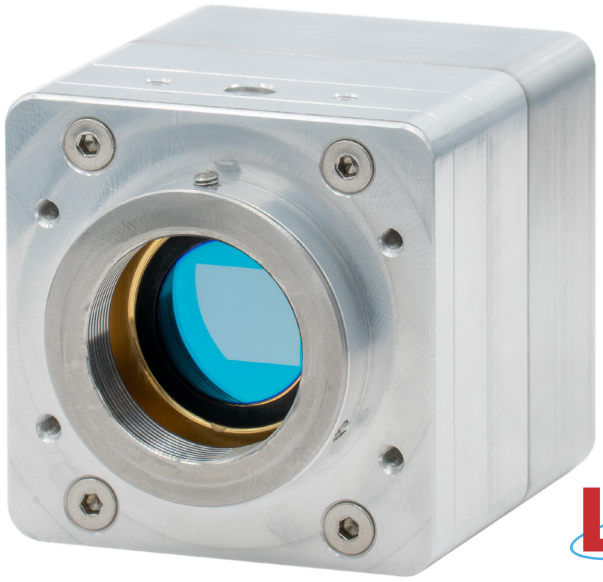
Raptor photonics

Owl 640 T Flight Ready

640 x 512, VIS-SWIR Camera



Key Features and Benefits

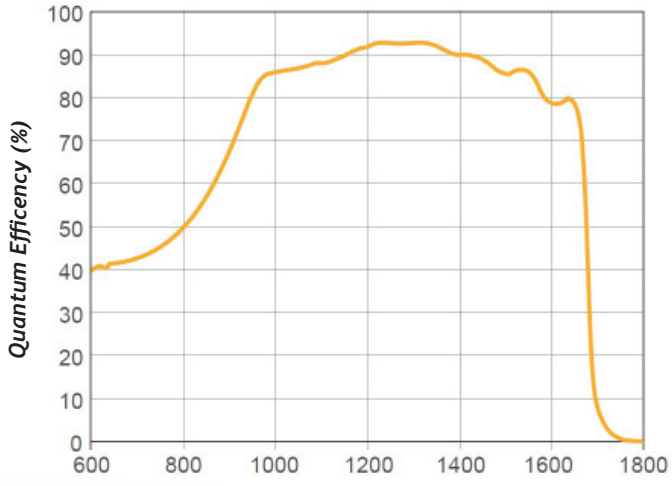
- **640 x 512 ,10µm pitch VIS-SWIR sensor**
  HD resolution imaging from 0.6µm to 1.7µm
- **Ultra compact and ruggedised for space**
  Easy integration in space optical instruments
- **Designed for LEO enviroments**
  High Shock, Vibration and Extreme Temperature Resistance
- **Global Shutter InGaAs 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	640 x 512
Frame Rate	up to 60Hz
Camera Link	12 bit
Wavelength Range	VIS-SWIR

Specification for Owl 640 T FR

Sensor	InGaAs PIN-Photodiode
Active Pixel	640 x 512
Pixel Pitch	10µm x 10µm
Active Area	6.40mm x 5.12mm
Spectral Response[1]	0.6µm to 1.7µm
Readout Noise (RMS)[2]	LG: <180e- (160e- typical) HG: <50e- (28e- typical)
Peak Quantumn Efficeny	>90% @1.3µm
Full Well Capacity	LG: 450ke- HG: 10ke-
Pixel Operability	>99.5%
Dark Current (e/p/s)[3]	<19,000 @ 15˚C
Digital Output Format	12 bit Camera Link (via single 80 pin Samtec connector)
Exposure Time[6]	LG: 10µs to 95.9ms HG: 10µs to 94.4ms
Shutter Mode	Global Shutter
Frame Rate	10 to 60Hz
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 & Dark Current) + pixel correction
Functions controlled by serial communication	Exposure, intelligent AGC, Non Uniformity Correction, Pk/Av, TEC, ALC ROI
Camera Power Consumption	<4W with TEC ON, NUC ON
Operating Temperature[4]	-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 manual.Note 4 :Dimensions include all connector parts on the camera interface.Note 5: please consult us to check out our range of lenses. Note 6. Max exposure times achieved with ALC off.



*Data Supplied by Sensor Manufacturer

Specification for Owl 640 T FR

Camera

OWL 640 T Digital Camera	OW1.7-VS-CL-640-T-S
Power Supply Cable	RPL-HR4-K

Optional Accessories

Mini PC with XCAP STD and Frame Grabber	RPL-PC-mf2280
Thunderbolt Frame	RPL-mf2280
EPIX® EB1 Frame Grabber	RPL-EPIX-EB1
EPIX® XCAP STD Software	RPL-XCAP-STD
MDR-SDR CameraLink Cable (2m)[6]	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
- Vertical and horizontal image flip

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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