

# EXi<sup>TM</sup> Blue

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.

## Fluorescence Microscopy Camera



### features

High sensitivity  
Active cooling  
Low read noise  
High quantum efficiency  
6.45 micron pixels  
14-bit readout  
Low dark current  
Integrated digitization  
No need for external controller  
Easy installation  
Software included  
IEEE 1394b FireWire connection  
RGB module available

### benefits

- Short exposure time and minimal cell toxicity
- Reduced thermal noise
- Precise measurement of dim signals
- Excellent sensitivity
- Matched to common objective lenses
- More than 16,000 gray levels per pixel
- Enhanced low light detection with longer exposure times
- No RF interference
- Keeps bench space clutter-free
- Ready to use in less than 10 minutes
- Enables a variety of life-science applications
- Portability and ease of use
- 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® 7, Vista and XP (32/64 bit)                                                    |
| 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                                                                             |



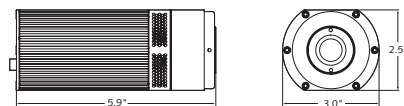
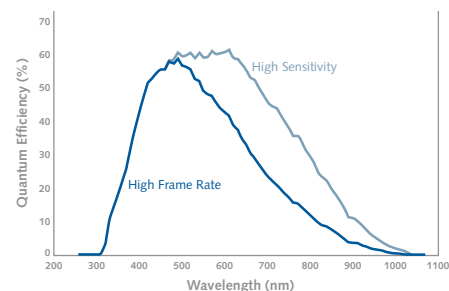
## included

- **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 PCIe 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.



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

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