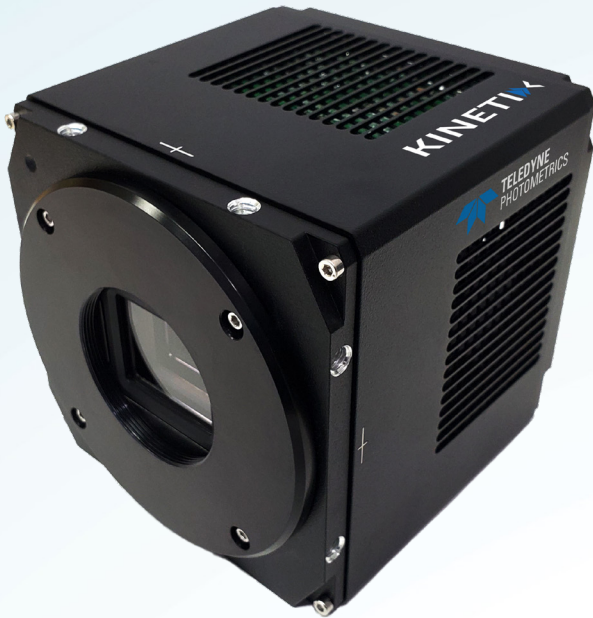




TELEDYNE PHOTOMETRICS
Everywhereyoulook™



KINETIX

The New Category In sCMOS Cameras

10 Megapixel
6.5 μm Pixel Size
498 Frames Per Second
29.4 mm Field Of View
96% Quantum Efficiency

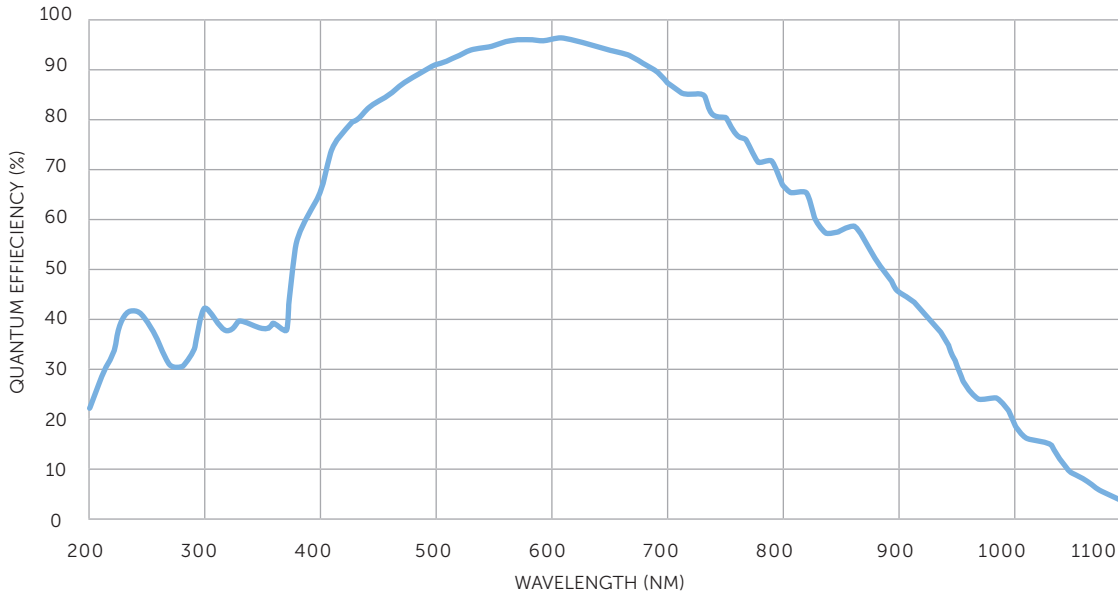
Specifications	Camera Performance
Sensor	Teledyne Photometrics Kinetix Sensor
Active Array Size	3200 x 3200 (10.24 Megapixel)
Pixel Area	6.5 μ m x 6.5 μ m (42.25 μ m ²)
Sensor Area	20.8mm x 20.8mm 29.4mm diagonal
Peak QE%	>96%
Readout Mode	Rolling Shutter Effective Global Shutter Programmable Scan Mode
Digital Binning	Symmetrical and Asymmetrical Binning up to 4x4 pixels
Linearity	>99%
Cooling Options	Air Cooled Liquid Cooled

Camera Modes

Specifications	Dynamic Range	Speed	Sensitivity (CMS)	Sub-Electron (8x CMS)
Bit-Depth	16-bit	8-bit	12-bit	16-bit
Frame Rate (Full Frame)	83 fps	498 fps	88 fps	5.2 fps
Read Noise	1.6e ⁻	2.0e ⁻	1.2e ⁻	0.7e ⁻
Cooling	0° C	0° C	0° C	0° C
Line Time	3.749 μ sec/line	0.625 μ sec/line	3.53125 μ sec/line	60.1 μ Sec/line
Dark Current	1.27 e ⁻ /p/sec	3 e ⁻ /p/sec	1.03 e ⁻ /p/sec	0.477 e ⁻ /p/sec
Conversion Gain	0.23 e ⁻ /count	0.85 e ⁻ /count	0.25 e ⁻ /count	0.015 e ⁻ /count
Full Well Capacity	15000 e ⁻	200 e ⁻	1000 e ⁻	1000 e ⁻

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
Camera Weight	1.8 Kg, 4 lbs

Triggering Mode	Function
Input Trigger Modes	Trigger First: Sequence triggered on first rising edge Level Trigger: Exposure time is controlled by length of high trigger signal Edge Trigger: Each frame in sequence triggered by rising edge SMART Streaming: Fast iteration through multiple exposure times works with the 4 trigger outs to control multiple sources at multiple exposure time
Output Trigger Modes	Any Row: Expose signal is high while any row is acquiring data 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
Effective Global Shutter Trigger Modes	All Rows: Expose out signal is high for Exposure time this keeps exposure time but drops frame rate Rolling Shutter: Expose out signal is high for Exposure time - readout time this keeps frame rate but drops exposure time
Output Trigger Signals	Expose Out (up to four signals), Read Out, Trigger Ready



Accessories (Included)

- USB 3.2 Card/Cable
- Trigger Cable
- Power Supply
- Quickstart Guide
- PCIe Card/Cable

Accessories (Additional)

- Liquid Circulator
- Liquid Cooling Tubes

Frame Rate

Array Size	Dynamic Range		Speed		Sensitivity (CMS)		Sub-Electron	
	PCI-E	USB	PCI-E	USB	PCI-E	USB	PCI-E	USB
3200 x 3200	83	39	498	79	88	52	5.2	5.2
3200 x 2304	115	54	691	110	122	72	7.2	7.2
3200 x 2048	130	61	778	122	138	81	8.1	8.1
3200 x 1600	166	78	996	158	176	104	10.4	10.4

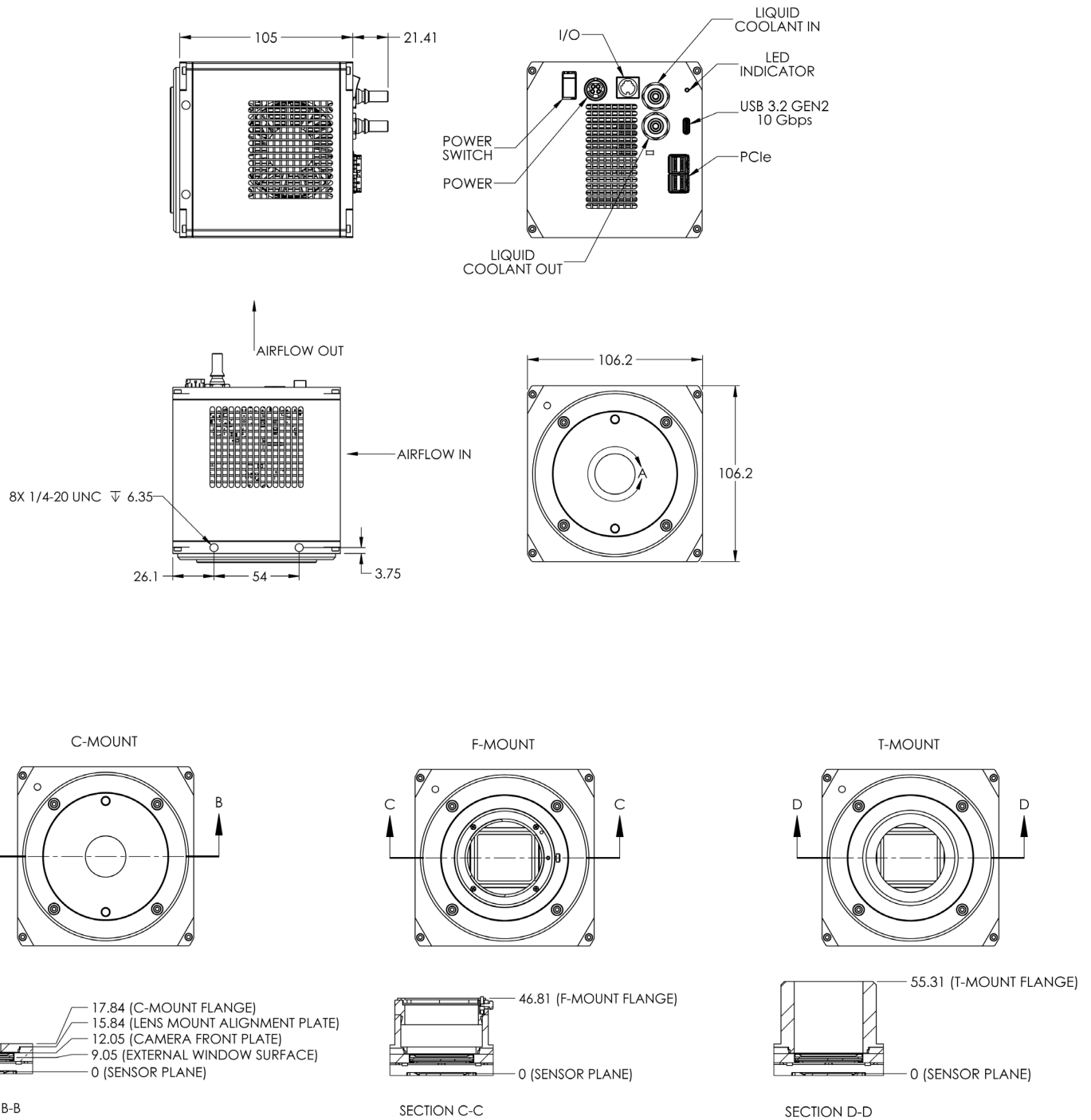
Line Scan ROI Frame Rates in KHz

Array Size	Dynamic Range	Speed	Sensitivity (CMS)	Sub-Electron
3200 x 64	4.1	21.1	4.3	0.2
3200 x 32	8.1	36.4	8.3	0.5
3200 x 16	15.7	57.1	15.7	0.8
3200 x 8	29.6	80.0	28.3	1.4
3200 x 4	53.3	99.4	47.2	2.1
3200 x 2	88.9	107.2	47.2	2.7

Based on measurement using PCIe interface on a Kinetix having firmware 30.32.1

Kinetix Mechanical drawings

Units in Millimetres



Teledyne Photometrics is a registered trademark. Kinetix is a trademark of Teledyne Photometrics. All other brand and product names are the trademarks of their respective owners.

Specifications in this datasheet are subject to change. Refer to the Teledyne Photometrics website for most current specifications.



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