



# Phoenix™ 5 Series SWIR Camera Core

Miniature SWIR Camera Core for More Pixels on Target



The Phoenix™ 5 Series SWIR camera core includes the Phoenix™ VGA5 (640x512) and Phoenix™ HD5 (1280x1024), featuring the industry's smallest SWIR sensor. The Phoenix™ 5 Series 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™ 5 Series sensor is designed specifically to support broadband imaging along with day and night laser see-spot and range-gated imaging capabilities. The Phoenix™ 5 Series 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  
—0.9 to 1.7  $\mu\text{m}$  wavelength
- Extremely small pixel pitch: 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, MIPI, Camera Link, and Parallel
- Export friendly: US Commerce classification, EAR 6A003.b.4.a

## Applications

- Small gimbals and SUAS
- Ground soldier systems
- Laser see-spot
- Machine vision
- Precision agriculture
- Driver Vision Enhancement (DVE)
- Range-gated imaging
- Fire fighting
- Image through environmental obscurants
- Covert illuminated imaging
- Long-range surveillance
- Laser designator imaging and decode\*  
\*When paired with Attollo's Mantis laser event detector module

The Phoenix™ 5 Series 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

Phoenix™ 5 Series    Phoenix™ VGA5    Phoenix™ HD5

### Top Level

Sensor Type	InGaAs	
Sensor Size	640 x 512, 5 μm	1280 x 1024, 5 μm
Spectral Band	0.9 μm - 1.7 μm	
Read Noise	50 e <sup>-</sup> /80 e <sup>-</sup> (high gain/low gain)	
Max Full Frame Rate	220 Hz	45 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, M16x.075	C-mount or none

### FPA Characteristics

Shutter Mode	Snapshot	
Well Capacity	40 ke <sup>-</sup> / 230 ke <sup>-</sup>	40 ke <sup>-</sup> /180 ke <sup>-</sup>
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

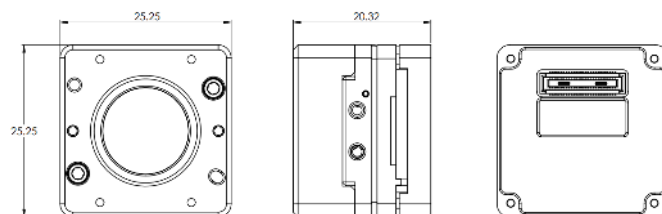
Parallel (16 bit)	Included
USB-C	With personality board
MIPI	With personality board
Camera Link	With personality board
Image Processing	AEC, NUC, BPR, Histogram Equalization, and AGC

### Interfacing

Parallel	HIROSE DF40-50	
Input Voltage	5 V ±10%	
Power Dissipation	1.6 W at 30 Hz, 1.8 W at 60 Hz	1.6 W at 30 Hz, 2.0 at 60 Hz
Communication	USB, UART, SPI or I2C	
SDK and GUI Available	Yes	

### Environmental

Operating Temperature	-40°C to +71°C
Storage Temperature	-50°C to +85°C
Max Altitude	40,000 feet
Humidity	5-95% relative humidity (non-condensing)



*See More*



Please scan QR code for more information

Equipment described herein is subject to US export regulations under EAR and may require a license prior to export under ECCN 6A003.b.4.a.

Specifications are subject to change without notice.

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