

MODEL NO.: SPEC-UW-F-8000 MARINE: UWMesh

UNDER WATER FO BASED PERIMETER INTRUSION DETECTION SYSTEM

❖ **SYSTEM DESCRIPTION:**

The UWMesh is the most effective physical protection designed specifically for under water intrusion detection application above and under the water. The UWMesh can sustain in the both marine/salty as well as fresh water environment. The Concept of the UWMesh is derived from our FiberMesh technology called as F-5000 system. The UWMesh delivers uncompromised frontline intrusion detection for all water based perimeters. The UWMesh offers 99.99% probability of detection plus a virtually zero false alarm rate.



Spectron researched and developed the landmark for the perimeter security solution based on the fiber optic technology of detection principle. The system is designed to withstand all outdoor elements, from extreme freezing cold to deep ocean bottom depth. The UWMesh PIDS can be implemented in two manners which are,

a. **Marine Rigid System:**

Whereby the fiber Optic net is connected to the existing poles or structure e.g. Oil rigs, Jetties, etc. It is well suited for shallow areas.



b. **Marine Floating System:**

Whereby the net is connected to floating buoys. It is well suited for quick implementation in harbors, for surrounding vessels, aquaculture and other offshore deep-water areas. It is nearly impossible for divers, underwater vehicles or swimmers to cut, break, tear, pass jam, tamper or bridge the underwater SEPC-UW-FNET-8000 without being detected.



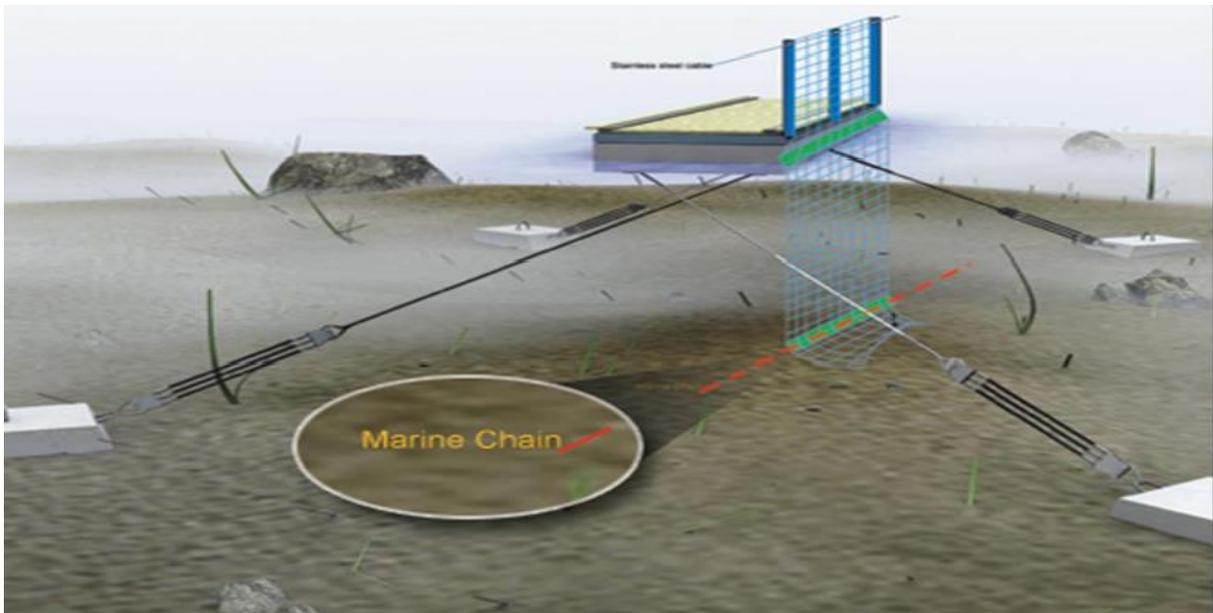
Enhanced detection of threats to your secured perimeter is the primary function of UWMesh. It's an Intelligent fence designed to detect if and where your perimeter is being penetrated.

❖ **AREA OF APPLICATION:**

- Naval Bases/ Air Force Stations.
- Offshore Oil Rigs
- Submarines
- Naval Jetties
- Docks
- Under Water Pipelines and Cables
- Harbor Entrances and Ports
- Onshore Power stations
- Agriculture and beaches

❖ **INSTALLATION STRUCTURE:**

It is impossible for divers, for underwater vehicles or swimmers to climb over, cut, break, tear, pass, jam, tamper or bridge the underwater UWMesh without being detected. The UWMesh features heavy duty, rugged, military grade single tactical fiber optic cable, any attempt to cut through the UWMesh will result in detection.



❖ **SYSTEM FEATURES:**

1. Probability of detection:

99.9% probability of detection plus a virtually zero false alarm rate.

2. Effective and Comprehensive:

Designed for medium to high risk installations, the UWMesh delivers the most reliable and effective front line intrusion detection.

3. No interference:

Immune to all interferences like radio (RF), noise, electromagnetic (EMI). Transparent to radar microwave

4. Durable:

The Fiber Optic cable having life span of more than 25 years and will likely outlast your infrastructure! The UWMesh is unaffected by weather, harsh environments, corrosion or UV radiation; it can be installed in fresh or salt water.

5. Zero False Alarms:

The UWMesh is not affected by shock, vibration, or wind.

6. Versatile:

Can be installed as part of a comprehensive integrated system or stand-alone with dry-contact outputs. It can be installed freestanding or attached to any new or existing barriers.

7. Integrated GUI:

All Spectron Security turn-key systems include our Centralized Monitoring Station to provide immediate and reliable data relating to any intrusion attempt. The CMS is vendor-independent, and may be integrated with any new or existing equipment like CCTV Camera driven by UWMesh, Access Control System, Under Vehicle inspection system etc, and many more.

UVMesh-F8000 Marine

❖ **PRICIPLE OF OPERATION:**

The FiberMesh technology is a uniquely structured fiber-optic system comprised of a fiber-optic weft knitted square or rhombic shape structure. Each FiberMesh zone is comprised of a single weft knitted fiber optic cable. Coded infrared (IR) light is sent through the fiber-optic cable; a cut in the cable, breaking the light path, will trigger an alarm. The FiberMesh is generally comprised of two uniquely structured sections of fiber-optic net, a lower section for cut through protection, and an optional upper outrigger section (FiberMesh).

FiberMesh combines the fiber-optic weft knitted net with an upper outrigger section to protect against cutting and climbing over. It incorporates state of the art mechanical transducers and heavy duty fiber optic cable stretched between the mechanical transducers and inserted into the upper loops of the net. This part is slanted, to prevent the use of ladders. Any attempt to cut through or climb over this upper outrigger will trigger an alarm. The pressure sensitivity on this section can also be adjusted to accommodate a balance between security and environmental conditions.



❖ **SYSTEM SPECIFICATIONS:**

Fiber Optic Cable:

Multi Mode, Single Core Graded Index Fiber, Heavy duty, rugged military Type with KEVLAR reinforced polyurethane jacket withstands UV radiations.



- **Laser Source:**
Class-I Type, 850, 1310, 1550 nm.
- **Photo Diode:**
PIN Photo Diode, 2 to 5 mWatt.
- **Connector Type :**
Multi Mode SC/ST
- **Max Zone Length:** 100 to 120 Meters.

Version A:

Connected to the computerized alarm, monitoring and control system via Fiber-optic or wireless transmission.

Version B:

Stand-alone provides dry contact outputs.

Controller Units (EOC Box) -

Electro-optic Control Box (EOC Box) installed in climate proof Enclosures monitoring up to 2 zones; redundantly routed fiber-optic communication cables connect CPU's to Central Monitoring station controlled by microcomputer with Graphical User Interface that allows wide range of calibration and sensitivity settings:

- **Sensitivity Setting:** Adjustable alarm threshold for various fencing structures and environments.
- **Signal Processing:** Advanced signal processing to significantly decrease false and nuisance alarms.

Enclosure:

Fiberglass polyester NEMA-EEMAC Type 4 or 4X

Current - 28 MA

Input Voltage - 28-65 VDC, 1/2 A or 24-36 VAC, 1/2A Output

A. 8 Control open collectors, 300 MA

B. 8 Relay dry contacts

Operating Temperatures - -30C to +70C (-22F to +158F)

Monitors

2 zones of fiber-optic net, up to 120 m. (500 ft.) each

2 zones of upper fiber-optic cable

4 dry contact sensors for external devices such as IR detectors, temperature sensors, Magnetic Switches, Tamper Switches for EOC Box Protection, Camera control.

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