Appendix C: Digi-seacam Drawings
DIGI-SEACAM BLOCK DIAGRAM

CAMERA POWER SUPPLY

DIGISNAP 2300

DIGISEACAM BULKHEAD

INTERFACE PCB

COOLPIX 995

NOTES:

1:4 1 2 of 2

DIAG. CHK.

3/16/2002   3:17 PM  735-001-001_Coolpix_995_Final_DCD.SLDDRW   PAGE 2 of 2
ITEM NO. | QTY. | PART NO. | DESCRIPTION
---|---|---|---
1 | 1 | 600-00037 | 6KM DEPTH Dual Cable
2 | 1 | MHDL-16-RA | 90 DEG Right Angle Conn (Supplied by Vendor)

---

4. Connector one end only.

3. Wire Bundle Jacketing: PVC

2. Conductor insulation: Polypropylene.

Each of these contain an aluminized Mylar Shield with drain wire. (see sheet 2)

---

Digi-SeaCam - Alvin Cable

Oceanographic Cable

B 706-000-032

---

Scale 1:3

Scale 4:1

---

The information contained in this drawing is the sole property of DeepSea Power & Light Inc., any reproduction in part or whole without the written permission of DeepSea Power & Light is strictly prohibited.
Pin Out for Digi-SeaCam (MHDL connector)

<table>
<thead>
<tr>
<th>Pin#</th>
<th>Function</th>
<th>Conductor</th>
<th>Shield/Common Assignment</th>
<th>Bundle</th>
<th>Conductor Gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Common- USB, RS-232 and video shield (coax 1)</td>
<td>COAX1-Shield</td>
<td>COAX1</td>
<td>22ga</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Power (9-36 VDC)</td>
<td>TSP1-WHT</td>
<td>TSP1</td>
<td>16ga</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Video Out COAX1-center conductor</td>
<td>TSQ-GND</td>
<td>TSQ</td>
<td>20ga</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Power (Pin 4) is isolated from common ground (Pin 1) for some applications, but can be tied together if necessary.</td>
<td>TSP2-GND</td>
<td>TSP2</td>
<td>22ga</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>RS-232 transmit</td>
<td>TSP2-WHT</td>
<td>TSP2</td>
<td>16ga</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>RS-232 receive</td>
<td>TSP2-GRN</td>
<td>TSP2</td>
<td>20ga</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>USB D+</td>
<td>TSQ-BLK</td>
<td>TSQ</td>
<td>20ga</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>USB +5V</td>
<td>TSQ-WHT</td>
<td>TSQ</td>
<td>20ga</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>USB D-</td>
<td>TSQ-RED</td>
<td>TSQ</td>
<td>20ga</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Relay</td>
<td>TSQ-GRN</td>
<td>TSQ</td>
<td>20ga</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>S Snap</td>
<td>TSP1-GND</td>
<td>TSP1</td>
<td>18ga</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Reserved</td>
<td>TSP1-BLK</td>
<td>TSP1</td>
<td>20ga</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Reserved</td>
<td>TSP1-GND</td>
<td>TSP1</td>
<td>20ga</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>Reserved</td>
<td>TSP1-RED</td>
<td>TSP1</td>
<td>16ga</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>Strobe- ground</td>
<td>COAX2-Shield</td>
<td>COAX2</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>Strobe-trigger</td>
<td>COAX2-GND</td>
<td>COAX2</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

18 conductors total in cable.
MHDL-16-CCP-RA
Female Socket
(FACE VIEW)

1. COMMON (USB/RS-232/VIDEO)
2. PWR (9-36VDC)
3. VIDEO
4. GND (PWR)
5. RS232 TRANSMIT/STEREO
6. RS232 RECEIVE
7. USB D+
8. USB +5V
9. USB D-
10. RELAY
11. SINGLE SNAP
12. RESERVED
13. RESERVED
14. RESERVED
15. STROBE - GROUND
16. STROBE-TRIGGER

TO 'J-BOX'
16'

DIGI-SEACAM - ALVIN CABLE

Visio file located in:
W:\706\000\706-000-032_Alvin_Cable_Sheet3.vsd

NOTES:
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>QTY</th>
<th>PART NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>MHDL-16-CCP</td>
<td>MHDL-16-CCP Straight Conn (Supplied by Vendor)</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>600-00037</td>
<td>6KM DEPTH Dual Cable</td>
</tr>
</tbody>
</table>

**NOTES:**
- This drawing Supersedes part number (706-000-001-79)
- All Dimensions are Inches [mm]
- Do Not Scale Drawing
- Remove & Break All Sharp Edges and Burrs
- Dimensions Apply Before Plating
- Bordered Dimensions are for QC Inspection

---

**Oceanographic Cable**

Digi-SeaCam - WHOI - Sled Cable

**706-000-035**

**SCALE 1:3**

---

**DeepSea**

SAN DIEGO CALIFORNIA USA

TEL (858) 576-1261 FAX (858) 576-0219 www.deepsea.com
**Pin Out for Digi-SeaCam (MHDL connector)**

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Function</th>
<th>Conductor</th>
<th>Shield/Common Assignment</th>
<th>Bundle</th>
<th>Conductor Gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Common- USB, RS-232 and video shield (coax 1)</td>
<td>COAX1-Shield</td>
<td>COAX1</td>
<td>22gau</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Power (9-36 VDC)</td>
<td>TSP1-WHT</td>
<td>TSP1</td>
<td>16gau</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>VIDEO OUT</td>
<td>COAX1-Center conductor</td>
<td>Shield tied to pin 1</td>
<td>COAX1</td>
<td>22gau</td>
</tr>
<tr>
<td>4</td>
<td>18 conductors total in cable.</td>
<td>COAX1-Shield</td>
<td>COAX1</td>
<td>22gau</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>RS-232 transmit</td>
<td>TSP2-WHT</td>
<td>TSP2</td>
<td>30gau</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>USB D+</td>
<td>TSQ-BLK</td>
<td>TSQ</td>
<td>20gau</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>USB +5V</td>
<td>TSQ-WHT</td>
<td>TSQ</td>
<td>20gau</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>RS-232 receive</td>
<td>TSP2-GRN</td>
<td>TSP2</td>
<td>30gau</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Strobe- trigger</td>
<td>COAX2-Shield</td>
<td>COAX2</td>
<td>22gau</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Strobe- ground</td>
<td>TSP2-GRN</td>
<td>TSP2</td>
<td>30gau</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Relay</td>
<td>TSP2-GRN</td>
<td>TSP2</td>
<td>30gau</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Strobe- trigger</td>
<td>COAX2-Center conductor</td>
<td>COAX2</td>
<td>22gau</td>
<td></td>
</tr>
</tbody>
</table>

*Power ground (Pin 4) is isolated from common ground (Pin 1) for some applications, but can be tied together if necessary. TSP- twisted shielded pair. TSQ- twisted shielded quad. 18 conductors total in cable.*
Camera Side
MHDL-16-CCP
Female Socket
(FACE VIEW)

1 2 3 4 5 6 7 8 9 10 11 12

1
2
3
4
5
6
7
8
9
10
11
12

- COMMON (USB/RS-232/VIDEO)
- PWR (9-36VDC)
- VIDEO
- GND (PWR)
- RS232 TRANSMIT/STEREO
- RS232 RECEIVE
- USB D+
- USB +5V
- USB D-
- RELAY
- SINGLE SNAP
- RESERVED
- RESERVED
- RESERVED
- STROBE - GROUND
- STROBE - TRIGGER

Sled End
MHDL-16-CCP
Female Socket
(FACE VIEW)

1 2 3 4 5 6 7 8 9 10 11 12

1
2
3
4
5
6
7
8
9
10
11
12

- COMMON (USB/RS-232/VIDEO)
- PWR (9-36VDC)
- VIDEO
- GND (PWR)
- RS232 TRANSMIT/STEREO
- RS232 RECEIVE
- USB D+
- USB +5V
- USB D-
- RELAY
- SINGLE SNAP
- RESERVED
- RESERVED
- RESERVED
- STROBE - GROUND
- STROBE - TRIGGER

DIGI-SEACAM - WHOI SLED CABLE
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>QTY.</th>
<th>PART NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>735-001-019</td>
<td>End Cap</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>530-00059</td>
<td>Teflon Backup Ring</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>722-00403</td>
<td>Retaining Ring</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>722-00405</td>
<td>Teflon Thrust Washer</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>2-157 N0674-70</td>
<td>2-157 N0674-70 Buna O-Ring</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>2-242 N0674-70</td>
<td>2-242 N0674-70 Buna O-Ring</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>2-245 N0674-70</td>
<td>2-245 N0674-70 Buna O-Ring</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>420-00024</td>
<td>7/16&quot; Brass Hex nut</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>735-001-021</td>
<td>Connector Cover Plate</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>431-00104</td>
<td>1/4-20 x 3/4&quot; SHCS 316 SS</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>735-001-036</td>
<td>Bulkhead Internal Wiring</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>735-001-037</td>
<td>Auxiliary Internal Wiring</td>
</tr>
<tr>
<td>13</td>
<td>4</td>
<td>428-00125</td>
<td>#6-32 x .375 SHCS 316 SS</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>735-001-017</td>
<td>Chassis Mount Plug</td>
</tr>
<tr>
<td>15</td>
<td>2</td>
<td>429-00101</td>
<td>SHCS #8-32 x .75&quot; SS SCREW</td>
</tr>
</tbody>
</table>

3. Coat threads with (576-00002 Auqa Lube Lubricant)
2. Coat threads with (584-00002 Locitite 242 Removable Threadlocker)
1. Lubricate O-Rings with (576-00003 DC-111 Valve & Sealant)

TOLERANCES: Unless otherwise specified
- .005
- .01
- .02
- .03
- .5
- 1/64"
- Surface Finish All 64
- Surface Finish Seals 32

Applies to all holes in this drawing.

Material: As noted in B.O.M.

APPROVALS
- Z.Simmons 020202
- Z.Simmons 031202

Rev 1

SCALE 1:4

SECTION A-A
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>QTY</th>
<th>PART NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>735-001-010</td>
<td>Solid Housing</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>740-059-007</td>
<td>Kapton Wafer</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>2-234 N0674-70</td>
<td>2-234 N0674-70 Buna O-Ring</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>722-003-005</td>
<td>SSC Dome Port</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>740-059-008</td>
<td>Port Backup Ring</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>2-235 N1231-80</td>
<td>2-235 N1231-80 Buna O-Ring</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>740-059-011</td>
<td>Port Keeper</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>735-001-008</td>
<td>Modified Hood</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>429-00107</td>
<td>#8-32 x .1875 316 SS Set Screw Cup Point</td>
</tr>
</tbody>
</table>

*Lubricate O-rings with (576-00003 DC-111 Valve lube & Sealant)*

**NOTES:**
- As Noted in B.O.M.

**TOLERANCES:**
- Unless Otherwise Specified
- .02 Surface
- .05 Finish All
- .002 Surface
- .005 Finish Seals
- .002 Angular
- .001 Functional

**REVISION HISTORY**

**SCALE CAGE CODE:**

**ORIG ENG:**

**CHECK:**

**LUBRICATION:**

**LUBRICATE O-rings with (576-00003 DC-111 Valve lube & Sealant)**

**NOTES:**
- All Dimensions Are Inches [mm]
- Do Not Scale Drawing
- Remove & Break All Sharp Edges and Burrs
- Dimensions Apply Before Plating
- Bordered Dimensions Are For QC Inspection

**APPLICATION:**

**NEXT ASSEMBLY:**

**MATERIAL:**

**SIZE/LENGTH**

**CONDITION**

**ANODIZE/PLATING**

**POST PROCESS**

**HEAT TREAT**

**COLOR**

**MISC/OTHER**

**DESIGN SHRINKAGE**

**APPLICATION**

**FILE NAME:**

**U:\DWGS\735\001\735-001-022_Dome_Housing_Assy.SLDDRW**

**Digi-Seacam Dome Housing Assy**

**735-001-022**

**Z.Simmons 020102**

**Z.Simmons 030501**

**D.Anderson 050102**

**1:1**

**1 of 2**

**5/8/2002 3:50 PM 735-001-022_Dome_Optics_Housing_Assy.SLDDRW PAGE 1 of 2**
Visio File Located In:
U:\DWGS\735_DigitalStill\001_Coolpix\Images\735-001-035_Internal_CAM_Harness_Wiring/
DIGI-SEACAM INTERNAL CAMERA HARNESS WIRING
DIGISEACAM BULKHEAD INTERNAL WIRING

1. COMMON (USB/RS-232/VIDEO)
2. PWR (9-36VDC)
3. VIDEO
4. GND (PWR)
5. RS232 TRANSMIT/STEREO
6. RS232 RECEIVE
7. USB D+
8. USB +5V
9. USB D-
10. RELAY
11. SINGLE SNAP
12. RESERVED
13. RESERVED
14. RESERVED
15. STROBE - GROUND
16. STROBE-TRIGGER

INTERFACE BOARD J1 CONNECTOR

Interface Board J1 Connector

Interface Board J2 Connector

Notes:
- 735-001-036 N/A 2 of 2
- Common (USB/RS-232/VIDEO)
- PWR (9-36VDC)
- VIDEO
- GND (PWR)
- RS232 TRANSMIT/STEREO
- RS232 RECEIVE
- USB D+
- USB +5V
- USB D-
- RELAY
- SINGLE SNAP
- RESERVED
- RESERVED
- RESERVED
- STROBE - GROUND
- STROBE-TRIGGER
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>QTY.</th>
<th>PART NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>140-00240</td>
<td>LPBH5FS BULKHEAD CONNECTOR</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>O-RING</td>
<td>O-RING 2-014 BUNA N 70 BLK</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>130-00355</td>
<td>CONNECTOR RECEPTACLE .100 IDC 8 PIN</td>
</tr>
<tr>
<td>4</td>
<td>0.417</td>
<td>620-00027</td>
<td>SHRINK TUBE 1/16 BLACK</td>
</tr>
<tr>
<td>5</td>
<td>1.667</td>
<td>840-00028</td>
<td>WIRE 24 AWG 7x32 TEFLON WHITE</td>
</tr>
</tbody>
</table>

**DIAGRAM:** Digi-SeaCam AUXILIARY INTERNAL WIRING

**NOTES:**

- All Dimensions are Inches [mm].
- Do Not Scale Drawing.
- Remove and Break All Sharp Edges and Burrs.
- Dimensions Apply Before Plating.
- Bordered Dimensions are for QC Inspection.

**TOLERANCES:**

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>SIZE/LINEAR</th>
<th>CONDITION</th>
<th>ANODIZE/PLATING</th>
<th>POST PROCESS</th>
<th>HEAT TREAT</th>
<th>COLOR</th>
<th>MISC/OTHER</th>
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<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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**APPLICATION:** DIGI-SEACAM AUXILIARY INTERNAL WIRING

**RELATED DOCUMENTS:**

- DIGI-SEACAM AUXILIARY INTERNAL WIRING
- Digi-SeaCam
- 735-001-037 - DIGI-SEACAM AUXILIARY INTERNAL WIRING

**DATE:** 5/8/2002 3:42 PM

**FILE NAME:** 735-001-037_Auxiliary_Internal_Wiring.SLDDRW

**REVISION HISTORY:**

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<td>RELEASED PER DCR# 2185</td>
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**PROJECT:** DIGI-SEACAM AUXILIARY INTERNAL WIRING

**FILE PATH:** U:\DWGS\735_DigitalStill\001_Coolpix\735-001-037_Auxiliary_Internal_Wiring.SLDASM

**DRAWING NO.:** 031602

**DRAWER:** J. Prsha

**CHECKER:** R. Levin

**RELEASED:** 050802

**CHECKER:** R. Levin

**DRAFTING:** 1:1

**REV:** 3

**FILE:** 735-001-037_Auxiliary_Internal_Wiring.SLDDRW

**PAGE:** 1 of 2

**APP PROV:**
LPBH/LPIL-2

LOW PROFILE WET PLUGGABLE SERIES

NOTE: Bulkhead body available in stainless steel.
Standard 1/2" thread length.

<table>
<thead>
<tr>
<th>MOUNTING TORQUE FOR LPBH-FS/MP</th>
<th>not to exceed 100 in/lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATED PRESSURE RATING (psi)</td>
<td>10,000</td>
</tr>
<tr>
<td>DUMMY PLUG FOR LPBH-2-FS, LPIL-2-FS</td>
<td>LPDC-2-MP</td>
</tr>
<tr>
<td>DUMMY PLUG FOR LPBH-2-MP, LPIL-2-MP</td>
<td>LPDC-2-FS</td>
</tr>
</tbody>
</table>

NOTE: Bulkhead body available in stainless steel.
Standard 1/2" thread length.
10,000 MATED PRESSURE RATING (psi)

Standard 1" thread length.

NOTE: Bulkhead body available in stainless steel.

LPBH-3/4/5-MP, LPIL-3/4/5-MP
DUMMY PLUG FOR LPDC-3/4/5-FS FOR LPBH-FS/MP

MOUNTING TORQUE
not to exceed 100 in/lbs

MATED PRESSURE RATING (psi)
10,000

DUMMY PLUG FOR LPBH-3/4/5-FS, LPIL-3/4/5-FS
LPDC-3/4/5-MP

DUMMY PLUG FOR LPBH-3/4/5-MP, LPIL-3/4/5-MP
LPDC-3/4/5-FS

NOTE: Bulkhead body available in stainless steel.
Standard 1" thread length.
LPBH/LPIL-7

LOW PROFILE WET
PLUGGABLE SERIES

LPBH-7-FS, LPIL-7-FS

DUMMY PLUG FOR
LPDC-7-MP

MATED PRESSURE RATING (psi) 10,000
not to exceed

MOUNTING TORQUE
FOR LPBH-FS/MP 100 in/lbs

NEOPRENE

SURFACE .87 DIA

12" TEFLOW LEADS

O-RING 2-014

CONTACT CONFIGURATION
(MP FACE VIEW)

7 CONTACT

NOTE: Bulkhead body available in stainless steel.
Standard 1" thread length.

7 CONTACT
### LPBH/LPIL-9/12

#### Low Profile Wet Pluggable Series

**10,000 Mated Pressure Rating (psi)**


**MOUNTING TORQUE** not to exceed 100 in/lbs.

**Contact Configuration** (MP Face View)

<table>
<thead>
<tr>
<th>Contact Configuration</th>
<th>9 CONTACT</th>
<th>12 CONTACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOUNTING TORQUE FOR LPBH-FS/MP</td>
<td>not to exceed 100 in/lbs</td>
<td></td>
</tr>
<tr>
<td>MATED PRESSURE RATING (psi)</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>DUMMY PLUG FOR LPBH-9-FS, LPIL-9-FS</td>
<td>LPDC-9-MP</td>
<td></td>
</tr>
<tr>
<td>DUMMY PLUG FOR LPBH-9-MP, LPIL-9-MP</td>
<td>LPDC-9-FS</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Bulkhead body available in stainless steel. Standard 1" thread length.
### MOUNTING INSTRUCTIONS

**CONTACT CONFIGURATION (BCR FACE VIEW)**

- **8#16**
- **12#20**
- **1#20**
- **26#22**

**MOUNTING TORQUE**

- **FOR MHDL-BCR**: not to exceed 200 in/lbs
- **MATED PRESSURE RATING (psi)**: 10,000

**DUMMY PLUG FOR MHDL-BCR/FCR/CCR**: MHDL-SCP

**DUMMY PLUG FOR MHDL-CCR**: MHDL-SCR

**NOTE**: CCP is not terminated to cable unless specified.

* Please specify number of contacts.

** Internal assembly same as MHDL-BCR (facing page).

*** Blind tapped hole not to penetrate bulkhead, minimum full thread depth 2 times bolt diameter.

**** Oil filled version available upon request.
### MINIATURE HIGH DENSITY SERIES

<table>
<thead>
<tr>
<th>CONNECTOR SIZE</th>
<th>MHDG</th>
<th>MHDL</th>
<th>MHDM</th>
<th>MHDO</th>
</tr>
</thead>
<tbody>
<tr>
<td>A O-RING</td>
<td>2-016</td>
<td>2-018</td>
<td>2-020</td>
<td>2-023</td>
</tr>
<tr>
<td>B ENGAGING NUT</td>
<td>605165</td>
<td>605280</td>
<td>602004</td>
<td>605450</td>
</tr>
<tr>
<td>C O-RING</td>
<td>2-017</td>
<td>5-273</td>
<td>2-022</td>
<td>2-022</td>
</tr>
<tr>
<td>D DELRIN WASHER (2X)</td>
<td>605101</td>
<td>605273</td>
<td>605005</td>
<td>605430</td>
</tr>
<tr>
<td>E RETAINING RING</td>
<td>5100-68</td>
<td>5100-75</td>
<td>5100-100</td>
<td>5100-112</td>
</tr>
<tr>
<td>F DIA</td>
<td>.69</td>
<td>.75</td>
<td>1.00</td>
<td>1.12</td>
</tr>
<tr>
<td>G DIA</td>
<td>1.05</td>
<td>.95</td>
<td>.97</td>
<td>1.25</td>
</tr>
<tr>
<td>H DIA</td>
<td>1.00</td>
<td>1.25</td>
<td>1.43</td>
<td>1.62</td>
</tr>
<tr>
<td>I</td>
<td>1.00</td>
<td>.90</td>
<td>.87</td>
<td>1.25</td>
</tr>
<tr>
<td>MATED PRESSURE RATING (psi)</td>
<td>10,000</td>
<td>10,000</td>
<td>10,000</td>
<td>10,000</td>
</tr>
</tbody>
</table>
### GLASS REINFORCED EPOXY SERIES

#### Internal Retaining Ring
- 5100-87H
- 1.31 HEX
- O-RING 2-123
- 1-14 UNS-2A

#### O-Ring 2-017

#### RETAINING RING
- 5100-93H
- O-RING

### Contact Configuration (BCR Face Views)

<table>
<thead>
<tr>
<th>MOUNTING TORQUE FOR XSL-BCR/BCP</th>
<th>DUMMY PLUG FOR XSL-BCR/CCR</th>
<th>MATED PRESSURE RATING (psi)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>600 VDC</td>
<td>XSL-SCP</td>
<td>130 in/lbs</td>
<td>20,000</td>
</tr>
</tbody>
</table>

**NOTE:**
- CCP/CCR are not terminated to cable unless specified.
- Please specify number of contacts.
- Extended backshell for Oil Filled assemblies.
- Also available in .50 thread length, 5-12 contacts only.
- XSL-20-BCR, XSL-20-CCR and XSL-20-SCR use o-ring 5-254.