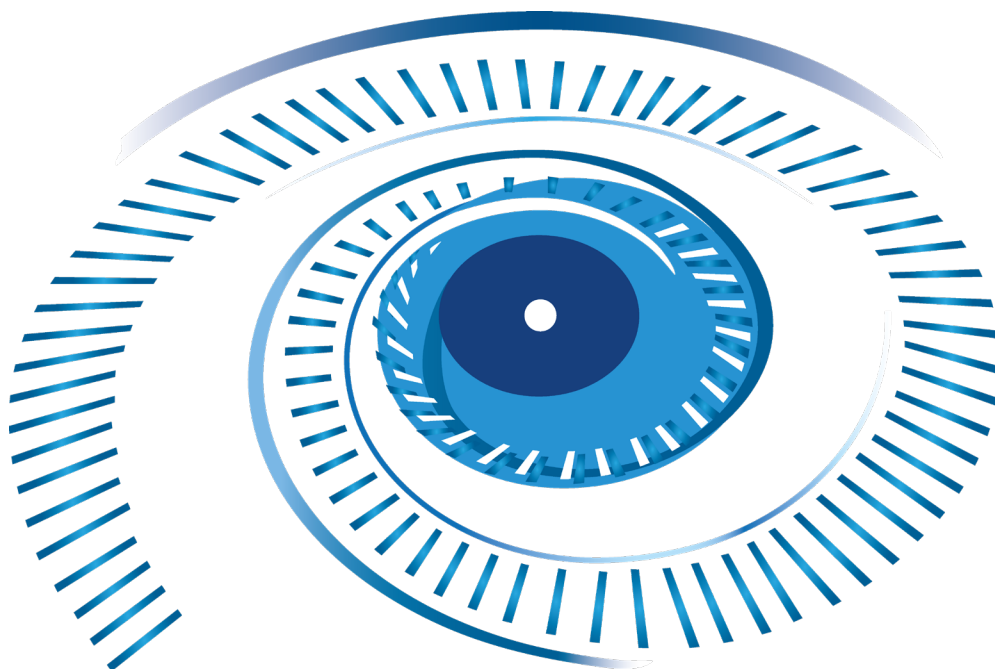# KINETIX

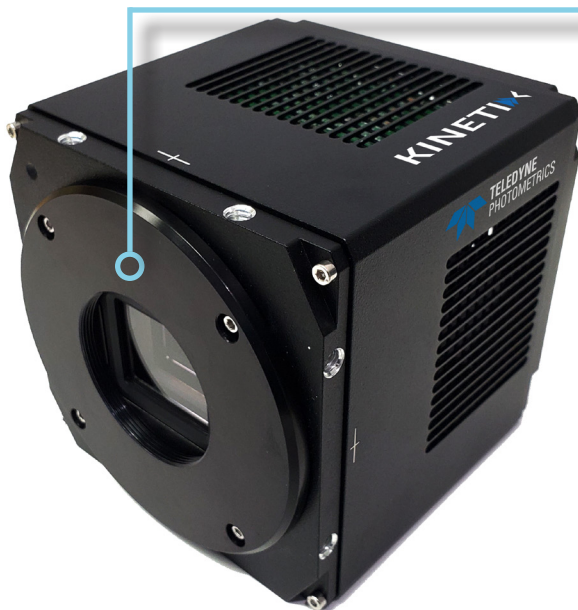## High Speed, Back-Illuminated sCMOS

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10 Megapixel Back-Illuminated sCMOS

▶ 400 Frames Per Second

▶ 29mm Field Of View

▶ 6.5 x 6.5µm Pixels

▶ 1.2e⁻ Read Noise (CMS)

▶ >95% peak QE

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Specifications	Camera Performance
Sensor	Teledyne Photometrics Kinetix Sensor
Active Array Size	3200 x 3200 (10.24 Megapixel)
Pixel Area	6.5µm x 6.5µm (42.25µm^2)
Sensor Area	20.8mm x 20.8mm 29.4mm diagonal
Peak QE%	>95%
Readout Mode	Rolling Shutter Effective Global Shutter Programmable Scan Mode
Binning	2x2 (on FPGA)
Linearity	>99%
Cooling Options	Air Cooled Liquid Cooled

Camera Modes

Specifications	Dynamic Range	Speed	Sensitivity (CMS)
Bit-Depth	16-bit	8-bit	12-bit
Frame Rate (Full Frame)	83 fps	400 fps	90 fps
Read Noise	1.8e$^-$	2.0e$^-$	1.2e$^-$
Cooling	-10° C (air)	5° C (air)	-10° C (air)

Specification	Camera Interface
Digital Interface	PCI-Express Gen 3 USB 3.2 10 Gbps
Lens Interface	T-Mount F-Mount C-Mount Swappable Mounts
Mounting Points	2x 1/4" mounting points per side

| Triggering Mode	Function	
Input Trigger Modes	Trigger First:	Sequence triggered on first rising edge
	Edge:	Each frame triggered on rising edge
	SMART Streaming:	Fast iteration through multiple exposure times
Output Trigger Modes	Any Row:	Expose signal is high while any rows acquiring data
	Rolling Shutter:	Effective Global Shutter - Expose signal is high when all rows are acquiring data Signal is High for set Exposure time - Readout Time
	First Row:	Expose signal is high while first row is acquiring data.
	Line Output:	Expose signal provides rising edge for each row advanced by the rolling shutter readout
Output Trigger Signals	Expose Out (up to four signals), Read Out, Trigger Ready	
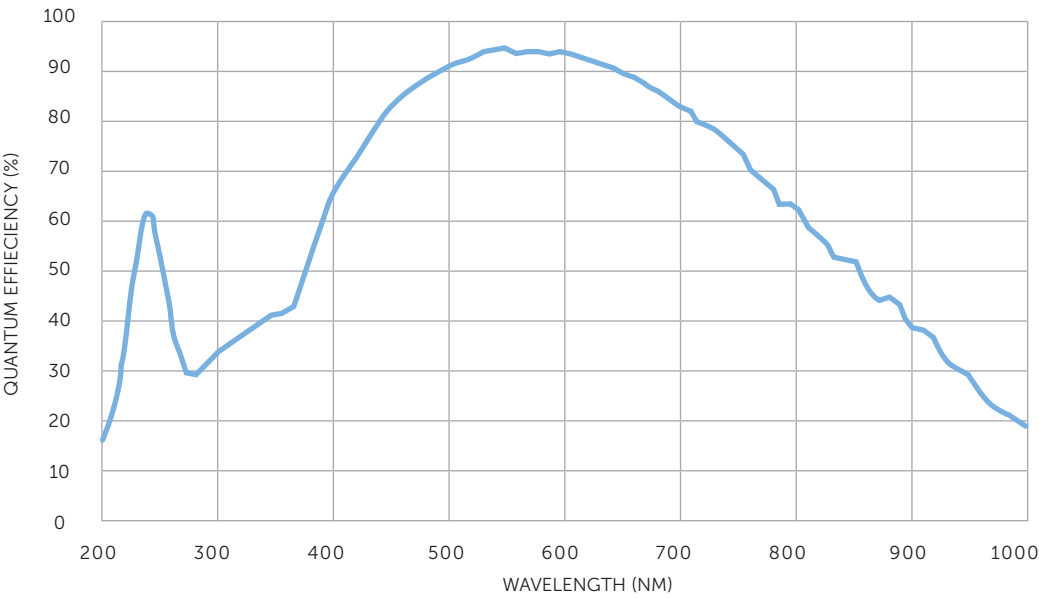
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P R E L I M I N A R Y

Frame Rate

Array Size	Dynamic Range		Speed		Sensitivity (CMS)	
	PCI-E	USB	PCI-E	USB	PCI-E	USB
3200 x 3200	83	43	400	87	90	58
3200 x 2048	129	67	625	135	140	90
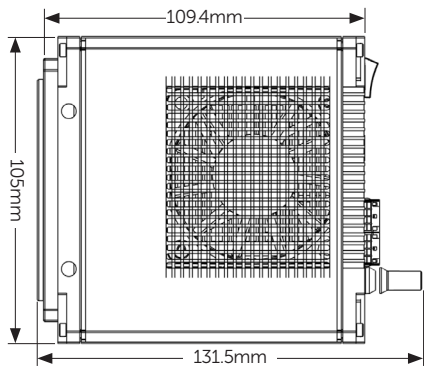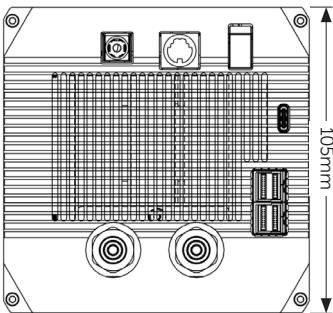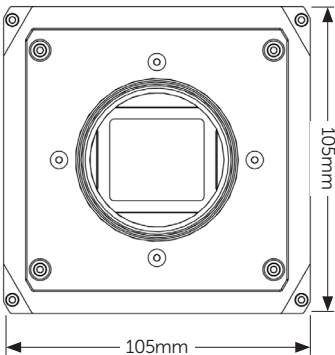
Specifications in this datasheet are subject to change. Refer to the Teledyne Photometrics website for most current specifications.

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PRELIMINARY