

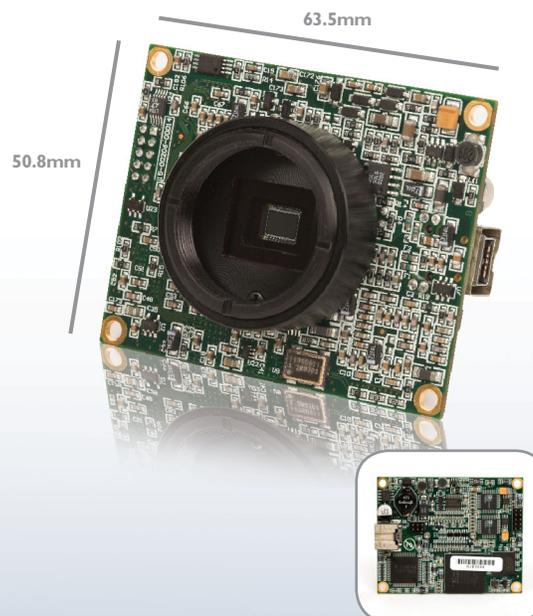
Dragonfly Express™

200 FPS + VGA + 1394B



- 1/3" Kodak® CCD, BW or Color
- Pixel binning and region of interest
- General purpose I/O, external trigger
- Case enclosed option available

The Dragonfly Express camera is an extension of the popular Dragonfly®. It has a similar form factor as the original Dragonfly, but uses a 1/3" Kodak sensor and IEEE-1394b interface to achieve fast frame rates that are ideal for vision product integration. It supports data transfer rates of 100, 200, 400 and 800Mb/s, and is fully backward-compatible with IEEE-1394a OHCI host adapters.



Models	Lense Specification
DX-BW/COL-XX	Kodak 1/3" CCD, BW or Color 640x480 at 200 FPS

Region of Interest (ROI) & Pixel Binning

The Dragonfly Express supports Format_7 custom image modes such as pixel binning and region of interest (ROI) to achieve faster frame rates and higher sensitivity.

Mode	Resolution	FPS	Description
0	640x480	200	Mode_0: Region of interest (ROI) mode, single
0	320x240	320	output or dual output, fast shutter
1	320x240	350	Mode_1: 2x2 pixel binning with dual output
2	640x240	350	Mode_2: 1x2 pixel binning with dual output

Triggering and GPIO

The camera has a 12-pin connector on the back of the case. Inputs can be configured to accept external trigger signals. Outputs can be configured to send an output signal, strobe or PWM signal.

Automatic Synchronization

Multiple Dragonfly Express cameras networked on the same IEEE-1394 bus are automatically synchronized to each other. The maximum deviation between cameras is 125µs.

Software

The FlyCapture® software development kit (SDK) is included with all Point Grey Research® Imaging Products. The SDK is designed to allow image acquisition, camera control and comes with a variety of C/C++ source code examples.

FirePRO Driver

Included in the FlyCapture® software development kit is the new FirePRO driver. The driver and the SDK provide an infrastructure for fast DMA transfer with error detection.

Gamma and LUT

The digitization of the images on the camera is done using a 10-bit analog to digital converter. The user has an option of 8-bit or 16-bit output from the camera. 10-bit data can be gamma corrected when 8-bit output is used. Lookup table support (LUT) is also available for custom mapping of image values.

Dragonfly Express™ Specifications

Specification	Low-Res (640x480)	
Image Sensor Type	Kodak® KAI-0340DM/C 1/3" progressive scan interline CCD	
Resolution	640x480 Color or BW	
Frame Rates	200 (Format_7 Mode_0), 120, 60, 30, 15, 7.5, 3.75, 1.875 FPS	
A/D Converter	Two Analog Devices 10-bit A/D converters	
Video Data Output	8 bits per pixel / 10 bits per pixel digital data	
Partial Image Modes	Pixel binning and region of interest modes via Format_7	
Interfaces	9-pin IEEE-1394b for camera control and data transmission 4 general purpose digital input/output pins	
Power Requirements	8-30V	
Gain	Automatic/Manual modes at 0.035dB resolution -6dB to 30dB	
Shutter	Automatic / Manual modes 20 µs to 16.66 ms @ 60Hz	Extended shutter modes up to 63s
Trigger Modes	DCAM v1.31 Trigger Modes 0,1,3, 14 (overlapped trigger/transfer)	
Signal To Noise Ratio	Greater than 60 dB	
Dimensions	63.5mm x 50.8mm x 13.15mm (bare board w/o optics)	
Mass	25 grams (bare board w/o optics or case)	
Camera Specification	IIDC 1394-based Digital Camera Specification v1.31	
Emissions Compliance	Complies with CE rules and Part 15 Class A of FCC Rules	
Operating Temp.	Commercial grade electronics rated from 0° to 45°C	
Storage Temperature	-30° to 60°C	

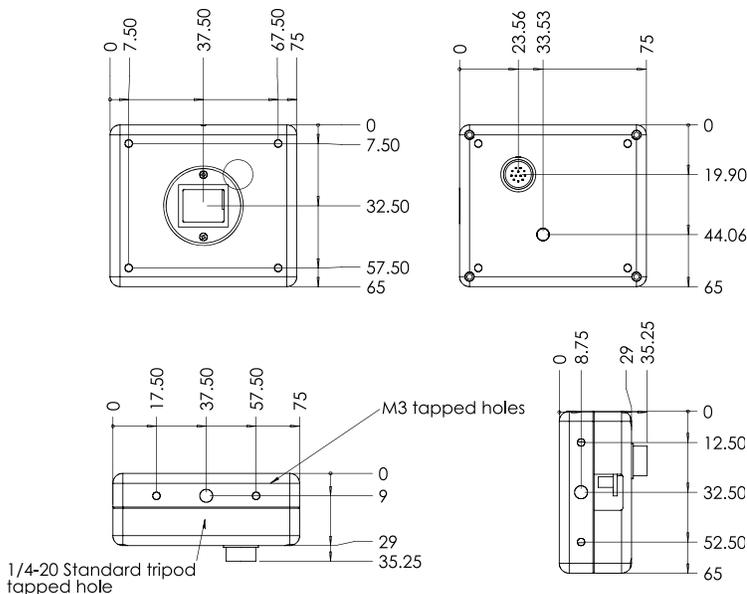
Development Kit (DR2-DEVKIT) Includes:

- 5mm spacer for use with C-mount lens
- 4.5 meter, 9-pin to 9-pin, IEEE-1394b cable
- IEEE-1394b OHCI PCI Host Adapter 3 port-800Mbps card
- Hirose 12-pin male GPIO connector
- FlyCapture® SDK (C/C++ API and device drivers) CD

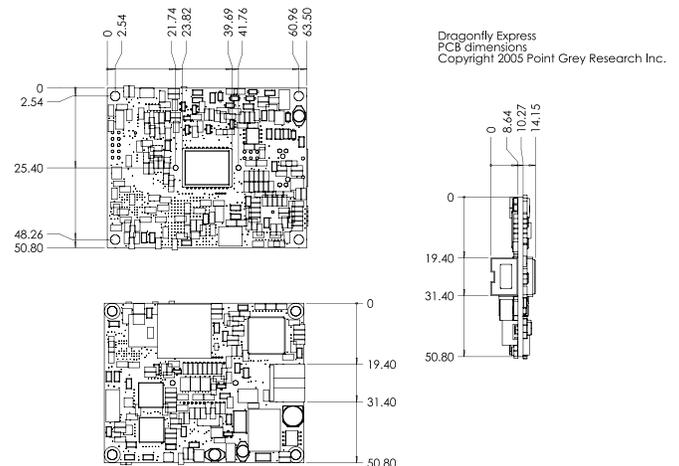
Recommended System Configuration:

- Windows® XP Service Pack 1
- 512MB of RAM
- Intel® Pentium 4 2.0GHZ or compatible processor
- APG video card with 128MB video memory
- Microsoft® Visual C++ 6.0 for software development
- 64-bit PCI or PCI-X slot (32-bit slot required)

Case enclosed Dragonfly Express™



Board level Dragonfly Express™



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