

# FLIR BLACKFLY<sup>®</sup> S

P/N: BFS-PGE-13Y3, GIGE VISION



## SMALL PACKAGE, POWERFUL RESULTS

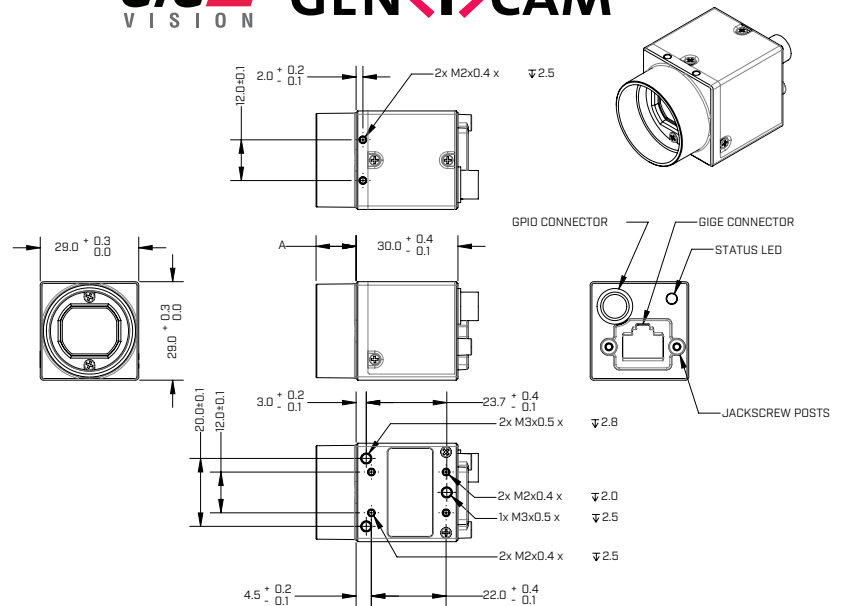
The Blackfly S combines the newest CMOS image sensors with our new and intuitive Spinnaker software development kit. The many new advanced camera features are designed to meet your complex imaging needs and speed up development time.

## 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**.
- IEEE 1588 Precision Time Protocol for **accurate clock synchronization** with no user oversight.



**GiG** VISION **GEN<i>CAM**



## Specifications

	BFS-PGE-13Y3M	BFS-PGE-13Y3C
<b>Resolution</b>	1280 x 1024	
<b>Frame Rate*</b>	85 FPS	
<b>Megapixels</b>	1.3 MP	
<b>Chroma</b>	Mono	Color
<b>Sensor</b>	On Semi P1300, CMOS, 1/2"	
<b>Readout Method</b>	Global shutter	
<b>Pixel Size</b>	4.8 µm	
<b>Lens Mount</b>	C-mount	
<b>ADC</b>	10-bit	
<b>Minimum Frame Rate**</b>	1 FPS	
<b>Gain Range**</b>	0 to 18 dB	
<b>Exposure Range**</b>	11 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 6 features, including image size	
<b>Image Buffer</b>	240 MB	
<b>User Sets</b>	2 user configuration sets for custom camera settings	
<b>Flash Memory</b>	6 MB non-volatile memory	
<b>Opto-isolated I/O</b>	1 input, 1 output	
<b>Non-isolated I/O</b>	1 bi-directional, 1 input	
<b>Auxiliary Output</b>	3.3 V, 120 mA maximum	
<b>Interface</b>	GigE PoE	
<b>Power Requirements</b>	Power over Ethernet (PoE), or 12 V nominal (8 - 24 V) via GPIO	
<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>	Gige Vision v1.2	
<b>Compliance</b>	CE, FCC, KCC, RoHS, REACH. The ECCN for this product is: EAR099.	
<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 380 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.

### FLIR Integrated Imaging Solutions

#### CANADA

12051 Riverside Way  
Richmond, BC, Canada  
V6W 1K7  
T: +1 866.765.0827 (toll free)  
T: +1 604.242.9937  
F: +1 604.242.9938  
E: mv-sales@flir.com  
www.flir.com/mv

#### USA

T: +1 866.765.0827 (toll free)  
E: mv-na-sales@flir.com

#### EUROPE

T: +49 7141 488817-0  
F: +49 7141 488817-99  
E: mv-eusales@flir.com

#### CHINA

T: +86 10 8215 9938  
F: +86 10 8215 9936  
E: mv-chinasales@flir.com

#### ASIA

E: mv-asiasales@flir.com

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# FLIR BLACKFLY<sup>®</sup> S

P/N: BFS-PGE-31S4, GIGE VISION



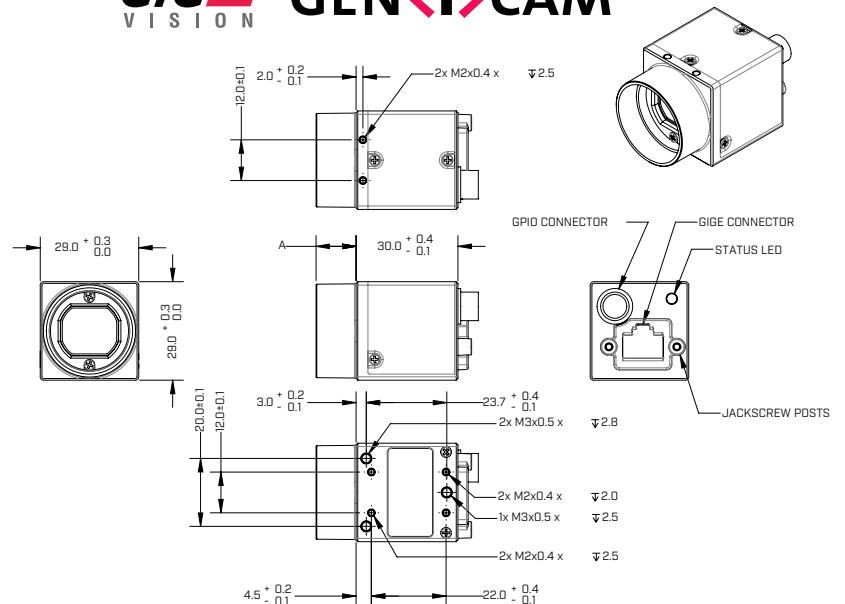
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- Accelerate your time to market using our **GenICam3 API**, **GUI API library**, detailed **API logging** and comprehensive **documentation**.
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**GiG** VISION **GEN<i>CAM**



## Specifications

	BFS-PGE-31S4M	BFS-PGE-31S4C
<b>Resolution</b>	2048 x 1536	
<b>Frame Rate*</b>	35 FPS	
<b>Megapixels</b>	3.1 MP	
<b>Chroma</b>	Mono	Color
<b>Sensor</b>	Sony IMX265, CMOS, 1/1.8"	
<b>Readout Method</b>	Global shutter	
<b>Pixel Size</b>	3.45 µm	
<b>Lens Mount</b>	C-mount	
<b>ADC</b>	12-bit	
<b>Minimum Frame Rate**</b>	1 FPS	
<b>Gain Range**</b>	0 to 48 dB	
<b>Exposure Range**</b>	11 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>	6 MB non-volatile memory	
<b>Opto-isolated I/O</b>	1 input, 1 output	
<b>Non-isolated I/O</b>	1 bi-directional, 1 input	
<b>Auxiliary Output</b>	3.3 V, 120 mA maximum	
<b>Interface</b>	GigE PoE	
<b>Power Requirements</b>	Power over Ethernet (PoE), or 12 V nominal (8 - 24 V) via GPIO	
<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>	Gige Vision v1.2	
<b>Compliance</b>	CE, FCC, KCC, RoHS, REACH. The ECCN for this product is: EAR099.	
<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 380 MBps and Acquisition Frame Rate disabled. Values are rounded down to whole numbers.

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V6W 1K7  
T: +1 866.765.0827 (toll free)  
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# FLIR BLACKFLY<sup>®</sup> S

P/N: BFS-PGE-50S5, GIGE VISION



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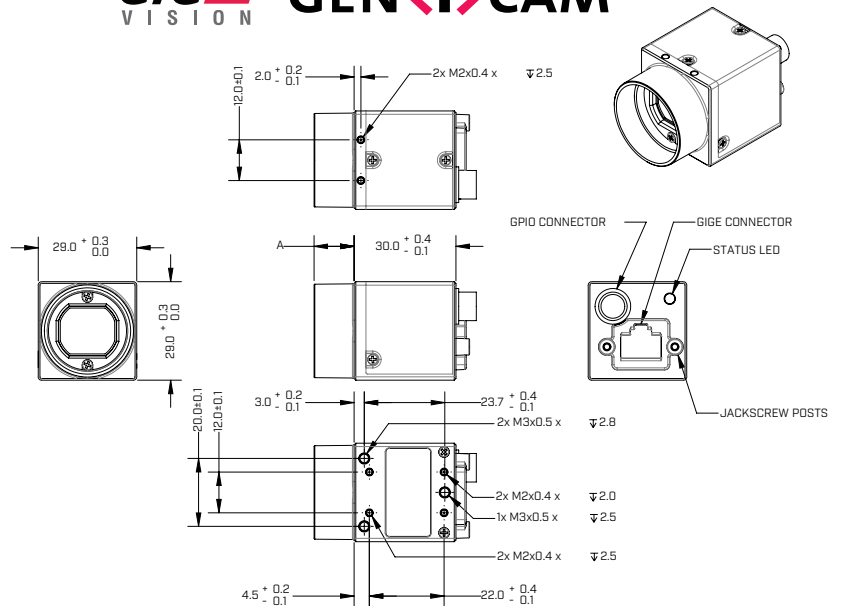
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## Specifications

	BFS-PGE-50S5M	BFS-PGE-50S5C
<b>Resolution</b>	2448 x 2048	
<b>Frame Rate*</b>	24 FPS	
<b>Megapixels</b>	5.0 MP	
<b>Chroma</b>	Mono	Color
<b>Sensor</b>	Sony IMX264, 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>	12-bit	
<b>Minimum Frame Rate**</b>	1 FPS	
<b>Gain Range**</b>	0 to 48 dB	
<b>Exposure Range**</b>	13 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>	6 MB non-volatile memory	
<b>Opto-isolated I/O</b>	1 input, 1 output	
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<b>Machine Vision Standard</b>	Gige Vision v1.2	
<b>Compliance</b>	CE, FCC, KCC, RoHS, REACH. The ECCN for this product is: EAR099.	
<b>MTBF***</b>	2,506,000 hours @20°C, GB environment 626,500 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	

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