Beam Switcher
Versatile Accessory for Microscopy and Optogenetics
Applications

Introduction
The Beam Switcher accessory allows Prizmatix LEDs installed on the microscope to be used either for the microscope epi-fluorescence illumination or for illuminating via a fiberoptic probe. Especially useful for in situ Optogenetics studies, the Beam switcher saves cost and space, yet enables maximum flexibility in experiment design. Alternatively, the Beam Switcher is useful for assembling White LED and single color LED at fluorescence microscopes. Please see below for application examples.

Key Features
- Assembles directly on the microscope epi-fluorescence illumination port.
- Modular adapters for all major microscopes brands.
- Accepts all types of Prizmatix UHP-Mic-LED, VHP-Mic-LED, Mic-LED products.
- Accepts all types of multimode optical fibers.

Applications
- Fluorescence microscopy
- Optogenetics

Specifications
<table>
<thead>
<tr>
<th>Wavelength range</th>
<th>nm</th>
<th>350 – 1100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector for Optical fiber</td>
<td>SMA / FC / ST</td>
<td></td>
</tr>
<tr>
<td>Adaptors to Microscope epi-fluorescence illumination port</td>
<td>Olympus, Nikon, Zeiss or Leica</td>
<td></td>
</tr>
<tr>
<td>Connection to Prizmatix LED heads</td>
<td>By 4 pin connection system</td>
<td></td>
</tr>
<tr>
<td>Connection to other systems</td>
<td>SM1 thread</td>
<td></td>
</tr>
<tr>
<td>Optional components</td>
<td>C-Mount and all SM1 components</td>
<td></td>
</tr>
</tbody>
</table>

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Application Examples

<table>
<thead>
<tr>
<th>White / Single Color LED Switching</th>
<th>Microscope / Fiber Beam Switching</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="White LED Switching" /></td>
<td><img src="image2" alt="Microscope Switching" /></td>
</tr>
</tbody>
</table>

Mechanical Drawings

<table>
<thead>
<tr>
<th>Front</th>
<th>Open – Beam pass through</th>
<th>Close – Beam bends</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3" alt="Front View" /></td>
<td><img src="image4" alt="Open View" /></td>
<td><img src="image5" alt="Close View" /></td>
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Optional Accessories

**Filter Wheel:**
The UHP-Mic-LED can equipped with a 6 positions filter wheel at the beam output. This accessory is especially useful for UHP-Mic-LED-White light source. Please see video clip [http://www.youtube.com/watch?v=iv7dlwLHaUE&feature=plcp](http://www.youtube.com/watch?v=iv7dlwLHaUE&feature=plcp) at time 1:58 for details.

**Fiber Coupler Adaptor:**
The UHP-Mic-LED can be easily changed from direct microscope coupling to fiber coupled LED configuration by means of Fiber Coupler Adaptor (SMA, CF or ST connector). This adaptor can be easily assembled by a user on the Mic-LED output. Please see video clip [http://www.youtube.com/watch?v=iv7dlwLHaUE](http://www.youtube.com/watch?v=iv7dlwLHaUE) at time: 1:17 for more details.

**Liquid Light Guide Adaptor:**
The Microscope-LED can be easily changed from direct microscope coupling to Liquid Light Guide coupled LED configuration by means of LLGA Adaptor. This adaptor can be easily assembled by a user on the Mic-LED output. Please see video clip [http://www.youtube.com/watch?v=iv7dlwLHaUE](http://www.youtube.com/watch?v=iv7dlwLHaUE) at time: 2:30 for more details.

**Collimator:**
The output from optical fiber is divergent according to fiber NA. In order to reduce the divergence angle a collimator module can be used. Prizmatix collimator was especially designed to fit thick core high NA Polymer Optical Fibers. See more info at [https://www.prizmatix.com/optics/collimator.htm](https://www.prizmatix.com/optics/collimator.htm)

**Fiber Bundles:**
To combine outputs of multiple LEDs a Y-shaped fiber bundle with two or more input branches can be used. Prizmatix can help to configure and build custom fiber bundles for specific applications. See more info at: [https://www.prizmatix.com/dev/Custom-Fiber-Optic-Assemblies.htm](https://www.prizmatix.com/dev/Custom-Fiber-Optic-Assemblies.htm)