M3 SONAR® - 4000M

P/N 922-20020000
P/N 922-20060000 (WITH SYNC)
P/N 922-20110000 (WITH VDSL)
P/N 922-20140000 (WITH SYNC + VDSL)
Kongberg Mesotech Ltd. warrants that its products are free from defective materials and/or workmanship for a period of 24 months from the date of receipt of goods by the end user, or 30 months from date of product shipment from the manufacturing facility (whichever occurs first). Kongberg Mesotech Ltd. will - at no charge - repair or replace (at its option) any part(s) determined to be defective of workmanship or materials, provided the warranty claim is made to either the manufacturing facility or its authorized repair centres within the warranty period.

The purchaser is responsible for the examination of the product upon receipt. The purchaser is required to report any irregularity to received Kongberg Mesotech Ltd. goods to either the manufacturer, its Sister companies or its Agents, within 15 days of receipt of goods. Proof of date received may be required.

The warranty is void if warranty labels are broken; Kongberg Mesotech Ltd. will not warrant any product which is physically damaged, abused, altered, subjected to accident or negligence or misuse, or is incorrectly installed or used by the purchaser - or purchaser’s representative.

Consumable items (including lamps, fuses, and worn O rings or shaft-seals) are excluded by the warranty.

All Product/Equipment being returned for warranty, repair/replacement shall have freight costs “prepaid”. All warranty Product/Equipment being returned to the customer will be freight charges “prepaid” by Kongberg Mesotech Ltd.

NOTE: Shipping method and carrier for warranty returned items will be at the discretion of Kongberg Mesotech Ltd. A Kongberg Mesotech Ltd. Warranty Claim form must be completed and submitted to KML Service Department prior to warranty claim acceptance.

Kongberg Mesotech Ltd. cannot warrant that its products are suitable for any particular or intended purpose. No other warranty is expressed or implied; Kongberg Mesotech Ltd. accepts no liability on consequential damages – these include, but are not limited to: loss of profit, property damage and personal injury.

The maximum liability shall not, in any case, exceed the price of the product claimed to be defective.
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

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

MODELS WITH VDSL TELEMETRY

- Alternative to Ethernet which is limited to <100m
- Longer cable connection to sonar head (up to 1000m)

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 beamforming 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
<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>COMMUNICATIONS</th>
<th>DATA RATES</th>
<th>SYNCHRONIZATION</th>
<th>CONNECTOR MODELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>922-2002000</td>
<td>ETHERNET</td>
<td>10/100/1000 MBPS</td>
<td>NONE</td>
<td>MINK-10-FCRL</td>
</tr>
<tr>
<td>922-2006000</td>
<td>ETHERNET</td>
<td>10/100/1000 MBPS</td>
<td>PRI SYNC</td>
<td>MINK-10-FCRL, MIND-4-FCR</td>
</tr>
<tr>
<td>922-2011000</td>
<td>ETHERNET &amp; VDSL</td>
<td>10/100 MBPS</td>
<td>NONE</td>
<td>MINK-10-FCRL</td>
</tr>
<tr>
<td>922-2014000</td>
<td>ETHERNET &amp; VDSL</td>
<td>10/100 MBPS</td>
<td>PRI SYNC</td>
<td>MINK-10-FCRL, MIND-4-FCR</td>
</tr>
</tbody>
</table>

### 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, or Ethernet and VDSL
- **Data Rates**: 10/100/1000 Mbps (Ethernet only), 10/100 Mbps (Ethernet and VDSL)
- **Input Voltage**: 12 to 36 VDC
- **Input Power**: 22W (avg.), peak power < 60W, mode dependant
- **Operating System**: Windows® 10 Professional, Windows® 7 Professional
- **Synchronization**: PRI Sync (for models with sync)

### 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 diagrams below)
- **Weight in Air**: 8.4 kg
- **Weight in Water**: 5.2 kg
- **Depth Rating**: 4000 m
- **Connector Type**: SEA CON®
- **Connector Model**: MINK-10-FCRL, MIND-4-FCR (for models with sync)
- **Materials**: Titanium, Stainless Steel 316, Elastomeric Polyurethane
<table>
<thead>
<tr>
<th>DRAWING NUMBER</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>922-20021001</td>
<td>922-20020000</td>
<td>M3 Sonar Head 4000m, SEA CON – Outline Drawing</td>
</tr>
<tr>
<td>922-20061001</td>
<td>922-20060000</td>
<td>M3 Sonar Head 4000m with synchronization, SEA CON – Outline Drawing</td>
</tr>
<tr>
<td>922-20141001</td>
<td>922-20140000</td>
<td>M3 Sonar Head 4000m with VDSL and sync, SEA CON – Outline Drawing</td>
</tr>
<tr>
<td>421-21821000</td>
<td>421-21820000</td>
<td>M3 Sonar Head, Power and Telemetry Connector SEA CON – Drawing</td>
</tr>
<tr>
<td>421-21981000</td>
<td>421-21980000</td>
<td>M3 Sonar Head, Power and Telemetry Connector SEANET – Drawing</td>
</tr>
<tr>
<td>436-02381000</td>
<td>436-02380000</td>
<td>M3 Cable Whip, Ethernet / Power – Drawing</td>
</tr>
<tr>
<td>436-02391000</td>
<td>436-02390000-0050</td>
<td>M3 Cable Assembly, Ethernet / Power – Drawing</td>
</tr>
<tr>
<td>436-02811000</td>
<td>436-02810000-0004</td>
<td>M3 Cable, Synchronization, SEA CON MIND-4-CCP – Drawing</td>
</tr>
<tr>
<td>436-02831000</td>
<td>436-02830000-0020</td>
<td>M3 Cable Whip, Synchronization, SEA CON MIND-4-CCP – Drawing</td>
</tr>
<tr>
<td>436-03131000</td>
<td>436-03130000-0015</td>
<td>M3 Cable Assembly, VDSL / Power – Drawing</td>
</tr>
<tr>
<td>436-00001210</td>
<td>436-03350000</td>
<td>M3 Cable Connector, MINK-10-CCPL to P/E Breakout Box – Assembly Pinout</td>
</tr>
<tr>
<td>436-00001302</td>
<td>436-03350000</td>
<td>M3 Cable Connector, M3 Power/Ethernet Breakout Box – Assembly Drawing</td>
</tr>
<tr>
<td>422-44051000</td>
<td>422-44050000</td>
<td>Bracket, M3 Sonar Head to Rotator (OE10-102 / OE10-013) – Assembly Drawing</td>
</tr>
<tr>
<td>422-44061000</td>
<td>422-44060000</td>
<td>Bracket, Pole Mount to Rotator (OE10-103) – Assembly Drawing</td>
</tr>
<tr>
<td>422-44061001</td>
<td>422-44060000</td>
<td>M3 Sonar Head, SEA CON, with Rotator (OE10-103) – Outline Drawing</td>
</tr>
<tr>
<td>422-44071000</td>
<td>422-44070000</td>
<td>Adapter Plate, Pole Mount to Rotator (OE10-102) – Assembly Drawing</td>
</tr>
<tr>
<td>422-44071001</td>
<td>422-44070000</td>
<td>M3 Sonar Head with Rotator (OE10-102) – Outline Drawing</td>
</tr>
<tr>
<td>422-44121000</td>
<td>422-44120000</td>
<td>Bracket, M3 Sonar Head to Pole Mount – Assembly Drawing</td>
</tr>
<tr>
<td>422-44121001</td>
<td>422-44120000</td>
<td>Bracket, M3 Sonar Head to Pole Mount – Outline Drawing</td>
</tr>
<tr>
<td>422-44131000</td>
<td>422-44130000</td>
<td>Bracket, M3 Sonar Head to Pole Mount, Downlooking – Assembly Drawing</td>
</tr>
<tr>
<td>422-44131001</td>
<td>422-44130000</td>
<td>Bracket, M3 Sonar Head to Pole Mount, Downlooking – Outline Drawing</td>
</tr>
<tr>
<td>422-44171000</td>
<td>422-44170000</td>
<td>Adapter Plate, M3 Sonar and Rotator (OE10-102) to Pole Mount – Assembly Dwg</td>
</tr>
<tr>
<td>422-44171001</td>
<td>422-44170000</td>
<td>Adapter Plate, M3 Sonar and Rotator (OE10-102) to Pole Mount – Outline Drawing</td>
</tr>
</tbody>
</table>
NOTES:

1. MAXIMUM OPERATING DEPTH: 4000m / 13123fsw.
2. WEIGHT IN AIR: 8.4kg [18.5 lbs].
3. WEIGHT IN SEA WATER: 5.2kg [11.4 lbs].
4. STANDARD CONNECTOR: SEACON MINK-10-FCRL (2 #14, 8 #20).
5. WETTED MATERIALS: TITANIUM (CP AND ALLOY), 300 SERIES STAINLESS STEEL, ELASTOMERIC POLYURETHANE.
6. DIMENSIONS ARE NOMINAL, IN INCHES. DO NOT SCALE.

MOUNTING HOLES
4X 1/4-20 UNC -2B 0.40
EQUALY SPACED AT ∅ 5.40 PCD

CONNECTOR ORIENTATION KEYING

DETAIL A SCALE 1:1

Kongsberg Mesotech Ltd.

OUTLINE AND INSTALLATION DRAWING
M3 SONAR
4000m VERSION

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. CONFIDENTIAL. DO NOT COPY.
NOTES:
1. MAXIMUM OPERATING DEPTH : 4000 msw / 13123 fsw.
2. WEIGHT IN AIR: 8.5 kg / 18.8 lbs ESTIMATED
3. WEIGHT IN SEA WATER: 5.3 kg / 11.7 lbs ESTIMATED
4. POWER/TEL CONNECTOR: SEACON MINK-10-FCRL (2 #14, 8 #20)
5. SYNC CONNECTOR: SEACON MIND-4-FCR (4 #22)
6. WETTED MATERIALS: TITANIUM (CP AND ALLOY), 300 SERIES STAINLESS STEEL, ELASTOMERIC POLYURETHANE.
7. DIMENSIONS ARE NOMINAL, IN INCHES. DO NOT SCALE.

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
CONFIDENTIAL DO NOT COPY.
NOTES:
1. ALL PARTS AND PROCESSES USED IN THIS ASSEMBLY MUST COMPLY WITH THE RoHS DIRECTIVE.
2. MAXIMUM 1/2" UNTWISTED.
3. SPLICES: INSTALL HEATSHRINK AS SHOWN (OVERLAPPING).
4. SOLDER AND HEATSHRINK WIRES.
5. INSTALL 1st O-_RING.
6. INSERT CONNECTOR INTO HOUSING FROM FRONT.
7. INSTALL SPRING CUP.
8. INSTALL 2nd O-RING.
9. ADD RJ45 CONNECTOR, CRIMPS, AND MOLEX HOUSING.
10. INSTALL 3rd O-RING.
11. PUT 4th O-RING IN A PLASTIC BAG AND KEEP WITH ASSEMBLY.
12. HEATSHRINK DRAIN WIRE.

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

Kongsberg Mesotech Ltd.

M3
POWER/TELEMETRY HEAD CONNECTOR WIRING ASSEMBLY

ISQ: 19065 MD

SCALE: - W.O. NO. SHEET 1 OF 1
<table>
<thead>
<tr>
<th>PIN NUMBER</th>
<th>COLOR</th>
<th>DESC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RED</td>
<td>19AWG</td>
</tr>
<tr>
<td>2</td>
<td>WHT</td>
<td>19AWG</td>
</tr>
<tr>
<td>10</td>
<td>BLK</td>
<td>18AWG</td>
</tr>
<tr>
<td>3</td>
<td>GRN</td>
<td>18AWG</td>
</tr>
<tr>
<td>4</td>
<td>WHT/GRN</td>
<td>TWISTED PAIR</td>
</tr>
<tr>
<td>5</td>
<td>WHT</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>WHT/BLU</td>
<td>TWISTED PAIR</td>
</tr>
<tr>
<td>7</td>
<td>WHT/BRN</td>
<td>TWISTED PAIR</td>
</tr>
<tr>
<td>8</td>
<td>WHT</td>
<td></td>
</tr>
</tbody>
</table>

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. MINK-10-CCPL Molded R/A.
5. Install push-on protective cap (supplied with connector).
6. O-rings must be installed on connector if applicable.
7. Maximum 1/2" untwisted for all TP.
8. Print part number using 1/8" black text on white, then install clear heatshrink over.

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.

<table>
<thead>
<tr>
<th>ISSUE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
<td>ECO 6036</td>
</tr>
<tr>
<td>1.4</td>
<td>ECO 5189</td>
</tr>
<tr>
<td>1.3</td>
<td>ECO 5020</td>
</tr>
<tr>
<td>1.2</td>
<td>ECO 4870</td>
</tr>
<tr>
<td>1.1</td>
<td>ECO 4829</td>
</tr>
<tr>
<td>1.0</td>
<td>ECO 4796</td>
</tr>
</tbody>
</table>

Kongsberg Mesotech Ltd.

CABLE POWER/TELEMETRY WHIP
SEACON MINK-10-CCPL MOLDED R/A

M3 SONAR

DO NOT SCALE DRAWING

QA 11/15/14

ISSUED 11/15/14
NOTES:
1. ALL PARTS AND PROCESSES USED IN THIS ASSEMBLY MUST COMPLY WITH THE ReS DIRECTIVE.
2. SOLDER AND HEATSHRINK WIRES.
3. LENGTH (IN FT, ± 0.1 FT.) = XXXX IN PART # nn-nnn0000-XXXX.
4. PRINT PART # USING 1/8" BLACK TEXT ON WHITE, THEN COVER WITH CLEAR HEATSHRINK.

Kongsberg Mesotech Ltd.

M3 DUAL HEAD SYNC CABLE ASSEMBLY

<table>
<thead>
<tr>
<th>PROPRIETARY NOTICE</th>
<th>DRAWN</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
<td>BH</td>
<td>20/09/15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APPROVALS</th>
<th>ISSUED</th>
<th>CONFIDENTIAL DO NOT COPY</th>
</tr>
</thead>
<tbody>
<tr>
<td>REVISED</td>
<td>03/08/15</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kongsberg Mesotech Ltd.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SCALE</th>
<th>W.O. NO.</th>
<th>SHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ISS</th>
<th>2013/08/15</th>
<th></th>
</tr>
</thead>
</table>
## MINK-10-CCP TO M3 BOX CONNECTION

<table>
<thead>
<tr>
<th>MINK-10</th>
<th>BULGIN</th>
<th>RJ45(T568B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIN NUMBER</td>
<td>SIGNAL</td>
<td>PIN NUMBER</td>
</tr>
<tr>
<td>1</td>
<td>V+</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>BI_DA+</td>
<td>N/C</td>
</tr>
<tr>
<td>3</td>
<td>BI_DC-</td>
<td>N/C</td>
</tr>
<tr>
<td>4</td>
<td>BI_DA-</td>
<td>N/C</td>
</tr>
<tr>
<td>5</td>
<td>BI_DB+</td>
<td>N/C</td>
</tr>
<tr>
<td>6</td>
<td>BI_DC+</td>
<td>N/C</td>
</tr>
<tr>
<td>7</td>
<td>BI_DD+</td>
<td>N/C</td>
</tr>
<tr>
<td>8</td>
<td>BI_DB-</td>
<td>N/C</td>
</tr>
<tr>
<td>9</td>
<td>BI_DD-</td>
<td>N/C</td>
</tr>
<tr>
<td>10</td>
<td>V-</td>
<td>2</td>
</tr>
</tbody>
</table>

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

### PROPRIETARY NOTICE
- THIS DOCUMENT CONTAINS INFORMATION WHICH IS SOLE PROPERTY OF KONGSBERG MESTECH LTD AND IS RECEIVED IN CONFIDENCE. ITS CONTENTS MAY NOT BE DISCLOSED OR REPRODUCED IN ANY WAY WITHOUT WRITTEN CONSENT OF KONGSBERG MESTECH LTD.

### REVISIONS

<table>
<thead>
<tr>
<th>ISS</th>
<th>DESCRIPTION</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Kongsberg Mesotech Ltd.

ASSEMBLY PINOUT
MINK-10-CCPL TO POWER/ETHERNET BREAKOUT BOX

<table>
<thead>
<tr>
<th>SIZE</th>
<th>NSCM NO.</th>
<th>TYPE</th>
<th>DWG NO.</th>
<th>ISS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1C965-01A</td>
<td>MD</td>
<td>436-00001210</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SCALE: NTS W.O. NO. SHEET 1 OF 1

DRAWN DM 2016-DEC-08
REvised
ENGR
CHECKED JH 11/18/2016
PROD
QA
ISSUED A 18/11/11
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. 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 x1, SIZE: 12PT, STYLE: BOLD
11. REMOVE LABEL THAT IS ON THE CABLE WHIP.

Kongsberg Mesotech Ltd.

ASSY DWG:
M3 POWER/ETHERNET BREAKOUT BOX

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.
NOTE:
- LUBRICATE FASTENERS WITH ANTI-SEIZE LUBRICANT
- LUBRICATE BASE OF ANODE WITH WATER RESISTANT GREASE

ANODE MUST BE MOUNTED ONLY AT THIS LOCATION
AND ONLY FOR ALUMINUM HEADS
NOTE EXTRA HOLE MARKING ANODE LOCATION
FOR TITANIUM HEADS ITEMS 6, 7 & 8 ARE NOT REQUIRED
USE INSTEAD ONE MORE EACH OF ITEMS 4 & 5

NOTE:
- LUBRICATE FASTENERS WITH ANTI-SEIZE LUBRICANT
- LUBRICATE BASE OF ANODE WITH WATER RESISTANT GREASE
NOTE:
- LUBRICATE FASTENERS WITH ANTI-SEIZE LUBRICANT
LUBRICATE FASTENERS WITH ANTI-SEIZE LUBRICANT

NOTES:
1. LUBRICATE FASTENERS WITH ANTI-SEIZE LUBRICANT

PROPRIETARY NOTICE
THIS DOCUMENT CONTAINS INFORMATION WHICH IS SOLE PROPERTY OF KONGSBERG MERO TECH LTD AND IS RECEIVED IN CONFIDENCE. ITS CONTENTS MAY NOT BE DISCLOSED OR REPRODUCED IN ANY WAY WITHOUT WRITTEN CONSENT OF KONGSBERG MERO TECH LTD.

CONFIDENTIAL. DO NOT COPY.

DO NOT SCALE DRAWING

ROTATOR AND POLE MOUNT FLANGE NOT INCLUDED SHOWN FOR CLARITY ONLY

Kongsberg Mesotech Ltd.

ASSEMBLY DRAWING
ADAPTER PLATE - POLE MOUNT TO ROTATOR (OE10-102)

NOTE: UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS 0.006, FRACTIONAL 1/32. ANGULAR 30'. BEND 1".
SURFACE FINISH 125 Ra, DE-BURR HOLES. BREAK SHARP EDGES 0.010.

SCALE: 1:3

W.O. NO. 422-44071000
ISS 1.1

ECO 5170-1 2013-08-21

DRAWN DV 2012-07-24
REVISED DRC 2013-08-21
CHECKED
ENGRI
ISSUED

1.1

NAME
DATE

Kongsberg Mesotech Ltd.

ASSEMBLY DRAWING
ADAPTER PLATE - POLE MOUNT TO ROTATOR (OE10-102)

NOTE: UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS 0.006, FRACTIONAL 1/32. ANGULAR 30'. BEND 1".
SURFACE FINISH 125 Ra, DE-BURR HOLES. BREAK SHARP EDGES 0.010.

SCALE: 1:3

W.O. NO. 422-44071000
ISS 1.1

ECO 5170-1 2013-08-21

DRAWN DV 2012-07-24
REVISED DRC 2013-08-21
CHECKED
ENGRI
ISSUED

1.1

NAME
DATE

Kongsberg Mesotech Ltd.

ASSEMBLY DRAWING
ADAPTER PLATE - POLE MOUNT TO ROTATOR (OE10-102)

NOTE: UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS 0.006, FRACTIONAL 1/32. ANGULAR 30'. BEND 1".
SURFACE FINISH 125 Ra, DE-BURR HOLES. BREAK SHARP EDGES 0.010.

SCALE: 1:3

W.O. NO. 422-44071000
ISS 1.1

ECO 5170-1 2013-08-21

DRAWN DV 2012-07-24
REVISED DRC 2013-08-21
CHECKED
ENGRI
ISSUED

1.1

NAME
DATE

Kongsberg Mesotech Ltd.

ASSEMBLY DRAWING
ADAPTER PLATE - POLE MOUNT TO ROTATOR (OE10-102)

NOTE: UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS 0.006, FRACTIONAL 1/32. ANGULAR 30'. BEND 1".
SURFACE FINISH 125 Ra, DE-BURR HOLES. BREAK SHARP EDGES 0.010.

SCALE: 1:3

W.O. NO. 422-44071000
ISS 1.1

ECO 5170-1 2013-08-21

DRAWN DV 2012-07-24
REVISED DRC 2013-08-21
CHECKED
ENGRI
ISSUED

1.1

NAME
DATE

Kongsberg Mesotech Ltd.

ASSEMBLY DRAWING
ADAPTER PLATE - POLE MOUNT TO ROTATOR (OE10-102)

NOTE: UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
DECIMALS 0.006, FRACTIONAL 1/32. ANGULAR 30'. BEND 1".
SURFACE FINISH 125 Ra, DE-BURR HOLES. BREAK SHARP EDGES 0.010.

SCALE: 1:3

W.O. NO. 422-44071000
ISS 1.1

ECO 5170-1 2013-08-21

DRAWN DV 2012-07-24
REVISED DRC 2013-08-21
CHECKED
ENGRI
ISSUED

1.1

NAME
DATE
NOTES:
1. ANODE TO BE USED ONLY WITH ALUMINUM HEAD.
   AT LOCATION MARKED WITH NOTCH - SEE DETAIL.
2. FOR TITANIUM HEAD, ITEMS 2, 5 AND 6 NOT USED.
   USE INSTEAD ONE MORE EACH OF ITEM 3 AND 4.
3. LUBRICATE FASTENERS WITH ANTI-SEIZE LUBRICANT.
4. LUBRICATE BASE OF ANODE WITH WATER RESISTANT GREASE.

ANODE LOCATION
NOTCH MARK

DETAIL A
SCALE 1:2

Kongsberg Mesotech Ltd.

ASSEMBLY DRAWING
TILT BRACKET
POLE MOUNT TO M3 SONAR

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. CONFIDENTIAL. DO NOT COPY.

APPROVALS | NAME | DATE
--- | --- | ---
DRAWN | DRC | 2013-08-07
REVISED | DL | 2015-08-24
CHECKED | EWR | 2016 SEP 2
ISSUED | EWR | 2016 SEP 2

12 | ECO 5549 | 2015-08-24
11 | ECO 5271 | 2014-03-14
ISS | DESCRIPTION | DATE
1 | SHEET 1 OF 1
NOTES:
1. ANODE TO BE USED ONLY WITH ALUMINUM HEAD AT LOCATION MARKED WITH NOTCH - SEE DETAIL
2. FOR TITANIUM HEAD, ITEMS 2, 5, 6 AND 9 NOT USED; USE INSTEAD ONE MORE EACH OF ITEM 3 AND 4
3. HEAD, FLANGE AND MRU NOT INCLUDED; SHOWN ONLY FOR CLARITY
4. IF NOT USING MRU DO NOT USE ITEMS 8 AND 9 AND USE CENTER HOLE OF ITEM 2 FOR INSTALLATION
5. LUBRICATION FASTENERS WITH ANTI-SEIZE LUBRICANT
6. LUBRICATION BASE OF ANODE WITH WATER RESISTANT GREASE

ANODE LOCATION
NOTCH MARK
ANODE LOCATION

DETAIL A
SCALE 1 : 2

ASSEMBLY DRAWING
DOWNSWING BRACKET
POLE MOUNT TO M3 SONAR

Kongsberg Mesotech Ltd.

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, CONFIDENTIAL DO NOT COPY.
NOTE:
SONAR HEAD, FLANGE AND MRU NOT INCLUDED;
SHOWN ONLY FOR CLARITY.

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.

CONFIDENTIAL. DO NOT COPY.
DO NOT SCALE DRAWING.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE
DECIMALS FRACTIONAL ANGULAR
XXX ±0.006 ±0.032 MACH ±50 XXX ±0.003 BEND ±1°
SURFACE FINISH 125 Ra DE-BURR HOLES BREAK SHARP EDGES 0.010

APPROVALS NAME DATE
DRAWN DRC 2013-08-07
REvised CL 2015-07-31
CHECKED ENGR 2014-03-14
ISSUED P. M 2014-03-14

OUTLINE AND INSTALLATION DRAWING M3 SONAR 500M WITH DOWNLOOKING BRACKET

Kongsberg Mesotech Ltd.

SIZE | NCM NO | TYPE | DWG. NO. |
B | 1C965 | MD | 422-44131001 |

SCALE 1:4 W.O. NO. SHEET 1 OF 1
NOTES:
1. FLANGE, ROTATOR, AND SONAR HEAD NOT INCLUDED; SHOWN ONLY FOR CLARITY.

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.

CONFIDENTIAL. DO NOT COPY. DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES, TOLERANCES ARE DECIMAL, FRACTIONAL, ANGULAR.

X.XXX ±0.006
X.XXX ±0.003
MACH ±0.0002
BEND ± 1°

SURFACE FINISH 125 Ra, DE-Burr HOLES, BREAK SHARP EDGES 0.010

OUTLINE AND INSTALLATION DRAWING
ADAPTOR PLATE AND BRACKET - M3 SONAR AND ROTATOR (OE10-102) TO POLE MOUNT

Kongsberg Mesotech Ltd.