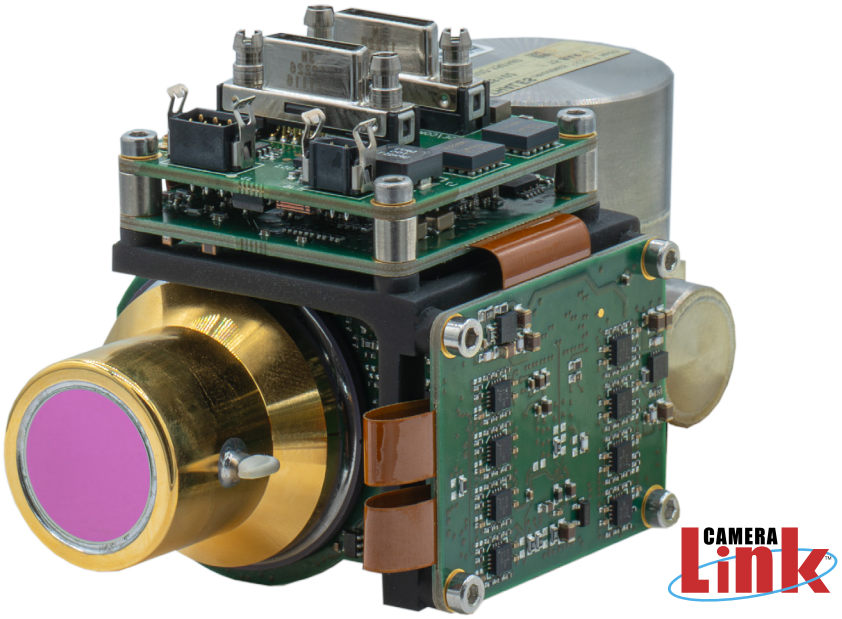
Raptor photonics

Kestrel 640 eSWIR

640 x 512, Extended SWIR Camera (up to 2500nm)



Preliminary

Key Features and Benefits

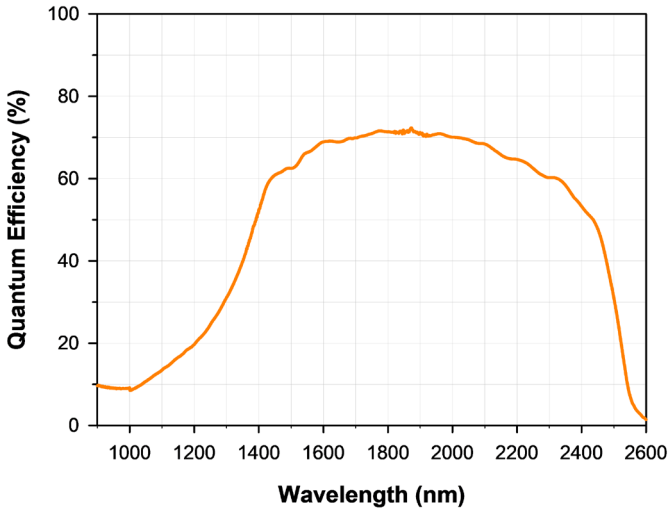
- **640 x 512,15µm x 15µm pixel eSWIR sensor**
  VGA resolution imaging from 0.9µm to 2.5µm
- **Global Shutter eSWIR technology**
  Ultimate sensitivity, uniformity and stability
- **On-board Intelligent 2 point NUC and ALC**
  Real time, optimal video in all light conditions
- **High Speed Imaging**
  300Hz full frame video, distortion free, global shutter
- **SWaP Stirling Cooled technology**
  Ultimate low Dark Current at 170K

Resolution	640 x 512
Frame Rate	up to 300Hz
Camera Link	12 bit Medium
Wavelength Range	eSWIR

Specification for Kestrel 640 eSWIR

Sensor	eSWIR
Active Pixel	640 x 512
Pixel Pitch	15µm x 15µm
Active Area	9.60mm x 7.68mm
Spectral Response[1]	0.9µm to 2.5µm (No Cold Shield)
Readout Noise (RMS)	LG: (typ <85e-) HG: (typ <50e-)
Peak Quantum Efficiency	72% @1875nm
Full Well Depth	LG: >110ke HG: >35ke
Dark Current	<1000fA @170K
Pixel Operability	>99.9%
Digital Output Format	12 bit Camera Link (medium configuration/SDR)
Exposure Time[2]	30µs Min / 12ms Max (in LG)
Shutter Mode	Global Shutter
Frame Rate	300Hz in full resolution 30.2kHz with 32x4 ROI
Dynamic Range (Typ)	LG: >61dB HG: >55dB
Trigger Interface	Trigger IN and OUT-TTL compatible
Power Supply	12V
Cooling	Stirling Cooled to 170K
Image Correction	2 point NUC + bad pixel correction
Functions controlled by serial communication	Exposure, Intelligent AGC, Non Uniformity Correction, Pk/Av, Cooling, ALC, ROI
Camera Power Consumption[3]	<7W (Steady State)
Operating Temperature	-20˚C to +55˚C
Storage Temperature	-30 to + 60˚C
Dimensons (excluding standard mounting)[4]	100mm x 60mm x 60mm
Weight	<400g

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: In practice, the maximum exposure time will be dark current limited. Note 3: Measured in an ambient of 25˚C. For more detailed power consumption values, please refer to the instruction manual. Note 4: Dimensions include all connector parts on the camera interface. Note 5: Longer Camera Link cable available.



*Data Supplied by Sensor Manufacturer

Camera

Kestrel 640 eSWIR Camera	KE2.5-ES-CL-640
Stirling Power Supply Unit	RPL-PSU-STR

Optional Accessories

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
CameraLink Cable (2m)[5]	RPL-MCL-CBL-2M

Applications

- Space Monitoring
- Spectrometry
- Industrial monitoring
- Chemical Inspection
- Hyperspectral Imaging
- Semi Conductor Inspection
- Machine Vision

Custom Options

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

Resolution	Speed (Hz)
640 x 512	300
320 x 256	903
32 x 32	10,489
32 x 4	30,200

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

Document#KESTeSWIR640-11-26

Raptor photonics

Willowbank Business Park
Larne, Co Antrim
BT40 2SF,
Northern Ireland

Raptor Photonics Ltd. (UK)
T: +44 (0) 2828 270 141
E: sales@raptorphotonics.com
www.raptorphotonics.com

Raptor Photonics Inc. (USA)
T: +1 (877) 230-4836
E : sales@raptorphotonics.com
www.raptorphotonics.com

nqa. ISO 9001 Registered
UKAS QUALITY MANAGEMENT 015