The TRIAXYS™ Mini Directional Wave Buoy is a highly portable buoy designed for short-term wave measurement deployments.

**FEATURES & BENEFITS**

- Easy to deploy
- Spin and impact resistant
- 5 year rechargeable battery life
- Supports any telemetry
- >5 years of data storage capacity
- Continuous wave sampling
**TRIAXYS™ Mini Directional Wave Buoy**

The TRIAXYS™ Mini Directional Wave Buoy is an easy to deploy, rugged and economical instrument for the measurement of directional waves. The stainless steel hull has a high strength-to-weight ratio and is powder-coated for additional corrosion resistance. The buoy is relatively small (0.6 m diameter) and lightweight (60 kg), allowing for easy deployment by two people from almost any vessel.

The TRIAXYS™ Mini is available with two power supply options. Clients can choose one of the following: 1) One rechargeable 100 amp hour 12v lead acid battery, or 2) 210 D-cell Alkaline battery pack.

The heart of the TRIAXYS™ Mini Wave Buoy was developed from the proven AXYS WatchMan500™, which integrates sensor systems and provides onboard data processing, data logging, telemetry and diagnostic/set-up routines. The TRIAXYS™ Next Wave II sensor and telemetry module contains the telemetry system (e.g., VHF transmitter), data logging system, processing unit and the sensor unit, which is comprised of 3 accelerometers, 3 rate gyros and a Fluxgate compass. The processing unit samples and analyzes the data and controls all the TRIAXYS™ Mini’s systems.

TRIAXYS™ directional wave processing software uses an iterative algorithm based on the Fast Fourier Transform (FFT) analysis to solve the full non-linear equations of buoy motion in six degrees of freedom. The six degrees of freedom are defined by the measured accelerometer (3) and rotational rate gyro (3) signals. Roll, pitch and yaw angles are measured as well as accelerations, displacements and velocities from which heave, surge and sway are determined.

The use of surge and sway velocities instead of roll and pitch angles provides a more accurate measure of wave kinematics that defines the direction of wave propagation. The abridged data can be either contained in the internal data logger or transmitted by the previously incorporated telemetry communication to either a land or ship-based transceiver.

For operational and safety purposes, the TRIAXYS™ Mini is also capable of monitoring its moored location through the use of the onboard GPS receiver coupled with the AXYS buoy mooring WatchCircle™ Alarm.

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**Specifications**

- **PHYSICAL DESCRIPTION**
  - Diameter: 0.72m outside bumper
  - Weight (including batteries): 70 kg
  - Obstruction Light: Amber LED. Programmable with three miles visibility.

- **MATERIALS**
  - Hull: Stainless steel 316
  - Lifting Handles: Welded stainless steel

- **POWER SYSTEM**
  - Batteries: Lead acid rechargeable or Alkaline D-cell pack
  - External On/Off Switch: Located on communication cable.

- **TELEMETRY OPTIONS**
  - VHF/UHF
  - IsatData Pro
  - INMARSAT M2M
  - IRIDIUM
  - CDMA, GPRS, HSPA, LTE (cellular)

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**Resolution/Accuracy**

<table>
<thead>
<tr>
<th></th>
<th>RANGE</th>
<th>RESOLUTION</th>
<th>ACCURACY</th>
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</thead>
<tbody>
<tr>
<td>HEAVE</td>
<td>±20 m</td>
<td>0.01 m</td>
<td>Better than 1%</td>
</tr>
<tr>
<td>PERIOD</td>
<td>1.5 to 33 sec</td>
<td>0.1 sec</td>
<td>Better than 1%</td>
</tr>
<tr>
<td>DIRECTION</td>
<td>0 to 360°</td>
<td>1°</td>
<td>3°</td>
</tr>
<tr>
<td>WATER TEMP.</td>
<td>-5 to +50°C</td>
<td>0.1°C</td>
<td>±0.5°C</td>
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