



User Manual

PCE-DHM 30 Microscope



User manuals in various languages (français, italiano, español, português, nederlands, türk, polski, русский, 中文) can be found by using our product search on: www.pce-instruments.com

Last change: 3 September 2019
v1.0



Contents

1	Safety notes	1
2	Specifications	2
2.1	Delivery scope	2
3	System description	3
3.1	First use	4
3.2	Inserting the micro SD card	4
3.3	Microscope assembly	4
3.4	Turning on/off the microscope	4
4	Functions	4
4.1	Video recording	4
4.2	Image recording	5
4.3	Viewing saved recordings	5
5	Settings	5
5.1	Video settings	5
5.2	Image settings	5
5.3	General settings	5
6	PC-camera	6
6.1	Main menu bar	7
7	Warranty	7
8	Disposal	7

1 Safety notes

Please read this manual carefully and completely before you use the device for the first time. The device may only be used by qualified personnel and repaired by PCE Instruments personnel. Damage or injuries caused by non-observance of the manual are excluded from our liability and not covered by our warranty.

- The device must only be used as described in this instruction manual. If used otherwise, this can cause dangerous situations for the user and damage to the meter.
- The instrument may only be used if the environmental conditions (temperature, relative humidity, ...) are within the ranges stated in the technical specifications. Do not expose the device to extreme temperatures, direct sunlight, extreme humidity or moisture.
- Do not expose the device to shocks or strong vibrations.
- The case should only be opened by qualified PCE Instruments personnel.
- Never use the instrument when your hands are wet.
- You must not make any technical changes to the device.
- The appliance should only be cleaned with a damp cloth. Use only pH-neutral cleaner, no abrasives or solvents.
- The device must only be used with accessories from PCE Instruments or equivalent.
- Before each use, inspect the case for visible damage. If any damage is visible, do not use the device.
- Do not use the instrument in explosive atmospheres.
- The measurement range as stated in the specifications must not be exceeded under any circumstances.
- Non-observance of the safety notes can cause damage to the device and injuries to the user.

We do not assume liability for printing errors or any other mistakes in this manual.

We expressly point to our general guarantee terms which can be found in our general terms of business.

If you have any questions please contact PCE Instruments. The contact details can be found at the end of this manual.

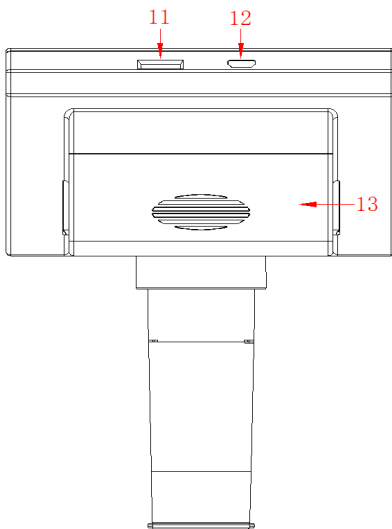
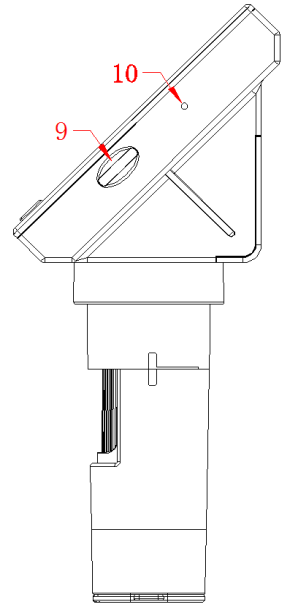
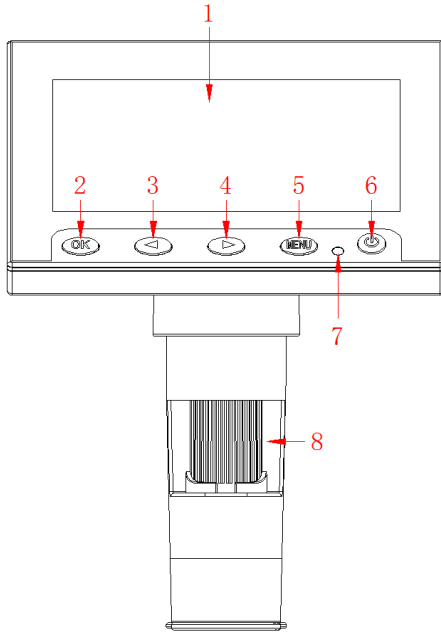
2 Specifications

Technical specifications of the LCD-Mikroskop PCE-DHM 30	
File formats	JPG/BMP/AVI
Optical lenses dimension	1 / 6.5"
Image resolution	VGA 1,3 M, 2 M, 3 M
Video resolution	720p
Focusing mode	manual
Magnifying factor	500/1000
Lighting	8 LED lights (controllable)
Focusing area	10 ... 40 mm
Image transfer to the PC	640*480 / 26 fps, 1280 * 720 / 26 fps
White balance	automatic
Digital exposure	automatic
PC requirement	Windows XP or higher
	Mac OS x 10.5 or higher
Menu languages	adjustable in 12 languages
Lens assembly	2G + IR
Aperture	F4,5
View angle	16°
Memory	Micro SD card
Data transfer	USB 2.0
Ambient temperature	-20 ... 60 °C / -4 ... 140 °F
Ambient humidity	30 ... 85 % rH
Power supply	Replaceable 18650 battery or via USB connection
Power consumption	330 mA
Input	1.65 W

2.1 Delivery scope

- 1 x microscope PCE-DHM 30
- 1 x tripod
- 1 x USB cable
- 1 x software
- 1 x battery 18650
- 1 x user manual

3 System description



1. LCD
2. OK key
3. Arrow left key
4. Arrow right key
5. Menu key
6. On/off key
7. LED indicator
8. Focusing wheel
9. Brightness slider
10. Reset key
11. SD card slot
12. micro USB port
13. Battery compartment



3.1 First use

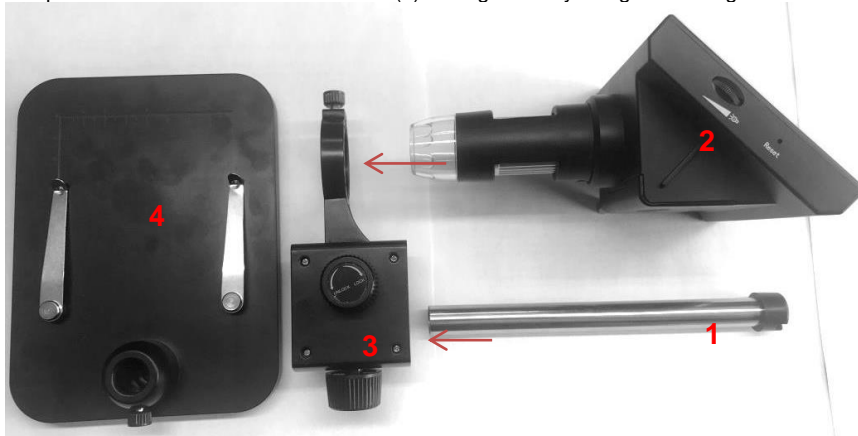
If the device does not power on or shows the low battery icon, charge it by using the USB cable that comes with the microscope. During charging, the LED next to the On/off key will glow in red.

3.2 Inserting the micro SD card

Turn off the microscope. Insert the micro SD card into the card slot which has a spring mechanism so that the card snaps into place when pushed in.

3.3 Microscope assembly

The microscope comes in 4 separate parts. Guide the arm (1) and the microscope (2) through the microscope bracket (3). Use the locking screws at the microscope bracket to tighten the components. Insert the arm into the base (4) and tighten it by using the locking screw at the base.



3.4 Turning on/off the microscope

To turn on the device, press the **On/off key** for approx. 2 s.

To turn off the device, press the **On/off key** for approx. 2 s.

4 Functions

After turning on the microscope, it will automatically be in video mode. The mode can be changed by pressing and holding the Menu key.

4.1 Video recording

- When you are in video mode, a video icon will be displayed on the upper left edge of the LCD.
- Set the desired magnification and focus by turning the **focusing wheel**.
- Set the desired brightness by using the **brightness slider**.
- Press the **OK key** to start video recording. The recording time will be displayed on the upper right edge of the LCD.
- To stop recording, press the **OK key** again. The recording will be saved automatically.

4.2 Image recording

- In image mode, a camera icon will be displayed on the upper left edge of the LCD.
- Set the desired magnification and focus by turning the **focusing wheel**.
- Set the desired brightness by using the **brightness slider**.
- Press the **OK key** shortly to take a picture. The image will be saved automatically.

4.3 Viewing saved recordings

To view the saved images and videos, you must be in data mode. You know that you are in data mode when the file name is displayed on the upper edge of the LCD. To switch between the recordings, use the **arrow keys**. To stop the playback, press the **OK key** again.

5 Settings

Settings can be made in any mode. To do so, shortly press the **Menu key**. Repeat this to open the general settings. Further information on the settings can be found in chapter 5.3.

- Navigate through the settings menu by using the arrow keys.
- Enter the setting options by pressing the **OK key** and confirm the desired setting with the **OK key**.

5.1 Video settings

5.1.1 Resolution

As resolution, you can select 720p or VGA.

5.1.2 Time label

Under time label, you can enable or disable that the time is shown in the video.

5.1.3 Exposure compensation

Set the desired exposure value.

5.2 Image settings

In the image settings, you can set the image quality. You can select VGA, 1,3M, 2M or 3M.

5.3 General settings

Press the **Menu key** twice to enter the general settings of the device.

5.3.1 Format

Under format, you can format the micro SD card.



5.3.2 Language

You can select one out of 12 languages.

5.3.3 Line auxiliary

If you enable Line auxiliary, a hair cross will be displayed during recording to help you centre your object.

5.3.4 Automatic shutdown

With the Automatic shutdown function, you can set after how many minutes of inactivity the microscope switches off automatically. You can select 1, 2 or 3 minutes.

5.3.5 Reset system

This function resets the microscope to its factory settings.

5.3.6 Optical frequency

You can select either 50 Hz or 60 Hz.

5.3.7 Time setting

In the time setting, you can set the date and time as well as the date format.

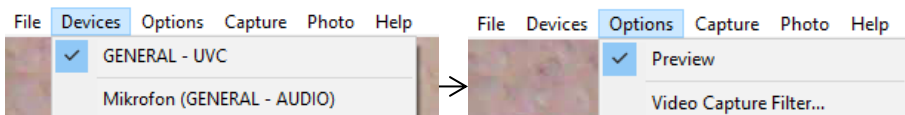
5.3.8 USB

In the USB settings, you can select either PC-camera or hard disk. In PC-camera mode, you can view the displayed image in the software. On the other hand, if you select hard disk, the data from the SD card will be displayed on your computer when you have connected the device to your computer by means of the included USB cable.

6 PC-camera

Install the included software on your computer.

After selecting PC-camera in the „USB“ settings, connect the microscope to your computer. The microscope display will then glow in blue and display “PC-camera”. Open the software. If no image is displayed, go to „Devices“ and tick „GENERAL-UVC“ and make sure that „Preview“ is also ticked under “Options”.



6.1 Main menu bar

6.1.1 File

Set Capture Directory	Folder videos are saved to
Set Photo Directory	Folder images are saved to
Save Captured Video as	Save captured video
Exit	Exit programme

6.1.2 Capture

Start Capture	Start video recording
Stop Capture	Stop video recording
Set Frame Rate	Set frame rate
Set Time Limit	Set time limit for video recording

6.1.3 Bild

Start Photo	Take single picture
Set Photo Format	Set image format

7 Warranty

You can read our warranty terms in our General Business Terms which you can find here: <https://www.pce-instruments.com/english/terms>.

8 Disposal

For the disposal of batteries in the EU, the 2006/66/EC directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste. They must be given to collection points designed for that purpose.

In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law.

For countries outside the EU, batteries and devices should be disposed of in accordance with your local waste regulations.

If you have any questions, please contact PCE Instruments.





PCE Instruments contact information

Germany

PCE Deutschland GmbH
Im Langel 4
D-59872 Meschede
Deutschland
Tel.: +49 (0) 2903 976 99 0
Fax: +49 (0) 2903 976 99 29
info@pce-instruments.com
www.pce-instruments.com/deutsch

Germany

PCE Produktions- und
Entwicklungsgesellschaft mbH
Im Langel 26
D-59872 Meschede
Deutschland
Tel.: +49 (0) 2903 976 99 471
Fax: +49 (0) 2903 976 99 9971
info@pce-instruments.com
www.pce-instruments.com/deutsch

The Netherlands

PCE Brookhuis B.V.
Institutenweg 15
7521 PH Enschede
Nederland
Telefoon: +31 (0)53 737 01 92
info@pcebenelux.nl
www.pce-instruments.com/dutch

United States of America

PCE Americas Inc.
711 Commerce Way suite 8
Jupiter / Palm Beach
33458 FL
USA
Tel: +1 (561) 320-9162
Fax: +1 (561) 320-9176
info@pce-americas.com
www.pce-instruments.com/us

France

PCE Instruments France EURL
23, rue de Strasbourg
67250 Soultz-Sous-Forêts
France
Téléphone: +33 (0) 972 3537 17
Numéro de fax: +33 (0) 972 3537 18
info@pce-france.fr
www.pce-instruments.com/french

United Kingdom

PCE Instruments UK Ltd
Unit 11 Southpoint Business Park
Ensign Way, Southampton
Hampshire
United Kingdom, SO31 4RF
Tel: +44 (0) 2380 98703 0
Fax: +44 (0) 2380 98703 9
info@industrial-needs.com
www.pce-instruments.com/english

China

PCE (Beijing) Technology Co., Limited
1519 Room, 6 Building
Zhong Ang Times Plaza
No. 9 Mentougou Road, Tou Gou District
102300 Beijing, China
Tel: +86 (10) 8893 9660
info@pce-instruments.cn
www.pce-instruments.cn

Turkey

PCE Teknik Cihazları Ltd.Şti.
Halkalı Merkez Mah.
Pehlivan Sok. No.6/C
34303 Küçükçekmece - İstanbul
Türkiye
Tel: 0212 471 11 47
Faks: 0212 705 53 93
info@pce- cihazlari.com.tr
www.pce-instruments.com/turkish

Spain

PCE Ibérica S.L.
Calle Mayor, 53
02500 Tobarra (Albacete)
España
Tel. : +34 967 543 548
Fax: +34 967 543 542
info@pce-iberica.es
www.pce-instruments.com/espanol

Italy

PCE Italia s.r.l.
Via Pesciatina 878 / B-Interno 6
55010 Loc. Gragnano
Capannori (Lucca)
Italia
Telefono: +39 0583 975 114
Fax: +39 0583 974 824
info@pce-italia.it
www.pce-instruments.com/italiano

Hong Kong

PCE Instruments HK Ltd.
Unit J, 21/F., COS Centre
56 Tsun Yip Street
Kwun Tong
Kowloon, Hong Kong
Tel: +852-301-84912
jyi@pce-instruments.com
www.pce-instruments.cn