

r-biopharm®



# RIDA® SMART BOX ZRSA-SB

User manual



<https://r-b.io/smartbox>





# User manual

## RIDA® SMART BOX

ZRSA-SB

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## Table of Contents

<b>1</b>	<b>General information</b>	<b>7</b>	<b>7</b>	<b>Configuration of the RIDA®SMART BOX</b>	<b>18</b>
	Explanation of the symbols used	7		Connection options of the RIDA®SMART BOX	18
<b>2</b>	<b>Intended use</b>	<b>8</b>		Standard mode ( <i>Access Point Mode-AP</i> )	19
<b>3</b>	<b>Warnings and information</b>	<b>8</b>		WiFi mode (Network Connection Mode)	20
	Liability for function and damage	8		Disconnecting from the WiFi network and returning to AP modess	21
	Working with biological material and material harmful to health	10			
	Storage and transport	10			
<b>4</b>	<b>Information about the RIDA®SMART BOX</b>	<b>11</b>	<b>8</b>	<b>Operation of the RIDA®SMART BOX</b>	<b>22</b>
	Package contents	11		Opening and closing of the drawer	22
	Technical and performance data	12		LED-Signal	24
	Energy consumption	13		Power off and timer function	24
	RIDA®SMART APP	13		Miscellaneous	25
	Required hardware	13		Live-Image of the RIDA®SMART BOX	26
	Serial number of the RIDA®SMART BOX	14		Timer	26
	Information on consumables	14		Update software	26
<b>5</b>	<b>Electromagnetic compatibility</b>	<b>14</b>	<b>9</b>	<b>Measurement with the RIDA®SMART BOX</b>	<b>26</b>
<b>6</b>	<b>Preparations and start-up</b>	<b>14</b>	<b>10</b>	<b>Disposal regulation</b>	<b>28</b>
	Unpacking	14			
	Work environment	15			
	Installation and Start-up	16			



<b>11 Software updates/firmware updates, maintenance and cleaning</b>	28
Software Update	28
Maintenance	29
Cleaning of the RIDA®SMART BOX	29
Cleaning the housing	29
Cleaning of the drawer module	30
Warnings and hints for cleaning	31
Technical Support	32
Repair	32
<b>12 Troubleshooting</b>	33
<b>13 EC Declaration of Conformity/CE Marking</b>	34
<b>14 Explanation of symbols (type plate)</b>	34
<b>15 Version history</b>	34

## User manual

Dear customer,

we are pleased that you have chosen the RIDA®SMART BOX. In order to take full advantage of the performance of the RIDA®SMART BOX and to enjoy your lateral flow imaging instrument for many years, please read these operating instructions carefully before installation and start-up and operate the RIDA®SMART BOX according to the instructions. The operational safety and function of the instrument can only be guaranteed if both the general safety and accident prevention regulations of the legislator and the safety instructions in the user manual are observed. We accept no liability for damage caused by incorrect use or incorrect operation.

Ensure that the user manual is accessible at all times and is read and understood by all persons who operate the RIDA®SMART BOX. Keep the user manual in a safe place so that you can refer to it at any time if necessary.

# 1 General information






Please check the contents of this delivery carefully against the enclosed delivery note, packing note or invoice. We recommend that you keep a copy of these documents together with the instructions so that you have quick access to information about the delivery date and scope in case of later queries, repeat orders or service work. Please ensure that all small parts are removed from the packaging material!

**Before using the RIDA®SMART BOX for the first time, please read this user manual carefully and we recommend that you always keep it together with the RIDA®SMART BOX.**

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## Explanation of the symbols used

**Specific instructions in these user manuals are highlighted by symbols**

Symbol	Description
	Warning! Follow the instructions to avoid the risk of injury.
	Warning! Follow the instructions to avoid damage to the unit.
	Warning, possibility of electric shock!
	Biological risk!
	General safety instructions! Follow the instructions to ensure optimal appliance performance.

## 2 Intended use

The RIDA®SMART BOX is a WiFi-capable lateral flow imaging device designed to work with the RIDA®SMART APP from R-Biopharm AG. RIDA®QUICK tests from R-Biopharm are hereby processed and analyzed by trained laboratory personnel according to the respective test kit description under the specified conditions for the specific sample material.

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## 3 Warnings and information

### Liability for function and damage

The device/software is to be operated by professional users only. The guidelines for work in analytical laboratories must be observed. The operating manual for the device/software must be strictly adhered to.

Please read this manual carefully before using the instrument, especially the safety instructions. Make sure that all users to whom it is available have also read it. The RIDA®SMART BOX must be maintained and operated in accordance with this manual. R-Biopharm AG shall not be liable for any damage caused by failure to observe the above instructions. The warranty and liability conditions of the terms and conditions of sale and delivery of R-Biopharm AG are not extended by the above instructions.



**Warning!**

An incorrect working environment can lead to a reduction in service life, damage to the device or measurement errors. Therefore, observe the explanations and warnings in the following chapters.

**General safety instructions!**

To avoid measuring errors, it is essential to ensure that the instrument is connected properly and that the experiments are carried out correctly. Therefore, observe the explanations and warnings in **chapters 7 to 9**.

**Warning!**

Incorrect cleaning of the RIDA®SMART BOX can lead to a reduction in service life and damage to the unit. Therefore, observe the explanations and warnings in **chapter 12**.

**Warning, possibility of electric shock!**

To avoid the risk of electric shock, do not expose the instrument to rain or excessive moisture and do not touch the instrument or USB cable with wet hands.

**General safety instructions!**

Follow all safety instructions on the RIDA®SMART BOX and in the enclosed documents.

**General safety instructions!**

Follow all general precautions that apply to electrical instruments.

## Working with biological material and material harmful to health

Always follow the hazard instructions of the manufacturer of the substances to be measured. The RIDA®SMART BOX does not produce toxic or harmful gases or substances.

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### Storage and transport

#### Storage and protection during intervals of normal use



Warning!

Protect the unit from moisture and dust during prolonged storage.



Warning!

Do not store the unit next to heat sources and protect it from direct sunlight.

The storage temperature should be between 5 and 40 °C.

#### Transport

Before transporting the RIDA®SMART BOX, make sure that it is properly switched off and the power supply cable is removed. Remove the cable from the device and make sure that there is no test strip in the device. Use the original packaging. Make sure that the new location meets the requirements described in **chapter 3 to 6**.



Warning!

Always transport the product in the original packaging to avoid possible transport damage to the instrument.



Warning!

Before transport, make sure that there is no test strip in the unit.

## 4 Information about the RIDA® SMART BOX

The RIDA® SMART BOX is a WiFi-capable lateral flow imaging device that, in combination with the RIDA® SMART APP, is capable of quantitatively evaluating the RIDA® QUICK rapid test strips developed by R-Biopharm.

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### Package contents

When unpacking the product, please check that the following components are present:

- RIDA® SMART BOX
- USB-C power supply cable (international)
- T8 Torx key



Figure 1: Package contents - RIDA® SMART BOX and accessories

## Technical and performance data

**Table 1**

Description	Specification
Product type	Lateral Flow Imaging device
Product description	RIDA®SMART BOX
Case material	Aluminium and plastic
Location of use	Laboratory
Temperature (storage/measurement)	5 - 40 °C
Temperature (transport)	5 - 40 °C
Relative humidity (storage/measurement/transport)	0 - 85 % (non-condensing)
Air pressure (measurement)	900 - 1070 hPa
Air pressure (storage/transport)	600 - 1070 hPa
Height	Max. 5100 m
Measuring method	Optical/Image Capture
Light source	LED
Connection	WiFi 2,4GH
Dimensions	(HxWxL) 150 x 110 x 210 mm (330 mm with drawer open)
Power supply	5.1 VDC @ 3 A (USB-C)
Power consumption	15 W
Weight	2,2 kg



## Energy consumption

The RIDA®SMART BOX is a device with very low energy consumption. It is cable-operated, the total energy consumption is a maximum of 15 W.

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## RIDA®SMART APP

The RIDA®SMART BOX is used with the software application RIDA®SMART APP. First familiarize yourself with the operation and function of the RIDA®SMART APP. For details on connecting the RIDA®SMART APP to this unit, see **chapter 7**.

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## Required hardware

In principle, all Android-compatible end devices (smartphones and tablet computers) with an Android version 8.1 and above can be used with the RIDA®SMART BOX in conjunction with the RIDA®SMART APP.

However, there are two different application options:

- You want to perform the analysis of the RIDA®QUICK tests both with the RIDA®SMART BOX and independently with the smartphone in combination with the RIDA®SMART APP. Then only smartphone models verified by R-Biopharm can be used.
- You always and exclusively want to measure with the RIDA®SMART BOX. In this case, the smartphone or tablet computer is only used for image evaluation, not for image acquisition. Any current, market-available Android end device can be used for this purpose.

The RIDA®SMART BOX can be connected to an existing 2.4 GHz WiFi network. The RIDA®SMART BOX does not support connection to 5GHz WiFi networks. Furthermore, the RIDA®SMART BOX can only be connected to an Android-enabled smart device (smartphone/tablet with at least Android 8.1) and a valid version of the RIDA®SMART APP from version 3.40 onwards.

## Serial number of the RIDA®SMART BOX

The serial number of the RIDA®SMART BOX is indicated on a label on the device; in addition, you can find the serial number digitally in the web browser of the RIDA®SMART BOX. Use this when contacting R-Biopharm.

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## Information on consumables

The RIDA®SMART BOX can be used to read RIDA®QUICK test strips from R-Biopharm AG in combination with the RIDA®SMART APP.. Always follow the instructions of the manufacturer R-Biopharm when handling the RIDA®QUICK test strips.

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## 5 Electromagnetic compatibility

The RIDA SMART BOX complies with the following essential requirements:

- Radio Equipment Directive (2014/53/EU)
  - Directive 2012/19/EU (WEEE)
  - Directive 2011/65/EU (RoHS)
- 

## 6 Preparations and start-up

### Unpacking

Carefully remove the RIDA®SMART BOX from its packaging and place the unit on a firm and level surface. Check the parts supplied (see **chapter 4, fig. 1**).



General safety instructions!

Check the product for external damage and that the drawer opens and closes fully to insert the LFD.



General safety instructions!

Check that the rubber feet on the underside of the unit are properly attached.

The RIDA®SMART BOX is supplied in specially designed packaging. It is strongly recommended to keep the original packaging. If the device is returned for repair, the original packaging must be used.

---

## Work environment

The RIDA®SMART BOX is an optical scientific instrument and the following warnings must be observed. Failure to do so may result in shortening of the expected service life, damage to the instrument, measurement errors, and voiding of the warranty.



Warning!

The RIDA®SMART BOX should be placed on a flat surface, free of dust and vibrations.



Warning!

Do not operate the RIDA®SMART BOX next to heat sources or in direct sunlight.



Warning!

The ambient temperature should be between 5 and 40 °C.



Warning!

The maximum air humidity should not exceed 85 %.

## Installation and Start-up

Before starting up the RIDA®SMART BOX, you should have carefully read and understood the whole operating manual so that you are familiar with the system.

### Step 1: Setting up and getting ready for operation

The location should have a free power outlet. Otherwise, the device can be temporarily operated via an external, mobile power supply.



**Warning!**

Set up the RIDA®SMART BOX in a horizontal position and secured against falling.

### Step 2: Connection

There is a USB-C port on the back of the RIDA®SMART BOX to connect the instrument to a power outlet using the included charging cable and power plug.

Using the included international power adapter, select the correct country plug attachment for your outlet. First connect the USB-C plug to the RIDA®SMART BOX, then plug the power plug directly into the power outlet.

The USB-C access can also be used to connect an external, mobile power source. In this way, the RIDA®SMART BOX can also be used independently of an electrical infrastructure. There is also a USB-A port on the back of the RIDA®SMART BOX, which can be used for an external storage medium.



**Warning!**

Only use the supplied power supply unit. Do not use an alternative.  
Do not use a USB-C cable connected to a computer or charger.



**Warning!**

Never supply the device via power extension cables. Always connect the power adapter directly to a power outlet.



**Warning!**

Make sure that the USB-C connector on the RIDA®SMART BOX does not span. Pulling or bending can damage the connector in the device.

**Step 3: Starting the RIDA®SMART BOX**

The RIDA®SMART BOX can be switched on using the switch on the side of the unit. When the unit is switched on, the light bar lights up with a blue running light. It may take 2 minutes or longer for the unit to power up. During this time, the device sets up the network and performs a self-tests.

**Warning!**

Do not disconnect the device from the power supply during power-up. This could affect the calibration of the device and/or damage the operating system.

After the device has been switched on for the first time, the light bar lights up solid blue. This means that the device has started successfully and is in standard mode (Access Point Mode-AP). The next step is to connect the RIDA®SMART BOX to the Android device. There are two different ways of connection: Access Point Mode and WiFi Mode. Detailed information can be found in **chapter 7**.

**Warning!**

Wenn das Gerät länger als 3 Minuten mit dem blauen Lichtlauf fortfährt, liegt möglicherweise ein Problem an dem Gerät vor. Lesen Sie bitte den Abschnitt zur Fehlersuche.

**Warning!**

If the unit boots up and the light bar turns red, please refer to the Troubleshooting section, **chapter 12**.

## 7 Configuration of the RIDA®SMART BOX

### Connection options of the RIDA®SMART BOX

The RIDA®SMART BOX uses WiFi to communicate with the RIDA®SMART APP. You have two options to choose from: Standard Mode (Access Point Mode-AP) and Advanced Mode (WiFi Mode). You need to decide which use case is best for you.

#### **Standard Mode (Access Point Mode-AP)**

In Access Point Mode, the RIDA®SMART BOX creates its own independent WiFi network. The smartphone running the RIDA®SMART APP must be paired with the Access Point/network of the RIDA®SMART BOX.

If you use the RIDA®SMART BOX in Access Point mode, it can be used anywhere; regardless of whether WiFi networks are nearby or connection to a WiFi network is not recommended (e.g. for security reasons).

A limitation of this connection mode is that the smartphone is connected directly to the RIDA®SMART BOX and thus loses the Internet connection, since the RIDA®SMART BOX does not provide Internet.

#### **WiFi Mode (Network Connection Mode)**

The RIDA®SMART BOX can be connected to an existing 2.4 GHz WiFi network. Connecting the RIDA®SMART BOX to a WiFi network enables it to be included in an existing Internet-capable WiFi network. It must be connected in this way so that the RIDA®SMART APP is connected to the Internet and the software can be updated and data can be exported.



#### **Warning!**

When the RIDA®SMART BOX does not support connection to 5 GHz WiFi networks.



## Standard mode (Access Point Mode-AP)

By default, the RIDA®SMART BOX sets up its own network - an access point. This is necessary to connect to the RIDA®SMART BOX network with the smartphone used. Observe the following procedure:

1. Switch on the RIDA®SMART BOX, as soon as the blue LED lights up continuously, the connection can be set up.
2. Open your settings menu with the smartphone on which the RIDA®SMART APP is installed and search for the available WiFi networks.

Note: Before connecting the RIDA®SMART BOX to your phone in Access Point mode, we recommend that you disable the WiFi setting “Automatically select best networks”.

3. In the list, you should see a device named “SmartBox-XXXX”, where XXXX is your 4-digit serial number. Select it and enter the password “smartBoxSS1D” when prompted. Important: You will only be asked for a password the first time you connect to the device.



### Warning!

Android may warn that there is no Internet on this network. Please make sure it connects to the RIDA®SMART BOX network by selecting “Keep Network” when prompted by Android.

4. Open the RIDA®SMART APP and go to the “Settings” menu, and then to “General”. Here you will find the settings of the RIDA®SMART BOX. Activate the use of the device under “Use RIDA®SMART BOX”. Establish the connection by clicking on the “Standard Mode - Access Point” button. The RIDA®SMART BOX will appear in the list, select your box. If the devices are successfully connected, the status light in the upper left corner will turn green.

Note: The connection setup may take a few seconds.

5. Now return to the main menu and start with a measurement. Start a measurement (see chapter 9).

---

## WiFi mode (Network Connection Mode)

If you want to connect the RIDA®SMART BOX to a local WiFi network, please follow the steps below.

Make sure that your RIDA®SMART APP is actively connected to the RIDA®SMART BOX via Standard Mode and that you see a green signal for the connection in the RIDA®SMART APP. If this is not the case, please follow the instructions in **chapter 7**, Standard Mode (Access Point Mode-AP).

1. In the RIDA®SMART APP, go to “Settings” → “General”. Check here if “ Use RIDA®SMART BOX” is selected and you are actively connected to the device.
2. Press the “RIDA®SMART BOX Settings” button and follow the login steps. Enter the username (admin) and password (admin).
3. Select the network you want to connect to from the list of WiFi networks and press the green “Connect” button.
4. A pop-up message appears asking you to enter the WPA/WPA2 password of the WiFi. Enter the password and press “OK”.  
The blue running light becomes active and the box restarts.
5. When the RIDA®SMART BOX has successfully logged into the selected WiFi, the RIDA®SMART BOX status light turns solid green. The RIDA®SMART BOX is now connected to the WiFi network and has been given a new IP address.
6. Now connect your smartphone or tablet computer to this WiFi network in the Android W-LAN settings and start the RIDA®SMART APP again.



In the RIDA®SMART APP, go to “Settings” → “General”. Select the “advanced mode WiFi mode” and press the “Search for RIDA®SMART BOX” button.

7. In the list you should see a device named “SmartBox-XXXX”, select the RIDA®SMART BOX from the list of devices. If the connection is successful, the RIDA®SMART BOX icon in the upper left corner will light up green.

Note: It may take a few seconds to establish the connection.

You are now connected to the RIDA®SMART BOX with the extended WiFi mode and can now also export your data and results if the WiFi has a connection to the Internet.



**Warning!**

If no RIDA®SMART BOX is listed after 2 minutes, check that the WiFi connection on the phone and the WiFi network of the RIDA®SMART BOX match.



**Warning!**

Make sure that the RIDA®SMART BOX is supplied with power and that the light bar is permanently green.

---

## Disconnecting from the WiFi network and returning to AP modes

If you want to disconnect the RIDA®SMART BOX from a connected WiFi network and operate it in Access Point Mode again, follow the steps in **chapter 7** Standard Mode (Access Point Mode-AP).

8. Select the RIDA®SMART BOX from the list of devices, press the “RIDA®SMART BOX Settings” button and follow the login steps.
9. Select the network you are connected to from the list of WiFi networks and press the red “Disconnect” button.

10. A pop-up message appears asking you to press the “OK” button to start the reboot sequence. When you press the “OK” key, the blue chaser lights will begin to illuminate to indicate that the device is restarting.
11. Next, reselect the smartbox network via the device running the RIDA®SMART APP as described in **chapter 7**.



**Warning!**

Do not turn off the device by unplugging the USB-C connector, as this may damage the device’s operating software.



**Warning!**

If the WiFi network is no longer available or the device has been moved outside the connection range, the RIDA®SMART BOX switches to Access Point mode by default.



**Warning!**

If the RIDA®SMART BOX boots up again and the light bar is permanently green again, please repeat this section.

---

## 8 Operation of the RIDA®SMART BOX

### Opening and closing the drawer

The RIDA®SMART BOX contains a drawer, which is controlled by a spring, into which the RIDA®QUICK test strip is manually inserted for measurement.

To open the drawer, press the drawer slightly inwards. You will hear a click. Then hold your finger on the drawer and gently slide it open to the outside.

To close the drawer, press against the front edge of the drawer and slowly slide the drawer back into the RIDA®SMART BOX.

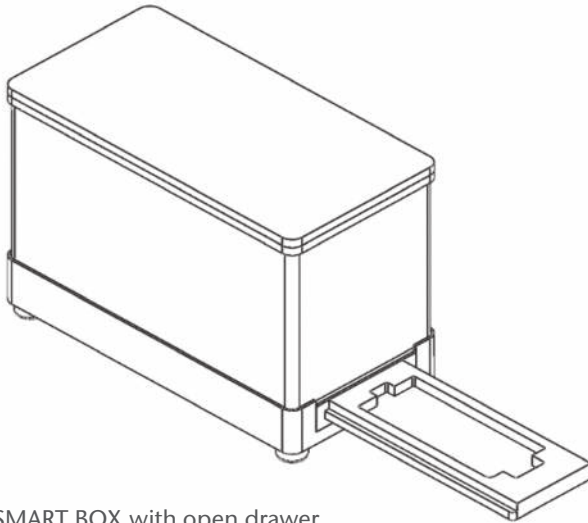


Figure 2: RIDA®SMART BOX with open drawer.



**Warning!**

Make sure that there is enough space to open the drawer completely.



**Warning!**

The drawer is spring-loaded. Therefore, make sure that you do not allow the drawer to bounce open. Make sure that the drawer opens smoothly. If you repeatedly allow the drawer to open at full speed, this can cause damage and wear to the instrument, which will affect the accuracy of the measurement and the service life of the instrument.



**Warning!**

Make sure there is no unnecessary liquid on the test strip when you place it in the drawer. Excess liquid can wet the inside of the RIDA®SMART BOX and possibly cause measurement problems and damage the optical reader card inside the device.



**Warning!**

Make sure that the test strip is placed in the drawer the right way around and with the sample and measurement wells facing up.

## LED-Signal

Around the housing of the RIDA®SMART BOX there is an LED light bar that indicates which action the device is performing or which network status it is connected to (see [chapter 7](#)).

**Table 2**

Action of the LED signal light	Explanation
Blue running light	<ul style="list-style-type: none"> <li>• Restart</li> <li>• ~ 2 min: Device has been started; network is set up and self-tests are performed</li> <li>• Over 3 min (and longer): Problem with the device; Connection with network not possible</li> </ul>
Blue	<ul style="list-style-type: none"> <li>• Device successfully booted</li> <li>• Device is in Access Point Mode (AP)</li> </ul>
Green	<ul style="list-style-type: none"> <li>• Device successfully booted</li> <li>• Device is in WiFi-Mode</li> </ul>
Purple	Device is sending image to RIDA®SMART APP
Red	<p>Error!</p> <p>Please read the troubleshooting section (<a href="#">chapter 12</a>)</p>
No LED light	<ul style="list-style-type: none"> <li>• Device is off</li> <li>• Device is faulty</li> </ul>

## Power off and timer function

If the RIDA®SMART BOX is left on and there is no request from the RIDA®SMART APP for an extended period of time, the device will turn itself off.



The default setting is 60 minutes, but can be set between 0 (permanently on) and 240 minutes. The settings can be found in the web browser of the device.



### Warning!

Do not switch off the device by disconnecting the power supply (e.g. by unplugging the power cord)..

If the RIDA®SMART BOX is left on and there is no request from the RIDA®SMART APP for an extended period of time, the device will turn itself off. The default setting is 60 minutes, but can be set between 0 (permanently on) and 240 minutes. The settings can be found in the web browser of the device.

---

## Miscellaneous

Several additional functions and information are available in the web browser of the RIDA®SMART BOX.

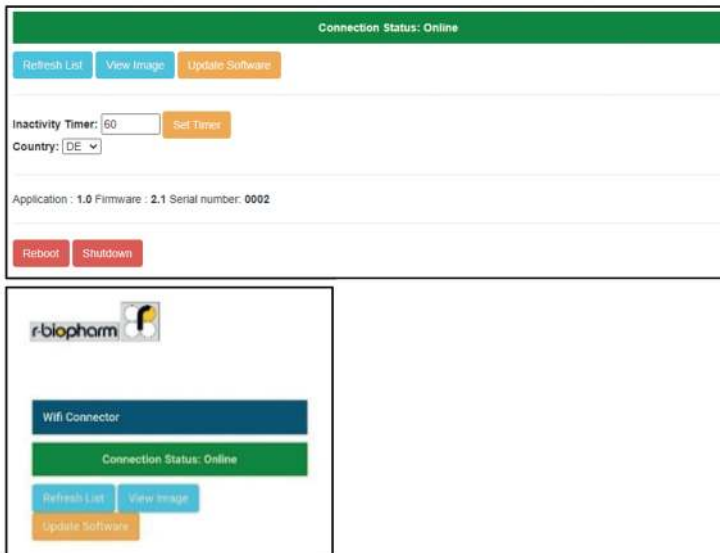


Figure 3

The connection status shows “Online” when the device is connected to a WiFi network that has an Internet connection. This is a prerequisite for installing software updates (described in [chapter 11, section: Software Update](#)).

### Live-Image of the RIDA®SMART BOX

The “View Image” button allows you to view and check the live image in the RIDA®SMART BOX. Internal problems, such as impurities that have accumulated, can be identified with this. See [chapter 11, section: Maintenance, Cleaning the drawer module](#).

### Timer

See [chapter 8, section: Power off and timer function](#).

### Update software

See [chapter 11, section: Software Update](#).

---

## 9 Measurement with the RIDA®SMART BOX

For details on how to perform analyses, refer to the operating instructions of the RIDA®SMART APP. A brief description of how to perform is given below.

Before starting an analysis, make sure that the RIDA®SMART BOX is properly connected and that there is a connection with the RIDA®SMART APP software.

The measurement assumes that [chapter 7](#) has been completed successfully: the RIDA®SMART BOX is operated in Access Point mode or WiFi mode and the RIDA®SMART APP has been configured to work with the RIDA®SMART BOX.

1. If you want to carry out a measurement with the RIDA®SMART APP, go to the “Measurement” menu. A green connectivity symbol appears in the action bar, indicating that the RIDA®SMART BOX is connected. In addition, a temporary message appears: “Connection established”.

2. Open the drawer and place the test strip in the correct orientation. Then carefully close the drawer again.

Note: If you try to take a measurement with the drawer open, you will get a message that the drawer is open. Please close the drawer (“Please close the RIDA®SMART BOX drawer”).

3. When the RIDA®SMART APP retrieves the image from the RIDA®SMART BOX, the lights on the box temporarily turn purple and the following messages appear in sequence: “Send RIDA®SMART BOX Image Request”.

If the measurement is successful, the workflow of the RIDA®SMART APP is identical, regardless of whether you use the smartphone’s built-in camera or the RIDA®SMART BOX.



Figure 4

## 10 Disposal regulation

All reagents and materials must be disposed of properly and responsibly after use. Instruments must be disposed of properly and responsibly at the end of their life cycle. Please observe the respective nationally applicable regulations for disposal.



The symbol on the product or its packaging indicates that this product should not be treated as normal household waste, but must be taken to a collection point for the recycling of electrical and electronic equipment. By helping to dispose of this product correctly, you are protecting the environment and the health of those around you. The environment and health are endangered by incorrect disposal. Material recycling helps to reduce the consumption of raw materials. For more information on recycling this product, please contact your local authority or the municipal waste disposal companies.

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## 11 Software updates/firmware updates, maintenance and cleaning

### Software Update

Updates may occasionally be necessary for the software and firmware of the RIDA®SMART BOX. In order for updates to be carried out, the RIDA®SMART BOX must be connected to a WiFi network that has Internet access (see **chapter 7, section: WiFi mode**).

Once the unit is connected via wifi, click on “RIDA®SMART BOX Settings” and log in (see **chapter 7, section: WiFi Mode (Network Connection Mode)**).

1. If you press the “Update Software” button. The system now checks whether a new version of the application software or firmware is available. You will receive a message about this. If new versions are available that you want to update, press “OK”; if you do not want to update, press “CANCEL”.



2. When you press “OK”, this is confirmed with a message. **It is important that the power supply is not interrupted during this process.** The process can take 5-10 minutes depending on the internet connection! When the update is complete, the blue running light lights up, indicating that the RIDA®SMART BOX is restarting.
  3. Finally, a message is displayed indicating whether the update has been completed or not. After the unit has rebooted, it returns to either AP or WiFi connection mode.
  4. The next time you log in to the RIDA®SMART BOX web browser and the software update was successful, you will see a message to this effect:  
“The update was successful”
- 

## Maintenance

The RIDA®SMART BOX is maintenance-free.

Each time it is switched on, an internal self-test is carried out to ensure that there are no malfunctions.

The RIDA®SMART BOX does not contain any components that can be maintained by the customer. It is only necessary to ensure that the unit is kept clean and treated with care and that there is no dirt or liquids in the drawer.

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## Cleaning of the RIDA®SMART BOX

### Cleaning the housing

The surfaces of the housing should be cleaned regularly. A sponge moistened with water or a lint-free cloth can be used for this purpose. For heavier soiling, clean the surface of the housing with a mild soap solution diluted with water or glass cleaner and then wipe over it with a slightly damp cloth or sponge to remove all residues. You can also wipe the unit with a damp cloth containing 70% isopropyl alcohol (IPA). This should remove most surface dirt. **Do not use abrasive cleaners.**

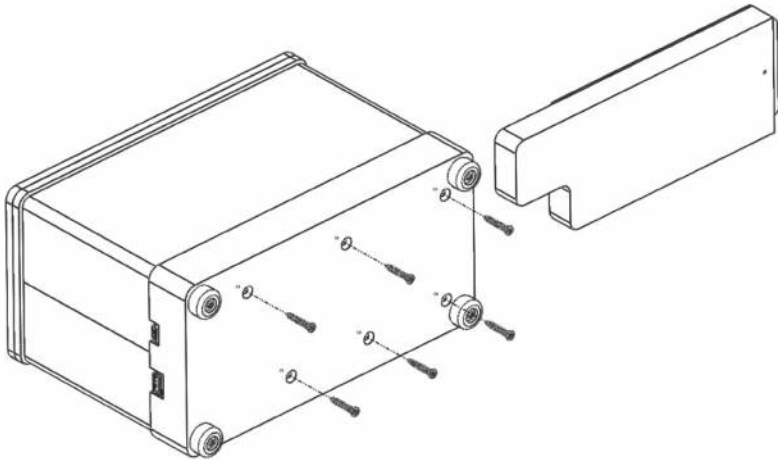
### Cleaning of the drawer module

Disconnect the USB cable from the RIDA®SMART BOX before cleaning.



**Warning!**

Before cleaning, make sure that there is no test strip in the unit.



**Figure 5:** Bottom of the RIDA®SMART BOX.

The drawer is a module that can be removed from the unit.

1. To do this, remove the 6 screws under the base of the RIDA®SMART BOX with the Torx tool supplied, then you can remove the drawer.



**Warning!**

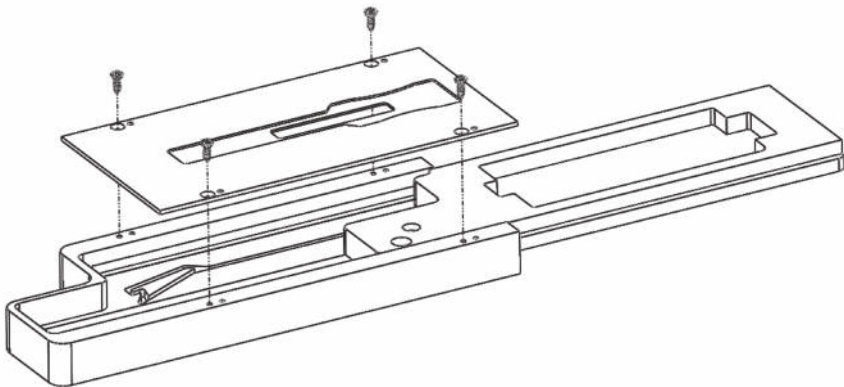
Do not loosen any screws that are not explicitly marked for this purpose in the operating instructions, as this may lead to a malfunction and invalidate the instrument's warranty.

2. Once the drawer module is removed, any surface dust can be wiped off with a damp, lint-free cloth. A cleaning liquid such as 70% IPA can also be used..

**Warning!**

Care should be taken not to wipe the “paper label” with a damp cloth or 70% IPA. This will damage the print.

3. If there is dirt inside the drawer, the panel with the integrated cover can be removed by unscrewing the 4 screws with the tool provided, as shown in the illustration below. The small pins may come loose in the process. Then please reinsert them by hand.



**Figure 6:** Structure of the drawer module of the RIDA®SMART BOX.

**Warnings and hints for cleaning**

When cleaning, be aware of the following warnings, failure to observe which may result in harm to the user or damage to the unit resulting in reduced life or measurement errors:

**Warning!**

Always avoid spraying liquid directly onto surfaces of the RIDA®SMART BOX and its drawer module.



**Warning!**

Never clean the inside of the drawer with sharp, abrasive or solvent-based agents.



**Biological risk!**

Always wear gloves during cleaning operations that may involve contact with biological or generally hazardous materials or liquids.

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## Technical Support

In case of problems with the RIDA®SMART BOX, please contact the technical service or the local responsible person.



**Biological risk!**

The RIDA®SMART BOX and all accessories must be cleaned before using the service and before returning the device or accessories to the manufacturer..

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## Repair

A repair will only be realized by the manufacturer. Please contact your local distributor or R-Biopharm AG, Darmstadt, Germany. The product liability expires in case of modification of the system by unauthorized persons and by the installation of nonstandard parts.





## 12 Troubleshooting

**Table 3**

Type of error	Error causes and correction
Calibration failed/LED light bar is red	<ul style="list-style-type: none"> <li>The inside of the drawer is dirty: Clean the inside of the drawer according to the cleaning instructions in <b>chapter 11, section: Cleaning the RIDA®SMART BOX</b>.</li> </ul>
No light is on when switching on	<ul style="list-style-type: none"> <li>Check whether the unit is switched on.</li> <li>Check whether the USB-C cable is firmly connected to the RIDA®SMART BOX or whether it is defective.</li> </ul>
When switched on, the blue LED running light is displayed for more than 2 minutes	<ul style="list-style-type: none"> <li>Try switching the unit off and on again.</li> <li>Connection to the WiFi network was not possible. Repeat <b>chapter 7, section: WiFi mode</b> and check that the WiFi password is correct.</li> <li>The operating system may be corrupted, contact R-Biopharm.</li> </ul>
Switching from AP to WiFi network does not work	<ul style="list-style-type: none"> <li>Check that the password for the SSID network is correct.</li> <li>Repeat the procedure twice (see <b>chapter 7, section: WiFi mode (Network Connection Mode)</b>).</li> </ul>
Requesting images from the RIDA®SMART APP does not work	<ul style="list-style-type: none"> <li>Check the connection of the RIDA®SMART APP to the RIDA®SMART BOX (see <b>chapter 7</b>).</li> </ul>
The LED light bar lights up red	<ul style="list-style-type: none"> <li>The operating system may be damaged, contact your distributor or R-Biopharm.</li> <li>The drawer was open when you tried to perform a measurement. Close the drawer and perform the measurement again.</li> </ul>

## 13 EC Declaration of Conformity/CE Marking

The RIDA®SMART BOX is ROHS compliant according to Directive 2011/65/EU. This declaration becomes invalid if the product is modified without our consent or if it is used for purposes other than those for which it is intended.



## 14 Explanation of symbols (type plate)

### General symbols of the unit rating plate

Symbol	Description
	Follow the operating instructions
	Article number
	Serial number
	Manufacturer + Address
	CE marking
	Disposal note/WEEE
	Data matrix code

## 15 Version history

2023-09-26	Release version
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## Warranty

The warranty period of the RIDA®SMART BOX is 12 months. If a defect occurs in your device within this period, contact your local distributor or R-Biopharm AG. The analyzer may only be operated in technically perfect condition.

If defects occur which could endanger employees or third parties, the RIDA®SMART BOX may only be used again after it has been repaired. Damage caused by improper use or by external mechanical influences, transport damage and unauthorized tampering with the device by unauthorized persons is not covered by this warranty.

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