SET 200-P SAES

Underwater Electric Potential Sensor

Electric fields are gaining greater interest in Anti-Submarine Warfare (ASW) and Mine Warfare (MW) operations as every ship generates a measurable Underwater Electric Potential (UEP) in the conductive sea water environment that can be detected at a range comparative to any other ship signature.

SAES has designed and developed the SET-200/P to measure the Underwater Electric Field at sea. SAES UEP sensor is a precise, ultra-low noise device that enables measurement of low-level electric fields.

Electric Signature Measurement

UEP sensors, arranged in arrays, enables to fully characterize the electric field signature not only of a ship passing over the sensor array but also by any other objet in its proximity.

Mine Warfare

The detection ranges obtained on targets of interest with the SAES UEP sensors, make them optimal to be used as a mine sensor as in the case of SAES naval mines MINEA.

Main Features

- Underwater electric field measurement.
- Monoaxial / triaxial, assembled in one case or separated.
- Suitable for both DC and AC electric fields.
- Ultra low noise electrodes.
- High sensitivity electronics.
- Large bandwidth.
- Modular and lightweight.
- Integrated with other influence sensors, on request.
- Design and construction under the most strict standards
- making the UEP an extremely reliable product.
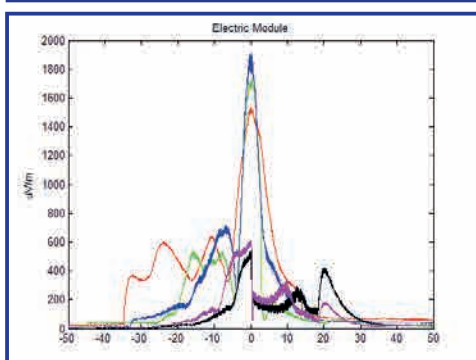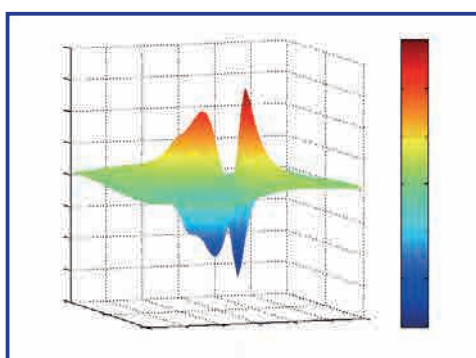
Technical Characteristics

- Measurement axis: 3 orthogonal axis, with galvanic isolation.
- Frequency range in two bands:
    - Low band: from 0,005 Hz to 10 Hz
    - High band: from 0,5 Hz to 1 KHz
- Amplitude range (4 scales in both bands):
    - Full scale amplitude: from 10 µV/m to 10 mV/m
    - Noise level (f> 1 Hz): 1 nV/m/µHz
- The frequency and amplitude ranges can be tailored to customer requirements.

SWAMEG - Sea Water Magneto-electric Generator

The magneto-electric signature generator has been specifically designed for magnetic-electric calibration of signature range facilities of ships.

This device generates a magnetic and electric signature with known levels, allowing the calibration of the sensors of a measurement ranges and the faults detection, being a useful tool for the maintenance of these facilities.

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