



Nidec GenOSys Online Conditions Monitoring User Manual

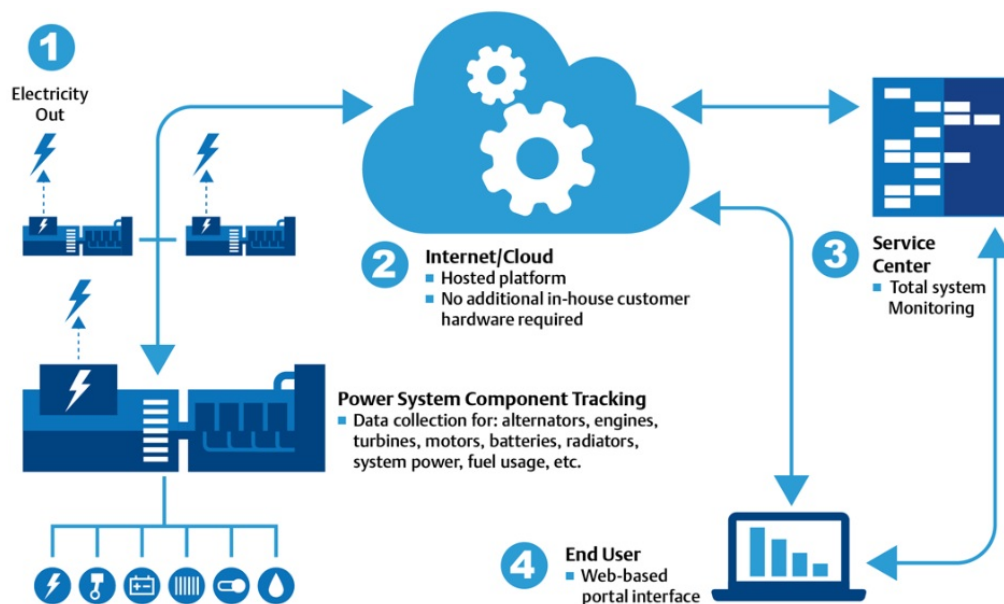
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Nidec GenOSys Online Conditions Monitoring



Specifications

- **Product:** GenOSys Online conditions monitoring
- **Manufacturer:** MOTEURS LEROY-SOMER
- **Designed by:** MOTEURS LEROY-SOMER Boulevard Marcellin Leroy, CS 10015 16915 ANGOULEME Cedex 9 France
- **Features:** Flexible, high-featured management tool for monitoring, tracking, alerting, and providing key data on the performance of electrical systems
- **Versions:** GenOSys Pro, GenOSys Lite

Product Usage Instructions

1. General Overview

GenOSys is a flexible management tool for monitoring electrical systems. It is available in two versions: GenOSys Pro for high-power installations and GenOSys Lite for small to medium power installations.

2. Using GenOSys Pro

GenOSys Pro is a fully customizable solution recommended for high power installations over 3MW. Follow these steps to use GenOSys Pro:

1. Ensure that the GenOSys Pro architecture is set up correctly.
2. Connect the GenOSys Pro to the electrical system you want to monitor.
3. Access the web portal to view real-time data and receive alerts.

3. Using GenOSys Lite

GenOSys Lite is an easy-to-install solution suitable for small to medium power installations. Here's how to use GenOSys Lite:

4. Install the GenOSys Lite box according to the provide instructions.
5. Connect the GenOSys Lite to digital voltage regulators type D550 for data collection.
6. Access the web portal to monitor and track the performance of your electrical system.

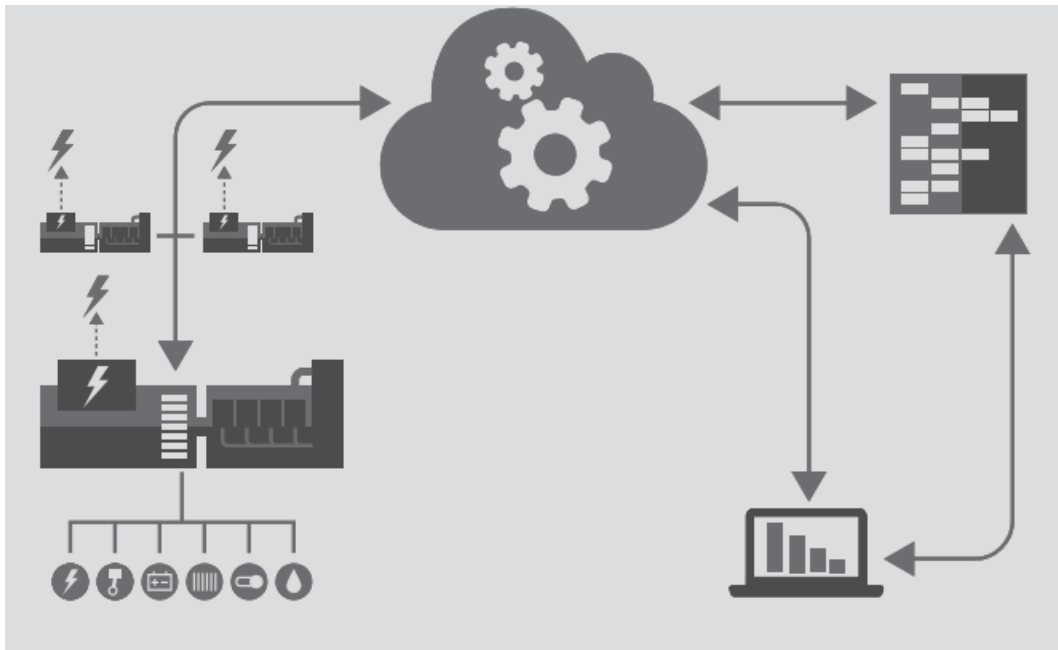
FAQ

• **Q: Can I install GenOSys myself?**

A: It is recommended that all installations and repairs be performed by qualified technicians to ensure safety and proper functioning of the system.

• **Q: How do I access the web portal for monitoring?**

A: To access the web portal, you will need login credentials provided with your GenOSys system. Enter the URL provided in the manual into your web browser and log in using the given credentials.



Online conditions monitoring **User's manual**

Electric Power Generation
6191 en – 2024.02 / a

Online conditions monitoring GenOSys

This manual concerns the GenOSys which you have just purchased.
We wish to draw your attention to the contents of this maintenance manual.

SAFETY MEASURES

- All servicing or repair operations on the GenOSys should be performed by a qualified technician.
- Our technical support service will be pleased to provide any additional information you may require.
- The various operations described in this manual are accompanied by recommendations or symbols to alert the user to potential risks of accidents. It is vital that you understand and take notice of the following warning symbols.

WARNING

- Warning symbol for an operation capable of damaging or destroying the machine or surrounding equipment.



- Warning symbol for general danger to personnel.



- Warning symbol for electrical danger to personnel.



- All servicing or repair operations performed on the GenOSys should be undertaken by personnel trained in the

commissioning, servicing and maintenance of electrical and mechanical components.

WARNING

- This manual is to be given to the end user. © 2024 Moteurs Leroy-Somer SAS
- Share Capital: 32,239,235 €, RCS Angoulême 338 567 258.
- We reserve the right to modify the characteristics of this product at any time in order to incorporate the latest technological developments. The information contained in this document may therefore be changed without notice.
- This document may not be reproduced in any form without prior authorization.
- All brands and models have been registered and patents applied for.

1. Identity sheet

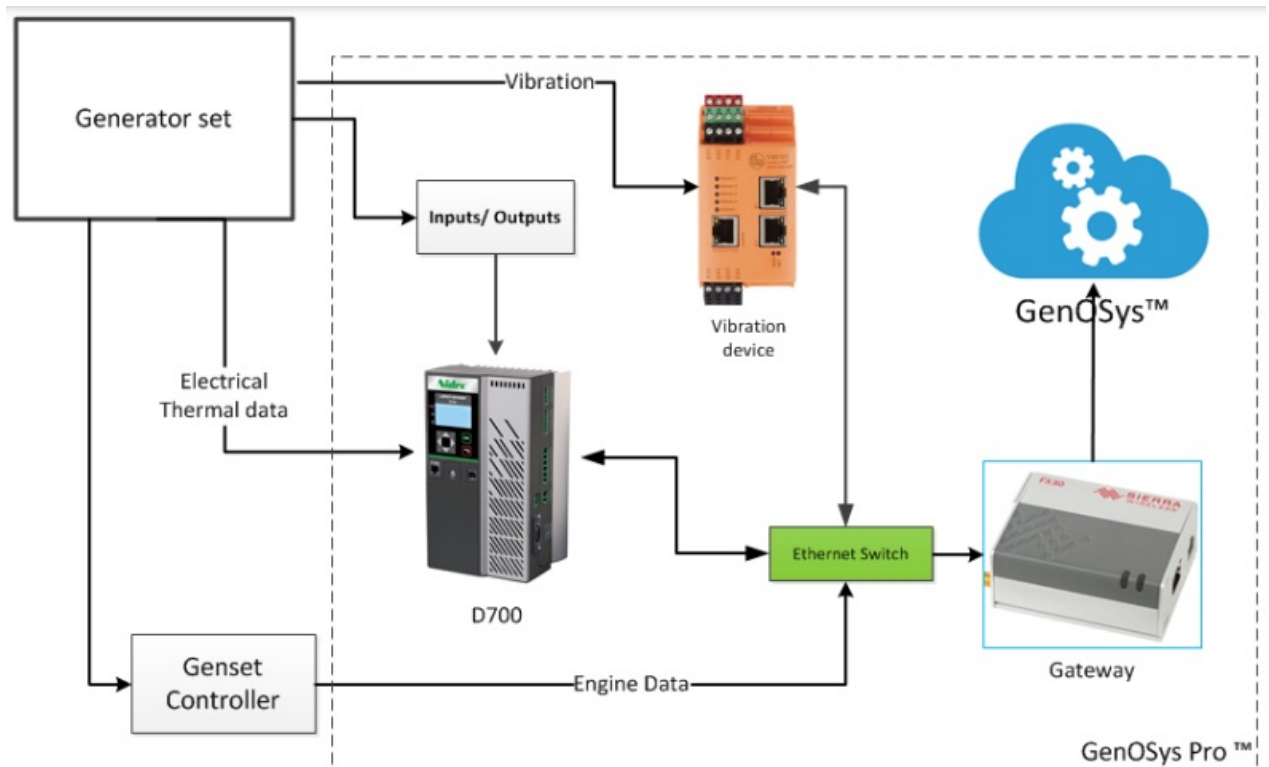
- GenOSys is designed by:
- MOTEURS LEROY-SOMER
- Boulevard Marcellin Leroy, CS 10015
- 16915 ANGOULEME Cedex 9
- France

2. General overview

GenOSys is a flexible, high featured management tool for monitoring, tracking, alerting and providing key data on the performance of electrical systems. GenOSys is available for both new built generators and existing ones for retrofits purpose. It is available in three standard versions, with additional options depending on the customer's needs.

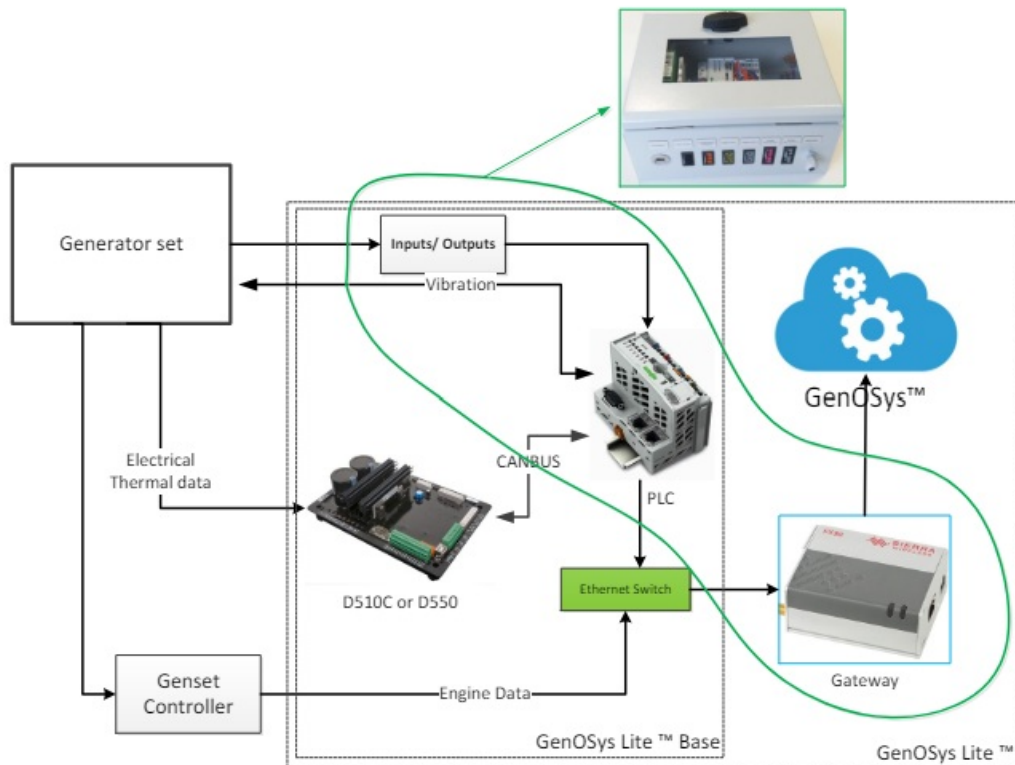
1. GenOSys Pro

It's a flexible, fully customizable solution. The architecture is shown below and is recommended for high-power installations, particularly those over 3MW.



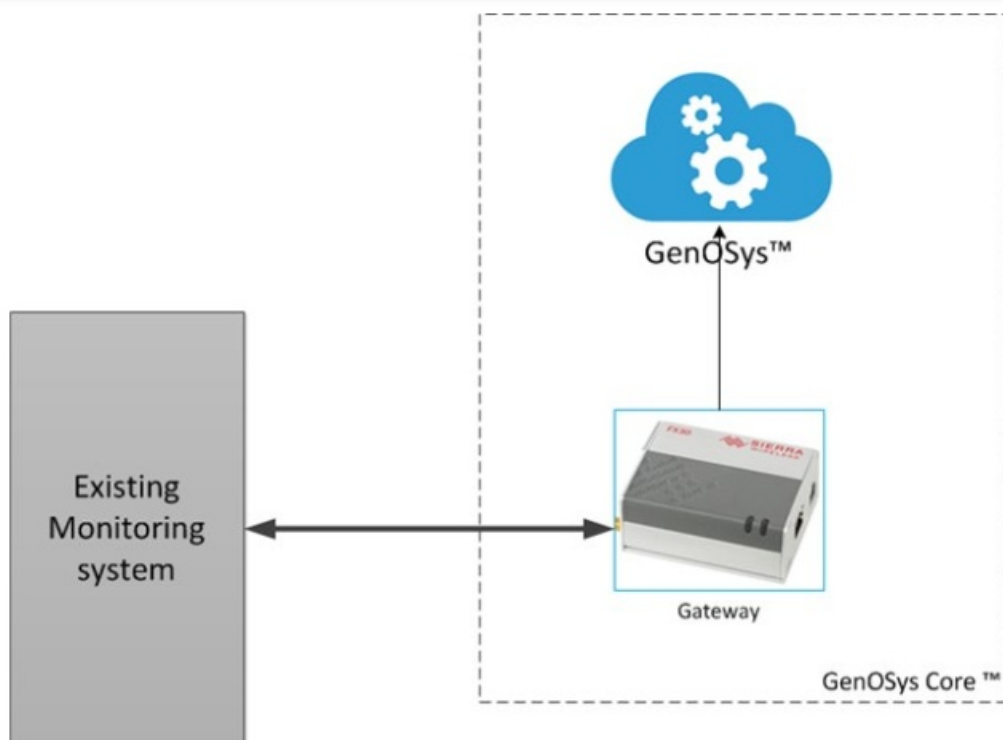
2. GenOSys Lite

It's an easy-to-install, box-integrated solution. The architecture is shown below and is suitable for small and medium power installations. This solution interfaces with digital voltage regulators type D550 to collect electrical data.



3. GenOSys Core

This version is suitable for installations already equipped with data collection devices. It allows to benefit from GenOSys functionalities while optimizing the hardware dedicated to data collection. The architecture is very simple, as shown below.



GenOSys contract The GenOSys contract includes :

- online monitoring of alternator health (thermal, vibrations and electrical data) using algorithms

- alerts via SMS and/or e-mail when algorithms detect deviations
- technical assistance from Leroy-Somer teams
- quarterly and yearly reports with recommendations for maintenance and optimization of the installation
- access to Genosys.net
- access to alternator data from the date of first commissioning

Thanks to this continuous monitoring, gradual and abnormal parameters deviation can be detected, and on-site interventions organized to correct faults and improve the lifetime of the generator.

The equipment

Several types of equipment are required to ensure GenOSys running smoothly.

1. Standard equipment

It includes :

- a box with connection terminals
- a PLC for input/output cards
- a gateway for communication and data transmission
- electrical measuring equipment
- temperature probes for bearings, stator windings, air and water
- accelerometers and a vibration measurement unit for alternator bearings
- Depending on requirements, the options hereafter are used to collect additional information to ensure better predictive maintenance of the machine.

2. Option: Humidity

Measuring humidity helps preventing corrosion problems linked to the presence of moisture. The importance of this probe is to monitor the evolution of ambient humidity in the alternator and its impact.

3. Option: Partial discharge

Partial discharge is a localized electrical discharge that can damage the insulation and lead to premature ageing of the alternator. This phenomenon occurs on Medium and High Voltage alternators. Installing this option enables to anticipate stator winding contamination, detect insulation degradation and detect cracks (varnish, insulation, etc.).

This option requires the installation of 3 capacitive couplers and a partial discharge monitor. Thanks to GenOSys, continuous monitoring is possible to prevent premature failure of the stator insulation wall.

4. Option: Rotor insulation

This option makes it possible to monitor any degradation of rotor insulation due to ageing or specific site conditions (pollution, high ambient humidity, heavy network load). This equipment makes it possible to monitor the rotor's state of health in order to anticipate and limit damage as far as possible.

This option requires:

- wireless transmitter and receiver equipment
- mechanical holder for transmitter/receiver equipment
- modification of the diode bridge cover

5. Option: Poles slip/internal angle measurement

This option is important in the event of an unstable electrical network and voltage micro-interruptions, in order to monitor the alternator's internal angle and detect pole slip, which can significantly affect the alternator's lifetime. This option uses a shaft-mounted incremental encoder and requires modification of the diode bridge

cover.

Note: This option is only available if the alternator is equipped with a Leroy-Somer digital AVR type D550, D510C or D700.

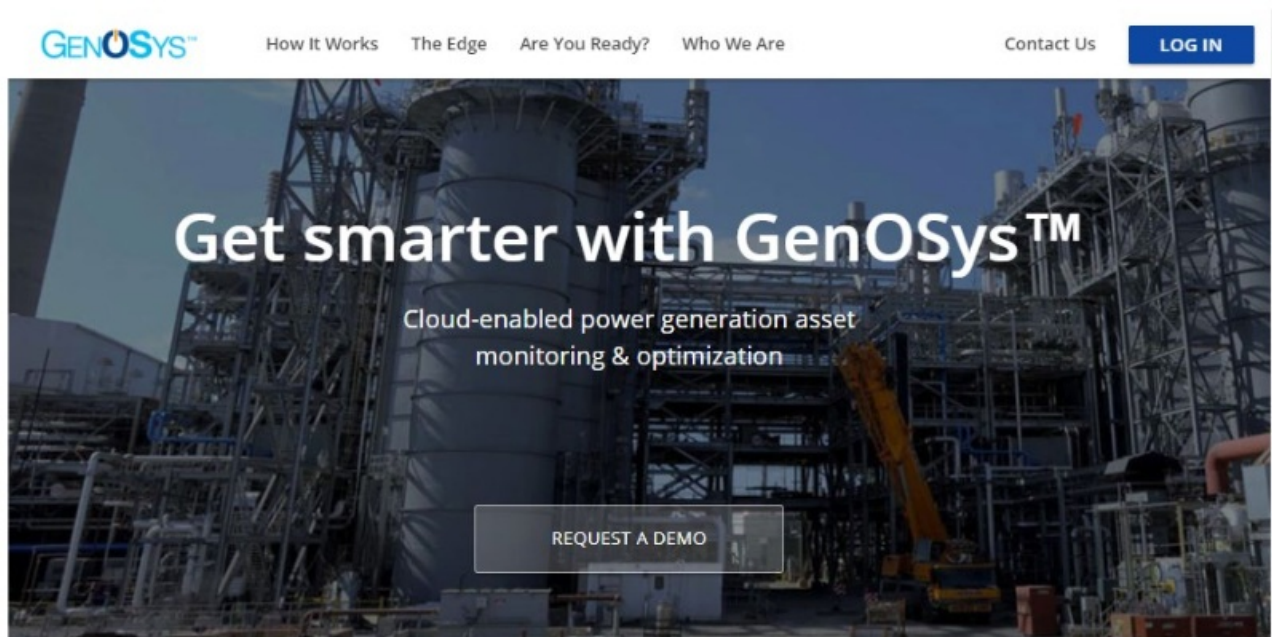
Instructions for using the web portal

The data collected and processed by GenOSys can be accessed via the following web portal:

[Genosys.net](https://genosys.net)

1. Overview of the web portal

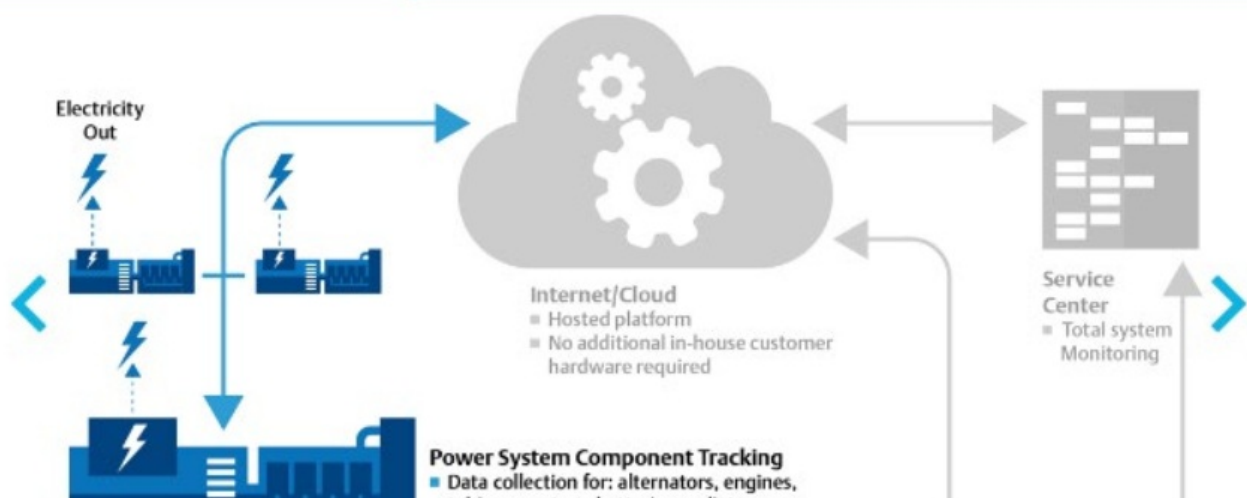
Access rights are nominative and security rules have been implemented to properly manage the information flows. The home page is shown below:



How It Works

1. Collect

We record data from all genset components: alternator, engine, turbine, motors, batteries, radiators, fuel tank etc.



Click on the button “LOG IN” and then enter the connection details.

Log In

Email

Admin@nidec.com

Password

☐ Remember me

LOG IN

[FORGOT PASSWORD?](#)

Once the connection has been established, the user accesses authorized areas.

GENOSYS™

ZonesEventsReportsAdmin

Admin

Zones

Home / Zones

Zones

Search

NAME

STATUS

CONNECTIVITY

LOCATION

LAST UPDATED

The user can then read and download the available reports, go through and possibly acknowledge some events and alarms, or view data in graph mode.

2. Zones

For each organization or customer, this menu contains all the machines under GenOSys supervision.

Zones

Home / Zones

Zones

Search

NAME

STATUS

CONNECTIVITY

LOCATION

LAST UPDATED

NAME

STATUS

CONNECTIVITY

LOCATION

LAST UPDATED

Ok

Connected

21/02/2024 - 09:15:38

Ok

Connected

21/02/2024 - 09:15:25

Ok

Connected

21/02/2024 - 09:10:19

Ok

Connected

FRANCE

21/02/2024 - 09:15:27

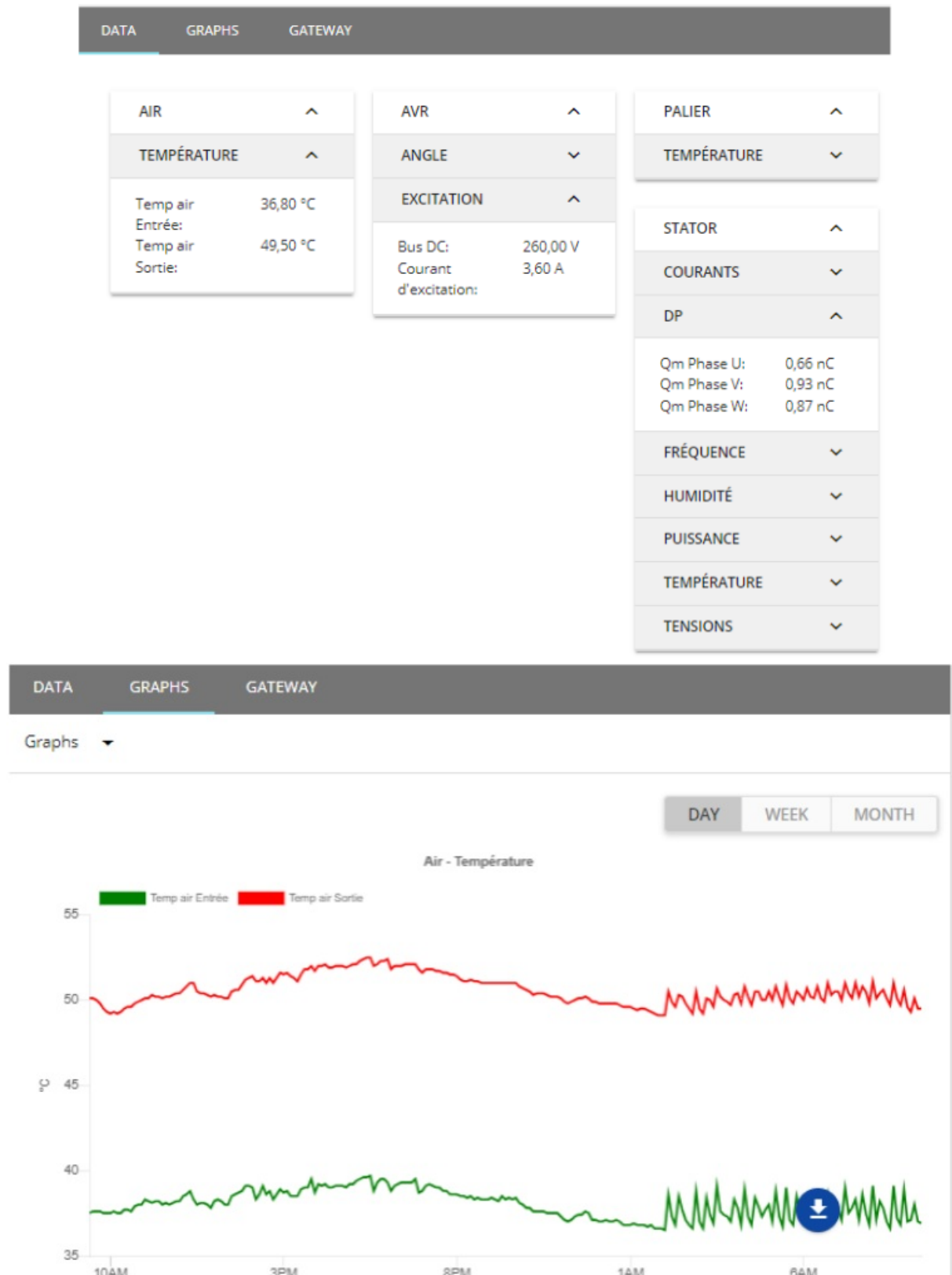
Ok

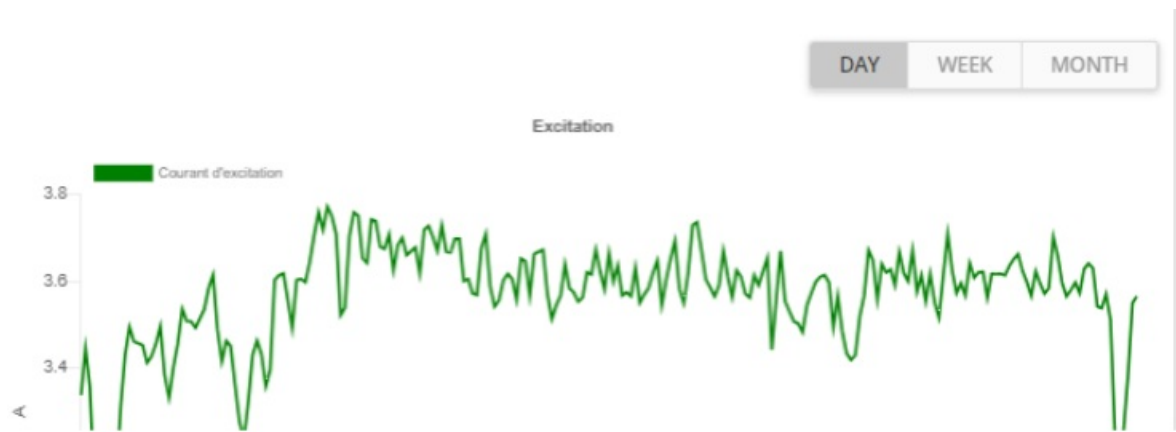
Connected

21/02/2024 -

The menu “Zones” provides an overview of the connectivity status of the machines fleet. Three states are available:


- “Connected”
- “Partially connected”, when the gateway is unable to collect data from one of the available equipment, or when the internet connectivity is weak.
- “Not reporting” when the gateway is unable to connect to the Internet.
- In the example above, all the gateways communicate perfectly with the equipment and the Internet network is well established.
- In each zone, data can be viewed in table or graphical mode.





“View in graph mode”

- “View in graph mode”

On each graph, a button  allows to download data in CSV format. Curves can be displayed by day, week or month, using the selector below.



Events

All events and alarms can be viewed in this menu. The user can display them according to criticality, date of occurrence and zones concerned.

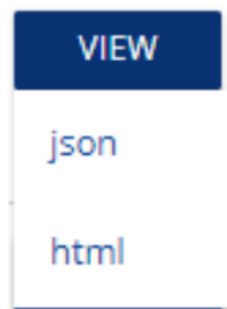
Authorized users can acknowledge some of available alarms.

Reports

Technical reports are generated for customers on a regular basis. These reports are available in the “Reports” tab.

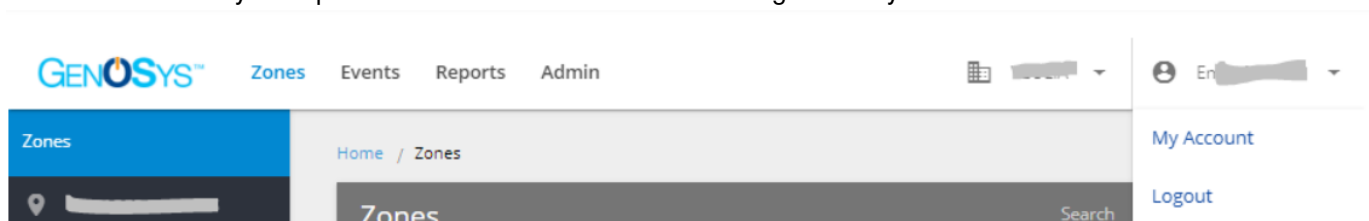
Users can sort the available reports by date and zone for instance. Reports can be displayed and downloaded in two formats:

- HTML
- JSON



User profile

All users can modify their personal data. This can be done through the “My Account” menu.



Then the details can be filled as needed.

A screenshot of the 'My Account' form. The form is divided into two main sections: 'Basic Information' on the left and 'Change Password' on the right. The 'Basic Information' section includes fields for 'First Name' (filled with 'Em'), 'Last Name' (filled with 'Mouni'), 'Email' (filled with 'emile.mouni@mail.nidec.com'), 'Phone Number' (with a dropdown for country code '06' and a masked number), and 'Time Zone' (set to '(UTC+01:00) Brussels, Copenhagen, Madrid, Paris'). There are checkboxes for 'Email Notification' (checked) and 'Text Notification' (unchecked). A 'SAVE' button is at the bottom of this section. The 'Change Password' section includes fields for 'Current Password', 'New Password', and 'Confirm New Password', followed by a 'SAVE' button.

Users can configure their space to receive alerts by SMS or e-mail. To do so, they must select the following options:

- E-mail Notification

- Text Notification

Service & Support

- This local presence is our guarantee for fast and efficient repair, support and maintenance services.
- Trust your alternator maintenance and support to electric power generation experts. Our field personnel are 100% qualified and fully trained to operate in all environments and on all machine types.
- We have a deep understanding of alternator operation, providing the best value service to optimise your cost of ownership.
- Where we can help:

Where we can help:



Contact us:

- **Americas:** +1 (507) 625 4011
- **EMEA:** +33 238 609 908
- **Asia Pacific:** +65 6250 8488
- **China:** +86 591 8837 3010
- **India:** +91 806 726 4867

service.epg@leroy-somer.com



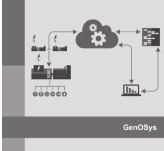
- Scan the code or go to:

- www.lrsrm.co/support
- www.leroy-somer.com/epg




- Connect with us at:



Documents / Resources

	<p>Nidec GenOSys Online Conditions Monitoring [pdf] User Manual GenOSys Pro, GenOSys Lite, GenOSys Core, GenOSys Online Conditions Monitoring, GenOSys, Online Conditions Monitoring, Conditions Monitoring, Monitoring</p>
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References

-  [Somer Dental Labs | Quality, Experience, Consistency](#)
-  [Leroy-Somer Alternators - Generators](#)
-  [Leroy-Somer Alternators - Generators](#)
- [User Manual](#)

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