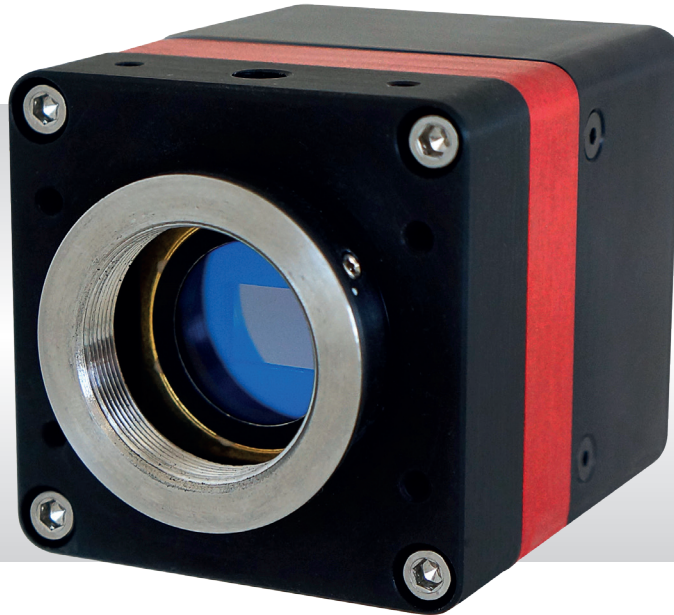


# Owl 640 S

High Speed, low noise, digital SWIR camera  
640 x 512 • 15µm x 15µm Pixel Pitch • Frame rate up to 300Hz •



## Key Features and Benefits

*The best performing SWIR camera in the World!*

- **High Speed - up to 300Hz**  
Perfect for high speed imaging applications
- **SWIR technology**  
Enables imaging from 0.9µm to 1.7µm
- **15µm x 15µm pixel pitch**  
Enables highest resolution SWIR image
- **Ultra high intrascene dynamic range**  
Enables simultaneous capture of bright & dark portions of a scene
- **On-board Automated Gain Control (AGC)**  
Enables clear video in all light conditions
- **Ultra compact, Low power**  
Ideal for hand-held, mobile or airborne systems

Resolution	<b>640 x 512</b>
Frame rate	<b>Up to 300Hz</b>
Readout noise	<b>&lt;30e-</b>
Wavelength Range	<b>SWIR</b>

## Specification for Owl 640 S

Sensor Type	InGaAs PIN-Photodiode
Active Pixel	640 x 512
Pixel Pitch	15µm x 15µm
Active Area	9.6mm x 7.68mm
Spectral response <sup>1</sup>	0.9µm to 1.7µm
Readout Noise (RMS) on camera LG = Low Gain HG = High Gain	HG: <56e- (Typical <50e-) LG: <98e- (Typical <85e-)
Readout Noise (RMS) on ROIC	HG: <30e-
Peak Quantum Efficiency	80% @ 1.5µm
Full Well Capacity	Low Gain: >110ke-, High Gain: >35ke-
Pixel Operability	99%
Dark Current (e/p/s)	<119,000 @ +15°C (89,000 typical)
Digital Output Format	12 bit Camera Link (Medium Configuration)
Exposure time <sup>2</sup>	14µs to (frame period - readout time)
Shutter mode	Global shutter
Frame Rate	Up to 300Hz
Optical Interface	C mount
Trigger interface	Trigger IN and OUT - TTL compatible
Power supply	12V DC ±0.5V
TE Cooling	Active
Image Correction	3 point NUC (offset, Gain & Dark Current) + pixel correction
Functions controlled by serial communication	Exposure, intelligent AGC, Non Uniformity Correction, TEC, frame rate
Camera Power Consumption <sup>3</sup>	8W (TEC ON, NUC ON)
Operating Case Temperature <sup>4</sup>	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H) <sup>5</sup>	74.2mm x 50.00mm x 50.00mm
Weight	260g

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## Ordering Information

### Camera

Owl 640 S Digital Camera	OW17-CL-640
Owl Power Supply Cable	RPL-HR4-K

### Optional Accessories

Mini PC with XCAP Std and frame grabber	RPL-PC-E1
EPIX® E8 Frame Grabber	RPL-EPIX-E8
EPIX® XCAP Std software	RPL-XCAP-STD
Camera Link Cable (2m) <sup>6</sup>	RPL-MCL-CBL-2M
Optical SWIR lenses <sup>7</sup>	RPL-xx-xxxx

Note 1: Optional filters available.

Note 2: Maximum exposure time will be dark current limited.

Note 3: Measured in an ambient of 25°C with adequate heat sinking.

Note 4: Extended operating temperature range on request.

Note 5: Dimensions include all connector parts on the camera interface.

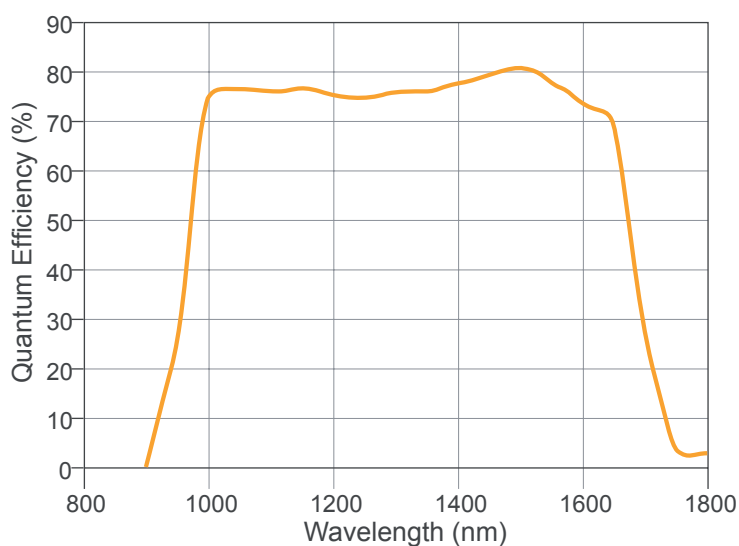
Note 6: Two cables required.

Note 7: Please consult us to check our range of lenses.

Demo is available on request.  
Pricing AOR subject to volumes.

Detailed technical drawings  
can be downloaded at  
[www.raptorphotonics.com](http://www.raptorphotonics.com)

## Quantum Efficiency



## Applications

### Surveillance

- Active Imaging
- Airborne Payload
- Hand Held Systems
- Imaging through Fog
- Range Finding
- Vision enhancement

### Scientific

- Astronomy
- Beam Profiling
- Hyperspectral Imaging
- Semiconductor Inspection
- Solar Cell Inspection
- Thermography

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