

Grasshopper Express™



HIGH PERFORMANCE + HIGH SPEED CCDs + COMPACT

- High speed 1394b 800 Mb/s digital interface
- Compact 44 x 29 x 58 mm case with C-mount lens holder
- Opto-isolated GPIO for industrial trigger and strobe

The new Grasshopper Express camera series features a completely new hardware platform designed to accommodate a wide range of high speed Kodak and Sony image sensors. The Grasshopper Express is housed in the same compact metal case as the original Grasshopper. The camera also comes complete with a variety of new features, including enhanced opto-isolated GPIO, new hardware trigger modes, and improved imaging performance.



Available	GX-FW-10K3M-C	1.0 MP	Kodak KAI-01050 CCD 1/2", Mono, Global Shutter	1024x1024	70 FPS	5.5 μ m
Available	GX-FW-28S5C/M-C	2.8 MP	Sony ICX674 CCD 2/3", Color/Mono, Global Shutter	1932x1452	26 FPS	4.54 μ m
Available	GX-FW-60S6C/M-C	6.0 MP	Sony ICX694 CCD 1", Color/Mono, Global Shutter	2736x2192	11 FPS	4.54 μ m

A/D Converter	14-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, 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
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	Two 9-pin IEEE-1394b interfaces for camera control and video data transmission
Transfer Rates	800 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, 14, and 15
Synchronization	Via external trigger, the IEEE 1394b bus, or free running
Shutter	Global Shutter, 0.04 ms to >1.5 seconds (extended shutter mode) Automatic/Manual/One-Push/Extended Shutter modes
Image Buffer/Memory	32 MB frame buffer; Flash Memory 1 MB
Memory Channels	2 memory channels for custom camera settings
Dimensions and Mass	44 mm x 29 mm x 58 mm excluding lens holder, without optics (metal case), 86 grams (without optics or tripod mounting bracket)
Power Consumption	8 to 30 V, ~5 W, via GPIO or 1394b interface
Camera Specification	IIDC v1.32
Camera Control	via FlyCapture SDK, CSRs, or third party software
Camera Updates	In-field firmware updates
Lens Mount	C-mount
Temperature	Operating: 0° to 40°C; Storage: -30° to 60°C
Emissions Compliance	CE, FCC, RoHS
Operating System	Vista SP1, Windows 7
Warranty	Two years