



FPS-2-2 SERIES

Fence Protection System

- ▶ **Simple Installation**
- ▶ **2000 Foot Range - Two 1000 Foot Zones**
- ▶ **Audio Assessment of Alarms**
- ▶ **Built-In Lightning Suppression**
- ▶ **Two Signal Processors, One Enclosure**

The FPS System is a "Strain Sensitive Cable Sensor System," meaning that a mechanical disturbance in the fence causes a small strain on the sensor cable that is converted to an electrical signal.

The sensor cable is a small coaxial cable specially manufactured with a permanent electrical charge throughout its entire length. Any movement in the fence causes a small voltage to appear at the sensor cable output.

The sensor cable connects to an FPS processor mounted on or near the fence at the beginning of the detection zone. The mechanical disturbance detected by the sensor cable is sent to the FPS Processor. Each FPS-2-2 Processor contains two zones of perimeter protection. The processor contains the circuitry that analyzes the disturbance detected by the sensor cable. The electronics are designed to match the characteristics of the sensor cable input and only report as alarms those signals that are similar to the disturbances caused by climbing, cutting or lifting the fence fabric.

State-of-the-art signal processing filters out disturbances caused by wind, rain or other non-threatening factors. Each zone processor has an adjustment for the sensitivity of that particular zone and a count setting.



Each processor has built-in lightning protection on all input and output lines by way of gas discharge tubes and transient bypasses. The FPS processor housings are made of cast aluminum with all openings gasketed and sealed for a weathertight fit.

The FPS processors and signal cable will initiate a tamper alarm by removing the cover or cutting or shorting the sensor cable. The detected alarm signals are sent by the processor to the alarm monitoring and control point. Alarm monitoring can be accomplished by use of the relay output interface module (2-2R) or the integrated transponder module (2-2M) in conjunction with the PPI MX-1000 Control and Display system.

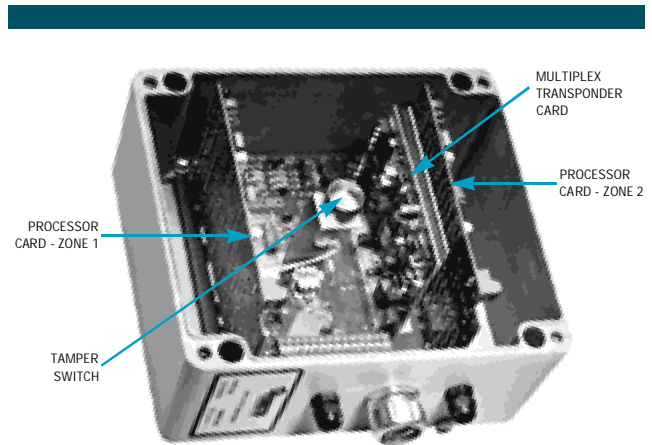
FPS-2-2 PROCESSOR SPECIFICATIONS

Circuit components	100% solid state on plug-in circuit boards
Tamper alarm actuation	Activated by either enclosure switch or transducer cable fault (shorting or cutting)
Internal controls	Sensitivity and count adjustments by means of internal DIP switches
Remote testing	Built-in self-test generator simulates actual intrusion signals
Input power isolation	Built-in DC to DC converter allows isolated signal and power grounds
Wire entry	0.75 inch (1.905 cm) flexible weather proof conduit fitting for power and alarm cables. Gasketed compression bulkhead fitting for transducer cables.
Weather proofing	Cast aluminum enclosure - 0.25 inch (6.25 mm) minimum thickness ▶ All openings gasketed and sealed ▶ Conformal coated circuit boards
Lightning protection	Input/Output lines protected by gas discharge arrestors and/or transorbs (90 volts 5000 amperes)
Operation temperature	-40°C to 70°C (-40°F to 158°F)
Size/Weight	9"W x 8"H x 4 1/2"D (23cm x 20cm x 11cm) / 7 pounds (3.2 kilograms)

FPS-2-2M Signal Processor

- ▶ Fewer Wires, Fewer Mistakes, Lower Cost
- ▶ Built-In Multiplex Transponder
 - Lightning Protected
 - Designed for Harsh Environments
 - Plug-In Board
- ▶ All Alarm Communications On Only Two Wires

The FPS-2-2M consists of a dual zone signal processor connected to two transducer sensor cables. A built-in multiplex transponder capable of bi-directional communication with the PPI exclusive CEnDe multiplex alarm communications system, allows the FPS-2-2M Processor to communicate with both the MX-1000 Annunciation and Control System or the Data Collection Unit connected to another manufacturer's annunciation and control unit. This multiplex communication scheme



provides alarm and tamper indications, as well as initiation of remote testing and selection of the audio assessment information over one pair of wires.

Each tamperproof, solid state signal processor can handle two 1000 foot zones (2000 feet total). Plug-in circuit modules facilitate field repairs by simply exchanging boards.

FPS-2-2M SPECIFICATIONS

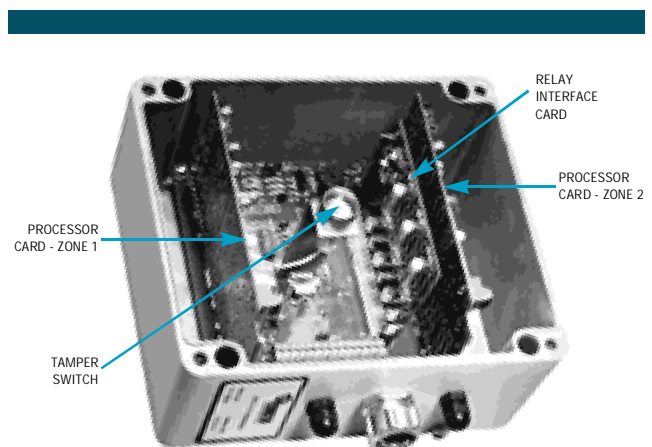
Audio assessment	Audio information from transducer cable is provided and multiplex switched to isolated audio bus
Power requirement	+ 12.0 to 16.0 volts DC, 30 mA, Ripple \pm 0.5 Vpp
	Can be provided by MX-1000 Control Unit, or PPI Uninterruptible Power Supply UPS-PFI

FPS-2-2R Signal Processor

- ▶ Relay Interface
- ▶ Programmable Relays (NO/NC)

The FPS-2-2R consists of a dual zone signal processor connected to two transducer sensor cables. Through relay outputs, this unit allows communication of alarm and tamper indications for interfacing to monitoring equipment by other manufacturers. The FPS-2-2R Processor also provides for remote testing and selection of the audio assessment information.

Each tamperproof, solid state signal processor can handle two 1000 foot zones (2000 feet total). Plug-in circuit modules facilitate field repairs by simply exchanging boards.



FPS-2-2R SPECIFICATIONS

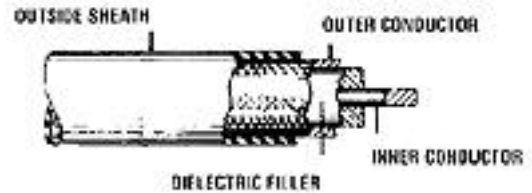
Alarm/Tamper outputs	Relay interface card features: <ul style="list-style-type: none"> ▶ Isolated and supervised relay contacts - plug programmable ▶ Normally open or normally closed contacts with 0.5 ampere rating - plug programmable
Alarm pulse width	Adjustable from 0.5 sec. to 2.5 sec
Audio assessment	Audio information from transducer cable is provided at isolated audio terminals
Power requirement	+ 11.0 to 16.0 volts DC, 30 mA, Ripple \pm 0.5 Vpp
	Can be provided by PPI Uninterruptible Power Supply UPS-PFI

Electret Transducer Sensor Cable

- ▶ **Equal Sensitivity and Easy To Repair**
- ▶ **Linear Sensor - Tailor Sensitivity as Required**
- ▶ **Flexibility - Change Zone Configurations Easily**

The transducer sensor cable is a 1/8 inch coaxial cable specially manufactured with a permanent electrical charge throughout its entire length. The charge is stored within the cable in the dielectric material. The transducer cable is then able to act as a long extended capacitor microphone for which the applied bias voltage is supplied internally.

Any movement in the fence causes a small voltage to appear at the sensor cable output. The transducer sensor cable is equally sensitive over the entire zone length. PPI tests every foot of the cable for sensitivity and provides a chart



recording the results. With this method of testing, you are assured it works prior to adding the labor required to place the cable on the fence.

The outer jacket of the cable is a high density polyethylene rugged material that is resistant to ultraviolet rays. The cable comes in two models, MB and MEX. The MEX model connects directly to the zone processor card with a plug removable terminal block. The MB cable connects to the FPS-2 Military Grade Processor with a TNC connector.

ELECTRET TRANSDUCER SENSOR CABLE SPECIFICATIONS

Type	2 conductor coaxial — Outside diameter - 0.32 cm (0.126 inches)
Life expectancy	10 years — Half Life Sensitivity - 40 years
Repair	Copper shielded transducer service kit (no heat gun or soldering required)
Supervision	Constant impedance monitoring - EOL Kit provided with cable
Attachment	Ultraviolet resistant cable ties furnished with cable

Helisensor Ruggedized Transducer Sensor Cable

- ▶ **Armored Sensor Cable**
- ▶ **Protects from Physical Damage and Vandalism**
- ▶ **Easy To Install**

The Helisensor is the electret transducer sensor cable encased in a 3/8" flexible metallic jacket, designed for use with the PPI FPS series of signal processors.

The Helisensor has been designed to be utilized in demanding areas where vandalism may be a problem or industrial sites where physical damage can occur.

Helisensor is available in 100 meter (328 feet) lengths. These sections can be coupled together for longer zones up to 300 meters each. Special hardware is included for end-of-line terminations and splicing together. Helisensor can be in-



stalled on standard chain link fencing using outdoor plastic cable ties provided or with optional stainless steel ties. A minimum bend radius of less than 3 inches provides for service loops and sensitivity enhancing arrangements.

HELISENSOR SPECIFICATIONS

Outside diameter	0.56 Inches
Connection/Attachment	Conduit fitting on Processor Enclosure / Ultraviolet resistant cable ties furnished with cable
Supervision	Constant impedance monitoring (EOL Condulet furnished with cable)

