

ACUROS[®] CQD[®] SWIR and eSWIR Cameras

BRD8226/D

ACUROS CQD SWIR and eSWIR cameras are designed for high-resolution, broadband 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 the first commercially available 6.3 megapixel SWIR and eSWIR products of their kind. Our 400–2100 nm eSWIR and 400–1700 nm SWIR responsivity sensors deliver the broadest bandwidths for maximum utility, and our CQD sensor processing enables lower costs per megapixel. ACUROS cameras are GenICam[™] compliant and come equipped with USB3 or GigE Vision or Cameralink interfaces. The cameras are designated EAR-99, requiring no license for lawful export.

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.

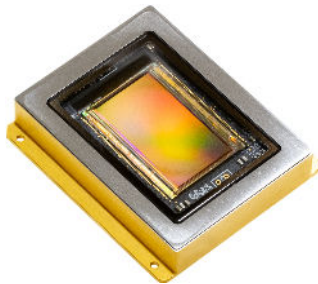


Figure 2. ACUROS CQD Sensor



Figure 1. ACUROS CQD SWIR Cameras

Features

- Resolutions up to 6.3 MP Available
- TEC Cooling for Low Noise
- Full Visible-to-eSWIR
- USB3 Vision[®], GigE Vision[®] and Cameralink 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

ACUROS PRODUCT TABLE

Part Numbers	Resolution	Megapixel	Interface	Frame Rate (FPS)	Pixel Pitch (μm)	Spectral Sensitivity (nm)	Lens Mounts
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Standard SWIR

ACUROS-0640-GIGE-001	640 x 512	0.33	GigE	270 fps	15 x 15	400–1700	C, F, M-42
ACUROS-0640-USB3-001	640 x 512	0.33	USB3	270 fps	15 x 15	400–1700	C, F, M-42
ACUROS-1280-GIGE-001	1280 x 1024	1.31	GigE	88 fps	15 x 15	400–1700	C, F, M-42
ACUROS-1280-USB3-001	1280 x 1024	1.31	USB4	88 fps	15 x 15	400–1700	C, F, M-42
ACUROS-1920-GIGE-001	1920 x 1080	2.07	GigE	58 fps	15 x 15	400–1700	F, M-42
ACUROS-1920-USB3-001	1920 x 1080	2.07	USB3	58 fps	15 x 15	400–1700	F, M-42
ACUROS4-SWIR-CLINK	2040 x 2040	4.2	Cameralink	100 fps	7 x 7	400–1700	F, M-42
ACUROS6-SWIR-CLINK	3064 x 2040	6.3	Cameralink	100 fps	7 x 7	400–1700	F, M-42

eSWIR

ACUROS-0640-GIGE-002	640 x 512	0.33	GigE	270 fps	15 x 15	400–2100	C, F, M-42
ACUROS-0640-USB3-002	640 x 512	0.33	USB3	270 fps	15 x 15	400–2100	C, F, M-42
ACUROS-1280-GIGE-002	1280 x 1024	1.31	GigE	88 fps	15 x 15	400–2100	C, F, M-42
ACUROS-1280-USB3-002	1280 x 1024	1.31	USB3	88 fps	15 x 15	400–2100	C, F, M-42
ACUROS-1920-GIGE-002	1920 x 1080	2.07	GigE	58 fps	15 x 15	400–2100	F, M-42
ACUROS-1920-USB3-002	1920 x 1080	2.07	USB3	58 fps	15 x 15	400–2100	F, M-42
ACUROS4-ESWIR-CLINK	2040 x 2040	4.2	Cameralink	100 fps	7 x 7	400–2100	F, M-42
ACUROS6-ESWIR-CLINK	3064 x 2040	6.3	Cameralink	100 fps	7 x 7	400–2100	F, M-42

LASER BEAM PROFILING STANDARD SWIR

ACUROS-0640-GIGE-003	640 x 512	0.33	GigE	270 fps	15 x 15	400–1700	None needed for Laser Profiling cameras
ACUROS-0640-USB3-003	640 x 512	0.33	USB3	270 fps	15 x 15	400–1700	
ACUROS-1280-GIGE-003	1280 x 1024	1.31	GigE	88 fps	15 x 15	400–1700	
ACUROS-1280-USB3-003	1280 x 1024	1.31	USB4	88 fps	15 x 15	400–1700	
ACUROS-1920-GIGE-003	1920 x 1080	2.07	GigE	58 fps	15 x 15	400–1700	
ACUROS-1920-USB3-003	1920 x 1080	2.07	USB3	58 fps	15 x 15	400–1700	
ACUROS4-SWIR-CLINK-LBP	2040 x 2040	4.2	Cameralink	100 fps	7 x 7	400–1700	
ACUROS6-SWIR-CLINK-LBP	3064 x 2040	6.3	Cameralink	100 fps	7 x 7	400–1700	

LASER BEAM PROFILING eSWIR

ACUROS-0640-GIGE-004	640 x 512	0.33	GigE	270 fps	15 x 15	400–2100	None needed for Laser Profiling cameras
ACUROS-0640-USB3-004	640 x 512	0.33	USB3	270 fps	15 x 15	400–2100	
ACUROS-1280-GIGE-004	1280 x 1024	1.31	GigE	88 fps	15 x 15	400–2100	
ACUROS-1280-USB3-004	1280 x 1024	1.31	USB4	88 fps	15 x 15	400–2100	
ACUROS-1920-GIGE-004	1920 x 1080	2.07	GigE	58 fps	15 x 15	400–2100	
ACUROS-1920-USB3-004	1920 x 1080	2.07	USB3	58 fps	15 x 15	400–2100	
ACUROS4-ESWIR-CLINK-LBP	2040 x 2040	4.2	Cameralink	100 fps	7 x 7	400–2100	
ACUROS6-ESWIR-CLINK-LBP	3064 x 2040	6.3	Cameralink	100 fps	7 x 7	400–2100	

*All Part Number's listed feature Global Shutters and TEC Cooling

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