# FLIR **GRASSHOPPER**<sup>®</sup>**3** GIGE VISION





\_\_\_\_\_58mm\_\_\_\_\_ **\$FLIR** 



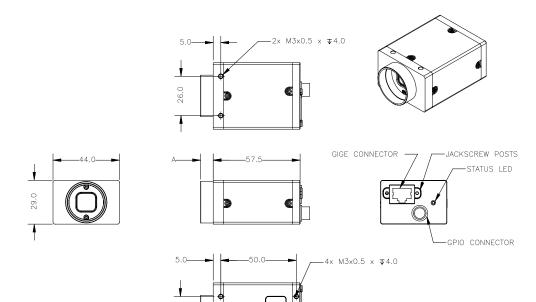
## **HIGH PERFORMANCE CCD + CMOS**

The Grasshopper3 GigE POE camera line combines large format, high resolution, CCD and CMOS sensors, with the flexible capabilities of GigE Vision and Power over Ethernet for optimal imaging performance and long cable length. It is ideal for a wide variety of demanding applications including flat panel inspection, 3D measurement, ophthalmology, life sciences and intelligent traffic systems.

## **KEY FEATURES**

- Large format sensors for exceptional imaging performance
- Power Over Ethernet for simplified setup and maintenance
- FPGA and frame buffer-based architecture for optimal reliability





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# **Specifications**

Model	Version	МР	Imaging Sensor
GS3-PGE-23S6C-C GS3-PGE-23S6M-C	Color Mono	2.3 MP	<ul> <li>Sony IMX174, 1/1.2", 5.86 µm</li> <li>Global shutter</li> <li>45 FPS at 1920 x 1200</li> </ul>
GS3-PGE-50S5C-C GS3-PGE-50S5M-C	Color Mono	5.0 MP	<ul> <li>Sony ICX625, 2/3", 3.45 μm</li> <li>Global shutter</li> <li>15 FPS at 2448 x 2048</li> </ul>
GS3-PGE-60S6C-C GS3-PGE-60S6M-C	Color Mono	6.0 MP	<ul> <li>Sony ICX694, 1", 4.54 μm</li> <li>Global shutter</li> <li>13 FPS at 2736 x 2192</li> </ul>
GS3-PGE-91S6C-C GS3-PGE-91S6M-C	Color Mono	9.1 MP	<ul> <li>Sony ICX814, 1", 3.69 μm</li> <li>Global shutter</li> <li>9 FPS at 3376 x 2704</li> </ul>

Imaging Performance	See the Imaging Performance Specification, which includes quantum efficiency, saturation capacity (full well depth), read		
(EMVA 1288)	noise, dynamic range and signal to noise ratio.		
A/D Converter	14-bit (10- and 12-bit GS3-PGE-23S6)		
Video Data Output	8, 12, 16 and 24-bit digital data		
Image Data Formats	Mono8, Mono12, Mono16 (all models) RGB, YUV411, YUV422, YUV444, 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		
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, data, and power; Power over Ethernet		
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		
GFIO	output, 2 bi-directional I/O pins		
External Trigger Modes	Standard, bulb, low smear (CCD models), overlapped, and multi shot trigger modes		
Image Buffer	128 MB frame buffer		
Memory Channels	2 user configuration sets for custom camera settings		
Flash Memory	2 MB non-volatile memory		
Dimensions	44 mm x 29 mm x 58 mm excluding lens holder, without optics (metal case)		
Mass	90 grams (without optics or tripod mounting bracket)		
Power Consumption	Power over Ethernet; <4.7 W		
Machine Vision Standard	GigE Vision v1.2		
Camera Control	Via FlyCapture SDK or third party software		
Camera Updates	In-field firmware updates		
Lens Mount	C-mount		
Temperature	Operating: 0° to 50°C; Storage: -30° to 60°C		
Humidity	Operating: 20 to 80% (no condensation); Storage: 20 to 95% (no condensation)		
Compliance	CE, FCC, KCC, RoHS		
Operating System	Windows, Linux (32- or 64-bit)		
Warranty	3 years		

#### **FLIR Integrated Imaging Solutions**

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