



## Acuros<sup>®</sup> CQD<sup>®</sup> 1280 GigE SWIR 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-SWIR band response, achieving lower costs per megapixel compared to InGaAs SWIR cameras. The Acuros CQD 1280 SWIR camera is designed with an integrated, multi-purpose 1280x1024 TEC Cooled CQD sensor, resulting in low noise and highly stable performance. Acuros cameras have up to a 10db higher SNR than competitive 5 $\mu$ m pixel InGaAs cameras.

### Specifications:

#### Electro-Optical Specifications:

|                                   |   |
|-----------------------------------|---|
| Sensor                            | Acuros <sup>®</sup> CQD <sup>®</sup> sensor     |
| Temperature stabilization         | Single-stage thermo-electric cooler             |
| Sensor array format               | 1280 x 1024                                     |
| Resolution                        | 1.31 megapixels                                 |
| Spectral band                     | 400 nm - 1700 nm                                |
| Array size                        | 19.2mm x 15.4 mm, 24.6 mm diagonal              |
| Pixel pitch                       | 15 $\mu$ m x 15 $\mu$ m                         |
| Max frame rate at full resolution | 88 fps (8 bit), 45fps (10, 12, 14 bit)          |
| Pixel operability                 | 99.9% typical, 99.75% min                       |
| Bit depth                         | 8, 10, 12, 14 bit selectable                    |
| Integration type                  | Snapshot global shutter                         |
| Trigger                           | External TTL                                    |
| Integration time                  | 10 $\mu$ sec to 4 sec                           |
| Dynamic range                     | 70 dB typical                                   |
| Windowing & windowing frame rate  | Array centered. Scales inversely to window size |
| Laser beam fringeless operation   | No ( <i>See Acuros Laser Series Cameras</i> )   |
| Binning arrays                    | 2 x 2, 4 x 4                                    |
| Non-uniformity correction         | 2-point non-uniformity correction               |
| Temporal dark noise               | 65e <sup>-</sup> typical (high gain)            |
| Quantum efficiency                | See typical QE curve.                           |

### Features:

- HD resolution
- TEC cooling
- Low noise
- Fast frame rate
- Visible-SWIR
- GigE Vision
- High value

### Applications:

- Machine vision
- Silicon inspection
- Automotive
- Fill-level
- Surveillance
- Hyperspectral
- Chemical sensors
- Agricultural
- Medical imaging
- Thermography



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## Specifications:

### Environmental & power specifications, typical performance

|                            |                                     |
|----------------------------|-------------------------------------|
| Operating case temperature | -20 °C to +55 °C                    |
| Power consumption          | 6.5 -12 W depending on TEC settings |
| Power supply voltage       | 6-16 VDC. POE not supported.        |
| Regulatory compliance      | CE mark                             |

### Mechanical specifications

|                           |   |
|---------------------------|---|
| Dimensions excluding lens | 6.1 x 6.1 x 10.3 cm (C-Mount)                   |
| Weight excluding lens     | 508 grams with C-mount adaptor, 594g (F-mount)  |
| Lens mounts               | C-, 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 & Pleora eBUS SDK (Linux, Windows, MacOS) |
| GenICam compliance       | Yes   |
| Interface                | GigE Vision   |

### Export compliance

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

### Ordering

|              |                            |
|--------------|----------------------------|
| Part numbers | 1280: Acuros-1280-GigE-001 |
|--------------|----------------------------|

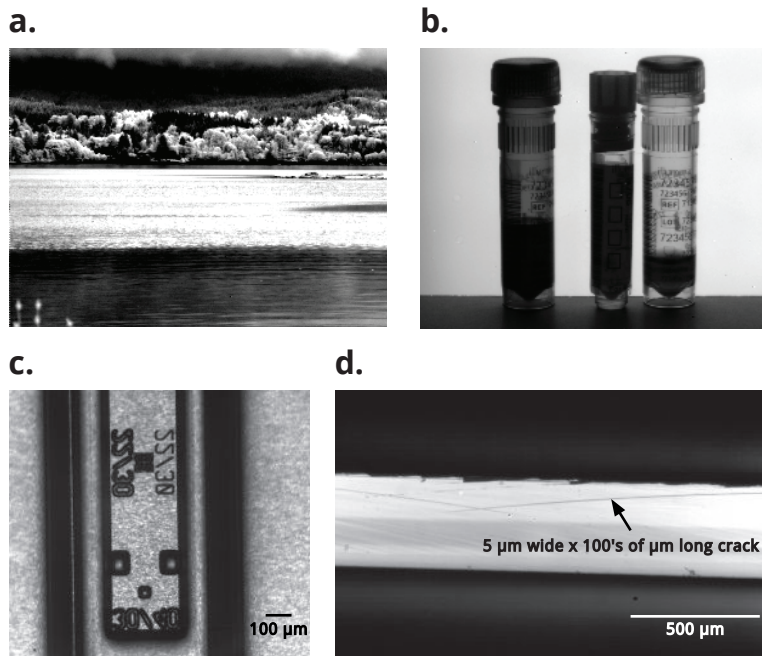


C-mount, F-mount, and M-42 Lens Mounts

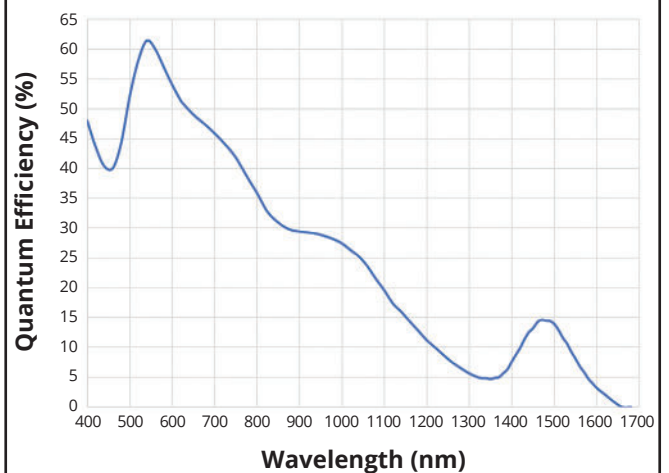


GigE Vision Interface

## Acuros CQD SWIR camera images



## Typical QE 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

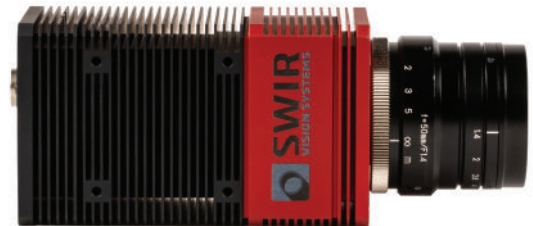
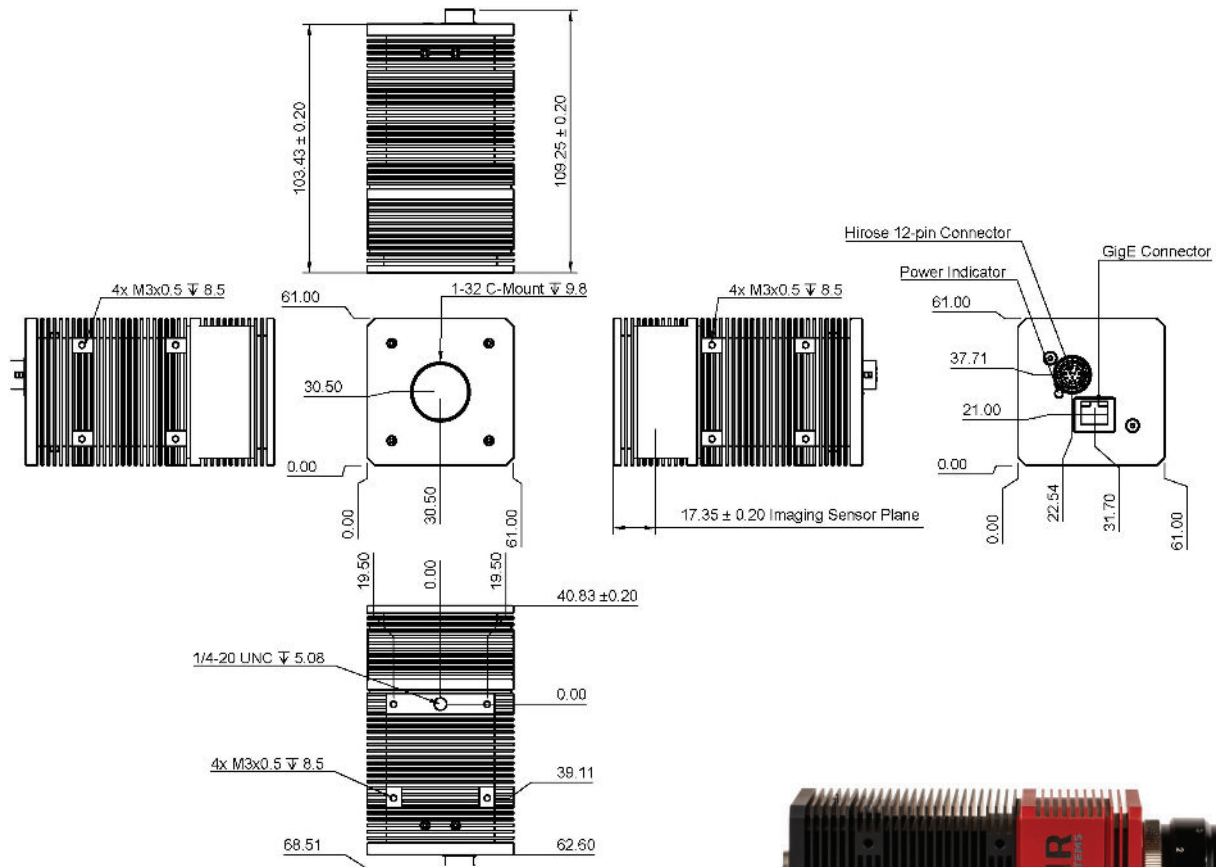


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## Mechanical Drawings C Mount



## 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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Acuros-1280-GigE-001

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

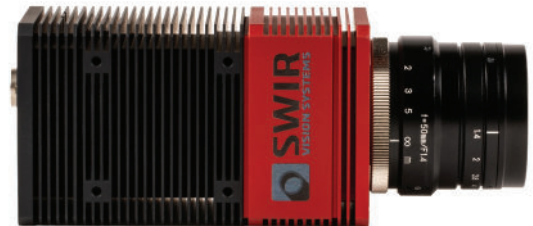
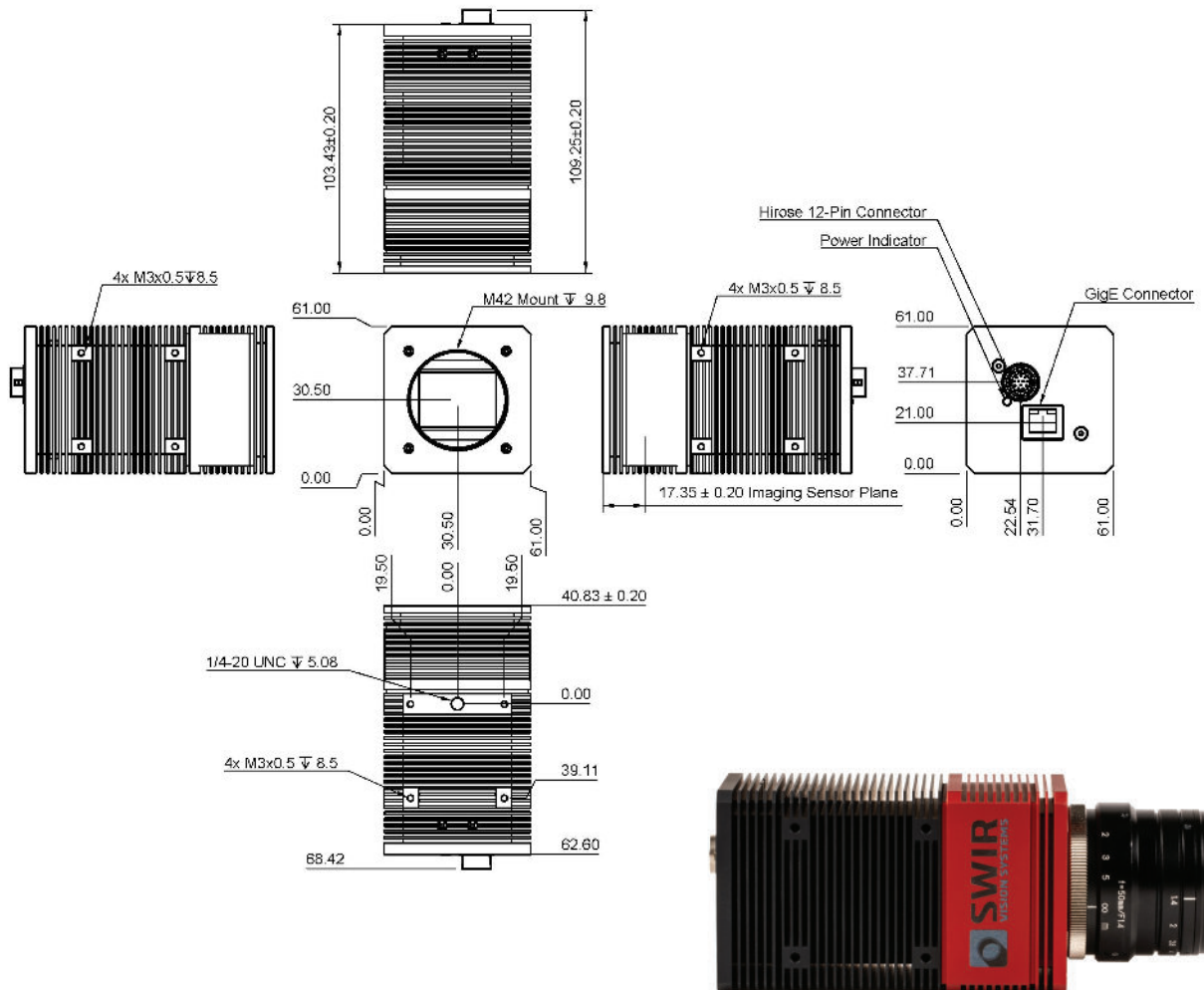


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## Mechanical Drawings M42 Short Mount



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