

Will your system support the camera?

Recommended System Configuration:

- **OS**—Windows or Linux (32- or 64-bit)
- **CPU**—3.1 GHz or equivalent
- **RAM**—4 GB
- **Ports**—GigE
- **Software**—Microsoft Visual Studio 2010, Visual Studio 2013, or Visual Studio 2015 (to run and compile example code)

Do you have a downloads account?

The [downloads](#) page has many resources to help you operate your camera effectively, including:

- Spinnaker[®] SDK software, including drivers (required for installation)
- Firmware updates and release notes
- Dimensional drawings and CAD models
- Documentation

To access the software and firmware downloads 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:

- Ethernet cable and Powered Ethernet switch or Ethernet power injector (if using PoE)
- TF38 to FPC RJ45 PoE panel mount adapter
- Heatsink (recommended)
- FPC cable
- 6-pin GPIO cable
- Lens mount and lens
- Interface card

FLIR sells a number of the additional parts required for installation. To purchase, visit the [Accessories page](#).

Camera Care

To clean the imaging surface of your camera, follow the steps outlined in [Knowledge Base Article 10243](#).

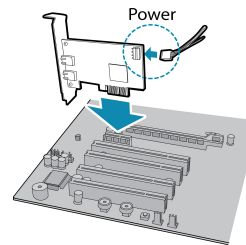
Extended exposure to bright sunlight, rain, dusty environments, etc. may cause problems with the electronics and optics of the system.

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

Warning! 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. Ethernet cards appear under **Network Adapters**. An exclamation point (!) next to the card indicates the driver has not yet been installed.

2. Install the Spinnaker[®] Software

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

- a. Login to the [Downloads page](#).
- b. Select your **Product Family**, **Camera Model** and **Operating System** from the drop-down lists.
- 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 Spinnaker 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.

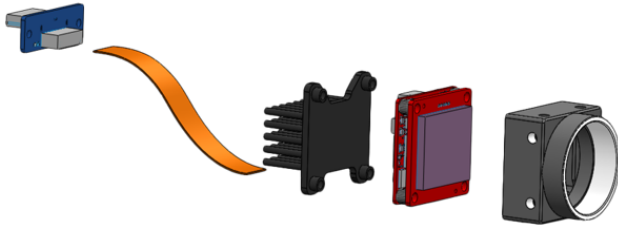
3. Enable jumbo frames

- a. In **Start->All Programs-> Point Grey Spinnaker SDK->SpinView**, right click on the Network Adapter and select Adapter Configuration, then select IP Configuration.
- b. Click Open Network Connections.
- c. Click Change Settings.
- d. Click on the Advanced tab and from the Settings list select Jumbo Packet.
- e. Set the Value to 9014 Bytes and click OK.

Using the Spinnaker[®] SDK

You can monitor or control features of the camera through Spinnaker API examples provided in the Spinnaker SDK, or through the SpinView camera evaluation application. A *Programmer's Guide and API Reference* is included in the installation.

Installing Your Blackfly S



1. Install the lens mount.

The board-level models can use C-mounts, CS-mounts, or S-mounts.

2. Install a heat sink.

A heatsink is recommended but depends on your design and usage.

3. Connect the FPC cable to the panel mount adapter then connect the adapter to the interface card.

A TF38 to FPC RJ45 PoE panel mount adapter allows a GigE cable connection to a PC.

4. Attach a Lens

5. Plug in the GPIO connector if required

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

6. Confirm Successful Installation

When the camera is first connected, the operating system automatically installs the camera driver. Camera drivers are available with the Spinnaker SDK installation.

Run the SpinView application: **Start->All Programs-> Point Grey Spinnaker->SpinView**

The SpinView application can be used to test the camera's image acquisition capabilities.

Changes to your camera's installation configuration can be made using the SpinView application.

Status Indicator LED

LED	GigE
No Light	No power or LED is in inactive state or LED is in error status state with no error
Blinking Green (1 blink)	Persistent IP Address
Blinking Green (2 blinks)	DHCP IP Address
Blinking Green (3 blinks)	Link-Local Address (LLA)
Solid Green	Acquisition Started
Rapid Flashing Green	Firmware update in progress
Flashing Green and Red	General Error

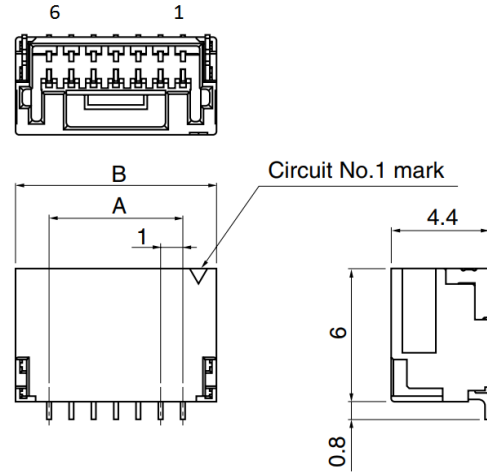
Camera Interface

Ethernet Connector

The camera is equipped with a GigE TF38 connector that is used for data transmission, camera control, and power.

General Purpose I/O Connector

The camera is equipped with a 6-pin GPIO connector on the back of the case.



Note: Diagram is for reference only. Actual number of pins is 6.

Color	Pin	Line	Function	Description
Orange	1	0	GPIO0	Non-isolated Input/Output
Black	2	1	GPIO1	Non-isolated Input/Output
White	3	2	GPIO2	Non-isolated Input/Output
Green	4	N/A	VExt	Camera Input Power
Brown	5	N/A	GND	Camera Power Ground
Red	6	N/A	Vout	Camera Power Output

For More Information

Our online [Knowledge Base](#) addresses many questions.

For information about...	See...
Your camera's settings and capabilities	Technical Reference
Spinnaker® SDK	API Reference / Programmer's Guide
Accessing customer downloads	Knowledge Base Article 10142
Selecting a lens	Knowledge Base Article 10269
Setting Up Multiple GigE Cameras	Technical Application Note 10351
Using Third-party Applications	Software Partners page

Contacting FLIR

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