The MPO is an high-density multi-fiber connector system built around precision molded MT ferrule. The MPO’s spring loaded push-pull latching mechanism is easy to use while ensuring positive engagement both important features for mission critical high density applications. Ferrule alignment is achieved through high precision guide pins. Diamond’s MPO is available in 4, 8 and 12 fiber versions, PC and APC finishes, and support both multimode and single mode applications. Premium optical performance (low IL and high RL) is a result of our advanced polishing technology.

**FEATURES AND BENEFITS**
- Supports up to 12 fibers
  - *low cost per termination for high density applications*
- Push-pull mechanism
  - *ease of operation*
- Precision molded MT ferrule and advanced polishing process
  - *lower IL and higher repeatability*

**APPLICATIONS**
- Patch cords and Fan-Out assemblies
- ATM & DWDM high speed communication systems
- Multimedia
- CATV and Video
- Data and Telecommunication Networks
- Industrial

**STANDARDS**
- IEC 61754-7 „Fiber optic connectors interfaces - Type MPO connector family“
- TIA/EIA 604-5A „Fiber optic intermateability standard - Type MPO“

**AVAILABLE AS**
- Terminated connector

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th></th>
<th>MULTIMODE 0° PC</th>
<th>SINGLE MODE 0° PC</th>
<th>SINGLE MODE 8° APC</th>
<th>UNITS</th>
<th>TEST CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss (IL)</td>
<td>typ. 0.35</td>
<td>typ. 0.25 to 0.75</td>
<td>typ. 0.25 to 0.75</td>
<td>dB</td>
<td>IEC 61300-3-4, λ = 1300/1550nm</td>
</tr>
<tr>
<td>Return Loss (RL)</td>
<td>typ. 30</td>
<td>min. 40</td>
<td>min. 60°</td>
<td>dB</td>
<td>IEC 61300-3-6, λ = 1300/1550nm</td>
</tr>
<tr>
<td>Repeatability of IL</td>
<td>max. ±0.2</td>
<td></td>
<td></td>
<td>dB</td>
<td>IEC 61300-2-2, λ = 1300/1550nm</td>
</tr>
<tr>
<td>Service life</td>
<td>500 mate/demate cycles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40/+85°C**</td>
<td></td>
<td></td>
<td>°C</td>
<td></td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40/+90°C**</td>
<td></td>
<td></td>
<td>°C</td>
<td></td>
</tr>
</tbody>
</table>

* Measured with high precision reflectometer
** May be further limited by cable specifications
**CONNECTOR TYPES AND DIMENSIONS**

**MPO-A1 Connectors (with pins)**
- Available types:
  - MPO-A1 - PC
  - MPO-A1 - APC
- Ferrule style: MT (Plastic)
- External parts: Plastic

**MPO-A2 Connectors (without pins)**
- Available types:
  - MPO-A2 - PC
  - MPO-A2 - APC
- Ferrule style: MT (Plastic)
- External parts: Plastic

**NOTE** Standard body/boot colors: black/black for MM 50µm and MM 62.5 µm; green/black for SM PC and SM APC.

**ADAPTER TYPE AND DIMENSIONS**

**MPO mating adapter**
- External parts: Plastic black

**Suitable fiber types and dimensions:**

<table>
<thead>
<tr>
<th>Fiber Types and Dimensions</th>
<th>MPO-A1 ribbon cable</th>
<th>MPO-A2 ribbon fiber</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x 9/125 buffered</td>
<td>4x 9/125</td>
<td></td>
</tr>
<tr>
<td>8x 9/125 buffered</td>
<td>8x 9/125</td>
<td></td>
</tr>
<tr>
<td>12x 9/125 buffered*</td>
<td>12x 9/125</td>
<td></td>
</tr>
<tr>
<td>4x 50/125 buffered*</td>
<td>4x 50/125</td>
<td></td>
</tr>
<tr>
<td>8x 50/125 buffered*</td>
<td>8x 50/125</td>
<td></td>
</tr>
<tr>
<td>12x 50/125 buffered*</td>
<td>12x 50/125</td>
<td></td>
</tr>
</tbody>
</table>

* Available upon request
THE FAN-OUT CORD

A fan-out cable assembly typically consists of multi-fiber connectors terminated on multiple ribbon fiber or cable on one end, and single fiber connectors terminated on 900µm tubing on the other. A Fan-Out is used to facilitate the conversion from the ribbon to individual fiber format. Diamond’s FAN-OUT has a number of distinguishable features including strain relief boots for superior bend radius protection and innovative stackable design. It’s compact size, 12 fiber capacity and integrated strain relief, makes it a clear choice for high density and high reliability applications. Diamond produces high performance splice free fan-out cable assemblies using 4, 8 and 12 channel ribbon fiber or ribbon cable. These assemblies are available with Diamond’s advanced MFS or MPO connectors and almost all industry standard single fiber connectors terminated with our patented Active Alignment process.

FEATURES AND BENEFITS

- High density Multi-fiber design
  
  4,8 or 12 channel ribbon fiber or ribbon cable
- Compact design
  
  easily stacked and secured for high-density applications
- Strain relief boots
  
  superior bend radius protection resulting in higher reliability
- Available in different lengths to support your custom applications

APPLICATIONS

- High density channel routing between equipment and interconnect racks
- Termination of outside plant cable at the customer demarcation point

SPECIFICATIONS

<table>
<thead>
<tr>
<th></th>
<th>MULTIMODE</th>
<th>SINGLE MODE</th>
<th>UNITS</th>
<th>TEST CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss (IL)*</td>
<td>max. 0.1</td>
<td>db</td>
<td></td>
<td>IEC 61300-3-4; λ = 1300/1550nm</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40° +85**</td>
<td>°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40° +90**</td>
<td>°C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The IL values represent the attenuation only due to the Fan-Out (Excluding contribution of connectors)
** May be further limited by cable specifications

TYPICAL CONFIGURATIONS (as mentioned within the Qualification Test Report)

<table>
<thead>
<tr>
<th>CONFIGURATION</th>
<th>RIBBON TYPE</th>
<th>TUBING MATERIAL</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type A</td>
<td>Cable</td>
<td>Peek ∅ 0.9mm</td>
<td>High strength cable FAN-OUT</td>
</tr>
<tr>
<td>Type B</td>
<td>Fiber</td>
<td>Hytrel ∅ 0.9mm</td>
<td>Fiber FAN-OUT</td>
</tr>
<tr>
<td>Type C</td>
<td>Cable</td>
<td>Hytrel ∅ 0.9mm</td>
<td>Cable FAN-OUT</td>
</tr>
</tbody>
</table>
**FAN-OUT CORD TYPICAL CONFIGURATION**

![Diagram of MPO & Fan-Out cords]

**FAN-OUT TYPES AND DIMENSIONS**

- **Type 1)**
  - Breakout side
  - Suitable for 12 x ribbon fiber or cable and 8 x ribbon cable
  - Dimensions:
    - L1: 61 cm
    - L2: 32 cm
    - Breakout side: 4 cm

- **Type 2)**
  - Breakout side
  - Suitable for 4 x ribbon fiber or cable and 8 x ribbon fiber
  - Dimensions:
    - L1: 66 cm
    - L2: 27 cm
    - Breakout side: 4.5 cm

**OTHER AVAILABLE CONFIGURATION***

- e.g: Both ends Fanout

* *please contact your local DIAMOND representative to discuss application specific information*

**ORDER INFORMATION**

Please contact your nearest local Diamond representative or fill in the contact form available on the [www.diamond-fo.com](http://www.diamond-fo.com) website.