iXon Ultra & Life 897 Quick Start Guide

2 Unpack the Camera

Camera	Essentials			Cables		
iXon Ultra or Life 897 EMCCD Camera (model as ordered)	USB 2.0 PCIe Card	Coolant Pipes water cooled models only	Mounting Posts	USB 2.0 Cable	Power Supply	Country Specific Power Cord
	Documentation scan or visit: **andor.oxinst.com/ welcome**	Software (copy supplied)	C-mount cap (including O-ring)	Multi I/O Timing Cable	Anti-Static Strap	

1 Prepare your Facility

Handle the camera and accessories with care.

Use correct power supply and cables.

Observe anti-static precautions when installing the camera.

Store between -25˚C and 50˚C.
Operate between 0˚C and 30˚C.

Ensure 100 mm clearance around camera and power supply vents (Do **not** block vents when operating on benchtop).

Refer to the cooling guidelines in Section 6 and the camera user manual for further information.

Operation of the camera close to intense pulsed sources (e.g. plasma and X-ray sources) may compromise performance.

Keep dry, <70% humidity non-condensing.

Refer to the user manual for further information

3 Install Software (Solis or SDK)

You must have administrator access on your PC to perform this installation.

These instructions cover installation of both Andor Solis and Andor SDK if ordered. A copy of the software is provided within the camera box. Additionally, the latest software files are available to download on request, please sign in or create an account at andor.oxinst.com/downloads

Windows: Switch on the PC, run the setup exe from the supplied copy or the downloaded file: e.g. AndorSDK2Setup-<version>.exe

1. Confirm the version of software (minimum is v2.1x).

2. Follow the on screen prompts.

3. Select the installation directory when prompted.

4. If prompted for camera type select **iXon.**

5. On the final window click on **"Install"**. Continue to follow the on screen prompts.

6. To complete the installation, when prompted select "**Yes, restart the computer now**" and click on the finish button.

Linux:

For detailed instructions on how to install the SDK drivers on Linux please refer the Andor SDK2 Manual, available at andor.oxinst.com/downloads.
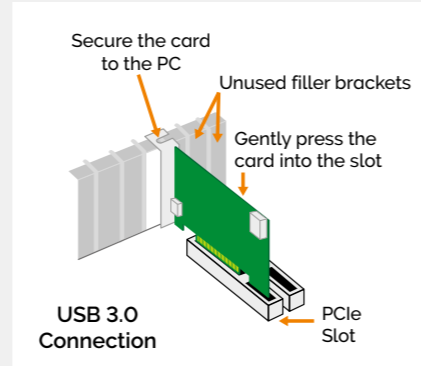
4   Install the Camera Control (PCIe) Card & Driver

⏻ **Ensure your PC is powered off.**

⚠️ **Ensure anti-static precautions and use the anti-static strap provided to prevent potential damage. Keep all screws safe.**

1. Unplug all cables from the rear of the computer. Open the PC enclosure to gain access to the expansion slots.

2. Locate a suitable PCIe slot: **use an x4 PCIe slot only.** *If you are unsure which slot is correct, please consult the PC user manual.*

3. Remove the filler bracket corresponding to the slot you intend to use.

4. Remove the USB 3.0 card from its protective ESD packaging and insert fully into the expansion slot.

5. Ensure the card's mounting bracket is flush with any other mounting or filler brackets to either side of it, then secure the controller card in place.

6. Replace the computer cover and secure with mounting screws if applicable.

7. Reconnect any accessories you were using previously.

Install the USB 3.0 PCIe Card Driver manually (not required for Windows 10)

USB 3.0 PCIe card drivers must be installed manually for PCs running versions prior to Windows 10.
See Startech's website: www.startech.com/downloads enter product code PEXUSB3S25 and hit Search. If a later driver is available, download and install.

Disable Power Management for the "Renesas USB 3.0 Host Controller":

1. Navigate to 'Renesas USB 3.0 Host Controller' properties menu in **Device Manager** (Control Panel>Device Manager> Universal Serial Bus Controllers). Select the **Advanced** tab.

2. Check the **Disable USB 3.0 power management functions** checkbox.

Image labels: Secure the card to the PC; Unused filler brackets; Gently press the card into the slot; USB 3.0 Connection; PCIe Slot

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5   Guidelines for use of Water Cooling

❄️ **Note: Always ensure that the temperature of the liquid coolant circulated through the camera head is above the dew point of the camera ambient. Use of coolant at or below the dew point will result in permanent damage to the camera head, due to formation of condensation on internal components.**

- **Recommended Tubing**: **10 mm (0.4") outside diameter**, i.e. a wall thickness of 2 mm (0.08"). Alternative hose dimensions and materials should be thoroughly tested to ensure a leak tight seal is achieved with the barbed inserts.

- **Recommended Coolant**: Is recommended that **de-ionized water (without additives)** is used as the coolant to prevent deposits forming. Some mains supply water is heavily mineralized (i.e. "Hard") which could cause deposits in the water circuit inside the camera. This can reduce the flow-rate and cooling efficiency.

- The specified cooling performance of the camera can be achieved with coolant flow rates of >0.75 litres per minute, the maximum recommended pressure of coolant circulating through the camera head is 2 bar (30 PSI).

- In the event that replacement hose inserts / barbs are required, please contact your local Andor representative.

Connecting the Coolant Hoses
1. Secure the hose to the barbs on the hose inserts.
2. Click both hose inserts into the quick-release couplings on the side of the camera.
3. Ensure the hose inserts are located securely in place.

Removing the Coolant Hoses
WARNING: Ensure that all water has been drained from the hoses and the coolant channel within the camera head before removing the coolant hoses. Care must be taken to avoid permanent damage to the camera system resulting from leakage of coolant during connection / removal of hoses.
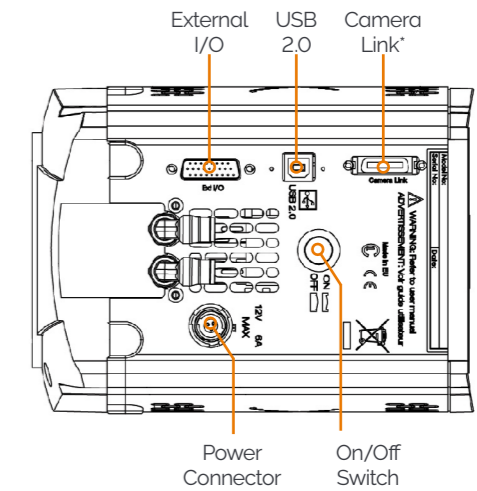1. Depress the collar on the quick-release couplings
2. The hose insert connections will now be released and can be disconnected from the quick-release coupling.

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6   Connect the Camera and Switch it on

⏻ **Ensure that the Camera ON/OFF switch is in the OFF position AND your PC is switched OFF.**

- Attach the camera to lens or optical system using the camera C-mount interface as required.
- Insert the 12 V DC power cable into the power connector on the bottom plate of the camera, ensure the orientation is correct. **NEVER** forcibly insert the connector.
- Connect the supplied USB cable between the USB connection on the camera and the corresponding slot on the PC.
- If required, connect the multi I/O cable to the External I/O 15 way D type connector.
- Switch the camera ON using the ON/OFF switch. You should hear an audible confirmation (camera start-up tone).
- Turn ON the PC.
- Start your software.
- View and adjust the acquisition settings as required.
- Start acquiring data.

iXon Ultra and Life 897 Connections

Image labels: External I/O; USB 2.0; Camera Link; Power Connector; On/Off Switch*

* Ultra models only

?   Troubleshoot

Camera start-up tone does not sound on start-up
- The camera start-up tone should be audible momentarily when the camera is switched to ON.
- If this does not occur, ensure that power is connected to the camera and the ON/OFF switch is set to ON.

Support Device not recognised when plugged into PC
- Choose another USB port.

Temperature Trip Alarm sounds (continuous tone)
Should the buzzer sound ensure the following:

Air Cooling
- Check that the air vents on the camera are not blocked and there is sufficient clearance (100 mm) around the camera.
- The ambient air temperature is not above 30ºC.
- The fan has not been deactivated (or the speed set too low) in software.

Please see the Hardware Guide for further information on Troubleshooting.
Online access to technical documentation and software downloads is available at:
andor.oxinst.com/downloads