

Blackfly[®] S



LATEST CMOS SENSORS + GENICAM3

The Blackfly S combines industry-leading Sony Pregius and Starvis sensors and ON Semi Python CMOS sensors with our new and intuitive Spinnaker software development kit. Leverage advanced camera features to meet complex imaging needs and speed up development time. The Blackfly S is 100% standards compliant - GenICam 3, USB3 Vision and GigE Vision - helping you integrate quickly and get your application to market faster.



	BFS-U3-51S5M	BFS-U3-51S5C
Firmware Version	1605.1.3.x	
Resolution	2448 x 2048	
Frame Rate	75 FPS	
Megapixels	5.0 MP	
Chroma	Mono	Color
Sensor	Sony IMX250, CMOS, 2/3"	
Readout Method	Global shutter	
Pixel Size	3.45 μm	
Lens Mount	C-mount	
ADC	10-bit / 12-bit	
Gain Range	0 to 47 dB	
Exposure Range	6 μs to 30 seconds	
Acquisition Modes	Continuous, Single Frame, Multi Frame	
Partial Image Modes	Pixel binning, decimation, ROI	
Image Processing	Gamma, lookup table, and sharpness	Color correction matrix, gamma, lookup table, saturation, and sharpness
Sequencer	Up to 8 sets using 2 features, exposure and gain	
Image Buffer	240 MB	
User Sets	2 user configuration sets for custom camera settings	
Flash Memory	6 MB non-volatile memory	
Opto-isolated I/O	1 input, 1 output	
Non-isolated I/O	1 bi-directional, 1 input	
Auxiliary Output	3.3 V, 120 mA maximum	
Interface	USB 3.0	
Power Requirements	8 - 24 V via GPIO or 5 V via USB 3.0 interface	
Power Consumption	3 W maximum	
Dimensions / Mass	29 mm x 29 mm x 30 mm / 36 g	
Machine Vision Standard	USB3 Vision v1.0	
Compliance	CE, FCC, KCC, RoHS, REACH	
MTBF	TBD hours @20°C, GB environment TBD hours @20°C, GM environment	
Temperature	Operating: 0°C to 50°C Storage: -30°C to 60°C	
Humidity	Operating: 20% to 80% (no condensation) Storage: 30% to 95% (no condensation)	
Warranty	3 years	



True Image Capture™

- Latest **Sony Pregius, Starvis** and **ON Semi Python** CMOS sensors.
- **Binning flexibility** to increase apparent sensitivity or reduce bandwidth.
- **Powerful auto-exposure** controls: exposure limits, damping, target ROI, light source orientation and more.
- **Color transformation** improves color reproduction under daylight, fluorescent, tungsten and other light conditions.



Automate More

- **Sequencer:** Automate acquisition parameters for image sequences.
- **Chunk Data:** Transmit image metadata in image trailer.
- **Event notification:** Reduce inspection time and CPU resources.
- **Programmable Logic:** Counters, timers and logic blocks.



Accelerate Time to Market

- **GenICam3 API** industry standard feature naming. Future-proof your software through forward compatibility.
- **SpinView** camera control and streaming software enables fast feature evaluation.
- **Support for latest** Visual Studio IDE, Windows and Linux Ubuntu operating systems.
- **API logging** tools and transmission diagnostics make it easy to optimize system and application performance.



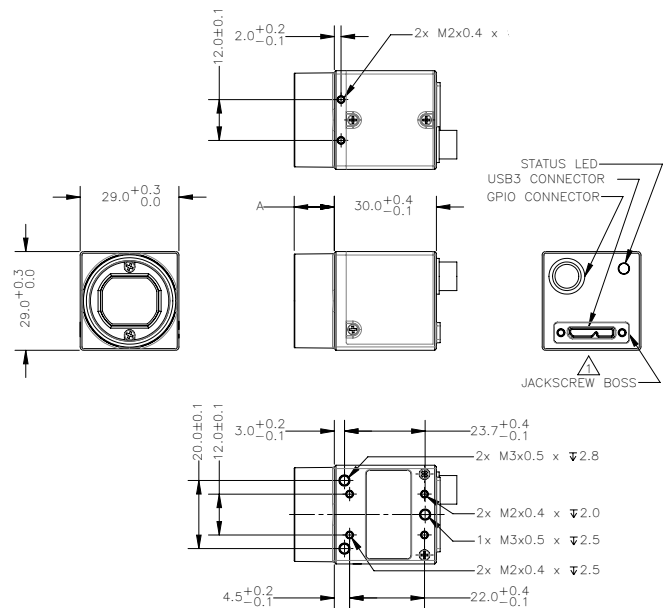
Built to Last

- **Design testing** including vibration and highly accelerated life testing (HALT) removes potential design flaws.
- **Unit testing** for signal to noise, power consumption, sensor alignment, enumeration and GPIO ensures reliable operation.
- Electronic reliability analysis provides **Mean Time Between Failures (MTBF)** to maximize product lifetime.



The Blackfly S is exclusively designed for use with our Spinnaker Software Development Kit.

Spinnaker SDK is a GenICam3 API library built for machine vision developers. It features an intuitive SpinView GUI, rich example codes, and comprehensive documentation designed to help you build your application faster.



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