Dynamox

USER MANUAL

DynaLoggers

HF+ HF+s TcAg TcAs



Dynamox_s.a | Dynamox | Dynamox.net

Index

1 First steps 3

2 Product description 5

3 Pre-installation 6

3.1 Creating a hierarchical structure 7

3.2 Dynamox App 8

4 Installation 9

4.1 Positioning recommendations 10

4.2 Mounting 11

4.2.1 Screw mounting 11

4.2.2 Adhesive mounting 12

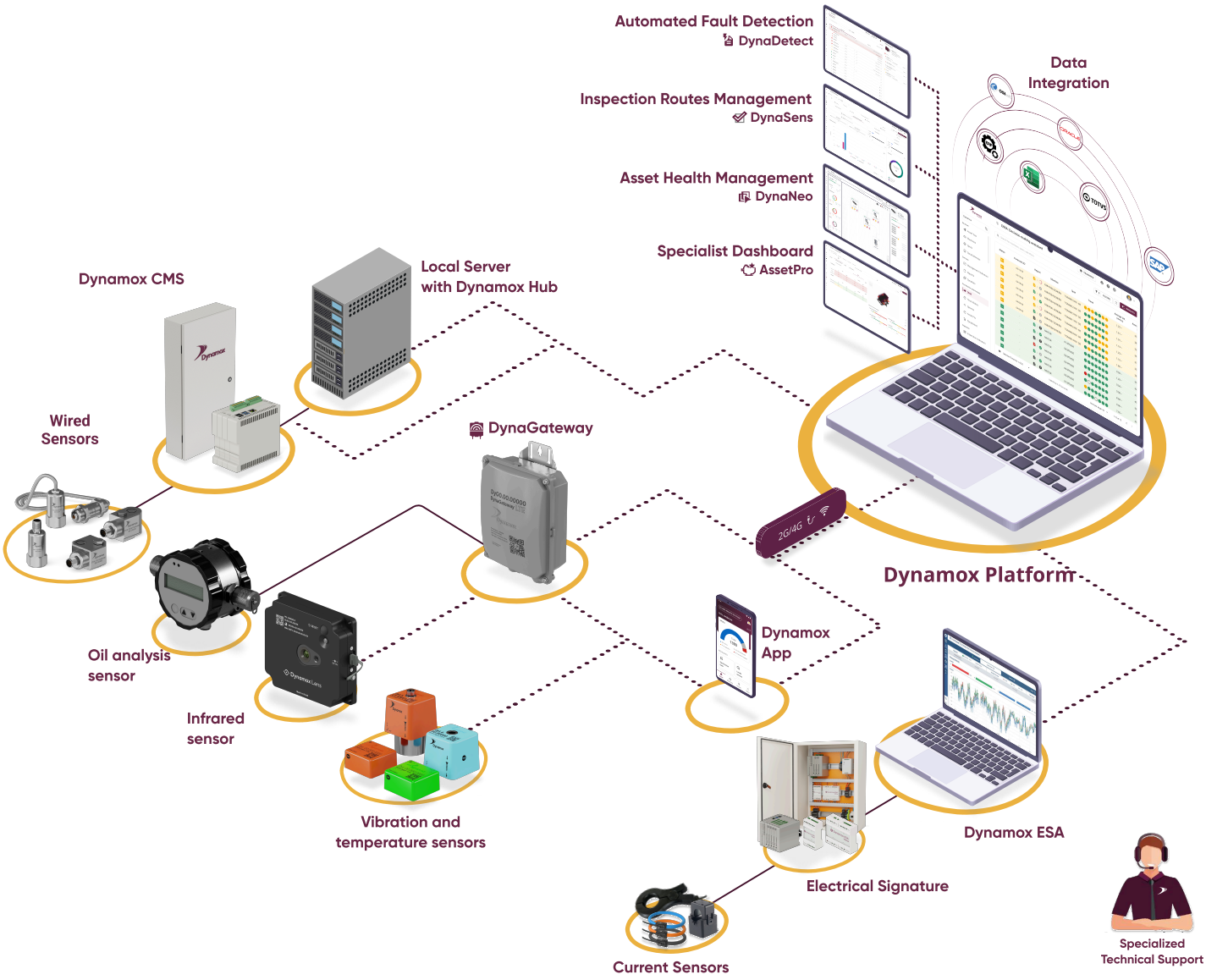
4.3 Starting the operation 13

5 Additional resources 14

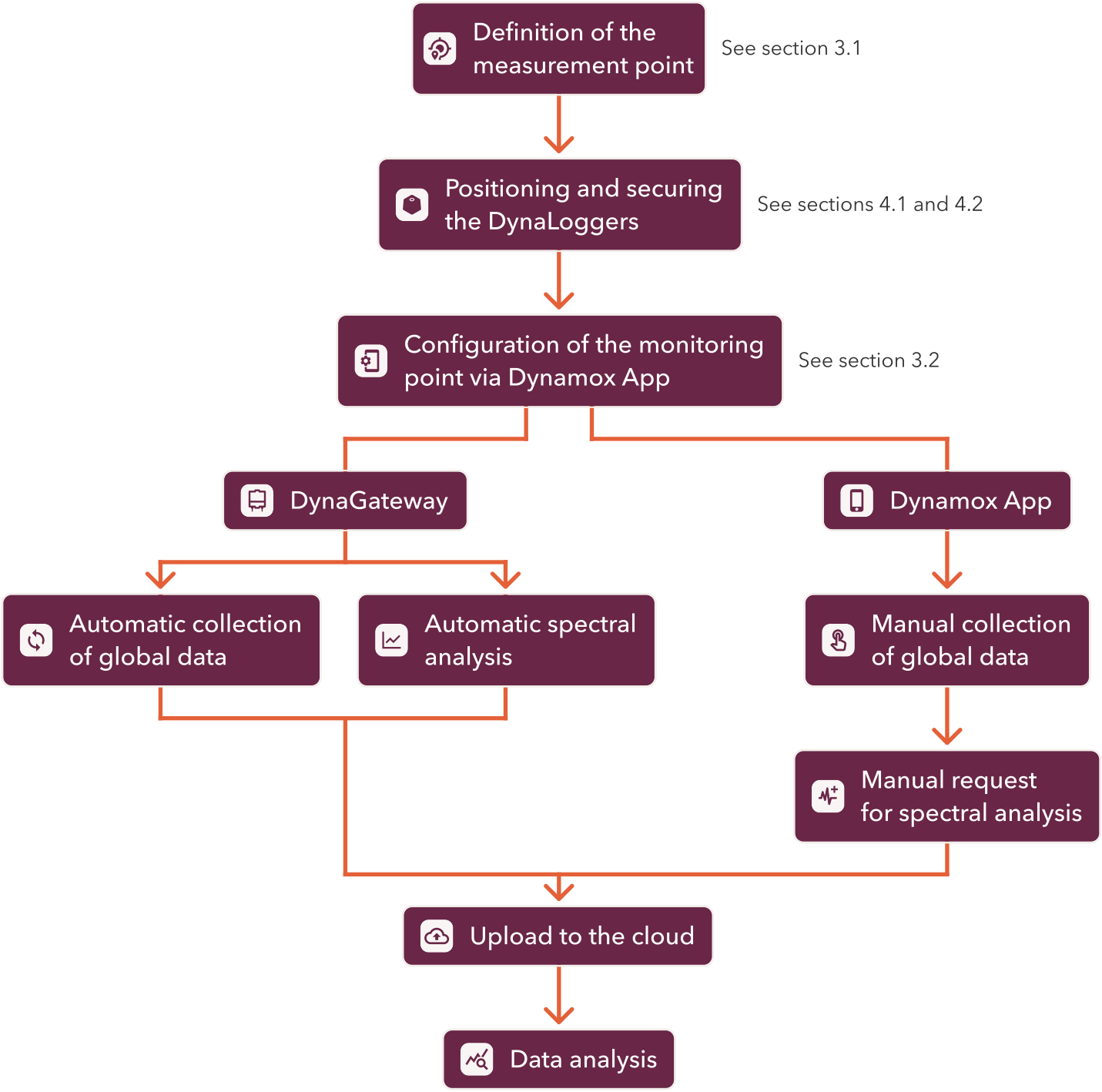
1 First steps

Dynamox Solution is composed of:

- Wireless vibration and temperature sensors with internal memory for data storage;
- Mobile application for data collection, action, and analysis on the plant floor;
- DynaGateway, an automatic data collector for the sensors, which can be used to automate data collection;
- Web platform featuring historical data, alerts, automated detection, report generation, and integrations.



The flowchart below outlines a basic step-by-step scheme for using and operating the complete solution:



2 Product description

DynaLoggers are designed to collect temperature and vibration data, maintaining a historical record of values to enable asset analysis.

On the top of each DynaLogger, you'll find key product-user interaction information. These details are used during installation and configuration processes:

- **PN (Part Number):** product model identification code;
- **Model Identification: varies according to the model (HF+, HF+s, TcAg, and TcAs);**
- **DyL:** DynaLogger serial number, used to connect to the Dynamox Platform.







Each DynaLogger features an LED that indicates the device's operational status. The LED blinks every 5 seconds, signaling that the sensor is functioning normally.





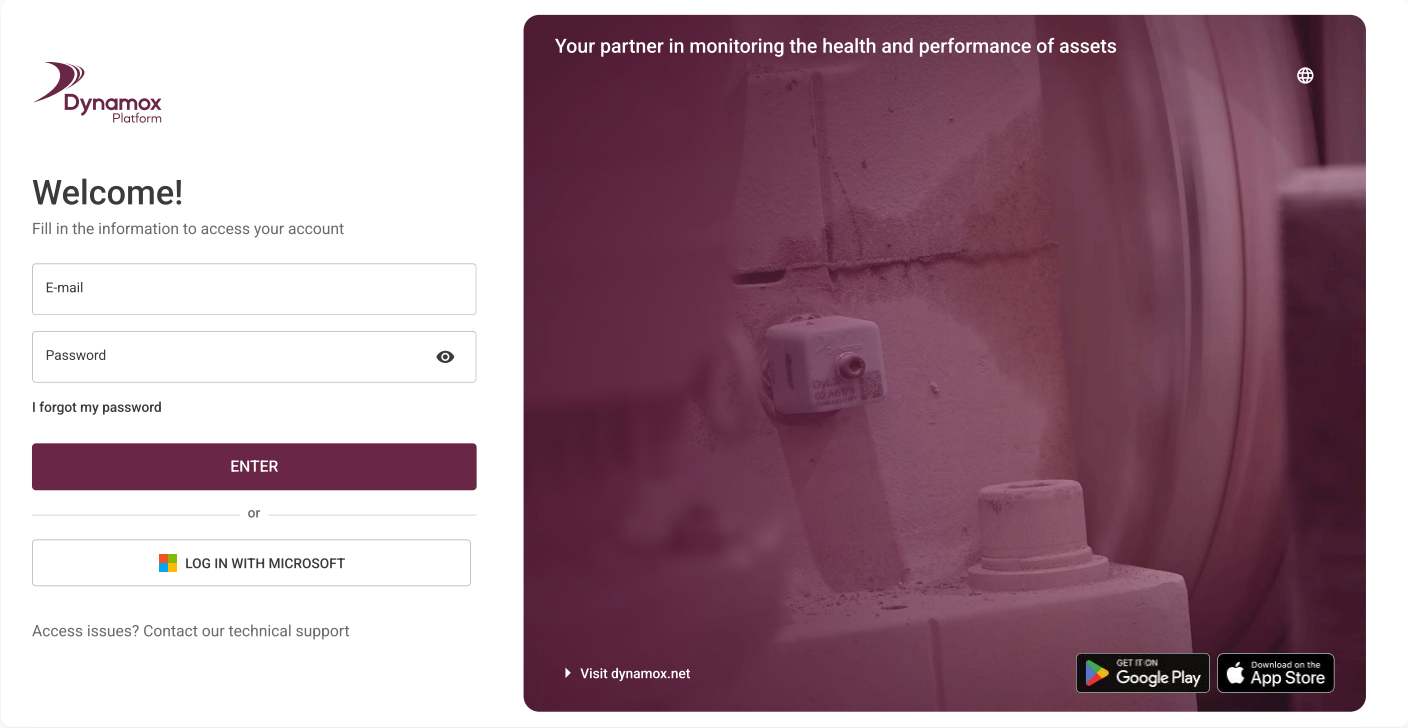


3 Pre-installation

To create the hierarchical structure for sensor installation and access the full history of vibration and temperature measurements collected by the DynaLoggers, 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**, 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.



To learn more about the platform's features and functionality, consult our **Support Site**.

3.1 Creating a hierarchical structure

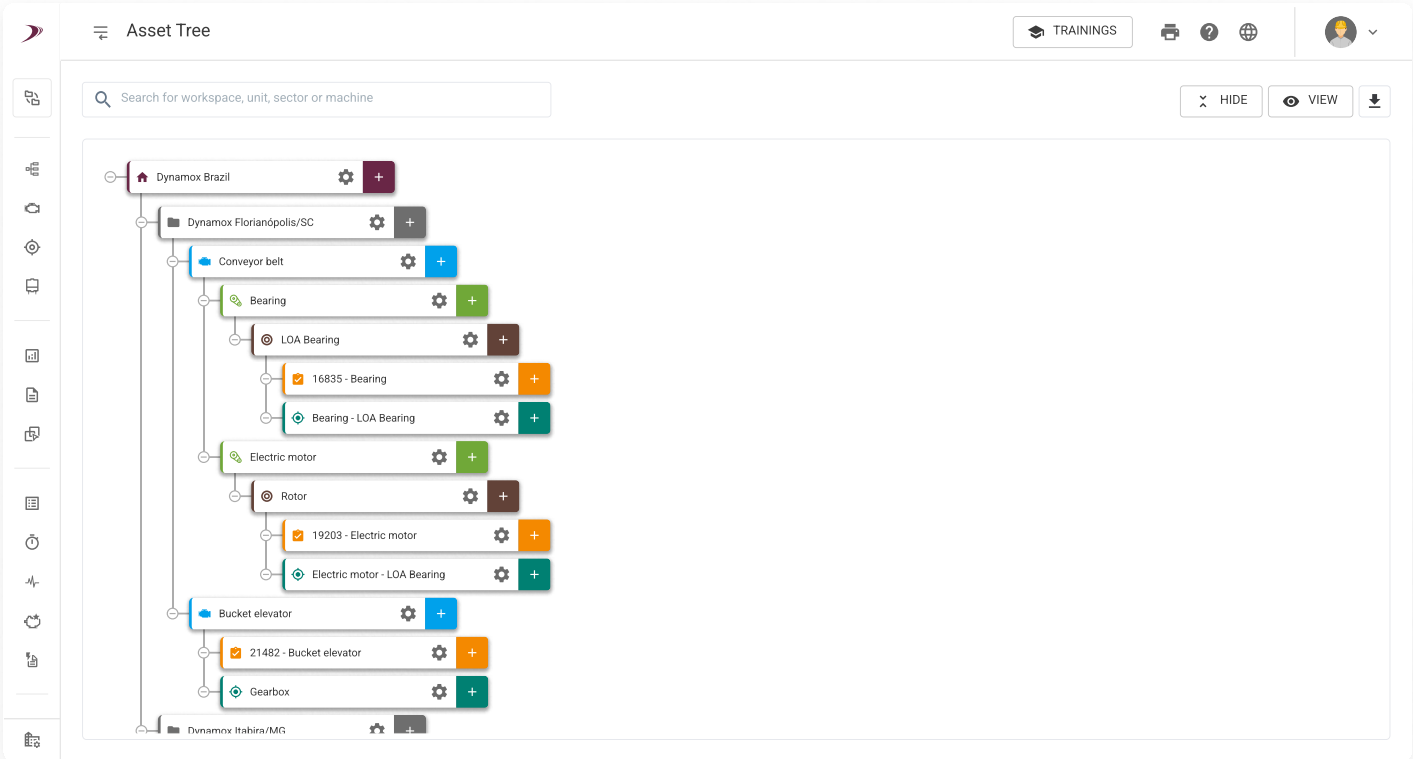
Before positioning the sensors in the field, it is recommended to ensure that the asset tree (hierarchical structure) has been properly created, with monitoring points standardized and ready to receive the sensor to be associated.

For full details and guidance on how to structure the asset tree, consult our **Support Site**↗. 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:



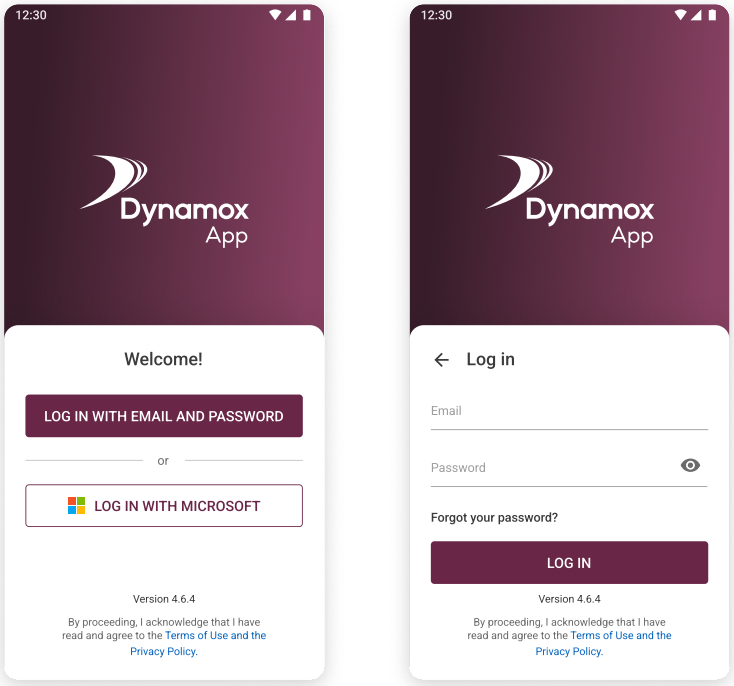
Once these procedures are completed, the user can proceed to the field to physically install the sensors on the machines and components registered in the asset tree. In the **Spot Creation and Configuration** section, you'll find details on how to create each Spot within Dynamox Platform. In the **User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



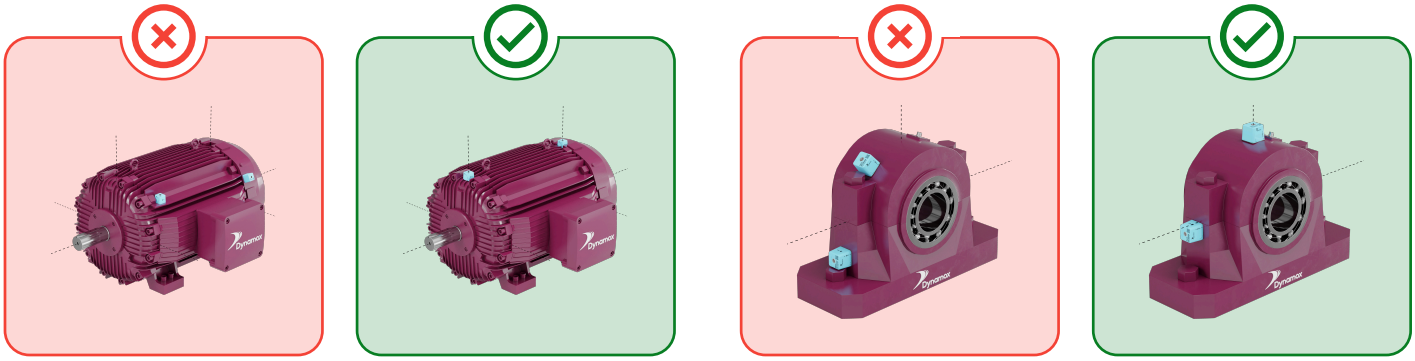
To learn more about the app's functionality and features, refer to the **Dynamox App Manual**↗.

4 Installation

Before physically installing the sensors on the machines, consult the product's technical specifications via the link: **https://support.dynamox.net/en#datasheets-section**↗. This allows you to identify usage restrictions, especially in classified zones (explosive atmospheres).

Regarding vibration and temperature measurements, they should be taken on rigid parts of the machinery. Avoid installing sensors on fins or fuselage areas, as these may exhibit resonances, attenuate signals, and dissipate heat.

Additionally, the device should preferably be positioned on a non-rotating part of the machine and be centered relative to critical components, such as bearings.



It is recommended to keep the DynaLogger in a fixed position, i.e., define a permanent installation for each device to ensure measurement repeatability and high-quality data history.

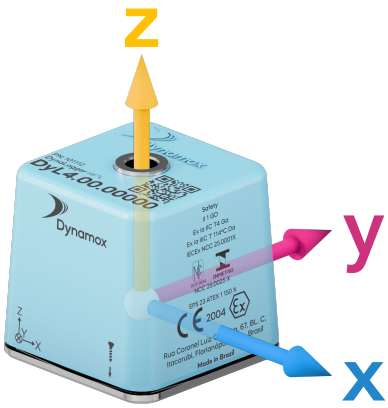
> ⓘ Using DynaLoggers outside the temperature range specified in the datasheets voids the product warranty.

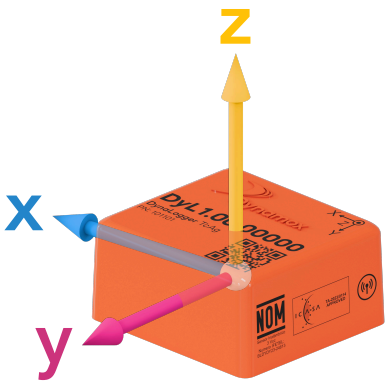
For guidance on installation locations for common types of machinery, refer to the **Applications and good monitoring practices articles**↗ section on the Dynamox Support website: **https://support.dynamox.net/**↗.

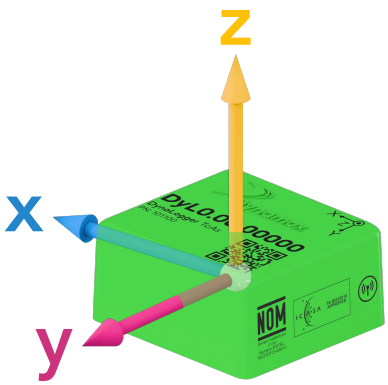
4.1 Positioning recommendations

Since each DynaLogger performs readings on three orthogonal axes, they can be installed in any angular direction. However, it is recommended that one of its axes (X, Y, Z) be aligned with the machine's shaft direction.

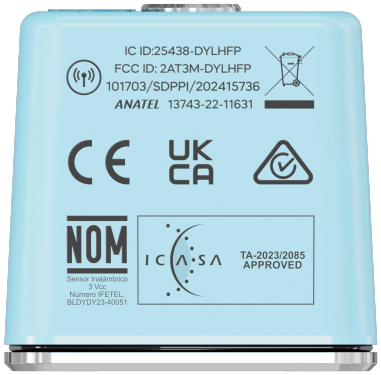
The images below show the axis orientation of the DynaLoggers. This orientation is also marked on the body of each device. Correct positioning should consider both the axis orientation and the actual installation direction on the machine.







Additionally, on the side of the sensors, there is an antenna icon indicating the position of the internal antenna. Do not obstruct this area and, preferably, keep this face directed toward the DynaGateway.







4.2 Mounting

Mounting method is one of the most critical factors in vibration measurements. A rigid mounting is essential to avoid incorrect data readings. Depending on the type of machinery, monitoring point, and DynaLogger model, different mounting methods may be used.

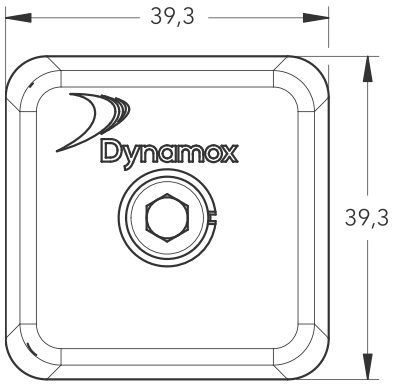
4.2.1 Screw mounting

> ⓘ Mounting method valid only for HF+ and HF+s models.

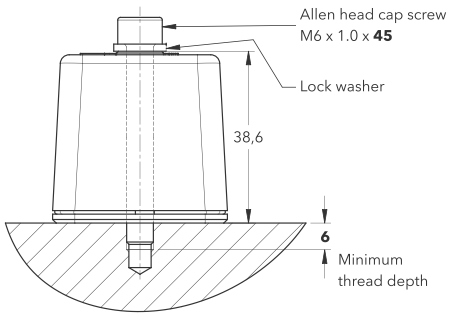
Before choosing this method, ensure the installation point on the equipment has sufficient thickness for drilling and that the sensor supports this type of installation.

If the requirements are met, follow the steps below:

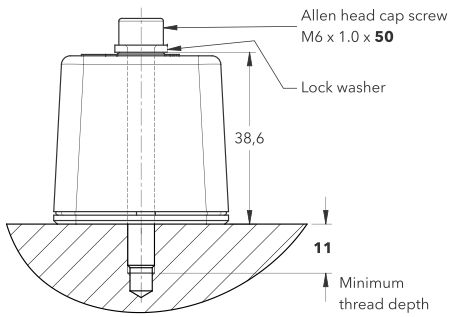
1. **Machine Drilling:** Drill a threaded hole using an M6x1 tap at the measurement point. It is recommended to drill holes with a depth of 6 mm (for screws 45 mm long) and 11 mm (for screws 50 mm long);
2. **Physical Cleaning:** Use a wire brush or fine sandpaper to clean solid particles and encrustations from the measurement surface;
3. **DynaLogger Mounting:** Position the DynaLogger at the measurement point, ensuring its base is fully supported on the surface. Then, secure the screw with the provided lock washer, applying a torque of 11 Nm to ensure reliable results.



Dimensions in millimeters



Assembly considering a 45 mm screw



Assembly considering a 50 mm screw

4.2.2 Adhesive mounting

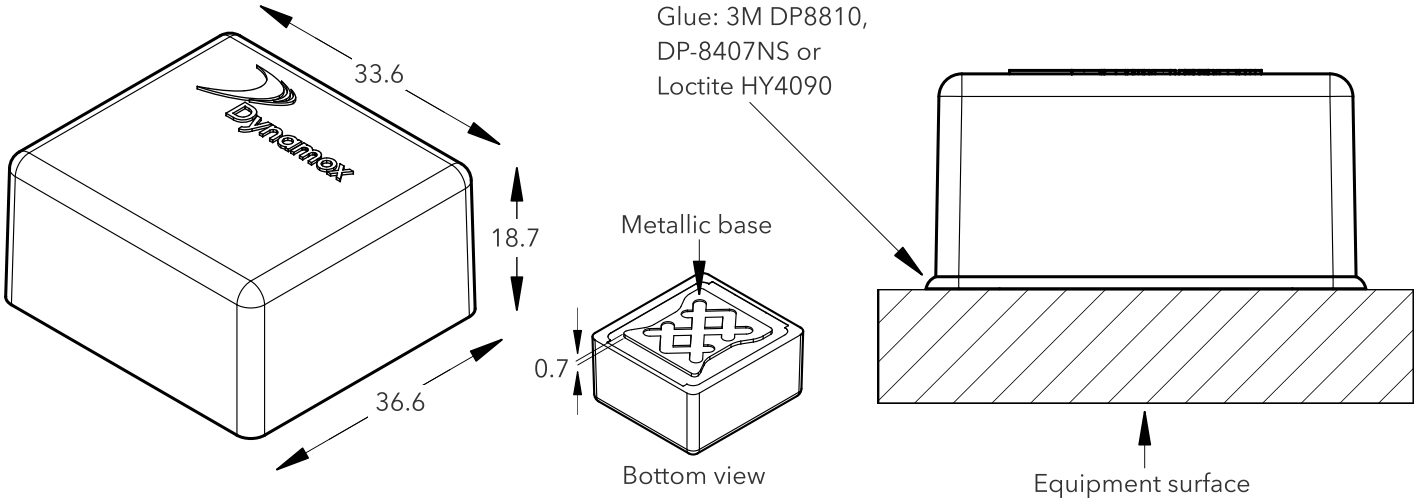
> ⓘ Mounting method valid for all models (HF+, HF+s, TcAg, and TcAs).

Adhesive mounting may be advantageous in the following cases:

- Mounting on curved surfaces, where the DynaLogger base cannot be fully supported;
- Mounting in locations that do not allow drilling of at least 6 mm;
- Mounting where the Z-axis of the DynaLogger is not vertically aligned with the ground;
- Installation of TcAg and TcAs models, which only support adhesive mounting.

If the requirements are met, follow these steps:

1. **Physical Cleaning:** Use a wire brush or fine sandpaper to clean solid particles and encrustations from the measurement surface;
2. **Chemical Cleaning:** Use an appropriate solvent to remove any oil or grease residue from the installation site;
3. **Adhesive Preparation:** It is recommended to use specific adhesives according to the operating temperature range: 3M DP-8810 is suitable for applications up to 84 °C (183 °F), while for applications up to 105 °C (221 °F), 3M DP-8407NS or Loctite HY4090 should be used. In all cases, it is essential to strictly follow the preparation and application instructions provided by the adhesive manufacturer;
4. **DynaLogger Mounting:** Apply the adhesive to cover the entire bottom surface of the DynaLogger, completely filling the central hole for HF+ and HF+s models. Apply the adhesive from the center outward. Press the DynaLogger onto the measurement point, aligning the axes (marked on the device body) appropriately. Wait for the curing time specified in the adhesive manufacturer's manual to ensure proper fixation.



Dimensions in millimeters

4.3 Starting the operation

After securing the DynaLogger at the desired location, its serial number (see Section 2) must be associated with the previously created Spot in the asset tree (see Section 3.1). This registration process must be performed via Dynamox App (see Section 3.2). Therefore, the app should be downloaded to your smartphone before heading to the field for sensor installation.

Once logged into the app using your credentials, all sectors, machines, and their subdivisions will be visible, as previously created in the asset tree via Dynamox Platform. To associate each DynaLogger with its respective monitoring location (Spot), simply follow the procedure detailed in the **Dynamox App Manual**↗.

After completing this procedure, the DynaLogger will begin operating and collecting vibration and temperature data according to the configured settings.

5 Additional resources

To keep your devices updated with the latest features, Dynamox provides automatic updates for DynaLoggers via DynaGateway or Dynamox App.

Declaration of conformity

According to Directive 2014/34/EU, Annex X

Dynamox S.A
Rua Coronel Luiz Caldeira, nº 67, bloco C - Condomínio Ybirá Bairro Itacorubi, Florianópolis/SC, CEP 88.034-110
Phone: +55 48 3024-5858

We declare that the products described below:

HF+s, TcAg and TcAs
Comply with the applicable requirements of Directive 2014/34/EU, including all valid amendments at the time of drafting this declaration.

ATEX marking:

HF+s: CE 2002, ATEX II 1G Ex ia IIC T4 Ga / II 1D Ex ia IIIC T114°C Da
TcAg and TcAs: CE 2002, ATEX II 1G Ex ia IIC T4 Ga / II 1D Ex ia IIIC T88°C Da

The following harmonized standards were applied in the design and construction:

- EN IEC 60079-0:2018, Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-11:2012, Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

Specific conditions for safe use:

- The device shall be protected against electrostatic discharge;
- The metal mounting plate shall be connected to earth;
- The insulation of the equipment could not withstand a voltage of 500 V r.m.s. between the intrinsically safe circuits and earthed parts;
- Ambient temperature range: -10 °C ≤ Tamb ≤ +79 °C (TcAg and TcAs) / -10 °C ≤ Tamb ≤ +105 °C (HF+s)

Responsible for the declaration:



Name: André Ramos
Position: Product Engineering Coordinator
Date: 02/13/2025

Get in touch:
www.dynamox.net/contact-us

INMETRO Certification
(explosive atmospheres zone 0 and zone 20):
Model: HF+, HF+s, TcAg and TcAs
Certificate number: NCC 23.0025 X
Marking: Ex ma T6 Ga / Ex ta IIIC T 85 °C Da - IP66/IP68/IP69
Specific conditions for safe use: care must be taken regarding the risk of electrostatic discharge. Clean only with a damp cloth.

INMETRO Certification:
Model: HF+s, TcAg e TcAs
Certificate number: NCC 23.0025 X
Marking (HF+s): Ex ia IIC T4 Ga / II 1D Ex ia IIIC T 114 °C Da
Marking (TcAg/TcAs): Ex ia IIC T4 Ga / II 1D Ex ia IIIC T 88 °C Da
Specific conditions for safe use: the metal mounting plate must be earthed. The equipment insulation cannot withstand a voltage of 500 V r.m.s. between the intrinsically safe circuits and the earthed parts.

This equipment has no right to protection against harmful interference and cannot cause interference in properly authorized systems.

This product is not suitable for use in residential environments, as it may cause electromagnetic interference that requires the user to take necessary measures to minimize such interference.

For more information, visit the Anatel website:
www.gov.br/anatel/pt-br↗

ANATEL FC CE

© 2026, Dynamox® is a registered trademark. All rights reserved.

The contents of this publication are presented for information purposes only. Every care has been taken to ensure the validity of the information contained in this publication, but no liability can be assumed for any loss or damage whether direct, indirect or arising from the use of the information contained herein. We reserve the right to modify or improve the specifications of our products at any time without prior notice.

Manual DynaLoggers - Version 9 - August 2026 - en - Public Document

CERTIFIED ISO 9001 BUREAU VERITAS
CERTIFIED ISO 27001 BUREAU VERITAS
CERTIFIED ISO 27017 BUREAU VERITAS
CERTIFIED ISO 27018 BUREAU VERITAS
CERTIFIED ISO 27701 BUREAU VERITAS

Get in touch:
www.dynamox.net/contact-us