‘M’ Coax Electrical Connector  
Subsea / Underwater / Marine

Introduction:
CRE has developed a range of metal shell connectors over the years focused on delivering high reliability in tough environments. The design offers a high integrity sealing arrangement, metal keyways, multiple options on size, pin quantity, current rating along with our ability to design specific solutions for your application. They are designed for heavy-duty use in the most rigorous underwater applications on the planet. Made of 316 stainless steel or custom built with any material specified, they come as standard with high open face pressure resistance. These robust and versatile connectors are rated to 6,000m and are designed for use with moulded cables and tailored for the heaviest power, signal and electro-mechanical applications.

The most common applications:
- ROV
- Dive Bell Connectors
- Underwater Cameras and Lights
- Underwater Thruster
- Strain Termination

Key Feature:
- 6 electrical contacts
- 75 ohm rated
- Pressure up to 9,300 Psi (Mated)
- Open face pressure up to 6,000 Psi
- Oil filled available as standard (OF)
- Up to 1000 VDC
- Up to 5 amp
Options:
- Pressure balanced Oil Filled (PBOF)
- Field Installable
- Mixed contact sizes for power/data requirement
- Bespoke design/configuration to suit customer requirements at no extra cost
- Available in alternative materials: Aluminium, Titanium etc.

Testing:
- Pressure testing up to 9,300 Psi
- Durability testing with 100 mate and re-mate cycles
- Open face pressure testing up to 5,700 Psi

Notes:
For more information’s contact CRE.

Part Numbering System - Bulkhead Example
BR M 06 M CX 0900 24 01

Part Numbering System-Connector Example
PL M 06 M CX 0900 24 01

Standard Mechanical Specification:

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>MATERIAL</th>
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<td>Shell Body</td>
<td>Stainless Steel 316L</td>
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<td>Contact Insert</td>
<td>Epoxy / Peek</td>
</tr>
<tr>
<td>Electrical Contacts</td>
<td>Ledged Nickel Copper C97 or K41</td>
</tr>
<tr>
<td>Plating Details</td>
<td>1um Acid Gold over 2.5um Nickel Copper Flash</td>
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<tr>
<td>Retaining Nut</td>
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</tr>
<tr>
<td>'O' Rings</td>
<td>Nitrile NI70</td>
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<td>Backing Washer</td>
<td>Black Acetal</td>
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NOTES:
Contact CRE for special order materials.
Reference Dimensions 'M' Connector

Flanged Bulkhead Connector Receptacle (FR)

Bulkhead Connector Receptacle (BR)

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<th>G</th>
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<th>J-'O'Ring</th>
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Reference Dimensions 'M' Connector

### Backshell Cable Connector Receptacle-Straight (PL)

- **A**: 88.5
- **B**: 36.5
- **C**: 34
- **D**: 12.5
- **E’O’ Ring**: BS020
- **F’O’Ring**: 6 X 1.5
- **G’O’Ring**: 22 X 2
- **TYPE**: 01

- **A**: 93.5
- **B**: 36.5
- **C**: 34
- **D**: 19.5
- **E’O’ Ring**: BS020
- **F’O’Ring**: 6 X 1.5
- **G’O’Ring**: 22 X 2
- **TYPE**: 02

### Backshell Cable Connector Receptacle-90° (PR)

- **A1**: 94.5
- **A2**: 36.5
- **B**: 36.5
- **C**: 34
- **D**: 12.5
- **E’O’ Ring**: BS020
- **F’O’Ring**: 6 x 1.5
- **G’O’Ring**: 22 x 2
- **TYPE**: 01

- **A1**: 94.5
- **A2**: 36
- **B**: 36.5
- **C**: 34
- **D**: 19.5
- **E’O’ Ring**: BS020
- **F’O’Ring**: 6 x 1.5
- **G’O’Ring**: 22 x 2
- **TYPE**: 02

All dimension in mm
Reference Dimensions 'M' Connector
Low Profile 90° Bulkhead Connector Receptacle - Threaded (BR)

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All dimension in mm
Revision 2019-02
Reference Dimensions 'M' Connector

Bulkhead Blanking Plug - PLMBC

Cable Connector Blanking Plug - BRMBC

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Reference Dimensions 'M' Connector

Moulded Cable Connector Receptacle-Straight/90°

All dimension in mm

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Assembled Dimensions 'M' Connector

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Note: Step files for design purposes available from engineering@CRE-marine.com

All dimension in mm  
Revision 2019-02
Assembled Dimensions 'M' Connector

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<th>PLMBC</th>
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Note: Step files for design purposes available from engineering@CRE-marine.com

All dimension in mm

Revision 2019-02
NOTES:

- Coax-75ohm rated
- Transmission performance-up to 3G/1080p 60 Hz
- Pressure blocked to 6000m open face

All dimension in mm