



INDUSTRIAL/MACHINE VISION APPLICATIONS

BLACKFLY[®] S

P/N BFS-U3-50S4

SMALL PACKAGE, POWERFUL RESULTS

The Blackfly S is a compact, high performance machine vision camera that enables system designers to easily generate the exact images they need.

With both automatic and precise manual control over image capture and on-camera preprocessing, the Blackfly S accelerates application development.

<https://www.flir.com/products/blackfly-s-gige/?model=BFS-U3-50S4C-C>

FEATURES

Choice of CMOS global shutter, polarization, and high-sensitivity BSI sensors. Color transformation tools ensure true- to-life color. Advanced auto-algorithms or precise manual control

Support for a wide range of operating systems and host system hardware architectures. Easily switch to board level models for embedded systems. Simplified product iteration with consistent form factor across sensor sizes

Compatible with third party software and hardware. Reduce coding requirements using powerful on-camera features. Accelerate output with LLC on select models. Quickly build custom applications with rich sample code and descriptive API logging.

APPLICATIONS

Automated Optical Inspection

Microscopy

Robot Guidance

Laser Beam Profiling

Autonomous Vehicle Guidance

SPECS	BFS-U3-50S4M-C	BFS-U3-50S4C-C
Resolution	2448 x 2048	
Frame Rate*	72 FPS	
Megapixels	5.0 MP	
Chroma	Mono	Color
Sensor	Sony IMX547, CMOS, 1/1.8"	
Readout Method	Global shutter	
Pixel Size	2.74 µm	
Lens Mount	C-mount	
ADC	8-bit / 10-bit / 12-bit	
Minimum Frame Rate**	1 FPS	
Gain Range**	0 to 47 dB	
Exposure Range**	10 µs to 30 s	
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 6 features	
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 3.1 Gen 1	
Power Requirements	8 - 24 V via GPIO or 5 V via USB3 interface	
Power Consumption	4.2 W maximum	
Dimensions/Mass	29 mm x 29 mm x 39 mm / 53 g	
Machine Vision Standard	USB3 Vision v1.0	
Compliance	CE, FCC, KCC, RoHS, REACH. The ECCN for this product is: EAR099.	
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	

*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.

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FIND THE BEST BLACKFLY S FOR YOUR NEEDS



Teledyne FLIR
Machine Vision