

LANSIS™ 424 CCD CAMERA

KEY FEATURES

- High QE back-illuminated CCD sensor
- 27.6 x 27.6 mm sensor field of view
- High sensitivity from 400-900 nm, up to 96% QE
- Large 13.5 μm pixels
- 100k e⁻ full-well capacity (low gain)
- Compact form factor for easy integration
- Liquid cooled to -90°C
- Patented eXcelon® and Unichrome coatings available for higher sensitivity in specific wavelength ranges

TYPICAL APPLICATIONS

- Long-exposure imaging
- In vivo imaging
- Fluorescence
- Microscopy

RELIABILITY

- One-year warranty
- Permanent vacuum guarantee

High Performance, High Reliability CCD Cameras for OEM and Integration

The LANSIS 424 CCD camera is a large-area, deep-cooled CCD designed for in vivo imaging and other low-light conditions requiring long exposures.

The LANSIS camera platform simplifies the integration of Teledyne e2v sensors into various systems, making it a powerful addition to Teledyne's imaging and spectroscopy solutions. It offers capabilities specifically tailored for integrators and OEMs.

The LANSIS 424 features a deep-cooled, back-illuminated CCD sensor with 2048 x 2048 13.5 μm pixels, offering a diagonal array size of 39 mm. With high quantum efficiency (QE), low read noise, and ultra-low dark current, the LANSIS 424 is perfect for long-exposure imaging, particularly in vivo applications.



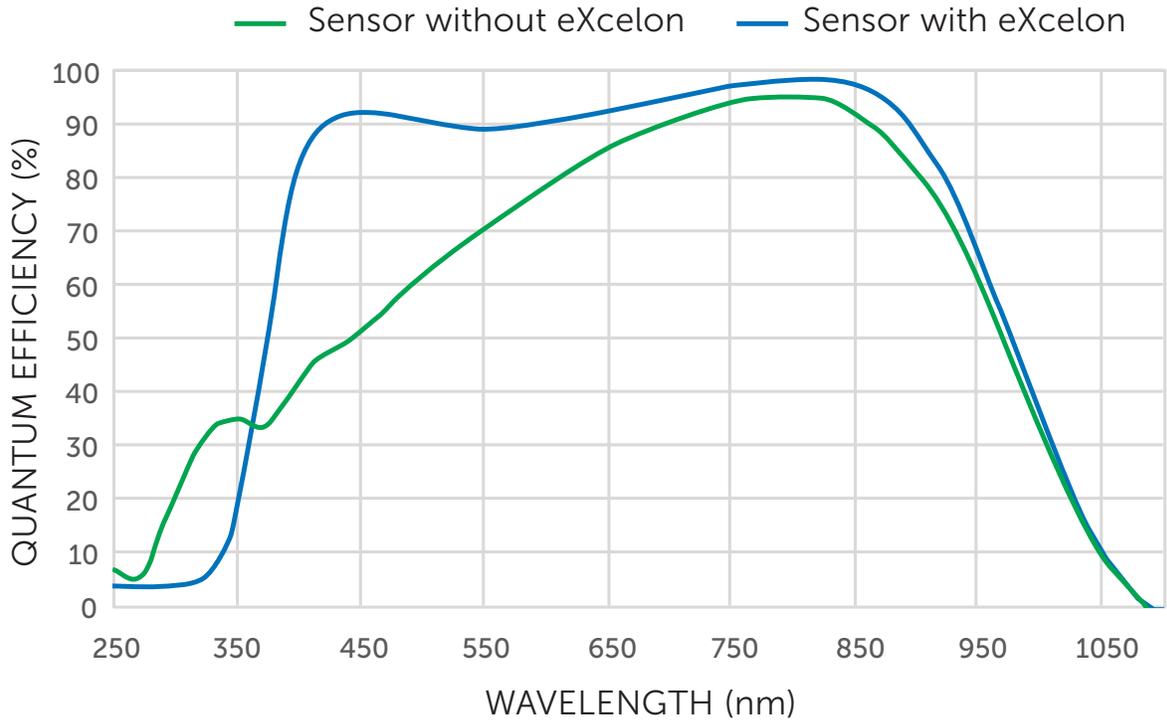
LANSIS 424 SPECIFICATIONS

SPECIFICATIONS	Camera Performance
CCD Sensor Format	Teledyne e2v CCD42-40 Back-illuminated, AIMO CCD sensor, Grade 1
Active Array Size	2048 x 2048 pixels
Pixel Area	27.6 μm x 27.6 μm (39 μm^2), 100% pixel fill factor
Sensor Area	27.6 mm x 27.6 mm (39.03 mm diagonal)
Spectral Response	250 – 1050 nm
Full Well Capacity	100,000 e ⁻ (typical, low gain)
ADC Rates	100 kHz, 1MHz, 4 MHz
Linearity	≥ 99%
I/O Signals	MCX to BNC; Trigger-In plus two programmable logic outputs (OUT1, OUT2)
External Trigger Modes	Start on single trigger, readout per trigger, exposure during trigger pulse
Typical System Read Noise (RMS)	≤ 4.0 e ⁻
Typical Dark Current	0.008 e ⁻ /p/sec @ -90 °C
Cooling Temperature	-90 °C (liquid cooled)
Thermostating Precision	± 0.05 °C across temperature range
Vertical Shift Speeds	52 μS default, 39 μS optional
Output Interface	USB 3.2 Gen 1 (5 Gbps)
Digitization	16-bit
Operating Temperature Range	5 °C to 30 °C (non-condensing)
Camera Weight	6.72 lbs, 3.05 kg
Camera Dimensions	151 x 123.5 x 123.5 mm (L x W x D)
Operating Systems	Microsoft® Windows® 10 /11 64-bit, RedHat® Enterprise, Linux® v7 x 64-bit
Certification	FCC Part 15, Subpart B; Class A, CE, UKCA, RoHS 3, PSE, ISO 9001:2015

LANSIS 424 FRAME RATE AT FULL FRAME

Operating Mode	Frame Rate (FPS)	With Binning		
Operating Mode	1 x 1	2 x 2	4 x 4	8 x 8
4 MHz, VS = 39 μS	0.847	1.58	2.98	4.92
4 MHz, VS = 52 μS	0.828	1.52	2.76	4.35
1 MHz, VS = 39 μS	0.223	0.67	1.69	3.48
1 MHz, VS = 52 μS	0.222	0.659	1.62	3.19
100 kHz, VS = 39 μS	0.0237	0.0705	0.194	0.468
100 kHz, VS = 52 μS	0.0236	0.0704	0.193	0.462

LANSIS 424 CCD QE CURVE

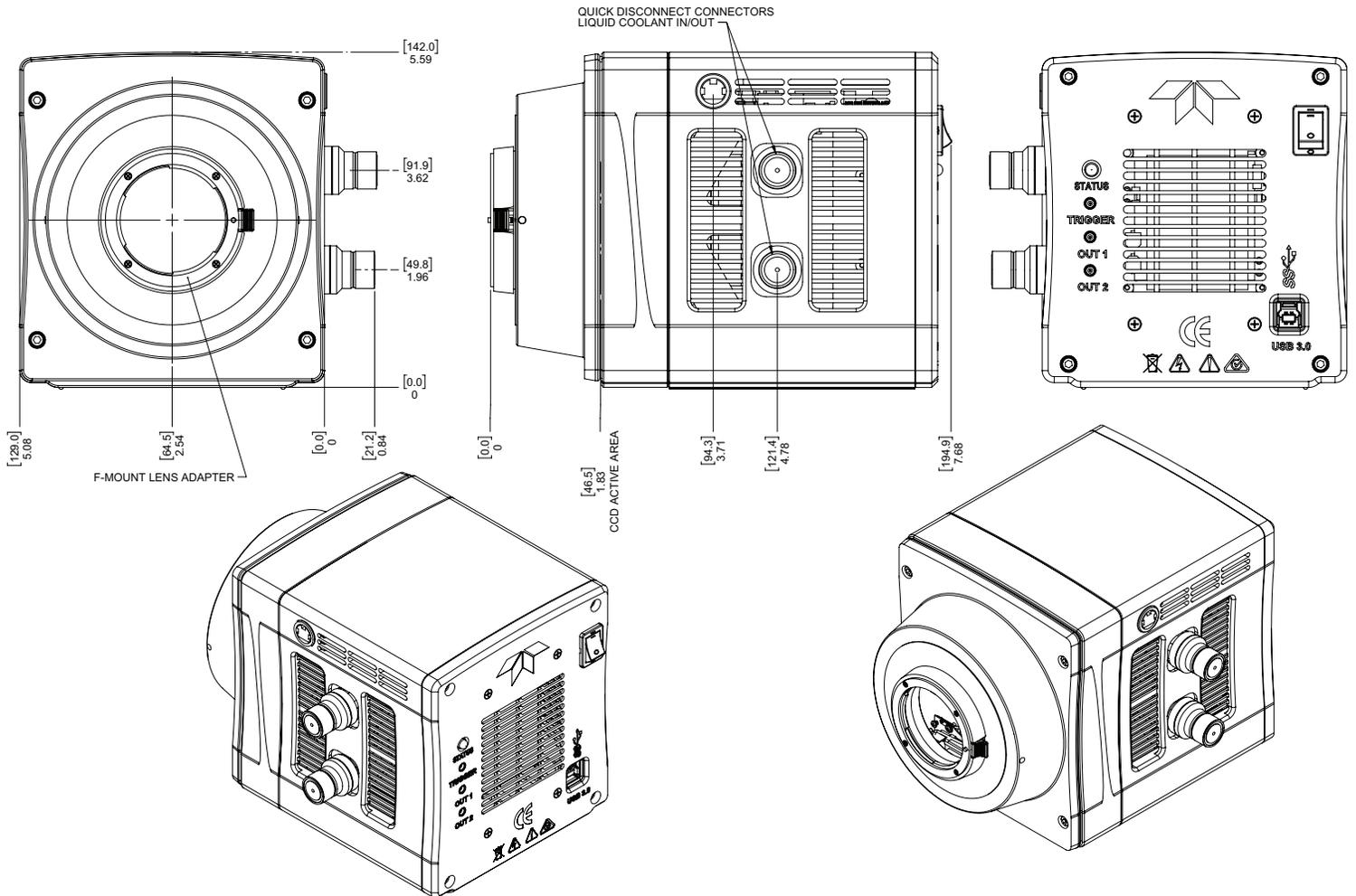


▲ eXcelon technology is available for LANSIS back-illuminated CCDs.
Optional UV coating available upon special request.

LANSIS 424 ACCESSORIES

Accessories (Air Cooled)		Accessories (Liquid Cooled)	
Power supply/cables	Data acquisition software	Power supply/cables	Coolant hoses
MCX to BNC cables (x3)	Certificate of Performance	MCX to BNC cables (x3)	Data acquisition software
USB 3.2 interface cable		USB 3.2 interface cable	Certificate of Performance
		External coolant circulator	

LANSIS 424 DIMENSIONAL OUTLINES (Unit: mm)



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Specifications in this datasheet are subject to change. Refer to the Teledyne Princeton Instruments website for most current specifications.

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