TARGET DETECTION SYSTEM
for naval mines
TARGET DETECTION DEVICE

The Target Detection System is the perfect solution for new sea mines or to support the modernization of old mine systems with intelligence and upgraded performance. The versatile system has a modular structure and is easily customized to meet the customer requirements, either in new mine design or in modernization of old mines. It is a reliable system with long lifetime and low maintenance costs.

Target detection has an innovated, user programmable system that enables operators to develop algorithms for variable operational situations. The system includes a complete software tool set for algorithm development, testing and signal collection. The system’s technical readiness level is nine (TRL9).

THE COMPLETE SYSTEM INCLUDES THE FOLLOWING COMPONENTS:
- TARGET DETECTION DEVICE
- PROGRAMMING DEVICE
- DATA LOGGER
- ALGORITHM DEVELOPMENT AND SIMULATION ENVIRONMENT
- TESTING AND MAINTENANCE SYSTEM
- LEAK TESTER
- LIFE CYCLE SERVICES
- TRAINING

The following sensors are available for the target detection device:
- Acoustic
- Magnetic
- Pressure (static, dynamic, differential)
- Inertial
- UEP
- Photonic

The target detection device can be programmed with wakup-criteria, based on an elapsed time or an algorithm as well as many programmable deactivation options. The TDD can be activated/deactivated after any specific time in the water.

- Operational depth 10 - 200 m as a standard;
- extended depths optional
- Lifetime in water up to several years
- 25-year lifetime with economical maintenance costs
- Easy to install, safe to use and store

PROGRAMMING DEVICE

The programming device is a handheld device for setting final parameters online to select and adjust algorithms and functionalities. With the programming device, the user can also perform built-in testing (BIT) of a target detection device. Many different versions are available and all are designed for use in rough environments.

DATA LOGGER

The data logger is an additional module for the target detection device, designed to be used for independent signature detection. It captures acoustic, magnetic and pressure sensor data and also detects mine movements. The logger add-on is installed inside the TDD. The data logger can be programmed to capture desired signals at a required timeframe or the logging recording can be triggered based on algorithm states.

The data recorded with the data logger can also be imported into the algorithm development environment and the signals can be used in algorithm development in an office environment.

ALGORITHM DEVELOPMENT AND SIMULATION ENVIRONMENT

Algorithm development is easy with the development environment. The algorithm development and simulation environment (ADSE) includes software tools needed to create, test and simulate mine algorithms, in the field or in the office. With a remote connection to a target detection device, the user is able to develop algorithms even in a field environment, using real target detection devices on the seabed.

The remote connection is established either via a data cable or via a RF link. The ADSE also enables the user to record and monitor target signals in real time as well as to monitor algorithm functionalities and sensor data. Loading algorithms and firmware into the target detection device is also made easy; just by pressing of a button, the user is able to load new firmware or an algorithm to a TDD, via a datalink over several kilometers.

TRAINING

Many different training and exercise equipment are available. These include a training version of a target detection device and a training system for clearance divers.

LIFECYCLE SERVICES

- Product support
- Repair
- Spare part service
- Testing system calibration
- MLU services
- EDL services
A turnkey service package can be provided for modernisation of old sea mines.

QUALITY

- ISO 14001:2015 and ISO 17025
- Facility Security Clearance (FSC), EU SECRET
- Personal Security Clearances
- ESA PSS and ECSS standards
- Safety Integrity Level (SIL) and ATEX compliance
- Accredited full-compliance testing laboratory
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We are experts in embedded software solutions, FPGA designs, electronics, mechanics, simulations, and RF, microwave and millimeter wave engineering. Our service portfolio covers the turnkey solutions: from R&T, product development and engineering, testing and validation, manufacturing to product lifecycle management.

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