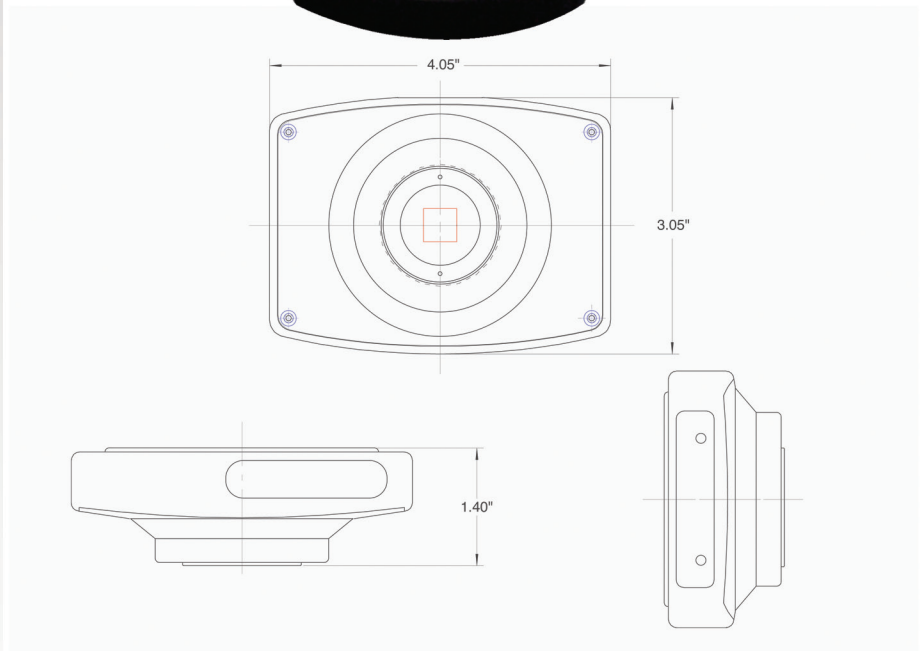# SPOT idea™ CMOS | 3.0 Mp

The SPOT™ Idea camera delivers 12-bit high quality images for the serious microscopist at a low price. The SPOT Idea produces 3.0 megapixel resolution in vivid colors, enhancing publications, documentation and archiving. The SPOT Idea is an excellent choice for pathology, as well as clinical, life and material science, measurement, educational, and industrial applications.

The SPOT Idea includes SPOT Basic software (Windows® and Mac® OS) which features real time image previewing, scale bar addition, report generation, time lapse, and measuring capabilities. Its USB 2.0 interface enables "plug-and-play" installation, and trigger options provide precise synchronization with peripherals. SPOT Idea cameras come with a 1-year warranty and are supported by an experienced team of imaging specialists.

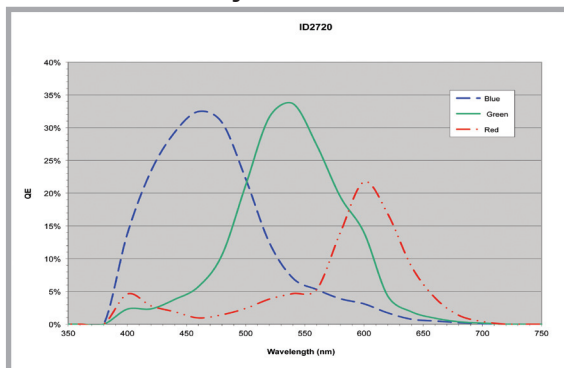| Features	Benefits
3.0 Mp Images	Resolves fine image detail
Real time Live mode	Frame and focus in real time 76 fps at 640 x 480 ROI at full resolution 31 fps, full frame at 1/4 resolution 12 fps, full frame at 1/2 resolution
Auto and Manual exposure control	Let the software compute the exposure time and gain or set them yourself
USB 2.0	Single cable connection provides effortless installation, reduces cable clutter and enhances laptop portability (no power supply or frame grabber card needed)
SPOT Basic Imaging Software	Provides essential tools for modern microscopy
Mac® and PC	Compatible with both Mac® and Windows® computers

SPOT IMAGING™
Take a closer look

Sensor

Resolution	3.0 Mp
Sensor Type	CMOS, color mosaic, Bayer pattern
Shutter	Rolling shutter with single frame capture
Active Pixels	2048 x 1536
Pixel Size	3.2µm x 3.2µm
Optical Format	1/2" (4:3)
Active Imager Size	6.55mm (H) x 4.92mm (V) 8.19mm diagonal
Exposure Time	107µs – 15sec
Variable Resolution	User selectable
Region of Interest	User selectable
Read Noise	18.5 e⁻ rms
Full Well Depth	>20,000 e⁻
Non-linearity	<1%
Bit Depth	8 or 10 bits/channel (24 or 30 bit color)
Sensor Readout Frequency	48MHz (into camera frame buffer)
Analog Gain	1, 2, 4 and 8

Camera

Lens Mount	C-mount
Computer Interface	USB 2.0
Trigger Connectors	Sync output (TTL) External trigger input (TTL)
Tripod Mount	1/4"-20, stainless steel threads
Weight	1.31 lbs (295g)
Size	4.05" W x 3.05" D x 1.40" H (103mm x 77mm x 36mm)
Power Consumption	2W from USB cable
Operating Environment	0 to 50°C, 95% relative humidity (non-condensing)
Storage Temperature	-20 to 60°C
Certifications	CE, FCC Class A, EN60950 RoHS

Quantum Efficiency

Captured Frame Rates Captured Frames per Second *

Binning level	Region of interest				
	2048x1536	1024x768	640x480	256x256	50x50
1/2 Res	12	38	76	180	489
1/4 Res	31	80	122	196	432
1/8 Res	44	81	119	184	385
Sequential Image Capture (frames per second)					
Full Res	7	26	65	181	505
1/2 Res	26	80	123	196	434
1/3 Res	44	81	119	184	387

Frame rates measured with 107µs exposure time on 2GHz Intel Dual Core Xenon processor running Windows XP. Post-processing was deferred on sequential images. Frame rates may vary on other processors and operating systems.

SPOT Software

SPOT Basic Software Features	Color 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
	Correct Color Technology™ using ICC/ColorSync corrections
	Flatfield correction
	Annotation
	Calibration mark
	Measurement tools
	Image enhancement tools
	Sequential image capture and playback
	Report generator
	Interactive print dialog
	Help menu
	3rd Party Software Interface: Twain for Windows®, SPOT Image Capture Application & AppleEvent for Mac®
Computer Operating System Compatibility	Windows: 7 (32 or 64-bit), 8 (32 or 64-bit), and 10 (32 or 64-bit)
	Mac: OSX 10.8-10.11, macOS 10.12
Minimum Computer Requirements	PC: 1GHz Pentium 4 (or equivalent x86 SSE2 processor), 1 GB RAM, USB 2.0 port
	Mac®: Intel processor, 1 GB RAM, USB 2.0 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 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
USB2 Cable	Carries both data and power
Quick Start Installation Guide	Instructions on how to get up and running quickly
Software CD	Includes SPOT Basic software and User Guide
Warranty	1 year from date of purchase

Catalog Number

Idea 3.0 Mp	ID2720

Specifications are typical and subject to change.

SPOT IMAGING™
Take a closer look

ID 3.0 SPEC_02.23