The Kongsberg Mesotech M3 Sonar® is a multibeam system with both imaging and profiling capabilities. The M3 Sonar® provides high-resolution and easy to interpret images by combining the rapid refresh rate of a conventional multibeam sonar with image quality comparable to a single-beam sonar.

Detection of small objects out to 150 meters combined with a 120° to 140° field of view allows the operator to see the complete underwater picture in real-time.

APPLICATIONS

- Marine Engineering
- Shallow Water Bathymetric Surveying
- Site Inspection
- Environmental Monitoring
- Site Clearance
- Defense and Security

M3 SOFTWARE

The M3 Software was developed specifically for the M3 Sonar® to manage communications with the head and operate all beam-forming and imaging processing.

Four Pre-Defined Operating Modes:

1. Imaging: long range navigation with high speed update rate
2. Enhanced Image Quality (eIQ): greatest image quality (0.95° angular resolution) from a short range with a slower update
3. ROV Navigation: selects eIQ or imaging based on range
4. Profiling: narrow 3° beam used to generate a 3D point cloud

VDSL TELEMETRY

- Alternative to Ethernet which is limited to <100m
- Longer cable connection to sonar head (up to 1000m)
- Includes sync and 1PPS
**TECHNICAL SPECIFICATION**

**Sonar Specifications**
- Range: 0.2m to 150m
- Range Resolution: 1cm
- Frequency: 500 kHz
- Pulse Types: CW, CHIRP
- Modes: Variable Vertical Beamwidth, eIQ

**Imaging Mode**
- Horizontal Field of View: 120°
- Vertical Beamwidth: 3°, 7°, 15°, 30°
- Angular Resolution: 1.6°
- Update Rate: up to 40 Hz

**eIQ Imaging Mode**
- Horizontal Field of View: 140°
- Vertical Beamwidth: 30°
- Angular Resolution: 0.95°
- Update Rate: up to 10 Hz

**Profile Imaging Mode**
- Horizontal Field of View: 120°
- Vertical Beamwidth: 3°
- Number of Beams: 256
- Update Rate: up to 40 Hz

**Environmental Specifications**

**Temperature**
- Operation: -2°C to +38°C
- Storage: -40°C to +55°C

**Shock and Vibration**
- Shock Qualified: +/-50gs, 3 Axes, 6 shocks per axis
- Vibration Qualified: 4g, 30Hz 3 Axes, 2 hours per axis.  No resonance below 800Hz

**Interface Specifications**
- Operating System: Windows 7 Professional SP1 or Windows XP Professional SP3
- Communication: Ethernet, VDSL
- Data Rates: Ethernet: 10/100 Mbps, VDSL: up to 100 Mbps
- Input Voltage: 12 to 36 VDC
- Input Power: 22W (avg.), peak power < 60W, mode dependant
- Synchronization: PRI Sync and 1PPS

**Mechanical Specifications**
- Dimensions: (see diagram below)
- Weight in Air: 4.7kg
- Weight in Water: 1.8kg
- Depth Rating: 500m
- Connector Type: SEA CON®
- Connector Model: MINK-10-FCRL (Ethernet/Power), MIND-4-FCR (Sync/PPS)
- Materials: Hard Anodized Aluminum, Stainless Steel 316, Elastomeric Polyurethane

**DIMENSION ARE IN INCHES**

Specifications subject to change without any further notice.

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