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## BFS-U3-120S4M-CS USB 3.1 Blackfly® S, Monochrome Camera

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Teledyne FLIR IIS Blackfly® S USB3 Camera (front)

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### SPECIFICATIONS

**Spectrum:**

Monochrome

[General](#)

Type: Monochrome Camera

Model Number: BFS-U3-120S4M-CS

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: 1/1.7"

Resolution (Megapixels): 12.00

Frame Rate (fps): 31.00

Pixels (H x V): 4,000 x 3,000

Pixel Size, H x V (μm): 1.85 x 1.85

Sensing Area, H x V (mm): 7.4 x 5.55

Imaging Sensor: Sony IMX226

Type of Sensor: Progressive Scan CMOS

Shutter Type: Rolling

Pixel Depth: 10/12 bit

Exposure Time: 10μs - 30s

Dynamic Range (dB): 69.64

Machine Vision Standard: USB3 Vision v1.0

## Electrical

Power Consumption (W): Not Specified

## 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: CS-Mount

Mounting Threads: 1/4-20 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 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.