DIGITAL IMAGING MADE EASY

PRODUCT DATASHEET

ROLERA-XR

FAST 1394

High Performance, Near-Infrared Digital CCD Camera

ROLERA™ Series

High-Performance Near-Infrared IEEE 1394 FireWire™ Digital CCD Camera

The **QImaging Rolera-XR** digital camera is designed for high-resolution infrared and visible-range scientific and industrial imaging applications. The **Rolera-XR** spectral range extends to 1000nm in the IR region. Highspeed, low-noise electronics provide linear digital data at frame rates up to 120 fps with binning and ROI. The IEEE 1394 FireWire™ digital interface allows ease of use and installation with a single wire. No framegrabber or external power supply is required. The **Rolera-XR** includes QCapture Pro software (Windows®) for real-time image preview and capture. A **Software Development Kit (SDK)** is available upon request for interfacing with custom software.

applications

- **Real-Time, Low-Light Infrared Imaging**
- **IR-DIC**
- **Surveillance**
- **Low Light Level Fluorescence**
- **Wafer Inspection**
- **Live Cell Imaging**

features	benefits
High Quantum Efficiency	▪ Super high sensitivity for demanding low-light & IR imaging
Large Pixels (12.9µm x 12.9µm)	▪ High sensitivity
High-Speed Readout	▪ Previewing & focusing in real time ▪ 120fps with 2x2 binning & ROI ▪ 20fps full resolution
Low-Noise Electronics	▪ Quantitation & imaging of low light levels
Flexible Exposure Control from 10µs to 17.9min	▪ Optimal integration over a wide range of light levels
External Sync & Trigger	▪ Tight synchronization with flashlamps, automated filters, shutters, & microscope stages
ROI (Region of Interest)	▪ Higher frame rates for precise analysis of rapidly changing specimens
Binning	▪ Increases sensitivity for quantitation & imaging of very low light levels ▪ Increases frame rate
Extended IR Sensitivity	▪ High-performance imaging outside the visible range
IEEE 1394 FireWire™ QImaging Fast 1394 Technology	▪ Simple connectivity ▪ Ease of use & installation ▪ Portability with laptop computer ▪ Simultaneous use of multiple cameras through a single port ▪ Single-cable operation (no external power supply or control unit)

ROLERA-XR FAST1394 Specifications

ccd sensor	
Light-Sensitive Pixels	696 x 520
Binning Modes	2x2, 4x4, 8x8
ROI (Region of Interest)	From 1x1 pixels up to full resolution, continuously variable in single-pixel increments
Exposure/Integration Control	10µs to 17.9min in 1µs increments
Sensor Type	VQE3618L progressive-scan interline CCD (monochrome)
Pixel Size	12.9µm x 12.9µm
Linear Full Well	22,000e-
Dark Current	1.78e-/pix/s (non-cooled)
Cooling Available	Yes (optional)
Cooling Type	Peltier thermoelectric cooling to 25˚C below ambient
Digital Output	12 bits
Readout Frequency	20, 10, 5, 2.5MHz
Frame Rate	20fps full resolution @ 12 bits (165fps maximum with binning and ROI functions)

camera	
Computer Platforms/ Operating Systems	Windows® 7, Vista and XP (32/64 bit)
Digital Interface	IEEE 1394 FireWire
Shutter Control	Electronic shutter, no moving parts
External Trigger	TTL Input
Trigger Types	Internal, Software, External
External Sync	TTL Output
Gain Control	1.0 to 45x
Offset Control	-2048 to 2047
Optical Interface	2/3", C-mount optical format
Threadmount	1/4" — 20 mount
Power Requirements	7W (non-cooled); 13W (cooled); 8-24V
Weight	635g (non-cooled); 915g (cooled);
Warranty	2 years
Operating Environment	0 to 50˚C (32 to 122˚F)
Storage Temperature	-10 to 60˚C
Humidity	Less than 80% non-condensing at 35 ˚C (95˚F)
Color Filter Option	No

camera models

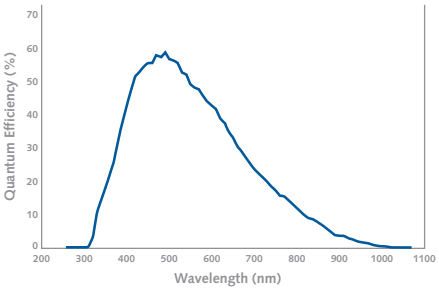
Includes: IEEE 1394 FireWire cable, IEEE 1394 PCIe card, QCapture Pro software, QCapture Suite software, and access to SDK

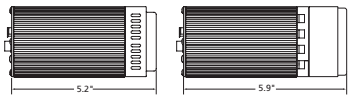
- **Monochrome Rolera-XR Cooled**
  Model: ROL-XR-F-M-12-C
- **Monochrome Rolera-XR Non-Cooled**
  Model: ROL-XR-F-M-12

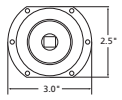
camera options

- Extended Warranty

spectral response







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