



## Acuros<sup>®</sup> CQD<sup>®</sup> 1920 USB3 eSWIR Camera

Acuros<sup>®</sup> CQD<sup>®</sup> 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 <sup>®</sup> CQD <sup>®</sup> 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 $\mu$ m x 15 $\mu$ m                     |
| 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 $\mu$ sec 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



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## 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 |
|-----------------------|-----------------------------------------------|

### Ordering

|              |                      |
|--------------|----------------------|
| Part numbers | Acuros-1920-USB3-002 |
|--------------|----------------------|

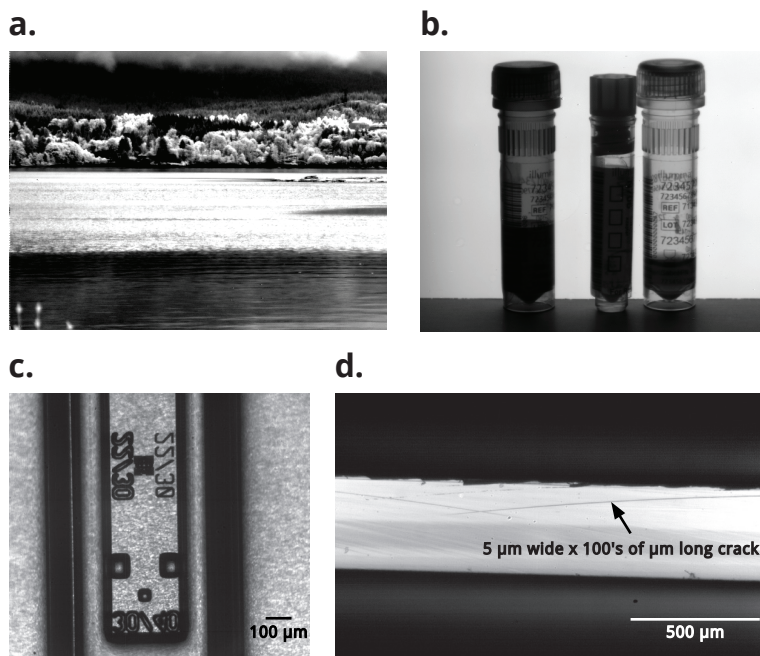


C-mount, F-mount,  
and M-42 Lens  
Mounts

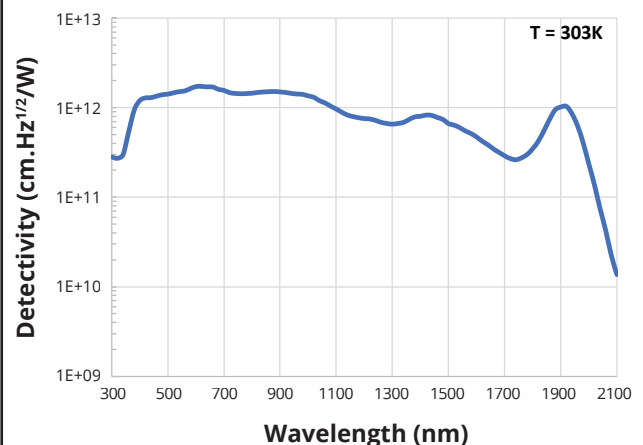


USB3 Vision  
Interface

### 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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[www.swirvisionsystems.com](http://www.swirvisionsystems.com)



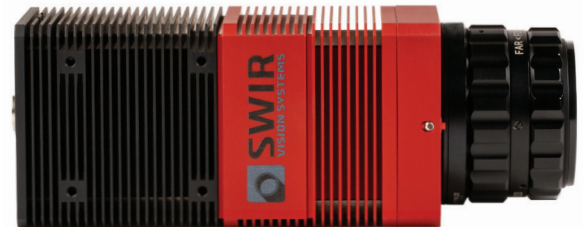
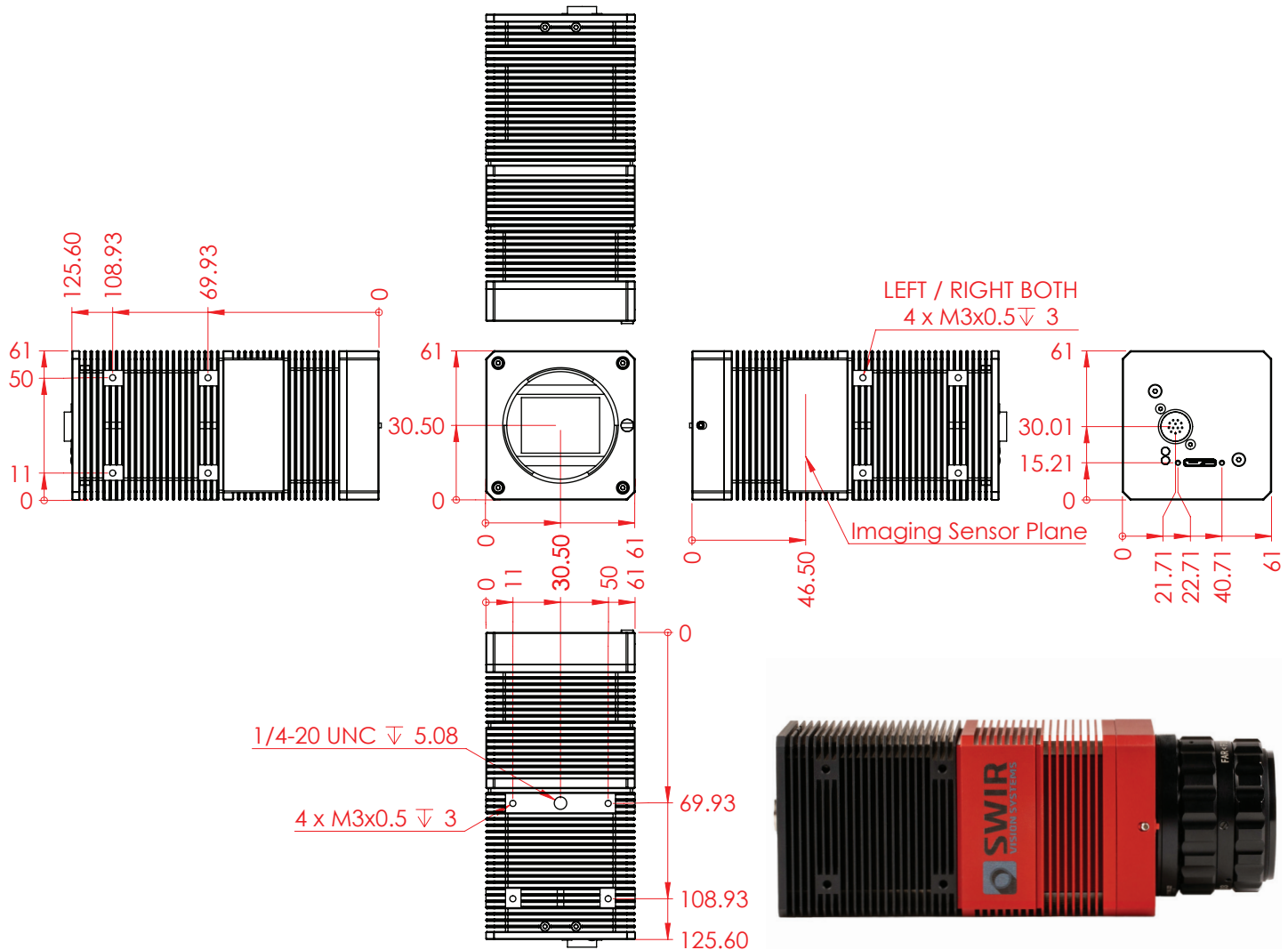
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## Mechanical Drawings for F-Mount interface

- See Acuros 640 Drawings for M-42 mount



## Contact Us:

For technical, pricing, and sales information, or to learn more about Acuros cameras or CQD sensor technology, please contact us at:

[sales@swirvisionsystems.com](mailto:sales@swirvisionsystems.com)

+1 919.248.0032



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