Fiber SenSys

Specification Sheet

Fiber Defender Model FD-220P Alarm Processing Unit

FD-220P

The Fiber Defender series Model FD-220P Alarm Processing Unit (APU) is Fiber SenSys' baseline fiber optic intrusion detection processor, built on patented and proven technology. The FD-220P is for deployment with fabric-type fence line applications only. Used with SC-3 fiber optic sensor cable deployed in protective conduit, the FD-220P APU forms a complete system.

Each FD-220P APU supports up to 2 km (6500 feet/1.24 miles) of sensor cable. The FD-220P sensitivity can be adjusted for deployment with varying fence fabric types.

The FD-220P's digital signal processing enables detection and analysis of sensor cable stimulation. The Digital Signal Processor (DSP) and companion microprocessor also provide discrimination between natural phenomena and intrusion attempts. Using a pre-programmed algorithm, the FD-220P senses wind effects and continuously adjusts the system sensitivity to compensate. This ensures optimal intrusion detection performance in most weather conditions.

Two alarm relays are provided in the FD-220P APU: a normally-open and a normally-closed relay. These relays change state when the APU detects an alarm condition from the sensor cable.

The FD-220P is fully compatible with the Fiber Security Network (FSN). Using FSN, up to 127 zones can be

The FD-220P Alarm Processing Unit, shown with and without the optional enclosure.

interconnected in a single system that provides full integration with a central station or remote control software.
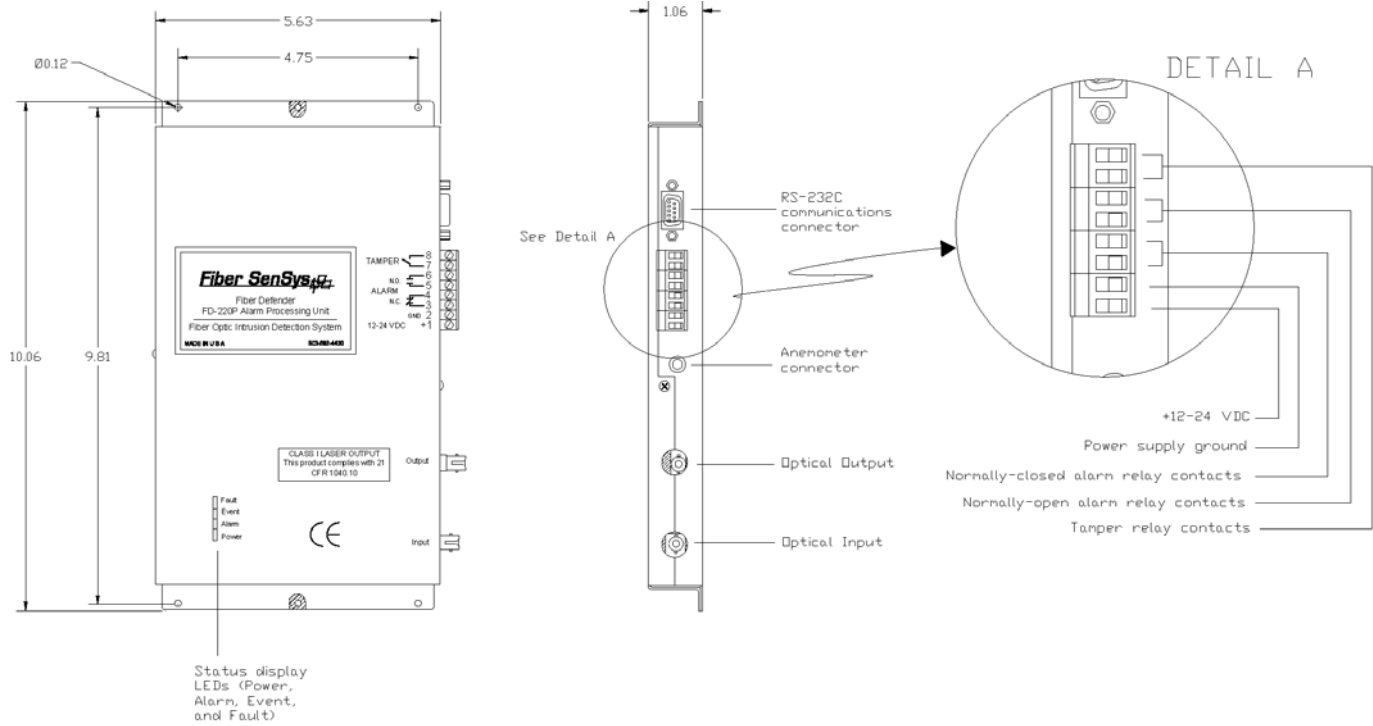
Each FD-220P APU can be ordered with an optional fiberglass NEMA 4X enclosure, complete with tamper switch.

The FD-220P Alarm Processing Unit is designed and manufactured in the U.S.A., and is backed by a full one-year warranty.

Features	Applications	Deployments
Sensor cable immune to lightning/EMI	Commercial	Chain link fences
Zones up to 2 km (6500 ft) long	Chemical depots	Welded mesh fences
Inert and intrinsically safe sensor	Military facilities	
Linear sensitivity	Campuses	
DSP-based alarm processing	Electrical substations	
	Corrections	

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Assembly Diagram — FD-220P Alarm Processing Unit

5.63
4.75
Ø0.12
1.06

See Detail A

DETAIL A

Fiber SenSys
Fiber Defender
FD-220P Alarm Processing Unit
Fiber Optic Intrusion Detection System
MADE IN USA

TAMPER — 8, 7
N.O. — 6, 5
ALARM — 4
N.C. — 3
GND — 2
+1

12-24 VDC

10.06
9.81

CLASS I LASER OUTPUT
This product complies with 21 CFR 1040.10

Output

Fault
Event
Alarm
Power

CE

Input

Status display LEDs (Power, Alarm, Event, and Fault)

RS-232C communications connector

Anenometer connector

Optical Output

Optical Input

+12-24 VDC
Power supply ground
Normally-closed alarm relay contacts
Normally-open alarm relay contacts
Tamper relay contacts

NOTES:

1. All units in inches unless otherwise noted

FD-220P Enclosure Drawing

Front View

14.44

2.65

5.60

1.1

16.5

NOTES:

1. All units in inches unless otherwise noted

Cable routing clip (4x)

Tamper switch

4.61

25°

Bottom View

8.26

6.25
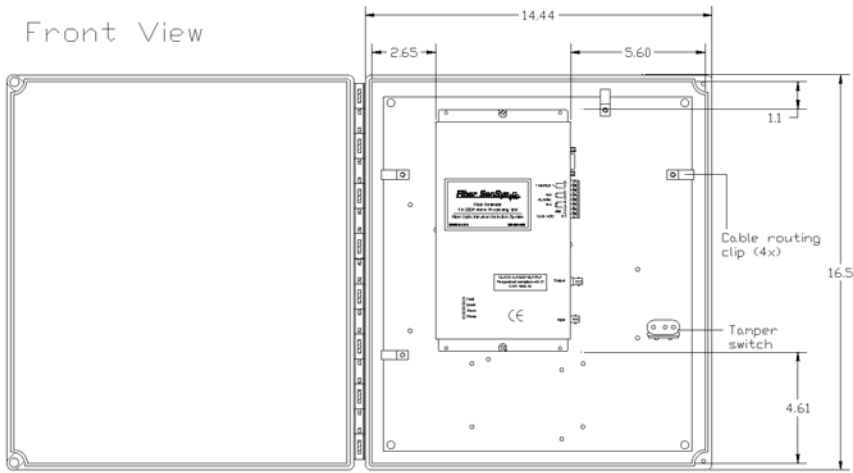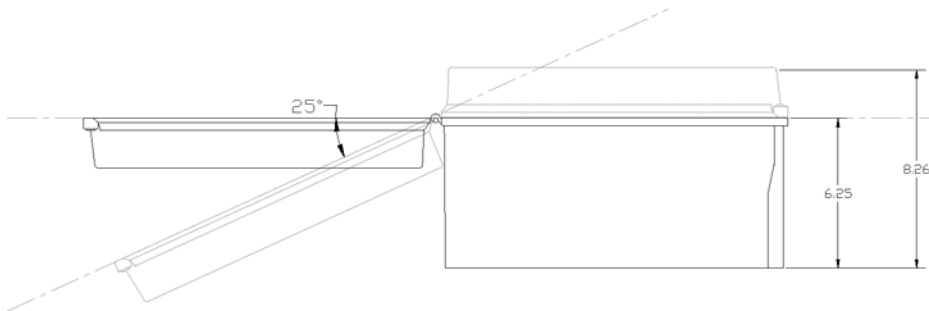
FD-220P Application Block Diagram

FD-220P APU
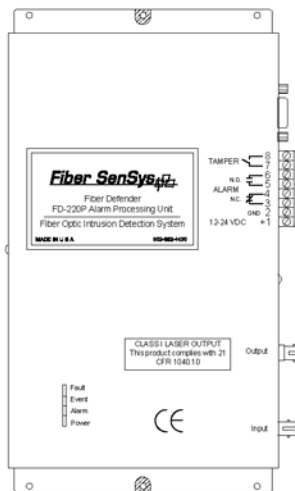
NOTES:

1. Drawing not to scale

Fiber SenSys
Fiber Defender
FD-220P Alarm Processing Unit
Fiber Optic Intrusion Detection System
MADE IN U.S.A.

TAMPER
ALARM
N.O.
N.C.
GND
12-24 VDC
+1

CLASS I LASER OUTPUT
This product complies with 21 CFR 1040.10

Output

Fault
Event
Alarm
Power

Input

Sensor cable
(2 km maximum length)

PROTECTED ZONE

Fiber SenSys
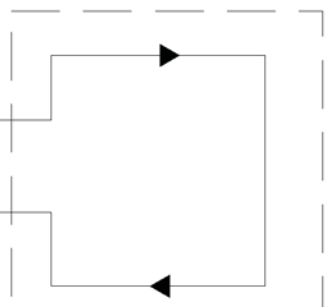
Product Specifications — FD-220

Input Power Requirements	
Voltage	12-24 VDC
Power	2.1 Watts @12 to 14 VDC
Communications	Fiber Security Network (FSN compatible)
Programming	RS-232 using laptop PC or Hand Held Calibrator
Alarm	1 Amp, normally-closed/normally-open relay contact
Alarm Relay Ratings	28 to 14 AWG 1A, 24 VDC non-inductive
Operating Temperature Range	-30°C to 55°C
Maximum Sensor Cable Length	2 km (6500 feet)
Sensor Cable Sensitivity Alarm Relay Activation Duration	Uniform over entire length Programmable
NEMA Enclosure Dimensions	16.50 in x 14.44 in x 8.26 in (41.91 cm x 36.68 cm x 20.98 cm) H x W x D
NEMA Enclosure Material	Fiberglass polyester NEMA-EEMAC type 4x UL 508. Type 4 and 5 standards with an enclosure flammability rating of UL94-5V

Ordering Information

Alarm Processor Units	
FD-220P	Stand-alone APU
FD-220PE	Stand-alone APU in enclosure
Fiber optic sensor cable types	Fiber SenSys part #SC-3 (fence)
Conduit Kits (required for fence line applications)	
EZ-300NSS	100m non-split conduit kit
EZ-300SS	100m split conduit kit