OPTOSPLIT II LS

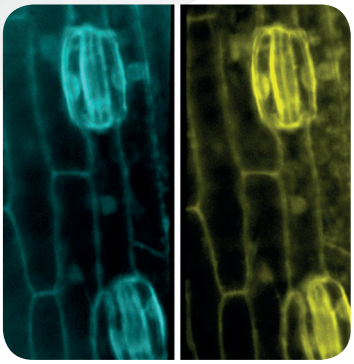
DATASHEET

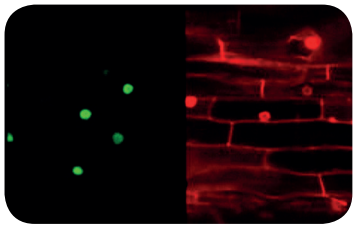
Two-way image splitter

NEW LARGE SENSOR VERSION

The Optosplit II LS 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 chip.

Splitting is usually performed on the basis of wavelength, allowing applications such as ratiometric calcium imaging or FRET, however, polarising 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 Cairn Optosplit II can significantly widen the scope of any fluorescence imaging system.





APPLICATIONS

- Ratiometric ion or voltage imaging
- Förster Resonance Energy Transfer (FRET)
- Dual probe widefield microscopy
- TIRF/Spinning disk confocal
- Combined fluorescence/transmitted light microscopy

KEY BENEFITS

- Works with sensor sizes up to 22mm diagonal (eg 5.5MPixel sCMOS)
- User configurable filter cubes with industry standard filters/dichroics
- Optional magnification or demagnification
- Unsplit mode through either channel or neither (18mm diagonal)
- Intuitive and independent x, y and focal controls
- Accommodates ND filters or chromatic correction lenses
- Standard spectral range from 450 to 900nm
- Supports cropped sensor modes

CAIRN RESEARCH

email: sales@cairn-research.co.uk tech@cairn-research.co.uk
+44(0)1795 590140 www.cairn-research.co.uk

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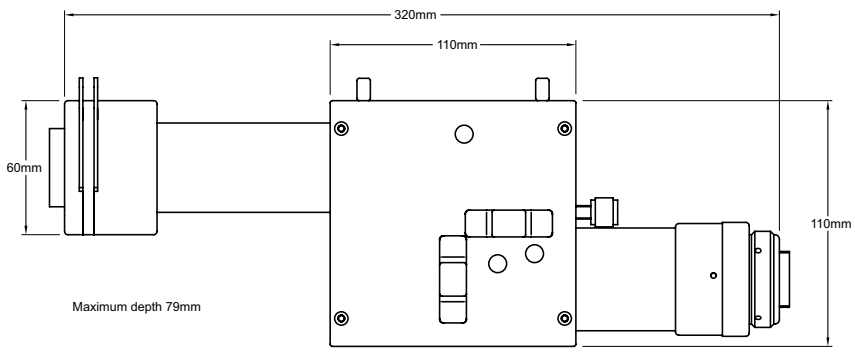
SUMMARY

In fluorescence imaging applications it is often useful to acquire simultaneous images at two emission wavelengths. Traditionally such applications have been restricted by the speed of an electronic filter changer, or by the cost and complexity of adding a second camera to a system. In many instances the region of interest (ROI) does not require the full resolution of the camera so the ideal solution would be to simultaneously image at two different wavelengths on the same camera chip. In conjunction with a research microscope and a suitable CCD camera the Cairn Optosplit II allows the researcher to do exactly this. The Cairn Optosplit II is usually supplied with a rectangular aperture to define a ROI and 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 Molecular Devices' Meta series software or Field Split in Andor Bioimaging's iQ.

The instrument is usually configured to attach to the cmount output port of a research microscope, with a cmount CCD camera fitted to its output. The design allows for connection to a variety of alternative devices, so please consult with us if you intend using it in any other configuration.



Base units	
P280/210/0LS	Optosplit II 'LS' emission image splitter (x1.0 magnification) Includes rectangular input diaphragm, calibration cube & one shutter plate. Longer focal ratio lenses optimised for large format cameras up to 16mm x 16mm (e.g sCMOS sensors)
P280/210/MLS	Optosplit II 'LS' emission image splitter (x1.0 magnification) Includes OptoMask input diaphragm, calibration cube & one shutter plate. Longer focal ratio lenses optimised for large format cameras up to 16mm x 16mm (e.g sCMOS sensors)
Cubes and options	
P290/000/200	Cairn emission / excitation filter cube for 25mm filters (Empty)
P290/CR2/012	Optosplit II corrector lens kit (Includes one full width holder)
P290/ND2/006	Optosplit II neutral density kit (Includes one half width component holder and 4 ND filters)
P290/POL/001	Cairn emission / excitation filter cube with integrated polarising beamsplitter cube
P290/POL/002	Rotating Optosplit auxillary component holder with 25mm polariser (Full width)

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email: sales@cairn-research.co.uk tech@cairn-research.co.uk

+44(0)1795 590140 www.cairn-research.co.uk