ADVANCED CENTRIC SYSTEMS B.V

SUBMERGED TARGET DETECTION & INTRUSION PREVENTION SYSTEM

Product brochure

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THE PROBLEM

Critical coastal installations, as well as off-shore installations, constitute prime strategic targets for state and non-state enemies.

Some of the threats these installations face include divers, fast attack vessels and miniature submarines. Accordingly, such installations are normally protected by comprehensive early-warning, surveillance and target detection systems.

Existing security systems for coastal and off-shore installations include surveillance Radars and electro-optical systems for surface surveillance and acoustic/seismic and sonar systems for underwater target detection.

Installation security systems for coastal and off-shore installations will benefit from an underwater intrusion prevention system capable of detecting submerged and surface targets attempting to approach the protected installation.

THE SOLUTION

ACS presents STDIPS – Submerged Target Detection & Intrusion Prevention System.

STDIPS consists of an array of sensitive magnetic sensors deployed along a perimeter specified by the user and capable of detecting the passage of even the smallest mass of ferromagnetic material above or under the sensor array. Made up of 10 km long segments, the STDIPS sensor array may be suspended from buoys or buried in the seabed. It connects to a C4I system through interface units and communication links and provides the user with a reliable and detailed indication of the target location, heading and velocity.

STDIPS detects both surface and underwater targets. It can handle multiple simultaneous intrusions along single or multiple sensor array segments and classify the targets according to ferromagnetic content, velocity & other parameters.

A C4I system remotely monitors the sensor array through interface units and communication links. The sensor array is unaffected by electronic, optical or acoustic interference.

STDIPS has a low life cycle cost and a high MTBF (15 years). It features a Built-in Test (BIT) mechanism and requires very little maintenance.

STDIPS combines a low false alarm rate and high detection reliability. Sensor redundancy prevents vulnerability in the event of sensor failure.

The sensor array may be deployed using standard underwater communication cable laying equipment. To install the STDIPS array, the following methodology should be implemented:

- Conduct a bathymetric survey
- Perform a seabed substrata analysis

- Carry out the required trenching operations
- Install the sensor array
- Conceal the sensor array buried in the seabed

STDIPS will make a substantial contribution to any security system for coastal or off-shore installations owing to its ability to detect both surface and underwater targets, its excellent detection capability, high reliability, simple installation and cost-effective operation.

KEY FEATURES & MAJOR ADVANTAGES

Key Features & Major Advantages

- Submerged detection system for securing coastal and off-shore installations
- Magnetic sensor array detects small surface and submerged targets at considerable distances
- Capable of detecting multiple simultaneous intrusions along single or multiple sensor array segments
- Reliable, detailed indication of target location, heading and velocity
- Target classification according to ferromagnetic content, velocity & other parameters
- Sensor array may be suspended from buoys or concealed in the seabed
- Remote monitoring through interface units and communication links
- All weather day/night operation
- Unaffected by electronic, optical or acoustic interference
- Low life cycle cost
- High MTBF (15 years)
- Low maintenance / BIT
- Sensor array may be deployed using standard underwater communication cable laying equipment
- Low false alarm rate – high detection reliability
- Sensor redundancy prevents system vulnerability in the event of sensor failure
- Specifications
    - Installation depth: up to 100 m
    - Array segment length: 10 km
    - Number of segments: unlimited