

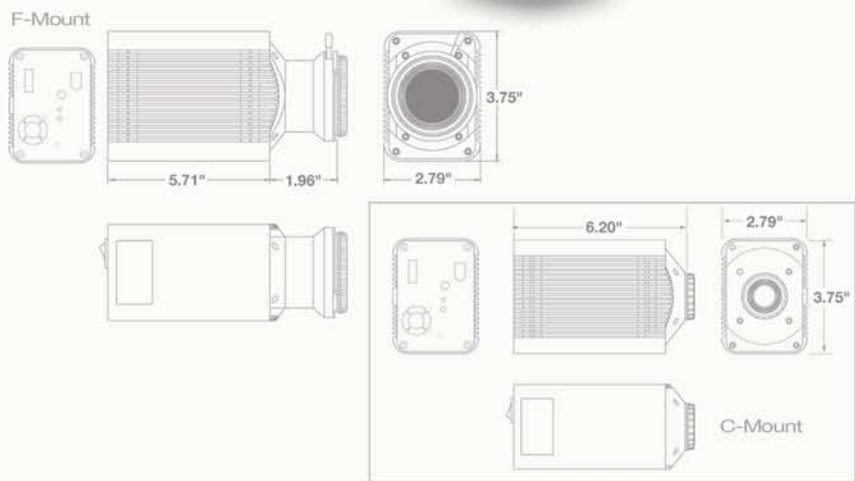


Insight™

4.0 Mp
Monochrome

The SPOT™ Insight Monochrome digital camera provides a wide field of view, allowing more of the sample to be visible in the images and eliminating the need for expensive de-magnifying optics. This versatile camera provides 14-bit digitization and deep pixel wells for high dynamic range. The Insight's refined electronic design produces low noise images even when light is limited. Binning, gain and ROI adjustments are supported to increase frame rates when required. The suggested applications for this camera include wide-field monochrome imaging, bright fluorescence, documentation, inspection, and phase contrast studies.

The SPOT Insight includes SPOT Basic software (Windows® and Mac® OS) for real-time image preview and acquisition, and drivers are available for many third party imaging software applications. IEEE 1394 Firewire™ connectivity enables effortless installation on computers and laptop portability. The SPOT Insight camera's robust design and well-documented, free Software Development Kit (SDK) provide easy OEM integration.



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 (1-20x)	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

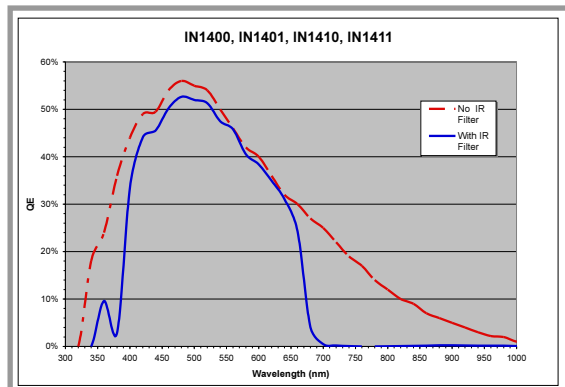


SPOT™ Imaging Solutions
A division of Diagnostic Instruments, Inc.

Sensor	
Resolution	4.0 Mp
Sensor Type	Kodak KAI-4021-M with cover glass. Monochrome progressive scan interline CCD
Active Pixels	2048 x 2048
Pixel Size	7.4µm x 7.4µm
Active Imager Size	15.16 mm x 15.16 mm 21.43 mm diagonal
Optical Format	4/3"
Exposure Time	1 ms to 536 seconds
Binning	1x1, 2x2, 3x3, 4x4
Region of Interest	User selectable from 50x50 to full resolution
Read Noise	17 e ⁻ rms
Full Well Depth	27,500 e ⁻
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
Weight	F-Mount 1.6lbs. (0.72kg) C-Mount 1.4lbs. (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	3.6	6.8	12.0	19.5
2 x 2	6.7	11.8	19.0	27.5
3 x 3	9.4	15.8	23.9	32.8
4 x 4	11.5	18.4	26.6	34.2

*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	Live mode viewing window with controls Image capture window Image capture setups are user defined, named and saved Auto or manual exposure for Live and captured images Zoom control on Live and captured images Auto white balance Spot or average metering Flatfield correction Annotation Calibration mark Measurement tools Image enhancement tools Sequential image capture and playback Report generator Interactive print dialog Help menu Drivers: Twain for Windows®, 3rd Party Interface for Mac®
Computer Operating System Compatibility	Mac®: OS X Windows®: XP, Vista®, 7 (32 bit versions only)
Minimum Computer Requirements	Mac®: 400MHz Power PC, 512MB RAM, FireWire® IEEE 1394a port PC: 1GHz Pentium, 512MB RAM, FireWire® IEEE 1394a port Mac® and PC video: 24-bit color @ 1024 x 768 resolution
SPOT Advanced Software	Available (includes macro feature, floating taskbars and image archiving database)
SPOT Advanced Plus 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 (for both Mac and Windows) and User Guide
Warranty	2 years from date of purchase

Catalog Number	C-Mount	F-Mount
Insight 4.0 Mono No IR filter	IN1400	IN1401
Insight 4.0 Mono With IR filter	IN1410	IN1411

Mac® is a registered trademark of Apple Inc.
Windows® is a registered trademark of Microsoft.
Specifications are typical and subject to change.



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Data Sheet: Insight 4.0 Mono Rev. B