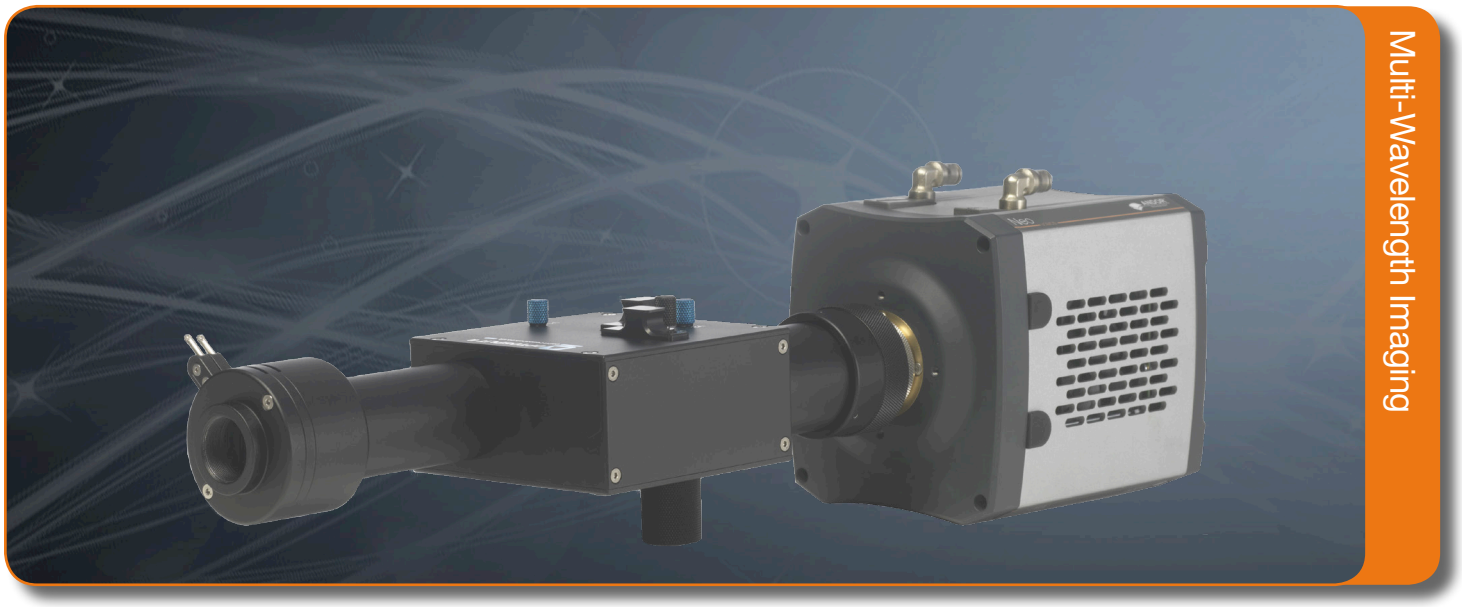
Optosplit II

One Camera Solution
Dual Emission Image Splitter

ANDOR
an Oxford Instruments company



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 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

Dual Emission Image Splitter

The Optosplit II image splitter is a simple and elegant device for dividing an image into two separate, spatially equivalent, components that can be displayed side by side on a single camera chip.

Splitting is usually performed on the basis of wavelength, allowing applications such as ratiometric calcium imaging or FRET, however, polarizing beamsplitters are also supported.

The two images can be captured simultaneously offering a major benefit over manual or electronic filter changers. A rectangular aperture is used to define the region to be imaged, with a set of simple controls allowing the user to vary the relative positions of the two output images on the camera. The Optosplit II can significantly widen the scope of any fluorescence imaging system.

The Optosplit II includes controls to allow the two images to be positioned accurately and conveniently within the camera frame. Images can be acquired using any imaging software and processed either manually off-line or using an appropriate analysis tool such as the Splitview module in MetaMorph (Molecular Devices) or Field Split in Andor iQ.

Key Applications

Ratiometric calcium and pH imaging
Dual probe imaging
Fluorescence Resonance Energy Transfer (FRET)
Total Internal Reflectance Fluorescence (TIRF)
Polarization Studies

Creating The Optimum Product for You

How to customize the Optosplit II:

Step 1.

Select the Optosplit II product code.

Step 2.

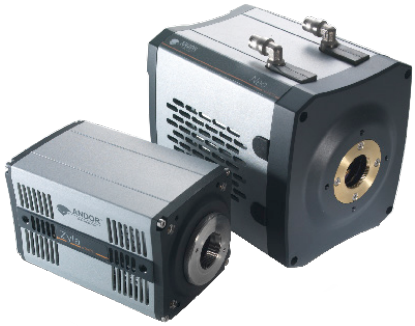
Please indicate the filter set you require.

Step 3.

Please indicate which accessories are required.

Items shipped with your Optosplit II

1 x rectangular input diaphragm
1 x calibration cube with 50/50 mirror
1 x shutter plate
1 x corrector lens & holder
1 x Ex/Em empty cube
1 x ND kit with 4 ND filters



Step 1.

Choose the Optosplit II using the following product code:

TR-OPTS-20B 1.0x magnification. TR-OPTS-20B suits the larger sensor size of the Zyla 4.2, Zyla 5.5, Neo 5.5 and iXon Ultra 888. This Optosplit II is suitable for all imaging cameras from Andor, 'one size fits all'.

Step 2.

The following filter sets are available:

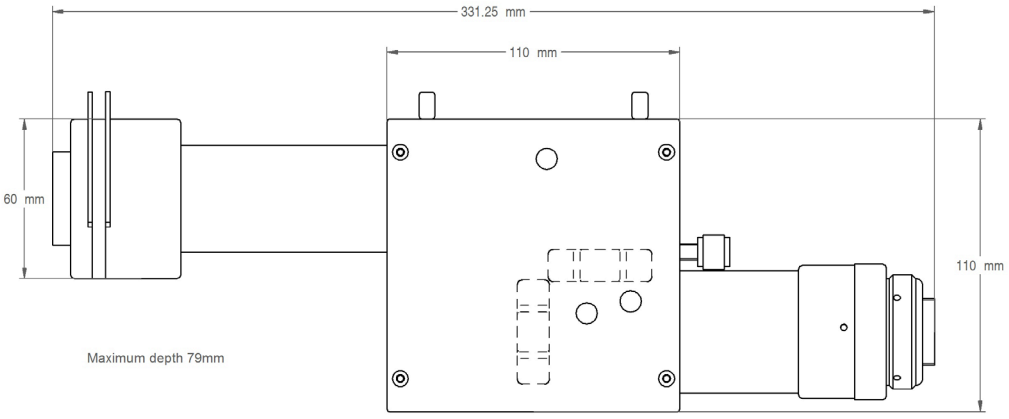
Part Code	Short Description	Long Description
TR-EMFS-F01	GFP/RFP	Semrock FF01-514/30-25, FF02-617/73, Dichroic FF580-FDi01-25x36
TR-EMFS-F02	CFP/YFP	Semrock FF01-475/28, FF01-550/49-25, Dichroic FF509-FDi01-25x36
TR-EMFS-F05	CAMELEONS	Semrock FF01-483/32-25, FF01-542/27-25, Dichroic FF506-Di02-25x36,
TR-EMFS-F07	GFP/YFP	Semrock FF01-497/16-25, FF01-550/32, Dichroic FF509-FDi01-25x36
TR-EMFS-F08	680/732 Filter Set	Semrock FF01-680/13-25, FF01-732/68-25, Dichroic FF700-Di01-25x36
TR-EMFS-F09	Cy3-Cy5	Semrock FF01-579/34-25, FF01-679/41-25, Dichroic FF640-FDi01-25x36
TR-EMFS-F10	Polarizing Filter set	Emission / excitation filter cube with integrated polarizing beamsplitter cube & Rotating Optosplit auxillary component holder with 25mm polarizer (Full width)
TR-EMFS-F12	Cy3/Cy5.5	Semrock FF01-579/34-25, FF01-692/40-25, Dichroic FF640-FDi01-25x36
TR-EMFS-F13	Fluo4/Fura Red	Semrock FF01-530/43-25, Chroma HQ615LP, Dichroic FF580-FDi01-25x36
TR-EMFS-F14	GFP/Cy5	Semrock FF02-525/40, FF01-679/41-25, Dichroic FF580-FDi01-25x36
TR-EMFS-F15	50/50 BS Mirror	Chroma 50/50 beamsplitter, 25.2x35.6x1mm laser flat
TR-EMFS-F17	GFP/mCherry	Semrock FF02-525/40-25, FF01-640/40-25, Dichroic FF580-FDi01-25x36
TR-EMFS-F20	GFP/Cy5	Semrock FF01-534/42-25, FF01-655/40-25, Dichroic FF580-FDi01-25x36
TR-EMFS-F21	GFP/mCherry:wide	Semrock FF01-534/42-25, FF01-641/75-25, Dichroic FF580-FDi01-25x36

Step 3.

The following accessories are available:

TR-OPTS-F00	Optosplit filter cube	Empty filter cube for Optosplit II/III

Product Drawings



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.

iQ2 MetaMorph® µManager ImageJ Image Processing and Analysis in Java

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