

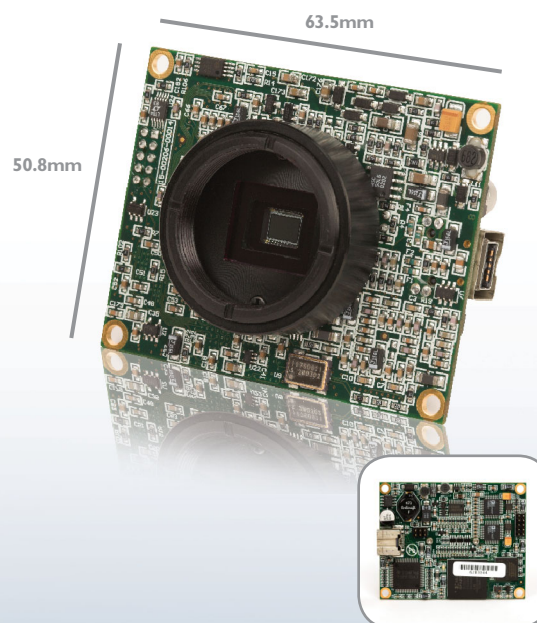
# Dragonfly Express™

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 $\mu$ s 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	

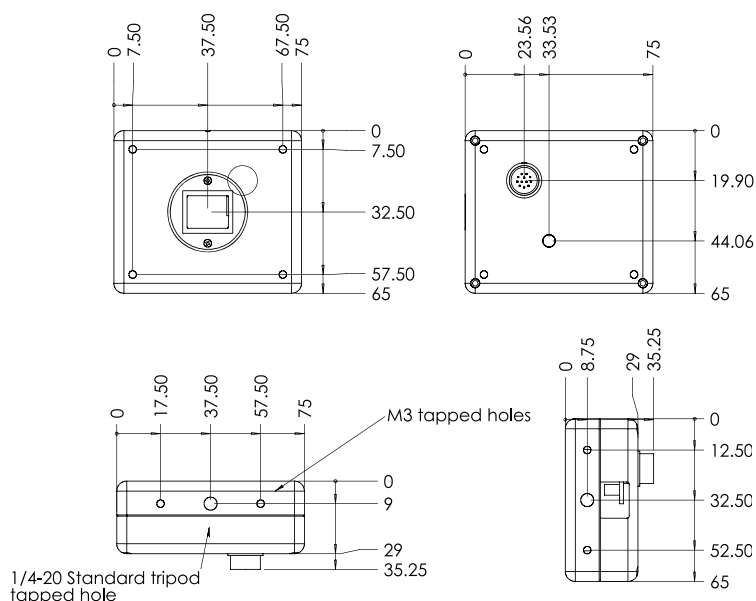
## Development Kit (DR2-DEVKIT) Includes:

- 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

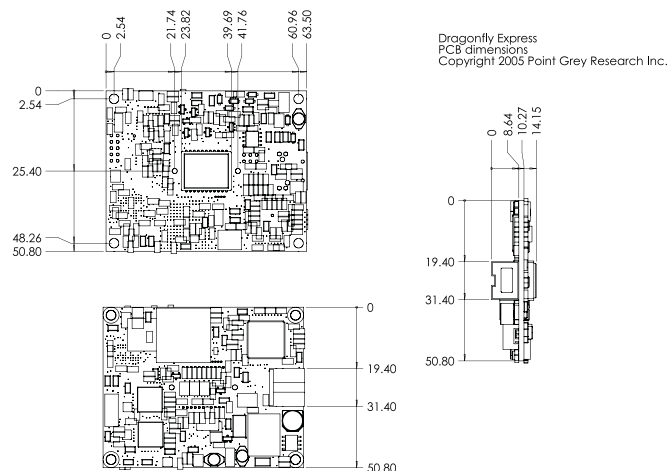
## Recommended System Configuration:

- 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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