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

**VDSL TELEMETRY**

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

**THE MULTIMODE MULTIBEAM FOR MULTIPLE APPLICATIONS**

- Imaging and profiling capabilities
- GeoTIFF output for image mosaics
- Multiple true-zoom windows
- CHIRP and Doppler modes of operations
- User-friendly interface
- Significant time savings
- Integrated tilt and pan/tilt control

**INSTALLATION OPTIONS**

- Pole mount on a surface vessel
- Suitable for a wide range of vehicles from large work-class ROVs to small observation class ROVs
- Tripod mounted

**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
## 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

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

### 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:** 8.5kg
- **Weight in Water:** 5.3kg
- **Depth Rating:** 4000m
- **Connector Type:** SEA CON®
- **Connector Model:**
  - MINK-10-FCRL (Ethernet/Power)
  - MIND-4-FCR (Sync/PPS)
- **Materials:**
  - Titanium, Stainless Steel 316,
  - Elastomeric Polyurethane

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

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*Specifications subject to change without any further notice.*

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**DIMENSION ARE IN INCHES**

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