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BFS-U3-63S4M-C USB 3.1 Blackfly® S, Monochrome Camera

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Teledyne FLIR IIS Blackfly® S USB3 Camera (front)

Stock **#11-509** **1 In Stock**

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Spectrum:

Monochrome

General

Type:

Monochrome Camera

Model Number:
BFS-U3-63S4M-C

Manufacturer:
FLIR

Camera Series:
Blackfly® S

Physical & Mechanical Properties

Dimensions (mm):
29 x 29 x 30 (excludes connectors and lens mount)

Weight (g):
36

Housing:
Full

Sensor

Image Buffer:
240MB

Sensor Format:
1/1.8"

Resolution (Megapixels):
6.30

Frame Rate (fps):
59.60

Pixels (H x V):
3,072 x 2,048

Pixel Size, H x V (µm):
2.4 x 2.4

Sensing Area, H x V (mm):
7.37 x 4.92

Imaging Sensor:
Sony IMX178

Type of Sensor:
Progressive Scan CMOS

Shutter Type:
Rolling

Pixel Depth:
10/14 bit

Exposure Time:
8µs - 30s

Dynamic Range (dB):
73.73

Machine Vision Standard:
USB3 Vision v1.0

Electrical

Power Consumption (W):
3

Hardware & Interface Connectivity

Interface:
USB 3.1 Gen 1

Connector:
USB 3.1 Gen 1, Micro-B with Screw Locks

Power Supply:
Power over USB or via GPIO with **#88-063**

GPIOs:
1 opto-isolated input, 1 opto-isolated output, 1 non-isolated bi-directional, 1 non-isolated input

Synchronization:
Hardware Trigger (GPIO) or Software Trigger

Interface Port Orientation:
Back Panel

GPIO Connector Type:
6-pin Hirose (HR10)

Threading & Mounting

Mount:
C-Mount

Mounting Threads:
¼-20 with Tripod Mount Adapter **#88-210**

Environmental & Durability Factors

Operating Temperature (°C):

0 to +50

Storage Temperature (°C):

-30 to +60

Regulatory Compliance

RoHS 2015:

Exempt

Certificate of Conformance:

View

Reach 240:

Contains SVHC(s)

Product Details

- Ultra-Compact Design
- USB3 Vision and GenICam Compliant
- Includes Image Capture Software and Spinnaker SDK

Teledyne Authorized Distributor

Teledyne FLIR IIS Blackfly S: Advanced Machine Vision Cameras with powerful features

Capture the images you need from advanced sensors in enclosed or board-level configurations

The **Blackfly® S** is a versatile and compact machine vision camera series that leverages the industry's most advanced area scan sensors in an ultra-compact form factor. It combines powerful features that easily produce the exact images required, accelerating application development. Combining both automatic and precise manual controls over image capture and on-camera pre-processing. With options ranging from high-speed performance, high-resolution images, polarization, or low-light sensitivity, the Blackfly® S series of cameras can deliver the required results.

With the selection of camera variations all sharing the same form factor, it makes it easy to develop once, deploy anywhere. On camera features include IEEE1588 clock synchronization and full compatibility with popular third-party software supporting either GigE Vision or USB3 Vision interfaces. The Blackfly® S is available in GigE, USB3, cased, and board-level versions.

Note: USB3 cable sold separately. Use (**#03-618**) 5mm Spacer to convert CS-Mount Cameras to C-Mount. Software available for **download**.

Blackfly® S USB3 color / monochrome cameras

- Compatible with third-party software and hardware, and supports a wide range of operating systems and host system architectures.

Features

- Ultra-compact form factor (29mm x 29mm x 39mm)
- 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
- Choice of CMOS global shutter, polarization, and high-sensitivity BSI sensors
- Data interface options: GigE, USB3
- Color transformation tools for true-to-life color
- Advanced auto-algorithms or precise manual control over image capture and on-camera pre-processing
- On-camera features such as IEEE1588 clock synchronization, lossless compression, and deep learning inference
- Compatible with third-party software and hardware
- Support for a wide range of operating systems and host system architectures
- Rich sample code and descriptive API logging
- Simplified product iteration with consistent form factor across sensor sizes
- Camera control via FlyCapture SDK or 3rd-party USB3 Vision software

Applications

- Intelligent Transportation Systems
- Factory automation
- Bar code reading
- 3D scanning
- Life science instrumentation
- Biometrics kiosk solutions
- Ophthalmoscopy
- Automated optical inspection
- Food & Beverage industry

Note: Please be sure to choose the correct adapter. **#88-210** is for Blackfly S that measure 29x29x30mm and **#15-838** is for Blackfly S that measure 29x29x39mm.

Teledyne FLIR Blackfly® S USB3 Cameras are compact machine vision cameras that leverage advanced CMOS area scan sensors in an ultra-compact 29mm x 29mm x 39mm form factor for easy integration into space-constrained systems.

Designed for rapid system integration, these cameras are USB3 Vision and GenICam compliant, support a wide range of operating systems and host architectures, and include image capture software with the Spinnaker SDK.

Advanced auto-algorithms, precise manual image control, and on-camera pre-processing help simplify development while enabling optimization for demanding inspection and measurement tasks.

Programmable logic, sequencer functions, chunk data, event notification, counters, timers, and logic blocks improve cycle time and support more sophisticated vision workflows.

Available sensor options include global shutter, polarization, and high-sensitivity BSI CMOS configurations, making these cameras well-suited for imaging moving objects, low-light scenes, and application-specific contrast analysis.

Blackfly S USB3 Cameras are ideal for factory automation, automated optical inspection, bar code reading, 3D scanning, intelligent transportation systems, life science instrumentation, and biometrics kiosk solutions.

On-camera features such as IEEE1588 clock synchronization, lossless compression, and deep learning inference support synchronized multi-camera setups and help reduce processing demands at the host level.

With a consistent form factor across sensor sizes and compatibility with third-party software and hardware, Blackfly S USB3 Cameras make it easier to develop once and deploy across multiple machine vision platforms.

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