



# Owl 640 M

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



## Key Features and Benefits

*TEC-less Visible SWIR technology*

- **TEC-less Visible SWIR**  
Enables ultra low power
- **15µm x 15µm 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	<b>640 x 512</b>
Ultra Low Power	<b>&lt;2.5W</b>
Optical Interface	<b>C-mount</b>
Wavelength Range	<b>VIS-SWIR</b>

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 <sup>1</sup>	0.6 to 1.7µm
Readout Noise (RMS) <sup>2</sup> 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 <sup>3</sup>	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	3 point NUC (offset, gain and dark current) + pixel correction
Functions controlled by serial communication	Exposure, intelligent AGC, Non-Uniformity Correction, Gamma, Pk/Av, ALC ROI
Camera Power Consumption <sup>4</sup>	<2.5W (NUC ON)
Operating Case Temperature <sup>5</sup>	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H) <sup>6</sup>	62.21mm x 42.00mm x 42.00mm
Weight	170g

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Ordering Information

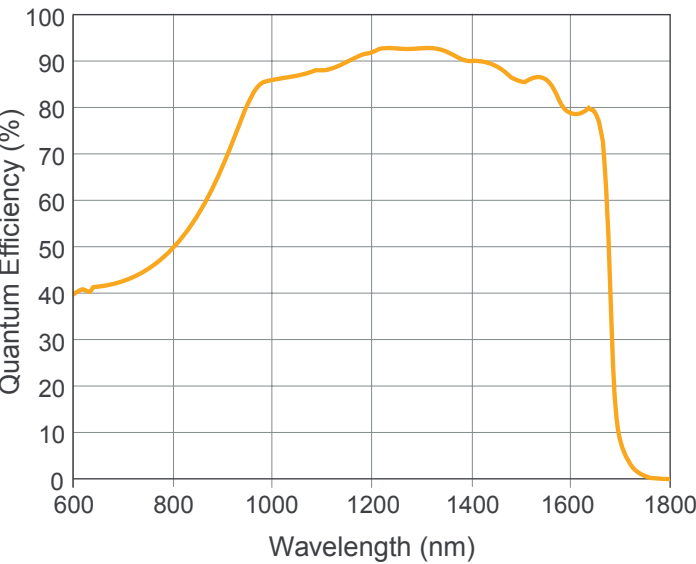
<b>Camera</b>	
Owl 640 M Digital Camera	OW1.7-VS-CL-LP-640
Power Supply Cable	RPL-HR4-K
<b>Optional Accessories</b>	
Mini PC with XCAP STD and frame grabber	RPL-PC-mf2280
Thunderbolt frame grabber	RPL-mf2280
EPIX® EB1 frame grabber	RPL-EPIX-EB1
EPIX® XCAP Std software	RPL-XCAP-STD
MDR-SDR CameraLink Cable (2m) <sup>7</sup>	RPL-MCL-CBL-2M
Optical Lenses <sup>8</sup>	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.  
Pricing AOR subject to volumes.

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