



# Phoenix HD™ SWIR Camera Core

Miniature HD SWIR Camera Core for More Pixels on Target



The Phoenix HD™ SWIR camera core is an HD format (1280x1024), uncooled SWIR camera core featuring the industry's smallest SWIR HD sensor. The Phoenix HD™ 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 HD™ sensor is designed specifically to support broadband imaging along with day and night laser see-spot and range-gated imaging capabilities. The Phoenix HD™ 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: 1280x1024/5  $\mu\text{m}$  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 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\*  
\*with separate Attollo laser event detector module

The Phoenix HD™ 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    | 1280 x 1024, 5 $\mu\text{m}$                              |
| Spectral Band  | 0.9 $\mu\text{m}$ - 1.7 $\mu\text{m}$                     |
| Read Noise     | 50 e <sup>-</sup> /80 e <sup>-</sup> (high gain/low gain) |
| Max Frame Rate | 45 Hz   |

### Mechanical

|                  |                              |
|------------------|------------------------------|
| Size (L x W x H) | 27.35 mm x 28.6 mm x 28.6 mm |
| Weight           | 32 g (core, no lens)         |
| Mounting         | 1-64, 1/4"-20 adapter        |
| Lens Mount       | C-mount or none              |

### FPA Characteristics

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

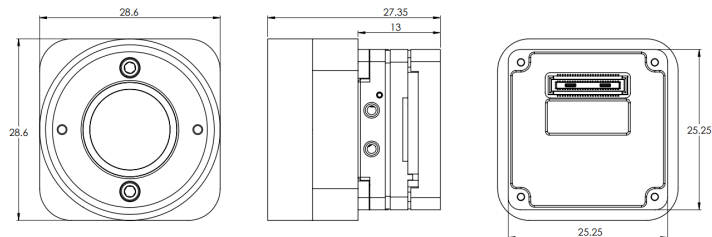
|                   |                    |
|-------------------|--------------------|
| Parallel (16 bit) | Yes                |
| USB-C             | Yes                |
| Camera Link       | Yes                |
| Image Processing  | NUC, BPR, AEC, AGC |

### Interfacing

|                       |                       |
|-----------------------|-----------------------|
| Parallel              | HIROSE DF40-50        |
| Input Voltage         | 5 V $\pm$ 10%         |
| Power Dissipation     | 1.8 W                 |
| 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<br>(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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