

User Manual for USB Microscopes PCE-MM 200 and PCE-MM 200 UV



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1 Introduction

Suitable for professional, educational and recreational use, the USB microscope displays tiny details in real time on a computer screen. The microscope magnifies objects up to 200 times. Four locally mounted LED lights illuminate objects from all sides, providing brilliant, razor-sharp imagery.

The UV USB microscope uses 8 UV LEDs with a wavelength of 400 nm to illuminate objects. Due to the high proportion of nonvisible light, objects illuminated by the UV USB microscope will appear very dark to the naked eye. However, this invisible light is what is captured by the built-in camera and processed.

1.1 Delivery Contents

- 1 x USB microscope
- 1 x tripod
- 1 x foot
- 2 x magnification adapters
- 1 x calibration ruler
- 1 x USB interface cable
- 1 x software
- 1 x user manual



2 Safety

Please read the user manual thoroughly before using the device. Failure to adhere to the instructions in the manual may result in injury.

2.1 Warning Symbol



General warning

2.2 Precautions

- The device may be used only in the manner described in the manual. If the device is used otherwise, injury may occur.
- Do not expose the device to extreme temperatures, direct sunlight, extreme humidity or excessive moisture.
- Do not use the meter with wet hands.
- Do not make any technical modifications to the device.

- The device should be cleaned only with a damp cloth. No abrasive cleaners or cleaning agents containing solvent should be used.
- The device may only be used with the accessories offered by PCE Instruments or their equivalents.
- Please check the device's housing for visible damage prior to each use. If there is visible damage, do not use the device.
- Use the device only within the specified limits of the ambient conditions (temperature, humidity, etc.).
- The device must not be used in an explosive environment.
- Before each use, please verify the device's accuracy against a baseline reading.
- If the safety instructions are not observed, the device may be damaged and / or the device's operator may be injured.

3 Specifications

Magnification	10... 200 times (infinitely variable)
Resolution	1600 x 1200 pixels
Light source	4 x White LED (MM200) 8 x LED UV 400 nm (MM200 UV)
Colors	24-bit RGB
Image frequency	30 frames per second
Video format	AVI
PC connection	USB 2.0
Power supply	USB 2.0
System requirement	Starting with Windows XP SP2 upwards MAC OS 10.5 (without the photo button)
Dimension	110 x 33 mm
Weight	approx. 90 g

4 Installation of the Software


Note: Do not connect the microscope to the computer before the installation is complete.

- (1) Switch on your computer and insert the CD-ROM into the CD drive.
- (2) After the CD-ROM is inserted and the drive is closed, the installation software starts automatically.
- (3) Follow the instructions on the screen to install the software.

- (4) After installation of the software, connect the USB microscope to a USB port on the computer.
- (5) The computer directly recognizes the newly connected hardware.

5 Use of Microscope

Note: Always close the software before disconnecting the USB microscope from the computer.

- (1) Start the software by clicking on the desktop shortcut "PCE-MM200."
- (2) The software will immediately display the magnified image of the object under the microscope.
- (3) Move the rotary knob to focus and zoom to obtain the desired sharpness.
- (4) To capture the image as a photo, press the button on the microscope or click the icon in the software. The photo will appear on the left side of the computer screen. 
- (5) Double click to open the captured image.
- (6) Enter the zoom level on the device into the software field called "Scale." The scale value is used as a reference for measurements.

6 Other Functions of the Software

On the home screen:

Click the icon to record a video.



Click the icon to set a timer to capture one image or a series of images.



Send a photo via email.



Save an image.



Switch between photo and video display.



Set the image resolution, video options and menu language.

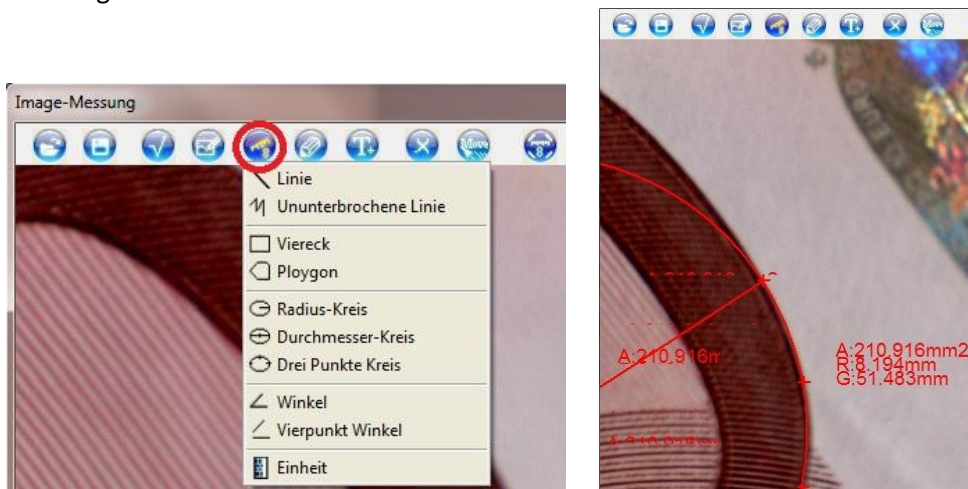


In the detail of an image:

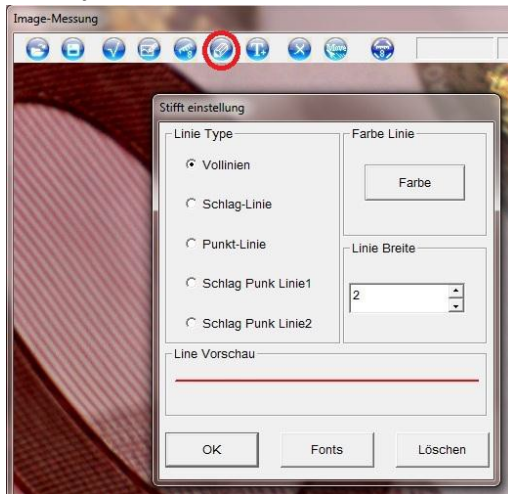
Draw lines, squares, circles, etc. in a photo.



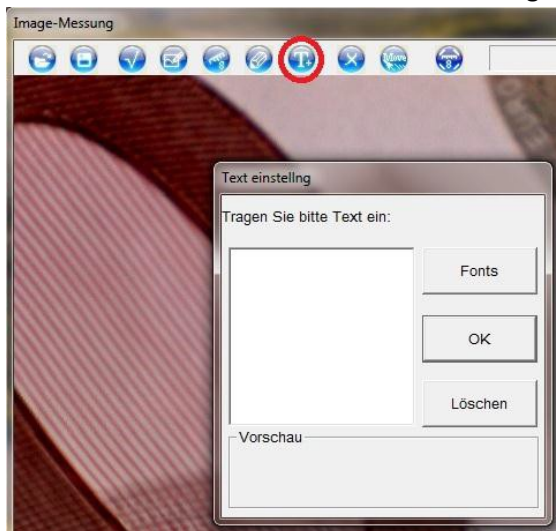
Perform measurements after calibrating the microscope. Choose a suitable object and mark the measuring points in the image. The measurement result is displayed. By clicking the mouse in the result, the image can be drawn.



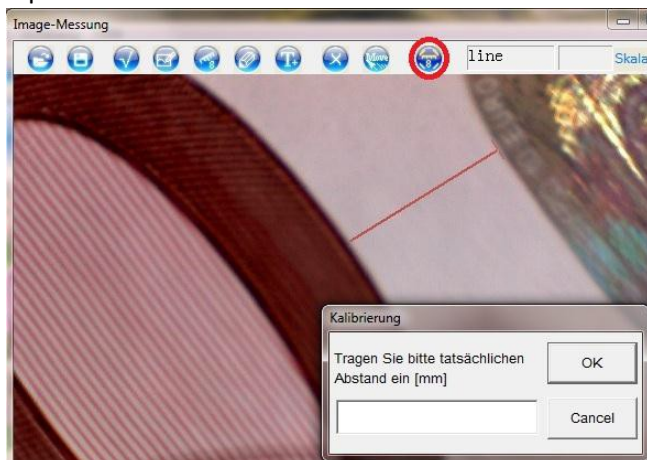
PIN adjustments can be made.



Text can be entered and inserted in the image.



Calibration can be performed. Select a known distance in the image and enter the value in millimeters to input a mask.



7 Cleaning the Device

Clean the device with a moist, lint-free cotton cloth and, if necessary, a gentle cleaner. Do not use abrasives or solvents.