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

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:** Imaging, eIQ Imaging and Profiling

#### 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

### Interface Specifications
- **Communication:** Ethernet
- **Data Rates:** 10/100/1000 Mbps
- **Input Voltage:** 12 to 36 VDC
- **Input Power:** 22W (avg.), peak power < 60W, mode dependant
- **Operating System:** Windows 7 Professional SP1 or Windows XP Professional SP3

### 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**

### Mechanical Specifications
- **Dimensions:** (see diagram below)
- **Weight in Air:** 8.5 kg
- **Weight in Water:** 5.3 kg
- **Depth Rating:** 4000 m
- **Connector Type:** SEA CON®
- **Connector Model:** MINK-10-FCRL, MIND-4-FCR
- **Materials:** Titanium, Stainless Steel 316, Elastomeric Polyurethane

*Specifications subject to change without any further notice.*