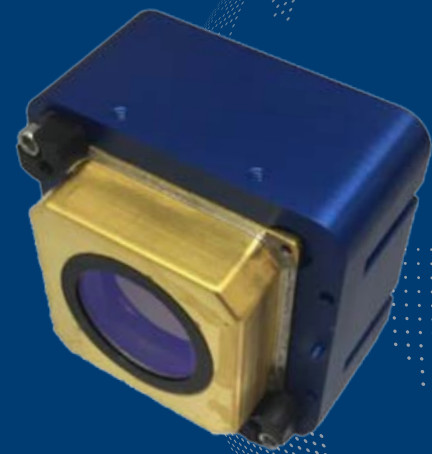




QI-SWIR-HD10

High-definition miniature SWIR Camera



Non-ITAR, EXPORTABLE VERSION

General Description

Quantum Imaging's QI-SWIR-HD10 camera is a low noise camera with extended spectral range from $0.6\mu\text{m}$ to $1.7\mu\text{m}$. The camera uses SCD's latest 1280×1024 format InGaAs detector with $10\mu\text{m}$ pixel pitch.

The advanced digital ROIC provides an advanced programmable on-chip features and very low noise performance.

The camera features Automatic Gain and Exposure Control to optimize image quality over a wide range of imaging conditions. A proprietary non-uniformity correction "NUC" provides non-uniformity correction over the -30°C to $+60^{\circ}\text{C}$ operating range.

The camera has a TEC to cool the focal plane for low light-level imaging. On-board Correlated Double Sampling (CDS) delivers dynamic range of up to 70dB and total noise <60 rms electrons for low-light operation.

All QI cameras are 100% Environmental Stress Screened (ESS) and a full characterization data set is provided for each camera, including mean-variance and noise equivalent radiance plots.

Main Features

- 1280×1024 Resolution with $10\mu\text{m}$ pixel pitch
- Extended spectral response $0.6\mu\text{m}$ to $1.7\mu\text{m}$
- 30 FPS
- Snapshot Imaging
- 12-bit digitization
- Total noise $<60e^-$ rms (typical at 20°C sensor), Total noise in uncooled mode is dependent upon temp.
- Total Power < 4 Watts (typical)
- Camera Link[®] and other outputs available upon request
- Internal or external trigger
- Programmable NUC, AGC, Trigger

Benefits

- Low power
- Low Image lag eliminates image persistence
- Extended spectral range increases sensitivity and allows for shorter wavelength illumination

Applications

- Automotive and Airborne Driver Enhanced Vision
- Industrial process control
- Semiconductor inspection
- Laser beam profiling
- Bio Applications

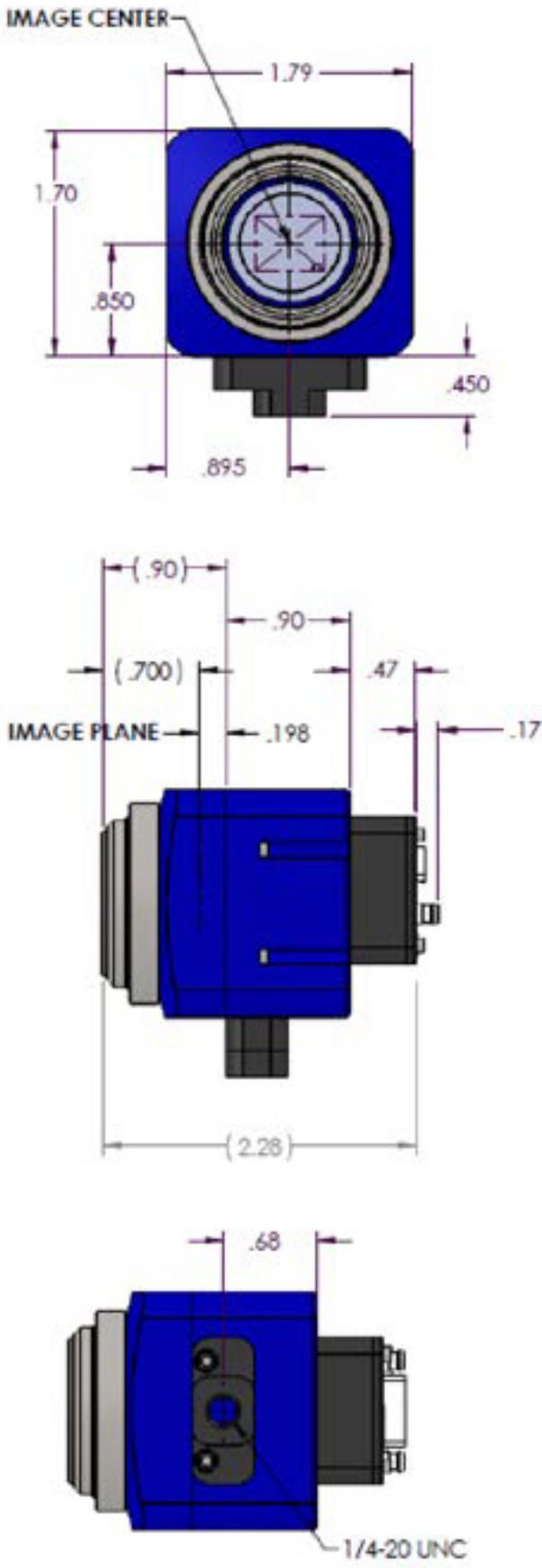


QUANTUM IMAGING
a SCD.USA Company

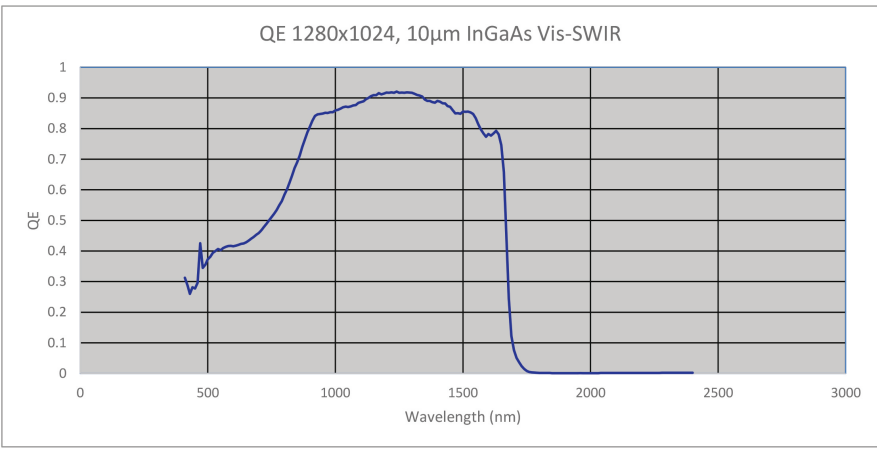
YOUR VISION IS OUR VISION

QI-SWIR-HD10 (EXP)		
PARAMETER	VALUE	COMMENTS
Sensor Type	InGaAs	
Sensor Readout	Full-frame	Snapshot mode
Image Format	1280 x 1024	
Pixel Size	10µm x 10µm	
Active Area	100% fill factor	
Spectral Response	0.6µm to 1.7µm	See QE plot
Total Noise	<60e- rms	20°C sensor temp
Max Frame Rate	30 FPS	
Dynamic Range	70dB	Typical
Power Dissipation	4 Watts	Typical
MECHANICAL		
Housing Material	Aluminum	
Lens Mount	C-mount/M42	Other mounts available
Weight	< 4oz	
Dimensions	1.7" x 1.8" x 2.3"	See drawing
POWER AND SIGNAL INTERFACE		
Power Input	+3.3VDC	Omnetics A22045-001
Data	Base Camera Link®	NTSC also available
Trigger/ Sync		SamTec MCX and Camera Link® CC1
Mode Control	Serial port	Via Camera Link®
ENVIRONMENTAL		
Operating Temp	-30 to +60°C	Full Performance
Storage Temp	-50°C to +85°C	

Mechanical Dimensions



Typical Spectral Response



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