SWIR® VISION SYSTEMS

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 400-2000nm responsivity sensors deliver the broadest bandwidths for maximum utility, while inherently lower cost 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

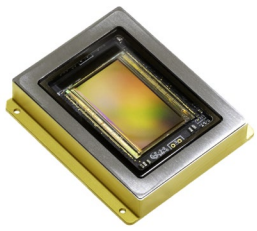
- 640 x 512, 1280 x 1024, 1920 x 1080
- TEC cooling for low noise
- Full Visible-to-SWIR bandwidth
- USB3 Vision, GigE Vision interfaces
- C-, F-, M-42 Mount interfaces
- Compatible with a range of SWIR lenses
- Software GUI for camera control
- Pixel non-uniformity correction
- SDK included for user 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 it's potential to very low cost, high-volume applications.



Acuros® CQD® Sensor

SWIR® VISION SYSTEMS

PRISM AWARDS WINNER

Winner of the 2022 Prism Award for Better Sensing

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	Megapixel	Interface	TEC	Shutter	Max Frame Rate (FPS)	Pixels (µm)	Spectral Sensitivity (nm)	Lens mounts
Acuros 640-001	640x512	0.33	GigE	TEC	Global	270 fps	15 x 15	400 - 1700	C, F, M-42
			USB3	TEC	Global	270 fps	15 x 15	400 - 1700	C, F, M-42
Acuros 1280-001	1280x1024	1.31	GigE	TEC	Global	88 fps	15 x 15	400 - 1700	C, F, M-42
			USB4	TEC	Global	88 fps	15 x 15	400 - 1700	C, F, M-42
Acuros 1920-001	1920x1080	2.07	GigE	TEC	Global	58 fps	15 x 15	400 - 1700	F, M-42
			USB3	TEC	Global	58 fps	15 x 15	400 - 1700	F, M-42

eSWIR

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

Camera Model	Resolution	Megapixel	Interface	TEC	Shutter	Max Frame Rate (FPS)	Pixels (µm)	Spectral Sensitivity (nm)	Lens mounts
Acuros 640-002	640x512	0.33	GigE	TEC	Global	270 fps	15 x 15	400 - 2000	C, F, M-42
			USB3	TEC	Global	270 fps	15 x 15	400 - 2000	C, F, M-42
Acuros 1280-002	1280x1024	1.31	GigE	TEC	Global	88 fps	15 x 15	400 - 2000	C, F, M-42
			USB3	TEC	Global	88 fps	15 x 15	400 - 2000	C, F, M-42
Acuros 1920-002	1920x1080	2.07	GigE	TEC	Global	58 fps	15 x 15	400 - 2000	F, M-42
			USB3	TEC	Global	58 fps	15 x 15	400 - 2000	F, M-42

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	Megapixel	Interface	TEC	Shutter	Max Frame Rate (FPS)	Pixels (µm)	Spectral Sensitivity (nm)	Lens mounts
Acuros 640-003	640x512	0.33	GigE	TEC	Global	270 fps	15 x 15	400 - 1700	Not needed for Laser Profiling cameras
			USB3	TEC	Global	270 fps	15 x 15	400 - 1700	
Acuros 1280-003	1280x1024	1.31	GigE	TEC	Global	88 fps	15 x 15	400 - 1700	
			USB4	TEC	Global	88 fps	15 x 15	400 - 1700	
Acuros 1920-003	1920x1080	2.07	GigE	TEC	Global	58 fps	15 x 15	400 - 1700	
			USB3	TEC	Global	58 fps	15 x 15	400 - 1700	

Laser Imaging eSWIR

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

Camera Model	Resolution	Megapixel	Interface	TEC	Shutter	Max Frame Rate (FPS)	Pixels (µm)	Spectral Sensitivity (nm)	Lens mounts
Acuros 640-004	640x512	0.33	GigE	TEC	Global	270 fps	15 x 15	400 - 2000	Not needed for Laser Profiling cameras
			USB3	TEC	Global	270 fps	15 x 15	400 - 2000	
Acuros 1280-004	1280x1024	1.31	GigE	TEC	Global	88 fps	15 x 15	400 - 2000	
			USB4	TEC	Global	88 fps	15 x 15	400 - 2000	
Acuros 1920-004	1920x1080	2.07	GigE	TEC	Global	58 fps	15 x 15	400 - 2000	
			USB3	TEC	Global	58 fps	15 x 15	400 - 2000	

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Transforming Infrared Imaging

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