

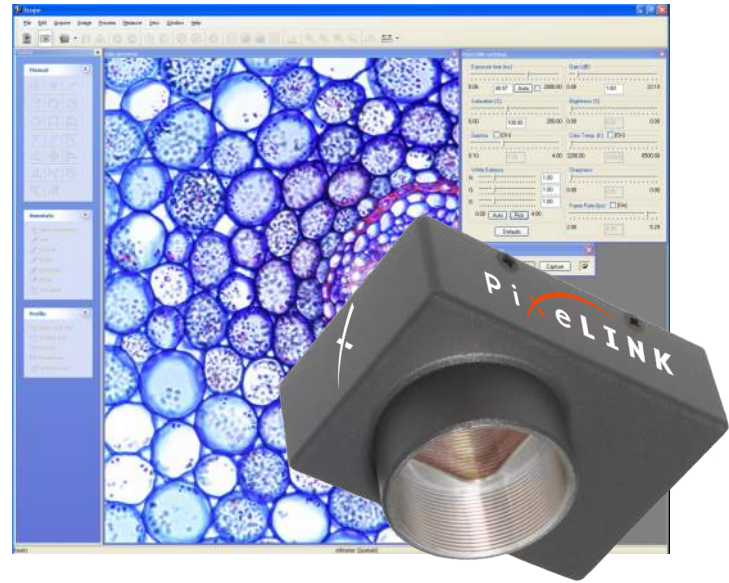
# M1 Microscopy Camera Kit



The M1 microscopy kit is based on a ON Semiconductor CMOS global shutter sensor with a 1/2" optical format. The extensive built-in image processing possibilities (image pre-processing) result in outstanding image quality, less load on the system and higher performance. These cameras provide the user choice of 8-bit or 10-bit digitization and a dynamic range of 53dB.

PixeLINK® will work with you to choose and integrate the optimal USB 3.0 camera for your microscopy project. Ideal for use in any laboratory setting, PixeLINK® cameras let you capture high-quality images with your existing microscope equipment. Our microscopy cameras and associated software are designed to offer consistent, high-quality image acquisition and performance.

PixeLINK® µScope software offers professional image analyses and features the latest in acquisition, analysis and reporting functionality. Some of these features include: Auto & Semi-Auto Calibration, Line Profiling, Image Processing, Image Stitching to create a mosaic of the "Big Picture", 3D Visualization, Auto Trace, Reflected light subtraction and Measurement and Annotation.



Our drivers and software for your host computer enable advanced camera functionality.

Some suitable Microscopy applications include:

- Petrology
- Parts Inspection
- Live Cell Imaging
- Pathology
- Metrology
- Histology
- Palynology
- Microbiology
- Orthopantomography
- Elastography
- Projectional radiography
- Fluoroscopy

## CAMERA FEATURES

- Exposure Time
- Gain
- Frame Rate
- Spot White Balance
- Manual & Auto White Balance (Color only)
- Pixel Addressing
- Gamma
- Saturation
- Color Temperature
- Time Lapse Capture
- Image Flip
- Image Rotate
- Adjustable ROI
- Capture Full Resolution
- Pixel Format
- Manual, Auto & Continuous Auto Exp.
- Saturation (Color Cameras only)

## SENSOR

Sensor	ON Semiconductor CMOS
Type	CMOS Global Shutter
Resolution	1280(H) x 1024(V) 1.3 MP
Pixel Pitch	4.8 $\mu\text{m}$ x 4.8 $\mu\text{m}$
Active Area	6.144 mm x 4.92 mm - 7.87 mm diagonal
Peak QE	53 %
Max Datarate	248MHz

## PERFORMANCE SPECIFICATIONS

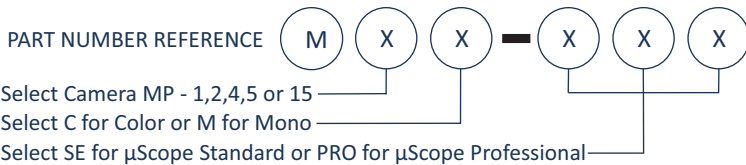
FPN	<1 % of signal
PRNU	<2% of signal
Dynamic Range	53 dB (90dB with Extended Shutter Mode)
Responsivity at 550 nm	24 LSB10 /nJ/cm <sup>2</sup> , 4.6 V/lux.s
Bit Depth	8 or 10-bit
Color Data Formats	Bayer 8, Bayer 16 and YUV422

## MECHANICALS

Dimensions	32 x 48 x 11 mm (without lens mount)
Weight	35.8 g (without optics)
Mounting	Holes for 0-80 hardware
Lens Mount	C-mount

## ORDERING GUIDE

$\mu$ Scope Essentials	$\mu$ Scope Standard	$\mu$ Scope
M1C-ES	M1C-SE	M1C-PRO



## POWER REQUIREMENTS

Voltage Req.	5V DC (from USB connector)
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## ENVIRONMENTAL & REGULATORY

Compliance	FCC Class B, CE & RoHS
Shock & Vibration	300 G & 20 G (10Hz - 2KHz)
Operating Temp.	0°C to 50°C (non-condensing)
Storage Temp.	-45°C to 85°C

## COMPUTER & OPERATING SYSTEM

Processor	Intel i5 or better
Memory	4 GB recommended
Operating System	Windows 7 / Windows 8
Hard Drive Space	75 MB

## FRAME RATES

Resolution	Free Running
1280 x 1024	150
640 x 480	506

Frame rates will vary based on host system and configuration

## ORDERING GUIDE

All M series kits include the following:

- Camera
- 2 Meter USB 3.0 Locking Cable
- $\mu$ Scope Software Installation CD
- $\mu$ Scope Software Security Dongle
- Simple Installation Instructions

# MICROSCOPY SOFTWARE FEATURES

PixelINK® **μScope Standard** Software offers a highly productive, professional image capture tool for microscopy.

PixelINK® **μScope Pro** Software is available for users requiring a more advanced toolset for their microscopy application. This feature rich application includes tools such as z-axis extended focus imaging, shading correction and reflected light subtraction.

Software Features	μScope Essentials	μScope	μScope Pro
Time lapse capture and movie file production - crosshair on live preview	✓	✓	✓
Save in multiple image file formats - jpg, jpeg, tif, tiff, bmp, gif, pcx, tga, mpg, mpeg, avi, mov, img, rpt, txt...	✓	✓	✓
Overlay - crosshair, grid mask, image, marker, time stamp	✓	✓	✓
Image- mode change, clone, crop, resize, rotate		✓	✓
Multiple ROI. shapes & copy, paste, crop ROI		✓	✓
Grayscale, RGB, HSB, YUV	✓	✓	✓
Image sequence control	✓	✓	✓
Zoom control - 100% to 1600% and fit to window options	✓	✓	✓
Annotation - line, arrow, polyline, spline, rectangle, ellipse, text	✓	✓	✓
Image editing: undo, redo, copy, paste, paste new, delete, delete all, annotate, image information	✓	✓	✓
Image processing - manual brightness, contrast, gamma, background subtraction, histogram, clone, crop, roi, resize, rotate, split, image mode change, grayscale, rgb, hsb, yuv pseudo color view		✓	✓
Multiple window configuration options	✓	✓	✓
Manual measurement tools - 3-point circle functionality, n-point circle measurement functionality, parallel line distance measurement, perpendicular distance measurement and object distance measurement. In addition, zoom-in window	✓	✓	✓
Export to excel® - images with measurement, calibration, annotations, measurement data, statistics, and chart	✓	✓	✓
Report generator - create, insert images and OLE objects			✓
Auto and semi auto calibration		✓	✓
Manual calibration	✓	✓	✓
Measurement parameters - area, max length, line length, center x and y, angle	✓	✓	✓
Measurement data	✓	✓	✓
Profile - straight line, polyline, parallel line, select and change		✓	✓
Line profiling - single, multiple, parallel and polyline commands provide gray/red/green/blue intensity values for specific lines within an image. the profile data of each pixel on the line can be exported to Microsoft® Excel		✓	✓
Calibration marker (scale bar) can be placed on the live preview image, and burned in automatically	✓	✓	✓
Live Measurement and Overlay Settings: perform measurements on the live preview image, using the crosshair or grid masks to center and count. The grid masks include calibration data	✓	✓	✓
Dynamic user interface	✓	✓	✓
Image stitching			✓
Z-axis extended focus imaging with displacement compensation			✓
3d visualization to clearly view complex structures			✓
Auto trace using automatic edge detection			✓
Fluorescent image composition			✓
Fast and perfect focus enhancement			✓
Shading correction			✓
Reflected light subtraction			✓

