

OCUS®

User Guide

Sales package contents

- Ocus® scanner
- Protective cover
- Power supply and mains cable
- User guide
- Carrying case

To use the Ocus® scanner, you also need

- Computer or tablet
- Internet connection
- Browser (Chrome, Edge, Firefox, Safari)

Introduction to the Ocus® Portable Whole Slide Image Scanner

Grundium Ocus® is an In Vitro diagnostic Medical Device

Grundium Ocus® is a professional imaging instrument for digitizing microscope slides. The device is used in in vitro diagnostics, which aims to gather information about the physiological or pathological state of the patient based on the specimens derived from the human body. The device produces image data, which medical professionals can use

as input information when making patient diagnosis or therapeutic measures.

Important Notice: The functionality of the scanner must be verified every time before critical operation. The scanner intended usage flow, including the connectivity, scanning and exporting, must be verified. It must be verified that the user's equipment produces slides suitable for scanning with Ocus®. Image quality must be verified with known sample. Also, there must be a back-up solution for critical operations.

1. Before you start

Check the carrying case for damages. If you notice any damage on the case or the scanner, contact support@grundium.com.

Note: More detailed user guide can be found in www.grundium.com.

Remove the transportation support pin from the bottom of the scanner by turning the pin counter-clockwise. Remember to handle the scanner carefully to avoid dropping or damaging it and avoid leaving fingerprints on the glass surfaces or lenses while removing the pin.

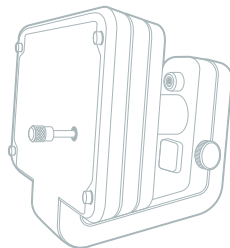


Image 1. Remove the transportation support pin

Place the scanner on a flat surface and make sure there is at least 10 centimeters (4 inches) free space around it.

Tip: To ensure safe transportation, screw the transportation support pin back in before moving the scanner to another location. Do not tighten the pin, turning it until it stops is enough.

Scanner parts

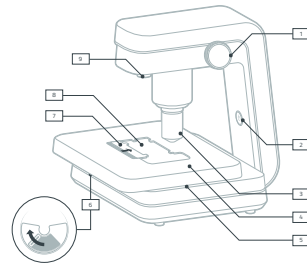


Image 2. Scanner parts

1. Focus knob
2. Power button
3. Objective
4. Cover plate
5. X-Y-stage
6. Lever
7. Slide holder
8. Slide support glass
9. Overview camera

Power button lights

Light	Explanation
Green breathing	Scanner is switched off. Power cable is connected.
Green steady	Scanner is connected to the Internet.
Green blinking	Scanner is in live view mode, scanning or exporting.
Yellow steady	Scanner is connected to the Internet via proxy.
Red steady	Scanner is in error state (see Troubleshooting).
Red blinking	Scanner is powering up or shutting down.
Blue steady	Scanner's WLAN access point is on.
Purple steady	Scanner's first start-up is ongoing.
Purple blinking	Scanner's software update is in progress.

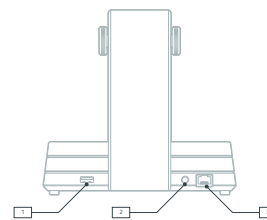


Image 3. Scanner connectors

1. USB connector
2. Power cable connector. Use only the power cable supplied with the scanner.
3. Network cable connector

2. First use

When you use the scanner for the first time, you need to connect it to your computer or tablet and set up an Internet connection for the scanner. You can use either a network cable or a WLAN for the connection.



Image 4. Product label of your scanner

Notes: If the network you use has a firewall, make sure that the scanner is allowed to use the outgoing connection to the Internet. If the firewall uses a MAC filter, you can find the MAC address of the scanner on the label at the bottom of the scanner. Also, traffic between devices in the network must be allowed.

First use with a network cable connection

1. Attach the power cable to the scanner and plug the cable in a wall outlet. The power button shows a breathing green light.
2. Connect one end of the network cable to the scanner and the other end to the Ethernet connector for your network.
3. Press the power button. The power button flashes red. Once the scanner is switched on and connected to the Internet, the power button shows a steady green light.
4. Open the browser in your computer or tablet and type the following in the browser's address field:
<http://mgu-XXXXX-XXXXXX.device.grundium.net>.
Replace the X's with the scanner's serial number (eleven digits) found on the label at the bottom of the scanner or on the sticker attached to quick start guide.
5. Follow the instructions on your computer or tablet to register a new user account or to use an existing one. The account enables you to use the scanner.

You can also create a new team. A team enables you to share the scanner with other team members. If you want to join an existing team, ask someone from the team to add you. See instructions for creating a new team in www.grundium.com.

First use with a WLAN connection

- To use a WLAN connection, you need:
- The name of the WLAN (SSID) provided by the scanner and your password. These are found on the label at the bottom of the scanner or on the sticker attached to quick start guide.
 - The name and password of the WLAN to which the scanner connects for an Internet access. Contact your system administrator for assistance, if needed.
1. Attach the power cable to the scanner and plug the cable in a wall outlet. The power button shows a breathing green light.
 2. Press the power button. The power button flashes red. Once the scanner is switched on and acts as a WLAN access point, the power button shows a steady purple light.
 3. Open the WLAN settings in your computer or tablet and search for available networks.
 4. Connect to "Ocus_XX" WLAN (XX is replaced by the two last digits of the scanner's serial number). The password for the scanner WLAN can be found on the label at the bottom of the scanner or on the sticker attached to quick start guide (image 4). If the computer asks for a PIN code instead of a password, switch to using a passphrase.
 5. Open the browser in your computer or tablet and type the following in the browser's address field: www.grundium.net.

2. Open the browser in your computer or tablet and type <https://www.grundium.net>.
3. Type your e-mail address and password and press **Login**.

4. Start scanning

- Note:** Both in local or remote use, remember to keep at least 10cm free space around the scanner. Make sure that nobody touches the scanner when the stage is moving.
1. On your computer or tablet, press **Eject slide tray**.
 2. Push the lever underneath the cover plate left to open the slide holder (Image 5).
 3. Place the slide on the scanner so that the sticker end is on the right.
 4. Push the lever right to secure the slide.
 5. Press **New scan** to take an overview image.
 6. To zoom the specimen, use your mouse scroll, or press +, - or 1:1 next to zoom bar on display.
- Tip:** The image is saved automatically to the scanner's hard drive. If you want to give the image a specific name, write the name in the **File name field**.

- directions. Focus is properly adjusted, when **Focus in range** is shown on screen.
- Tip:** You can use the scanner in live view for quick viewing of details on a slide. Image can be panned by dragging the image with mouse or fingertip.
8. Press **Add area** and select one or more area you want to scan. To adjust the areas further, drag the borders of the areas. Estimated scan time is shown on screen.
- If **Focus not in range** is shown on screen, you need to adjust the mechanical focus.
- Tip:** To quickly remove extra areas from the selected scanning area, press **Trim all areas**.
9. Press **Scan** to start the scanning. The remaining scan time is shown on screen and once the scan is completed, the scanned areas are marked to the overview image and you can zoom into them.

View the images

To view your saved images, press **Scan archive**. To move back to the microscope view, press **Microscope**.

Export an image

You can transfer images from the scan archive to a cloud service or a USB drive.

to update the software. Scanner intended usage flow must be verified after each software update. This involves testing at least that the connectivity, scanning and exporting function properly.

Clean the scanner

1. Switch off the scanner.
 2. Remove the power cable and the network cable from the scanner.
 3. Turn the focus knob until the camera lens is in the uppermost position.
 4. Slide the topmost plate to the front and carefully remove the cover plate by pushing for example the tip of a pen to the small hole under the right edge of the cover plate.
- Note:** when removing the cover plate, be careful not to damage any optics in the scanner.
5. Wipe all surfaces with a soft, damp, lint-free cloth. You can use a microscope detergent, for example Reagens, which consists of Propan-2-ol and ammonia. (The Ocus® scanner has been tested with the Reagens microscope detergent.)

- overview camera produces good quality
- live view from microscope camera produces good quality
- scanning of known area produces good quality.

Taking scanner to another location

When you pack the scanner in carrying case make sure that objective is in uppermost position and screw transportation pin to its' place. During transportation, the scanner should be kept in upright position when possible. Always verify the operation and performance of the scanner after transportation.

Product and safety information

Keep the scanner dry. Precipitation, humidity, and all types of liquids or moisture can contain minerals that corrode electronic circuits.

Use only dry and clean slides. Drying liquid substances can jam the slide holder mechanism. Spill of liquid on slide support glass may cause the liquid to leak to internal parts and lead to malfunction.

Do not use or store the scanner in dusty or dirty areas. Use the protective cover when the scanner is not in use.

Scanner can be stored in temperatures between +1 and +70 degrees of Celsius (34 to 158 Fahrenheit) without special measures, provided that condensing humidity conditions are not present.

6. Follow the instructions on your computer or tablet to connect the scanner to a WLAN that has access to the Internet.
7. Follow the instructions on your computer or tablet to register a new user account or to use an existing one. The account enables you to use the scanner.

You can also create a new team. A team enables you to share the scanner with other team members. If you want to join an existing team, ask someone from the team to add you. See instructions for creating a new team in www.grundium.com.

3. Log in to the scanner

Log in to the scanner with Internet connection

1. Open the browser in your computer or tablet and type <https://www.grundium.net>.
2. Type your e-mail address and password and press **Login**.
3. Select your team and the scanner you want to use, and press **Connect to device**.

Log in to the scanner with direct WLAN connection

1. Open the WLAN settings from your computer or tablet and connect to WLAN provided by the scanner (WLAN name/SSID and password can be found from the sticker on the bottom of the device).

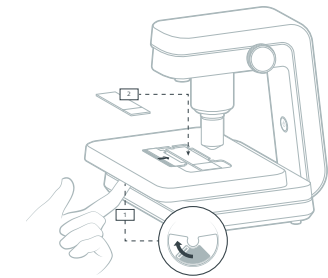


Image 5. Open the slide holder and place the slide on the scanner

7. For best results, scanners mechanical focus needs to be adjusted for each sample, especially if slide thickness has even slightly changed. To do this, press **Activate live view** and pick a target area using the cross-hair cursor or zoom in to 100%. Use the focus knob on the scanner to adjust the focus. **Quick tip** dialog will assist you with knob

1. Press **Scan archive**.
2. If you want to transfer the images to a USB drive, insert the drive to the USB port at the back of the scanner (image 3).
3. Select the image you want to export and press **Open image**.
4. Select the area to be exported either by pressing **Select all scanned areas** or **Add area**.
5. Press **Export** for selecting the export destination and file format.

Switch off the scanner

There are two ways to switch off the scanner:

1. In the microscope view, press **Change slide > Eject slide tray > Shutdown**.

Note: If you are preparing the scanner for transportation, remove the slide from the scanner at this phase.

2. Press the power button.

During the shutdown, the power key blinks red. When the scanner is switched off, the power key shows a breathing green light.

Keep the software up to date

From time to time, Grundium provides software updates. When a new update is available, you will get a notification and instructions on how

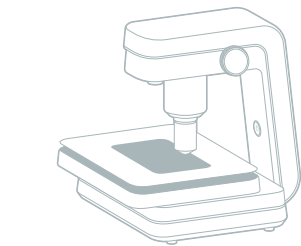


Image 6. Remove the cover plate

6. Put the cover plate back.
7. Slide the topmost plate back to its normal position.
8. Connect the cables and switch the scanner on. Verify with known sample slide that:

Scanner can be stored in temperatures between -20 and +70 degrees of Celsius (-4 to 158 Fahrenheit) in an airtight container to prevent the moisture forming inside the device. The container must be opened only after it has warmed up to normal room temperature (+15 to +25 degrees of Celsius or 59 to 77 Fahrenheit). Airtight carrying case is available for purchase at Grundium.

Use the scanner in temperatures between 10 and 40 degrees Celsius (10 to 104 Fahrenheit).

Do not open the scanner. Only qualified personnel may install or repair this product. Unauthorized modifications may damage the scanner.

Note: Warranty expires if scanner's seals are broken.

Do not drop, knock, or shake the scanner. Rough handling can break it or deteriorate its performance.

Only use a soft, clean, dry, lint-free cloth to clean the surface of the scanner. Use only a detergent that suits microscopes.

Keep the scanner away from magnets or magnetic fields, as they may affect the scanner's operation.

Recycle

Always return your used electronic products and packaging materials to dedicated collection points. This way you help prevent uncontrolled waste disposal and promote the recycling of materials.