

Flea3 GigE

ULTRA-COMPACT + VERSATILE + COST EFFECTIVE



- Sony progressive scan CCD image sensors, mono or color
- GigE Vision 1000 Mbit/s interface
- Compact 29 x 29 x 30 mm case with C-mount lens holder
- GigE Vision 1.2 specifications

The Flea3 FL3-GE line of the world's smallest Gigabit Ethernet cameras offers a total of four monochrome and color CCD models, ranging from VGA to 5.0 MP. Measuring just 29 x 29 x 30 mm and weighing only 58 grams, the Flea3 has the same small, lightweight form factor as many industry-standard "ice cube" analog cameras. The Flea3 also offers a host of new features, including enhanced opto-isolated GPIO; an on-camera frame buffer; non-volatile user data storage; new trigger modes; and improved imaging performance.



Available Now	FL3-GE-03S2C/M-C	0.3 MP	Sony ICX424 CCD, 1/3", Mono/Color, Global Shutter	648x488	82 FPS	7.4 μm
Available Now	FL3-GE-08S2C/M-C	0.8 MP	Sony ICX204 CCD, 1/3", Mono/Color, Global Shutter	1032x776	31 FPS	4.65 μm
Available Now	FL3-GE-13S2C/M-C	1.3 MP	Sony ICX445 CCD, 1/3", Mono/Color, Global Shutter	1288x964	31 FPS	3.75 μm
Available Now	FL3-GE-14S3C/M-C	1.4 MP	Sony ICX267 CCD, 1/2", Mono/Color, Global Shutter	1384x1032	18 FPS	4.65 μm
Available Now	FL3-GE-20S4C/M-C	2.0 MP	Sony ICX274 CCD, 1/1.8", Mono/Color, Global Shutter	1624x1224	15 FPS	4.4 μm
Available Now	FL3-GE-50S5C/M-C	5.0 MP	Sony ICX655 CCD, 2/3", Mono/Color, Global Shutter	2448x2048	8 FPS	3.45 μm

A/D Converter	12-bit
Video Data Output	8, 12, 16 and 24-bit digital data
Image Data Formats	Y8, Y16, Mono8, Mono12, Mono16 (all models) RGB, YUV411, YUV422, YUV 444, Raw8, Raw12, Raw16 (color models)
Partial Image Modes	Pixel binning and region of interest (ROI) modes
Image Processing	Gamma, lookup table, hue, saturation, and sharpness
Gain	0 dB to 24 dB, Automatic/Manual/One-Push Gain modes
Gamma	0.50 to 4.00
White Balance	Automatic/manual modes, programmable via software
High Dynamic Range	Cycle 4 gain and exposure presets
Color Processing	On-camera in YUV or RGB format, or on-PC in Raw format
Digital Interface	Gigabit Ethernet interface with screw locks for camera control and data
Transfer Rates	10/100/1000 Mbit/s
GPIO	8-pin Hirose HR25 GPIO connector for power, trigger, strobe, PWM, and serial I/O, 1 opto-isolated input, 1 opto-isolated output, 2 bi-directional I/O pins
External Trigger Modes	IIDC Trigger Modes 0, 1, 3, 4, 5, 13 (FL3-GE-13S2 only), 14 and 15
Synchronization	Via external trigger or software trigger
Shutter	Global Shutter, 0.03 ms to 32 seconds (extended shutter mode) Automatic/Manual/One-Push/Extended Shutter modes
Memory	32 MB frame buffer; Flash Memory 1 MB
Memory Channels	2 memory channels for custom camera settings
Dimensions and Mass	29 mm x 29 mm x 30 mm excluding lens holder, without optics (metal case), 58 grams (without optics)
Power Consumption	12-24 V, <2.5 W, via GPIO
Camera Specification	GigE Vision v1.2
Camera Control	via FlyCapture SDK, CSRs, or third party software
Camera Updates	In-field firmware updates
Lens Mount	C-mount
Temperature	Operating: 0° to 45°C; Storage: -30° to 60°C
Emissions Compliance	CE, FCC, RoHS
Operating System	Vista or Windows 7
Warranty	Two years

Flea3 GigE Features

Flea3 GigE Benefits

The 1000Mb/s Gigabit Ethernet bus provides enough bandwidth to transmit over distances up to 100m. System costs are reduced with low-cost frame grabbers and by eliminating the need for cable repeaters. Scalability also reduces future costs as GigE Vision continues development for faster bandwidths.

Ultra-compact Camera

At 29 mm x 29 mm x 30 mm excluding lens holder, without optics (metal case), the Flea3 GigE fits into the small, tight spaces that are common in industrial imaging, making it an ideal camera for OEM applications.

Secure Connector

Screw holes on each side of the camera's GigE connector enable secure connection to the camera, guaranteeing a reliable connection, and reducing stress on internal electronics caused by cable movement.

Triggering

The Flea3 GigE camera has an 8-pin GPIO connector located on the back. The opto-isolated pins allow the user to coordinate the camera with external devices such as light sources and GPS units. It can be programmed to accept external trigger signals that initiate the start of exposure, output variable strobe patterns, or send and receive serial data.

Accessories

A tripod adapter is included with every camera. All the accessories you need to get up and running, such as interface cards, cables, and power adapters are available from Point Grey.

Color Processing

The color Flea3 GigE features on-camera color processing and auto white balance. Available outputs include YUV411, YUV422, RGB, Y8 and Y16. If a reduction in the bus bandwidth is required, users can access the raw Bayer pattern.

Software

The FlyCapture® SDK is included with all imaging products. The SDK is compatible with Microsoft Windows (32bit and 64bit) and Linux Ubuntu. It includes device drivers, software Application Programming Interface (API), demo programs and C/C++ example source code.

Industry Standard Design

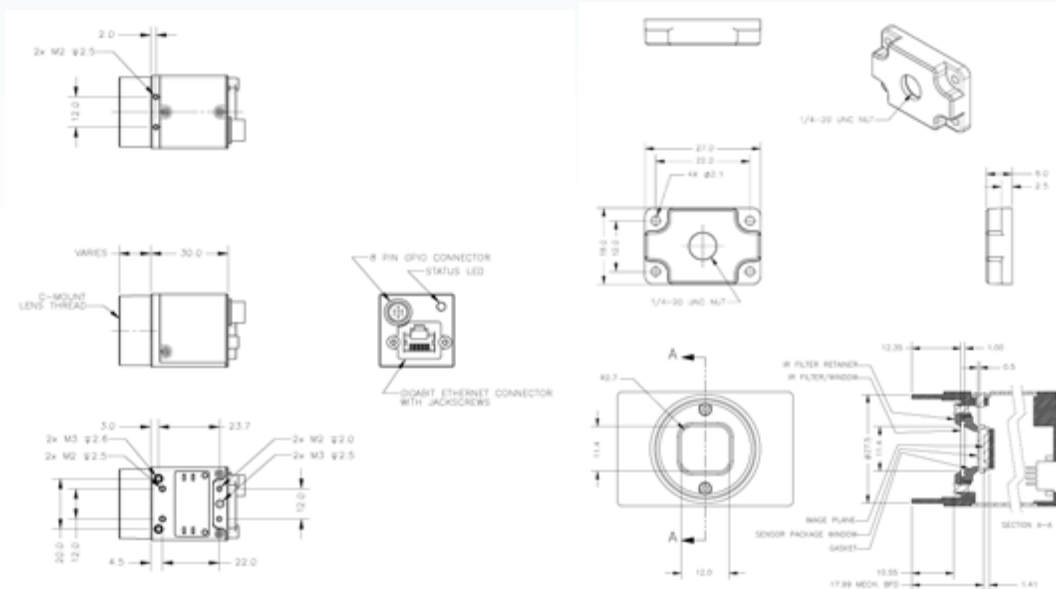
Every mechanical component of the Flea3 GigE is designed to maximize usability, including the compact cast metal case, C-mount lens holder and ASA/ISO-compliant tripod mounting bracket, status LED and removable glass/IR filter system.

Frame Buffer/Image Retransmit

The camera is equipped with a 32MB frame buffer that can be used to store multiple images for transmission, or retransmission, at a later time. This is useful in situations where the available GigE bandwidth must be maximized between multiple cameras, or where an image must be sent again.

Updatable FPGA

The field-programmable gate array chip controls all camera functionality, including on-camera color processing, pixel binning, user memory channels and more. It can also be updated with new firmware in the field.



CAD models available at [the Point Grey Downloads site](http://www.ptgrey.com/downloads)