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:** 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

**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 10 Professional; Windows 7 Professional

**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:** 4.6kg
- **Weight in Water:** 1.7kg
- **Depth Rating:** 500m
- **Connector Type:** Subconn
- **Connector Model:** DBH13MSS
- **Materials:** Hard Anodized Aluminum, Stainless Steel 316, Elastomeric Polyurethane

Specifications subject to change without any further notice.

www.kongsbergmesotech.com
E-mail: km.sales.vancouver@kongsberg.com
Telephone: +1 604 464 8144
Toll-free: +1 888 464 1598
# Notes:

1. All parts and processes used in this assembly must comply with the RoHS directive.
2. Cable minimum bend radius = 5".
3. The last 4 digits of the part number states the length of the cable in feet.
4. Refer to the table for tolerances.
5. Maximum 1/2" untwisted for all TP.
6. Print part number using 1/8" black text on white, then install clear heatshrink over.

# Table: Subconn DIL13F Whips

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# Drawing Information

- **DWG NO.:** 436-03141000
- **SHT:** 1
- **ISS:** 1.1
- **NSCM NO.:** B 10965
- **TYPE:** MD
- **SCALE:** NTS
- **W.O. NO.:** SHEET 1 OF 1

**Proprietary Notice:** This document contains information which is sole property of Kongsberg Mesotech Ltd. and is received in confidence. Its contents may not be disclosed or reproduced in any way without written consent of Kongsberg Mesotech Ltd. Do not scale drawing.
NOTES:
1. ALL PARTS AND PROCESSES USED IN THIS ASSEMBLY MUST COMPLY WITH THE ROHS DIRECTIVE.
2. CABLE MINIMUM BEND RADIUS = 5".
3. MAXIMUM 1/2" UNTWISTED.
4. PRINT PART NUMBER USING 1/8" BLACK TEXT ON WHITE, THEN INSTALL CLEAR HEATSHRINK OVER.

PART # = 436-03150000-XXXX
XXXX = LENGTH IN FEET (± 1/4')

Kongsberg Mesotech Ltd.
M3 SONAR CABLE POWER/TELEMETRY WHIP

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DO NOT SCALE DRAWING
### SUBCONN DIL13F TO M3 BOX CONNECTION

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<tr>
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### NOTES:
ALL PARTS AND PROCESSES USED ON THIS ASSEMBLY MUST COMPLY WITH THE RoHS DIRECTIVE.

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**Kongsberg Mesotech Ltd.**

**DESCRIPTION:**
ASSEMBLY PINOUT DIL13F TO POWER/ETHERNET BREAKOUT BOX

**DATE:**
2017-01-10

**REVISIONS:**

**ISSUE:**
1

**SCALE:**
NTS

**W.O. NO.:**

**SHEET:**
1 OF 1
NOTES:
1. ALL PARTS AND PROCESSES USED IN THIS ASSEMBLY MUST COMPLY WITH THE RoHS DIRECTIVE.
2. REFER TO THE TABLE FOR TOLERANCES
3. STRIP CABLE BY 3.5" (+1" - 0") MAXIMUM 0.5" UNTWISTED.
4. INSTALL CABLE GLAND.
5. INSTALL RJ45 JACK
6. INSTALL RJ45 COUPLER
   a. REMOVE JACK PLUG FROM RJ45 COUPLER
   b. INSTALL OUTER PIECE AND HAND-TIGHTEN WITH 24MM SOCKET (COVER BEND ON TOP).
   c. TEST WITH ETHERNET TESTER (FLUKE CABLE IQ TESTER OR EQUIVALENT).
7. SPLICE CABLE BY 3.5" (+1" - 0") HEATSHRINK OVERLAPS THE WIRE INSULATION ON BOTH ENDS OF THE SPLICED AREA BY A MINIMUM OF 1 WIRE GROUP (LARGEST GROUP) DIAMETER.
8. CRIMP FERRULES.
9. INSTALL POWER JACK CONNECTOR:
   a. INSTALL CONNECTOR, WASHER, THEN THE NUT.
   b. INSTALL PINS WITH SOLDERED WIRES TO THE CONNECTOR.
   c. INSTALL CAP (SUPPLIED WITH CONNECTOR).
10. INSTALL A STICKER WITH CABLE P/N ON ENCLOSURE LID.
    LABEL SIZE 45mm x 10mm, BROTHER LABEL MAKER SETTINGS;
    FONT: HEL, WIDTH 1x, SIZE: 12PT, STYLE: BOLD
11. REMOVE LABEL THAT IS ON THE CABLE WHIP.