

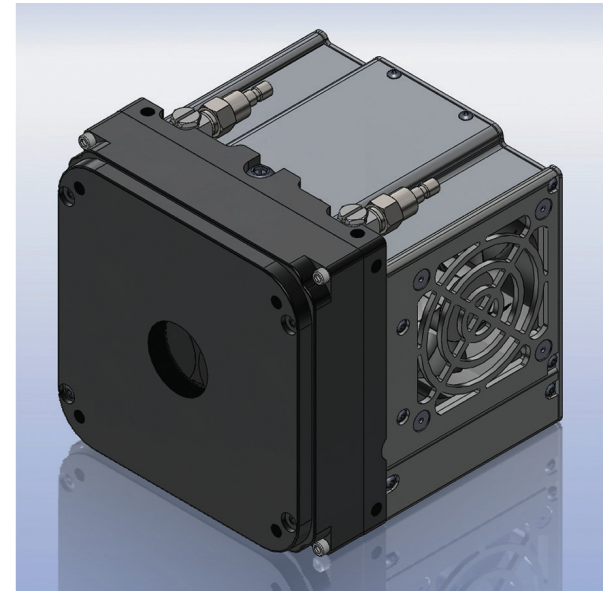
The KL400 and KL2020 scientific CMOS cameras represent the first release in a new family of cameras from Finger Lakes Instrumentation. Kepler cooled CMOS cameras provide high sensitivity, low noise, and high speed, all at game-changing combinations of performance and price.

Camera Features:

- High Dynamic Range (up to 96 dB)
- Fast frame rates (up to 376 fps)
- Ultra-High QE (up to 94%)
- Ultra-Low read noise (as low as 1.5e-)
- USB 3.0, SFP Fiber, QSFP Fiber
- Rolling and Global shutter (KL2020)
- Global shutter (KL400)

Camera Applications:

- Biomedical
- Astronomy
- Security
- Wide Range of Scientific Applications



Kepler KL2020 Scientific CMOS Camera

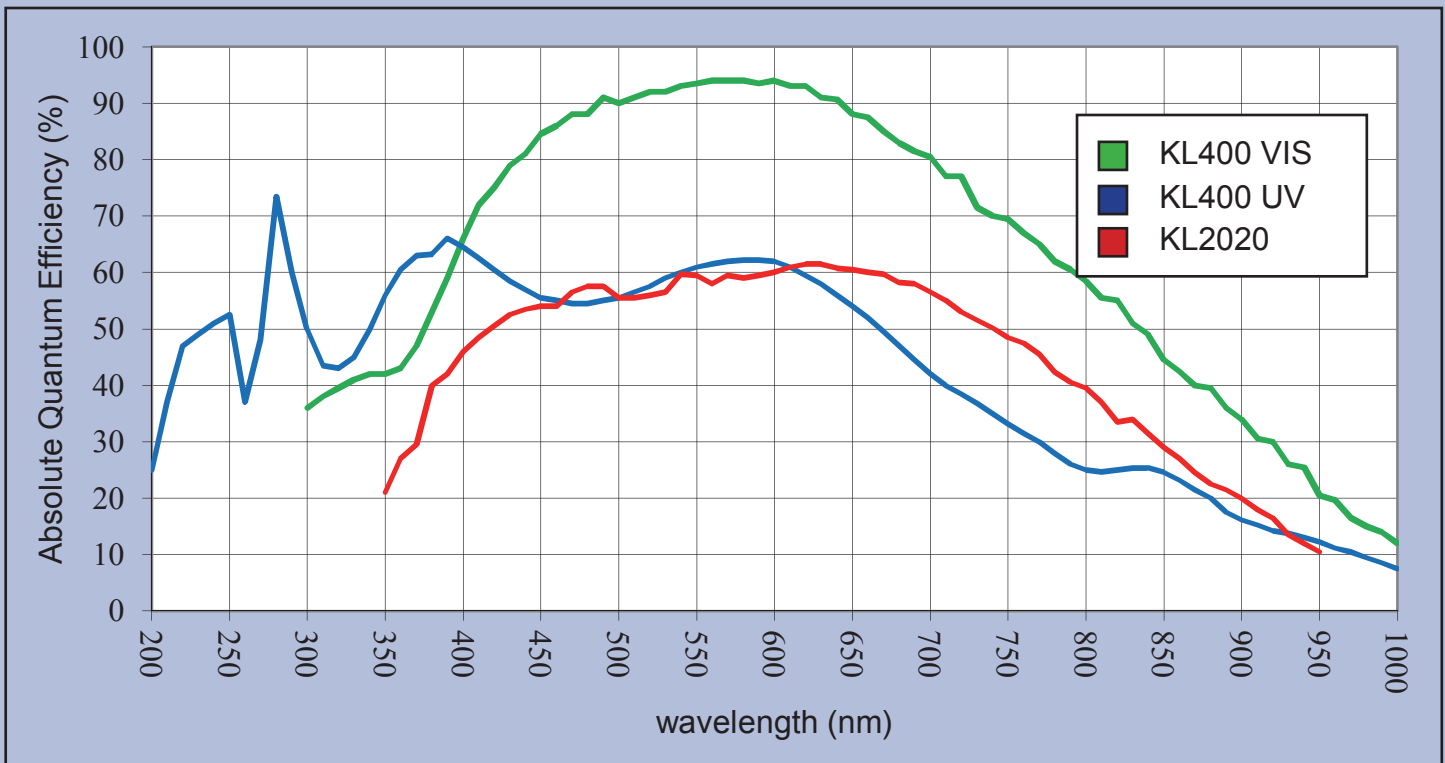
We also offer a wide range of cooled CCD cameras. Please visit www.flicamera.com for a complete listing.

KL2020

- Four megapixel resolution filling the microscope's field of view.
- 2048 x 2048
- 6.5 micron pixels
- 13.3 x 13.3 mm (177 mm²)
- Full well: 48K e-
- 2 e- noise @ 94 fps

KL400

- Back-illuminated sensor with >90% QE from 460 to 640 nm (34% at 900nm).
- 2048 x 2048
- 11 micron pixels
- 22.5 x 22.5 mm (507 mm²)
- Full well: 89K e-
- 1.3 e- noise @ 48 fps



Quality. Cooled. Cameras.

Finger Lakes Instrumentation LLC
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	KL2020	KL400
Sensor Type	Front illuminated	Back illuminated
Active Pixels	2048 x 2048	2048 x 2048
Pixel Size (microns)	6.5 x 6.5	11 x 11
Effective Area	13.3 x 13.3 mm	22.5 x 22.5 mm
Sensor Diagonal	18.8 mm	31.9 mm
Full Well Capacity	48000 electrons	89000 electrons
Frame rate (global)	376 fps (10 bit)	NA
	94 fps HDR	
Frame rate (rolling)	94 fps	48 fps
	47 fps HDR	24 fps HDR
Read Noise (global)	6 e- RMS	NA
Read Noise (rolling)	2 e- RMS	1.5 e- HDR
Dynamic Range	88 dB HDR	96 dB HDR
Peak QE	62%	94%
Cooling	Air, Liquid, or Both	
Dark Current	<1 eps at 0°C	0.4 eps at -20C
Interface	USB 3.0	
Interface (Optional)	QSFP ¹	SFP ¹
Data Bit Depth ²	16 bit	
Mount	C-mount/F-mount	F-mount
Video size	1.2"	2.0"



HS-625 High Speed Filter Wheel

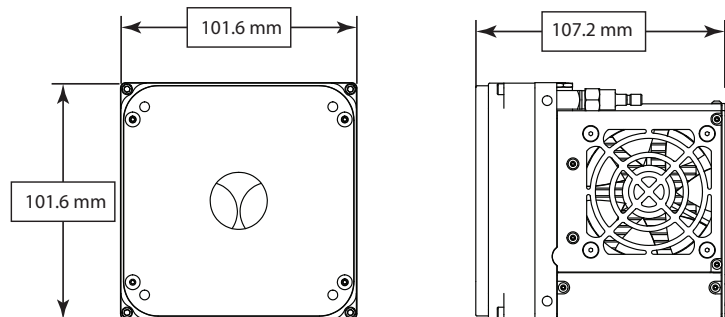
Capture live events sequentially at multiple wavelengths with an HS-625 High Speed Filter Wheel and Kepler KL2020 Scientific CMOS camera.

- HS-625: 23 msec filter exchange
- Kepler KL2020: 47 fps HDR (Rolling)

¹SFP=Small Form factor Pluggable: high speed fiber optic interface. QSFP = Quad SFP.

²16-bit data is merged from two 12 bit converters.

Subarray Readout	Yes
Electromechanical Shutter Option	Yes
Ex Trigger In	Yes
Ex Trigger Out	Yes
Software	FLI
SDK	Open Source



KL2020 C-mount Version

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