Acuros® CQD® 1280L USB3 SWIR Camera

The Acuros® CQD® L-Series SWIR cameras feature large sensor area, low angular dependence and a short working distance for highly divergent emitters and collimated beams. Acuros cameras deliver high resolution, high dynamic range and very high detectivity imaging from 400 nm to 1700 nm.

The L-Series cameras are designed for use in laser beam diagnostics, laser beam imaging and laser alignment applications.

Specifications:

Electro-Optical Specifications:

Sensor	Acuros® CQD® 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	19.2 mm x 15.4 mm, 24.6 mm diagonal
Pixel pitch	15 µm x 15µm
Max frame rate at full resolution	88 fps (8, 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 µsec to 4 sec
Dynamic range	70 dB typical
Windowing & windowing frame rate	Array centered. Scales inversely to window size
Laser beam fringeless operation	Yes
Binning arrays	2 x 2, 4 x 4
Non-uniformity correction	2-point non-uniformity correction
Temporal dark noise	65e⁻ typical (high gain)
Quantum efficiency	See typical QE curve.

Features:

- Large sensor size
- Short working distance for highly divergent beams
- Low angular dependence
- Dynamic Range up to 70 dB
- Linear photoresponse
- 1.2mp Resolution
- TEC Cooling
- Low noise
- GigE Vision
- Visible-SWIR

Applications:

- Laser beam diagnostics
- Laser beam imaging
- Laser alignment

Acuros-1280-USB3-003

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
Regulatory compliance	CE mark
Mechanical specifications	
Dimensions excluding lens	6.1 x 6.1 x 8.2 cm
Weight excluding lens	508 grams
Lens mounts	Standard mount. Inquire for other options.
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	USB3 Vision
Export compliance	
US export designation	EAR-99. No license required for lawful export
Ordering	
Part numbers	1280L: Acuros-1280-USB-003

USB Vision Interface
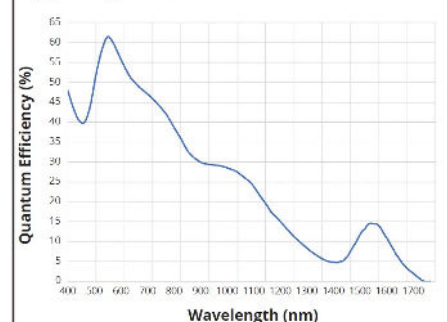
Acuros CQD SWIR camera image of Laser
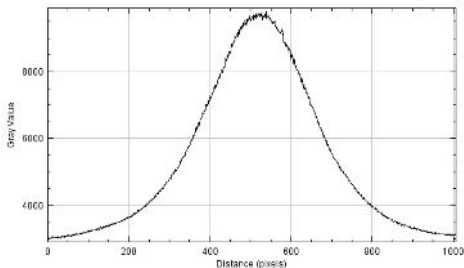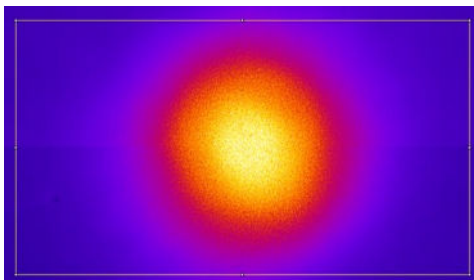
1550 nm Laser image and corresponding line file (false color added post image)

Angular Dependence Data
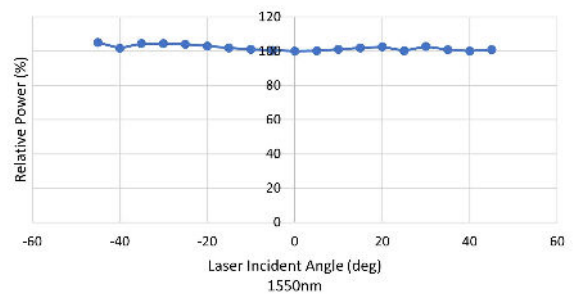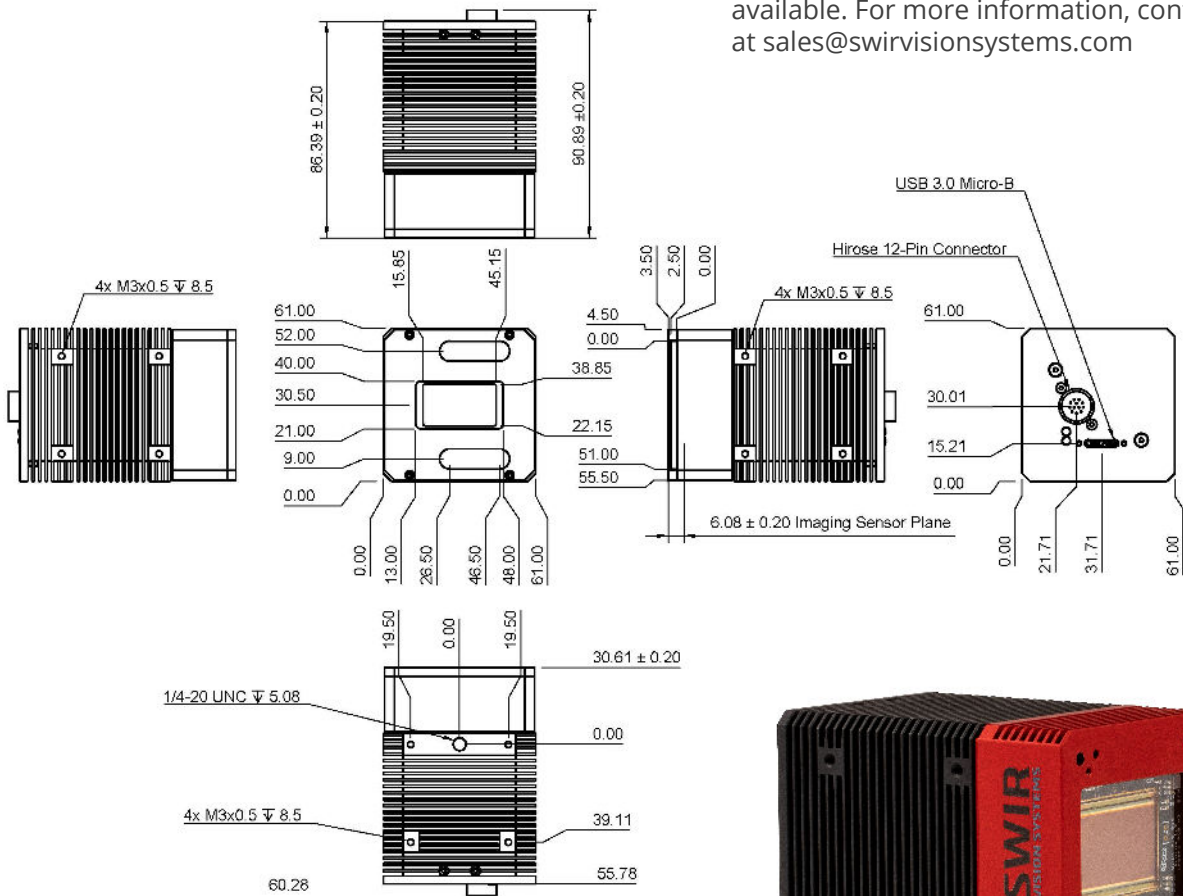

Typical QE Performance

Acuros-1280-USB3-003

Mechanical Drawings

**Additional ND filter mounting options are available. For more information, contact us at sales@swirvisionsystems.com

USB 3.0 Micro-B

Hirose 12-Pin Connector

4x M3x0.5 ⌽ 8.5

6.08 ± 0.20 Imaging Sensor Plane

1/4-20 UNC ⌽ 5.08

4x M3x0.5 ⌽ 8.5

Distribution in the UK & Ireland

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Characterisation, Measurement & Analysis

Acuros-1280-USB3-003