Product Overview

The mode mux/demux is built around Phoenix Photonics mode selective all fiber lantern and PC controlled all-fibre precision polarization controllers. The Higher order modes of the FMF (LP_{11} and LP_{21}) rotate during propagation. Controlling the state of polarization of the input allows rotation of the modes for optimum demultiplexing at the receiver.

Product Details

The instrument is available in 3- and 6-mode versions. There are three options available:

- Mode multiplexer consisting photonic lantern and polarization controllers.
- Mode multiplexer and demultiplexer consisting two photonic lanterns one to multiplex and one to demultiplex with polarization control on one (multiplexer) only.
- Full two-way mode multiplexer and demultiplexer consisting two photonic lanterns and polarization control on both lanterns.

For more information please contact Phoenix sales: sales@phoenixphotonics.com or visit us at www.phoenixphotonics.com
**Technical Information**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input fiber</td>
<td>Corning SMF28</td>
</tr>
<tr>
<td>Connectors</td>
<td>Optional – please specify</td>
</tr>
<tr>
<td>Output fiber&lt;sup&gt;2&lt;/sup&gt;</td>
<td>OFS two or four mode graded index</td>
</tr>
<tr>
<td>Wavelength range</td>
<td>nm 1450 - 1640</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input ports</td>
<td></td>
</tr>
<tr>
<td>Mode ER&lt;sup&gt;1&lt;/sup&gt;</td>
<td>dB</td>
</tr>
<tr>
<td>Insertion loss&lt;sup&gt;1&lt;/sup&gt;</td>
<td>dB</td>
</tr>
</tbody>
</table>

<sup>1</sup> Loss and ER will vary between input fibres, in general the high order modes have higher IL and poorer ER

<sup>2</sup> Alternative fibre types can be used on request

**Options:**

1. One mode multiplexer/demultiplexer with 2 polarization controllers (LP<sub>11</sub>) for 3-mode version or 4 polarization controllers (LP<sub>11</sub>, LP<sub>21</sub>) for 6-mode version.

2. Two mode multiplexers/demultiplexers one with polarization controllers as in option 1 and the other without polarization controllers.

3. Two mode multiplexers/demultiplexers both with polarization controllers as in option 1.

**Order code:**

```
P M M D - - - - 1 5 - - - -
```

- **P** M M D
  - No modes: 3
  - 6
- **FMF**
  - GI = Graded Index
  - SI = Step index
- **Wavelength**:
  - 15 – 1530nm
  - 14 – 1480 nm
  - 13 – 1300 nm
- **SMF Connectors**:
  - 0 = none
  - 1 – FC/SPC
  - 2 – FC/APC
  - * Others available
- **FMF Connectors**:
  - 0 = none
  - 1 – FC/SPC
  - 2 – FC/APC
  - * Others available
- **Option**:
  - 1 = Single mux. With PCs
  - 2 = One mux with PCs + demux without PCs
  - 3 = Both mux and demux with PCs

For more information please contact Phoenix sales: sales@phoenixphotonics.com or visit us at www.phoenixphotonics.com

Mode multiplexer V1.0_01709