Aries 6506

Aries 6506 is built on a back-illuminated sCMOS architecture and offers enhanced sensitivity, speed, and field of view. Its 22 mm imaging diagonal is optimized for standard microscope optics and delivers full-resolution output at up to 200 fps @ 5.8 MP. With multiple readout modes and a reliable high-speed interface, it excels in live-cell imaging and fast dynamic applications requiring high frame rates.

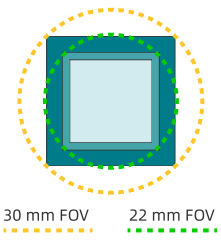
Key Features	Benefits
Extreme Sensitivity Mode	Up to 95% QE and readout noise below 0.7e⁻, enabling single-photon detection
High-throughput Imaging [1]	22 mm FOV optimized for standard microscopes, delivering 200 fps @ 5.8 MP full resolution.
High-Speed & High Dynamic Range	High-speed mode offers 1 Ke⁻ or 20 Ke⁻ full well options, balancing throughput and measurement accuracy.
GigE Interface	High-speed, lossless data transmission with flexible cabling
Reliable and Stable Cooling	Effectively suppresses dark current and signal fluctuation, ensuring system stability

Typical Applications

- Super-Resolution Microscopy
- Light Sheet Microscopy
- Calcium Imaging
- Live-Cell Imaging
- High-Throughput Imaging
- Fluorescence Slide Scanning

Noted Examples

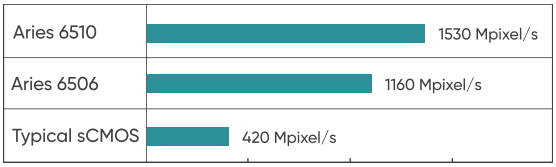
[1] Aries 6506 suits standard microscopes with a 22 mm field of view covering the center, offering better image quality. Its data throughput per frame is 2.8 times that of a typical sCMOS camera.



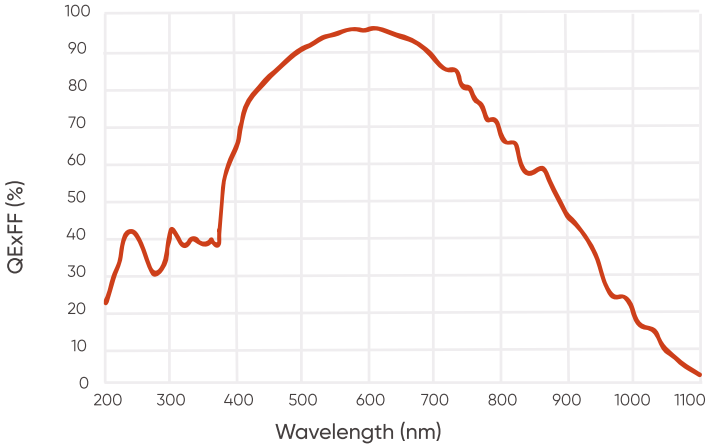
Typical sCMOS
Diagonal: 18.8 mm
Area: 13.3 mm x 13.3 mm

Aires 6506
Diagonal: 22 mm
Area: 15.7 mm x 15.7 mm

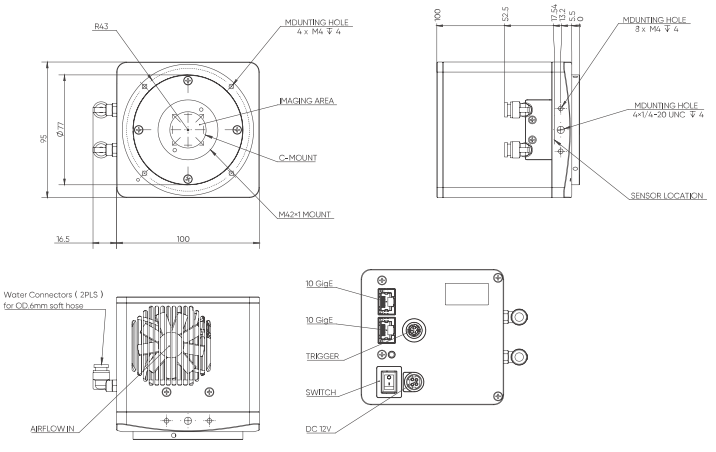
Aires 6510
Diagonal: 29.4 mm
Area: 20.8 mm x 20.8 mm



Quantum Efficiency



Dimensions (Unit: mm)



Specifications

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Model	Aries 6506		
Sensor Type	BSI sCMOS		
Sensor Model	Gpixel GSENSE 6510BSI		
Peak QE	95%		
Chrome	Mono		
Array Diagonal	22 mm		
Effective Area	15.7 mm x 15.7 mm		
Resolution	2400 (H) x 2400 (V)		
Pixel Size	6.5 μm x 6.5 μm		
Readout Mode	Dynamic HDR	Speed High / Mid / Low gain	Sensitivity Standard / Low Noise
Bit Depth	16bit	11bit	12bit
Frame Rate	111 fps	200 fps	117 fps / 6.9 fps
Readout Noise (median)	1.8 e-	1.8 e- / 3.6 e- / 9.8 e-	1.3 e- / 0.7 e-
Full Well Capacity	13.7 Ke-	1.24 Ke- / 4.5 Ke- / 20 Ke-	1.55 Ke- / 0.73 Ke-
Dynamic Range	77 dB @ Dynamic-HDR		
Shutter Mode	Rolling, Global Reset		
Exposure Time	6 μs-10 s		
Cooling Method	Air, Liquid		
Cooling Temperature	Air: 0℃ (Ambient temperature 25℃), Liquid:-10℃ (Liquid temperature 20℃)		
Dark Current	1.3 e-/pixel/s @ 0℃ ; 0.6 e-/pixel/s @ -10℃		
Image Correction	DPC		
Binning	2 x 2， 4 x 4		
ROI	Support		
Timestamp Accuracy	1 μs		
Trigger Mode	Hardware, Software		
Output Trigger Signals	High, Low, Readout End, Global Exposure, Exposure Start, Trigger Ready, First Row, Any Row		
Trigger Interface	Hirose-6-pin		
Data Interface	2 x 10 GigE		
Optical Interface	C Mount		
Power Supply	12 V / 8.5 A		
Power Consumption	≦ 55W		
Dimensions	95 mm (H) x 100 mm (W) x 100 mm (L)		
Weight	1350 g		
Software	Mosaic V3, SamplePro, LabVIEW, MATLAB, Micro-manager 2.0		
SDK	C / C++ / C# / Python		
Operating System	Windows, Linux		
Operating Environment	Working: Temp. 0~40 °C, HUM 10~85%; Storage: Temp. 0~60 °C, HUM 0~90%		

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