

HIGH SPEED GLOBAL SHUTTER SCIENTIFIC CMOS CAMERA



VISIBLE
400 - 1000 nm



Very high speed





Very low noise



Optimized size/speed/pitch
CMOS Monochrome sensors
with HDR



SDK compatible with μ Manager,
LabVIEW, MatLab, , 

AVAILABLE IN 3 VERSIONS:
0.5 MP, 1.7 MP OR 7.1 MP
IN GLOBAL SHUTTER



APPLICATIONS

LGS WAVEFRONT SENSING:

Space Debris Tracking
AO assisted Satellite tracking
Ground based space
situational awareness

ASTRONOMY:

Adaptive Optics
Solar astronomy

HIGH END INDUSTRY:

Particle velocimetry
Rayleigh thermometry

LIFE SCIENCES:

Fluorescence microscopy
Super resolution microscopy
Cell motility studies
Ion imaging / Physiology

C-BLUE One PERFORMANCES

TEST MEASUREMENT*		C-BLUE One 0.5 MP	C-BLUE One 1.7 MP	C-BLUE One 7.1 MP	Unit
Sensor size		816 x 624	1608 x 1104	3216 x 2208	Pixels
Pixel pitch		9	9	4.5	µm
Maximum speed Full Frame in GLOBAL SHUTTER	8 bits	1 594	662	207	FPS
	12 bits	941	481	134	FPS
Readout Noise* (in 12 bits, High gain, 24 dB, at 50µs)		2.35	2.33	1.38	e ⁻
Dark Current* (High gain, 24 dB)		1.39	0.96	0.24	e ⁻ /p/s
Quantization		8, 12	8, 12	8, 12	bit
Quantization with HDR (High Dynamic Range)		16	16	16	bit
Shutter Architecture		global	global	global	n/a
Minimum integration time	8 bits	5.81	6.16	7.07	µs
	12 bits	6.43	6.64	8.23	µs
Image Full well capacity (Low gain, 0 dB)		94	94	23	ke ⁻
Maximum speed (in 8 bits, 16 lines)		7 366	3 997	3 545	FPS

* Average values observed

ADDITIONAL FEATURES

Outputs: • CoaXPress 2.0 - CXP12x2 connection
• 10 Gigabit Ethernet/Fiber with SFP+ module

GigE Vision **GiGE**
VISION

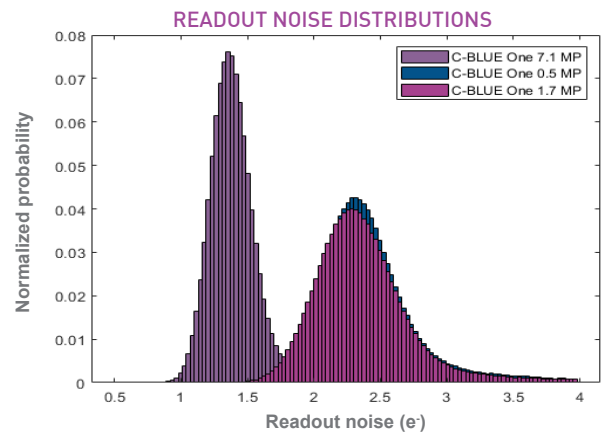
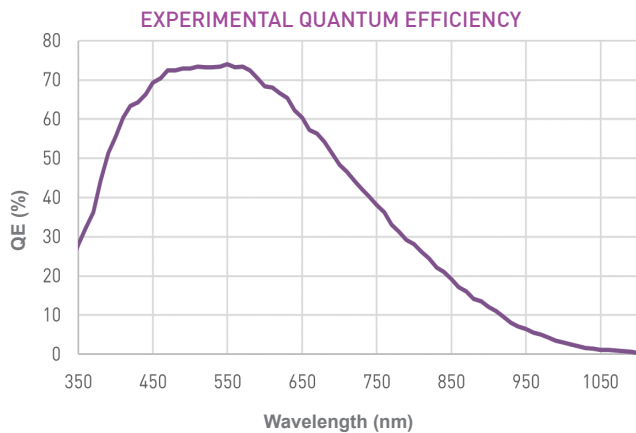
GenICam compatible

Optical interface: C-Mount / CS-Mount

Sensor thermal stabilization down to 10°C (air)

Liquid cooling optional with cooling plate for optimized performances

Software: **Graphical User Interface:** First Light Vision - **Software Development Kit:** (C, C++, C#, Python, MatLab) / LabVIEW / µManager / Halcon



FRAME RATE TABLE IN 8 AND 12 BITS

		Quantization					
		C-BLUE One 0.5MP		C-BLUE One 1.7MP		C-BLUE One 7.1MP	
Lines		8 bits	12 bits	8 bits	12 bits	8 bits	12 bits
16		7366	5150	3 997	3 457	3545	2864
32		6725	4608	3 721	3 169	3171	2494
64		5729	3806	3 270	2 716	2620	1983
128		4419	2824	2 632	2 113	1944	1406
256		3033	1862	1 893	1 463	1282	889
512		1863	1108	1 212	905	762	512
624		1594	941	1047	776	648	432
1104		-	-	662	481	393	258
2208		-	-	-	-	207	134

Cropping granularity: 16 lines & 8 columns
(The number of columns does not affect acquisition speed)



Size and Weight : H64.1 x W76.2 x L154.3 mm, 1.1 kg, 15W max



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