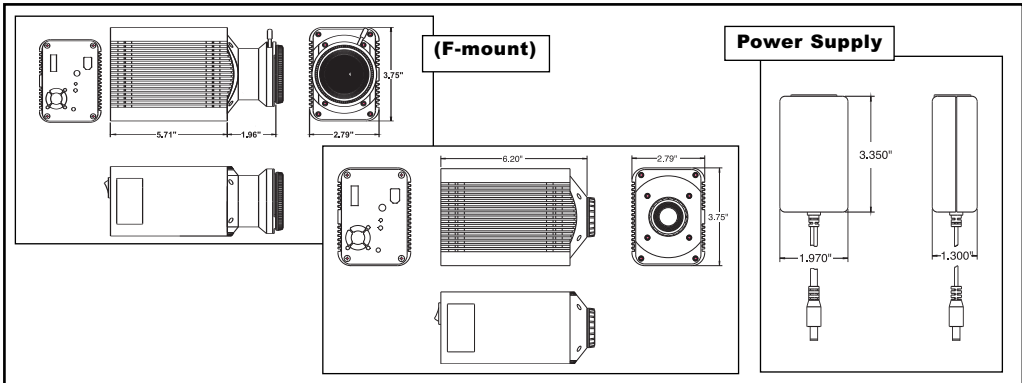




Application

This camera is designed for high-resolution capture of brightfield and moderately bright fluorescence images. This camera is excellent for use in machine vision, metrology, metallurgical, and other industrial applications, such as defect analysis.



Feature	Benefit
---------	---------

40 MHz live mode (dual channel 18MHz)	High-speed imaging for real time viewing
2048 x 2048 4 Megasample 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
15.2mm x 15.2mm imaging area	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™ Software..... Mac® & Windows® operating systems Basic & Advanced Applications Twain & 3rd Party Interface DLL w/ SDK and Tutorial manual 3rd Party Driver support	Provides essential tools for modern microscopy and is widely supported by 3rd party software companies for high end applications as providing DLL with SDK for OEM Driver development

Insight™ – FireWire® 4 Megasample Monochrome

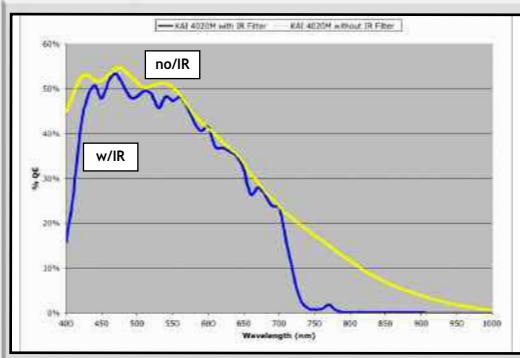




Data Sheet

DIAGNOSTIC
instruments, inc.
SOURCE
solution

Insight™ – FireWire® 4 Megasample Monochrome



Captured Frames per Second*

Binning	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.

CCD information:

Kodak KAI-4021-M with cover glass
Monochrome progressive scan interline CCD
2048 x 2048, 7.4 µm square pixels
15.16mm x 15.16mm active area, >1 optical
format, 100x minimum anti-blooming

Cooling: Convective cooled heat sink

Digitization information:

Digitized pixel-by-pixel at CCD sensor
Live mode: 8 bit x 40 MHz (Dual channel
8 bit x 20MHz)
Live image frame rate: 14 frames per second
Capture mode: 14 bit x 20MHz (see chart for
frame rate)
A/D Converter full scale set to 27,300 e (Gain=1)
Saved bit depths: 8, 12 or 16 bit BW

Noise specifications:

Read noise: 17 e- rms
Dark noise: 5.0 e/p/s mean value

Exposure:

1 millisecond to 536 seconds
Captured and live mode automatic exposure
Captured and live mode manual exposure

Lens mount: C-mount or F-mount

Sealing window:

UBK 7 w/anti-reflection coating (IN1400, IN1401)
IR Filter w/anti-reflection coating (IN1410, IN1411)

External shutter control: Plug on camera back
with TTL level

External Trigger Input: Plug on camera
back w/TTL level

Mechanical:

Tripod mount: 1/4 - 20 UNC
Camera head: F-mount) -2.79" (71 mm) x 3.75"
(95 mm) x 7.67" (195 mm), 1.6 lbs (0.72 kg),
(C-mount) - 2.79" (71mm) x 3.75"
(95 mm) x 6.2" (142 mm), 1.4 lbs (0.62kg)
Power supply: 1.3" (33mm) x 1.97" (50mm) x 3.35"
(85mm), 0.34 lbs. (0.16 kg)

Operating environment: 0 to 30° C ambient, 0-80%
relative humidity noncondensing

Power requirements: 100-240 VAC, 47-63 Hz

Certifications: CE, FCC Class A, EN60950

SPOT software features:

Live mode viewing window & controls, auto-exposure
live and capture modes, image capture window,
predefined and custom image setups, flat field
correction, pan and zoom windows, multiple
customizable floating taskbars, spot metering,
non-destructive annotations, non-destructive calibra-
tion marks, measurement tools, sequential image
capture and playback, exportable image archiving
database (PC only), report generator, macro scripting,
interactive print dialog, online help menu

File formats:

Bitmap, TIFF, TIFF-JPEG, JPEG-2000, PICT, AVI (PC,
export only), Quicktime (Mac, export only)

TIFF File sizes:

8 bit BW / 4 MB
12 bit BW / 6 MB
16 bit BW / 8 MB

Drivers included:

Twain for supported Windows® operating systems
Third Party Interface for supported Mac® operating
systems

Native drivers for 3rd party software:

Call or visit our website (www.diaginc.com)

Minimum system requirements:

PC: Pentium 400 Mhz or greater with Windows 98SE,
2000, ME, or XP, 128 MB of RAM, Firewire/IEEE 1394a
interface* Mac: Power PC 400 Mhz G3 or greater with
OS 10.2.8 or higher, 256 MB of RAM,
Firewire/IEEE 1394a interface
Video card: 24 bit RGB @ desired resolution

Items included:

Camera head, FireWire® data cable, power supply
cable, power supply, power cord, SPOT software
install CD (includes drivers), software user guide,
hardware user guide, 2 year warranty

*Desktop computers may require IEEE 1394a to PCI bus interface card,
laptop computers may require IEEE 1394a to PCMCIA interface card

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Windows ® is a registered trademark of Microsoft.

Specifications are typical and subject to change without notice.

Insight™ FireWire® Monochrome: Catalog Number:
IN1400 (C-mount), IN1401 (F-mount)
Insight™ FireWire® Monochrome w/IR Filter: Catalog Number:
IN1410 (C-mount), IN1411 (F-mount)

