

# FLIR BLACKFLY<sup>®</sup>S

P/N: BFS-U3-51S5, USB3 VISION



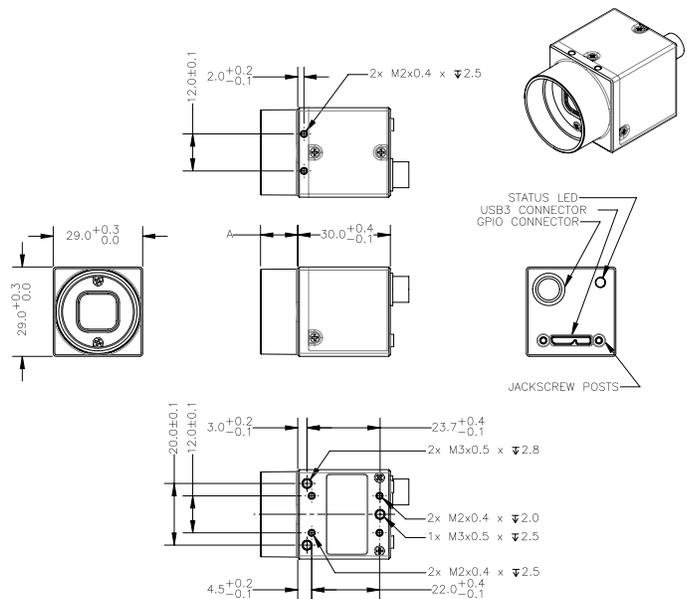
## SMALL PACKAGE, POWERFUL RESULTS

The Blackfly S combines the newest CMOS image sensors with our new and intuitive Spinnaker software development kit. The many new advanced camera features are designed to meet your complex imaging needs and speed up development time.

## KEY FEATURES

- Leverage the latest **CMOS sensors** and new on-camera image processing features. Harness increased **binning** flexibility, powerful **auto-exposure** controls and robust **color transformation** tools.
- Improve cycle time using advanced camera controls and programmable logic Utilize **sequencer**, **chunk data**, **event notification**, **counters**, **timers** and **logic blocks**.
- Accelerate your time to market using our **GenICam3 API**, **GUI API library**, detailed **API logging** and comprehensive **documentation**.

**USB3 VISION GEN<i>CAM**



## Specifications

	BFS-U3-51S5M-C	BFS-U3-51S5C-C
<b>Resolution</b>	2448 x 2048	
<b>Frame Rate*</b>	75 FPS	
<b>Megapixels</b>	5.0 MP	
<b>Chroma</b>	Mono	Color
<b>Sensor</b>	Sony IMX250, CMOS, 2/3"	
<b>Readout Method</b>	Global shutter	
<b>Pixel Size</b>	3.45 µm	
<b>Lens Mount</b>	C-mount	
<b>ADC</b>	10-bit / 12-bit	
<b>Minimum Frame Rate**</b>	1 FPS	
<b>Gain Range**</b>	0 to 47 dB	
<b>Exposure Range**</b>	6 µs to 30 s	
<b>Acquisition Modes</b>	Continuous, Single Frame, Multi Frame	
<b>Partial Image Modes</b>	Pixel binning, decimation, ROI	
<b>Image Processing</b>	Gamma, lookup table, and sharpness	Color correction matrix, gamma, lookup table, hue, saturation, and sharpness
<b>Sequencer</b>	Up to 8 sets using 2 features, exposure and gain	
<b>Image Buffer</b>	240 MB	
<b>User Sets</b>	2 user configuration sets for custom camera settings	
<b>Flash Memory</b>	1 MB non-volatile memory	
<b>Opto-isolated I/O</b>	1 input, 1 output	
<b>Non-isolated I/O</b>	1 bi-directional	
<b>Auxiliary Output</b>	3.3 V, 150 mA maximum	
<b>Interface</b>	USB 3.1 Gen 1	
<b>Power Requirements</b>	5 - 24 V via GPIO or 5 V via USB3 interface	
<b>Power Consumption</b>	3 W maximum	
<b>Dimensions/Mass</b>	29 mm x 29 mm x 30 mm / 36 g	
<b>Machine Vision Standard</b>	USB3 Vision v1.0	
<b>Compliance</b>	CE, FCC, KCC, RoHS, REACH. The ECCN for this product is: EAR099.	
<b>MTBF***</b>	4,706,000 hours @20°C, GB environment 1,177,000 hours @20°C, GM environment	
<b>Temperature</b>	Operating: 0°C to 50°C Storage: -30°C to 60°C	
<b>Humidity</b>	Operating: 20% to 80% (no condensation) Storage: 30% to 95% (no condensation)	
<b>Warranty</b>	3 years	

\*Frame rates are measured with Device Link Throughput Limit of 500 MBps and Acquisition Frame Rate disabled. Values are rounded down to whole numbers.

\*\*Values are the same in binning and no binning modes.

\*\*\*Ambient temperature; internal camera temperature is not considered.

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For a full list of international distributors and offices visit [www.flir.com/contact-us](http://www.flir.com/contact-us)

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