POINT GREY
Innovation in Imaging

Will your system support the camera?

Recommended System Configuration:

- **OS**—Windows 7 32- or 64-bit
- **CPU**—Intel Core i3 3.1 GHz or equivalent
- **RAM**—2 GB
- **Video**—NVIDIA GeForce6 128 MB RAM
- **Ports**—PCIe 2.0 compatible host controller with USB 3.0 connector
- **Software**—Microsoft Visual Studio 2005 SP1 and SP1 Update (to compile and run example code)

See Knowledge Base Article 368 for information on recommended and unsupported system components for USB 3.0.

Do you have a downloads account?

The Point Grey downloads page has many resources to help you operate your camera effectively, including:

- Software (required for installation)
- Drivers (required for installation)
- Firmware updates and release notes
- Dimensional drawings and CAD models
- Documentation

To access the downloads resources you must have a downloads account.

1. Go to the Point Grey downloads page.
2. Under **Register (New Users)**, complete the form, then click **Submit**.

After you submit your registration, you will receive an email with instructions on how to activate your account.

Do you have all the parts you need?

To install your camera you will need the following components:

- Interface card
- USB 3.0 cable
- 8-pin GPIO connector
- CS-mount (or C-mount with adaptor)/C-mount (FL3-U3-13Y3) Lens

Point Grey sells a number of the additional parts required for installation. To purchase, visit the Point Grey Webstore or the Products Accessories page.

For More Information

For more information about...	See...
Your camera's settings and capabilities	Technical Reference Manual
Using the FlyCap demo program	the Online Help included with the tool
Accessing customer downloads	Knowledge Base Article 35
Selecting a lens	Knowledge Base Article 345
Troublesome Hardware Configurations	Knowledge Base Article 21
Camera Not Recognized/Not Listed in Device Manager	Knowledge Base Article 91

The FlyCapture SDK help and other technical references can be found in the **Programs>Point Grey Research>PGR FlyCapture>Documentation** directory. Our online Knowledge Base also addresses many problems.

Camera Interface

USB 3.0 Connector

The camera is equipped with a USB 3.0 Micro-B connector that is used for data transmission, camera control and power. For more detailed information, consult the USB 3.0 specification available from http://www.usb.org/developers/docs/.

General Purpose I/O Connector

The camera has an 8-pin GPIO connector on the back of the case; refer to the diagram for wire color-coding.

Diagram	Pin	Function	Description
	1	IO0	Opto-isolated input (default Trigger in)
	2	IO1	Opto-isolated output
	3	IO2	Input/Output/serial transmit (TX)
	4	IO3	Input/Output/serial receive (RX)
	5	GND	Ground for bi-directional IO, V_{EXT}, +3.3 V pins
	6	GND	Ground for opto-isolated IO pins
	7	V_{EXT}	Allows the camera to be powered externally
	8	+3.3 V	Power external circuitry up to 150 mA
To configure the GPIO pins, consult the General Purpose Input/Output section of your camera's Technical Reference Manual.			

Status Indicator LED

LED Status	Description
Off	Not receiving power
Steady green	Camera receiving power (~3 seconds)
Flashing yellow	Initializing FPGA (~1 second)
Steady yellow	FPGA initialized (~1 second)
Steady yellow-green	Sensor powered
Steady bright green	Acquiring and transmitting images
Flashing bright, then brighter green	Camera registers being accessed (no image acquisition)
Steady red	Temporary camera problem
Slow flashing red	Serious camera problem

Camera Care

To clean the imaging surface of your camera, follow the steps outlined in Knowledge Base Article 66.

Extended exposure to bright sunlight, rain, dusty environments, etc. may cause problems with the electronics and optics of the system.

Avoid excessive shaking, dropping, or mishandling of the device.

Do not open the camera housing. Doing so voids the Hardware Warranty.
Avoid electrostatic charging. For more details, consult Knowledge Base Article 42.

Contacting Point Grey Research

For all general questions please contact us at info@ptgrey.com.

For technical support (existing customers only) contact us at www.ptgrey.com/support/contact/.

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Mailing Address:
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12051 Riverside Way
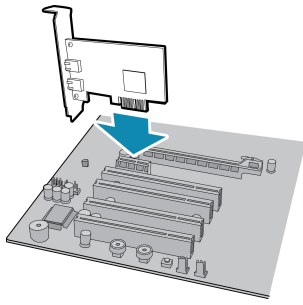Richmond, BC, Canada V6W 1K7

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Installing Your Interface Card and Software

1. Install your Interface Card

Ensure the card is installed per the manufacturer's instructions.

Alternatively, use your PC's built-in host controller, if equipped.

Open the Windows Device Manager. Ensure the card is properly installed under **Universal Serial Bus Controllers**. An exclamation point (!) next to the card indicates the driver has not yet been installed.

2. Install the FlyCapture® Software

For existing users who already have FlyCapture installed, we recommend ensuring you have the latest version for optimal performance of your camera. If you do not need to install FlyCapture, use the DriverControlGUI to install and enable drivers for your card.

a. Login to the Point Grey downloads page.

b. Select your **Camera Family** and **Operating System** from the drop-down lists and click the **Search** button.

c. Click on the **Software** search results to expand the list.

d. Under **FlyCapture v2x**, click the appropriate link to begin the download and installation.

After the download is complete, the FlyCapture setup wizard begins. If the wizard does not start automatically, double-click the .exe file to open it. Follow the steps in each setup dialog.

3. Enable the Drivers for the card

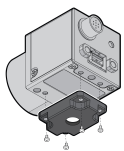During the FlyCapture installation, you are prompted to select your interface driver.

In the **Interface Driver Selection** dialog, select the **I will use USB cameras**.

For optimal performance, after setup, we recommend configuring the pgrxhci (UsbPro) driver on the host controller to operate directly with the camera.

To uninstall or reconfigure the driver at any time after setup is complete, use the DriverControlGUI .

Installing Your Camera

1. Install the Tripod Mounting Bracket

The ASA and ISO-compliant tripod mounting bracket attaches to the camera using the included metal screws.
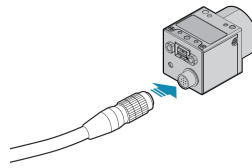
🚫 *Cameras with metal cases should use metal screws; cameras with plastic cases should use plastic screws. Using improper screws may cause damage to the camera.*

2. Attach a Lens

For FL3-U3-13S2/FL3-U3-32S2: Unscrew the dust cap from the CS-mount lens holder to install a lens. Note: the camera can be used with a removable 5 mm C-mount adapter.

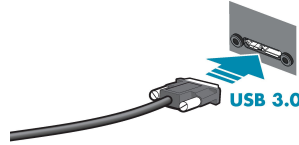For FL3-U3-13Y3: Unscrew the dust cap from the C-mount lens holder to install a lens.

3. Plug in the GPIO connector

GPIO can be used for power, trigger, pulse width modulation, serial input output, and strobe.

The wiring harness must be compatible with a Hirose HR25 8-pin female GPIO connector.

4. Connect the interface Card and Cable to the Camera

Plug the interface cable into the host controller card and the camera. The cable jack screws can be used for a secure connection.
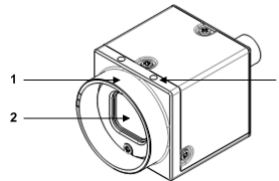
USB 3.0

5. Confirm Successful Installation

Check Device Manager to confirm that installation was successful.
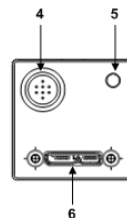
a. Go to the **Start menu**, select **Run**, and enter **devmgmt.msc**. Verify the camera is listed under "**Point Grey Research Devices**."

b. Run the FlyCap2 program: **Start-> Point Grey Research->FlyCapture2->FlyCap2**
The FlyCap2 program can be used to test the camera's image acquisition capabilities.

Changes to your camera's installation configuration can be made using utilities available in the FlyCapture2 SDK.
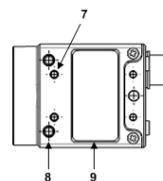
Physical Description

1. **Lens holder**
2. **Glass/IR filter system**
3. **M2x2 mounting holes**

4. **General purpose I/O connector**
5. **Status LED**
6. **USB3 connector**

7. **M2x2 mounting holes**
8. **M3x2.5 mounting holes**
9. **Camera label**

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