

The SPOT™ Insight Color digital camera provides a very wide field of view, allowing the entire sample to be visible in the images and eliminating the need for expensive de-magnifying optics. High resolution and Correct Color Technology™ create high quality, vibrant color images with crisp detail. This versatile camera provides market-leading 14-bit digitization and deep pixel wells for exceptional dynamic range.

The SPOT Insight comes with the easy to use SPOT Basic software which is fully compatible with both Windows® and Mac® operating systems. The SPOT software includes real time image previewing, acquisition, scale bar addition, report generation, time lapse, and measuring capabilities. IEEE 1394 Firewire™ connectivity enables effortless installation on computers and laptop portability. The suggested applications for this camera include wide-field brightfield imaging, pathology, and bright fluorescence imaging.

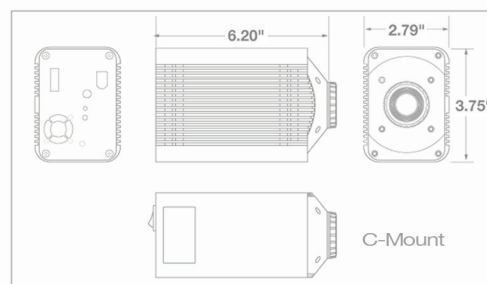
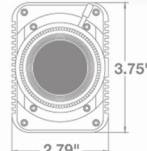
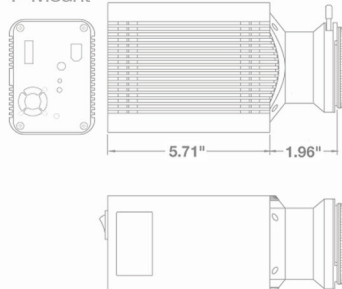


# Insight™

4.0 Mp  
Color



F-Mount



C-Mount

## Features

## Benefits

40 MHz live mode (dual channel 20 MHz)

High speed imaging for real time viewing

2048 x 2048 4.0 Mp image capture

Resolves fine detail

Programmable gain (1-32x)

Facilitates live mode previews of low light specimens

14-bit x 20 MHz capture

Extra bit depth is ideal for image enhancement

15.2 mm x 15.2 mm imaging area  
21.4 mm FN

Increases the field of view to closely match the field of view in the microscope eyepiece

Interline progressive scan CCD

Electronic shuttering eliminates mechanical shutter shortcomings related to speed, wear, and vibration

FireWire® interface

Allows for effortless installation, hot-swapping, and laptop connectivity for greater ease of use

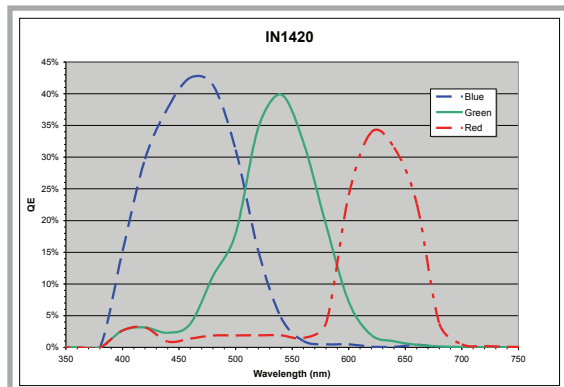


**SPOT™ Imaging Solutions**  
A division of Diagnostic Instruments, Inc.

Sensor	
Resolution	4.0 Mp
Sensor Type	Kodak KAI-4020-CM Progressive Scan Interline CCD (Color Mosaic)
Active Pixels	2048 x 2048
Pixel Size	7.4µm x 7.4µm
Optical Format	4/3"
Active Imager Size	11.8 mm x 8.9 mm 14.8 mm diagonal
Exposure Time	1 ms to 536 seconds
Binning	1x1, 2x2 (monochrome), 4x4 (monochrome)
Region of Interest	User selectable from 50x50 to full resolution
Read Noise	17 e <sup>-</sup> rms
Full Well Depth	27,500 e <sup>-</sup>
Non-linearity	<1%
Bit Depth	14-bit
Sensor Readout Frequency	20 MHz

Camera	
Lens Mount	C-mount or F-mount
Computer Interface	FireWire® IEEE 1394a interface
Trigger Connectors	External trigger input (TTL) Exposure sync output (TTL)
Tripod Mount	1/4"-20 UNC
Weight	F-Mount 1.6 lbs. (0.72kg) C-Mount 1.4 lbs. (0.62kg)
Size	(F-Mount) 2.79" x 3.75" x 7.67" (71mm x 95mm x 195mm) (C-Mount) 2.79" x 3.75" x 6.2" (71mm x 95mm x 142mm)
Power Requirements	100-240 VAC, 47/63Hz
Operating Environment	0 to 30°C ambient, 0 to 80% relative humidity (non-condensing)
Certifications	CE, FCC Class A, EN60950, RoHS

## Quantum Efficiency



## Captured Frame Rates Captured Frames per Second \*

Binning level	Region of interest			
	2048 x 2048	1024 x 1024	512 x 512	256 x 256
1 x 1	3.4	6.2	10.5	16.0
2 x 2	6.2	10.4	15.9	21.6
Monochrome				
4 x 4	10.2	15.4	20.9	25.3
Monochrome				

\*1ms exposure with post-processing deferred, taken with 2.6 Ghz Xeon processor running Windows XP. Capture rates on other computers OS platforms may vary.

SPOT Software	
SPOT Basic Software Features	<p>Live mode viewing window with controls</p> <p>Image capture window</p> <p>Image capture setups are user defined, named and saved</p> <p>Auto or manual exposure for Live and captured images</p> <p>Zoom control on Live and captured images</p> <p>Auto white balance</p> <p>Spot or average metering</p> <p>Correct Color Technology™ using ICC/ColorSync corrections</p> <p>Flatfield correction</p> <p>Annotation</p> <p>Calibration mark</p> <p>Measurement tools</p> <p>Image enhancement tools</p> <p>Sequential image capture and playback</p> <p>Report generator</p> <p>Interactive print dialog</p> <p>Help menu</p> <p>3rd Party Software Interface: Twain for Windows®, SPOT Image Capture Application &amp; AppleEvent for Mac®</p>
Computer Operating System Compatibility	<p>Windows®: XP SP3 (32-bit), Vista (32 or 64-bit), 7 (32 or 64-bit) and 8 (32 or 64-bit)</p> <p>Mac®: OS 10.6 - 10.8</p>
Minimum Computer Requirements	<p>PC: 1GHz Pentium 4 (or equivalent x86 SSE2 processor), 1 GB RAM, IEEE 1394a port</p> <p>Mac®: Intel processor, 1 GB RAM, IEEE 1394a port</p> <p>Mac® and PC video: 24-bit color @ 1024 x 768 resolution</p>
SPOT Advanced Software	Available (includes macro feature, floating taskbars and image archiving database)
SPOT Advanced Software Modules (Optional)	Available (adds image display intensity scaling, peripheral device control and extended depth of focus)
Software Development Kit	Available for Mac® and Windows®
Native Drivers for 3rd Party Software	Available (call or visit our website)

Items Included	
Camera Head	With lens cap
FireWire® cable	Data cable (6-pin)
Power supply	With power cord, 1.3" (33mm) x 1.97" (50mm) x 3.35" (85mm), 0.34 lbs. (0.16kg)
Quick Start Installation Guide	Instructions on how to get up and running quickly
Software CD	Includes SPOT Basic software and User Guide
Warranty	2 years from date of purchase

Catalog Number	C-Mount	F-Mount
Insight 4.0 Color	IN1420	IN1421

Specifications are typical and subject to change.



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Data Sheet: Insight 4.0 Color Mosaic