C-BLUE ONE UV

Datasheet / June 2023

UV EXTENDED GLOBAL SHUTTER
SCIENTIFIC CMOS CAMERA

UV - VISIBLE
Optimized for 200 - 400 nm

FULL FRAME
170 FPS (8 bits)
121 FPS (12 bits)

e^-
1.40 e^- RMS

2848 x 2848 CMOS
2.74 µm pixel pitch

HDR
80 dB and true 16 bits
High Dynamic Range

SDK compatible with µManager, Lab-VIEW, MatLab, Python...

ULTRA VIOLET EXTENDED & GLOBAL SHUTTER

GiGE VISION

Vision Systems Design 2023 Innovators Awards BRONZE HONOREE

APPLICATIONS

RESEARCH:
Contamination detection
Fluochemistry
Mineralogy
Entomology
Electrophoresis

INDUSTRY:
Gas leak detection
Non-destructive inspection
Forensic applications
Hydrogen combustion analysis

ASTRONOMY:
Ultra-violet astronomy
Hot plasma studies

C-BLUE ONE UV PERFORMANCES

MAIN FEATURES

Data interface:	• CoaXPress 2.0 (CXP-12) •High speed SFP+ 10 GigE interface with Ethernet or Fiber
GigE Vision	
GenICam compatible	

SENSOR SPECIFICATIONS

Back illuminated stacked sensor	
Sensor size	2848 x 2848 pixels 8.13 MP
Pixel pitch	2.74 µm
Sensor type	Type 2/3 Monochrome CMOS
Sensor diagonal	11.1 mm
Shutter architecture	Global shutter
Peak quantum efficiency	> 70 %

CAMERA SPECIFICATIONS & PERFORMANCES

			CoaXPress	GigE Vision	
Analog gain			0 to 24 dB		
Quantization A/D			8, 12 bits		
Quantization with HDR (High Dynamic Range)			16 bits		
Maximum speed Full Frame	in 8 bits		170 fps	141 fps	
	in 12 bits	in 12 bits packed	121 fps	72 fps	96 fps
	in 16 bits (HDR)		62 fps	60 fps	
Maximum speed in 2x2 binning full frame	in 8 bits		516 fps	to be measured	
	in 12 bits		392 fps	to be measured	
	in 16 bits (HDR)		n/a	n/a	
Minimum integration time	in 8 bits		4.34 µs	4.72 µs	
	in 12 bits	in 12 bits packed	5.15 µs	6.97 µs	5.84 µs
	in 16 bits (HDR)		5.15 µs	5.22 µs	
Readout Noise (24 dB, @ 50µs)			1.31 e^-_{MED} (typical)		
			1.40 e^-_{RMS} (typical)		
Dark Current at 10°C sensor temperature			0.017 e^-/p/s (typical)		
Full well capacity (0 dB)			9.2 ke^-		

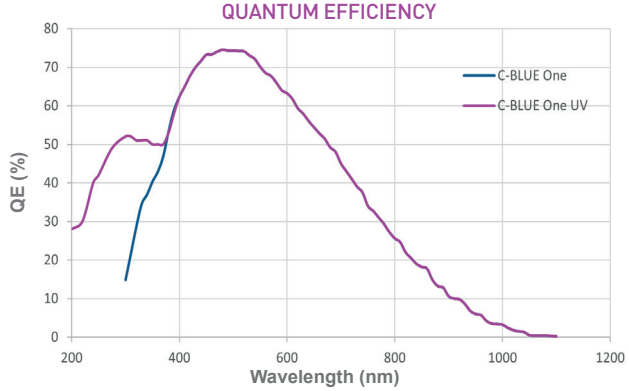
ADDITIONAL FEATURES

Optical interface: C-Mount / CS-Mount

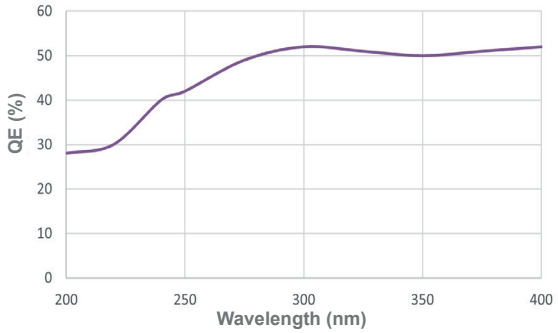
Stabilization with ΔT° of 25°C between case and sensor (typ. 0°C for 25°C environment)
Optional liquid cooling plate
Operating temperature: -10°C to 50°C

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

QUANTUM EFFICIENCY



OPTIMIZED FOR 200 - 400 nm



FRAME RATE TABLE FOR CoaXPress & GigE VISION INTERFACE

	Quantization						
		8 bits		12 bits		16 bits (HDR)		12 Packed
		CXP	GigE	CXP	GigE	CXP	GigE	(GigE Vision only)
Lines	16	1 867	1 867	1 573	1 534	1 174	1 146	1 534
	64	1 597	1 597	1 307	1 275	901	879	1 275
	256	1 012	1 012	779	674	466	455	760
	1024	410	361	298	188	159	155	250
	2848	170	141	121	72	62	60	96

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

First Light Imaging SAS
Europarc Sainte Victoire Bât 5, Route de Valbrillant, Le Canet 13590
Meyreuil FRANCE
Tel.: + 33 4 42 61 29 20
www.first-light-imaging.com
contact@first-light.fr

First Light Imaging Corp.
185 Alewife Brook Parkway, Suite 210, Cambridge, MA 02138 USA
www.first-light.us