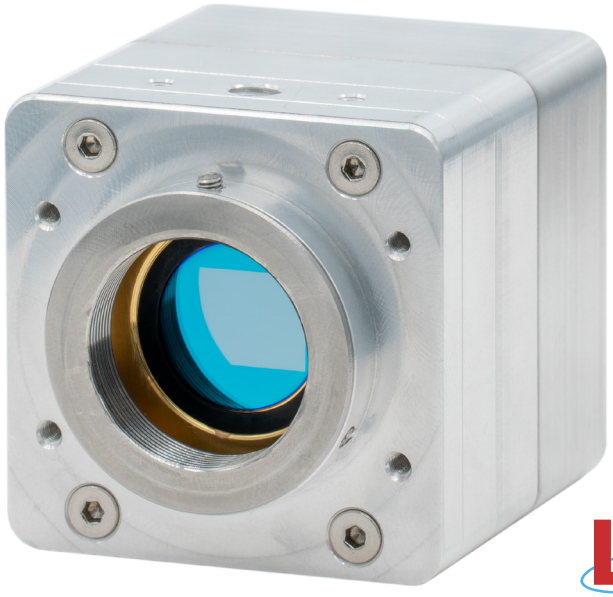
Raptor photonics

Owl 1280 Flight Ready

1280 x 1024, VIS-SWIR camera



Key Features and Benefits

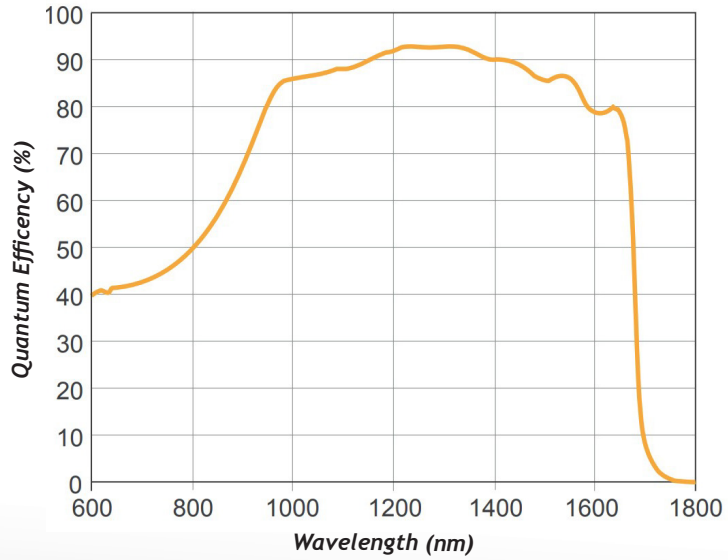
- **1280 x 1024, 10µm pitch VIS-SWIR sensor**
  HD resolution imaging from 0.6µm to 1.7µm
- **Ultra compact and ruggedised for space**
  Easy integration in space optical instruments
- **Designed for LEO enviroments**
  High Shock, Vibration and Extreme Temperature Resistance
- **Global Shutter InGaAs technology**
  VIS-SWIR image without any geometric distortion
- **On-board Intelligent 3 point NUC and ALC**
  Real time, optimal video in all light conditions
- **Low Noise Electronics**
  No artificial noise added, optimising low light capability

Resolution	1280 x 1024
Frame Rate	>60Hz
Camera Link	12 bit
Wavelength Range	VIS-SWIR

Specification for Owl 1280 FR

Sensor	InGaAs PIN-Photodiode
Active Pixel	1280 x 1024
Pixel Pitch	10µm x 10µm
Active Area	12.80mm x 10.24mm
Spectral Response[1]	0.6µm to 1.7µm
Readout Noise (RMS)[2]	LG: <180 electrons (160e- typical) HG: <50 electrons (28e- typical)
Peak Quantumn Efficeny	>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 (via single 80 pin Samtec connector)
Exposure Time	LG: 10µs to 95.9ms HG: 10µs to 94.4ms
Shutter Mode	Global Shutter
Frame Rate	up to 120Hz
Optical Interface	C Mount
Dynamic Range (Typ)	LG:69dB HG:51dB
Trigger Interface	Trigger IN and OUT - TTL compatible (via single 80 pin Samtec connector)
Power Supply	12V DC ± 0.5V
TE Cooling	Active
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,TEC,ALCROI
Camera Power Consumption[3]	<4W with TEC ON,NUC ON
Operating Temperature	-40˚C to +71˚C
Storage Temperature	-55˚C to +85˚C
Dimensons(excluding standard mounting)[4]	61.20mm x 50.00mm x 50.00mm
Weight	240g

Raptor Photonics Limited reserves the right to change this document at any time without notice and disclaims liability for editorial, pictoral or typographical errors.This product is under the export control of the UK goverment and may be subject to a single individual export license before shipment. Note 1: Optional filters available: Low, High or bandpass. Note 2: Typical readout noise is calculated from an average of the last 20 cameras. Note 3: Measured in an ambient of 25˚C with adequate heat sinking. For more detailed power consumption values,please refer to the user manualt. Note 4 :Dimensions include all connector parts on the camera interface. Note 5: please consult us to check out our range of lenses.



*Data Supplied by Sensor Manufacturer

Specification for Owl 1280 FR

Camera

OWL 1280 Digital Camera	OW1.7-VS-CL-1280-S
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® EL1 Frame Grabber	RPL-EPIX-EL1
EPIX® XCAP STD Software	RPL-XCAP-STD
CameraLink Cable (2m)	RPL-MCL-CBL-2M
Optical SWIR Lenses[5]	RPL-xx-xxx

Custom Options

Custom Options available, contact us at sales@raptorphotonics.com

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

Scientific

- New Space LEO
- Free Space Optical Communication
- Hyperspectral Imaging
- Astronomoy

For detailed tehnical drawings, volume pricing or to set up a demo, contact us at sales@raptorphotonics.com

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