In-Line Fiber Optic Polarizers

All-fiber, high performance, wide bandwidth polarizers for a range of applications.

FEATURES:
- High extinction ratio
- Near zero back reflection
- Low insertion loss
- Low cost
- Large operating bandwidth
- Small size
- All-fiber configuration
- Rugged packaging

APPLICATIONS:
- PMD measurement systems
- PDL measurement systems
- Optical transmission systems
- Optical fiber sensors
- High-coherence transmission
- Fiber Optic Gyroscope - FOG
- Instrumentation
- Navigation Equipment
- Military applications
- Aerospace applications

Evanescent Field Technology

FiberLogix in-line, all-fiber polarizers are manufactured using a proprietary unique evanescent field substrate fabrication technology. This enables the polarizer to be fabricated directly onto the fiber and does not interrupt the optical path. FiberLogix polarizers are available in a series of performance grades and typical specifications are shown overleaf - choosing the right match of polarizer to your application allows you to balance component cost and performance. These devices can be tailored to meet a very wide range of operating environments and applications - please contact our technical design team to discuss your specific requirements.

No internal interfaces to reflect light

Unlike alternative technologies, there are no free space optics and no internal interfaces to reflect light. This means back reflections are very low, at least <-70dB, and the polarizers can be used for higher power applications, right next to the source.

No interruptions to the optical path

The optical path remains within the fiber at all times so Insertion Loss is kept to a minimum. The fiber is the transmission medium throughout and this allows excellent bandwidth and optical power performance.
**SPECIFICATIONS:**

<table>
<thead>
<tr>
<th></th>
<th>SM/SM</th>
<th>SM/PM</th>
<th>PM/PM</th>
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<tbody>
<tr>
<td>Return loss</td>
<td>&gt;70dB</td>
<td></td>
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<tr>
<td>Broadband</td>
<td>1280 - 1625nm</td>
<td>&gt;40dB</td>
<td>&gt;35dB</td>
</tr>
<tr>
<td>Extinction Ratio</td>
<td>&gt;50dB</td>
<td>&gt;40dB</td>
<td>&gt;35dB</td>
</tr>
<tr>
<td>Insertion loss (typical)</td>
<td>&lt;0.5dB</td>
<td>&lt;1dB</td>
<td>&lt;1.5dB</td>
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<tr>
<td>Packaging Size</td>
<td>50 x 2mm</td>
<td>75 x 3mm</td>
<td>100 x 3mm</td>
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<tr>
<td>Operating Temperature</td>
<td>-5°C to 70°C</td>
<td></td>
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<tr>
<td>Transportation &amp; Storage</td>
<td>-40°C to 85°C</td>
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<tr>
<td>Pigtail Options</td>
<td>1m fiber standard, 900µm tube optional</td>
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<tr>
<td>Connectors</td>
<td>Optional</td>
<td></td>
<td></td>
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<tr>
<td>Fiber Type</td>
<td>SMF 28</td>
<td>SMF 28/Panda</td>
<td>Panda</td>
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**Notes to Specifications**

1. All specifications are worst case. Actual products commonly exhibit better individual specifications than shown in these tables.
2. All polarizers are tested as they are manufactured and are selected into performance groups. Deliveries to your order are guaranteed to meet or exceed the agreed specification.
3. Extinction Ratio is measured at 1300nm, 1480nm, and 1550nm, and polarizers are selected to ensure they meet or exceed the performance group required. Extinction ratios higher than those shown in the specification table above are available - please discuss your specific requirement with FiberLogix.
4. Return Loss, or Back Reflection, performance is characterized at 70dB. Higher performance is available if required - please discuss your requirement with FiberLogix.
5. Insertion Loss for each Polarizer group is characterized by the values shown in the specification table. Significant improvements in performance can be made if required.
6. Packaging is designed to provide a rugged product for general uses. Alternative packaging to your specification is available - please discuss.
7. FiberLogix normally uses SMF 28 and PANDA fiber to make the polarizers but other fiber types may be considered - please discuss your specific needs with us.
8. SM: Single mode - PM: Polarizing Maintaining
9. All quoted loses are without connectors.
10. Dimensions may vary slightly.

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**Extinction ratio of FiberLogix Polarizers**

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**ORDERING INFORMATION:**

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**Extinction ratio:**

- 20 - 20 to 24dB
- 25 - 25 to 29dB
- 30 - 30 to 34dB
- 35 - 35 to 39dB
- 40 - 40 to 44dB
- 45 - 45 to 49dB
- 50 - >49dB

**Wavelength:**

- 15 - 1550nm
- 14 - 1480nm
- 13 - 1300nm
- 10 - 1060nm
- 9 - 980nm

**Input / output fibers:**

- SS - SM in SM out
- SP - SM in PM out
- PP - PM in PM out

**Connectors:**

- 0 - none
- 1 - FC/SPC
- 2 - FC/APC

**Cable type:**

- 1 - uncabled fiber
- 3 - 900µm