DIGITAL IMAGING
made easy

# EXi™ Blue

# Fluorescence Microscopy Camera


## Fast, High Sensitivity Imaging of Live Cells

Fluorescence imaging of live cell samples requires short exposure times, gentle illumination of fragile cell specimens, and fast frame rates to capture image data with a high degree of precision and confidence.

The new EXi Blue camera was designed specifically to assist life science professionals to study processes within live cells—delivering fast acquisition speed, extreme sensitivity, and exceptional temporal resolution. The camera's high dynamic range allows researchers to resolve extremely bright and dim signals within a single image.

The versatile EXi Blue camera excels in a broad range of life science applications, including high-speed kinetic studies and precision imaging for all microscopy modes. The camera's advanced electronics and firmware produce extremely low dark current (effectively equivalent to -22° C cooling), resulting in excellent images during long exposure times. And when used with the optional RGB filter module, users can switch between monochrome, color and infrared imaging quickly and easily.

The EXi Blue camera is easy to use. It can be installed and operational within minutes, and features a fast IEEE1394b "FireWire" interface and simple, versatile software.

| features | benefits |
|---|---|
| High sensitivity | ■ Short exposure time and minimal cell toxicity |
| Active cooling | ■ Reduced thermal noise |
| Low read noise | ■ Precise measurement of dim signals |
| High quantum efficiency | ■ Excellent sensitivity |
| 6.45 micron pixels | ■ Matched to common objective lenses |
| 14-bit readout | ■ More than 16,000 gray levels per pixel |
| Low dark current | ■ Enhanced low light detection with longer exposure times |
| Integrated digitization | ■ No RF interference |
| No need for external controller | ■ Keeps bench space clutter-free |
| Easy installation | ■ Ready to use in less than 10 minutes |
| Software included | ■ Enables a variety of life-science applications |
| IEEE 1394b FireWire connection | ■ Portability and ease of use |
| RGB module available | ■ High-resolution color images |

## applications

The EXi Blue Fluorescent Microscopy camera is an extremely versatile, simple-to-use laboratory workhorse that is ideally suited to a variety of life sciences applications.

- Live-cell fluorescence imaging
- Fluorescent protein imaging (BFP, GFP, YFP, RFP)
- Time-lapse fluorescence imaging
- Kinetic studies including cell trafficking and cell motility
- Ratiometric imaging (calcium & pH)
- Immunofluorescence imaging
- Phase contrast, DIC and bright-field

# EXi Blue Specifications

| ccd sensor | |
|---|---|
| Light-Sensitive Pixels | 1392 x 1040 |
| Binning Modes | 2, 4, 8 |
| Exposure/Integration Control | 10µs to 17.9min |
| Sensor Type | Sony® ICX285 front-illuminated interline CCD |
| Pixel Size | 6.45µm x 6.45µm |
| Linear Full Well (1x1 Binning) | 18,000e- (30MHz); 18,000e- (20MHz); 18,000e- (10MHz) |
| Read Noise | 5.5e- (10MHz); 6.5e- (20MHz); 12.3e- (30MHz) |
| Dark Current | 0.015 e-/pix/s |
| Cooling | 0˚C (regulated) |
| Digital Output | 8 bits/14 bits |
| Readout Frequency | 30, 20, 10MHz |
| Frame Rate | 15fps full resolution @ 14 bits (30MHz) |

| camera | |
|---|---|
| Black-Out Mode | Turns off all LEDs on camera for low-light applications; software controlled |
| Computer Platforms/ Operating Systems* | Windows® XP and Vista (32 bits) |
| Digital Interface | IEEE-1394b FireWire (two ports with simultaneous camera control) |
| External Trigger | TTL Input |
| Trigger Types | Internal, Software, External (Edge-Hi/Edge-Low/Pulse-Hi/Pulse-Low/ Strobe-Hi/Strobe-Low) |
| External Sync | TTL Output |
| External RGB Filter Control | Support for RGB filter |
| Analog Gain Control | 0.8x to 34.7x |
| Optical Interface | 2/3", C-mount optical format |
| Threadmount | 1/4" – 20 mount |
| Power Requirements | 13.5 watts at 12 volts |
| Weight | 800g (1.75lbs) |
| Warranty | 2 years |
| Operating Environment | 0 to 27˚C, 80% relative humidity non-condensing |
| Storage Temperature | -10 to 60˚C |

RoHS

**Refer to QImaging website for detailed listing of supported operating systems.*
*Note: Specifications are typical and subject to change.*



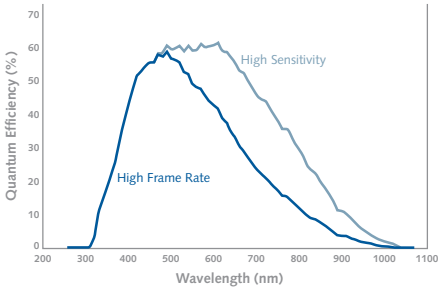
## included

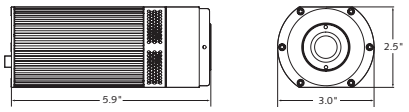
- **EXi Blue Fluorescence Microscopy Camera**
  Model: EXI-BLU-R-F-M-14-C
- *Power supply*
- *IEEE1394b FireWire cable (9-pin to 9-pin)*
- *IEEE1394b FireWire PCI card*
- *QCapture Suite software for PC*
- *Limited Warranty*

## camera options

- Performance Assurance Program (extended warranty)
- RGB Filter Module

## spectral response




| Digitizer Speed | 10MHz | | | | 20MHz | | | | 30MHz | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Binning (Pixels) | 1x1 | 2x2 | 4x4 | 8x8 | 1x1 | 2x2 | 4x4 | 8x8 | 1x1 | 2x2 | 4x4 | 8x8 |
| Frame Rate (Full Field) | 5.9fps | 10.3fps | 18.7fps | 29.2fps | 10.9fps | 18.7fps | 29.3fps | 40.9fps | 15.1fps | 24.6fps | 36.1fps | 47.2fps |
| Full Well Capacity | 18,000e- | 36,000e- | | | 18,000e- | 33,500e- | | | 18,000e- | 30,500e- | | |
| Read Noise | 5.5e- | | | | 6.5e- | | | | 12.3e- | | | |
| Dynamic Range | 3271:1 | 6545:1 | | | 2769:1 | 5154:1 | | | 1463:1 | 2480:1 | | |

Results are typical and may vary from camera to camera.

QIMAGING®
Tel 604.530.5800 ■ Fax 604.539.1825 ■ info@qimaging.com
**www.qimaging.com**

Certified System ISO 9001