

# INFINITY3S-1UR

High Performance. Low Price.



## INFINITY3S-1UR

Teledyne Lumenera's INFINITY3S-1UR is a high-performance microscopy camera designed for both brightfield and routine fluorescence imaging, and priced to be accessible to budget-constrained users. This multiple-purpose camera enables virtually any microscopy to image in both color and fluorescence. Each camera includes intuitive software and is backed by a 3-year warranty.

### Superior Sensitivity and Quantum Efficiency

The INFINITY3S-1UR has the unmatched light sensitivity and extremely low noise. This delivers high image quality and value for challenging low-light applications such as fluorescence and NIR imaging.

### Full Image Analysis Software Included

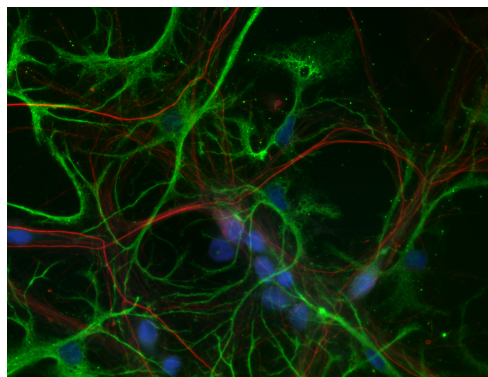
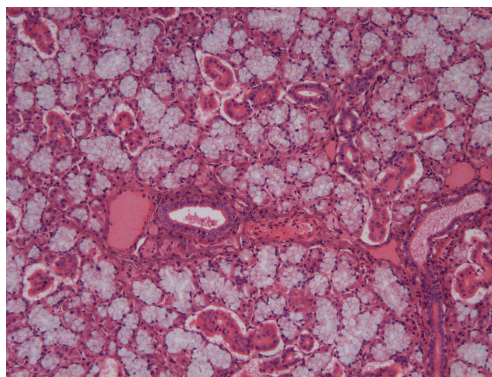
INFINITY ANALYZE microscopy software is included with the INFINITY3S-1UR. There are no license fees or fees associated with software updates. This model ensures users have access to the most up to date software features without extra costs.

### Superior Technical Assistance Center (TAC)

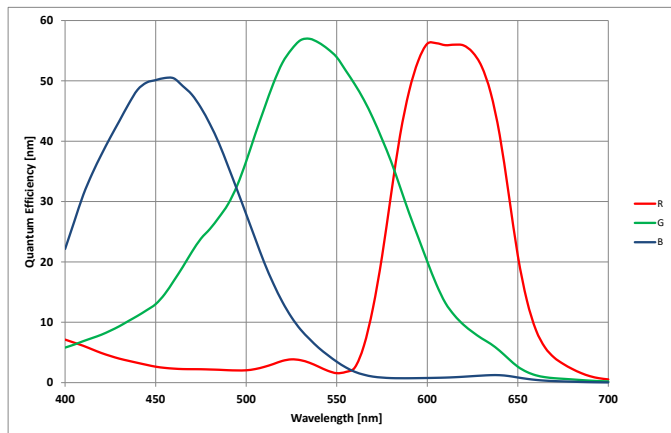
All Teledyne Lumenera cameras are supported by an experienced team of technical support and imaging experts widely acclaimed in the industry. As a Teledyne Lumenera customer you gain access to the TAC group and knowledge base, providing full support for cameras, software and microscopy applications.

## Features

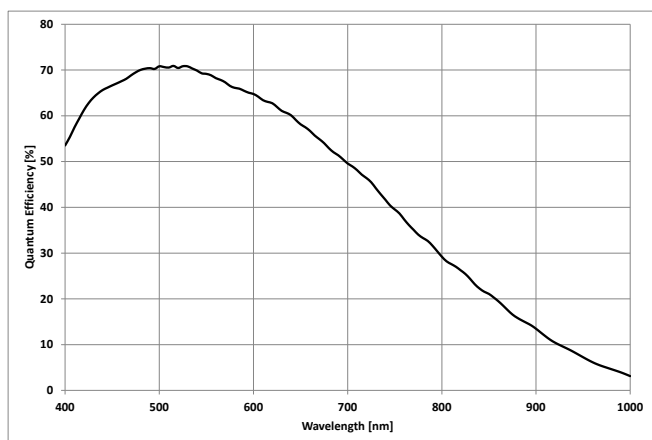
- Based on an ultra-sensitive Sony CCD sensor that provides low noise, high quantum efficiency, and accurate images in both brightfield and fluorescence.
- Color or monochrome versions available using the Sony ICX825 CCD Global Shutter sensor with large field of view (2/3" optical format) and resolution of 1392 x 1040 using 6.45 x 6.45  $\mu\text{m}$  pixels.
- Easy to install with plug and play, high-speed USB 3.0 interface for fastest image delivery and simplified connectivity. Fully backward compatible with USB 2.0 supported.
- Microscopy software included for image capture, video preview and recording, measurement, annotation and a fluorescence mode for combining channels. Compatible with Windows 10, 8, 7, Vista, Mac OS X 10.7, 32 and 64-bit operating systems.
- Region of Interest (ROI) option offering higher frame rates.
- Selectable 8 or 14-bit pixel data.
- Includes TWAIN and DirectX/ Direct Show support.
- Support for capture and analysis applications such as MetaMorph and Micro-Manager.
- GPIO for control of peripherals and synchronization.
- Recommended coupler: 0.67x.



Color Quantum Efficiency Curves



Monochrome Quantum Efficiency Curve



Recommended Applications

- Low Light Fluorescence
- Immunofluorescence
- Brightfield, Darkfield, DIC/Phase techniques
- DNA Analysis
- Live Cell Imaging
- Whole Slide Imaging
- Near-Infrared DIC
- Histology, Pathology and Cytology
- Calcium/Ion Imaging
- Forensic Analysis
- Semiconductor Inspection
- Metallurgical Microscopy
- Gel Documentation

Sensor Specifications	
Image Sensor	SONY ICX825, CCD, color or monochrome
Optical Format	2/3"
Imager Size	Diagonal 11 mm
Pixel Size	6.45 x 6.45 μm
Resolution	1392 x 1040 pixels
Region of Interest Control	Any multiple of 16 x 16 pixels
Camera Specifications	
Max Frame Rate	60 fps at 1.4 megapixel (monochrome version) 45 fps at 1.4 megapixel (color version)
Bit Depth	8 or 14-bit
Binning Modes	2 x 2, 4 x 4, 8 x 8 (mono only)
Exposure Control	Manual and automatic control
Exposure Range	3 μs to 71 min (snapshot) 23 μs to 1.3 s (video)
Gain Control	Manual and automatic control
Gain Range	~0.6 to 44x
White Balance	Manual and automatic control
Trigger Modes	Hardware and software triggerable
Camera Characteristics	
Peak Sensitivity	Mono: 18 DN/(nJ/cm <sup>2</sup> ), Color: 9.5 DN/(nJ/cm <sup>2</sup> ) (Global and channel gains at unity)
Dynamic Range	~70 dB
Full Well Depth	~20,000 e <sup>-</sup> (at slowest clock, lowest gain)
Peak Quantum Efficiency	57% (color), 71 % (mono)
Read Noise	~5.8 e <sup>-</sup> (in dual-tap mode, slowest clock)
Dark Current Noise	<1 e <sup>-</sup> /s at 22 °C
Mechanical Specifications	
Data Interface	USB 3.0 (USB 2.0 support for lower frame rates)
General Purpose I/O	Locking Hirose MXR-8R-8SA(71)
Lens Mount	Adjustable C-mount standard
Dimensions	97.8 x 69.8 x 50.8 mm 3.85 x 2.75 x 2.00 inch
Mass	375 g
Operating Temperature	0 to 50 °C
Storage Temperature	-30 to 70 °C
Operating Humidity	5 to 95 %, non-condensing
Shock / Vibration	50 G shock, 5 G (2-200 Hz) vibration
Onboard Memory	Camera has onboard non-volatile memory storage
Camera Software	
Operating Systems	Windows 10, 8, 7, Vista, Mac OS X 10.7, 32 and 64-bit
Power and Emissions	
Power Consumption	5 W max in full frame rate mode
Power Requirement	External 5 V DC, 3.0 A, power supply (included)
Emissions Compliances	FCC Class B, CE Certified
Hazardous Materials	RoHS, WEEE Compliant
Warranty	Three (3) years
Included In The Box	
INFINITY3S-1UR	1.4 MP digital camera with 3m USB 3.0 cable
La50300	Power Supply: 5 V DC, 15 W
Ordering Information	
INFINITY3S-1URC	1.4 MP Uncooled CCD Color USB 3.0 Camera
INFINITY3S-1URM	1.4 MP Uncooled CCD Monochrome USB 3.0 Camera
5YR Protection Plan - 2	5-Year Extended Warranty with Advanced Replacement
La050315	5 V DC, 3.0 A, 15 W Power Supply (included with camera)
LuSDKSW	Software Developer's Kit (Web Download)
La2000PAFL	GPIO cable with leads