

ElioDX™

Reader R24.3

USER Guide

Table of Contents

1. INTRODUCTION 3

2. INTENDED USE..... 3

3. SAFETY AND REGULATORY INFORMATION 3

 3.1 PRECAUTIONS 3

 3.2 WARNINGS, CAUTIONS & PRECAUTIONS 4

 3.3 WORKING ENVIRONMENT 4

4. SCOPE OF DELIVERY 5

5. TECHNICAL DATA..... 5

6. READER HARDWARE 5

 6.1 CONTROLS & OPERATIONS 5

 6.2 SYSTEM STATUS (LED INDICATOR) 6

7. READER SETUP 6

 STEP 1 — UNPACK AND INSPECT..... 6

 STEP 2 — CONNECT POWER..... 7

 STEP 3 — POWER ON 7

 STEP 4 — CONNECT TO THE NETWORK 7

8. CLEANING, DISINFECTION & MAINTENANCE 7

9. TROUBLESHOOTING 8

10. BEST PRACTICES 9

11. SUPPORT 9

1. Introduction

The ElioDX™ technology platform delivers laboratory-quality immunoassay results in 10 minutes using a simple one-step procedure — a single pipetting step, with no washing and no incubation required. Elionova AG offers a range of Premade Assays, and customers can also develop their own assays using the ElioDX™ Do-It-Yourself (DIY) kit. In addition, Elionova provides custom assay development, protein conjugation, hands-on demonstrations, expert-led courses, and ongoing support.

The ElioDX™ Reader uses polystyrene cuvettes with eight wells, which are filled with the substances to be analysed. Cuvettes are inserted into the Reader, which measures the biological reaction using a laser. The Reader connects to ElioDX™ Cloud, where data is stored and can be accessed and managed via PC or smartphone.

i For instructions on setting up assays, managing cuvettes, running analyses, and exporting results, refer to the companion ElioDX™ Cloud User Guide.

2. Intended Use

This User Guide provides instructions for installing, operating, and maintaining the ElioDX™ Reader R24.3. The ElioDX™ Reader R24.3 is CE marked, in accordance with Regulation (EU) 2014/30/EU – EMC Directive and Directive 2011/65/EU – RoHS. It is intended for trained laboratory personnel and covers:

- Safe and correct installation and first-time setup of the Reader
- Understanding of device controls and system status indicators
- Routine cleaning, disinfection, and maintenance procedures
- Basic troubleshooting of hardware issues

⚠ The ElioDX™ Reader R24.3 is intended solely for research purposes. Use of measurement results for therapeutic or diagnostic applications on animals or humans is prohibited.

3. Safety and Regulatory Information

Before operating the ElioDX™ Reader R24.3, you must read and understand this guide in full. Failure to follow the warnings, cautions, and precautions below may result in inaccurate results, device damage, or personal injury.

3.1 Precautions

- Read this guide carefully before operating the ElioDX™ Reader or taking any measurements.
- Never place the device on an unstable surface.
- Do not block any slots or openings in the device.
- Use only the power adapter supplied by Elionova.
- The ElioDX™ Reader must be operated by trained personnel only.

3.2 Warnings, Cautions & Precautions

Type	Description
Warning	Do not open the device. There are no user-serviceable parts inside. Opening the device may expose users to optical hazards.
Warning	Do not look directly into the optical aperture. The device contains a laser source.
Warning	Disconnect the power supply before cleaning or disinfecting the device. <i>Please note: Cleaning may only be applied to the outside surface of the instrument.</i>
Warning	Do not operate the device if it has been dropped, visibly damaged, or exposed to liquids.
Warning	The USB ports on the rear of the device are intended for use with the manufacturer-provided USB key only. Do not connect unauthorised USB devices.
Caution	Use only cuvettes specified by the manufacturer. Incorrect cuvettes may affect measurement accuracy or damage the device.
Caution	Do not insert cracked, deformed, or contaminated cuvettes.
Caution	Do not force the access door or carrier.
Caution	Do not move the device during an active analysis.
Caution	Do not block ventilation openings.
Caution	Operate the device only within the specified environmental conditions.
Precaution	Ensure the device is placed on a stable, level surface before operation.
Precaution	Allow the device to reach room temperature before operation if moved from a cold environment.
Precaution	Verify that the access door is fully closed before starting an analysis.
Precaution	Use only the supplied or manufacturer-approved power adapter.

3.3 Working Environment

Operate the device under the following environmental conditions to ensure proper performance and measurement accuracy.

Parameter	Requirement
Operating temperature	15 °C to 30 °C. A stable, ambient temperature has a positive effect on measurement quality.
Relative humidity	20 % to 60 % (non-condensing)
Vibration	Operate on a stable, vibration-free surface.
Ambient light	Avoid direct sunlight or strong ambient light entering the device.
Altitude	Up to 2,000 m above sea level.

Operating location	Indoor use only.
Dust and particulates	Operate in a clean, dust-free environment.
Chemical exposure	Do not operate in the presence of corrosive or solvent vapours.
Electromagnetic interference	Keep the device away from strong electromagnetic sources.
Water exposure	Do not expose the device to water or liquids.
Heat sources	Keep the device away from direct heat sources.
Ventilation	Do not block ventilation openings. Maintain adequate clearance around the device.

4. Scope of Delivery

Item	Quantity
ElioDX™ Reader R24.3	1
ElioDX™ Power Supply	1
StarLab Vortex Mixer	1
Adapter for microplates	1
USB Barcode Scanner	1

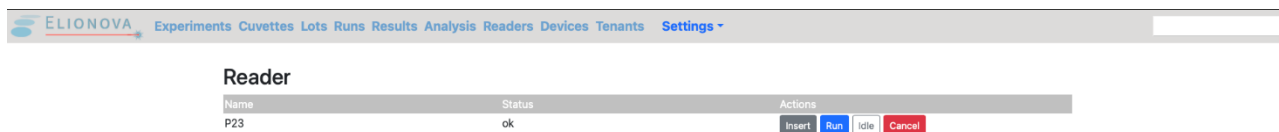
5. Technical Data

Parameter	Value
Weight	4.7 kg
Dimensions	29 × 28 × 25 cm
Power supply (Reader)	12 V DC / 1.5 A
Power consumption	Approx. 18 W
Mains voltage	90–230 V~, 50/60 Hz
Protection class	Class I

6. Reader Hardware

6.1 Controls & Operations

Once connected to the Reader through ElioDX™ Cloud, the device is operated using four controls.

			
--	--	--	--

Control	Function	Description
---------	----------	-------------

Insert	Prepares the system for cuvette loading	Commands the system to open the access door and position the carrier at the loading location for cuvette insertion.
Run	Starts the analytical measurement	Closes the access door and moves the carrier to the measurement position. An audible tone confirms that cuvette reading has been initiated. Analysis duration is retrieved from the system once the cuvette is recognised.
Idle	Returns the system to standby	Commands the system to close the access door and move the carrier to the internal standby position without initiating a measurement.
Stop	Stops the current operation	Immediately terminates the active process, opens the access door, and returns the carrier to the loading position.

6.2 System Status (LED Indicator)

The status of the Reader is indicated by the multicolour LED located on the front of the device.

LED Colour / Mode	System Status	Remark
Red (static)	Movement error	An internal movement fault has been detected. Contact authorised support.
Red (blinking)	Cannot connect to Wi-Fi	Refer to the Troubleshooting section.
Purple	Maintenance mode	Allows authorised support personnel to operate the Reader.
Yellow	Calibration	Calibration procedure in progress.
Green	Ready / Idle	System is ready for operation.
Green (blinking)	Bootting	After being switched on, the device boots up.
Blue (blinking)	Analysis – Unrecognised cuvette	This exceptional status is used to prevent data loss. The cuvette was not recognised by the connected system. Contact authorised support to determine the cause and retrieve the analysis data.
Blue (static)	Analysis – Recognised cuvette	Analysis in progress. The cuvette has been recognised by the connected system. Results will be automatically uploaded after completion.

7. Reader Setup

Follow these steps to install and power on the ElioDX™ Reader for the first time.

Step 1 — Unpack and Inspect

- Unpack the device and place it on a stable, horizontal surface.
- Inspect the device for any external transport damage.
- If the device was transported in a cold environment, allow it to reach room temperature before switching it on.

Step 2 — Connect Power

- Use only the supplied AC adapter and 3-pin power cord.
- Connect the AC adapter to a wall outlet.
- Plug the 12 V barrel connector into the round receptacle at the back of the device.

Step 3 — Power On

- Switch on the device using the toggle switch on the back of the device.
- The multicolour LED on the front should immediately flash green — this indicates that the device is powered on and the boot process has started.
- After approximately 30 seconds, the device completes its internal initialisation. The LED should then glow steady green.

Step 4 — Connect to the Network

- Set up the internet connection via Wi-Fi or LAN.
- Once connected, you can access ElioDX™ Cloud.



i The front of the device shows: (1) Cuvette insertion opening, (2) Multicolour LED. The rear shows: (3) On/off switch, (4) 12 V DC power socket, (5) LAN port.

8. Cleaning, Disinfection & Maintenance

Routine cleaning and proper maintenance are required to ensure safe operation and optimal performance of the device.

Activity	Frequency	Procedure
External surface cleaning	As needed	Clean external surfaces using a soft, lint-free cloth slightly moistened with an approved disinfectant. Do not spray liquids directly onto the device.
Disinfection of external surfaces	According to facility protocol	Use only manufacturer-approved or clinically approved disinfectants compatible with plastic devices.

Cuvette loading area inspection	Daily or before use	Visually inspect the cuvette loading area for dust, residue, or contamination. Do not insert objects into the optical path.
Removal of visible debris	As needed	Gently remove debris using a dry, lint-free cloth. Do not use compressed air unless approved by the manufacturer.
USB port usage	As required	USB ports shall be used only with the manufacturer-provided USB key for network configuration. Connection of other USB devices is not permitted.
Internal cleaning	Not permitted	Internal cleaning shall be performed by authorised service personnel only.
Preventive maintenance	As specified by manufacturer	Preventive maintenance shall be performed by authorised service personnel only.
Calibration	As prompted by system or service schedule	Perform calibration only as instructed by the system or authorised service personnel.

⚠ Always disconnect the power supply before performing any cleaning or disinfection. *Please note: Cleaning may only be applied to the outside surface of the instrument.*

9. Troubleshooting

If an issue cannot be resolved using the steps below, contact authorised service personnel or Elionova technical support.

Category	Observation	Corrective Action
System	Application freezes	Close the current page and reload or reconnect to the application.
System	Reader buttons not visible on the Reader control page	Refresh the page. If the issue persists, restart the Reader and reload the application.
Physical	No power	Verify the green indicator light on the power adapter is illuminated. If off, check the outlet and power cable. If on and the Reader is switched on, contact authorised support.
Physical	Reader remains in calibration phase (yellow LED)	Restart the Reader and test again. If the issue persists, contact authorised support.
Physical	Access door does not open	Restart the Reader and test again. If the issue persists, contact authorised support.
Physical	Carrier does not move to loading position	Restart the Reader and test again. If the issue persists, contact authorised support.
Physical	Reader does not respond when buttons are pressed	Restart the Reader and test again. If the issue persists, contact authorised support.
Physical	Cuvette does not fit into the carrier	Verify the cuvette is flat and not deformed. Do not force insertion. If the issue persists, contact authorised support.
Physical	Cuvette fits at an angle	Verify the cuvette is flat and correctly oriented. If the issue persists, contact authorised support.

Noise	Metallic noise or abnormal friction during operation	Turn off the power switch on the back of the device and contact authorised support. Continued operation may cause damage.
Values	Consistently abnormally low values or reduced sensitivity	May indicate an optical or laser-related issue. Re-calibration may be required. Contact authorised support.
Values	Occasional results significantly higher or lower than expected	May indicate contamination or an optical component issue. Contact authorised support.

10. Best Practices

- Always verify the assay and lot in ElioDX™ Cloud before starting a measurement.
- Do not reuse cuvettes. Cuvettes can be remeasured but must not be refilled or used for a different sample.
- Inspect the cuvette loading area for contamination before each use.
- Allow the device to reach operating temperature before taking measurements.
- Export and archive results regularly via ElioDX™ Cloud.
- Contact authorised support promptly if an LED error status persists after restarting.

11. Support

For questions about the ElioDX™ Reader, or to request technical support, please contact the Elionova support team:

Email: support@elionova.com