

OPTOSPLIT II BYPASS

DATASHEET

Two-way image splitter with enhanced performance and simple bypass mode

NEW

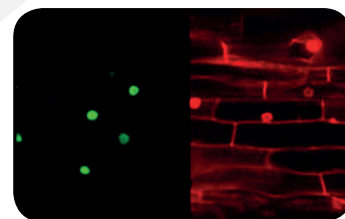
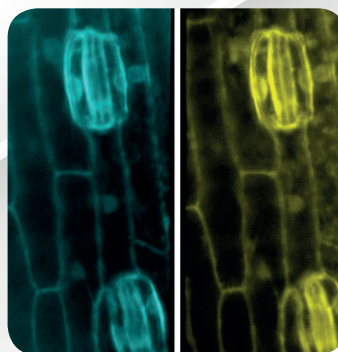
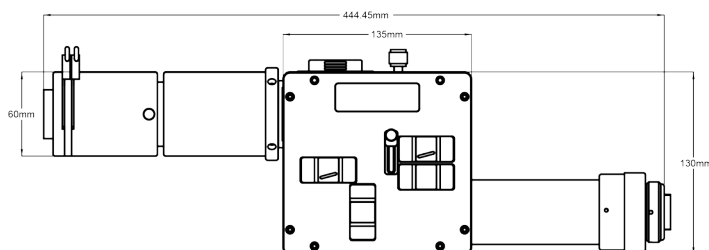
The Optosplit II Bypass image splitter from Cairn Research is a simple and elegant device for dividing an image into two separate, spatially equivalent, components that can be displayed side by side on a single camera sensor.

Splitting is usually performed on the basis of wavelength, allowing applications such as ratiometric calcium imaging or FRET, however, polarizing and neutral beamsplitters are also supported. Although optimized for microscopy the OptoSplit II BP can be used in any application requiring simultaneous two channel imaging on a digital CCD, EMCCD or CMOS camera.

WHAT'S NEW?

Based on our industry-leading OptoSplit II the OptoSplit II BP offers the following improvements:

- Simple bypass lever for full-field imaging (typically without requiring pixel realignment)
- New in-house lens design with class leading chromatic performance
- Enhanced stability with improved alignment mechanics for Stochastic Super Resolution Microscopy
- Planar magnetic cube design for improved reproducibility
- Flexible access to pupil planes for multi z plane imaging and other high-end techniques
- Large auxiliary holder for better lens registration and more options for customization



APPLICATIONS

- Ratiometric ion or voltage imaging
- Förster Resonance Energy Transfer (FRET)
- Dual probe widefield microscopy
- TIRF/Spinning Disk Confocal
- Combined fluorescence/transmitted light microscopy
- Super Resolution Microscopy

KEY BENEFITS

- Works with large sensors (22mm diagonal, e.g. 5.5MPixel sCMOS)
- User configurable "planar" filter cubes with industry standard filters/dichroics
- Optional magnification 1X, 1.3X and 1.7X
Unsplit mode through either channel or neither (18mm diagonal, e.g. 4.2MPixel sCMOS)
- Intuitive and independent x, y and focal controls
- Accommodates ND filters or chromatic correction / z-shift lenses
- Standard spectral range from 450 to 900nm
- Supports cropped sensor modes in split or unsplit configuration

EMISSION SPLITTING SYSTEMS

WHEN EVERY PHOTON COUNTS

DATASHEET



○ OptoSplit II & III

With an elegant configuration for simple side-by-side image-splitting, and optimised for large-sensor cameras, the OptoSplit provides extremely high throughput. Ideal for FRET, ratiometric imaging, polarisation studies and most simultaneous imaging applications requiring two or three images. User-configurable cubes and intuitive x, y and focal adjustments offer convenience and simplicity.



○ Optosplit II Bypass

It builds on the success of the OptoSplit II, but adds a convenient single lever Bypass mode making it more suitable for multi-user microscopes where simultaneous dual channels are only required for specific experiments alongside single wavelength recordings.



○ MultiSplit

Creative design splits images into four quadrants on a single large sensor and allows convenient filter changing. Optical design provides approx. 90% total throughput. Simple and highly stable alignment allows for extended imaging sessions. Combine fluorescence with DIC or polarisation, or image multiple focal depths simultaneously.



○ TwinCam

Splitter for dual imaging with two large sCMOS cameras. Perform simultaneous recording of two different images without having to reduce their size. Variable rectangular apertures allow for the use of cropped sensor modes for the fastest speeds.



○ MultiCam

Similar to the TwinCam, but can accommodate four large sCMOS cameras. Variable rectangular apertures allow for the use of cropped sensor modes for the fastest speeds.



○ OptoMask

Enables precise FOV control for the high-speed, cropped sensor mode offered by several camera manufacturers including Andor and Princeton Instruments. Supports larger format sensors.



○ OptoSpin IV

An intelligently designed, fast-spinning & stepping filter wheel. This slim unit has low inertia, enabling smooth operation and the ability to spin at 10,000 rpm. Imaging in spin mode allows for > 100frames/second with exposures of 1ms/filter. Change filters without moving the camera. Mount two units together in the same 35mm optical path length to create a 10 position filter wheel with significant speed advantages.