



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 μm wavelength
- Extremely small pixel pitch: 640x512, 5 μm 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 ft² 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 μm
Spectral Band	0.9 μm - 1.7 μm
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 μs
Windowing Capable	Yes
External Sync	Sync-In and Sync-Out
Operability	> 99.5%

Video Interface

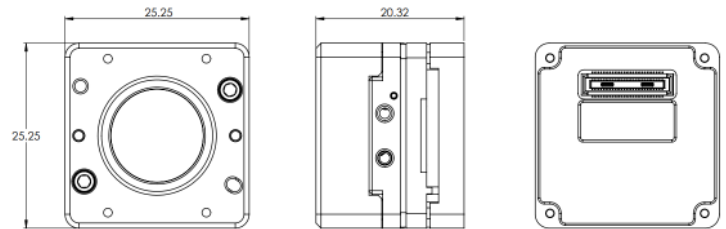
Parallel (16 bit)	Yes
USB-C	Yes
Camera Link	Yes
Image Processing	NUC, BPR, AEC, AGC

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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