TELEDYNE

GETTING STARTED

BLACKFLY® S BOARD-LEVEL CAMERAS

GigE Vision

Will your system support the camera?

- **OS, CPU, RAM**—dependent on SDK requirements
- **Ports**—GigE network adapter
- **Software**—Microsoft Visual Studio to run/compile example code

Do you have all the parts you need?

Teledyne FLIR IIS sells a number of the additional parts required for installation. Visit our Accessories page.

To install your camera you need the following components:

- Interface card
- GPIO cable
- Lens (type of lens mount is model dependent)
- Tripod adapter (optional)
- TF38 to FPC RJ45 PoE panel mount adapter
- FPC cable
- Lens mount
- Heatsink (recommended)

Have you visited our website?

A downloads account is required to download software and firmware.

1. Go to the Teledyne Vision Solutions website.
2. Enter your email address and click Continue.
3. Complete the Create an account form and click Continue.
4. You will receive an email with a link to activate your account.
5. Once activated, you can login using your credentials.

The Blackfly S Board-level camera resources page has many links to help you operate your camera effectively, including:

- Knowledge Base articles
- Spinnaker® SDK software, including drivers and Firmware updates and release notes (login required)
- Documentation and dimensional drawings / CAD models

For More Information

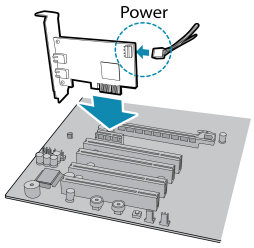
Teledyne FLIR IIS endeavors to provide the highest level of technical support possible to you. Support resources can be accessed through:

Blackfly S Board-level Camera Resources and Support

Your camera's settings and capabilities—Technical Reference or Camera Reference
Spinnaker® SDK—API Reference / Programmer's Guide
Selecting a lens for your camera
Setting Up Multiple GigE Cameras
Using third-party applications from our software partners

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® SDK 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. Go to the Spinnaker SDK Download page. If you are not already logged in, you are prompted to login.
b. Click the Download Now button.
c. Select your operating system and version.
d. After download is complete, open the file to start the Spinnaker setup wizard.
e. Follow the steps in each setup dialog.

3. For GigE cameras—Optimize the settings of your Ethernet card

a. In **Start→Teledyne Spinnaker SDK→SpinView**, right click on the Network Adapter and select Adapter Configuration. The Adapter Config Utility lists your network adapters and allows you to access the following:

- Adapter IP address
- Subnet mask
- Default gateway
- Receive buffers
- Transmit buffers
- Jumbo packets
- RSS
- Media optimization
- CPU affinity

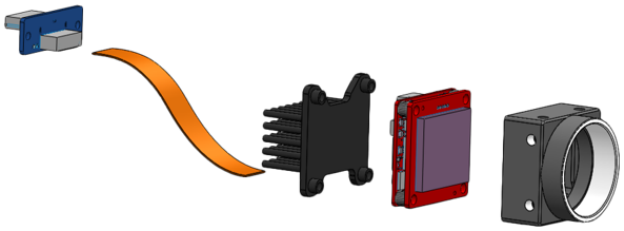
Note: See How to Optimize GigE Network Adapter Settings for more information on configuring for best performance.

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.

8/19/2025

Installing Your Blackfly S Board-level



1. Prepare the lens mount.

The board-level models can use C-mounts, CS-mounts, or S-mounts.
For C- and CS-mounts, install the retainer, flip over and place IR filter in it then install the gasket.

2. Remove sticker and install lens mount.

The sensor is covered with a protective sticker. Remove the sticker. If any residue is present, clean the sensor surface with a non-abrasive cotton swab and isopropyl alcohol cleaning solution. Immediately install the image board over the prepared lens mount.

3. Install a heat sink.

A heatsink (ACC-01-7000) is recommended but depends on your design and usage.

4. 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.

5. Attach a Lens

6. Plug in the GPIO connector if required

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

7. 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→Teledyne Spinnaker SDK→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)	Link-Local Address (LLA)
Blinking Green (2 blinks)	DHCP IP Address
Blinking Green (3 blinks)	Persistent IP Address
Solid Green	Acquisition Started
Solid Red	Link down
Rapid Flashing Green	Firmware update in progress
Flashing Green and Red	General Error

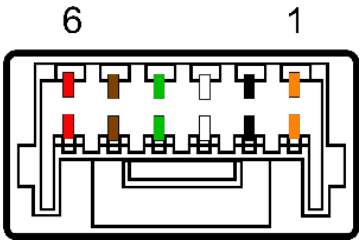
Camera Interface

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.



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

Camera Care

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

Warning! Avoid electrostatic charging.

Contacting Teledyne FLIR IIS

For any questions, concerns or comments please contact us:

Email	General questions
Support Ticket	Technical support
Support Forum	Teledyne FLIR IIS Community
Website	Find specifications, articles, and downloads: Teledyne FLIR IIS

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