Libra 3405UM / 3412UM

The Libra 3405UM / 3412UM feature global shutter monochrome CMOS sensors, delivering high speed and high resolution imaging. Covering a wide spectral range of 350 nm–1100 nm, they provide excellent performance for multi-channel fluorescence applications. With a USB 3.0 interface, these cameras offer plug-and-play operation with high-speed, low-latency data transfer, enabling direct connection to standard microscopes and computers for efficient workflows.

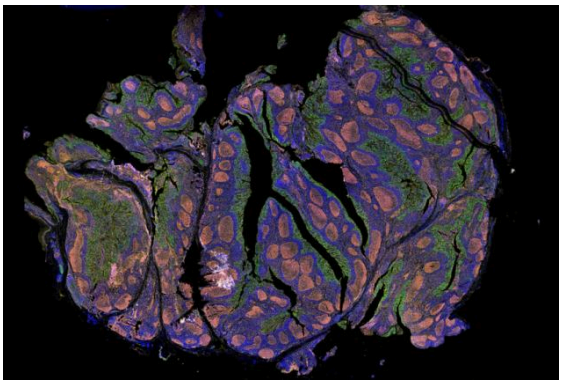
Key Features	Benefits
Global Shutter	High-speed, artifact-free imaging, ideal for high-throughput slide scanning.
350 nm–1100 nm Wide Spectrum	Suitable for multi-channel fluorescence and near-infrared detection.
3.4 μm Pixel Size	Optimized for < 40X optical systems, enables higher resolution for cellular and tissue imaging.
USB 3.0 Interface	Plug-and-play, enabling highly efficient microscopy workflows.
Mosaic 3.1 Software	Provides advanced image processing and real-time quantitative analysis to boost lab efficiency.

Typical Applications

- Fluorescence slide scanning [1]
- Live-cell fluorescence imaging
- Dark-field microscopy

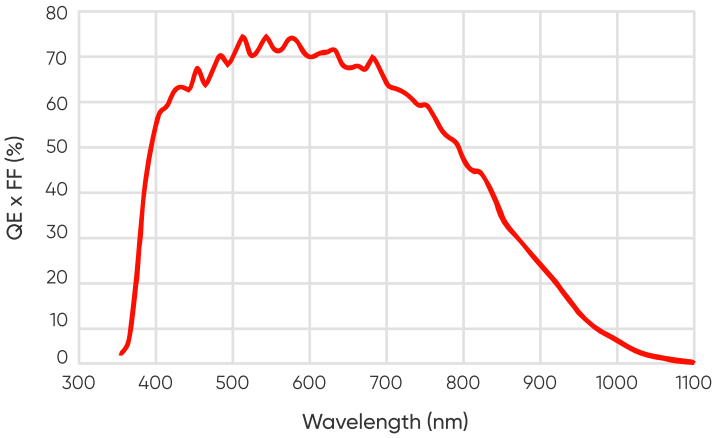
Noted Examples

[1]The Libra 3405UM / 3412UM deliver high-resolution imaging with excellent NIR sensitivity, ideal for tissue fluorescence slide scanning applications.

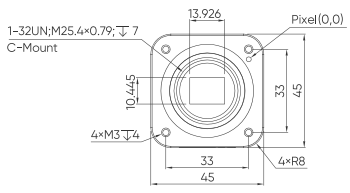


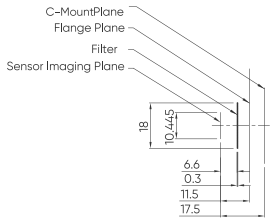
Fluorescence section scanning and stitching example of mouse gastric tissue

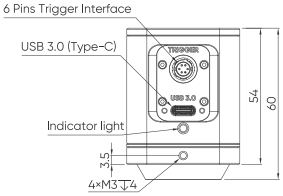
Quantum Efficiency

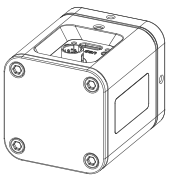


Dimensions (Unit: mm)









Specifications

Model	Libra 3405UM		Libra 3412UM	
Sensor Type	CMOS			
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; 47%@800 nm			
Gain Mode	High Capacity, Balanced, Sensitive			
Full Well Capacity	12bit: High Capacity 8.7 Ke-, Balanced 4.3 Ke-, Sensitive 0.5 Ke-		12bit: High Capacity 9 Ke-, Balanced 4.5 Ke-, Sensitive 0.7 Ke-	
Frame Rate	12 bit 45 fps	8 bit 65 fps	12 bit 18 fps	8 bit 28 fps
Readout Noise 12 bit (Median)	3.6 e-@High Capacity, 2.3 e-@Balanced, 1.6 e-@Sensitive		3.9 e-@High Capacity, 2.6 e-@Balanced, 1.3 e-@Sensitive	
Shutter Mode	Global			
Exposure Time	1 μs~10 s			
Image Correction	DPC			
ROI	Support			
Binning (FPGA)	1x1, 2x2, 4x4			
Cooling Method	Passive Cooling			
Trigger Mode	Hardware, Software			
Trigger Output	Exposure out, Readout, Trigger Ready			
Trigger Interface	Hirose-6-Pin			
Data Interface	USB 3.0 Type C			
Bit Depth	12bit, 8bit			
Optical Interface	C-Mount / Customization			
Power Supply	USB			
Power Cons.	< 4 W			
Dimensions	45 mm (H) x 45 mm (W) x 60 mm (L)			
Weight	~162.5 g			
Software	Sample Pro, Mosaic 3.1, LabVIEW, MATLAB			
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%~90%			

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