

FASTCAM Mini UX100

COMPACT HIGH-SPEED CAMERA SYSTEM



Real Power in a Compact Package

The Photron FASTCAM Mini UX100 high speed camera packs a lot of performance in such a small package, providing 1,280 by 1,024 pixel resolution to 4,000 frames per second (fps) and reduced resolution operation all the way to 800,000 fps, with 1,280(H) by 720 (V), equivalent to 720 HD video resolution, to 6,400 fps. This makes the UX100 a small and lightweight camera ideally suited for applications as varied as fluidics, life sciences or ballistic testing. A global shutter provides blur free imagery with a minimum shutter speed of $1\mu\text{s}$ with 12-bit pixel depth (36-bit for the color version) from the CMOS pixels $10\mu\text{m}$ square pixel providing an ISO 12232 Ssat certified light sensitivity of 10,000 ISO for the monochrome version.



Target applications include:

- Biomechanics
- Life sciences
- Fluid dynamics
- Off board automotive safety testing
- Defense and aerospace research
- Material science

Benefits

- Frame Rate Performance examples:
 - 4,000 fps at 1,280 x 1,024 pixel resolution
 - 5,000 fps at 1,280 x 1,000 pixel resolution
 - 6,250 fps at 1,280 x 800 pixel resolution
 - 10,000 fps at 896 x 488 pixel resolution
 - 25,000 fps at 1,280 x 200 pixel resolution
 - 200,000 fps at 1,280 x 24 pixel resolution
 - 800,000 fps at 640 x 8 pixel resolution
- Self-contained, compact and lightweight camera 120mm (4.7")H x 120mm (4.7")W x 90mm (3.6")D and 1.5Kg
- Sensitivity: ISO 12232 Ssat standard
 - ISO 10,000 monochrome
 - ISO 5,000 color
- Compatibility with 1 inch C mount and Nikon G type lenses
- 4GB, 8GB and 16GB memory options and high performance GigaBit Ethernet interface to PC



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Specifications: Partial Frame Rate / Recording Duration Table

FRAME RATE (fps)	MAXIMUM RESOLUTION		RECORD DURATION (12-BIT)					
			TIME (Sec.)			FRAMES		
			Horizontal	Vertical	4GB	8GB	16GB	4GB
1,000	1,280	1,024	2.18	4.37	8.73	2,180	4,365	8,734
2,000	1,280	1,024	1.09	2.18	4.37	2,180	4,365	8,734
4,000	1,280	1,024	0.55	1.09	2.18	2,180	4,365	8,734
5,000	1,280	1,000	0.45	0.89	1.79	2,232	4,469	8,943
6,250	1,280	800	0.45	0.89	1.79	2,791	5,587	11,179
6,400	1,280	720	0.48	0.97	1.94	3,101	6,208	12,421
8,000	1,280	616	0.45	0.91	1.81	3,624	7,256	14,519
10,000	896	488	0.65	1.31	2.62	6,536	13,084	26,181
16,000	1,280	312	0.45	0.90	1.79	7,156	14,326	28,665
20,000	1,280	248	0.45	0.90	1.80	9,003	18,023	36,063
40,000	1,280	120	0.47	0.93	1.86	18,607	37,248	74,531
80,000	1,280	56	0.50	1.00	2.00	39,872	79,818	159,709
100,000	1,280	32	0.70	1.40	2.79	69,777	139,682	279,492
200,000	1,280	24	0.47	0.93	1.86	93,036	186,242	372,656
800,000	640	8	0.70	1.40	2.79	558,216	1,117,457	2,235,938

Sensor	1,280 x 1,024 pixels, 10um pixel size, 12-bit ADC (Bayer system color, 36 bit single sensor)	Trigger Modes	Start, Center, End, Manual, Random
Shutter	Global electronic shutter from 20ms to 1 μ s dependent on frame rate	Saved Image Formats	JPEG, AVI, TIFF, BMP, RAW, PNG, MOV and FTIF. Images can be saved with or without image or comment data
Memory	4GB (2,180 frames @ maximum resolution) or 8GB (4,365 frames @ maximum resolution) memory options 16GB (8,734 frames @ maximum resolution) memory options	Data Display	Frame Rate, Shutter Speed, Trigger Mode, Date or Time, Status (Playback/Record), Real Time, Frame Count and Resolution
Camera Control	High speed Gigabit Ethernet	Cooling	Actively cooled using external fans
Low Light Mode	Low light mode drops the frame rate and shutter time to their maximum values, while maintaining other set parameters, to enable users to position and focus the camera	Operating Temperature	0 - 40 degrees (32 - 104 degree F)
Triggering	Selectable positive or negative TTL 5Vp-p or switch closure	Mounting	4 x1/4-20UNC
Timing	Internal clock or external source	Dimensions	120mm (4.7")H x 120mm (4.7")W x 90mm (3.6")D
I/O	Input: Trigger (TTL/Switch), Sync, Ready, Event, IRIG Output: Trigger, Sync, Ready, Rec, Expose	Weight	1.5 kg (3.4 lbs)
Phase Lock	Enables cameras to be synchronized precisely together or to a master camera or external source.	Power Requirements	100V-240V AC 40W, 50-60Hz DC operation 22-32 VDC, 40VA

Specifications subject to change without notice



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