Features and Benefits

- **Single camera**
  Cost effective - only one camera required

- **Variable internal path separation**
  Minimizing the introduction of aberrations

- **Dichroic mirror and emission filters mounted in a readily interchangeable cube**
  Exchange filter sets both easily and quickly. Some competing products have factory fitted filters

- **Variable and locking rectangular diaphragm aperture for defining field size**
  Define the ROI both horizontally and vertically and set the images to the optimum size for the camera sensor

- **Compact design with integral C-mount input and output ports**
  Integral C-mounts allow it to be easily attached to a wide variety of standard microscopes and CCD cameras

- **Simple and precise controls for image registration**
  Split images can be accurately and easily centred in the desired field of view, and pixels aligned with respect to each other

- **Interchangeable filter/dichroic holders for triple, dual and single wavelength imaging**
  Flexibility to use multiple wavelengths by simply changing filter and re-sizing the defined field

- **Aperture diaphragms to balance signal levels if appropriate**
  Acts as an adjustable neutral density filter, which can be more convenient than using neutral density filters

- **Rotating filter mount for polarization studies**
  Accurately orientates the emission polarization to maximize the contrast

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### Triple Emission Image Splitter

The Optosplit III, a 3-way image splitter is a simple device for dividing an image into one, two or three separate, spatially equivalent components which can be displayed side by side on a camera sensor, enabling a single camera to record images simultaneously at one, two or three different optical wavelengths.

The Optosplit III has been designed as a convenient, inexpensive solution for simultaneous imaging. Splitting is usually performed on the basis of wavelength or polarization, allowing applications where there is a requirement for simultaneous or high speed acquisition of multiple emission bands or polarization states. The simultaneous acquisition of up to three images offers a major benefit over manual or electronic filter changers, as there is no longer a need to pause acquisition while the filter position is changed. This allows your camera to be operated at the very fastest capture rates it is capable of achieving.

The Optosplit III is usually supplied with unity magnification and fitted with a rectangular aperture to define the ROI. It includes controls to allow up to three images to be positioned accurately and conveniently within the camera frame. Device drivers are included in several commercial imaging packages to assist registration and to allow real-time and off-line ratioing or image overlays. Whilst optimized for coupling to a scientific microscope, the Optosplit III can also be used with camera lenses or any other system of lenses that produce an image plane of suitable size.

### Key Applications

- Polarization Fluorescence Resonance Energy Transfer (pFRET)
- Ratiometric ion imaging
- Triple fluorescence probe imaging
- Polarization studies
- Simultaneous phase contrast and fluorescence
- Multi-depth imaging
Creating The Optimum Product for You

How to customize the Optosplit III:

**Step 1.**
Select the Optosplit III product code.

**Step 2.**
Please indicate the filter set you require.

**Step 3.**
Please indicate which accessories are required.

Items shipped with your Optosplit III

1 x rectangular input diagram
1 x triple calibration cube
2 x shutter plates
1 x corrector lens & holder
1 x ND kit with 4 ND filters
1 x Filter Block for single channel operation (100 % through centre)
2 x Em/Ex empty cube

### Creating The Optimum Product for You

**Choose the Optosplit III using the following product code:**

**TR-OPTS-30B**

1.0x magnification. TR-OPTS-30B suits the larger sensor size of the Zyla 4.2, Zyla 5.5, Neo 5.5 and iXon Ultra 888. This Optosplit III is suitable for all imaging cameras from Andor, ‘one size fits all’.

**The following filter sets are available:**

<table>
<thead>
<tr>
<th>Part Code</th>
<th>Short Description</th>
<th>Long Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR-EMFS-F01</td>
<td>GFP/RFP</td>
<td>Semrock FF01-514/30-25, FF02-617/73, Dichroic FF580-FD01-25x36</td>
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<tr>
<td>TR-EMFS-F02</td>
<td>CFP/YFP</td>
<td>Semrock FF01-475/28, FF01-550/49-25, Dichroic FF509-FD01-25x36</td>
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<tr>
<td>TR-EMFS-F05</td>
<td>CAMELEONS</td>
<td>Semrock FF01-483/32-25, FF01-542/27-25, Dichroic FF506-DI02-25x36,</td>
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<tr>
<td>TR-EMFS-F07</td>
<td>GFP/YFP</td>
<td>Semrock FF01-497/16-25, FF01-550/32, Dichroic FF509-FD01-25x36</td>
</tr>
<tr>
<td>TR-EMFS-F08</td>
<td>680/732 Filter Set</td>
<td>Semrock FF01-680/13-25, FF01-732/88-25, Dichroic FF700-DI01-25x36</td>
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<tr>
<td>TR-EMFS-F09</td>
<td>Cy3-Cy5</td>
<td>Semrock FF01-579/34-25, FF01-679/41-25, Dichroic FF640-FD01-25x36</td>
</tr>
<tr>
<td>TR-EMFS-F10</td>
<td>Polarizing Filter set</td>
<td>Emission / excitation filter cube with integrated polarizing beamsplitter cube &amp; Rotating Optosplit auxiliary component holder with 25mm polarizer (Full width)</td>
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<tr>
<td>TR-EMFS-F12</td>
<td>Cy3/Cy5.5</td>
<td>Semrock FF01-579/34-25, FF01-692/40-25, Dichroic FF640-FD01-25x36</td>
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<tr>
<td>TR-EMFS-F13</td>
<td>Fluo4/Fura Red</td>
<td>Semrock FF01-530/43-25, Chroma HQ615LP, Dichroic FF580-FD01-25x36</td>
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<tr>
<td>TR-EMFS-F14</td>
<td>GFP/Cy5</td>
<td>Semrock FF02-525/40, FF01-679/41-25, Dichroic FF580-FD01-25x36</td>
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<td>TR-EMFS-F15</td>
<td>50/50 BS Mirror</td>
<td>Chroma 50/50 beamsplitter, 25.2x35.6x1mm laser flat</td>
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<tr>
<td>TR-EMFS-F17</td>
<td>GFP/mCherry</td>
<td>Semrock FF02-525/40-25, FF01-640/40-25, Dichroic FF580-FD01-25x36</td>
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<tr>
<td>TR-EMFS-F20</td>
<td>GFP/Cy5</td>
<td>Semrock FF01-534/42-25, FF01-655/40-25, Dichroic FF580-FD01-25x36</td>
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<tr>
<td>TR-EMFS-F21</td>
<td>GFP/mCherry:wide</td>
<td>Semrock FF01-534/42-25, FF01-641/75-25, Dichroic FF580-FD01-25x36</td>
</tr>
</tbody>
</table>

**The following accessories are available:**

<table>
<thead>
<tr>
<th>Part Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TR-OPTS-00</td>
<td>Optosplit filter cube Empty filter cube for Optosplit II/III</td>
</tr>
</tbody>
</table>
Recommended Software

Device drivers are included in several commercial imaging packages to assist registration and to allow real-time and off-line ratioing or fluorescence overlays. Alternatively, the Optosplit can be used with simple image capture software and the processing carried out manually off-line.

The simple and accessible design makes the Optosplit an excellent platform for alternative applications, such as dual polarization imaging. Whilst optimized for coupling to a scientific microscope, the Optosplit can also be used with camera lenses or any other system of lenses that produce an image plane of suitable size.

Order Today

Need more information? At Andor we are committed to finding the correct solution for you. With a dedicated team of technical advisors, we are able to offer you one-to-one guidance and technical support on all Andor products. For a full listing of our regional sales offices, please see andor.com/contact

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