channels	(1) Channel FD341 or (2) Channel FD342
Voltage	12-24 VDC
Power	4.0 Watts @ 25° C
Communications	• TCP/IP to XML via optional RJ-45 connector • PC Programming via RS-232 (also with USB adaptor)
Fault and Alarm Relays	• Individual dry contact relays for each zone alarm – both Normally Open and Normally Closed (NO / NC) • Dry contact relay for fault – Normally Closed (NC) • 28 to 14 AWG • 100 mA, 24 VDC non-inductive • Dry Contact Resistance 11 Ω typical, 17 Ω max • Alarm relay duration adjustable from 0 to 10s
Operating Temperature Range	-40°C to 70°C
Humidity	95% non-condensing
Maximum Sensor Cable Length	5 km (16,400 feet/3.1 miles) per channel (loop-back design will affect distance)
Sensor Cable Sensitivity	Uniform over entire length
APU Dimensions	10.06 in x 5.63 in x 0.94 in (25.55 cm x 14.30 cm x 2.39 cm) H x W x D
Product Compatibility	AutoTune™ Calibration Software; Fiber Commander™, SpectraView™

ORDERING INFORMATION

Model	Description	Options
FD341-IP	Single-Channel APU	TCP/IP Communications (-IP)
FD342-IP	Dual-Channel APU	TCP/IP Communications (-IP)
SC-3 (fence)	Fiber optic cable	SC-3 duplex or single-strand
SC-3C (fence)	Sensing cable in ½" conduit	Max. continuous length 800m
Outdoor Enclosure	IP66 Enclosure for 300 Series APUs	

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Fiber SenSys®

High Performance – High Reliability – High Security

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