



## Phoenix™ VGA SWIR Camera Core

### Miniature SWIR VGA Camera Core for Low SWaP-C



The Phoenix™ VGA SWIR camera core is a VGA format (640x512), uncooled SWIR camera featuring the industry's smallest SWIR VGA sensor. The Phoenix™ VGA captures snapshot SWIR imagery using Attollo Engineering's high-performance InGaAs detector material. The extremely small pixel pitch enables more pixels on target with a short focal length optic. The Phoenix™ VGA sensor is designed specifically to support broadband imaging along with day and night laser see-spot and range-gated imaging capabilities. The Phoenix™ VGA miniature SWIR camera is built for low SWaP applications and offers a significant opportunity for cost-savings at the system level compared to competing SWIR cameras. This miniature camera is ideal for small gimbal integration as well as use in low-SWaP handheld and soldier-mounted systems.

#### Highlights

- Industry smallest SWaP SWIR core
- Technology: InGaAs provides uncooled imaging over 0.9 to 1.7  $\mu\text{m}$  wavelength
- Extremely small pixel pitch: 640x512, 5  $\mu\text{m}$  enables more pixels on target with short focal length optic
- Laser compatible: day and night laser see-spot and range-gated capabilities
- Multiple interfaces: USB-C, Camera Link, and Parallel
- Export friendly: US Commerce classification, EAR 6A003.b.4.a

#### Applications

- Small gimbals and SUAS
- Ground Soldier System
- Laser see-spot
- Machine vision
- Precision agriculture
- Driver Vision Enhancement (DVE)
- Range-gated imaging
- Fire fighting
- Image through environmental obscurants
- Covert illuminated imaging
- Laser designator imaging and decode\*

\*with separate Attollo laser event detector module

The Phoenix™ VGA camera core is designed and manufactured in Attollo's 34,000 ft<sup>2</sup> facility in Camarillo, California. Attollo Engineering specializes in sensors that combine infrared and laser imaging as well as standard and custom IDCA designs for your applications. Attollo is a merchant supplier of standard and custom format InGaAs detector arrays, hybridized focal plane arrays, and camera assemblies. Attollo is AS9100 certified.

## SYSTEM FEATURES

### Top Level

Sensor Type	InGaAs
Sensor Size	640 x 512, 5 $\mu\text{m}$
Spectral Band	0.9 $\mu\text{m}$ - 1.7 $\mu\text{m}$
Read Noise	50 $e^-$ / 80 $e^-$
Max Frame Rate	220 Hz

### Mechanical

Size (L x W x H)	20.32 mm x 25.25 mm x 25.25 mm
Weight	32 g (core, no lens)
Mounting	1-64; 1/4"-20 adapter
Lens Mount	C-mount, M16x0.75, or none

### FPA Characteristics

Shutter Mode	Global Snapshot
Well Capacity	40 $ke^-$ / 230 $ke^-$
Readout Mode	Integrate then read
Integration Time	Presets and user-defined, minimum = 0.1 $\mu\text{s}$
Windowing Capable	Yes
External Sync	Sync-In and Sync-Out
Operability	> 99.5%

### Video Interface

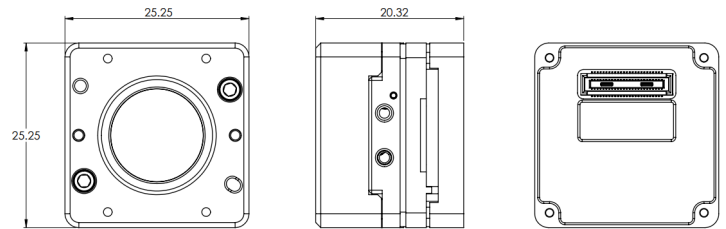
Parallel (16 bit)	Yes
USB-C	Yes
Camera Link	Yes
Image Processing	NUC, BPR, AEC, AGC

### Interfacing

Parallel	HIROSE DF40-50
Input Voltage	5 V $\pm$ 10%
Power Dissipation	1.6 W at 30 Hz, 1.8 W at 60 Hz
Communication	USB, UART, SPI or I2C
SDK and GUI Available	Yes

### Environmental

Operating Temperature	-20°C to +65°C
Storage Temperature	-50°C to +85°C
Max Altitude	40,000 feet
Humidity	5-95% relative humidity (non condensing)



*See More*



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