Libra 3405M / 3412M

The Libra 3405M / 3412M are developed with global shutter CMOS sensors, offering both high speed and high resolution. They feature a wide spectral range of 350 nm–1100 nm, providing superior performance for multi-channel fluorescence imaging. Their compact design also facilitates seamless integration into instrument systems.

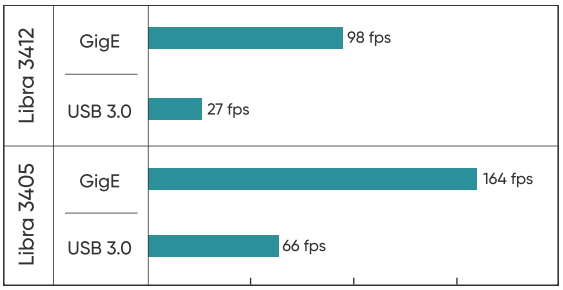
Key Features	Benefits
Global Shutter	High-speed, artifact-free imaging, ideal for high-throughput slide scanning.
350 nm–1100 nm wide spectrum	High sensitivity in low light and NIR, ideal for multi-channel fluorescence.
3.4 μm Pixel Size	Optimized for < 40X optical systems, enables higher resolution for cellular and tissue imaging.
10 GigE Interface	Provides higher data throughput and more stable transmission than USB 3.0.[1]
Compact Design	Facilitates seamless integration into instrument systems.

Typical Applications

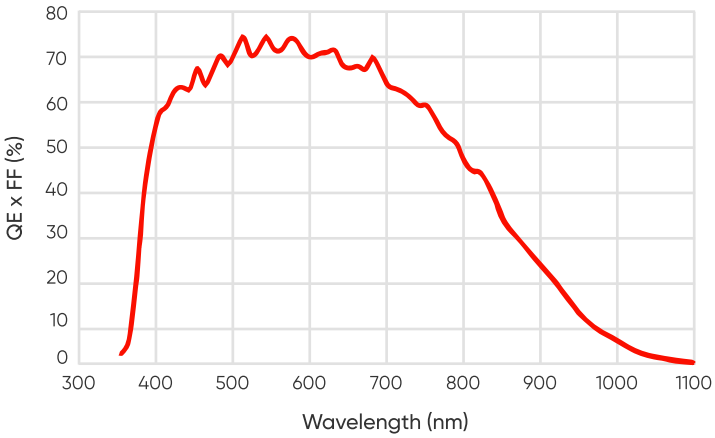
- Digital Pathology
- Microscopy Imaging
- Industrial Inspection

Noted Examples

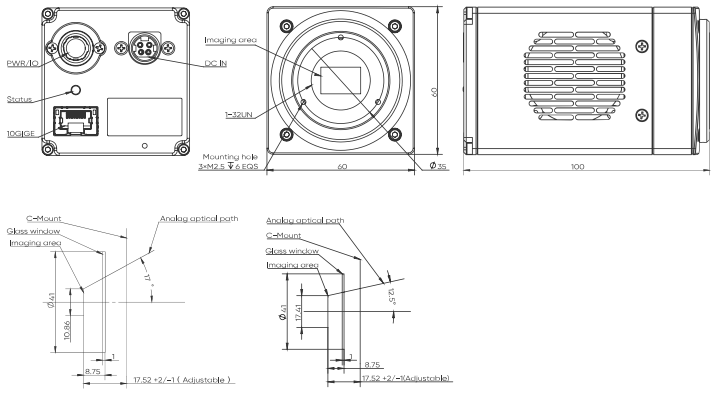
[1] The maximum full-resolution speed is 164 fps for the Libra 3405M and 98 fps for the Libra 3412M, about three times faster than the USB 3.0 version.



Quantum Efficiency



Dimensions (Unit: mm)



Specifications

Model	Libra 3405M			Libra 3412M		
Sensor Type	FSI sCMOS					
Sensor Model	Gpixel GMAX 3405			Gpixel GMAX 3412		
Chrome	Mono					
Array Diagonal	10.9 mm (2/3")			17.4 mm (1.1")		
Effective Area	8.3 mm x 7.0 mm			14.0mm x 10.5mm		
Pixel Size	3.4 μm x 3.4 μm					
Resolution	2448 (H) x 2048 (V)			4096 (H) x 3072 (V)		
Peak QE	75%@540 nm; 33%@850 nm					
Gain Mode	HighCapacity, Balanced, Sensitive					
Full Well Capacity	12bit: High Capacity 8.9 Ke-, Balanced 4.2 Ke-, Sensitive 0.48 Ke-			12bit: High Capacity 9 Ke-, Balanced 4.5 Ke-, Sensitive 0.7 Ke-		
Frame Rate	12 bit 100 fps	10 bit 163 fps	8 bit 164 fps	12 bit 62 fps	10 bit 65 fps	8 bit 98 fps
Readout Noise	12 bit (Median): 3.7 e-@High Capacity, 2.3 e-@Balanced, 1.4 e-@Sensitive			12 bit (Median): 3.8 e-@High Capacity, 2.5 e-@Balanced, 1.6 e-@Sensitive		
Shutter Mode	Global shutter					
Exposure Time	1 μs~10 s					
Image Correction	DPC					
ROI	Support					
Binning (FPGA)	1x1 , 2x2 , 4x4					
Cooling Method	Air cooling					
Cooling Temp.	10°C@Ambient 25°C					
Dark Current	0.5 e-/p/s@10°C					
Trigger Mode	Hardware, Software					
Trigger Output	High, Low, Exposure out, Readout, Trigger Ready					
Trigger Interface	Hirose-12-Pin					
Data Interface	10 GigE					
Bit Depth	High Depth (12 bit), Standard (10 bit), Speed (8 bit)					
Optical Interface	C-Mount					
Power Supply	12 V / 5 A					
Power Cons.	30 W					
Dimensions	60 mm (H) x 60 mm (W) x 100 mm (L)					
Weight	~489 g					
Software	Mosaic 3.0, Sample Pro, Micro-Manager 2.0					
SDK	C / C++ / C# / Python					
Operating System	Windows, Linux					
Environment	Working: Temp. 0°C~40°C, HUM 10%~85%; Storage: Temp. -10°C~60°C, HUM 0%~85%					

*Specifications in this manuat are subject to changes without prior notice.