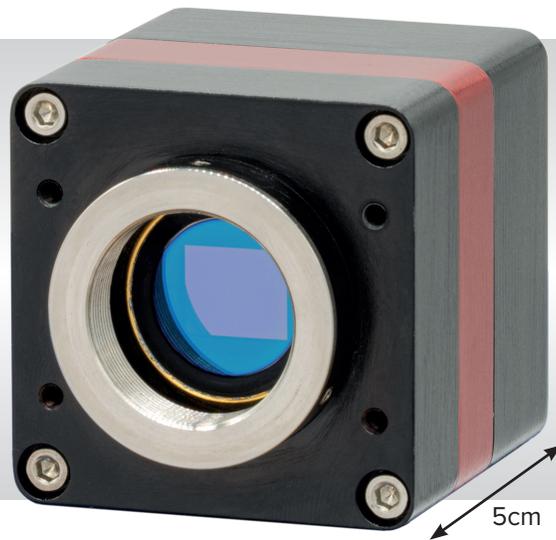




Owl 1280

High resolution, High Sensitivity, Digital VIS-SWIR camera
1280 x 1024 • 10 μ m x 10 μ m Pixel Pitch • 28e- readout noise •



Key Features and Benefits

The best performing HD VIS-SWIR camera in the World!

- **1280 x 1024, 10 μ m pitch VIS-SWIR technology**
Enables highest resolution imaging from 0.6 μ m to 1.7 μ m
- **28e- electrons readout noise**
Enables highest VIS-SWIR detection limit
- **On-board Automated Gain Control (AGC)**
Enables clear video in all light conditions
- **On-board Intelligent 3 point NUC**
Enables highest quality photos
- **Advanced video enhancement and signal processing features**
Optimizing image quality and output in real-time

Resolution	1280 x 1024
Frame rate	10 to 60Hz
Camera link	12 bit
Wavelength Range	VIS-SWIR



Specification for Owl 1280

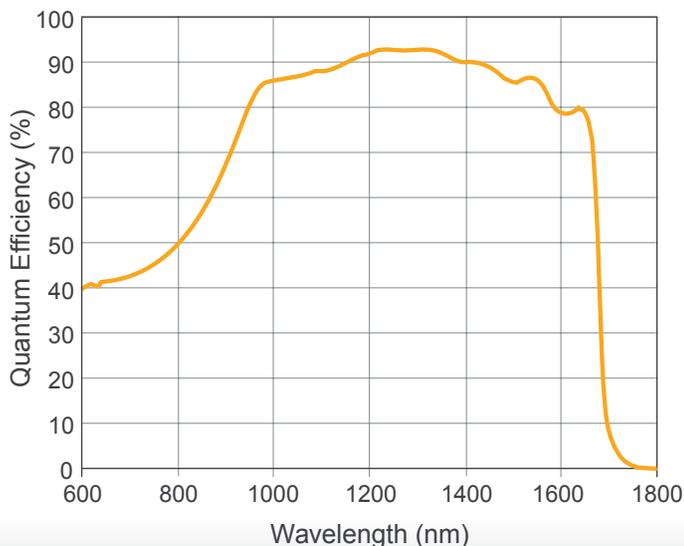
Sensor Type	InGaAs PIN-Photodiode
Active Pixel	1280 x 1024
Pixel Pitch	10µm x 10µm
Active Area	12.8mm x 10.24mm
Spectral response ¹	0.6µm to 1.7µm
Readout Noise (RMS) ² LG = Low Gain HG = High Gain	LG: <180e- (160e- typical) HG: <50e- (28e- typical)
Peak Quantum Efficiency	>90% @ 1.3µm
Full Well Depth	LG: 450ke- HG: 10ke-
Pixel Operability	>99.5%
Dark Current (e/p/s)	<19,000 @ 15°C
Digital Output Format	12 bit Camera Link (medium configuration)
Exposure time	LG: 10µs to 92.5ms HG: 10µs to 86.5ms
Shutter mode	Global shutter
Frame Rate	10 to 60Hz
Optical Interface	C mount (selection of SWIR lens available)
Dynamic Range	LG: 69dB, HG: 51dB
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	Eg. Exposure, intelligent AGC, Non Uniformity Correction, Gamma, Pk/Av, TEC, ROI, etc
Camera Power Consumption ³	<8W with TEC ON, NUC ON
Operating Case Temperature ⁴	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H) ⁵	67.60mm x 50.00mm x 50.00mm
Weight	247g

Raptor Photonics Limited reserves the right to change this document at any time without notice and disclaims liability for editorial, pictorial or typographical errors. This product is under the export control of UK government and maybe subject to an Single Individual export licence before shipment.

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

Detailed technical drawings can be downloaded at
www.raptorphotonics.com

Quantum Efficiency



*Data supplied by sensor manufacturer

Ordering Information

Camera

Owl 1280 Digital Camera	OW1.7-VS-CL-1280
Power Supply Cable	RPL-HR4-K

Optional Accessories

Mini PC with XCAP STD and frame grabber	RPL-PC-mf2280
Thunderbolt frame grabber	RPL-mf2280
EPIX® E8 frame grabber	RPL-EPIX-E8
EPIX® XCAP Std software	RPL-XCAP-STD
Camera Link Cable (2m) ⁶	RPL-MCL-CBL-2M
Optical Lenses ⁷	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: Measured in an ambient of 25°C with adequate heat sinking. For more detailed power consumption values, please refer to the user manual.
 Note 4: Extended operating temperature range on request.
 Note 5: Dimensions include all connector parts on the camera interface.
 Note 6: Two cables are required. The maximum cable length is 2m. For more information, please refer to the user manual.
 Note 7: Please consult us to check our range of lenses.

Custom Options

- No C-Mount, M42
- Board level
- Extended operational temperature -40°C to +75°C
- Flexi-rigid electronics to fit specific EO systems
- Customized mechanics
- Digital video output eg HD-SDI

Firmware Features

- On-board Automated Gain Control (AGC)
- On-board intelligent 3-point NUC
- Binning
- Crosshairs
- Vertical and horizontal image flip
- Edge and sharpen filters
- Contrast and gamma adjust

Applications

Surveillance

- HD long range day / night SWIR imaging
- Airborne and ground payload
- Hand Held Systems
- Driving Vision Enhancement (DVE)
- Airborne EVS
- Vision enhancement

Scientific

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