

Blackfly[®]

POINT GREY
Innovation in Imaging

USB
VISION

UNBEATABLE VALUE + ULTRA-COMPACT + SONY CCDs

- Sony Global Shutter 1/3" CCDs in compact case - 29x29x30mm
- Perfect analog camera replacement
- On-camera image processing: color interpolation, gamma, and LUT
- 16 MByte frame buffer; LED status indicator

The Blackfly USB3 Vision camera line combines the throughput of USB 3.0, highly sensitive sensors, industry-leading affordability, and a host of unique features for uncompromising value. The ultra-compact Blackfly camera weighs just 36 grams, measures 29 x 29 x 30mm, uses 3 watts of power, and comes with a 3-year warranty.



Model	Version	MP	Imaging Sensor
BFLY-U3-03S2C-CS	Color	0.3 MP	<ul style="list-style-type: none"> ■ Sony ICX424, 1/3", 7.4 μm ■ Global shutter ■ 84 FPS at 648 x 488
BFLY-U3-03S2M-CS	Mono		
BFLY-U3-05S2C-CS	Color	0.5 MP	<ul style="list-style-type: none"> ■ Sony ICX693, 1/3", 6.0 μm ■ Global shutter ■ 50 FPS at 808 x 608
BFLY-U3-05S2M-CS	Mono		
BFLY-U3-13S2C-CS	Color	1.3 MP	<ul style="list-style-type: none"> ■ Sony ICX445, 1/3", 3.75 μm ■ Global shutter ■ 30 FPS at 1288 x 964
BFLY-U3-13S2M-CS	Mono		
BFLY-U3-20S4C-CS	Color	2.0 MP	<ul style="list-style-type: none"> ■ Sony ICX274, 1/1.8", 4.4 μm ■ Global shutter ■ 15 FPS at 1624 x 1224
BFLY-U3-20S4M-CS	Mono		

Imaging Performance (EMVA 1288)	See the Imaging Performance Specification , which includes quantum efficiency, saturation capacity (full well depth), read noise, dynamic range and signal to noise ratio.
A/D Converter	12-bit
Video Data Output	8, 12, 16 and 24-bit digital data
Image Data Formats	Mono8, Mono12, Mono16, Raw8, Raw12, Raw16 (all models); RGB, YUV411, YUV422, YUV 444 (color models)
Partial Image Modes	Pixel binning, decimation, and region of interest (ROI) modes
Image Processing	Gamma, lookup table, hue, saturation, and sharpness
Shutter	Global shutter; Automatic/manual/one-push Up to 31.9 seconds
Gain	Automatic/manual/one-push -10.104 dB to 23.991 dB (BFLY-U3-03S2); 0 dB to 23.991 dB (BFLY-U3-05S2); -11 dB to 23.99 dB (BFLY-U3-13S2); -10.319 dB to 23.991 dB (BFLY-U3-20S4)
Gamma	0.50 to 3.99, programmable lookup table
White Balance	Automatic/manual/one-push
Color Processing	On-camera in YUV or RGB format, or on-PC in Raw format
Digital Interface	USB 3.0 interface with screw locks for camera control, data, and power
Transfer Rates	5 Gbit/s
GPIO	6-pin Hirose HR10A-7R-6PB GPIO connector for trigger, strobe, and power
External Trigger Modes	Standard, low smear, overlapped, multi shot
Image Buffer	16 MB frame buffer
Memory Channels	2 user configuration sets for custom camera settings
Flash Memory	1 MB non-volatile memory
Dimensions	29 mm x 29 mm x 30 mm excluding lens holder, without optics (metal case)
Mass	36 grams (without optics)
Power Consumption	5-24 V via GPIO or 5 V via USB 3.0 interface, maximum <3 W
Machine Vision Standard	USB3 Vision
Camera Control	Via FlyCapture SDK or USB Vision third party software
Camera Updates	In-field firmware updates
Lens Mount	CS-mount
Temperature	Operating: 0° to 45°C; Storage: -30° to 60°C
Humidity	Operating: 20 to 80% (no condensation); Storage: 20 to 95% (no condensation)
Compliance	CE, FCC, KCC, RoHS
Operating System	Windows, Linux (32- and 64-bit)
Warranty	3 years