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BFS-PGE-51S5PC-C PoE GigE Blackfly® S, Polarized Color Camera

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Teledyne FLIR® IIS Blackfly® S GigE Cameras

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Spectrum:

Color (Polarized)

General

Type:

Polarized Color Camera

Model Number:

BFS-PGE-51S5PC-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:
2/3"

Resolution (Megapixels):
5.00

Frame Rate (fps):
24.00

Pixels (H x V):
2,448 x 2,048

Pixel Size, H x V (µm):
3.45 x 3.45

Sensing Area, H x V (mm):
8.45 x 7.07

Imaging Sensor:
Sony IMX250MYR

Type of Sensor:
Progressive Scan CMOS

Shutter Type:
Global

Pixel Depth:
10/12 bit

Exposure Time:
20µs - 30s

Dynamic Range (dB):
71.45

Machine Vision Standard:
GigE Vision v1.2

Electrical

Power Consumption (W):
3 (max)

Hardware & Interface Connectivity

Interface:
GigE (PoE)

Connector:
GigE, RJ45 with Screw Locks

Power Supply:
Power Supply Required and Sold Separately if not using PoE:
USA: **#88-063**
Europe: **#88-063**
Japan: **#88-063**
Korea: Not Available
China: Not Available

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

Certificate of Conformance:

View

Product Details

- PoE (Power over Ethernet)
- GigE Vision and GenICam Compliant
- Ultra Compact Form Factor
- Extensive API Library and Included 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: **GigE cable** sold separately and required for operation . Software available for **download**. **Blackfly® PoE GigE Cameras** are also available.

Blackfly® S GigE color / monochrome cameras

- On camera features include IEEE1588 clock synchronization and full compatibility with popular third-party software supporting GigE Vision. GigE models featuring Lossless Compression (LLC) are also available with higher maximum frame rates and lower bandwidth requirements, helping maximize output without compromising image quality.

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

Teledyne FLIR IIS Blackfly® S PoE GigE Cameras are compact machine vision cameras designed to deliver high image quality in space-constrained inspection and automation systems. They feature Power over Ethernet (PoE) connectivity and are GigE Vision and GenICam-compliant, simplifying cabling while enabling straightforward integration with third-party software and existing GigE-based vision networks. EO's Blackfly S GigE offering also includes on-camera features such as IEEE 1588 clock synchronization, making these cameras well-suited for synchronized multi-camera inspection, robotics, and high-speed production environments. Select models with lossless compression are available to increase effective throughput and frame rate while reducing bandwidth demands without sacrificing image quality.

With a broad range of sensor options, the Blackfly S platform is ideal for automated optical inspection, factory automation, microscopy, 3D scanning, and other imaging tasks that require a balance of compact size, speed, and resolution. Advanced camera controls, robust color transformation tools, and auto-exposure capabilities help users optimize image capture for both color and monochrome applications. The included Spinnaker SDK and extensive API support streamline evaluation, software development, and system integration for OEM and embedded vision designers. For customers building distributed or scalable imaging systems, Blackfly S PoE GigE Cameras offer an efficient combination of compact packaging, flexible interface standards, and machine vision performance.

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