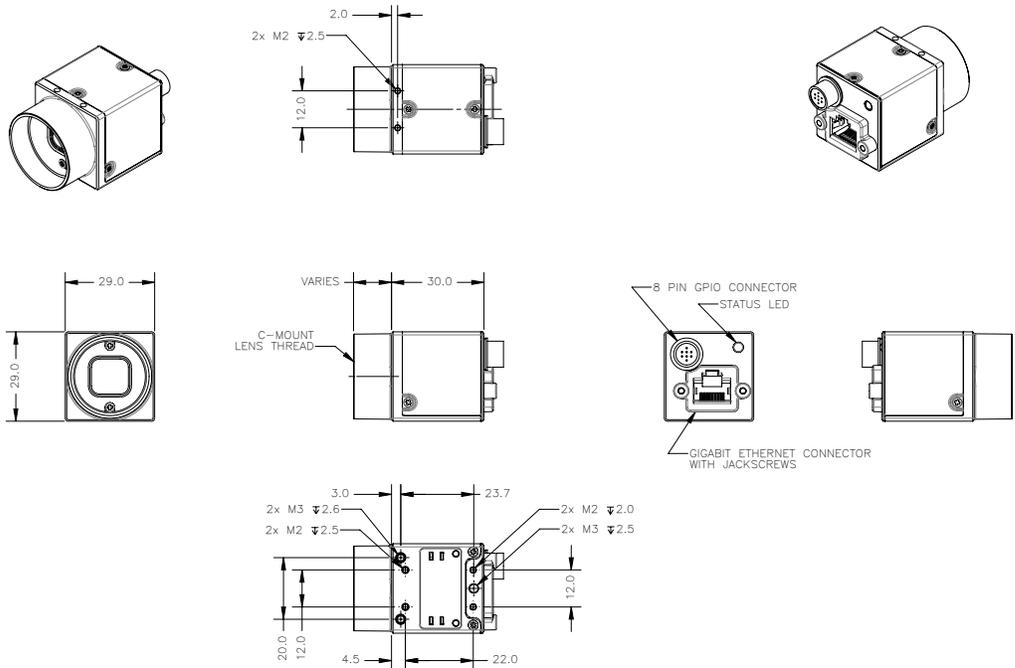# FLIR FLEA®3
GigE Vision

ULTRA-COMPACT + VERSATILE + COST EFFECTIVE

The Flea3 FL3-GE line of the world's smallest Gigabit Ethernet cameras offers a total of twelve monochrome and color CCD models, ranging from VGA to 5.0 MP. Measuring just 29 x 29 x 30 mm and weighing only 38 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.

KEY FEATURES

• Sony progressive scan CCD image sensors, mono or color
• GigE Vision Compliant, 1000 Mbit/s interface
• Compact 29 x 29 x 30 mm case

FLIR® | The World's Sixth Sense®

Specifications

Model	Version	MP	Imaging Sensor
FL3-GE-03S1C-C FL3-GE-03S1M-C	Color Mono	0.3 MP	■ Sony ICX618, 1/4", 5.6 µm ■ Global Shutter ■ 120 FPS at 648 x 488
FL3-GE-03S2C-C FL3-GE-03S2M-C	Color Mono	0.3 MP	■ Sony ICX424, 1/3", 7.4 µm ■ Global Shutter ■ 82 FPS at 648 x 488
FL3-GE-08S2C-C FL3-GE-08S2M-C	Color Mono	0.8 MP	■ Sony ICX204, 1/3", 4.65 µm ■ Global Shutter ■ 31 FPS at 1032 x 776
FL3-GE-13S2C-C FL3-GE-13S2M-C	Color Mono	1.3 MP	■ Sony ICX445, 1/3", 3.75 µm ■ Global Shutter ■ 31 FPS at 1288 x 964
FL3-GE-14S3C-C FL3-GE-14S3M-C	Color Mono	1.4 MP	■ Sony ICX267, 1/2", 4.65 µm ■ Global Shutter ■ 18 FPS at 1384 x 1032
FL3-GE-20S4C-C FL3-GE-20S4M-C	Color Mono	2.0 MP	■ Sony ICX274, 1/1.8", 4.4 µm ■ Global Shutter ■ 15 FPS at 1624 x 1224
FL3-GE-28S4C-C FL3-GE-28S4M-C	Color Mono	2.8 MP	■ Sony ICX687, 1/1.8", 3.69 µm ■ Global Shutter ■ 15 FPS at 1928 x 1448
FL3-GE-50S5C-C FL3-GE-50S5M-C	Color Mono	5.0 MP	■ Sony ICX655, 2/3", 3.45 µm ■ Global Shutter ■ 8 FPS at 2448 x 2048

Imaging Performance (EMVA 1288)	See the Imaging Performance Specification, which includes quantum efficiency, saturation capacity (full well depth), read noise, dynamic range and signal to noise ratio.
A/D Converter	12-bit
Video Data Output	8, 12, 16 and 24-bit digital data
Image Data Formats	Y8, Y16, Mono8, Mono12, Mono16, Raw8, Raw12, Raw16 (all models); RGB, YUV411, YUV422, YUV 444 (color models)
Partial Image Modes	Pixel binning and region of interest (ROI) modes
Image Processing	Gamma, lookup table, hue, saturation, and sharpness
Shutter	Global Shutter; Automatic/manual/one-push/extended shutter modes See product webpage for specific model's range
Gain	Automatic/manual/one-push modes See product webpage for specific model's range
Gamma	0.50 to 4.00, programmable lookup table
White Balance	Automatic/manual/one-push modes
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	Trigger Modes 0, 1, 3, 4, 5, 13 (FL3-GE-13S2 only), 14 and 15
Image Buffer	32 MB frame buffer
Memory Channels	2 memory channels for custom camera settings
Flash Memory	1 MB non-volatile memory
Dimensions	29 mm x 29 mm x 30 mm excluding lens holder, without optics (metal case)
Mass	38 grams (without optics)
Power Consumption	12-24 V, <2.5 W, via GPIO
Machine Vision Standard	GigE Vision v1.2
Camera Control	via FlyCapture SDK, or GigE Vision third party software
Camera Updates	In-field firmware updates
Lens Mount	C-mount (FL3-GE-13S2 also available with CS-mount)
Temperature	Operating: 0° to 45°C; Storage: -30° to 60°C
Humidity	Operating: 20 to 80% (no condensation); Storage: 20 to 95% (no condensation)
Compliance	CE, FCC, RoHS
Operating System	Windows 7, Linux Ubuntu
Warranty	3 years

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