GETTING STARTED

Will your system support the camera?

Recommended System Configuration:

- **OS**—Windows, Linux (32- and 64-bit)
- **CPU**—Intel Core 2 Duo, or equivalent
- **RAM**—2 GB RAM
- **Video**—128 MB
- **Ports**—PCIe 2.0 compatible host controller with USB 3.1 connector
- **Software**—Microsoft Visual Studio 2010 (to compile and run example code)

See Technical Application Note 10359 for information on recommended system components for USB 3.0.

Do you have a downloads account?

Our downloads page has many resources to help you operate your camera effectively, including:

- Software, including 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 our website: www.flir.com/iis.
2. In the upper right corner, click **Register**.
3. Complete the form, then click **Register**.

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:

- USB 3.1 cable
- Lens
- Tripod adapter (optional)
- Interface card

FLIR sells a number of the additional parts required for installation. To purchase, visit our Accessories page.

Camera Care

To clean the imaging surface of your camera, follow the steps outlined in Knowledge Base Article 10243.

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.

> **Warning!** Do not open the camera housing. Doing so voids the Hardware Warranty.
> Avoid electrostatic charging.

Installing Your Interface Card and Software

1. Install your Interface Card
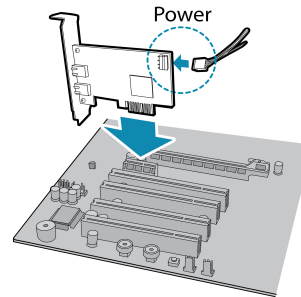
Ensure the card is installed per the manufacturer's instructions.

Connect the internal IDE or SATA power connector on the card to the computer power supply.

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

> **Note:** 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 our downloads page.
b. Select your **Camera** 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. 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 installation, you are prompted to select your interface driver.

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

This selection ensures the pgrxhci (USBPro) and pgrusbcam drivers are installed.

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

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Installing Your Camera

1. Install the Tripod Mounting Bracket (optional)

The ASA and ISO-compliant tripod mounting bracket attaches to the camera using the included metal screws.

2. Attach a Lens

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.

3. Connect the interface Card and Cable to the Camera
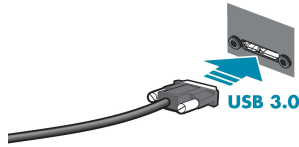
Plug the interface cable into the host controller card and the camera. The cable jack screws can be used for a secure connection.

USB 3.0

4. Plug in the GPIO connector

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 FlyCap program: **All Programs->Point Grey FlyCapture2 SDK-> FlyCap**

The FlyCap 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 FlyCapture SDK.

Camera Interface

USB 3.1 Connector

The camera is equipped with a USB 3.1 Micro-B connector that is used for power, data transmission, and camera control. For more detailed information, consult the USB 3.1 specification available from http://www.usb.org/developers/docs/.

General Purpose I/O Connector

The camera has a 9-pin GPIO connector of the back of the case; refer to the diagram for wire color-coding.

Diagram	Color	Pin	Function	Description
	Red	1	V_{EXT}	Allows the camera to be powered externally 5 - 24 VDC
	Black	2	GND	Ground for Input/Output, V_{EXT}, +3.3 V pins
	White	3	+3.3 V	Power external circuitry fused at 150 mA maximum
	Green	4	GPIO3 / Line3	Input/Output/Tx
	Purple	5	GPIO2 / Line2	Input/Output/Rx
	Black	6	GND	Ground for Input/Output, V_{EXT}, +3.3 V pins
	Brown	7	OPTO_ GND	Ground for opto-isolated IO pins
	Orange	8	OPTO_ OUT / Line1	Opto-isolated output
	Yellow	9	OPTO_IN / Line0	Opto-isolated input
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	Receiving power
Flashing yellow/Steady yellow	Initializing FPGA
Steady yellow-green	Sensor powered down Insufficient power
Steady bright green	Acquiring and transmitting images
Flashing bright, then brighter green	Accessing camera registers (no image acquisition)
Flashing green and red	Updating firmware
Flashing red	Temporary problem
Steady red	Serious problem

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 10142
Selecting a lens	Knowledge Base Article 10269
Recommended and unsupported system components for USB 3.1	Technical Application Note 10359
Using USB 3.1 and Linux	Technical Application Note 10685
Setting up multiple USB 3.1 cameras	Technical Application Note 10350

The FlyCapture SDK help and other technical references can be found in:
 All Programs>Point Grey FlyCapture2 SDK>Documentation

Our online Knowledge Base addresses many questions.

Contacting Us

For general questions and sales inquiries contact us at mv-sales@flir.com

For technical support contact us at www.ptgrey.com/support/ticket/

www.flir.com/iis

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