



KONGSBERG

TECHNICAL INFORMATION

MS1000 USB Interface Unit

P/N 901-60160000

Specifications subject to change without notice
901-60167902

KONGSBERG MESOTECH LTD. 1598 Kebet Way, Port Coquitlam B.C. Canada V3C 5M5
Tel: (604) 464 8144 Fax: (604) 941 5423

KONGSBERG MESOTECH LTD.

WARRANTY STATEMENT

Effective January 1, 2006

Kongsberg 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). Kongsberg 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 Kongsberg 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; Kongsberg 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 Kongsberg Mesotech Ltd.

NOTE: Shipping method and carrier for warranty returned items will be at the discretion of Kongsberg Mesotech Ltd.

A Kongsberg Mesotech Ltd. Warranty Claim form must be completed and submitted to KML Service Department prior to warranty claim acceptance.

Kongsberg Mesotech Ltd. cannot warrant that its products are suitable for any particular or intended purpose. No other warranty is expressed or implied; Kongsberg 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.

MS1000 USB Interface Unit



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P/N 901-60160000

The MS1000 USB Interface Unit provides an isolated interface between the USB port of a desktop or laptop PC running the MS1000 software processor and Kongsberg Mesotech RS485 **digital** telemetry sonar heads. Depending on the head type and interconnect cable length, the head can be connected to one of the two available output connectors as follows:

- For operation over cables up to 100m, the output connector providing the low supply voltage should be used. This output is compatible with all the Kongsberg Mesotech digital telemetry heads.
- For operation over cables up to 1000m, the output connector providing the high supply voltage should be used. This output has a warning label regarding the head voltage rating and is compatible only with the high-resolution heads.
- A 19" rack mounting kit is available for this unit.

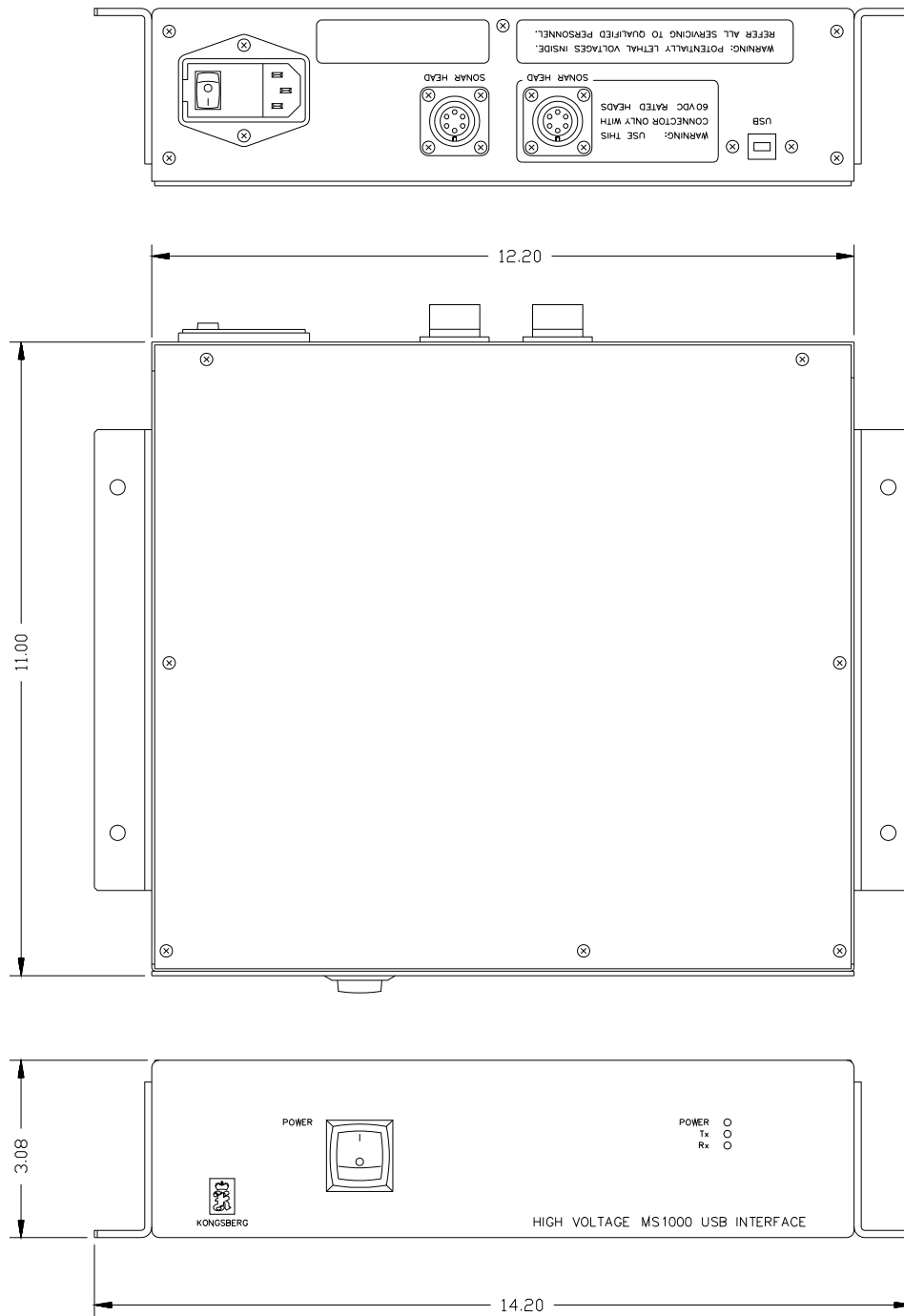
| | |
|--------------------------|--|
| Input Voltage | 95 to 260 VAC / 47 to 63 Hz |
| Output Voltage 1 | 28VDC @ 2A |
| Output Voltage 2 | 56VDC @ 2A |
| PC Telemetry Interface | USB |
| Head Telemetry Interface | RS485 |
| Downlink Data Rate | Up to 460 kbps (as configured in the MS1000 software) |
| Uplink Data Rate | Up to 460 kbps (as configured in the MS1000 software) |
| LED Indicators | Power, Tx, Rx |
| Temperature Range | 0° to 40°C operating 0° to 50°C storage |
| Dimensions | Height 3.08"/79mm Width 12.20"/310mm (excluding mounting brackets) Depth 11.00"/280mm (excluding connectors) |
| Weight: | 6.5 lbs/2.9 kg |

Specifications subject to change without notice

P/N 901-60167901 Iss 1.2

KONGSBERG MESOTECH LTD. 1598 Kebet Way, Port Coquitlam B.C. Canada V3C 5M5

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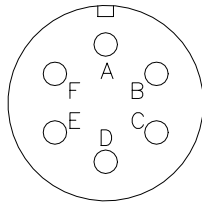
Specifications subject to change without notice

P/N 901-60167901 Iss 1.2

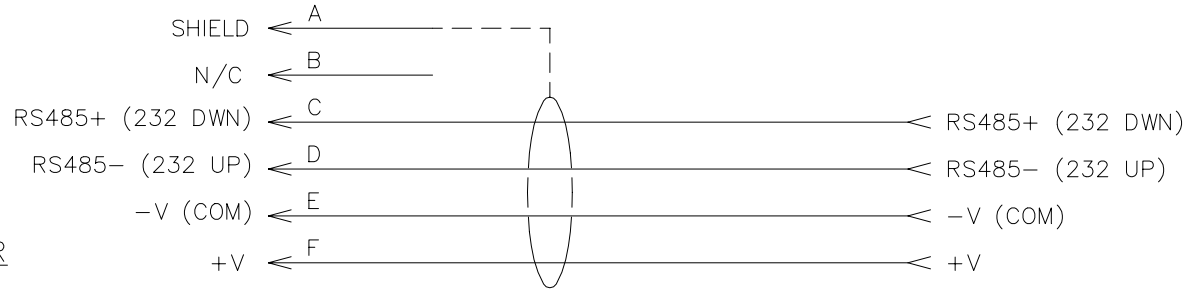
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DIGITAL TELEMETRY



PROCESSOR CONNECTOR
MS3106A-14S-6P (PIN VIEW)

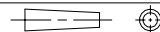


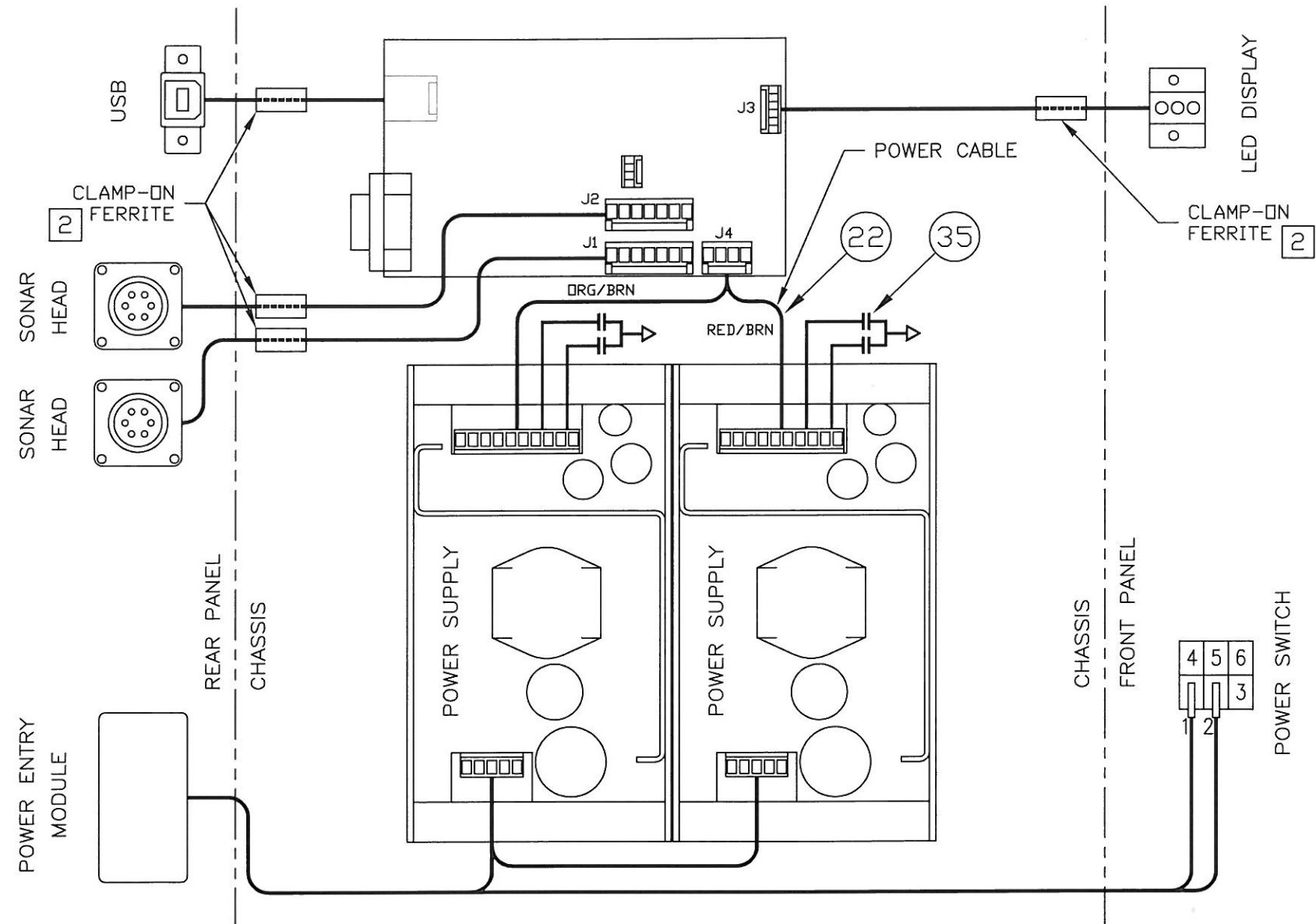
NOTE:

IF THE HEAD IS NOT POWERED FROM THE PROCESSOR, CONNECT THE +/-V TERMINALS OF THE HEAD TO A SUITABLE EXTERNAL POWER SUPPLY AND DISCONNECT THE F TERMINAL ON THE PROCESSOR CONNECTOR (-V HAS TO CONNECT TO THE EXTERNAL SUPPLY AS WELL AS TERMINAL E OF THE PROCESSOR CONNECTOR).

| ZONE | ISS | DESCRIPTION | DATE | APPROVED |
|-----------|-----|-------------|------|----------|
| REVISIONS | | | | |

| | | | | | | | | | | | | | | | | | | |
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| <p><u>PROPRIETARY NOTICE</u> THIS DOCUMENT CONTAINS INFORMATION WHICH IS THE SOLE PROPERTY OF KONGSBERG MESOTECH Ltd. AND IS RECEIVED IN CONFIDENCE. ITS CONTENTS MAY NOT BE DISCLOSED OR REPRODUCED IN ANY WAY WITHOUT THE WRITTEN CONSENT OF KONGSBERG MESOTECH Ltd.</p> | <u>APPROVALS</u> | | <u>DATE</u> | | Kongsberg Mesotech Ltd. | | | | | | | | | | | | | |
| | DRAWN J.BANSER | | 11MAY00 | | | | | | | | | | | | | | | |
| | CHECKED | | | | PROCESSOR - HEAD INTERCONNECTION RS485/232 DIGITAL TELEMETRY | | | | | | | | | | | | | |
| | ENGR | | | | | | | | | | | | | | | | | |
| | ISSUED | | | | <table border="1"> <tr> <td>SIZE</td> <td>NCSM NO</td> <td>TYPE</td> <td>DWG NO.</td> <td>ISS</td> </tr> <tr> <td>A</td> <td>1C965</td> <td>MD</td> <td>436-00001201</td> <td>1.0</td> </tr> </table> | | | | SIZE | NCSM NO | TYPE | DWG NO. | ISS | A | 1C965 | MD | 436-00001201 | 1.0 |
| | SIZE | NCSM NO | TYPE | DWG NO. | | | | | ISS | | | | | | | | | |
| A | 1C965 | MD | 436-00001201 | 1.0 | | | | | | | | | | | | | | |
| NEXT ASSY | | MODEL | | <table border="1"> <tr> <td>SCALE: -</td> <td>W.O. NO.</td> <td>SHEET 1 OF 1</td> </tr> </table> | | | | SCALE: - | W.O. NO. | SHEET 1 OF 1 | | | | | | | | |
| SCALE: - | W.O. NO. | SHEET 1 OF 1 | | | | | | | | | | | | | | | | |
| ZONE | | | | | | | | | | | | | | | | | | |





NOTES:

- 1 ALL PARTS AND PROCESSES USED ON THIS ASSEMBLY MUST COMPLY WITH THE RoHS DIRECTIVE
- 2 INSTALL CLAMP-ON FERRITES AS CLOSE TO PANEL CONNECTORS AS POSSIBLE.

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| APPROVALS | DATE |
|----------------------------|-------------|
| DRAWN DL | 2005 FEB 01 |
| REVISED BH | 2014 NOV 03 |
| CHECKED <i>[Signature]</i> | Nov 4/14 |
| ENGR <i>[Signature]</i> | 11/04/14 |
| ISSUED <i>[Signature]</i> | 2014 NOV 04 |

DO NOT SCALE DRAWING

| | | |
|-----|----------|-------------|
| 1.4 | ECO 5397 | 2014 NOV 03 |
| 1.3 | ECO 5299 | 2014 MAY 12 |
| 1.2 | ECO 5157 | 2013 AUG 27 |
| 1.1 | ECO 3820 | 2005 JUN 20 |

| ISS | DESCRIPTION | DATE |
|-----------|-------------|------|
| REVISIONS | | |

Kongsberg Mesotech Ltd.

MS1000 USB INTERFACE ASSEMBLY DRAWING

| SIZE | NSCM NO | TYPE | DWG NO. | ISS |
|------|---------|------|--------------|-----|
| B | 1C965 | MD | 901-60161003 | 1.4 |

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