Allied Vision

Scope of this document

This document helps you to:
- Check delivery contents
- Avoid damage to your camera
- Find all downloads you need
- Install all components and acquire images
- Connect the camera I/Os

Delivery contents

- Shipping box
- USB camera
- Quickstart Guide

Note: USB cable is not included

Avoiding damage to your camera

Environmental conditions	Value
Operation (housing temperature)	+5 °C to +45 °C
Storage (ambient temperature)	-10 °C to +70 °C
Relative humidity, non-condensing	20% to 80%

Read the Mako U Technical Manual
- Learn how to protect your camera from damage and fully understand its functions.
- For more technical information, see documents under *What else do you need?*

Notice: Avoid damage to the camera, PC, or peripherals by ground loops

Unsuitable connections can lead to a short circuit between USB GND and GPIO GND caused by ground loops damaging the camera and connected devices.
- All wiring must be done by authorized personnel, according to the corresponding technical standards.
- Read the instructions in the *Mako U Technical Manual*.

Notice: Avoid damage to the camera by exceeding the allowed temperature range
- For operation, keep the housing temperature between +5 °C and +45 °C.
- Learn from the *Mako U Technical Manual* how to provide optimum heat dissipation.

Notice: Power Mako U cameras via USB only

Mako U cameras are powered via USB. The Hirose I/O connector is for camera control only.
Connecting a power supply to the Hirose I/O connector damages the camera.
- To avoid damage to USB 3.0 host controller cards or hubs, make sure these components provide sufficient current supply for the connected cameras.
- For suitable USB 3.0 accessories, see the *Mako U Technical Manual*.

Notice: Avoid camera damage by improper cleaning

Allied Vision cameras are clean at delivery.
- Mount and remove lenses and filters in a dust-free environment.
- Be extremely careful when cleaning optical components.
- Read the cleaning instructions in the *Mako U Technical Manual*.

Warranty note: Opening the camera housing voids the warranty

There are no switches or parts inside the camera that require adjustment.
If the product is disassembled, reworked, repaired, or cleaned by unauthorized service personnel, Allied Vision or its suppliers cannot be held liable for any damage or decreased performance of the camera.

What else do you need?

Document	Link
Mako U Technical Manual	https://www.alliedvision.com/en/support/technical-documentation
USB Features Reference	See documents for Mako U cameras.
USB Triggering Concept	https://www.alliedvision.com/en/support/technical-papers-knowledge-base

Software	Link
Vimba SDK, including Vimba Viewer and Driver Installer for Windows	https://www.alliedvision.com/software

Installing all needed components
Prerequisites

Driver installation and OS support

Windows: Please use Vimba to install the camera driver. For Vimba system requirements and supported Windows editions, see
https://www.alliedvision.com/software.

Linux: Allied Vision does not provide a special driver. For Vimba system requirements and supported operating systems, see
https://www.alliedvision.com/software.

You need the following accessories:

- USB 3.0 external host controller card or on-board host controller
- USB 3.0 A to USB 3.0 Micro-B cable

See *Accessories* in the *Mako U Technical Manual*.

Installing the USB card and Vimba software

1. Install the USB 3.0 host controller card and driver according to the manufacturer's instructions.
2. Download and install **Vimba**: https://www.alliedvision.com/software.

Installing Vimba under Linux

1. Download and unpack **Vimba.tgz** to your system.
2. Follow the instructions in **ReleaseNotes_Linux.txt**.

Installing the Allied Vision USB 3.0 device driver

1. Before connecting the camera to your Windows PC, install **Vimba**, including **Vimba USB Transport Layer**. The USB3 Vision driver is installed..

If driver installation fails

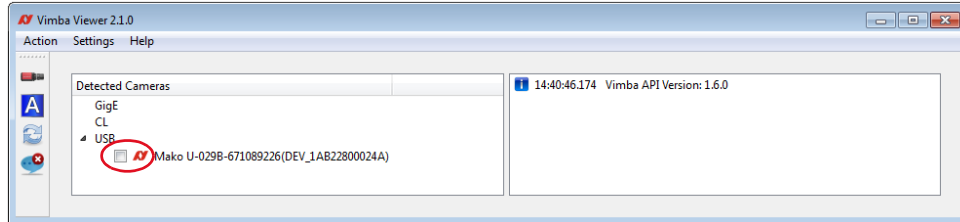If the installation of the USB3 device driver fails, see the *Mako U Technical Manual*.

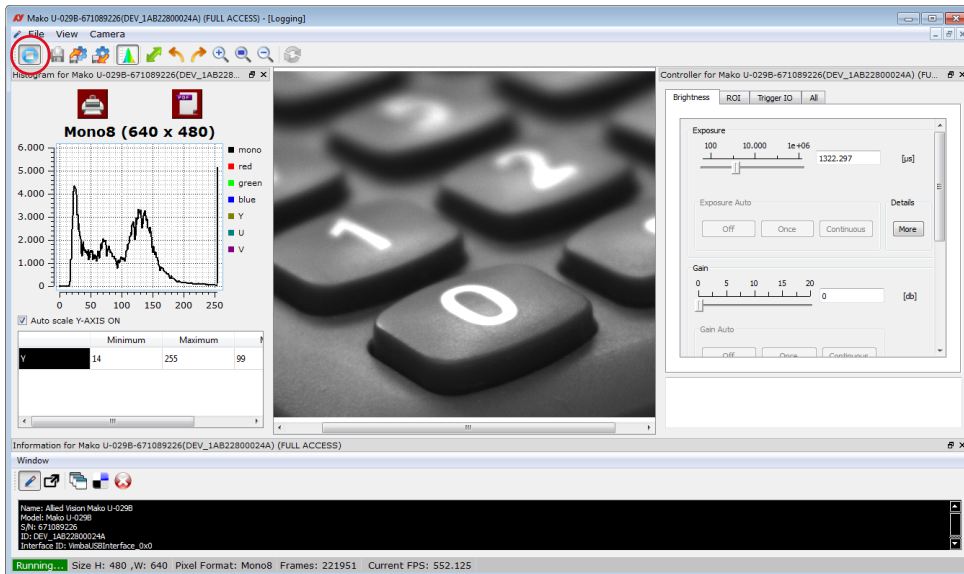# Acquiring images

💡 **Troubleshooting**

To find solutions for unexpected events, see Chapter *Troubleshooting* in the *Mako U Technical Manual*.

1. Connect your USB camera to your PC via USB 3.0 cable.
2. Start **Vimba Viewer**. For instructions on Vimba Viewer, see *Vimba Quickstart Guide* provided with the Vimba download.
3. Select the camera in **Vimba Viewer**.

The main window opens.

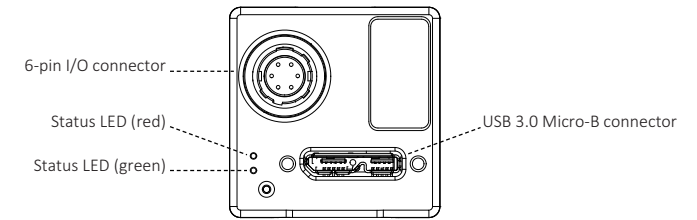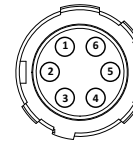4. Start acquisition to acquire the first images with your USB camera.

Using third-party software

💡 **Using the camera with third-party software**

Allied Vision USB cameras comply with USB3 Vision V1.0.1 standard. They can be used with every third-party software that complies with the USB3 Vision standard.

Camera I/Os and LEDs

6-pin I/O connector
Status LED (red)
Status LED (green)
USB 3.0 Micro-B connector

Pin	Line	Signal	<->	Level
1	0	GPIO 1 non-isolated, programmable	I/O	U_{in} (low) = 0 to 0.8 VDC U_{in} (high) = 2 to 24 VDC U_{out} (low) = 0 to 1.0 VDC U_{out} (high) = 3.3 to 24 VDC @ max. 25 mA (open collector)
2	1	GPIO 2 non-isolated, programmable	I/O	U_{in} (low) = 0 to 0.8 VDC U_{in} (high) = 2 to 24 VDC U_{out} (low) = 0 to 1.0 VDC U_{out} (high) = 3.3 to 24 VDC @ max. 25 mA (open collector)
3	2	In 1 opto-isolated	In	U_{in} (low) = 0 to 1.0 VDC U_{in} (high) = 3 to 24 VDC
4	3	Out 1 opto-isolated, open collector	Out	U_{out} (low) = 0.3 to 2 VDC U_{out} (high) = 3 to 24 VDC @ max. 25 mA (open collector)
5	---	Isolated GND for isolated I/O	---	---
6	---	GND for GPIOs	---	---

LED signal pattern	Status
	Camera startup
	Power on
	Command or image traffic
	Camera busy

Standards conformity

CE, RoHS   WEEE   FCC   USB3 Vision   GenICam

Contacting Allied Vision

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