

USER MANUAL

Dynamox Lens



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1 First steps

This document covers the configuration, usage, and operation processes of Dynamox Lens, a thermographic sensor designed for monitoring the health of industrial assets through thermography.

The primary purpose of Dynamox Lens is to periodically collect temperature data, thermograms, and optical images of the monitored region, according to a specified interval. To enable this, the device must have its data collected by a DynaGateway using the Bluetooth protocol.

The following chapters present product installation recommendations, a step-by-step configuration guide, and its main features. It is essential to follow the information provided in this document to ensure proper operation of the solution.

2 Product description

Dynamox Lens is designed to collect thermograms, optical images, and maintain a historical record of the maximum temperature values of monitored regions, enabling asset analysis.

2.1 Product structure

On the front of Dynamox Lens, you will find the main product-user interaction components. These are used during installation and configuration processes:



2.2 Operation and handling

This section provides essential instructions for the safe and efficient use of the equipment, including specific care for the thermal (infrared) and visible light lens.

2.2.1 General handling instructions

- always transport the equipment in a hard case or padded bag.
- avoid exposure to dust or excessive moisture, intense vibration, or direct heat.
- store the device in a dry place, protected from direct sunlight and sudden temperature changes.
- use only accessories and components recommended by the manufacturer.

2.2.2 Thermal lenses (infrared)

- do not touch the lens surface directly.
- for cleaning, it is recommended to use degreased cotton swabs or lint-free special cloths to avoid leaving residues on the surface. To help remove impurities, apply anhydrous alcohol (isopropyl), which ensures quick evaporation without compromising the lens coating. Cleaning should be done gently and controlled, avoiding excessive pressure that could cause scratches or marks.
- avoid exposing the lens to direct sunlight or intense heat sources.

2.2.3 Visible light lenses

- handle it like a photographic lens: avoid scratches and direct contact.
- clean it with a microfiber cloth and neutral solution for optical lenses.

2.2.4 Operational recommendations

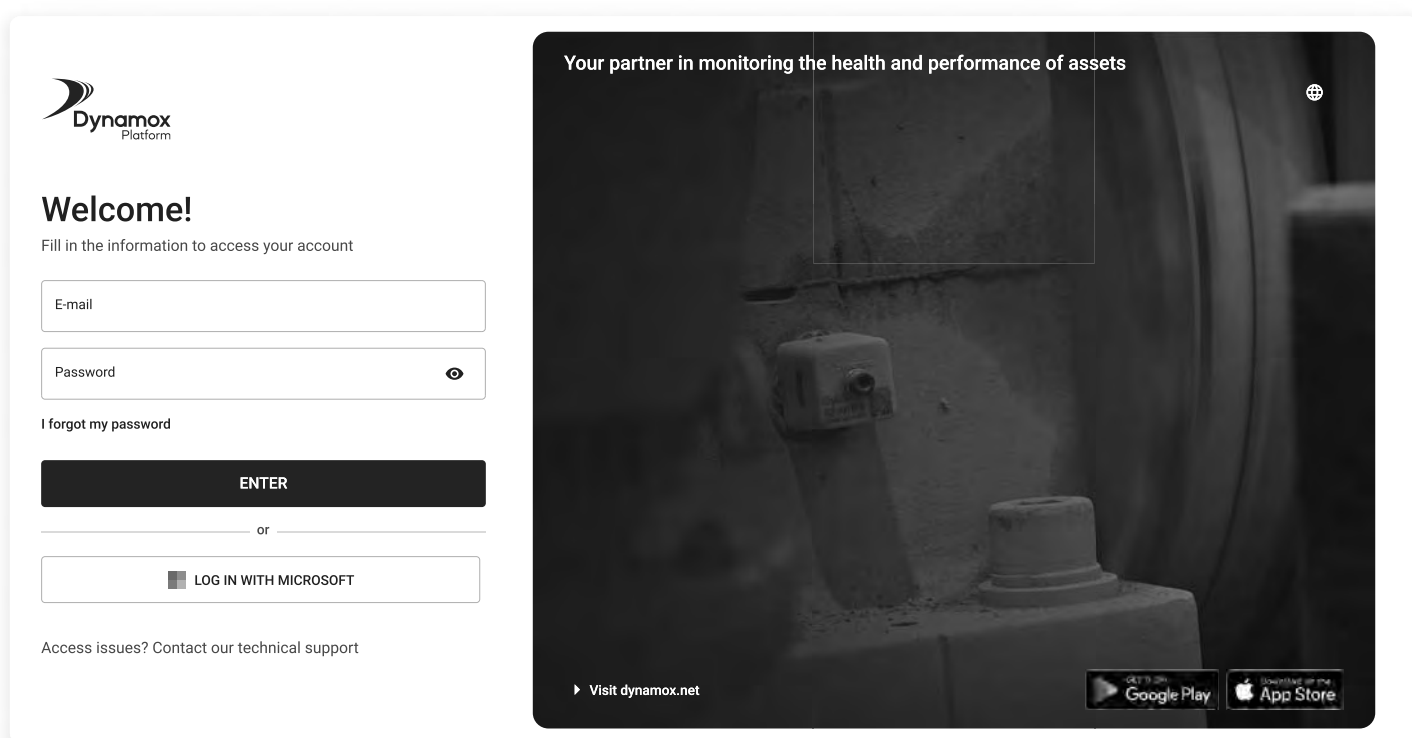
- **Firmware update:** keep the system always updated (section 7.3).
- **Safety:** do not open the equipment or attempt repairs without technical authorization, as this may void the warranty.

3 Pre-installation

To create the hierarchical structure for sensor installation and access the full history of vibration and temperature measurements, users have access to a comprehensive web platform and mobile application.

If you have already purchased our products and do not yet have login credentials, please contact us via email at support@dynamox.net or by phone at [+55 48 3024-5858](tel:+554830245858), and we will provide your access details.

Once you have your credentials, you can access Dynamox Platform and view data from all registered sensors. Simply visit <https://dyp.dynamox.solutions> and log in using your credentials.



Dynamox Platform

Welcome!

Fill in the information to access your account

E-mail

Password

I forgot my password

ENTER

or

 LOG IN WITH MICROSOFT

Access issues? Contact our technical support

Your partner in monitoring the health and performance of assets

[Visit dynamox.net](https://dyp.dynamox.solutions)

GET IT ON Google Play

Download on the App Store

To learn more about the platform's features and functionality, consult our [Support Site](#).

3.1 Creating a hierarchical structure

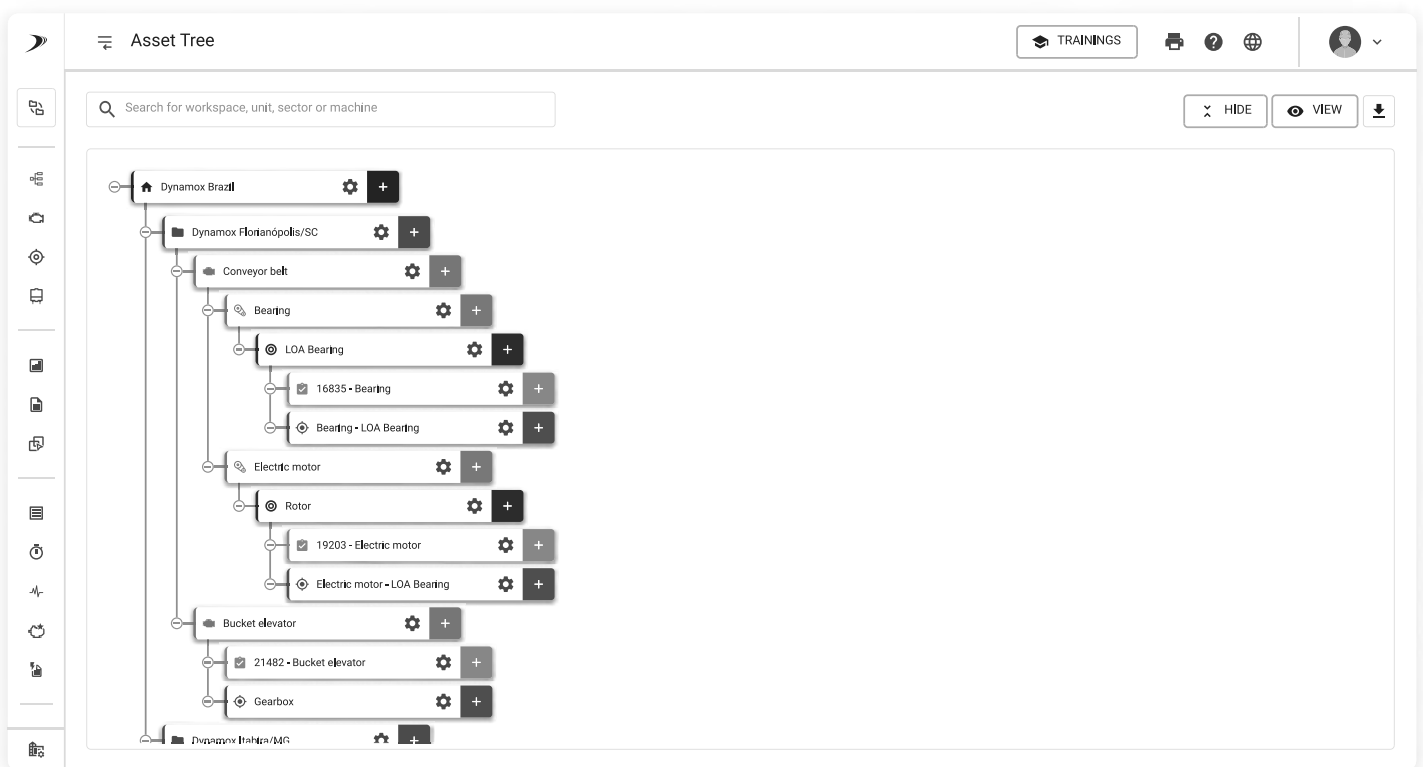
Before positioning the sensors in the field, it is recommended to ensure that the asset tree (hierarchical structure) has been properly created, with monitoring points standardized and ready to receive the sensor to be associated.

For full details and guidance on how to structure the asset tree, consult our [Support Site](#)⁷. This helps streamline fieldwork and ensures that monitoring points are registered in the correct structure.

The asset tree structure should be defined by the client and, preferably, follow the standard already used by the company in ERP systems (such as SAP).

After creating the asset tree via Dynamox Platform, the user should ideally register the monitoring point (called a Spot) within the tree structure before going to the field to physically install the sensors.

The figure below shows an example of an asset tree:



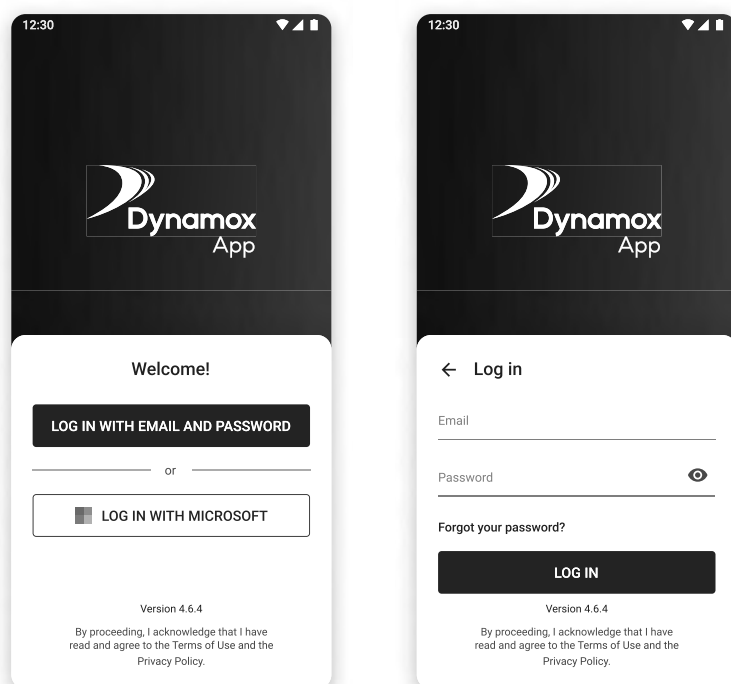
Once these procedures are completed, the user can proceed to the field to physically install the sensors on the machines and components registered in the asset tree. In the **Spot Creation and Configuration** section, you'll find details on how to create each Spot within Dynamox Platform. In the **User Management** section, you'll find information on creating and assigning permissions to different users.

3.2 Dynamox App

To configure sensors, Spots, and machines, you must download the **Dynamox App**. The app requires Bluetooth technology and is available for download on Android (version 8.1 or higher) via the Google Play Store, and on iOS (version 14.0 or higher) via the App Store. It is compatible with smartphones and tablets.

You can also download the Android version via a computer by accessing the Google Play Store. To do this, log in with your Google account (the same one registered on your Android device's Play Store).

Once installed, you'll be able to interact with the sensors and configure them. Simply log in using your access credentials – the same ones used on Dynamox Platform.



To learn more about the app's functionality and features, refer to the [Dynamox App Manual](#).

4 Installation

For asset monitoring, we recommend installing Dynamox Lens in a fixed position, ensuring the camera is directly pointed at the desired monitoring location. The device has an autonomy of up to 4 hours, so the installation site must provide a power source capable of keeping it active 24/7. Follow the installation steps below for proper monitoring setup.

4.1 Power supply

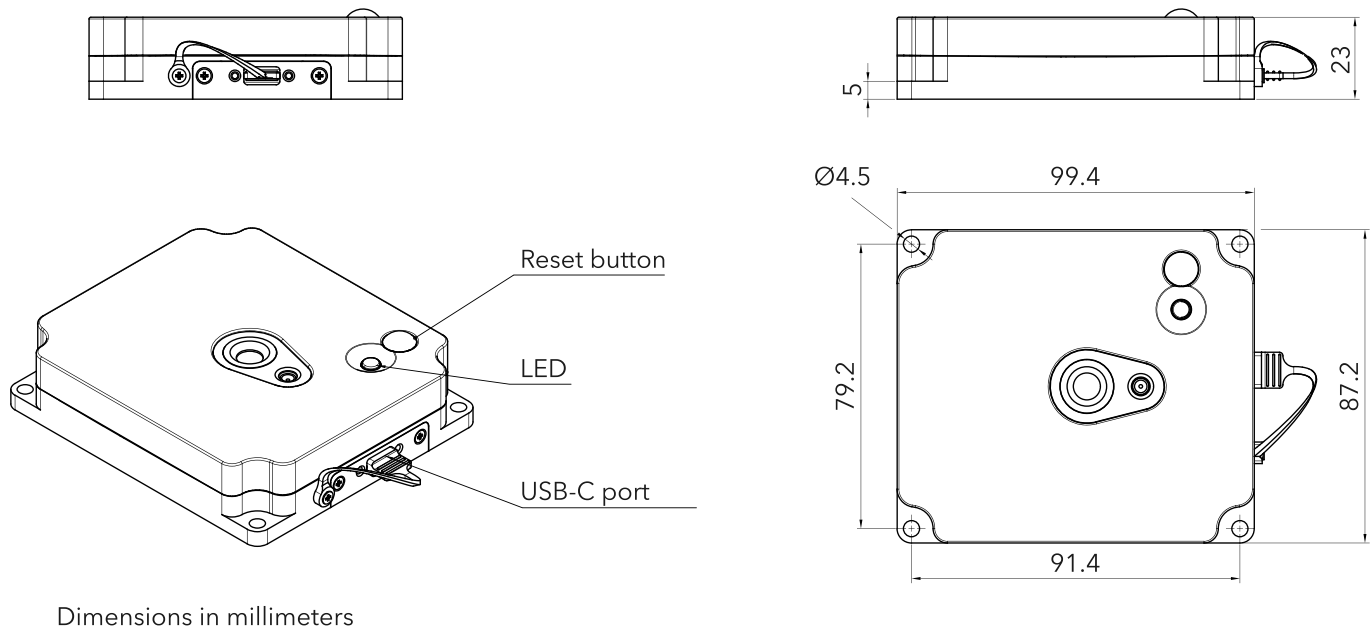
To charge the batteries or use the device in fixed mode, a power source with a 5Vdc USB-A output must be available. Connect the USB-C cable to the device and the other end to the provided power source.

⚠ The power source is not included with the device.

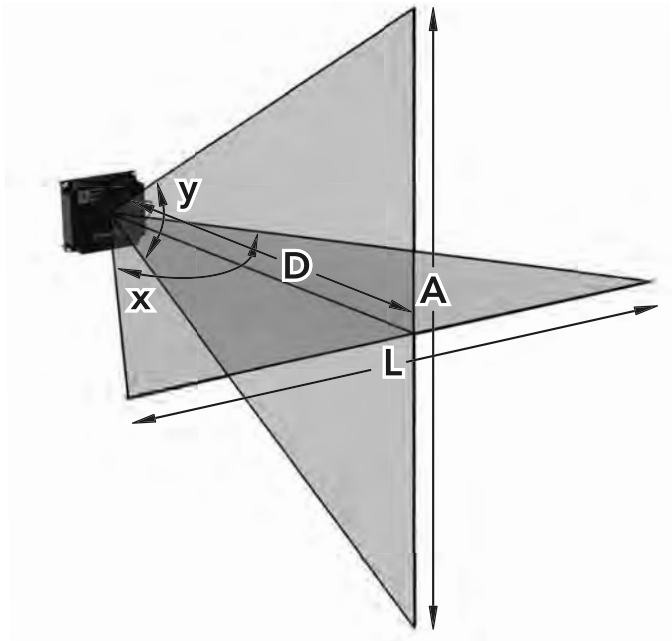


4.2 Mounting

During the mounting process, it is important to consider the product dimensions and follow the drilling standards, as shown below (measurements in millimeters):



Select the asset to be monitored and determine a provisional mounting point for the device, ensuring the camera is directly pointed at it. In locations with metallic structures, use the provided magnets.



- Key:**
- **x:** horizontal aperture
 - **y:** vertical aperture
 - **D:** measurement distance
 - **L:** width
 - **A:** height

MEASUREMENT DISTANCE (m)	WIDTH (m)	HEIGHT (m)
0.3	0.6	0.45
0.5	1	0.75
0.8	1.6	1.2
1	2	1.5
1.5	3	2.25
2	4	3
2.5	5	3.75
3	6	4.5
3.5	7	5.25

Keep in mind that the distance between the device and the object directly affects the camera’s field of view, as illustrated above. To ensure optimal positioning, access the camera configuration mode as described in section 3.3.

Finally, use the mounting screws to secure the device at the desired location. The provided screws can be used for drilling and fastening, eliminating the need for wall plugs and drill bits.



4.3 Device configuration

To validate the camera positioning and configure parameters related to Dynamox Lens infrared imaging, it is necessary to initiate the device's configuration mode.

4.3.1 Configuration mode

Access to configuration mode can be done physically via the button or remotely via the app.

4.3.1.1 Access via button

Press the **Reset** button located on the front of the device for approximately 10 seconds or until the LED starts blinking yellow. You may use a non-sharp object to press the button.

- 1 Hold the **Reset button** for 10 seconds



- 2 After this period, the **LED** will flash yellow

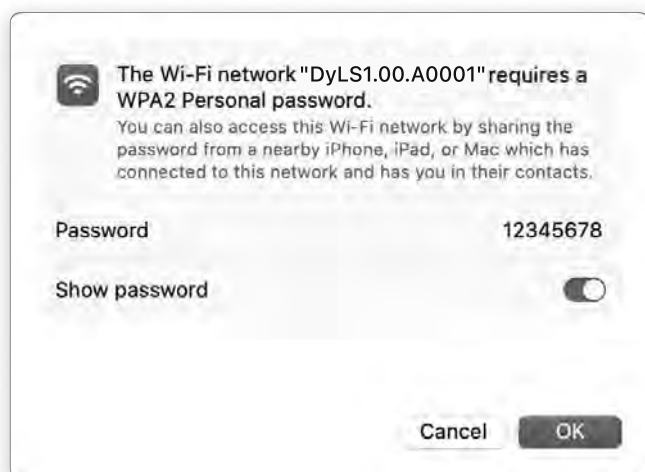


- 3 Releasing the button will change the **LED** to a steady yellow



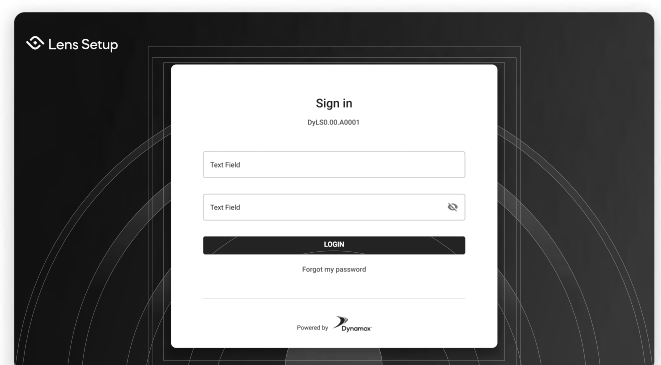
- 4 Connect to the Wi-Fi network generated by the device using a nearby computer or mobile device. The network generated by the Lens has the following credentials:

- **Network name (SSID):** serial number of the device
- **Password:** 12345678



- 5 Once connected, access the Dynamox Lens configuration mode by typing 192.168.10.1 in the browser. Use the following credentials:

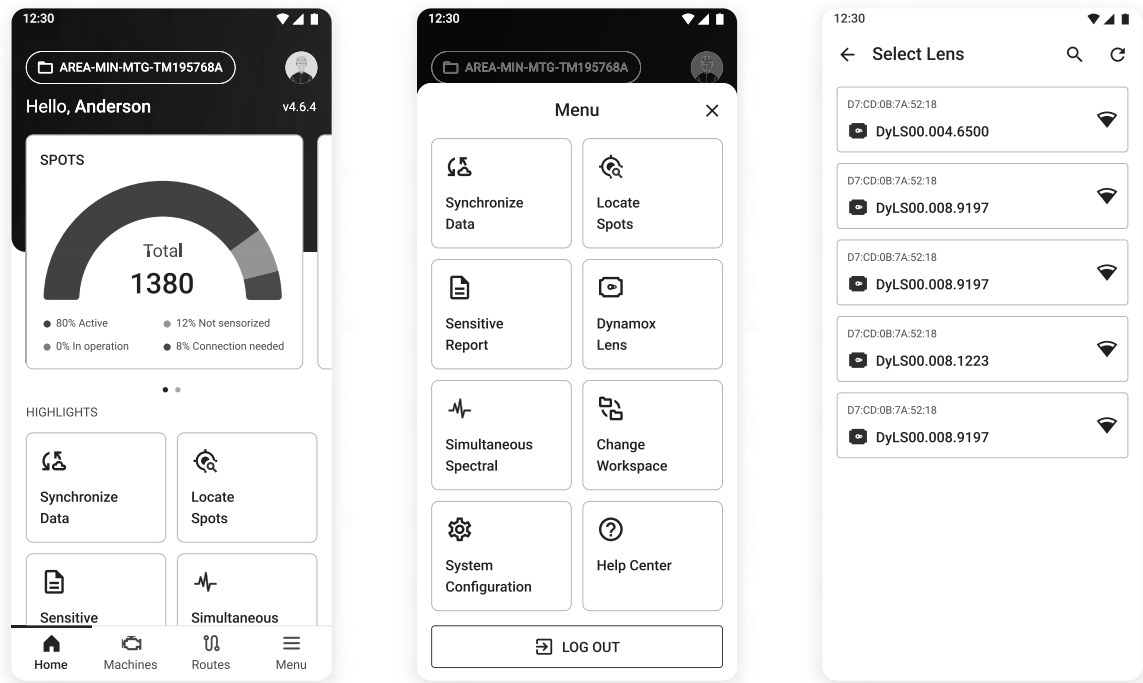
- **User:** admin
- **Password:** admin



4.3.1.2 Access via Dynamox App

Log into **Dynamox App** (see section 3.2).

On the home screen after login, go to the **Menu** at the bottom corner and select **Lens** to begin scanning nearby devices. Once the desired device is found, select it by clicking its identifier. You will then be directed to the configuration pages (see section 4.3.2).

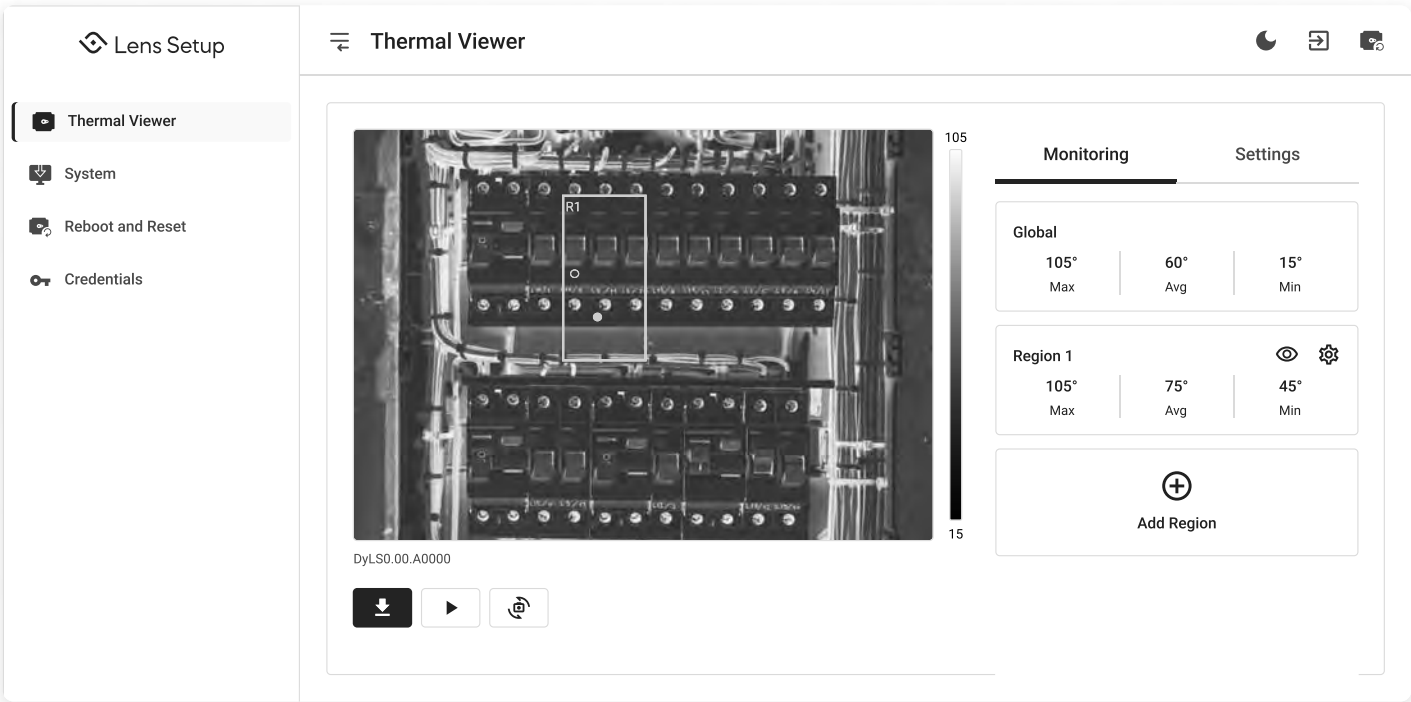


For more information about the app and its features, refer to the [Dynamox App Manual](#).

4.3.2 Configuration pages

After logging in, the user will access the **Thermal Viewer**, which allows navigation between two other tabs: **Monitoring** and **Settings**. These tabs can also be accessed via the side menu.

In the **Thermal Viewer**, the user can view the area being monitored by the infrared camera. To start the visualization, click the . In the **Monitoring** tab, it is possible to check the maximum, average, and minimum temperatures of the full image and of the defined regions.



In addition to the infrared image, the visible light image can also be viewed by clicking the .

