



Acuros CQD SWIR Cameras

Acuros[®] CQD[®] SWIR and eSWIR cameras are designed for high-resolution, broadband SWIR imaging and come equipped with single-stage TECs for lower noise operation and greater image stability. Brilliant, high-resolution images are delivered with high frame rates, high dynamic range, and a broad range of exposure times. Our pioneering CQD sensor technology enables 2.1 megapixel full-HD resolution, the first commercially available SWIR product of its kind. Our 400-2000 nm responsivity sensors deliver the broadest bandwidths for maximum utility while CQD sensor processing enables lower costs per megapixel. Acuros cameras are GenICam[™] compliant and come equipped with USB3 or GigE Vision interfaces. The cameras are designated EAR-99, requiring no license for lawful export.

Features

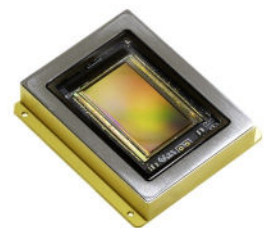
- 640 x 512, 1280 x 1024, 1920 x 1080
- TEC cooling for low noise
- Full Visible-to-SWIR bandwidth
- USB3 Vision®, GigE Vision® interfaces
- C-, F-, M42 Mount interfaces
- Compatible with most SWIR lenses
- Software GUI for camera control
- Pixel non-uniformity correction
- SDK available for user development

Applications

- Machine Vision
- Silicon Inspection
- Instrumentation
- Beam Profiling
- Battery Inspection
- Surveillance
- Hyperspectral
- Chemical Sensing
- Agriculture
- Medical Imaging

Sensor Technology

CQD sensors are fabricated via deposition of quantum dot semiconductor crystals directly upon the surface of the silicon wafer. The resulting CQD photodiode array enables higher resolution, smaller pixel pitch, broader bandwidth, low noise, and low inter-pixel crosstalk, eliminating the prohibitively expensive hybridization process inherent to InGaAs sensors. CQD sensor technology is silicon wafer-scale compatible, opening its potential to very low-cost high-volume applications.



Acuros[®] CQD[®] Sensor

SWIR Camera Series

Standard SWIR



Our standard SWIR cameras are the highest resolution SWIR cameras sold globally allowing users to see the finest details in the widest fields.

Camera Model	Resolution	Frame Rate	Spectral Sensitivity	Pixel Size	Cooling	Shutter	Interfaces	Lens mounts
Acuros 640-001	0.3 MP (640×512)	270 fps	400 - 1700 nm	15 × 15 μm	TEC	Global	GigE or USB3	C, F, M42
Acuros 1280-001	1.2 MP (1280×1024)	88 fps						C, F, M42
Acuros 1920-001	2.1 MP (1920×1080)	58 fps						F, M42

eSWIR



Our Extended SWIR cameras offer very wide band responsivity from 400 nm to 2000 nm, expanding the possibilities of imaging applications.

Camera Model	Resolution	Frame Rate	Spectral Sensitivity	Pixel Size	Cooling	Shutter	Interfaces	Lens mounts
Acuros 640-002	0.3 MP (640×512)	270 fps	400 - 2000 nm	15 × 15 μm	TEC	Global	GigE or USB3	C, F, M42
Acuros 1280-002	1.2 MP (1280×1024)	88 fps						C, F, M42
Acuros 1920-002	2.1 MP (1920×1080)	58 fps						F, M42

Laser Imaging Standard SWIR



These Laser Imaging cameras have the largest sensor areas, lowest angular sensitivity, and short standoff distances for high accuracy laser beam imaging.

Camera Model	Resolution	Frame Rate	Spectral Sensitivity	Pixel Size	Cooling	Shutter	Interfaces	Lens mounts
Acuros 640-003	0.3 MP (640×512)	270 fps	400 - 1700 nm	15 × 15 μm	TEC	Global	GigE or USB3	Not needed for Laser Profiling cameras
Acuros 1280-003	1.2 MP (1280×1024)	88 fps						
Acuros 1920-003	2.1 MP (1920×1080)	58 fps						

Laser Imaging eSWIR



These cameras combine the benefits of the Laser Imaging sensor areas with the extended responsivity from 400 nm to 2000 nm.

Camera Model	Resolution	Frame Rate	Spectral Sensitivity	Pixel Size	Cooling	Shutter	Interfaces	Lens mounts
Acuros 640-004	0.3 MP (640×512)	270 fps	400 - 2000 nm	15 × 15 μm	TEC	Global	GigE or USB3	Not needed for Laser Profiling cameras
Acuros 1280-004	1.2 MP (1280×1024)	88 fps						
Acuros 1920-004	2.1 MP (1920×1080)	58 fps						

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