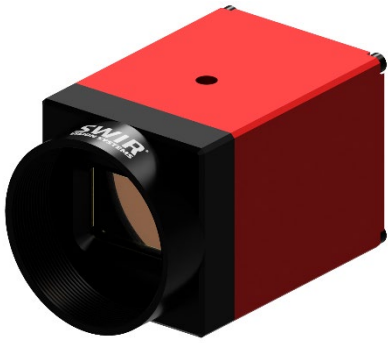
SWIR® VISION SYSTEMS



Acuros®4 CQD® SWIR Camera

Preliminary Product Sheet

SWIR imaging meets high resolution:

Introducing the world's first 4MP CQD SWIR camera

SWIR Vision Systems continues the tradition of lowest cost per megapixel with the Acuros® 4 SWIR machine vision camera. The compact, lightweight design delivers a spectral response from UV up to 2.1µm and is equipped with 7µm pixels featuring optically enhanced CQD technology for improved SNR performance. A single-stage TEC ensures stable performance over a wide range of operating conditions.

THE POWER OF 4MP

Higher resolution is essential for imaging, capturing intricate details with wider fields of view.

This additional data is vital to precision-driven industries like medical, manufacturing, scientific research and defense and aerospace. The Acuros® 4, high-resolution sensor, enables post-processing flexibility with lower loss of quality, empowering users, and algorithms to extract insights, spot defects, and enhance images for more meaningful results.

Features:

- Compact form factor
- 10GigE and CoaXPress interface options
- Auto Exposure
- Dynamic Non-Uniformity Corrections (NUCs)
- GenICam Compliant
- TEC thermal stabilization (uncooled)
- Spectral range covering UV-2.1µm

Applications:

- Machine vision
- Silicon inspection
- Laser beam profiling
- Automotive
- Surveillance
- Hyperspectral
- Chemical sensors
- Agricultural
- Medical imaging
- Thermography

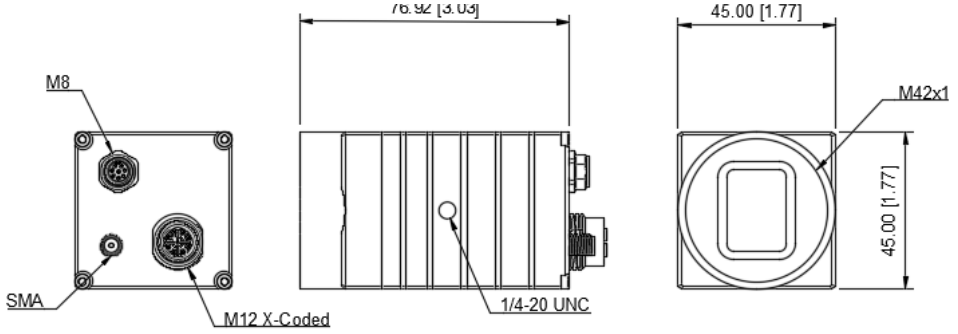
Acuros®4 CQD® SWIR Camera

Specifications:		
Sensor Features		
Type	Acuros® 4 CQD sensor	
Pixel Pitch	7 µm	
Format	2040 x 2040	
Array Size	14.34 mm x 14.34 mm	
Array Diagonal	19.80 mm	
Shutter	Global Shutter	
Max FPS (full frame)	100 Hz (8 bit), 50 Hz (12 bit),	
Min Exposure time	10 µs	
Detector Technology	Colloidal quantum dot photodiode	
Detector type	**SWIR**	**eSWIR**
Spectral Range	400-1700 nm	400-2100 nm
QE	>20% @ 1550 nm	>15% @ 1900 nm
Pixel operability	99.9% typical	
Dark noise (at 30C)	TBD (e/s)	TBD (e/s)
Dark noise doubling temp	20 C	18 C
Analog Gain Modes	**Low Gain**	**High Gain**
Read noise	125 e-	20 e-
Well-depth	350 Ke-	52 Ke-
Dynamic Range	68 db	63 db
ADC bit depth	8-bit or 12-bit	
Camera Features		
Trigger	External TTL via SMA	
Region of interest (ROIC)	Yes (8 row increments)	
ROI FPS scaling	Yes. FPS up to 10 KHz for 2040 x 8 pixel ROI	
Binning arrays	Yes	
Non-uniformity correction	2 pt	
Auto exposure control	Yes	
Environmental & power specifications, typical performance		
Sensor temperature stabilization	Single-stage TEC	
Operating case temperature	-40 °C to +85 °C	
Storage temperature	-40 °C to +125 °C	
Power consumption	*Data coming soon*	
Power supply voltage	*Data coming soon*	

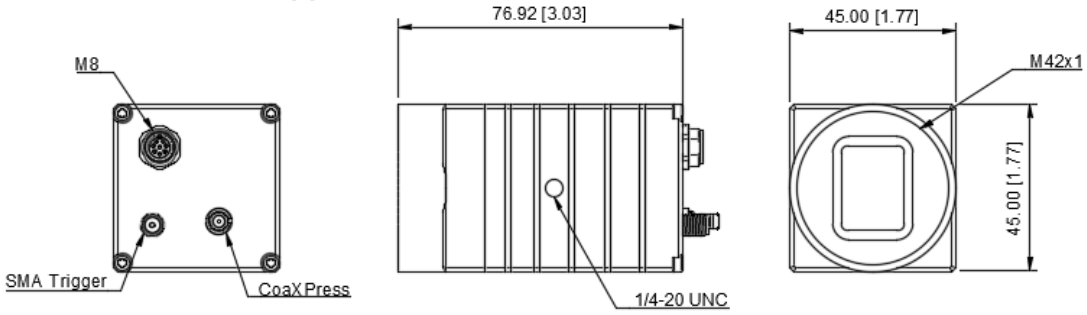
Acuros®4 CQD® SWIR Camera

Mechanical specifications	
Dimensions excluding lens	5 cm x 5 cm x 8 cm
Weight excluding lens	300 g
Lens mounts	C-mount, M42-C
Power connector	8-pin M8 connector
Trigger connector	SMA
Software and user interface	
Software development kit	Euresys eGrabber SDK
GenICam compliance	Yes
Interface	10GigE or CoaXPress (CXP-6)

Preliminary Mechanical Drawings*



10GigE Variant
Dimensions subject to change
mm [in]



CoaXPress Variant
Dimensions subject to change
mm [in]

* PRELIMINARY drawings are subject to change.

Contact Us: For technical, pricing, and sales information, or to learn more about Acuros CQD imaging technology, please contact us at: sales@swirvisionsystems.com, 919.248.0032