

Owl 640 Mini

Low power, VIS-SWIR camera
640 x 512 • 15 μ m x 15 μ m pixel pitch •



Key Features and Benefits

TEC-less Visible SWIR technology

- **TEC-less Visible SWIR**
Enables ultra low power
- **15 μ m x 15 μ m pixel pitch**
Enables highest resolution VIS-SWIR image
- **Ultra high intrascene dynamic range**
Enables simultaneous capture of bright & dark portions of a scene
- **Ultra compact, Rugged, No fan**
Specially designed for integration into small OEM platforms

Resolution	640 x 512
Ultra Low Power	<2.5W
Optical Interface	C-mount
Wavelength Range	VIS-SWIR

Specification for Owl 640 M

Sensor Type	InGaAs PIN-Photodiode
Active Pixel	640 x 512
Pixel Pitch	15µm x 15µm
Active Area	9.6mm x 7.68mm
Spectral response ¹	0.4µm to 1.7µm
Readout Noise (RMS) ² LG = Low Gain HG = High Gain	LG: <190e- (174e- typical) HG: <50e- (38e- typical)
Peak Quantum Efficiency	>90% @ 1.3µm
Full Well Capacity	LG: 650ke- HG: 9ke-
Pixel Operability	>99.5%
Output Format	14 bit Camera Link (base configuration)
Exposure time ³	10µs to 26.8s
Shutter mode	Global shutter
Frame Rate	Up to 120Hz
Dynamic Range (Typical)	LG: 72dB, HG: 49dB
Optical Interface	C mount
Trigger interface	Trigger IN and OUT - TTL compatible
Power supply	12V DC ±0.5V
TE Cooling	None
Image Correction	2 point NUC (offset & gain) + pixel correction
Functions controlled by serial communication	Exposure, intelligent AGC, Non-Uniformity Correction, Gamma, Pk/Av, ALC ROI
Camera Power Consumption ⁴	<2.5W (NUC ON)
Operating Case Temperature ⁵	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H) ⁶	62.21mm x 42.00mm x 42.00mm
Weight	170g

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Ordering Information

Camera

Owl 640 M Digital Camera	OW1.7-VS-CL-LP-640
Power Supply Cable	RPL-HR4-K

Optional Accessories

Mini PC with XCAP Std and frame grabber	RPL-PC-EL1
EPIX® EB1 frame grabber	RPL-EPIX-EB1
EPIX® XCAP Std software	RPL-XCAP-STD
Camera Link Cable (2m) ⁷	RPL-MCL-CBL-2M
Optical Lenses ⁸	RPL-xx-xxxx

Note 1: Optional filters available: Low, High or bandpass
 Note 2: Typical readout noise is calculated from an average of the last 20 cameras shipped.

Note 3: In practice, the maximum exposure time will be dark current limited.

Note 4: Measured in an ambient of 25°C with adequate heat sinking. For full detailed power consumption values, please refer to the user manual.

Note 5: Extended operating temperature range on request.

Note 6: Dimensions include all connector parts on camera interface

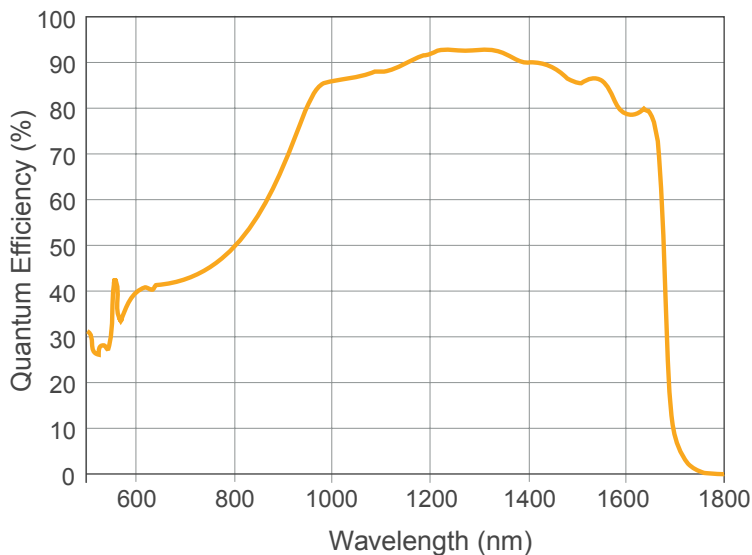
Note 7: Longer Camera Link cable available.

Note 8: Please consult us to check our range of lenses

Demo is available on request.
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Detailed technical drawings
 can be downloaded at
www.raptorphotonics.com

Quantum Efficiency



*Data supplied by sensor manufacturer

Applications

Surveillance

- 860, 1064 & 1550nm laser line detection
- Hand Held Systems
- Vision enhancement
- Machine vision
- Beam profiling

Scientific

- CubeSat / LEO applications
- Beam profiling
- Semiconductor inspection
- Solar panel cell inspection

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