

# Andor CB2

## Quick Start Manual

Andor CB2\_Quick Start\_20250205





# Thank you for choosing Andor CB2!

Andor CB2 features and performance are described in details in its User Manual, that you can find on the USB key provided with your camera or our website : <https://andor.oxinst.com/downloads/>.  
For any question, please contact our support team at [fli-support@oxinst.com](mailto:fli-support@oxinst.com)

## 1. WARNINGS

 ***Your camera contains fragile components, handle it with care.***

 ***Do not open the camera, your warranty will be void.***

 ***Always use the supplied power unit.***

 ***Always follow the instructions of use.***

## 2. SYMBOLS AND INDICATIONS

Please read this Quick Start guide and the following definitions carefully to understand the potential dangers and the precautions to take.

Please refer to the User Manual if a WARNING symbol is marked on the camera.



The CE marking indicates the conformity of the camera to the European legislation



This pictogram indicates a direct current operation



This pictogram invites the user to refer to the instructions / user manual



This pictogram refers to indoor use





This pictogram refers to Protection class category 1



This pictogram indicates that the product is compliant with the RoHS limitation

## 3. DISPOSAL

 **DO NOT** throw the camera in municipal waste. This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

 **DO NOT** throw the Li-ion button cell battery in municipal waste. This symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

***In case of disposal, do not throw your camera in waste disposal and send it back to First Light Imaging.***

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## 4. WARNINGS

### 4.1. General warnings

The equipment must be plugged on an electrical wiring compliant with the relevant standards in the country (in France: NFC 15-100). This wiring must be protected from overcurrent, overvoltage, and ground defaults.

Connected equipment must be compliant with the EN 60950-1 Ed.2006 standard, or to their own standards.

The power cable plug serves as a disconnecting device and should be easily accessible.

Do not place the equipment close to a heating source or a humidity source.

The security of the system which integrates the equipment is the responsibility of the system assembler only.

For your safety, the equipment must be **TURNED OFF AND UNPLUGGED** before any technical intervention.

The security provided with this equipment is only guaranteed with use in accordance with the specified purpose. Only use the provided (MEAN WELL USA Inc, model GST60A12-P1J) power supply.

#### 4.1.1. Never open your camera

Never attempt to open your camera. There are indicators inside the camera, if you try to open it your warranty will be void.

#### 4.1.2. Cooling water

If you are using water cooling, make sure that the cooling system is properly connected before turning the camera on. Please check that no leaks are visible.

## 5. TECHNICAL AND OPERATIONAL SPECIFICATIONS

<b>Power requirements</b>	Voltage	100 – 240 VAC
	Frequency	50 – 60 Hz
<b>Dimensions</b>	Length (CXP version)	183.63 mm
	Length (GigE version)	180.37 mm
	Width	93 mm
	Height	77.5 mm
<b>Operation conditions</b> (non-condensing condition)	Weight	1.3 kg
	Maximum temperature	60°C
	Minimum temperature	-40°C
<b>Storage conditions</b>	Humidity	95% non-condensing
	Maximum temperature	85°C
	Minimum temperature	-20°C
	Humidity	Non-condensing

## 6. CONTENTS OF PACKAGE\*



### 6.1. Andor CB2 Camera Pack

Items	Quantity
Camera	1
Power supply	1
Power cord (IEC / NEMA / other)	1
Quick Coupling set (for hydraulic cooling)	1
Zebra GigE Vision dongle (for GigE Vision cameras)	1
Press button tool (cf. rescue software)	1
Quick Start Manual	1
USB key (User manual, software and camera test report)	1

### 6.2. Accessories

Accessories can be ordered separately. Please contact your sales representatives for details and pricing of the items and accessory packs. Other references may be compatible, with respect of the minimum requirements (please refer to the User Manual)

Items	Quantity
TFL-Mount adapter (only for Andor CB2 24B cameras)	1
GigE Vision Ethernet Acquisition pack containing 4 SFP+ cages, 2 cables and a dual 10Gb/s network card (for GigE Vision cameras)	1
GigE Vision Fiber Acquisition pack containing 4 SFP+ cages, 2 fibers of 10m and a dual 10Gb/s network card (for GigE Vision cameras)	1
Ethernet network cables	2
Fiber optic cables	2
Zebra quad CXP Acquisition pack containing 4 CXP cables of 5m and a grabber 4 CXP	1
Coax cables	4
Synchro cables	1
Cooling pack	1
Personal computer	1

\* Items may differ from pictures.

# 7. CAMERA DESCRIPTION AND START UP

Please refer to the following figure and follow the order listed below, before connecting your camera:



## 7.1. Data connection

### 7.1.1. Overview

The camera is available in two versions: CoaXPress® or GigE Vision.

### 7.1.2. CoaXPress®

#### 7.1.2.1. Connectors

The CoaXPress® protocol uses 75 Ω coaxial cables. The CoaXPress® 2.0 interface requires four cables with male HD-BNC connectors (also known as Micro BNC).

#### 7.1.2.2. Recommended frame grabbers

Andor CB2 is compatible with CoaXPress® 2.0 frame grabbers.

However, please note that our cameras have been developed and tested with specific grabbers, and we highly recommend using these grabbers.

- Zebra® Rapixo CXP (quad CXP-12)
- Euresys Coaxlink Quad CXP-12

For more information, please refer to the Andor CB2 User Manual.

### 7.1.3. GigE Vision

#### 7.1.3.1. Connectors

The GigE Vision connection with the camera is done through one SFP + cage compatible with 10 Gbit SFP+ RJ45 or 10 Gbit SFP+ optical modules at the user's convenience. Support for two GigE Vision links will come later.

### 7.1.3.2. Standard compliancy

Andor CB2 successfully passed the GigE Vision test suite and should be compatible with any GigE Vision Application and GVSP Receiver.

However, please note that our cameras have been developed and tested with Zebra® GigE Vision application, used for camera control and image acquisition.

## 7.2. Ethernet connection

Please refer to the User Manual.

## 7.3. I/O port

Please refer to the User Manual.

# 8. POWERING UP/DOWN

## 8.1. Power ON and camera connection:

The camera turns on when power is applied on the LEMO® connector.

The camera does not support Power over CXP (PoCXP).

## 8.2. Power OFF and camera disconnection:

Please use the register "DeviceShutdown" before unplugging the camera. The shutdown is recommended (especially to store the latest logs), however, the direct switch off will not damage the camera.

Unplug all power cables (CXP cables or LEMO® connector power cable).

If you use LEMO® cable, first unplug the power supply from the line plug, then unplug the LEMO® CONNECTORS cable from the camera.

# 9. CAMERA CONTROL

## 9.1. First Light Imaging Graphical User Interface software

The Graphical User Interface (GUI) demo software is provided in the USB key supplied with the Andor CB2 camera, or available on the website. It is a dedicated interface developed by First Light Imaging which allows to control almost all the parameters of the camera. Please refer to the GUI user manual.

## 9.2. Software Development Kit

A Software Development Kit (SDK) is also provided with your camera.

It will allow developers to code their own interface to control the camera. The source code of a demo software is provided in C/C++, and additional example codes are provided in several languages.

Please refer to the SDK User Manual.

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## 9.3. Camera status

Once the camera is properly powered up the system boots and the camera is ready to operate. A white or purple diode signal, visible through the camera's body holes, confirms the operability.

Camera status	Camera LED indication	Description
Operational	●	Purple blink The camera is operational
Operational cooling	○	White blink The sensor is being cooled
Operational throttling	●●	Double purple blink The camera cannot reach the target temperature
Safe	●	Red blink An error has been detected. The detector is turned off. The camera needs to be rebooted.

## 10. Andor CB2 OPERATION

Andor CB2 can operate in full frame or in cropping mode.

### 10.1. Integration/readout function

The minimum frame rate of 0.0001 frame/s, allows a maximum exposure duration up to 10000 s. In full frame (5328x4608), the maximum obtainable framerate is :

- 106 frames/s in 8-bits format and 74 frames/s in 12-bits format for Andor CB2 CXP.
- 48 frames/s in 8-bits format and 32 frames/s in 12-bits format for Andor CB2 SFP (GigE).

### 10.2. Sensitivity scale mode

The sensor has a configurable gain up to 48 dB:

- 0 dB to 24 dB : Analog Gain (0.1 dB step)
- 24.1 dB to 48 dB : Digital Gain (0.1 dB step)

Analog gain has the advantage of reducing noise. When digital gain is applied, pixels values are multiplied without any effect on noise value.

## 11. PRECAUTIONS

Andor CB2 is a high-end scientific instrument and should not be exposed to shocks, extreme temperatures, humidity, dusty environment, and static shocks.

If this equipment is used in a manner not specified by the manufacturer the protection provided by the equipment may be impaired and the warranty will not be applicable.

Your Andor CB2 is an electronic equipment that requires precaution regarding static shocks. Electrostatic Discharge (ESD) is dangerous for the camera. We recommend you follow these rules:

- Any electronic equipment that must be connected to Andor CB2 should be fitted with appropriate protection on all power lines.
  - Any connected equipment should be powered off before removing any connection between the computer and Andor CB2.
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## 12. MAINTENANCE

### 12.1. Cleaning of window

The camera is cleaned in a controlled environment before shipping.

To avoid having to clean the window, make sure you protect the camera from dirt and finger marks. Always cover the camera with a cap.

The window can be cleaned with dry soft cloth. Please avoid touching the glass window.

You can also use clean cloth dampened with ethanol and gently wipe the window.

Never use an unclean cloth to wipe the window of the camera.

Please contact us at [fli-support@oxinst.com](mailto:fli-support@oxinst.com) before cleaning the camera.

### 12.2. Storage

When not in use, please store your camera in a dry place, in its box. Please refer to the user manual.



## 13. CONTACTS

### 13.1. For the USA:

FIRST LIGHT IMAGING Corp.  
185 Alewife Brook Parkway, Ste 210  
Cambridge, MA 02138  
USA

Tel.: + 33 4 42 61 29 20  
E-mail: [fli-support@oxinst.com](mailto:fli-support@oxinst.com)  
Website: <https://andor.oxinst.com/>

### 13.2. For the rest of the world:

FIRST LIGHT IMAGING SAS  
Europarc Sainte Victoire, Bât. 5  
Route de Valbrillant, Le Canet  
13590 Meyreuil  
France

Tel.: + 33 4 42 61 29 20  
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# Notes

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