AN/ASQ-233A Digital Magnetic Anomaly Detecting Set

Overview

The AN/ASQ-233A Digital Magnetic Anomaly Detection (DMAD) Set is an advanced laser-pumped Helium magnetometer system designed to detect sub-surface magnetic anomalies caused by submarines. The AN/ASQ-233A is suitable for fixed wing or helicopter applications.

The DMAD system consists of two Weapon Replaceable Assemblies (WRAs) (Replaces 16 AN/ASQ-81 associated WRAs):


Control/Display – Controls the DMAD Modes and Sub-Functions. The Control/Display receives raw and compensated magnetometer data, processes it for detections of magnetic anomalies, and formats it for display, storage, and post-mission data extraction. This unit processes and displays multiple band-pass signals. This unit also processes the magnetometer data for display of Extremely Low Frequency signals.

Features

• High Sensitivity Laser Pumped Helium Sensor
• Proven High Reliability
• No Mechanical Servos
• Integrated Vector Magnetometer
• Integrated Accelerometer
• Automatic Aircraft Motion Magnetic Compensation
• Automatic Detection With Range & Confidence Estimate
• Detection Tone to Operator
• Digital Single, Multi-Band, Multi-scale Display
• Multiple Frequency Range Processing and Display
• Integrated Digital Data Recording, Playback, and Download
• Built-In-Test: Power-Up, Periodic, Continuous, & Operator Initiated

Magnetometer Variants

DMAD variants include compact form factors suitable for installation into Helicopters, UAVs, UUVs for sea-buried mine detection, underwater sensor arrays, and space craft for Earth and planetary magnetic field studies (Cassini Saturn Mission).

Characteristics

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>H</th>
<th>W</th>
<th>Depth</th>
<th>Diam.</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>-</td>
<td>-</td>
<td>60”</td>
<td>7.125”</td>
<td>30-lbs.</td>
</tr>
<tr>
<td>Control/Display</td>
<td>9.75”</td>
<td>5.75”</td>
<td>8.75”</td>
<td>-</td>
<td>11.5-lbs.</td>
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Interfaces

Sensor WRA: Ethernet 10/100

Control/Display WRA:
Ethernet 10/100 & 10/100/1000, USB
Optional Interfaces: ARINC-429, MIL-STD-1553

Input Power Requirements

Sensor 28 VDC, 35 Watts Max.
Control/Display 28 VDC, 100 Watts Max.

Company Overview

Founded in 1982, Polatomic is a high technology company that develops and manufactures advanced magnetic sensors and systems for surveillance and measurement of magnetic fields on land, sea, and in space.

Polatomic’s innovations in laser-pumped magnetometer technology has resulted in world leadership in magnetic systems for airborne Anti-Submarine Warfare, Buried Sea-Mine Detection, Undersea Surveillance, and Investigation of planetary magnetism.

Polatomic’s customers include: Office of Naval Research, DARPA, NAVSEA, NAVAIR, NASA, Jet Propulsion Laboratories, and National Science Foundation.