## LEVENHUK LABZZ DM200 LCD DIGITAL MICROSCOPE

# Lab by levenhuk

Наслади се отблизо Radost zaostřit Zoom ran und hab Fun! Amplíe y disfrute Kellemes nagyítást! Ingrandisci il divertimento Radość przybliżania Dê um zoom na sua етоção Приближает с удовольствием



User Manual FN ВG Ръководство за потребителя CZ Návod k použití Bedienungsanleitung DE FS Guía del usuario HU Használati útmutató IT Guida all'utilizzo PL Instrukcia obsługi Manual do usuário PT **RU** Инструкция по эксплуатации



USA • Azerbaijan • Bulgaria • Canada • Czech Republic • Estonia • Finland • Germany • Hungary • Iceland • India • Italy • Latvia • Lithuania Malaysia • Netherlands • Poland • Romania • Russia • Slovakia • Spain • Turkey • Ukraine • United Kingdom



1. Levenhuk LabZZ DM200 LCD

#### ΕN

- 1. LCD screen
- 2. Objective
- 3. Brightness adjustment knob
- 4. Coarse focusing knob
- 5. Optical zoom ring
- 6. Pole
- 7. Upper illumination
- 8. LCD screen locking screw (not shown)
- 9. Power connector (not shown)
- 10. Stage
- 11. Movable block with specimen holders
- 12. Lower illumination

#### BG

- 1. Течнокристален екран
- 2. Обектив
- 3. Бутон за регулиране на яркостта
- 4. Бутон за грубо фокусиране
- 5. Пръстен за промяна на оптичното увеличение
- 6. Прът на стойката
- 7. Пръстен за регулиране на диоптъра
- 8. Заключващ винт на течнокристален екран (не е показан)
- 9. Съединител за захранването (не е показан)
- 10. Предметна маса
- 11. Подвижен блок с държачи за образец
- 12. Долно осветление

#### CZ

- 1. LCD obrazovka
- 2. Objektiv
- 3. Knoflík pro nastavení jasu
- 4. Makrošroub pro hrubé zaostření
- 5. Kroužek optického zoomu
- 6. Sloupek
- 7. Kroužek dioptrické korekce
- 8. Pojistný šroub LCD obrazovka (není zobrazeno)
- 9. Konektor napájení (není zobrazeno)
- 10. Pracovní stolek
- 11. Pohyblivý blok s držáky preparátů
- 12. Osvětlení procházejícím světlem

#### HU

- 1. LCD-kijelző
- 2. Objektív
- 3. Fényerősség állítógomb
- 4. Durva-fókuszállító gomb
- 5. Optikaizoom-állító gyűrű
- 6. Rúd
- 7. Dioptria-állító gyűrű
- 8. LCD képernyőrögzítő-csavar (nem látható)
- 9. Hálózati csatlakozó (nem látható)
- 10. Tárgyasztal
- 11. Mozgatható blokk mintatartókkal
- 12. Alsó világítás

#### DE

- . LCD-Bildschirm
- Objektiv
- 3. Helligkeitsregler
- 4. Grobtrieb
- 5. Optischer-Zoom-Ring
- 6. Stange
- 7. Dioptrienring
- 8. LCD-Bildschirmfixierschraube (nicht abgebildet)
- 9. Stromanschluss (nicht abgebildet)
- 10. Objekttisch
- 11. Beweglicher Block mit Probenhalter
- 12. Transmissionslicht-Beleuchtung

#### IT

- 1. Schermo LCD
- 2. Obiettivo
- 3. Manopola di regolazione della luminosità
- 4. Manopola di messa a fuoco grossolana
- 5. Anello dello zoom ottico
- 6. Colonna
- 7. Ghiera di regolazione diottrica
- 8. Vite di fissaggio dello schermo LCD (non visibile)
- 9. Presa di alimentazione (non visibile)
- 10. Tavolino
- 11. Blocco mobile con portacampioni
- 12. Illuminazione inferiore

#### ES

- 1. Pantalla LCD
- 2. Objetivo
- 3. Mando de ajuste del brillo
- 4. Mando de enfoque aproximado
- 5. Anillo de zoom óptico
- 6. Varilla
- 7. Anillo de ajuste de las dioptrías
- 8. Tornillo de bloqueo de la pantalla LCD (no se muestra)
- 9. Compartimento de la batería (no se muestra)
- 10. Platina
- 11. Bloque movible con portamuestras
- 12. Iluminación de luz transmitida

#### PL

- 1. Ekran LCD
- 2. Obiektyw
- 3. Pokrętło regulacji jasności
- 4. Pokrętło zgrubnej regulacji ostrości
- 5. Pierścień powiększenia optycznego
- 6. Statyw
- 7. Pierścień regulacji dioptrii
- 8. Śruba blokująca ekranu LCD (nie pokazano)
- 9. Komora baterii (nie pokazano)
- 10. Stolik
- 11. Ruchomy blok z zaczepy do preparatów
- 12. Źródło światła przechodzącego

#### PT

- 1. Ecrã LCD
- 2. Objetiva
- 3. Botão de ajuste do brilho
- 4. Botão de focagem grosseira
- 5. Anel de zoom ótico
- 6. Polo
- 7. Anel de ajuste de dioptria
- 8. Parafuso de bloqueio do ecrã LCD (não apresentado)
- 9. Conector de alimentação (não apresentado)
- 10. Platina
- 11. Bloco móvel com suportes de espécimes
- 12. Iluminação inferior

#### RU

- 1. ЖК-экран
- 2. Объектив
- 3. Регулятор яркости подсветки
- 4. Ручка грубой фокусировки
- 5. Кольцо оптического увеличения
- 6. Штатив
- 7. Верхняя подсветка
- 8. Фиксатор ЖК-экрана (не показан)
- 9. Гнездо сетевого адаптера (не показано)
- 10. Предметный столик
- 11. Подвижный блок с держателями препарата
- 12. Нижняя подсветка







- 1. Power on/off
- 2. Menu
- 3. Up
- 4. Down
- 5. OK
- 6. Capture
- 7. Infrared sensor
- 8. Brightness adjustment wheel
- 9. SDslot
- 10. MiniUSB: output to PC
- 11. Reset (not shown)

2.

#### BG

- 1. Вкл./изкл. на захранването
- 2. Меню
- 3. Нагоре
- 4. Надолу
- 5. OK
- 6. Заснемане
- 7. Инфрачервен сензор
- 8. Колело за регулиране на яркостта
- 9. Слот за SD карта
- 10. Мини USB: изход към компютър
- 11. Нулиране (не е показан)

#### CZ

- 1. Vypínač napájení (zap/vyp)
- 2. Nabídka
- 3. Nahoru
- 4. Dolů
- 5. OK
- 6. Pořídit snímek
- 7. Infračervený snímač
- 8. Regulátor nastavení jasu
- 9. Slot pro SD kartu
- 10. MiniUSB: výstup do PC
- 11. Resetovat (není zobrazeno)

#### DE

- 1. Ein-/Ausschalter
- 2. Menü
- 3. Aufwärts
- 4. Abwärts
- 5. OK
- 6. Aufnahme
- 7. Infrarotsensor
- 8. Helligkeitsregler
- 9. SD-Kartensteckplatz
- 10. MiniUSB: PC-Anschluss
- 11. Rücksetzen (nicht abgebildet)

#### ES

- 1. Encendido/apagado
- 2. Menú
- 3. Arriba
- 4. Abajo
- 5. OK
- 6. Captura
- 7. Sensor infrarrojo
- 8. Rueda de ajuste de brillo
- 9. Ranura SD
- 10. MiniUSB: salida a PC
- 11. Restablecer (no se muestra)

#### PL

- 1. Wł./wył. zasilania
- 2. enu
- 3. W górę
- 4. W dół
- 5. OK
- 6. Rejestrowanie
- 7. Czujnik podczerwieni
- 8. Pokrętło regulacji jasności
- 9. Gniazdo karty SD
- 10. Mini USB: wyjście do komputera
- 11. Resetuj (nie pokazany)

#### HU

- 1. Ki-/bekapcsoló gomb
- 2. Menü
- 3. Fel
- 4. Le
- 5. OK
- 6. Felvétel
- 7. Infravörös érzékelő
- 8. Fényerő szabályzókerék
- 9. SD-hely
- 10. MiniUSB: kimenet számítógéphez
- 11. Visszaállítás (nincs feltüntetve)

#### IT

- 1. Interruttore on/off
- 2. Menù
- 3. Su
- 4. Giù
- 5. OK
- 6. Cattura
- 7. Sensore a infrarossi
- 8. Rotella regolazione luminosità
- 9. Slot SD
- 10. MiniUSB: uscita PC
- 11. Reset (non visibile)

#### PT

- 1. Ligar/desLigar/desligar
- 2. Menu
- 3. Para cima
- 4. Para baixo
- 5. OK
- 6. Capturar
- 7. Sensor infravermelho
- 8. Roda de ajuste do brilho
- 9. Ranhura SD
- 10. MiniUSB: saída para PC
- 11. Repor (não apresentado)

#### RU

- 1. Кнопка вкл./выкл. питания
- 2. Кнопка «Меню»
- 3. Кнопка «Вверх»
- 4. Кнопка «Вниз»
- 5. Кнопка «ОК»
- 6. Кнопка «Съемка»
- 7. Инфракрасный датчик
- 8. Кольцо регулировки яркости
- 9. Разъем карты SD
- 10. Разъем miniUSB
- 11. Кнопка «Перезагрузка» (не показана)





- 1. Capture
- 2. Zoom up 3. OK
- Zoom down 4.



1.

2.

3. OK

4.



- Pořídit snímek 1.
- 2. Zvětšit zoom
- 3. ΟK
- 4. Zmenšit zoom



- Aufnahme 1.
- Zoom + 2.
- 3. OK
- 4. Zoom –



- Cattura 1.
- 2. Aumenta zoom
- ΟK 3.
- 4. Diminuisci zoom

	ES

1. Captura 2. Aumentar ampliación

Заснемане

Увеличаване

Намаляване на увеличението

- OK
- 3.
- 4. Reducir ampliación



- Felvétel 1. 2. Közelítés
- 3. ΟK
- 4. Távolítás



- Rejestrowanie 1.
- 2. Powiększenie
- 3. ΟK
- Oddalenie 4.

Þ.	Г

- 1. Capturar
- 2. Aumentar zoom
- 3. ΟK
- 4. Diminuir zoom

#### RU

- Кнопка «Съемка» 1.
- 2. Кнопка «Увеличение»
- 3. Кнопка «ОК»
- Кнопка «Уменьшение» 4.

### EN

- 1. DC adapter
- 2. USB cable
- 3. Switch cable
- 4. 0N/0FF
- 5. Brightness up
- 6. Brightness down
- 7. Lens covers
- 8. 12 prepared slides
- 9. Black, white and uniform light plates

#### HU\_

- 1. Hálózati adapter
- 2. USB-kábel
- 3. Kapcsolókábel
- 4. Főkapcsoló
- 5. Fényerő növelése
- 6. Fényerő csökkentése
- 7. Lencsesapkák
- 8. 12 előkészített csúszik
- 9. Fekete, fehér és egyenletes fénylemezek

#### BG

2

- 1. DC адаптер
- 2. USB кабел
- 3. Кабел за включване
- 4. Вкл./Изкл.
  - 5. Увеличаване на яркостта

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4 5 6

- 6. Намаляване на яркостта
- 7. Капаци на обектива
- 12 подготвени слайда
   Черни, бели и еднакви светлинни плочи

#### Т

- 1. Adattatore DC
- 2. Cavo USB
- 3. Cavo interruttore
- 4. On/Off
- 5. Aumenta luminosità
- 6. Diminuisci luminosità
- 7. Coperture delle lenti
- 8. 12 vetrini preparati
- 9. Piastre luminose nere, bianche e uniformi

#### CZ

3

1. Stejnosměrný adaptér

4.

- 2. Kabel USB
- 3. Vyměnit kabel
- 4. Zap/Vyp
- 5. Zvýšit jas
- 6. Snížit jas
- 7. Ochranné kryty zorníku
- 12 připravených diapozitivy
   Černé, bílé a rovnoměrné
- světelné desky

#### PL

8.

- 1. Zasilacz
- 2. Przewód USB
- 3. Przewód przełączający
- 4. Wł./Wył.
- 5. Zwiększenie jasności
- 6. Zmniejszenie jasności
- 7. Osłona soczewki
  - 12 przygotowanych szkiełek 8. Czarne białe i jednolite 9.
- 9. Czarne, białe i jednolite światła talerze

#### DE 1. Netzteil

7

- 2. USB-Kabel
- 3. Kabelschalter
- 4. Ein/Aus
- 5. Helligkeit +
- 6. Helligkeit –
- 7. Objektivabdeckung
- 8. 12 vorbereitete Mikroskop-Objektträger
- 9. Schwarze, weiße und einheitliche Lichtplatten

#### PT

4.

- 1. Adaptador de CC
- 2. Cabo USB
- 3. Cabo do interruptor
  - Ligado/Desligado
- 5. Aumentar luminosidade
- 6. Diminuir luminosidade
- 7. Tampas da lente
  - 12 slides preparados
    - Placas de luz pretas, brancas e uniformes



2. Cable USB

FS

3

4

8

9

Cable de conmutación

9

- Encendido/Apagado
- 5. Aumentar brillo
- 6. Reducir brillo
- 7. Cubiertas de lentes
  - 12 diapositivas preparadas
  - Placas de luz negras, blancas y uniformes

#### RU

- 1. Адаптер постоянного тока
- 2. USB-кабель
- Пульт управления яркостью подсветки с кабелем подключения и питания
- Кнопка вкл./выкл.
   подсветки
- Кнопка увеличения яркости подсветки
- Кнопка уменьшения яркости подсветки
- 7. Крышки объектива
- 8. 12 готовых
  - микропрепаратов
- Черное, белое и прозрачное предметные стекла



8

## Levenhuk LabZZ DM200 LCD Digital Microscope



Please refer to fig. 1 (device), 2 (LCD screen), 3 (control panel), and 4 (accessories) and view all the details of the device.

#### **Getting started**

- Unpack the microscope carefully and place it on a flat surface.
- Plug the power cable into the corresponding connectors on the base and on the LCD screen, the backlight and screen will turn on automatically.
- Press and hold the "Power on/off" button for 2 seconds on the screen to turn the screen on and off.
- Place the micropreparation on the movable block and fix it with the specimen holders. Place the movable block under the objective. The kit includes a set of ready-made micropreparations for study. Remove the lens cover labeled "Q.C. passed" from the bottom of the second lens cover.
- Adjust the brightness of the backlight and adjust the clarity of the image with the coarse focusing knob.

A microSD card (purchased separately) is required to save captured images and recorded videos. Turn the microscope off and insert the microSD card into the corresponding slot on the microscope body until it locks in place with a click. Do not apply excessive force when inserting the microSD card. Try rotating the card, if it does not lock in place with ease.

If the LCD screen freezes, look for the "Reset" button on the back of the LCD screen. Use a narrow object, such as a straightened paperclip, to press the button. This will reset all of the settings to the factory defaults and restart the LCD screen. Saved photos or videos will not be deleted.

#### Stage inset glass

Frosted glass stage inset may be used for observations of transparent specimens
or thin slices of objects. Place it on the stage and secure it in place with the locking
screw. Lower illumination source should be used during observations with this
glass stage inset.

**Caution:** Please refer to the specifications table for the correct mains voltage and never attempt to plug a 110V device into 220V outlet and vice versa without using a converter. Remember that mains voltage in the U.S. and Canada is 110V and 220–240V in most European countries.

 Additional black and white glass slides are supplied with the microscope. If the specimen is white or bright, then for better image contrast, use a black glass slide with only the top illumination on. Otherwise, use a white glass slide.

#### **Application menu**



#### Digital magnification

During observations, press the "Up" button to enlarge the image and the "Down" button to reduce the image.

#### Capturing an image

- 1. Turn the microscope on and place a specimen on the stage.
- 2. Set the objective to the desired height using the coarse focusing knob.
- 3. Adjust the illumination brightness, so that the specimen is evenly lit.
- Adjust the magnification and sharpness of the image by rotating the coarse focus knob and optical zoom ring.
- 5. To take a photo, press the "Capture" button.

#### **Recording a video**

- 1. Press the "Video" button to switch to video mode. The icon in the upper left corner of the screen will change in confirmation.
- Press the "OK" button to start recording. <u>Note:</u> do not hold down the "OK" button; instead, briefly press and release it.
- 3. Press the "OK" button again to stop recording.
- 4. Press the "Capture" button to take a picture while the microscope is recording a video. If you take a photo this way, the image resolution may not be as high as the video resolution the image quality will be lower.

#### View photos and videos

- 1. Insert the microSD card into the SD slot.
- 2. Press the "Video" button twice to turn on the viewing mode.
- Press the "Right" and "Left" buttons to view the pictures and videos. Press the "OK" button to start playing the video.
- Use the "Menu" button to provide additional options when viewing a still image or video. Press and hold the "Menu" button until options appear.

#### Setup

Press the "Menu" button to go to the settings menu of the LCD screen Use the control buttons to select the required parameters. Press the "Menu" button again to save the selected parameters. Do not turn off the power of the microscope while saving the settings. Reboot the microscope after applying the settings.

#### Use with a computer

AMCAP, ViewPlayCap, WebCam Monitor, and Microscope Measure programs can be download from the official Levenhuk website.

- Install the AMCAP (Windows 7/8), ViewPlayCap (Windows 10) and WebCam Monitor (Mac OS) software on the computer. The PC camera icon will appear on your desktop after the installation of the software is complete.
- 2. Use the "Power on/off" button to turn off the LCD screen.
- 3. Use the USB cable for connecting the LCD screen to the computer.
- 4. Click the PC camera icon on your computer's desktop to start viewing.

#### **Specifications**

Product ID	76827
Model	Levenhuk LabZZ DM200 LCD
Digital magnification	17–220x
Optical magnification	17–55x
Optics material	optical glass
Body	plastic
Stage	120x180mm
Movable block	83x43mm, with specimen holders
Focus	coarse, 93mm
Illumination	upper and lower, LED
Rotatable color LCD screen	4.3"
Megapixels (sensor/image)	1/12
Max. resolution (image/video)	4032x3024px/1920x1080px
Image/video format	*.jpg/ *.avi
Sensor	1/4
Pixel size	3µm
Sensitivity	highly sensitive sensor
Spectral range	410–1100nm
Manual settings	white balance, exposure control
Output (connectors)	microSD, miniUSB
Power supply (microscope)	110–220V; 5V, 1A via USB cable or power adapter; built-in 1800 mAh battery (working time: 2.5 hours, charging time: 10 hours)
Power supply (IR remote)	1pc CR2025 batteries (included)
Operating temperature range	–20+70 °C (–4+158 °F)

Levenhuk reserves the right to modify or discontinue any product without prior notice.

#### **Care and maintenance**

- Never, under any circumstances, look directly at the Sun, another bright source of light or at a laser through this device, as this may cause PERMANENT RETINAL DAMAGE and may lead to BLINDNESS.
- Take necessary precautions when using the device with children or others who have not read or who do not fully understand these instructions.
- After unpacking your microscope and before using it for the first time check for integrity and durability of every component and connection.
- Do not try to disassemble the device on your own for any reason. For repairs and cleaning of any kind, please contact your local specialized service center.
- Protect the device from sudden impact and excessive mechanical force. Do not apply
  excessive pressure when adjusting focus. Do not overtighten the locking screws.
- Do not touch the optical surfaces with your fingers. To clean the device exterior, use
  only special cleaning wipes and special optics cleaning tools from Levenhuk. Do not use
  any corrosive or acetone-based fluids to clean the optics.
- Abrasive particles, such as sand, should not be wiped off lenses, but instead blown off or brushed away with a soft brush.
- Do not use the device for lengthy periods of time, or leave it unattended in direct sunlight. Keep the device away from water and high humidity.
- Be careful during your observations, always replace the dust cover after you are finished with observations to protect the device from dust and stains.
- If you are not using your microscope for extended periods of time, store the objective lenses and eyepieces separately from the microscope.
- Store the device in a dry, cool place away from hazardous acids and other chemicals, away from heaters, open fire and other sources of high temperatures.
- When using the microscope, try not to use it near flammable materials or substances (benzene, paper, cardboard, plastic, etc.), as the base may heat up during use, and might become a fire hazard.
- Always unplug the microscope from a power source before opening the base or changing the illumination lamp. Regardless of the lamp type (halogen or incandescent), give it some time to cool down before trying to change it, and always change it to a lamp of the same type.
- Always use the power supply with the proper voltage, i.e. indicated in the specifications
  of your new microscope. Plugging the instrument into a different power outlet may
  damage the electric circuitry of the microscope, burn out the lamp, or even cause a
  short circuit.
- Seek medical advice immediately if a small part or a battery is swallowed.

#### **Battery safety instructions**

- Always purchase the correct size and grade of battery most suitable for the intended use.
- Always replace the whole set of batteries at one time; taking care not to mix old and new ones, or batteries of different types.
- Clean the battery contacts and also those of the device prior to battery installation.
- Make sure the batteries are installed correctly with regard to polarity (+ and –).
- Remove batteries from equipment that is not to be used for an extended period of time.
- Remove used batteries promptly.

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- Never attempt to recharge primary batteries as this may cause leakage, fire, or explosion.
- Never short-circuit batteries as this may lead to high temperatures, leakage, or explosion.
- Never heat batteries in order to revive them.
- Do not disassemble batteries.
- Remember to switch off devices after use.
- Keep batteries out of the reach of children, to avoid risk of ingestion, suffocation, or poisoning.
- Utilize used batteries as prescribed by your country laws.

#### Levenhuk International Lifetime Warranty

All Levenhuk telescopes, microscopes, binoculars and other optical products, except for accessories, carry a **lifetime warranty** against defects in materials and workmanship. Lifetime warranty is a guarantee on the lifetime of the product on the market. All Levenhuk accessories are warranted to be free of defects in materials and workmanship for six months from date of retail purchase. Levenhuk will repair or replace such product or part thereof which, upon inspection by Levenhuk, is found to be defective in materials or workmanship. As a condition to the obligation of Levenhuk to repair or replace such product, the product must be returned to Levenhuk together with proof of purchase satisfactory to Levenhuk. This warranty does not cover consumable parts, such as bulbs (electrical, LED, halogen, energy-saving and other types of lamps), batteries (rechargeable and non-rechargeable), electrical consumables etc. For further details, please visit our web site: www.levenhuk.com/warranty

If warranty problems arise, or if you need assistance in using your product, contact the local Levenhuk branch.