Grasshopper®3

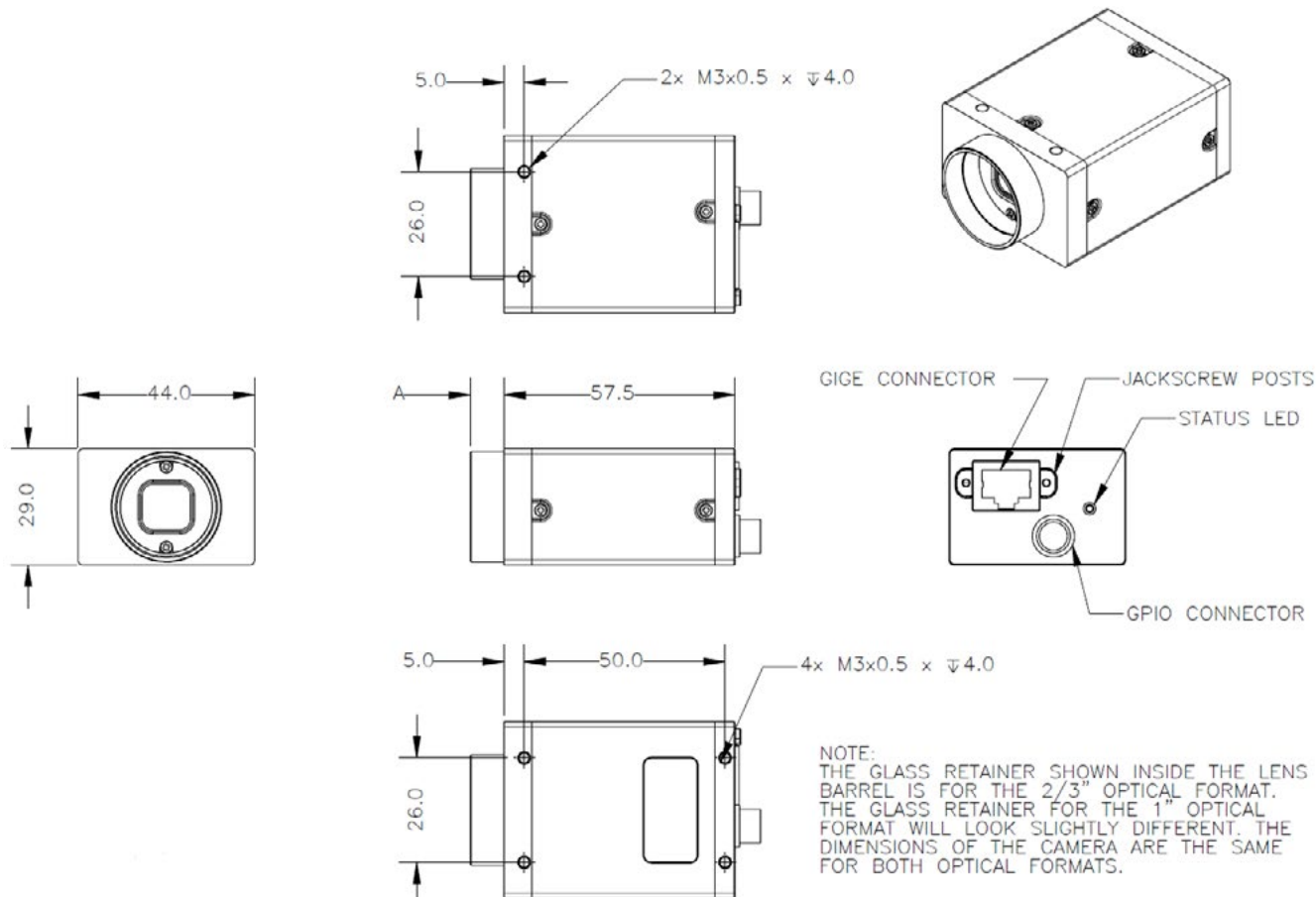**POINT GREY** · Innovation in Imaging

HIGH PERFORMANCE CCD + CMOS

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

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.

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

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	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 0.032 ms to 3.2 seconds GS3-PGE-23S6; 0.030 ms to 32 seconds GS3-PGE-50S5; 0.040 ms to 4 seconds GS3-PGE-60S6/GS3-PGE-91S6
Gain	Automatic/manual/one-push modes 0 to 24 dB GS3-PGE-23S6; -6.510 dB to 24 dB GS3-PGE-50S5; -6.158 to 24 dB GS3-PGE-60S6; -3.449 dB to 24 dB GS3-PGE-91S6
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 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

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GIGE CONNECTOR   JACKSCREW POSTS
STATUS LED

GPIO CONNECTOR

5.0 — 50.0 — 4x M3x0.5 x �4.0

26.0

NOTE:
THE GLASS RETAINER SHOWN INSIDE THE LENS
BARREL IS FOR THE 2/3" OPTICAL FORMAT.
THE GLASS RETAINER FOR THE 1" OPTICAL
FORMAT WILL LOOK SLIGHTLY DIFFERENT. THE
DIMENSIONS OF THE CAMERA ARE THE SAME
FOR BOTH OPTICAL FORMATS.

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