



Acuros[®] CQD[®] 1920 USB3 eSWIR Camera

Acuros[®] CQD[®] cameras are the highest pixel resolution SWIR cameras sold commercially, enabling users to see features with the finest details. Our novel CQD sensors deliver full visible to **eSWIR** response, achieving lowest cost per megapixel. Our new Acuros **eSWIR** cameras built with 640x512, 1280x1024, or 1920x1080 focal plane arrays, delivering truly high resolution, and very high detectivity imaging to 2000nm. This novel capability opens up new applications for chemical sensing, surveillance imaging, plastic sorting, thermal imaging and more.

Specifications:

Electro-Optical Specifications:

Sensor	Acuros [®] CQD [®] sensor
Temperature stabilization	Single-stage thermo-electric cooler
Sensor array format	1920 x 1080
Resolution	2.07 megapixels
Spectral band	350 nm - 2000 nm
Array size	28.8 mm x 16.2 mm, 33 mm diagonal
Pixel pitch	15 µm x 15µm
Max frame rate at full resolution	58 fps (8 bit, 10 bit, 12 bit)
Pixel operability	99.5% typical
Bit depth	8, 10, 12 bit selectable
Integration type	Snapshot global shutter
Trigger	External TTL
Integration time	10 µsec to 30 msec
Dynamic range	65 dB typical
Windowing	Array centered
Windowing frame rate	Scales inversely with window size
Binning arrays	2 x 2, 4 x 4
Non-uniformity correction	2-point non-uniformity correction
Temporal dark noise	< 210 electrons rms typical
Detectivity	See typical detectivity curve.

Features:

- Full HD resolution
- TEC cooling
- Low noise
- Fast frame rate
- Visible-**eSWIR**
- USB3 Vision
- High value

Applications:

- Hydrocarbon detection
- Chemical sensing
- Medical imaging
- Plastic sorting
- Hyperspectral
- High resolution
- Thermal imaging
- Surveillance
- Machine vision
- Silicon inspection
- Instrumentation



SWIR[®]

VISION SYSTEMS

High Definition. SWIR Vision.

Specifications:

Environmental & power specifications, typical performance

Operating case temperature	-20 °C to +55 °C
Power consumption	6.5 watts, full frame rate, 40 °C case temp.
Power supply voltage	6-16 VDC
Regulatory compliance	CE mark

Mechanical specifications

Dimensions excluding lens	6.1 x 6.1 x 13.2 cm (F-mount) or 6.1 x 6.1 x 9.7 cm (M-42)
Weight excluding lens	594g with F-mount, 508g with M-42 mount
Lens mounts	F-Mount, M42 (C-Mount flange-back distance)
Power connector	Hirose 12-pin, HR10A-10R-12PB (71)
Trigger connector	BNC

Software and user interface

Software development kit	Windows GUI and SDK
GenICam compliance	Yes
Interface	USB3 Vision

Export compliance

US export designation	EAR-99. No license required for lawful export
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Ordering

Part numbers	Acuros-1920-USB3-002
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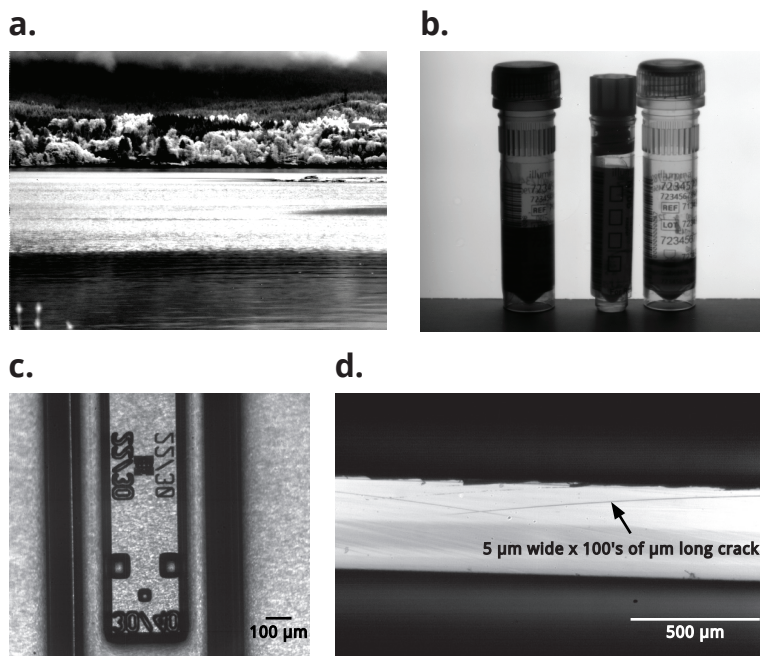


**C-mount, F-mount,
and M-42 Lens
Mounts**

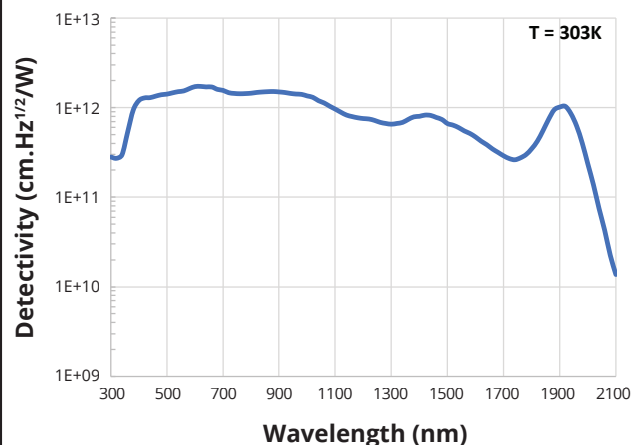


**USB3 Vision
Interface**

Acuros CQD SWIR camera images



Typical Detectivity Performance



- a. Acuros 640: imaging through maritime rain event
- b. Acuros 640: imaging through pharmaceutical vial labels
- c. Acuros 1280: alignment mark in bonded wafers
- d. Acuros 1920: mag image of semiconductor chip edge



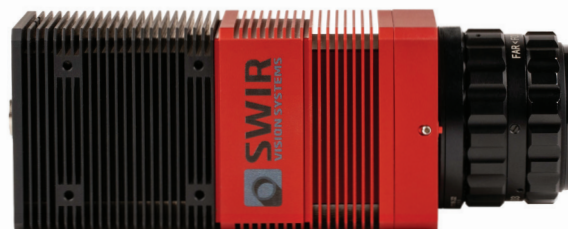
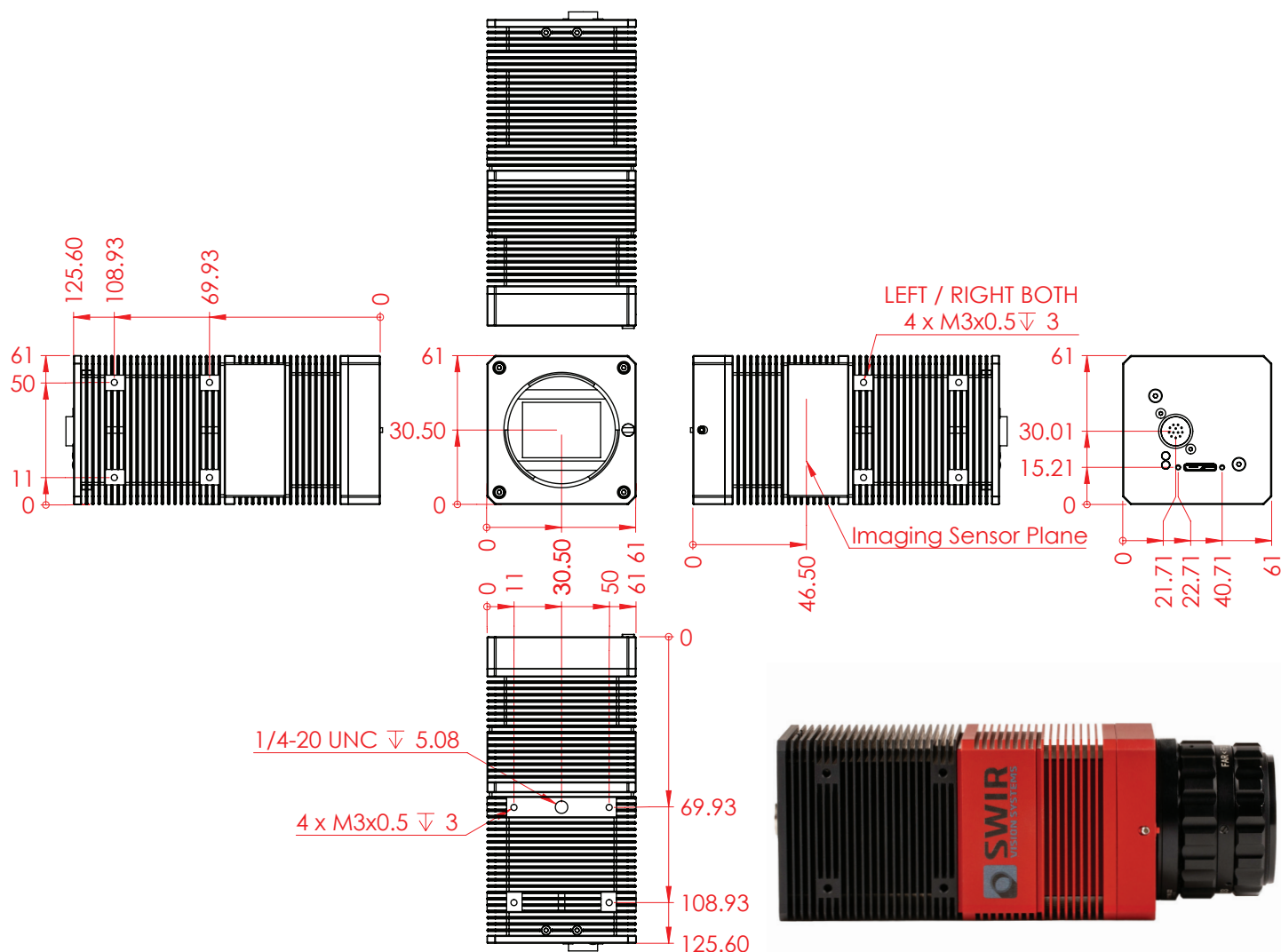
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Mechanical Drawings for F-Mount interface

- See Acuros 640 Drawings for M-42 mount



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