

Product Information Version 1.0

ZEISS Axiocam 506 mono

Your High Resolution Microscope Camera for Live Cell Imaging – Fast, Flexible, and Sensitive



Technology and Details

> Service

| Sensor Model | Sony ICX 694, EXview HAD CCD II ™ | | | | |
|----------------------------------|--------------------------------------------------------------------------------------------|----------------------------------|--|--|--|
| | Progressive Scan Quad-Port Readout | | | | |
| | | | | | |
| | Sensor Pixel Count | 6 Megapixel: 2752 (H) × 2208 (V) | | | |
| Pixel Size | 4.54 μm x 4.54 μm | | | | |
| Sensor Size | Effective sensor size: 12.5 mm x 10.0 mm; | | | | |
| | image diagonal 16 mm, equivalent to 1" sensor format | | | | |
| Spectral Sensitivity | Approx. 400 nm – 1000 nm, annealed BK 7 protective glass | | | | |
| Max Full Well Capacity (typical) | 15.000 e- | | | | |
| Signal Amplification | Adjustable analog amplification: 1x, 2x, 3x | | | | |
| Readout Speed | 39 MHz, 13 Mhz | | | | |
| Readout Noise (typical) | 6,5 e- at 39 Mhz | | | | |
| | 6,0 e- at 13 Mhz | | | | |
| Dynamic Range (typical) | 1:2500 (68 dB) | | | | |
| Digitization | 14 Bit / Pixel | | | | |
| Dark Current (typical) | <0,06 e-/p/s at 18 °C sensor temperature | | | | |
| Cooling | Regulated Peltier-cooling (power supply via USB 3.0 and USB 2.0) | | | | |
| | Sensor temperature 18 °C | | | | |
| Dark Current Compensation | Digital dark current compensation for optimum low light performance at long exposure times | | | | |
| | Automatic hot pixel correction | | | | |
| Exposure Time Range | 250 µs to 60 s | | | | |

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| Binning Modes and Frame Rates | Binning | Pixel C | ount (H x V) | Mode | FPS @ 1 ms | |
|-------------------------------|---------------|-------------|--------------|-------------|------------|--|
| | 1x1 | 2752 | x 2208 | Mono | 20 | |
| | 2x2 | 1376 | x 1104 | Mono | 34 | |
| | 3x3 | 912 | x 736 | Mono | 44 | |
| | 4x4 | 688 | x 552 | Mono | 52 | |
| | 5x5 | 544 | x 440 | Mono | 58 | |
| | ROI | 2752 | x 1080 | Mono/Center | 33 | |
| | ROI | 2752 | x 512 | Mono/Center | 50 | |
| | (exposure tim | ne < readou | t time) | | | |
| Color Interpolation Modes | n.a. | | | | | |

| Live Frame Rates | Max. Frame Rate | Binning factor / Mode | Resolution / Pixel | | | |
|----------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------|--------------------|--|--|--|
| Maximum ratings at optimum hardware settings | 19 frames/s | 1 / slow | 2752 x 2208 | | | |
| | 33 frames/s | 2 / medium | 1376 x 1104 | | | |
| | 51 frames/s | 3 / fast | 912 x 736 | | | |
| Data-Post Processing (optional) | Objective specific shading correction | | | | | |
| | Sharpening | | | | | |
| | Black reference, dark current compensation | | | | | |
| | Noise filter | | | | | |
| Special Features | Time stamp from camera for precise acquisition time point | | | | | |
| | Auto Switch Mode für Single Port / Dual Port / Quad Port Readout | | | | | |
| | Adjustable intensity of status LED | | | | | |
| Special Preset Modes | Eight pre-loadable sets of imaging parameters for speed optimized multi modal image acquisition | | | | | |
| | Overlapping exposure and readout for fast time lapse imaging | | | | | |
| | Single Port Readout for long exposure times for maximum signal quality | | | | | |
| | Dual Port or Quad Port Readout for improved readout speed at full resolution | | | | | |
| | Automatic port activation mode or full manual mode | | | | | |

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| Region of Interest (ROI) | User defined imaging sub area for improvement of readout speed and reduction of amount of data | | | |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| Hardware Trigger | Galvanic isolated I/O-signals Three output signals: exposure time, readout time, trigger ready, i.e. for controlling external mechanical shutters | | | |
| | | | | |
| Status LED | Top LED: camera status (acquisition, power, cooling, speed) | | | |
| | Back LED: trigger status | | | |
| Interface | USB 3.0 SuperSpeed (5 Gbit/s) | | | |
| | Bandwidth max. 240 Mbytes/s | | | |
| | USB 2.0 optional, with lower speed | | | |
| Optical Interface | C-Mount | | | |
| Max. File Size per Image | Approx. 12.2 MB per image with 2752 x 2208 Pixels at 14 Bit/Pixel | | | |
| Operating Systems | Microsoft® Windows 7 Enterprise and higher | | | |
| Size (W x H x D) / Weight | 10.8 cm x 4.3 cm x 7.8 cm / 500 g | | | |
| Housing | Blue anodized aluminum | | | |
| | 1/4" thread for camera equipment | | | |
| | Zero vibration by convection-cooling, optimized cooling finns | | | |
| | Teflon coated C-Mount thread | | | |
| | Annealed protection glass | | | |
| Certificates | CE | | | |
| Power Supply | 7 W power consumption, power supply camera: USB 3.0, power supply Peltier-cooling: USB 2.0 | | | |
| | For maximum performance connection to USB 3.0 and USB 2.0 required | | | |
| | Dual connection cabling provided with delivery | | | |
| Ambient Conditions (Operation) | +5 °C +35 °C | | | |
| | Max. 80% relative humidity, non-condensing | | | |
| | Free air circulation required | | | |

Ambient Conditions (Storage)

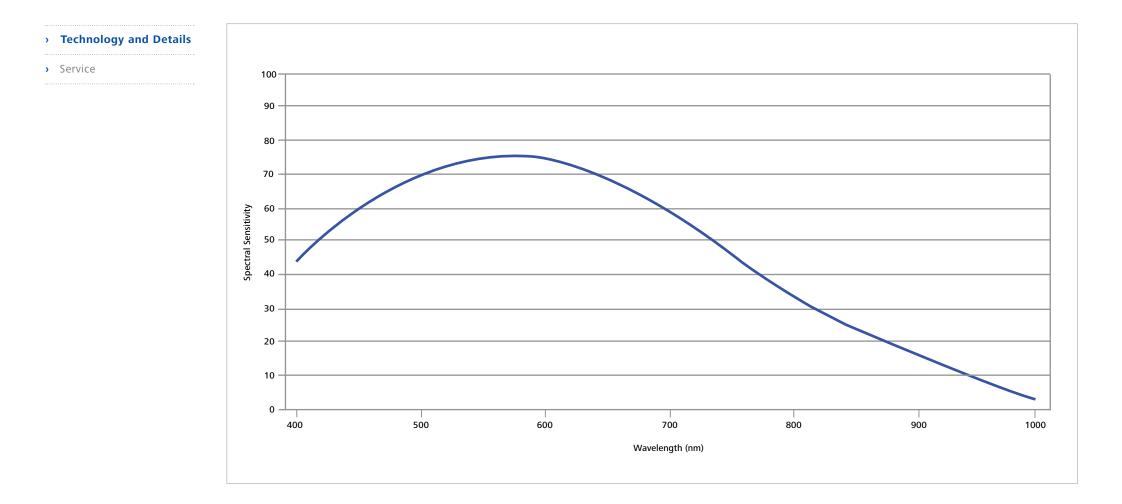
Operating system Software

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| -15 °C +60 °C | | | | |
|-----------------------------------------------------------------------------------|--|--|--|--|
| 90% rrelative humidity at +40 °C, 80% relative humidity at +20 °C, non-condensing | | | | |
| Microsoft® Windows 7 x64 (Enterprise, Ultimate) and higher | | | | |
| ZEN lite 2012 SP 2 | | | | |

All frame rates are maximum values at short exposure times below readout time of the sensor. Exposure time, computer hardware operating system and software can reduce the maximum achievable frame rates. By using binning or sensor sub regions (ROI), the frame rates can be further increased. Technical data is subject to changes due to technical progress.



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Please note that our service products are always being adjusted to meet market needs and maybe be subject to change.





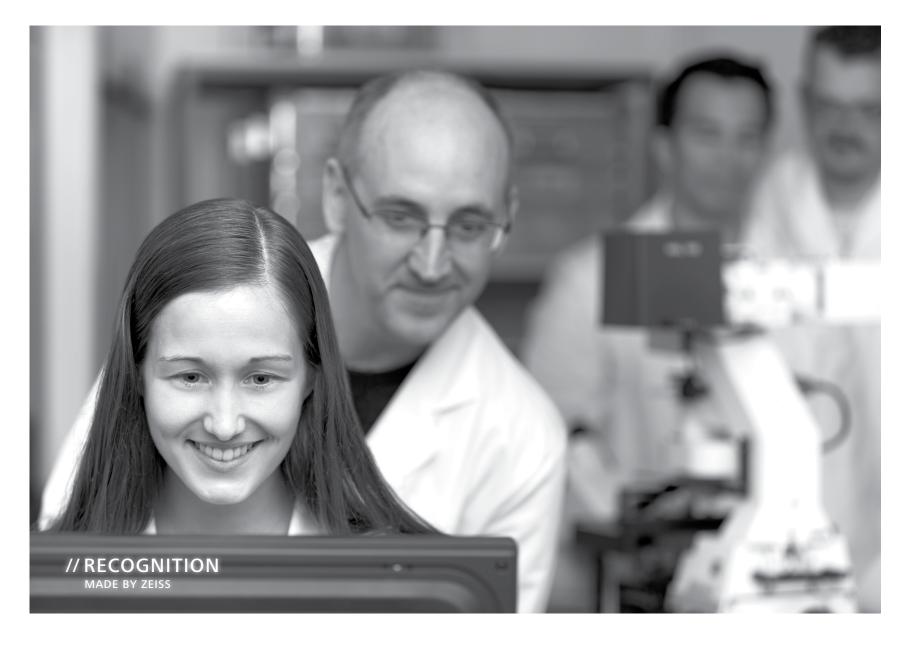


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