



Instruction Manual
ZEISS Educam 105
Microscope Camera



ZEISS Educam 105

Original Manual

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Content

1	About this Instruction Manual	5
1.1	Introduction	5
1.2	Text Conventions and Link Types	5
1.3	Explanation of Warning Messages and Additional Information	6
1.4	Explanation of Symbols	6
2	Safety	8
2.1	Intended Purpose	8
2.2	EMC Information	8
2.3	Prevention of Hazards	8
2.4	Limitation of Liability	9
2.5	Warranty	9
2.6	Warning Labels	9
2.6.1	Position of the Warning Label	10
3	Technical Data and Conformity	11
3.1	Specifications	11
3.2	Spectral Sensitivity	12
3.3	Applicable Standards and Regulations	12
3.3.1	Symbols on the Camera	13
4	Shipment	14
4.1	Educam 105	14
5	Connecting the Camera	15
5.1	Camera Layout and Accessories	15
5.1.1	Camera Connections	15
5.1.2	Camera Controls	16
5.1.3	Accessories	16
5.2	Mounting the Camera to the Microscope	17
5.3	Connecting the Camera to the Power Supply	18
5.4	Connecting the Camera to a Network	19
5.4.1	Connecting Camera via Ethernet	19
5.4.2	Connecting Camera via Wi-Fi Adapter	19
5.5	Connecting the Camera Directly to a Certified PC via Network	20
5.6	Function Indicator Signals	20
6	Installing Software on PC	22
6.1	Installing Labscope for Windows	22
6.2	Installing Labscope for Android or iOS	22
7	Acquiring Images and Videos	23
7.1	Introduction	23

7.2	Basic Procedure using Operator Panel	23
7.3	Image Acquisition with Labscope	23
8	Care and Maintenance.....	24
8.1	Optical System	24
8.2	Cleaning the Infrared Filter or Protective Glass.....	24
9	Troubleshooting	25
9.1	Camera	25
9.2	Labscope.....	26
10	Disposal.....	27

1 About this Instruction Manual

This Instruction Manual (further called "document") is considered to be part of the microscope camera, herein after referred to as the "product" or the "camera".

This document contains basic steps and safety information that must be observed during operation and maintenance. Therefore, the document must be read by the operator prior to commissioning and must always be available at the place of use of the product.

This document is an essential part of the product and, if the product is resold, the document must remain with the product or be handed over to the new owner.

1.1 Introduction

Welcome to the Educam 105 user guide.

These cameras are multi-functional digital CMOS cameras for use in light microscopy applications. To make it easier for you to set up the camera, please follow the instructions in these chapters step by step.

Content	Chapter	Content
	About this guide	Introduction and overview of this manual.
	Safety	Important information on the safe handling of the camera. Read this chapter before unpacking and operating the camera.
	Technical data	Here you will find your camera's technical data.
	Shipment	The contents of delivery and optional attachments will be described here.
	Connecting the camera	In this chapter, you will find detailed instructions on connecting and using the camera.
	Installing software and drivers	Here you will learn how to install the software and camera drivers.
	Acquiring images	This chapter provides the basics of image acquisition.
	Troubleshooting	In this chapter, we have listed some solutions to various problems. If you are still unable to solve your problem, contact ZEISS support.
	Maintenance	This chapter describes some measures for the maintenance and care of your camera. In case of greater damage, always contact ZEISS support.
	Disposal	Important instructions for disposal and recycling.

1.2 Text Conventions and Link Types

Explanation	Example
Software controls and GUI elements.	Click Start .
Hardware controls and elements.	Press the Standby button.
Key on the keyboard.	Press Enter on the keyboard.

Explanation	Example
Press several keys on the keyboard simultaneously.	Press Ctrl + Alt + Del .
Follow a path in the software.	Select Tools > Goto Control Panel > Airlock .
Text to be entered by the user.	Enter <i>example.pdf</i> in this field.
Anything typed in literally during programming, for example macro codes and keywords.	Enter <code>Integer</code> in the console.
Link to further information within this document.	See: <i>Text Conventions and Link Types</i> [▶ 5].
Link to a website.	https://www.zeiss.com

1.3 Explanation of Warning Messages and Additional Information

CAUTION, and NOTICE are standard signal words used to determine the levels of hazards and risks of personal injury and property damage. Not only the safety and warning messages in the **Safety** chapter are to be considered also all safety and warning messages in other chapters. Failure to comply with these instructions and warnings can result in both personal injury and property damage and involve the loss of any claims for damages.

The following warning messages indicating dangerous situations and hazards are used in this document.

CAUTION

Type and source of danger

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTICE

Type and source of danger

NOTICE indicates a potentially harmful situation which, if not avoided, may result in property damage. In addition, NOTICE warns of data loss or corrupt data as well.

Info

Provides additional information or explanations to help the user better understand the contents of this document.

1.4 Explanation of Symbols













CE marking (Conformité Européenne)



UKCA marking (UK conformity assessed)



CSA label: product tested by CSA to meet U.S. and Canadian standards. CSA approval master number optionally given adjacent to this symbol

	KC mark accompanied with KC code
	Manufacturer
	Country of manufacture. "CC" is the country code, e.g. "DE" for Germany, "CN" for China. Date of manufacture optionally given adjacent to this symbol
	Importer
	Intended for use in educational establishments by pupil operators at least 11 years old under supervision of the responsible body. The number 11 is an example age. Other numbers can be marked for other ages.
	Serial number
	Catalogue number
	Model number
	EFUP (Environmentally Friendly Use Period) of 50 years. According to the China RoHS regulation, it refers to the period during which the hazardous substances contained in an electronic or electrical product do not leak or mutate suddenly under normal operating conditions and will not result in serious environmental pollution or cause serious damage to the user's body or their assets during normal use.
	WEEE label: Do not discard as unsorted waste. Send to separate collection facilities for recovery and recycling

2 Safety

2.1 Intended Purpose

This camera is suitable for use as accessories for educational microscopy in digital classroom environments. It's also suitable for use in educational establishments by students at least 14 years old when supervised. The camera has been designed to be used in the field of light microscopy for general observation in which a sufficient amount of light is available. The camera should only be used for education and digital classroom applications with network connection. The images and videos generated by the camera must not be used for the direct generation of diagnostic results.

2.2 EMC Information

The product is intended to be used in an industrial electromagnetic environment.

CAN ICES-001 (B) / NMB-001 (B)

FCC EMC Info

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The product complies with the emission and immunity requirements as a CISPR 11 / EN 55011 / class B group 1 system according to IEC 61326-1. Emissions, which exceed the levels required by CISPR 11 / EN 55011, can occur when the product is connected to other devices.

The following EMC user notice is for Korea only:

기종별	사용자안내문
B급기기 (가정용 방송통신기자재)	이 기기는 가정용(B급) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

2.3 Prevention of Hazards

ZEISS cameras have been manufactured and tested by ZEISS according to the regulations specified in CE and have left the manufacturer's premises in perfect working order. In order to ensure that this condition is maintained and to avoid any risks when operating the system, the user must comply with any notes and warnings contained in this manual. The manufacturer shall be exempt from statutory liability for accidents should the operator fail to observe the safety regulations.

Risk of personal injury

To avoid the risk of fire or explosion, do not use the camera near inflammable liquids or gases.

Setup, expansions, re-adjustments, alterations, and repairs must be carried out only by persons who have been authorized by ZEISS.

Do not allow any cables, particularly power cords, to trail across the floor, where they can be snagged by people walking past.

Protect the cables from excessive heat (e.g. halogen lamps, microscope fluorescence illumination).

To avoid injuries due to potentially high surface temperatures, do not touch the camera's surface for a prolonged time.

Do not position the equipment in a way that makes it difficult to operate or disconnect the device.

If there were any cracks or deterioration on the power adapter, stop to use the microscope camera immediately. Contact the ZEISS partner for the service.

Several country-specific plugs are provided with the power adapter. To avoid the risk of electric shock or overheating, always use the appropriate one to your country. If in doubt, contact your ZEISS partner for help.

Always check the completeness of the device before handing it over to the students for each operation.

Risk of equipment damage

Protect the camera against mechanical impact. External damage may affect the operation of inner components.

To protect the camera's internal optical components, always screw the protective cap onto the camera's C-Mount thread when no lens and no adapter with optics is mounted to it.

Keep chemicals and fluids away from the camera.

Use the camera in a clean and dry location.

Use only the accessories supplied by ZEISS, when applicable.

Use only normal microscope cleaning material to clean the camera housing.

Contact your local ZEISS service organization if a repair is necessary. Do not disassemble the camera by yourself, otherwise the warranty will be lost.

Risk of data loss and data corruption

Make sure there is sufficient ventilation of the camera head. Avoid direct exposure to sunlight and locations near heat sources (radiators, stoves). Overheating can cause noisy images.

Attach all connectors firmly and securely.

Save all your data, such as images, measurement data, archives, reports, forms and documents, at regular intervals on an external storage medium. Otherwise it cannot be avoided that access to this data may be lost as a result of operational errors or hardware defects. ZEISS accepts no liability for consequential damage resulting from insufficient data protection.

2.4 Limitation of Liability

No warranty shall be assumed by ZEISS during the warranty period if the equipment is operated without observing the safety regulations. In any such case, ZEISS shall be exempt from statutory liability for accidents resulting from such operation.

2.5 Warranty

ZEISS shall be exempt from any warranty obligations should the user fail to observe the safety regulations. ZEISS only guarantees the safety, reliability, and performance of the system if the safety notes are closely observed.

2.6 Warning Labels

All points that may pose special risks are additionally marked by warning labels (pictograms) on the camera. These warning labels indicate possible dangers. They are part of this instruction manual. They are to be kept in a clean and legible state. Warning labels that are damaged or no longer clearly legible must be replaced immediately. Always observe all warning labels on the camera.

2.6.1 Position of the Warning Label

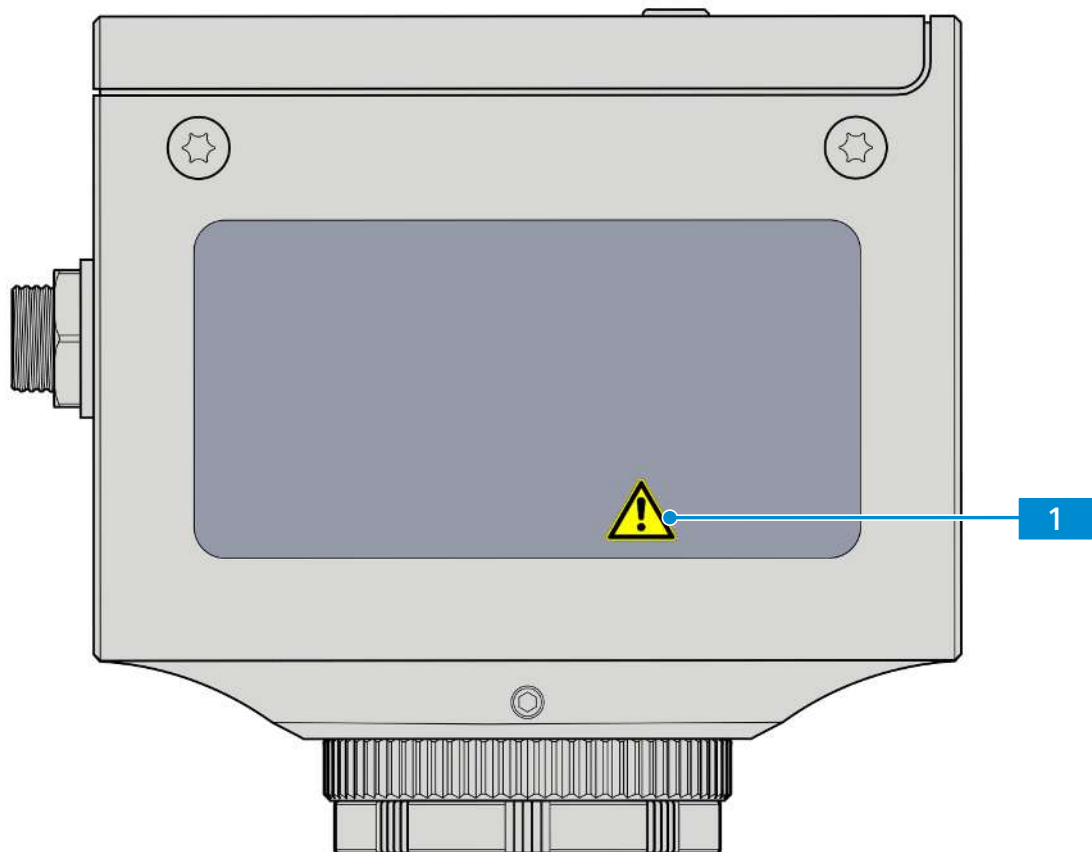


Fig. 1: Warning label on the camera

3 Technical Data and Conformity

3.1 Specifications

Features	Values
Sensor type	CMOS sensor with rolling shutter
Effective Sensor Pixel Count	5.04 Megapixels: 2592 (H) x 1944 (V)
Spectral Sensitivity	Approx. 400 nm – 660 nm, IR filter RGB Bayer color mask
Selectable Resolution	5 MP (snap) and 2 MP (live and snap) Resolution 5 MP: 2592 x 1944, Pixel size (physical) 2.0 µm x 2.0 µm, Sensor size: 5.2 mm x 3.9 mm, equivalent to 1/2.8" (6.5 mm diagonal) Resolution 2 MP: 1920 x 1080, Pixel size (calculated) 2.67 µm x 2.67 µm, Sensor size (used): 5.1 mm x 2.9 mm (5.9 mm diagonal)
Gain (Signal Amplification)	0 - 27 dB adjustable
Digitization	24-bit (3 x 8 bit RGB) A/D conversion
Exposure Time Range (Integration time)	0.03 ms - 1 s
Status-LED for camera	Color coded operation status
Interfaces	USB 3.0 Type-A for Wi-Fi adapter or flash drive Ethernet (RJ45) for LAN connection Barrel jack for power adapter
Controls buttons	1x On/Off switch 1x Image Capture / Snap button 1x Camera factory reset button
Wi-Fi compatibility	Via USB Wi-Fi adapter
Optical Interface	C-mount
Size/ Weight	Approx. 66 x 66 x 60mm / 280 g
Housing	Blue painted aluminum
Registration	CE, CSA, UKCA
Power supply	DC barrel plug 5.5 x 2.5 mm with union screw
Power consumption	Input: 100 - 240V AC (±10%), 50/60Hz, 0.5A Output: 12V DC, 1A, 12W
Environmental conditions for storage and operation	+5°C to +40°C, 30% relative air humidity to 80% relative air humidity, no condensation, free air circulation required, CAT II, pollution degree 2, altitude <2000m, indoor use

Features	Values
Environmental conditions for transport in packaging	-40 °C to +70 °C
IP code	IP20
Supported Operating systems	Windows 10 & 11 (64-bit), iOS 15 or later, Android 12 or later
Supported Application Software	Labscope v4.3 and higher
Order number	426555-9020-000 426555-9021-000

Info

Computer hardware, operating system, and software may decrease the frame rates. All specifications are subject to change without notice.

3.2 Spectral Sensitivity

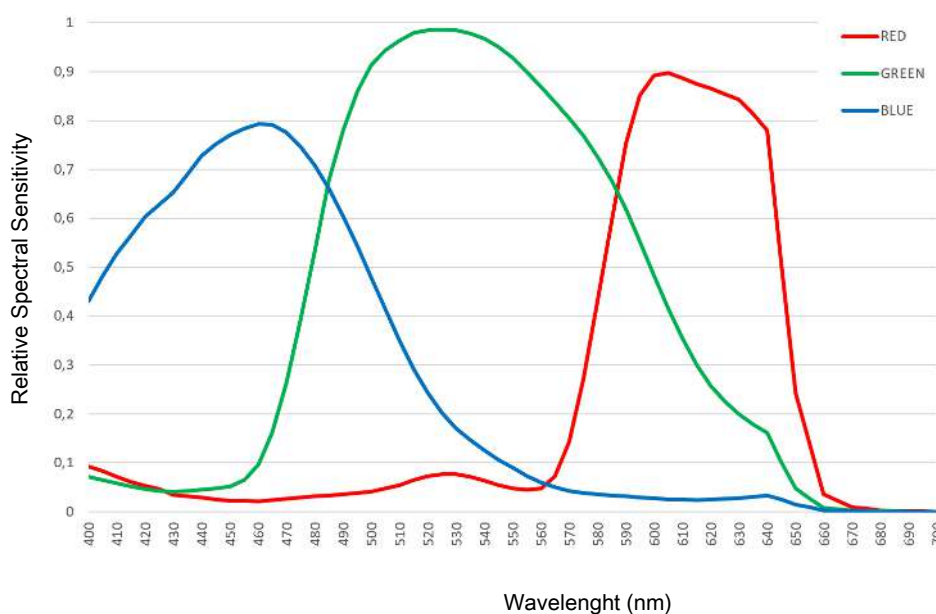




Fig. 2: Spectral Sensitivity of Educam 105 (incl. IR Filter)

3.3 Applicable Standards and Regulations

Observe the generally applicable local and national safety and accident prevention regulations, as well as the applicable laws and regulations in your country. The camera and its accessories have been designed, manufactured and tested to comply with the guidelines and specifications as named in the following. The accordance to the relevant specification is indicated by a respective symbol on the unit.

3.3.1 Symbols on the Camera

Symbol	Description
	<p>Conforms to:</p> <ul style="list-style-type: none"> EU Directive 2014/35/EU (LVD) 2014/30/EU (EMC) 2015/863/EU (RoHS)
	<p>CSA certificate mark, conforms to:</p> <ul style="list-style-type: none"> CAN/CSA-C22.2 No. 61010-1-12 UL Std. No. 61010-1 (3rd edition)
	<p>Complies with EU Directive 2012/19/EU (WEEE)</p>

Tab. 1: List of attached labels concerning standards and regulations

4 Shipment

4.1 Educam 105

- 1x Educam 105
- 1x Power supply with cable incl. country-specific adapter
- 1x RJ45 network cable

Accessories

Order Number	Accessory
426570-9210-000	Wi-Fi adapter package containing Wi-Fi Adapter (Dual band 2.4GHz and 5GHz) and USB adaptor Type-C to Type-A

5 Connecting the Camera

5.1 Camera Layout and Accessories

5.1.1 Camera Connections

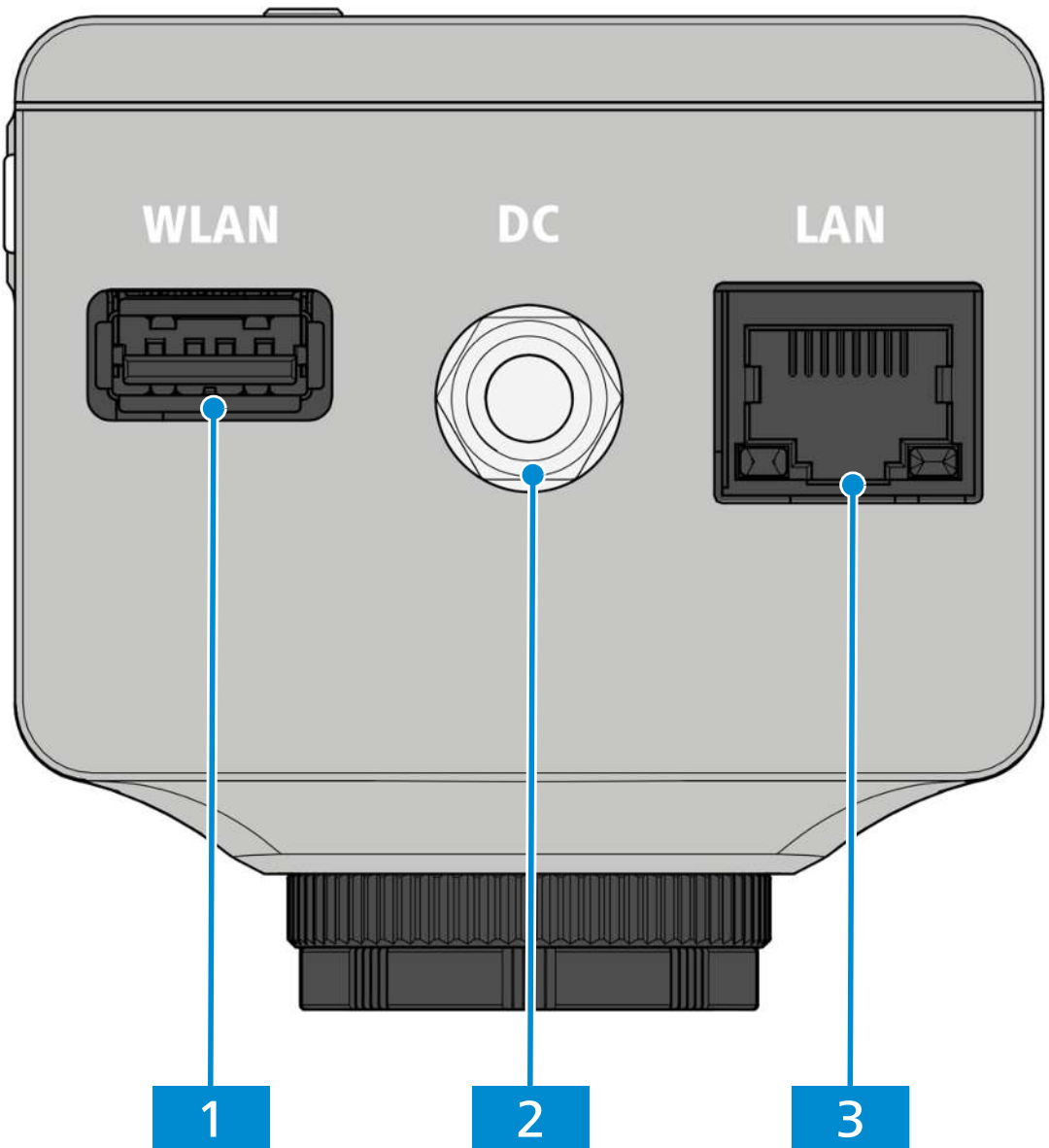


Fig. 3: Camera connector panel

- 1** **USB 3.0 Type-A**
For Wi-Fi adapter or USB flash drive
- 2** **DC port**
Power supply (12Vdc, 1A)
- 3** **RJ45 port (Ethernet)**
Communication and image data transfer

5.1.2 Camera Controls

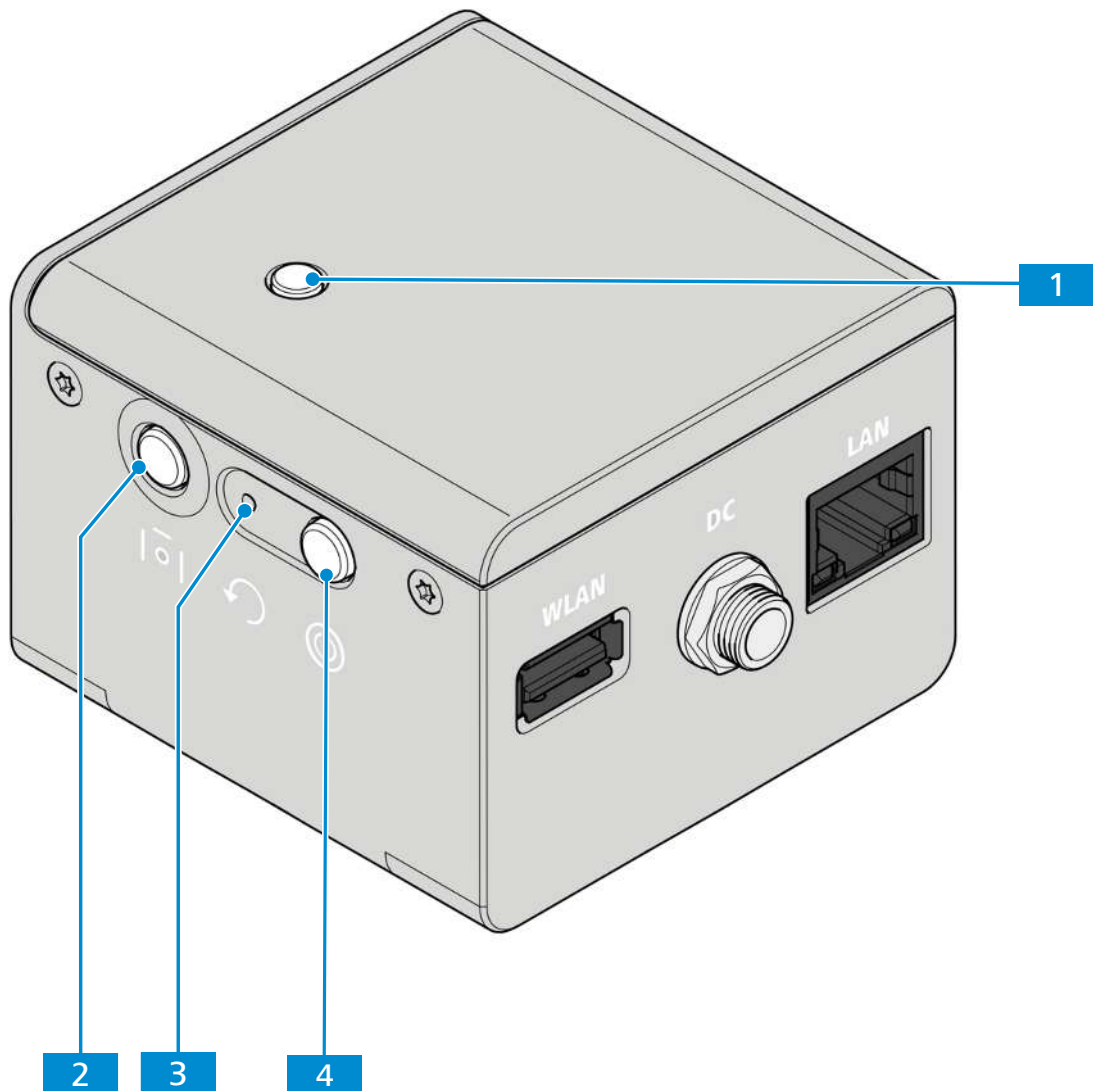


Fig. 4: Camera operator panel

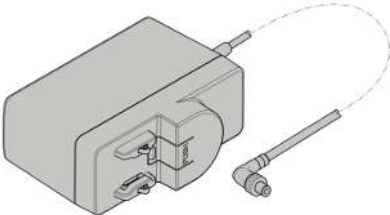

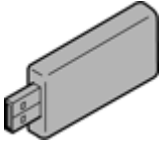
- 1 LED function indicator**
See Function indicator signals for detail.
- 2 Image Capture / Snap button**
- 3 Factory reset button**
Resets the camera to the factory settings.
- 4 Power On / Off switch**
Turns the camera on or off.

See also

📖 Acquiring Images and Videos [▶ 23]

5.1.3 Accessories

The following items are required for power supply and use of the ports:

Name	Figure	Remarks
Power supply cable		Power supply from external power socket. Country specific adapter plugs are provided.
RJ45 cable		Connection between camera and network or WLAN router
Wi-Fi Adapter Kit (not supplied in package, please order separately: Order No. 426570-9210-000)		Wi-Fi Adapter Kit consisting of 5GHz/ 2.4GHz Dual Band Wi-Fi adapter and USB adapter Type-C to Type-A for wireless transmission of camera images to PC or iPad with Labscope

5.2 Mounting the Camera to the Microscope

Info

Damage during storage or transportation

It is recommended to keep the original packing and store it away for later use, e.g. for stowing the microscope camera during periods of non-use or for returning it to the manufacturer for repair.

To mount the camera to your microscope’s camera port, use a C-mount camera adapter. The adapter is not included in the scope of delivery. You will find some suitable examples for adapters in the list below:

Camera	Port	Adapter	Order number
Educam 105	60N	Camera Adapter 60N-C 2/3" 0.5x	426112-0000-000
Educam 105	P95	Camera Adapter P95-C 1/2" 0.5x	415500-1811-000
Educam 105	P90	Camera Adapter P90-C 1/2" 0.5x	415501-1811-000

NOTICE

Loss of warranty

The camera is delivered with an integrated IR filter (infrared cut filter).

- ▶ Do not remove the IR filter. Otherwise the warranty will be lost.

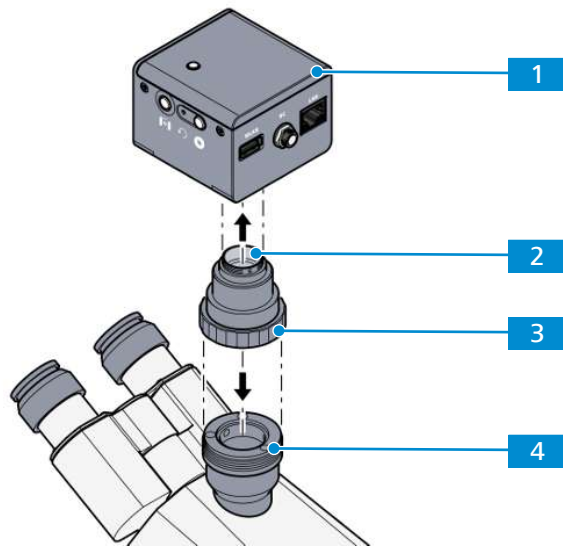


Fig. 5: Mounting the camera to the microscope

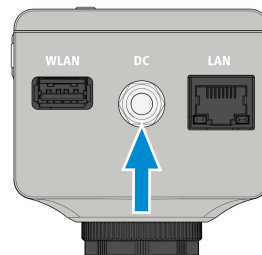
- 1** Camera
- 2** C-mount camera adapter
- 3** Ring nut
- 4** 60N port at microscope stand

- Procedure**
1. Remove the dust cap from the camera's C-mount port.
 2. Mount the C-mount camera adapter to the camera.
 3. Attach the camera with the adapter to the microscope's 60N port.
 4. Orient the camera to the stand and fix its position by tightening the ring nut or tightening the clamping screw.

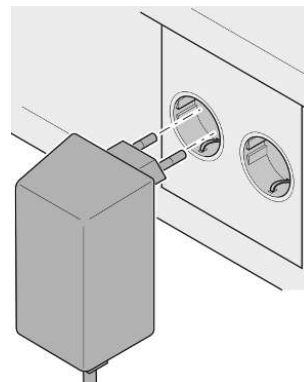
5.3 Connecting the Camera to the Power Supply

Prerequisite ✓ The power supply has been adapted with the appropriate country-specific adapter.

- Procedure**
1. Insert the barrel plug of the power cable into the DC jack port of the camera and secure with an union screw.



2. Insert the plug of the power supply into a power outlet.



3. Turn on the camera via power **On/Off** switch.

5.4 Connecting the Camera to a Network

The operation of the camera via software Labscope (available as Windows, Android or iOS version) requires the connection to a network. You can choose to connect to the network via Ethernet or via Wi-Fi adapter. The camera identifies itself automatically to the network (DHCP) and is automatically recognized by Labscope, provided the devices are on the same network.

NOTICE

Display errors

In the event of an overloaded or slow WLAN, the live image of the camera may be delayed or incorrectly displayed on the iPad.

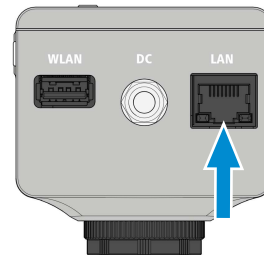
- ▶ If possible, use a high-performance 802.11n WLAN.
- ▶ Provide a sufficient contingent of free bandwidth for communication.

For an overview of all ZEISS Microscopy apps and further information on individual apps, visit <https://www.zeiss.com/microscopy/int/products/microscope-software/microscopy-apps.html?vaURL=www.zeiss.com/micro-apps>

5.4.1 Connecting Camera via Ethernet

Prerequisite ✓ The camera is powered via mains supply or microscope.

Procedure 1. Insert the Ethernet cable into the camera's LAN port.



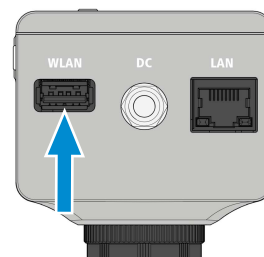
2. Insert the Ethernet cable's opposite connector into the corresponding socket on your WLAN router.
3. Switch on the router.
 - **Labscope** can recognize the camera (network name and password are the same as in the WLAN router setting).

5.4.2 Connecting Camera via Wi-Fi Adapter

5.4.2.1 Using the Camera as Access Point

Prerequisite ✓ The camera is powered via mains supply.
 ✓ An USB Wi-Fi adapter is available.

Procedure 1. Insert the USB Wi-Fi adapter into the camera's WLAN port.



- The camera with Wi-Fi adapter works as access point to which the Wi-Fi device can connect directly.
- The network name of the camera will be like **Educam105-xxxxxx**.

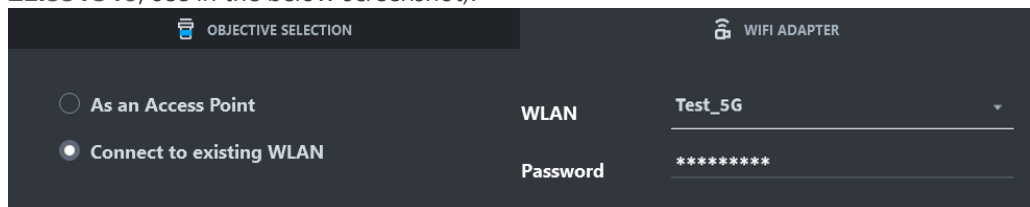
2. Connect to the camera network with the default password **ZEISS1846**, which can be changed afterwards through WiFi Adapter settings of Microscope Configuration in Labscope software. If you forget the password for AP (Access Point) mode, plug in the WiFi adapter into the camera, and establish an ethernet cable connection to a Labscope device at same time, then open Labscope and in this microscope settings, you can redefine the password.
3. Start Labscope software, then it will automatically recognize the camera.

Info

If the WLAN list is empty or does not contain the one you want to connect to, wait for a few seconds and click again to refresh.

5.4.2.2 Connecting the Camera to existing WLAN

- Procedure**
1. Following *Using the Camera as Access Point* [▶ 19] to connect the camera as an Access Point.
 2. Change to **Connect to existing WLAN** in **WIFI ADAPTER** setting in Labscope, and input the correct WLAN name of the router and Password (for example **Test_5G** and **ZEISS1846**, see in the below screenshot).



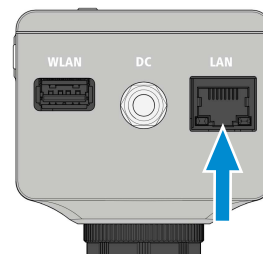
3. Press the **Apply** button, then the camera will connect to **Test_5G** router, and Labscope lost connect to the camera as an Access Point.
4. Connect to **Test_5G** router in Windows client (or iPad or Android client), then Labscope will automatically recognizes the cameras connected to the router.
5. To access the internet from a Windows client (or iPad or Android client), configure the router for internet connection. Note that the camera cannot connect directly to remote Labscope via the internet.

5.5 Connecting the Camera Directly to a Certified PC via Network

The camera's LAN port can also be used for direct data transfer to the PC.

- Prerequisite** ✓ The camera is powered via mains supply.

- Procedure**
1. Insert the Ethernet cable into the camera's Ethernet port.



2. Insert the Ethernet cable's opposite connector into the corresponding socket on your Windows PC or Notebook. Connect the Ethernet cable directly to the fast Ethernet port (RJ45) or use a Ethernet/USB adapter to connect to a USB 3.0 interface.
 - Labscope recognizes the new camera.

5.6 Function Indicator Signals

For the definitions of the LED color signals, refer to the list below:

Signal	Description
Pink	Camera starting
Blue	Power supplied and camera ready
Blue flash	Snapping/recording in process, and saving data to USB flash drive
Red flash	Firmware updating/factory resetting
Pink flash	No USB flash drive or the drive is full
Off	No power supplied

6 Installing Software on PC

To acquire images with the camera(s) on a PC or mobile device, you must install the ZEISS software Labscope. You will find links to the software manuals on the delivered flyer. The camera drivers are also installed during the software installation. The latest version of ZEISS software products can be downloaded from the [ZEISS Portal](#) web page.

Info

For information on how to acquire images with the software Labscope, please refer to the respective software manual.

6.1 Installing Labscope for Windows

- Procedure**
1. Download the latest **Labscope** for Windows via the product website:
<https://www.zeiss.com/labscope>
→ You will be directed to the [ZEISS Portal](#) for downloading the installation files.
 2. Double-click on **LabscopeSetup_vx.exe** to install the software.
 3. Perform the required steps shown by the installation wizard. Please agree if you are asked to install additional drivers.
→ Some modules of Labscope require additional installation, e.g. **BioModuleSetup.exe**, which is for **AI Cell Counting and AI Cell Confluency** models, and you can find the installer in the same page of Labscope download in Zeiss Portal.

Alternatively, you can install **Labscope** via [ZEISS Microscopy Installer](#)

6.2 Installing Labscope for Android or iOS

For Android

- Procedure**
1. Open the [Google Play Store](#).
 2. Search for **Labscope** by ZEISS.
 3. Download **Labscope**.
 4. Follow the instructions on your Android device to install the app.

For iOS

- Procedure**
1. Open the [App store](#).
 2. Search for **Labscope** by ZEISS.
 3. Download **Labscope**.
 4. Follow the instructions on your iOS device to install the app.

7 Acquiring Images and Videos

7.1 Introduction

The high-quality cameras are suitable for use as accessories for educational and routine microscopy in laboratory environments and for use by trained laboratory personnel. The cameras have been designed to be used in the field of light microscopy for general observation, routine work, and simple applications in which a sufficient amount of light is available. These cameras should only be used for training and research. The images/videos from these cameras must not be used for the direct generation of diagnostic results.

7.2 Basic Procedure using Operator Panel

Prerequisite ✓ An USB flash drive has been inserted into the camera's USB port.

- Procedure**
1. Position your specimen on the microscope and adjust the microscope to see a focused image through the eyepieces.
 2. Set the microscope light path to divert the image to the camera (e.g. adjust the microscope's tube slider to **50% camera** and **50% eyepieces**).
 3. To take a single image, briefly press the **Capture** button on the camera.
→ The image is saved to the USB flash drive.
 4. To start video recording, press the **Capture** button on the camera for about 5 seconds.
 5. To finish video recording briefly press the **Capture** button on the camera once again.
→ The video is saved to the USB flash drive.

7.3 Image Acquisition with Labscope

Upon first starting Labscope, each screen starts with an overlaying information screen explaining the functions. Refer to the displayed information for using the software. Disable or re-enable the information screens in the software's **Settings** menu on your PC monitor iPad.

Info

For support in using Labscope, visit our support forum under <https://forums.zeiss.com/microscopy/community/viewforum.php?f=38>. Check the Labscope threads for problem-solving notes.

8 Care and Maintenance

To ensure the optimum performance of the device, preventive maintenance work should be performed at regular intervals.

Time interval	Component	Activity
As required	Infrared filter or protective glass	Cleaning [▶ 24]
As required	Firmware	Update

Tab. 2: Maintenance plan

8.1 Optical System

The internal optical components of the camera should always be protected. If no lens, or camera adapter with optics, is screwed into the camera's C-Mount thread, the camera's sensor and protective glass must be protected by screwing the protective cap onto the camera's C-Mount thread.

8.2 Cleaning the Infrared Filter or Protective Glass

NOTICE

Sensitive optical parts

An inadequate handling of optical components may damage the components or decrease the device's imaging quality. The unauthorized handling of device components leads to the loss of warranty.

- ▶ Do not remove the filter or the protective glass.
- ▶ Do not clean the sensor directly.
- ▶ Do not use tap water to clean the IR filter.

Tool / part	Quantity
Soft brush	1
Cotton	1
Cleaning fluid for optics. For more details on cleaning fluids, pls read the "ZEISS Quick Guide - Cleaning and Disinfecting the Microscope and its Optical Components".	1

Tab. 3: Tools and parts

- Procedure**
1. Use a soft brush or cotton to wipe away dry dust from the front side of the infrared filter or the protective glass.
 2. Use cotton and cleaning fluid for optics to wipe away more serious contamination from the infrared filter.

9 Troubleshooting

9.1 Camera

Symptom	Cause	Measure
The LED indicator is off.	The camera is not powered on properly.	Make sure the camera is receiving power from the power adapter and the camera on/off switch is turned on.
The LED indicator flashes red.	The camera is updating firmware or being reset.	NOTICE Do not switch off the power supply.
The image / video cannot be saved to the USB flash drive.	USB flash drive is not in correct format.	Format the USB flash drive to FAT32 format on a PC.
	USB flash drive has not enough free memory.	Make sure there is enough free memory on the flash drive.
	USB flash drive cannot be recognized.	Restart the camera.
The firmware update does not function.	USB flash drive is not in correct format.	Format the USB flash drive to FAT32 format on a PC.
	USB flash drive does not enough free memory.	Make sure there are at least 200 MB of free memory on the USB flash drive.
	USB flash drive cannot be recognized.	Restart the camera.
	The firmware cannot be found.	Make sure the latest firmware is stored to the root folder of the USB flash drive.
	The firmware is not uploaded properly.	Restart the firmware update process in Labscope and exactly follow the instructions in the firmware update menu.
The image has severe noise.	The amplification (gain) is set too high.	Manually reduce the gain value.
	The exposure time is set too low.	Manually adjust the exposure time.
	The light intensity of the microscope is set too low.	Increase the light intensity. Activate denoise function in Image setting menu.
The image is too dark or too bright.	Automatic exposure time has not been activated.	Activate the automatic exposure settings or manually adjust the exposure settings to the current light situation.
The image is blurred on the screen, but the sample is in focus through the eyepieces.	The focus plane of the camera is different from that of the eyepieces.	<p style="text-align: right;">Procedure</p> <ol style="list-style-type: none"> 1. Focus the sample through the eyepieces. 2. Calibrate the camera adaptor until image is in focus on the monitor.

Symptom	Cause	Measure
Buttons do not react when being pressed.	The buttons are temporarily locked, as the camera is being accessed exclusively from the PC or network.	Control the camera via PC software or ZEISS app, or close the PC software or ZEISS app.
The Camera otherwise behaves abnormally.	The camera may have been brought into a non-intended state.	Press the Camera factory reset button on the camera.

9.2 Labscope

Info

For support in using Labscope, visit our support forum under <https://forums.zeiss.com/microscopy/community/viewforum.php?f=38>. Check the Labscope threads for problem-solving notes.

10 Disposal

The product must not be disposed of as domestic waste or through municipal disposal companies. It must be disposed of in accordance with applicable regulations (WEEE Directive 2012/19/EU). ZEISS has implemented a system for the return and recycling of devices in member states of the European Union that ensures suitable reuse according to the EU Directives mentioned.

For detailed information on disposal and recycling consult your ZEISS Sales & Service Partner.

