NEW

Ultra-compact form

Blackfly S USB3

Model: BFS-U3-51S5M-C: 5.0 MP, 75 FPS, Sony IMX250, Mono

Go to Product Support »

The Blackfly® S leverages the industry's most advanced sensors in an ice-cube form factor. It is packed with powerful features enabling you to easily produce the exact images you need and accelerate your application development. This includes both automatic and precise manual control over image capture and on-camera pre-processing. The Blackfly S is available in GigE, USB3, cased, and board-level versions.

The Blackfly S currently has a lead time of four weeks or less. Get the cameras you need – when you need them.

PRODUCT VARIATIONS:

BFS-U3-51S5M-C: 5.0 MP, 75 FPS, Sony IMX ▼

REQUEST INFO

MODEL SELECTOR

Blackfly S USB3 - Model: BFS-U3-51S5M-C: 5.0 MP, 75 FPS, Sony IMX250, Mono

Change Selection »

Contact Sales »

THE EXACT IMAGES YOU NEED

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

DEVELOP ONCE, DEPLOY ANYWHERE

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

ACCELERATE APPLICATION DEVELOPMENT

Compatible with third party software and hardware. Less code-writing required using powerful on-camera features. Quickly build custom applications with rich sample code and descriptive API logging.

Have a question?

CONTACT US

SUPPORT RESOURCES

Want more information on this product?

Call 011-4560 3555 to speak with a knowledgeable specialist.

SPECIFICATIONS

Resolution	2448 × 2048
Megapixels	5
Max Frame Rate Standard	75
Pixel Size	3.45
Lens Mount	C-mount
Sensor Type	CMOS
Sensor Model	Sony IMX250
Data Interface	USB 3.1 Gen 1

Blackfly S USB3 - Model: BFS-U3-51S5M-C: 5.0 MP, 75 FPS, Sony IMX250, Mono

Change Selection »

Spectrum	Mono
Part Number	BFS-U3-51S5M-C
Synchronization	Software trigger, hardware trigger, action command

FEATURES

Acquisition Modes	Continuous / Single Frame / Multi Frame
Flash Memory	6 MB non-volatile memory
Gain Control	Manual, automatic (AGC)
Image Buffer	240 MB
Image Processing	Gamma, lookup table, and sharpness
Max Frame Rate Standard	75
Partial Image Modes	Pixel binning, decimation, ROI
Synchronization	Software trigger, hardware trigger, action command
User Sets	2 user configuration sets for custom camera settings

PERFORMANCE

Absolute Sensitivity Threshold (γ)	4.63
Dynamic Range dB	71.45
Quantum Efficiency	72 (% at 525 nm)
Saturation Capacity (e-)	10970
Temporal Dark Noise (Read Noise)	2.44

PHYSICAL

Auxiliary Output	3.3 V, 120 mA maximum
Connector	USB3 Micro-B | Hirose HR10A-7R-6PB
Data Interface	USB 3.1 Gen 1
Digitization Bit Depth (ADC)	10-bit, 12-bit

Blackfly S USB3 - Model: BFS-U3-51S5M-C: 5.0 MP, 75 FPS, Sony IMX250, Mono

Change Selection »

Dimensions [W x H x L]	29 mm × 29 mm × 30 mm
Lens Mount	C-mount
Mass	36 g
Megapixels	5
Non-Isolated I/O Ports	1 bi-directional, 1 input
Operating Humidity	20 to 80% (no condensation)
Operating Temperature	0° to 50°C
Optical Filter	None
Opto-isolated I/O Ports	1 input, 1 output
Part Number	BFS-U3-51S5M-C
Pixel Size	3.45
Power Requirements	8-24 V via GPIO or 5 V via USB3
Resolution	2448 × 2048
Sensor Format	2/3"
Sensor Model	Sony IMX250
Sensor Shutter Type	Global shutter
Sensor Type	CMOS
Spectrum	Mono
Storage Humidity	30 to 95% (no condensation)
Storage Temperature	-30° to 60°C

RECOMMENDED SYSTEM CONFIGURATION

Port	USB3 Port
Required Accessories	Lens, Cable, Host Adapter (USB 3.1 Gen 1)

COMPLIANCE & CERTIFICATIONS

Blackfly S USB3 Model: BFS-U3-51S5M-C: 5.0 MP, 75 FPS, Sony IMX250, Mono

Change Selection »

Compliance	CE, FCC, KCC, RoHS. The ECCN for this product is: EAR099.

Machine Vision Standard	USB3 Vision v1.0
Warranty	3 years

VIEW LESS

RELATED CONTENT

BLACKFLY S USB3 CAMERA RESOURCES

USING LENS SHADING CORRECTION

FLIR GUIDE TO EMBEDDED VISION SYSTEMS

VIEW MORE

ACCESSORIES

CABLES —

USB 3.1 Locking Cable »

USB 3.1 Locking Cable (Cast Metal Connectors) »

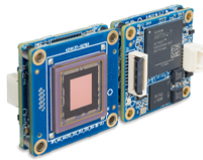**GPIO CABLES** +

LENSES +

HOST ADAPTERS +

POWER SUPPLIES +

OPTICAL MOUNTS +

TRIPOD ADAPTERS +

Blackfly S USB3 - Model: BFS-U3-51S5M-C: 5.0 MP, 75 FPS, Sony IMX250, Mono
Change Selection »

RELATED PRODUCTS

BLACKFLY S GIGE

BLACKFLY S BOARD LEVEL
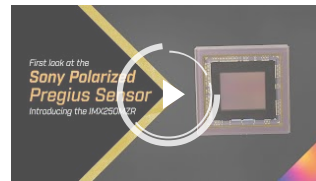
SPINNAKER SDK

MEDIA GALLERY

FLIR Blackfly S Family: Develop Once, Deploy Everywhere

FLIR Introduces Sony Pregius Generation 3 Global Shutter CMOS Sensors

FLIR Machine Vision Sensor Update: Sony Polarized Sensor

RELATED DOCUMENTS

BFS-U3-04S2 DATASHEET

BFS-U3-13Y3 DATASHEET

BFS-U3-16S2 DATASHEET

VIEW MORE

Blackfly S USB3 - Model: BFS-U3-51S5M-C: 5.0 MP, 75 FPS, Sony IMX250, Mono

Change Selection »

Export Restrictions

Blackfly S USB3 - Model: BFS-U3-51S5M-C: 5.0 MP, 75 FPS, Sony IMX250, Mono

Change Selection »