Electric Sensor Requirement Specifications

UEP Sensors Probe Specifications		
S.no	**Specifications**	**Value**
1	Measurement Range	± 10 mV/m
2	Bandwidth	DC to 3 KHz
3	Measurement Axes	3 Orthogonal (X,Y,Z)
4	Sensitivity	1 V / (mV/m)
5	Drift	Constant for 8 hr.
6	Linearity	Linear output over the frequency Bandwidth
7	Quantity	06
8	Operating Depth	100m

Magnetic Sensor Requirement Specifications

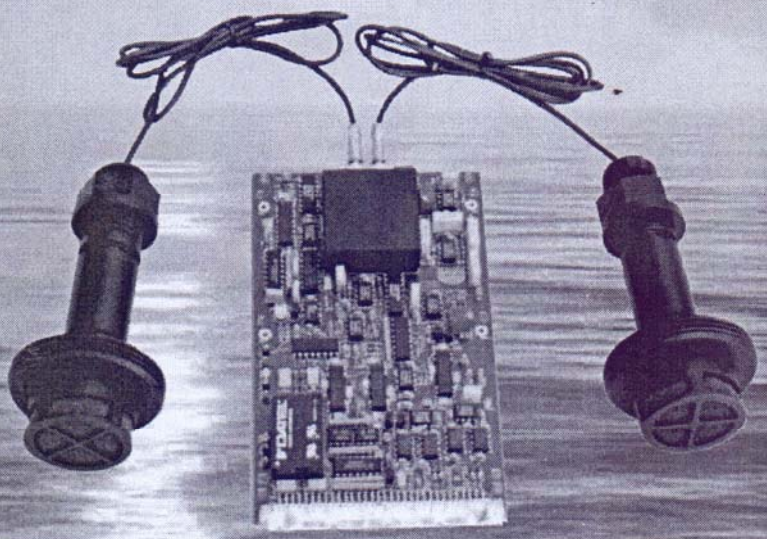
Magnetic Sensors Specifications		
S.no	**Specifications**	**Value**
1	Measurement Range	± 1000 μT
2	Bandwidth	DC to 3 KHz
3	Resolution	< 5nT (Static Mag) & 0.1nT (Alternating Mag)
4	Measurement Axes	3 Orthogonal (X,Y,Z)
5	Sensitivity	0.1V/μT
6	Noise	Less than resolution
7	Operating Temperature	0 – 50 ^{0}C
8	Operating Depth	100m
9	Quantity	06 (under water version) & 03 (above water version)

ELECTRÓNICA SUBMARINA

SAES

UEP SENSOR

UNDERWATER ELECTRIC POTENTIAL SENSOR



SET - 200/P. UEP 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.

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UEP SENSOR

UNDERWATER ELECTRIC POTENTIAL SENSOR

ELECTRÓNICA SUBMARINA

SAES

ELECTRIC SIGNATURE MEASUREMENT

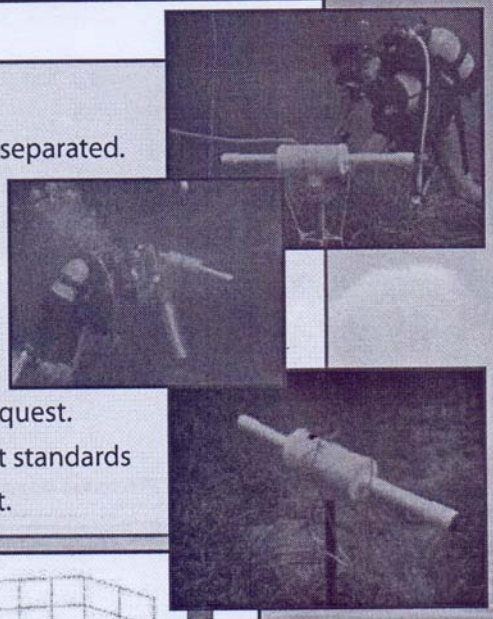
UEP sensors, arranged in arrays, enables to fully characterize the electric field signature not only of a ship passing over the sensor array but also by any other objet in its proximity.

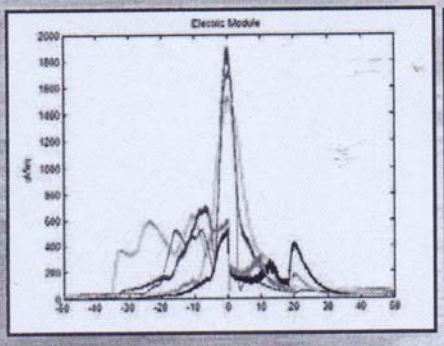
MINE WARFARE

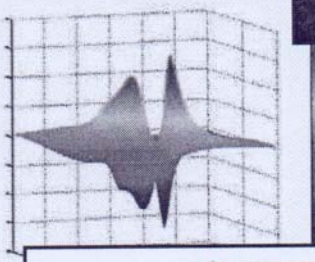
The detection ranges obtained on targets of interest with the **SAES UEP sensors**, make them optimal to be used as a mine sensor as in the case of SAES naval mines MINEA.

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.

www.electronica-submarina.com

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