



User Manual

LM2 Gears CMS

Copyright and contact data

Copyright Sumitomo Drive Technologies

This document or parts thereof may not be reproduced, stored in a retrieval system, nor transmitted, in any form nor by any means, electronic, mechanical, photocopying, recording, nor otherwise, without the prior written permission of Sumitomo Drive Technologies.

This document could contain technical inaccuracies or typographical errors. Sumitomo Drive Technologies reserves the right to revise the content of this document from time to time without the obligation of Sumitomo Drive Technologies to notify any person of such revision or change.

Details and values given in this document are average values and have been compiled with care. They are not binding, however, and Sumitomo Drive Technologies disclaims any liability for damage or detriments suffered as a result of reliance on the information given herein or the use of products, processes or equipment to which this document refers. No warranty is made that the use of the information or of the products, processes or equipment to which this document refers will not infringe any third party's patents or rights. The information given does not release the user from making their own experiments and tests.

Contact data

www.sumitomodrive.com



Hansen Industrial Gearbox Services

Terelststraat 208

BE-2650 Edegem

Belgium

E-mail: hit.info@shi-g.com

24/7 SERVICE HOTLINE

Tel.: +32 3 450 12 34



Contents

1	Manual Disclaimer.....	6
2	About this document.....	7
2.1	Function of the document.....	7
2.2	Language.....	7
2.3	Illustrations.....	7
2.4	Use of steps, lists and titles in this document.....	7
2.5	How to use this document.....	7
2.6	Warnings, cautions and notes used in the document.....	7
2.7	Related documents.....	8
2.8	Storage of this document and the related documents.....	8
2.9	Abbreviations.....	8
2.10	Customer support.....	8
3	Description.....	9
3.1	Intended use.....	9
3.2	Overview and function of the device.....	9
3.3	Overview and function of the vibration box (optional).....	10
3.4	Overview of the physical connections.....	11
3.5	Description of the sensors.....	12
3.5.1	Water saturation - oil temperature sensor.....	12
3.5.2	Wear indicator sensor.....	12
3.6	Overview of the data connections.....	12
3.6.1	Wired internet connection.....	12
3.6.2	Wireless internet connection.....	12
3.7	Overview of the alarm categories.....	12
3.8	Overview of the controls.....	13
3.9	Type plate.....	13
4	Safety.....	15
4.1	Restrictions.....	15
4.2	Approved user.....	15
4.3	General safety instructions.....	15
4.4	Safety instructions for installation.....	15
4.5	Safety instructions to secure data.....	16
4.6	Safety labels.....	16
4.7	Instructions in case of a fire.....	16
4.8	Warranty.....	16
4.9	Disposal.....	17
5	Storage.....	18
5.1	Storage.....	18
6	Installation.....	19
6.1	Remove the packaging material.....	19
6.2	Install the device.....	19

6.3	Install the vibration box (optional).....	19
6.4	Connect a sensor to the device.....	20
6.5	Connect a sensor to the vibration box (optional).....	20
6.6	Connect the vibration box (optional) to the device.....	21
7	Operation.....	22
7.1	Activate the device.....	22
8	Dashboard.....	23
8.1	Overview of the main screen.....	23
8.2	Overview of the Map screen.....	24
8.3	Overview of the Site Selector screen.....	25
8.4	Overview of the Site screen.....	26
8.5	Overview of the Site detail screen.....	27
8.6	Overview of the Alarm screen.....	28
8.6.1	Historical alarms screen.....	29
8.6.2	Actual alarms screen.....	30
8.6.3	Alarm rankings screen.....	31
8.6.4	Event Gantt screen.....	32
8.7	Device screen.....	33
8.7.1	Device tab.....	33
8.7.2	Oil charts tab.....	34
8.7.3	Vibrations tab.....	34
8.7.4	Sensor charts tab.....	36
8.8	Overview of the buttons.....	36
8.8.1	Menu buttons.....	36
8.8.2	Status buttons.....	37
8.8.3	User buttons.....	37
8.8.4	Navigation buttons.....	38
8.8.5	Site buttons.....	38
8.8.6	Alarm action buttons.....	39
8.8.7	Alarm filter buttons.....	39
8.8.8	Alarm ranking filter buttons.....	40
8.8.9	Alarm rankings buttons.....	41
8.8.10	Event Gantt buttons.....	41
8.8.11	Tab settings buttons.....	42
8.9	Dashboard procedures.....	43
8.9.1	Start the dashboard.....	43
8.9.2	Acknowledge an alarm.....	43
8.9.3	Create a new user.....	43
8.9.4	Select a role for a user.....	44
8.9.5	Add a user to a site.....	45
8.9.6	Invite a user.....	45
9	Maintenance.....	47
9.1	Approved work and not approved work.....	47
9.2	Maintenance schedule.....	47
9.3	Clean the device.....	47
9.4	Do a check on the seals.....	47
9.5	Do a check on the measured values.....	48
9.6	Clean the sensors.....	48

10	Technical data.....	49
10.1	Parts included in the delivery.....	49
10.2	Device specifications.....	49
10.3	Ambient conditions during use.....	49
10.4	Ambient conditions during storage.....	50
10.5	Dimensions.....	50
10.6	Spare parts.....	50
10.7	Pre-set alarms.....	51

1 Manual Disclaimer

This Manual and its instructions and information do not purport to cover all details or variations of the device and do not claim to provide for every possible contingency met in connection with handling, installation, operation, or maintenance. Sumitomo Drive Technologies does not make any representations, warranties or guarantees, express or implied, as to the accuracy or completeness of the Manual. Users must be aware that updates and amendments will be made from time to time to the Manual. It is the user's responsibility to determine whether there have been any such updates or amendments. Neither Sumitomo Drive Technologies nor any of its directors, officers, employees or agents shall be liable in contract, tort or in any other manner whatsoever to any person for any loss, damage, injury, liability, cost or expense of any nature, including without limitation incidental, special, direct or consequential damages arising out of or in connection with the use of the Manual. The user and/or purchaser bears all risks. Should further information be desired or should particular problems arise which are not covered sufficiently for the users' and/or purchaser's purposes, the matter should be referred to in writing to Sumitomo Drive Technologies.



Warning: Read and understand all instructions and information prior to any handling including maintenance, installing or starting the device. Failure to follow instructions could lead to damage, serious injury, or death.

- Only qualified and trained personnel should be involved with the storage (including transport), commissioning, operation, installation (including removal), inspection, maintenance and repairs of this device.
- Make sure all your personnel and operators of this device have been professionally and adequately trained for safe working practices.
- Operators must wear adequate personal protective equipment.
- Ensure all international, EU, national and local safety regulations and codes are followed when handling, maintaining, installing (including all related actions) the device.
- Verify the compatibility of the device with the installation it is meant for.

2 About this document

2.1 Function of the document

The document is only applicable for the "LM2 Gears CMS", from here on in the document referred to as the device.

The document is for approved users and gives the information that is necessary to do these tasks:

- Installation
- Operation
- Maintenance

2.2 Language

The original instructions of this document are in English. All other language versions are translations of the original instructions.

If there is any doubt, the English version of the document is binding.

2.3 Illustrations

It is not always possible to show the configuration of your device as in the certified drawing. The illustrations in this document show a typical setup. They are for instruction or description only.

2.4 Use of steps, lists and titles in this document


- The steps in procedures have numbers (123) if the sequence is important.
- The lists and steps with bullets (•) are used if the sequence is not important.
- The lists with letters (abc) are used if the sequence is important.



2.5 How to use this document

Procedure

1. Make sure that you know the structure and the contents of the related documents.
2. Read the safety chapter and make sure that you know all the instructions Refer to chapter [Safety](#) on page 15.
3. Do the steps in the procedures fully and in the correct sequence.

2.6 Warnings, cautions and notes used in the document

Symbol	Type	Description
	Warning	If you do not follow the instruction, this can cause injury.

Symbol	Type	Description
	Caution	If you do not follow the instruction, this can cause damage to the device or to property.
	Note	A note gives more data.

2.7 Related documents

Document name	Target audience
User Manual Kinematic 200	Approved users
User Manual VP2500L	Approved users

2.8 Storage of this document and the related documents

This document and the related documents are a part of the device.

- Make sure that you keep the document and the related documents in a dry and clean location.
- Make sure that the document and the related documents are available to all personnel.

2.9 Abbreviations

Abbreviation	Description
S.D.T.	Sumitomo Drive Technologies
ABS	Acrylonitrile Butadiene Styrene
CMS	Condition Monitoring System

2.10 Customer support

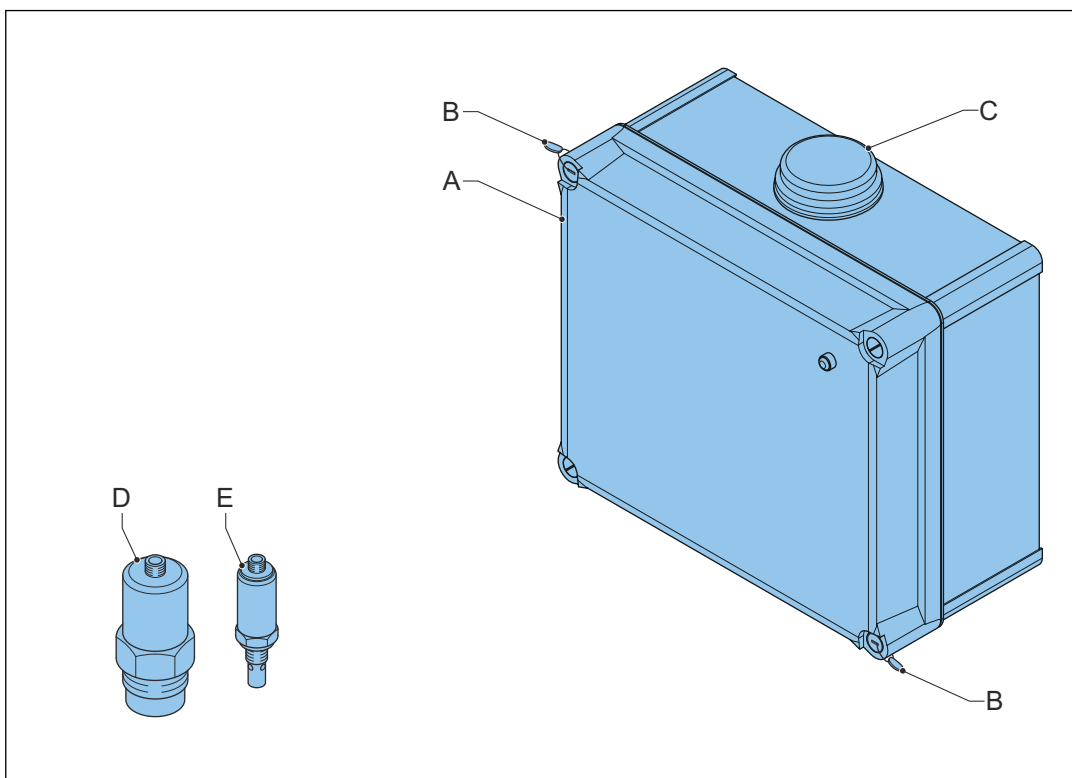
- If more information is necessary, speak to S.D.T.
- Give the serial number to S.D.T. Refer to the type plate.

3 Description

3.1 Intended use

Only use the device to remotely monitor the condition of the oil as specified in this document. Do not use the device for other applications.

3.2 Overview and function of the device

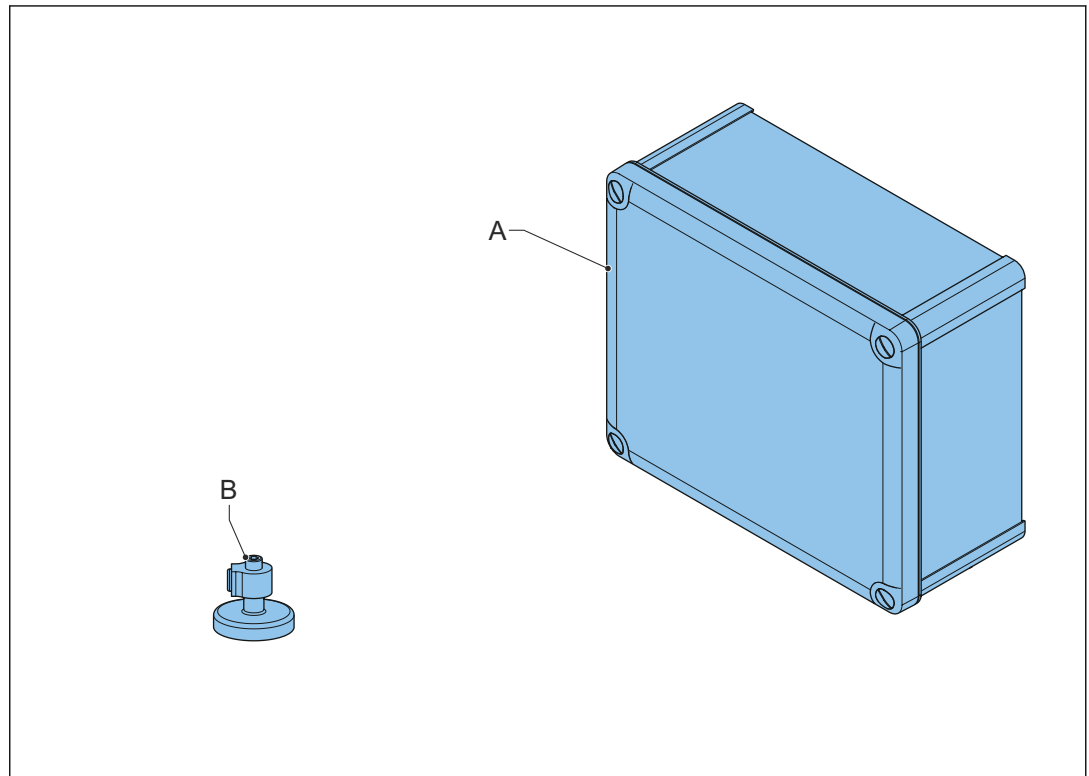


- A Device
- B Seals
- C Antenna
- D Wear indicator sensor
- E Water saturation - oil temperature sensor

Part	Function
Device	To monitor the condition of the oil
Seals	To prevent that the device is opened
Antenna	To send and receive wireless signals
Wear indicator sensor	To measure the increase of metal particles in the oil

Part	Function
Water saturation - oil temperature sensor	To measure the water saturation and the temperature of the oil

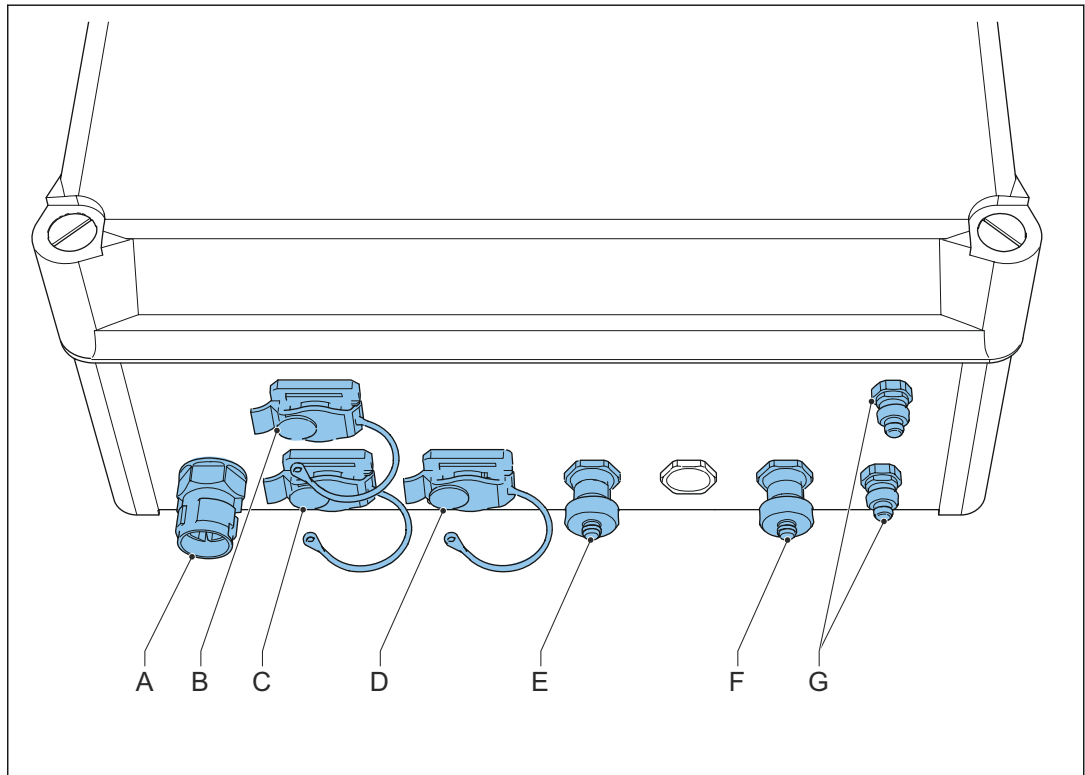
3.3 Overview and function of the vibration box (optional)



- A Device
- B Vibration sensor

Part	Function
Device	To monitor the vibrations
Vibration sensor	To measure the vibrations

3.4 Overview of the physical connections



- A Electrical power supply
- B Vibration config
- C Vibration connection
- D Ethernet connection
- E Connection for the water saturation - oil temperature sensor
- F Connection for the wear indicator sensor
- G Connection for more (optional) switches (NO/NC)

Connection	Function
Electrical power supply	To connect the device to the power supply
Vibration config	To connect a vibration extension box
Vibration extension box	To connect a vibration extension box
Ethernet connection	To connect the device to the internet
Connection for the water saturation - oil temperature sensor	To connect the water saturation - oil temperature sensor
Connection for the wear indicator sensor	To connect the wear indicator sensor
Connection for more (optional) switches (NO/NC)	To connect more optional switches

3.5 Description of the sensors

3.5.1 Water saturation - oil temperature sensor

The water saturation - oil temperature sensor measures:

- The percentage of water saturation of the oil
- The temperature of the oil

3.5.2 Wear indicator sensor

The wear indicator sensor shows the increase of metal particles in the oil.

- The metal particles collect on the surface of the sensor.
- The percentage of metal particles on the sensor shows the development of wear in the connected drive.
- The time that is necessary to go from 0% to 100% saturation gives an indication of the quantity of metal particles in the oil.
- When the sensor has 100% saturation, the sensor releases the metal particles and starts to collect new metal particles. A clean sensor means that the connected drive has less wear.

3.6 Overview of the data connections

3.6.1 Wired internet connection

The device has an Ethernet connection for internet access. When the wired internet connection is not available, the device automatically uses the wireless internet connection.

3.6.2 Wireless internet connection

The device has a SIM card that uses 3G/4G for internet access.



Note: If a wireless internet connection is used, the device needs to be installed at a position with a sufficient data signal.

3.7 Overview of the alarm categories

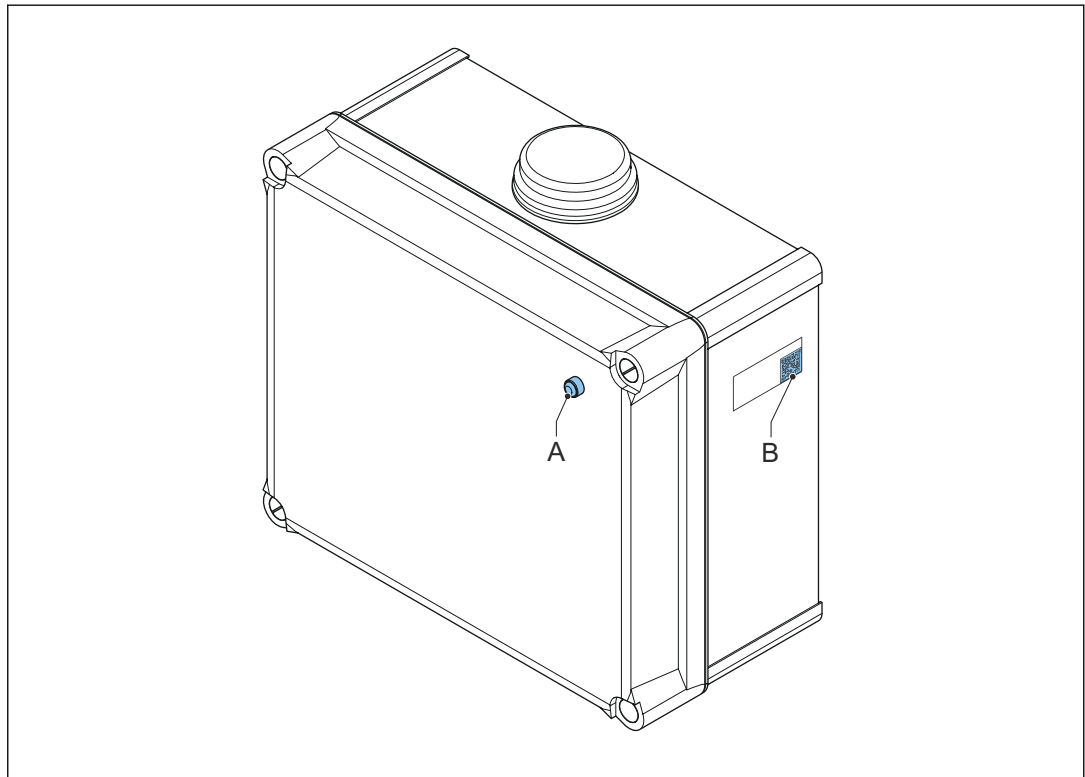
The device is factory set with a number of pre-set alarms. There are three categories for the alarms:

1. Minor: there is sufficient time to find a solution for the problem that caused the alarm.
2. Major: find a solution for the problem that caused the alarm as soon as possible.
3. Critical: find a solution for the problem that caused the alarm immediately. Turn off the drive immediately.



Note: For an overview of the pre-set alarms, refer to section [Pre-set alarms](#) on page 51.

3.8 Overview of the controls

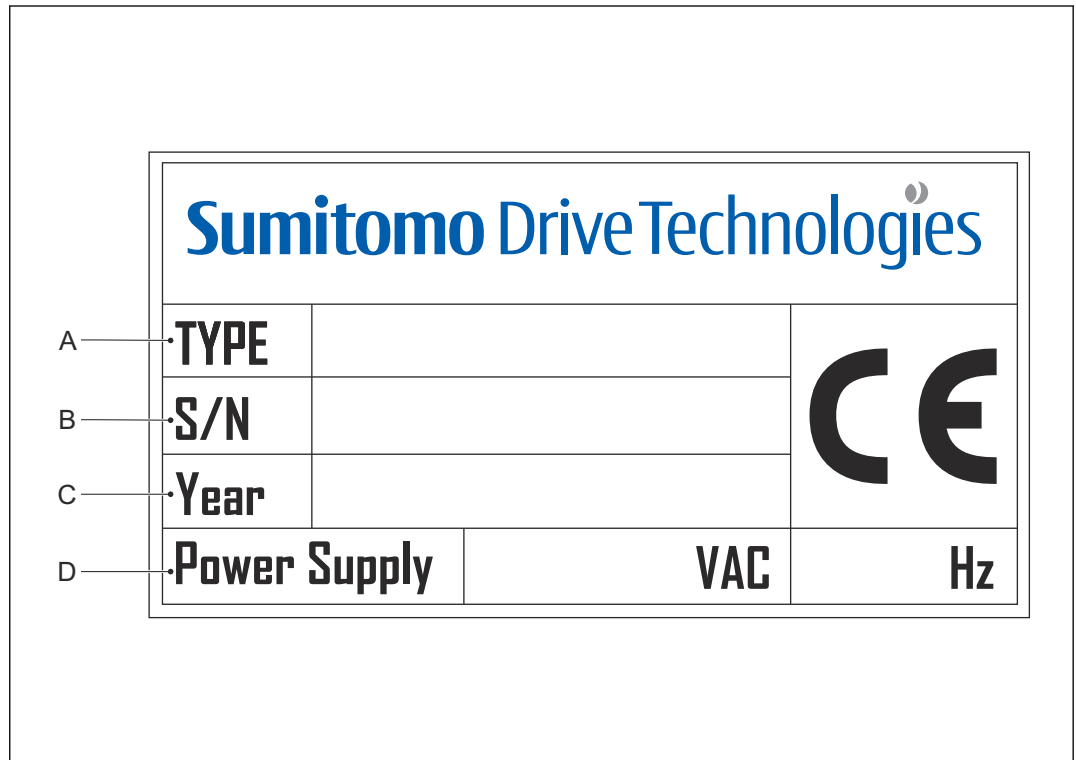


- A Signal light
- B QR code

Control	Function
Signal light	On when the gateway is activated.
QR code	To get access to related information.

3.9 Type plate

The type plate gives information about the device.



- A Device type
- B Serial number
- C Year of production
- D Device power supply

4 Safety

4.1 Restrictions



Warning: If you use the device in ways other than described in the related documents, this may result in injury, death, or property and equipment damage. Use the device only as described in the related documents.

S.D.T. cannot be held responsible for injuries or damages resulting from non-standard, unintended use of the device. The device is designed and intended only for the purpose described in the related documents.

Unintended use includes these actions:

- Open the device.
- Make changes to the device that have not been recommended in the related documents
- Use parts that are not replacement parts or accessories from S.D.T.
- Use materials or equipment that are inappropriate or incompatible with the device.
- Use the device in a hazardous (explosive) environment where ATEX guidelines and other guidelines about explosion free conditions are applicable.
- Use the device when it shows signs of damage.
- Let unapproved personnel perform any task on or with the device.

4.2 Approved user

The term approved user is specified here as a person that fully knows the device and its safe operation. Approved users obey all related safety regulations and are approved to safely install, remove, operate, and do maintenance on the device.

It is the responsibility of the company that owns the system where the device and the gear unit or the hydraulic system are part of to make sure that all users of the device obey these requirements.

4.3 General safety instructions

- If a part of the device shows damage, do not use the device.
- When you do work on or with the device, obey all legislation and regulations that apply to safety and work requirements, in the country and at the location where you do work on or with the device.
- When you do work on the device, make sure that the complete area and the device are sufficiently lighted.
- Do not open the device.

4.4 Safety instructions for installation

- Obey the European Directives 2006/42/EG and the local safety regulations.
- Make sure that the device is connected correctly. Refer to the electrical specifications in section [Device specifications](#) on page 49.
- Install the device in an area without excessive vibrations.
- Do not install the device in an area where there is permanent contact with water. For the IP class of the device, refer to section [Ambient conditions during use](#) on page 49.


4.5 Safety instructions to secure data

The device is connected to and communicates information and data through a network interface. The user is responsible to supply and to ensure a secure connection between the device and the network of the user or any other network.

The user must set up and keep any appropriate measures to prevent the device, the network, its system and the interface from any kind of security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information. The measures include, but are not limited to:

- Install firewalls
- Apply authentication measures
- Encrypt data
- Install anti-virus programs

4.6 Safety labels

Label	Description
	Dangerous voltage that gives risk of electric shock

4.7 Instructions in case of a fire



Warning: After a fire, protective clothing and respiratory equipment are mandatory to handle the device. The device can contain dangerous substances that cause injury when you touch or breathe them.

- Use a carbon dioxide extinguisher to extinguish a fire.



Warning:

- Use caution when you use a carbon dioxide extinguisher. Low temperatures of the nozzle can cause injury.
- Do not use a carbon dioxide extinguisher in small spaces. Injury or death can occur as a result of a low level of oxygen.
- In case of a large fire, call the emergency services.
- Do not start a device that has burn marks. Speak to S.D.T.

4.8 Warranty

The warranty clause of the general conditions of sale applies to devices used as per instructions contained in this document, including the related documents, and in any additional instruction leaflets supplied with the device insofar as the device operates within the service and rating conditions put forward in the order acknowledgment.

Non compliance with these instructions or a lack of maintenance will render warranty agreement invalid.

This warranty clause applies to all parts of the device with the exception of those parts which are subject to wear.

S.D.T. is not responsible in case of data loss or a data breach.

4.9

Disposal

- When you discard the device or the components of the device, obey the local environmental regulations.
- At the end of the service life of the device or the components of the device, try to recycle to prevent environmental pollution.



- Sort metal and electrical components correctly. Make sure that these components are recycled.
- Obey the environmental regulations to discard materials that you cannot recycle.

5 Storage

5.1 Storage

The storage period starts when the device is not used.

Procedure

1. During storage, make sure that:
 - The ambient conditions for storage are correct. Refer to section [Ambient conditions during storage](#) on page 50.
 - You prevent damage and/or deformation of the device.

6 Installation

6.1 Remove the packaging material

Procedure

1. Do a check for damage to the package.
2. If you see damage, get in contact with S.D.T. immediately.
3. Remove the packaging material.
4. Do a check for:
 - a) Damage to the device
 - b) Damage to the seals of the device
5. If you see damage, get in contact with S.D.T. immediately.
6. Do a check if the serial number on the device agrees with the shipping papers.
7. If the device does not agree with your order, get in contact with S.D.T. immediately.

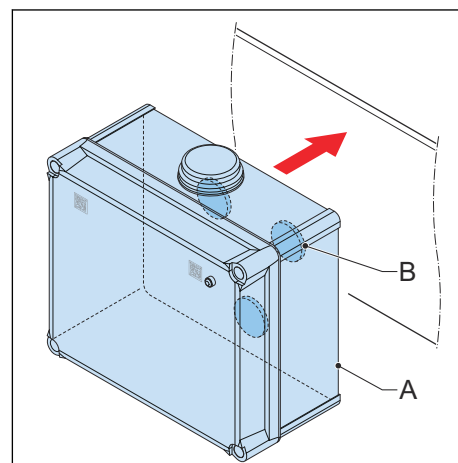
6.2 Install the device



Caution: Do not use mounting screws to install the device. This can cause damage to the device.

Procedure

1. Install the device (A) on a flat, metal surface with a minimum thickness of 5 mm. Use the magnets (B).
If necessary, install a metal surface to install the device on.
2. Connect the device to the power supply.
3. Connect a sensor to the device. Refer to section [Connect a sensor to the device](#) on page 20.
4. If necessary, connect an Ethernet cable to connect the device to the internet.
When a wired internet connection is not available, the device automatically uses the wireless internet connection.



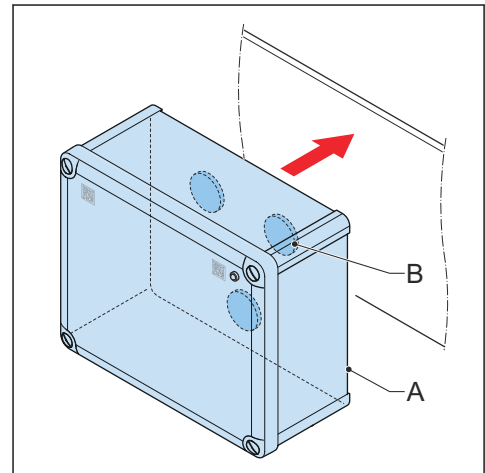
6.3 Install the vibration box (optional)



Caution: Do not use mounting screws to install the vibration box. This can cause damage to the vibration box.

Procedure

1. Install the vibration box (A) on a flat, metal surface with a minimum thickness of 5 mm. Use the magnets (B).
If necessary, install a metal surface to install the vibration box on.
2. Connect the vibration box to the power supply.
3. Connect a sensor to the vibration box. Refer to section [Connect a sensor to the vibration box \(optional\)](#) on page 20.



6.4 Connect a sensor to the device



Caution: Make sure that you connect the sensors to the device correctly. If you connect a sensor to the incorrect connection, the device does not operate correctly or shows incorrect measurements.

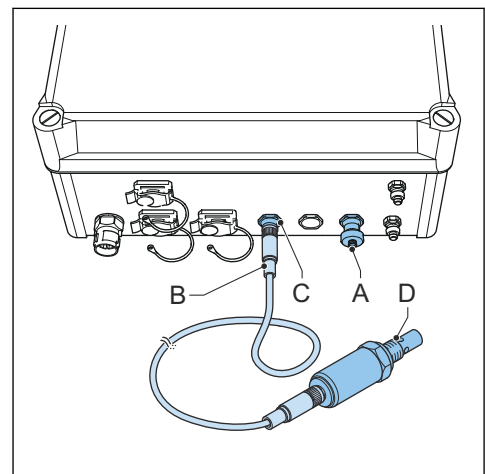


Note:

- Make sure that you use the correct cable. The correct cables are supplied with the device.
- For an overview of the connections, refer to section [Overview of the physical connections](#) on page 11.

Procedure

1. Remove the cover (A).
2. Connect the cable (B) to the device (C).
3. Connect the other end of the cable to the sensor (D).
4. Do a check if the sensor is connected correctly.
The device screen on the dashboard shows the indicator for the sensor if there is a connection.
5. If the indicator for the sensor is not available on the device screen of the dashboard, there is no connection with the sensor. For information, get in contact with S.D.T.



6.5 Connect a sensor to the vibration box (optional)



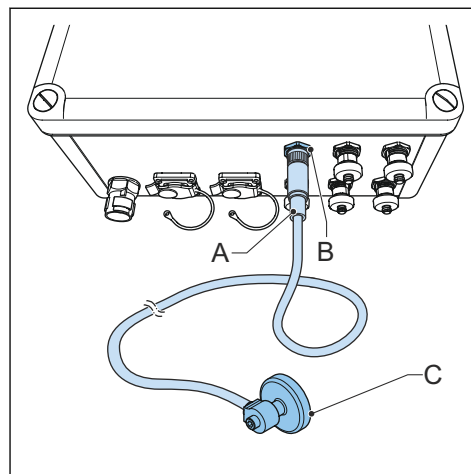
Caution: Make sure that you connect the sensors to the vibration box correctly. If you connect a sensor to the incorrect connection, the vibration box does not operate correctly or shows incorrect measurements.



Note: Make sure that you use the correct cable. The correct cables are supplied with the vibration box.

Procedure

1. Connect a cable (A) to the Vibration connection (B) on the vibration box.
2. Connect the other end of the cable to the sensor (C).
3. Do a check if the sensor is connected correctly.
The vibrations tab on the device screen of the dashboard shows the indicator for the sensor if there is a connection. For information, refer to section *Vibrations tab* on page 34.
4. If the indicator for the sensor is not available on the device screen of the dashboard, there is no connection with the sensor. For information, get in contact with S.D.T.

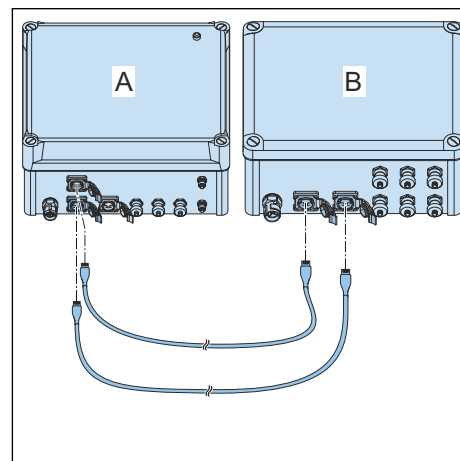


6.6

Connect the vibration box (optional) to the device

Procedure

1. Connect a cable to the Vibration Connection port on the device (A).
2. Connect the other end of the cable to the LM2 Gears port on the vibration box (B).
3. Connect a cable to the Vibration Config port on the device (A).
4. Connect the other end of the cable to the Config port on the vibration box (B).



7 Operation

7.1 Activate the device

Procedure

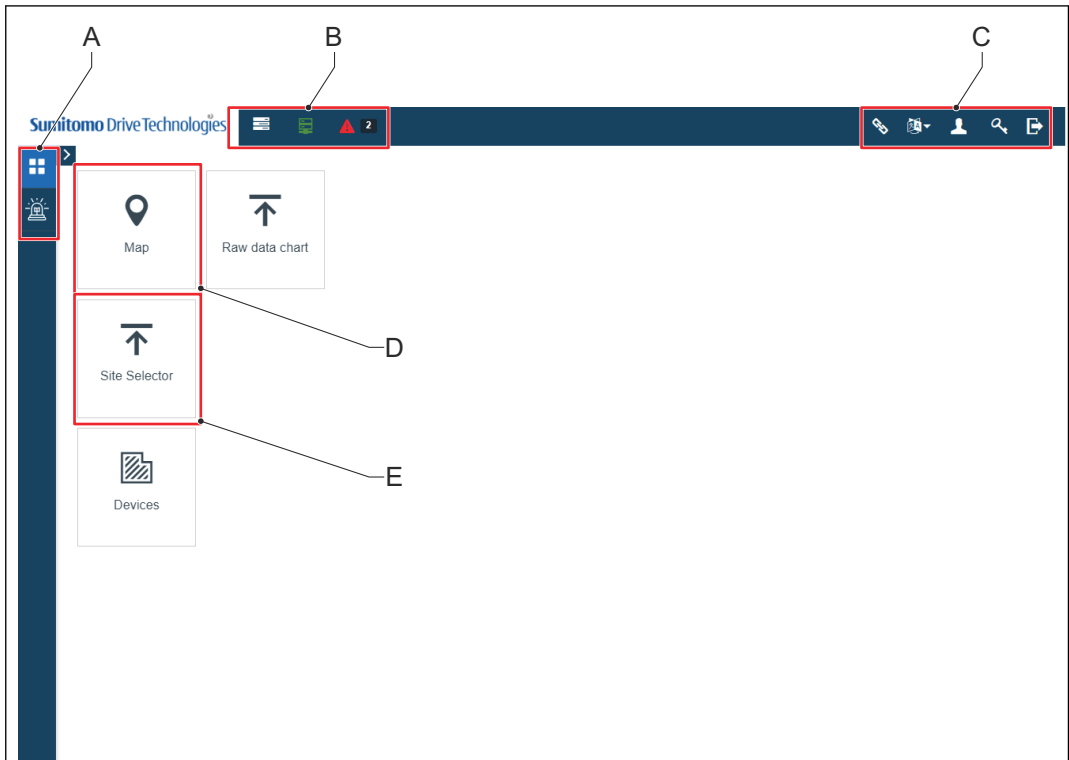
1. Make sure that the device is installed. To install the device, refer to section [Install the device](#) on page 19.
The device activates automatically when it is connected to the power supply.

8 Dashboard



Note: The dashboard can change due to updates.

8.1 Overview of the main screen

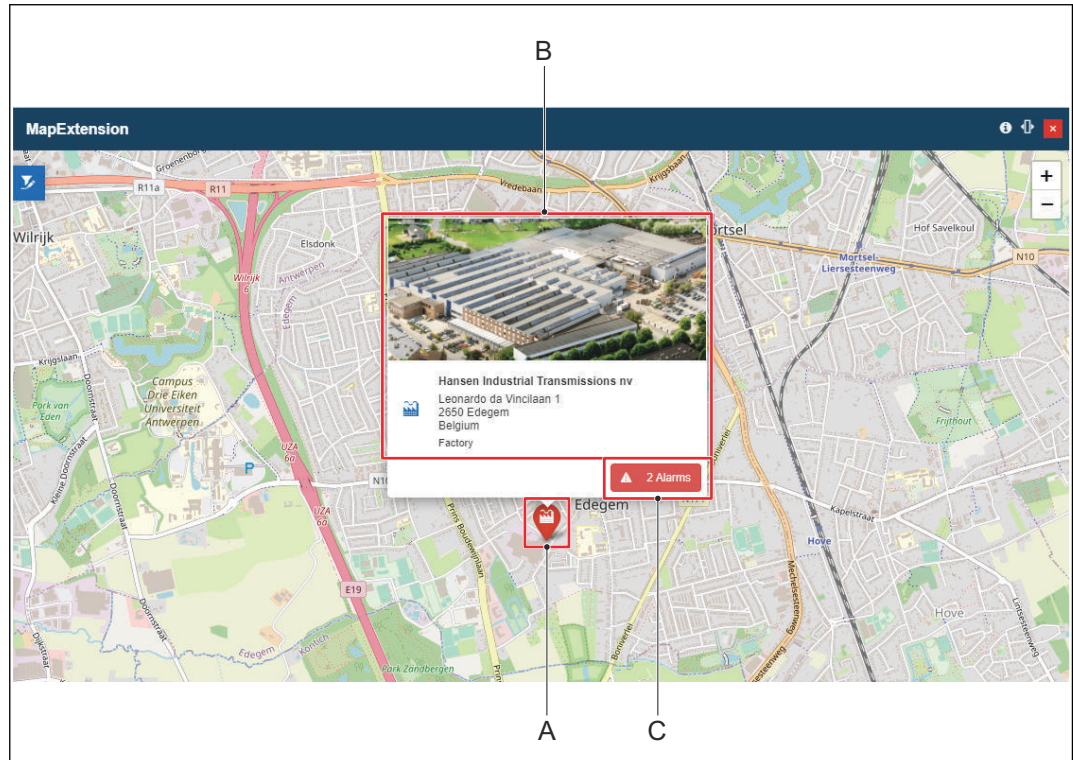


- A Menu buttons
- B Status buttons
- C User buttons
- D Map button
- E Site Selector button

Item	Description
Menu buttons	To select a menu. Refer to section Menu buttons on page 36.
Status buttons	To view the status of the devices. Refer to section Status buttons on page 37.
User buttons	To select a user setting. Refer to section User buttons on page 37.
Map button	To go to the Map screen. Refer to section Overview of the Map screen on page 24

Item	Description
Site Selector button	To go to the Site Selector screen. Refer to section Overview of the Site Selector screen on page 25.

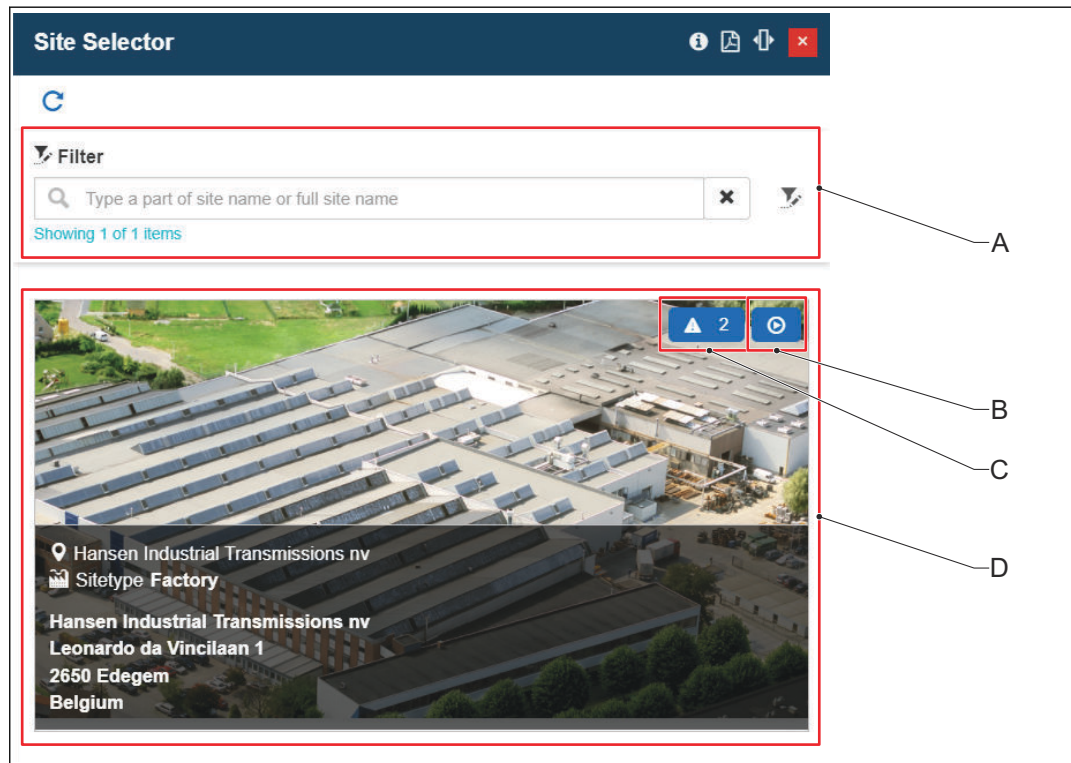
8.2 Overview of the Map screen



- A Site indicator
- B Site information
- C Alarm button

Item	Description
Site indicator	To show the location of a site. The color of the indicator shows the status of the site: <ul style="list-style-type: none"> • Grey: the site if offline. • Green: the site is online and no alarms are active. • Red: the site is online and there are alarms active.
Site information	To show the information of the site. If you click on the site information you will go to the Site screen.
Alarm button	To go to the Actual alarms screen. Refer to section Actual alarms screen on page 30.

8.3 Overview of the Site Selector screen



- A Filter area
- B Site detail button
- C Alarm button
- D Site information

Item	Description
Filter area	To search and filter the sites.
Site detail button	To go the Site detail screen. Refer to section Overview of the Site detail screen on page 27.
Alarm button	To go to the Actual alarms screen. Refer to section Actual alarms screen on page 30.
Site information	To show the information of the site.

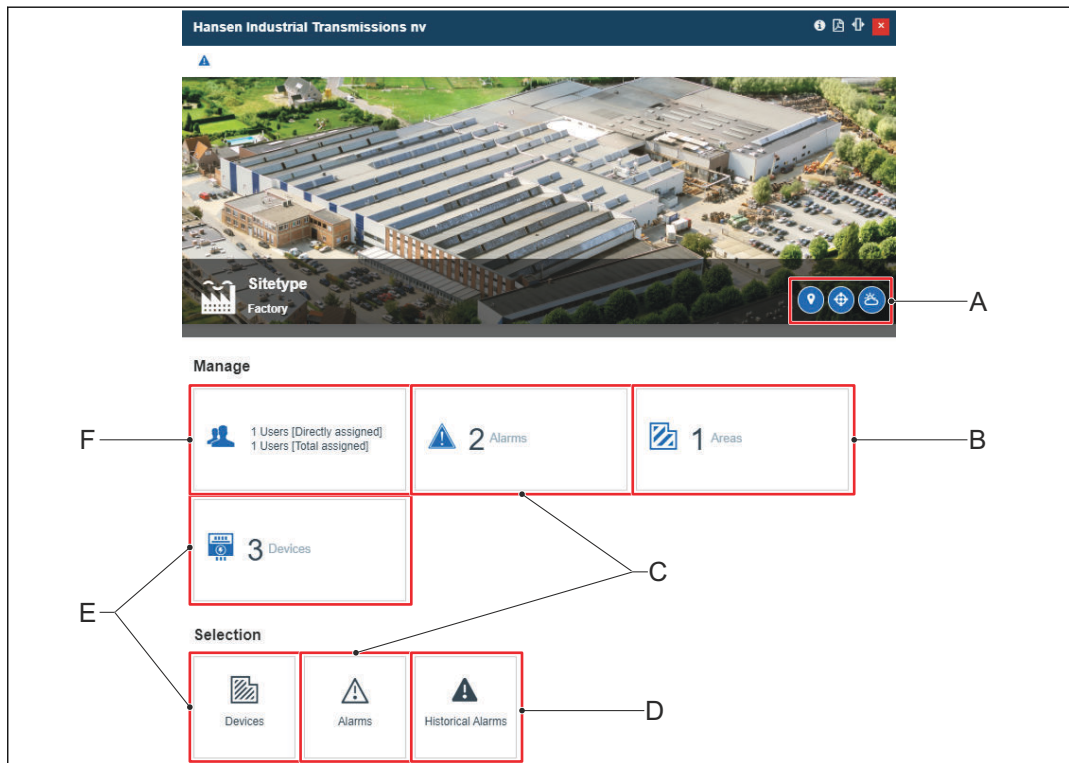
8.4 Overview of the Site screen



- A Device button
- B Alarms button
- C Historical alarms button
- D Site buttons

Item	Description
Device button	To go to the Device screen. Refer to section Device screen on page 33.
Alarms button	To go to the Actual alarms screen. Refer to section Actual alarms screen on page 30.
Historical alarms button	To go to the Historical alarms screen. Refer to section Historical alarms screen on page 29.
Site buttons	To show details of the site. Refer to section Site buttons on page 38.

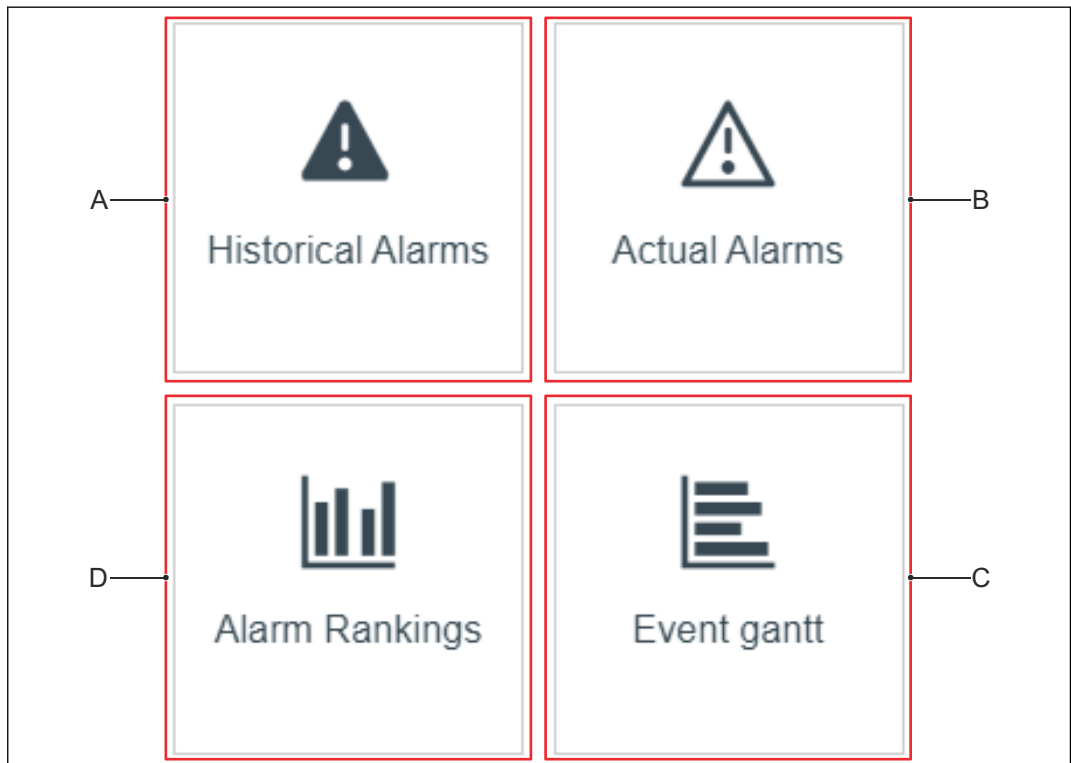
8.5 Overview of the Site detail screen



- A Site buttons
- B Area button
- C Alarms button
- D Historical alarms button
- E Device button
- F User button

Item	Description
Site buttons	To show details of the site. Refer to section Site buttons on page 38.
Area button	To view the areas of the site.
Alarms button	To go to the Actual alarms screen. Refer to section Actual alarms screen on page 30.
Historical alarms button	To go to the Historical alarms screen. Refer to section Historical alarms screen on page 29.
Device button	To go to the Device screen. Refer to section Device screen on page 33.
User button	To view the users of the site.

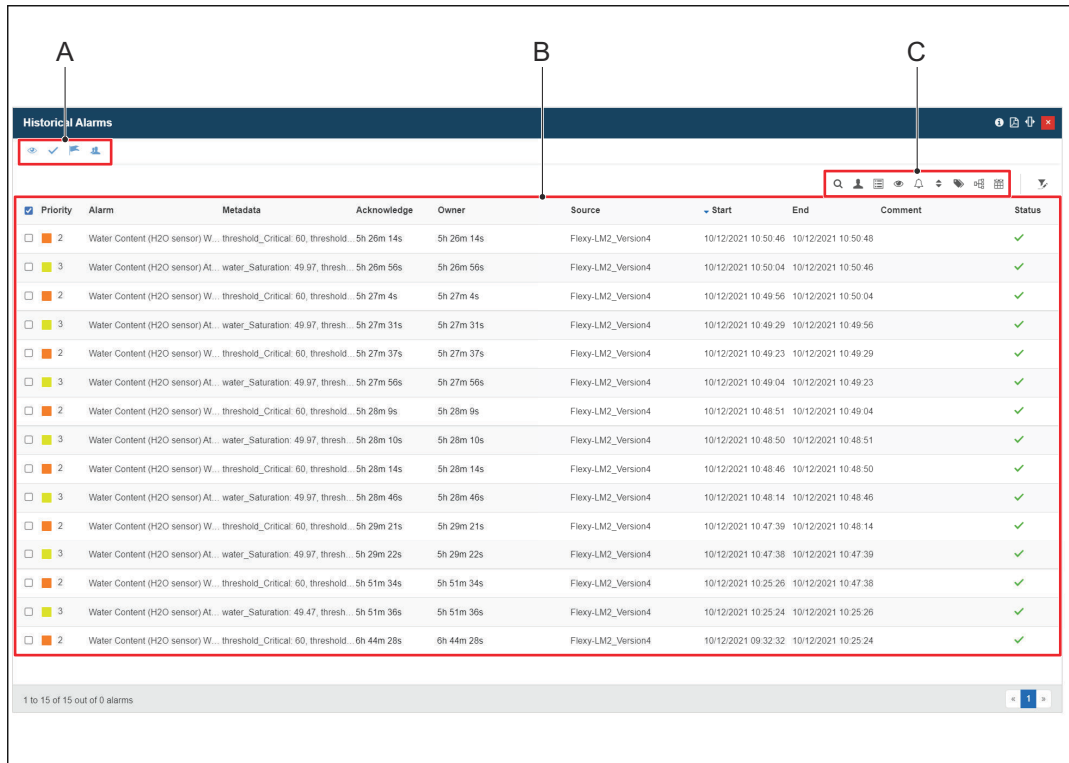
8.6 Overview of the Alarm screen



- A Historical alarms button
- B Actual alarms button
- C Event Gantt button
- D Alarm rankings button

Item	Description
Historical alarms button	To go to the historical alarms screen. Refer to section Historical alarms screen on page 29.
Actual alarms button	To go to the actual alarms screen. Refer to section Actual alarms screen on page 30.
Event Gantt button	To go to the alarm Gantt screen. Refer to section Event Gantt screen on page 32.
Alarm rankings button	To go to the alarm rankings screen. Refer to section Alarm rankings screen on page 31.

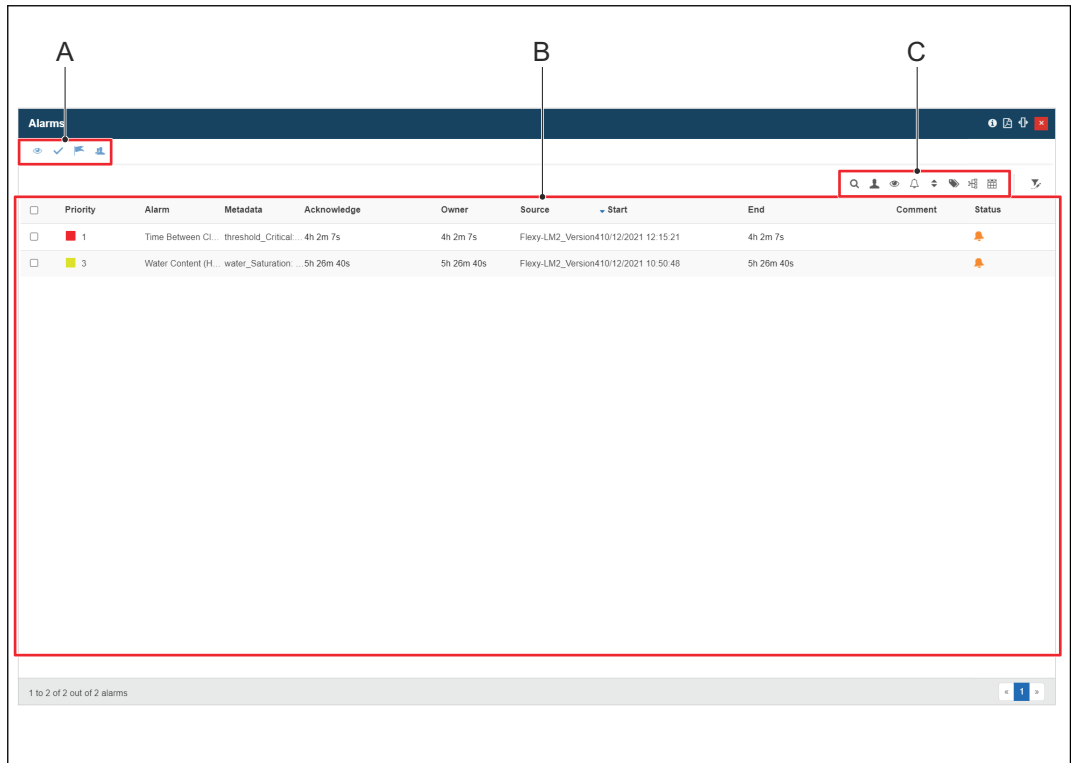
8.6.1 Historical alarms screen



- A Alarm action buttons
- B List of historical alarms
- C Alarm filter buttons

Item	Description
Alarm action buttons	To do actions for an alarm. Refer to section Alarm action buttons on page 39.
List of historical alarms	To show a list of historical alarms and the details per category: priority, alarm, metadata, time of acknowledgement, owner, source, start time of the alarm, end time of the alarm, comments and status.
Alarm filter buttons	To filter the alarms. Refer to section Alarm filter buttons on page 39.

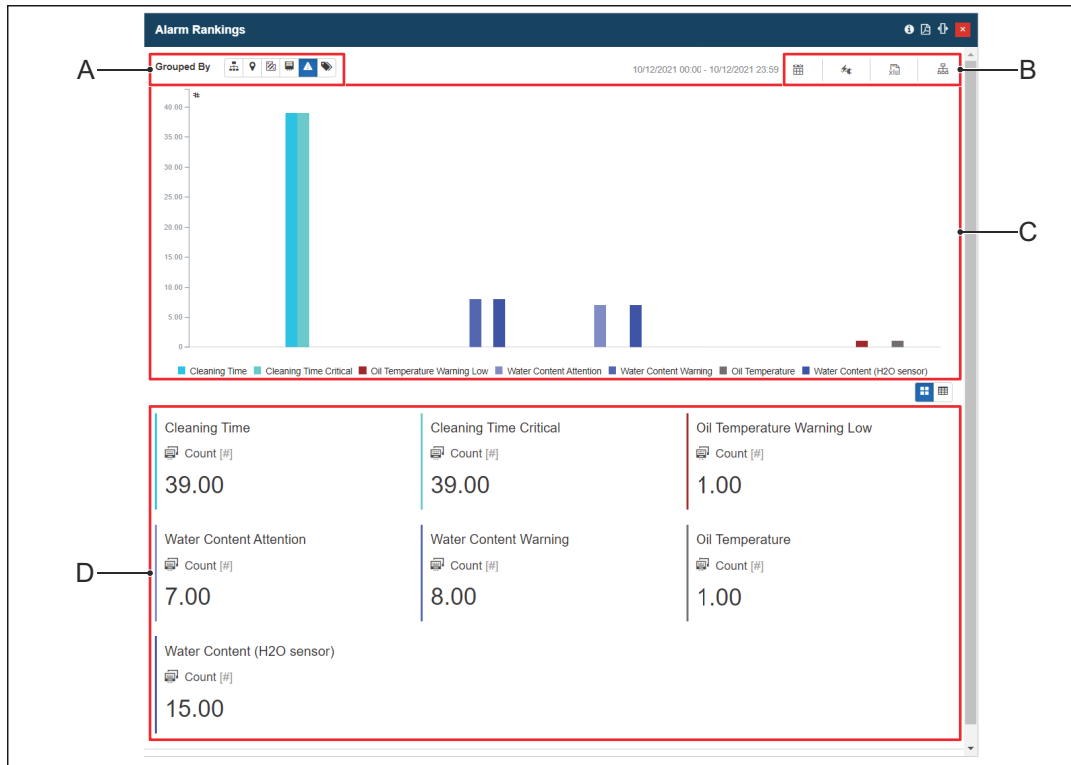
8.6.2 Actual alarms screen



- A Alarm action buttons
- B List of actual alarms
- C Alarm filter buttons

Item	Description
Alarm action buttons	To do actions for an alarm. Refer to section Alarm action buttons on page 39.
List of actual alarms	To show a list of actual alarms and the details per category: priority, alarm, metadata, time of acknowledgement, owner, source, start time of the alarm, end time of the alarm, comments and status.
Alarm filter buttons	To filter the alarms. Refer to section Alarm filter buttons on page 39.

8.6.3 Alarm rankings screen



- A Alarm rankings filter buttons
- B Alarm rankings buttons
- C Graph of the number of alarms per category
- D Overview of the number of alarms per category

Item	Description
Alarm rankings filter buttons	To filter the alarm rankings. Refer to section Alarm ranking filter buttons on page 40.
Alarm rankings buttons	To do actions for an alarm ranking. Refer to section Alarm rankings buttons on page 41.
Graph of the number of alarms per category	To show a graph with the duration and frequency of certain alarms during a selected time-frame. The alarms are shown per category.
Overview of the number of alarms per category	To show an overview with the duration and frequency of certain alarms during a selected time-frame. The alarms are shown per category.

8.6.4 Event Gantt screen

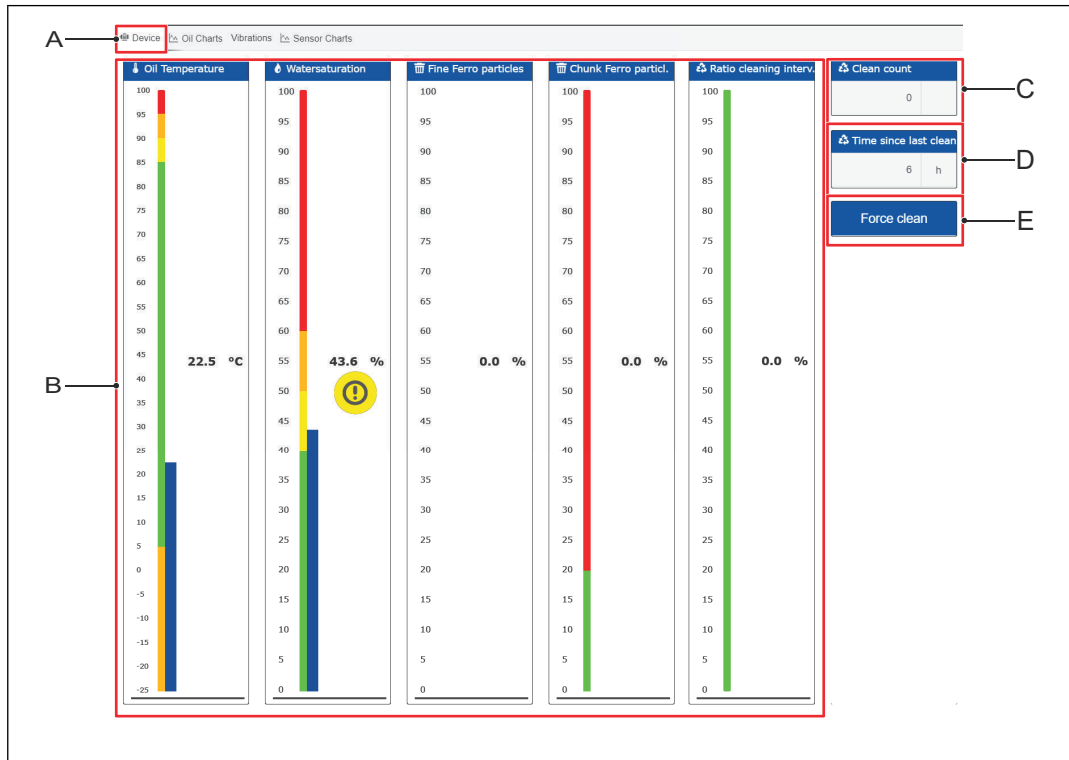


- A Event Gantt filter button
- B Graph of the number of alarms per category
- C Event Gantt buttons

Item	Description
Event Gantt filter button	To filter the event Gantt.
Graph of the number of alarms per category	To show a graph with the duration and frequency of certain alarms during a selected time-frame. The alarms are shown per category.
Event Gantt buttons	To do actions for the alarm Gantt. Refer to section Event Gantt buttons on page 41.

8.7 Device screen

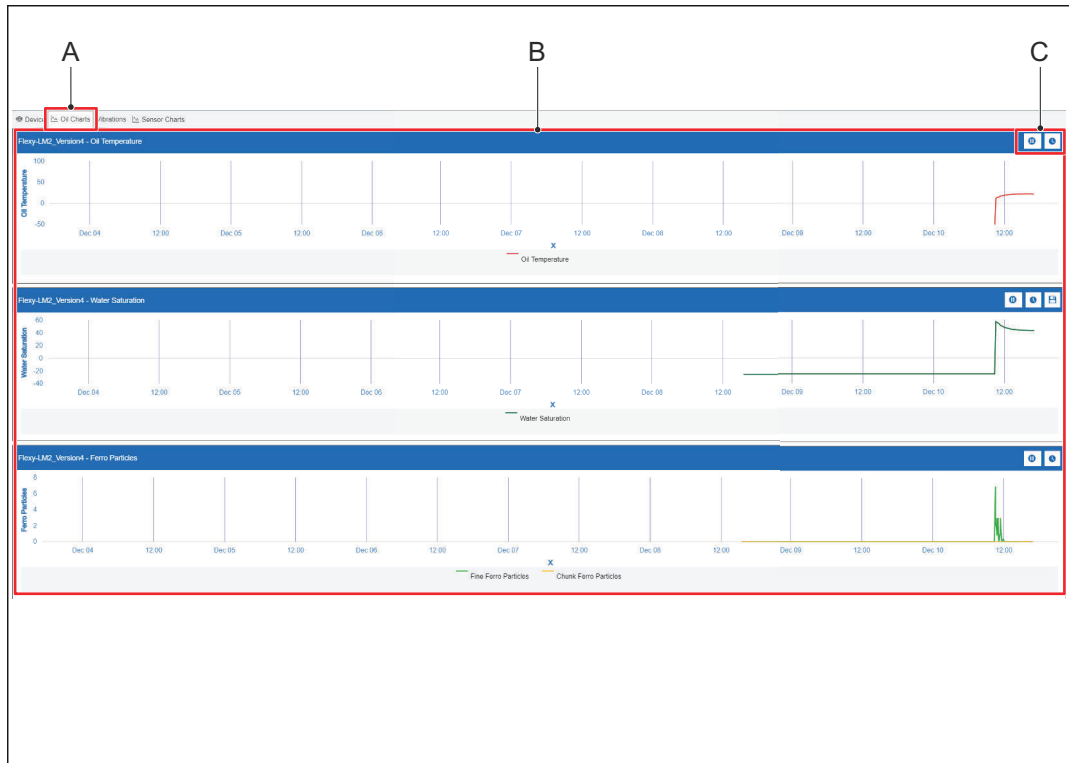
8.7.1 Device tab



- A Tab name
- B Overview area
- C Clean count indicator
- D Last clean indicator
- E Force clean button

Item	Description
Tab name	To show the name of the current tab.
Overview area	To show the KPI's for the device. These categories are available: <ul style="list-style-type: none"> Oil temperature Water saturation Fine ferro particles Chunk ferro particles Ratio cleaning interval
Clean count indicator	To show the number of cleanings.
Last clean indicator	To show the time since the last cleaning.
Force clean button	To activate a cleaning.

8.7.2 Oil charts tab



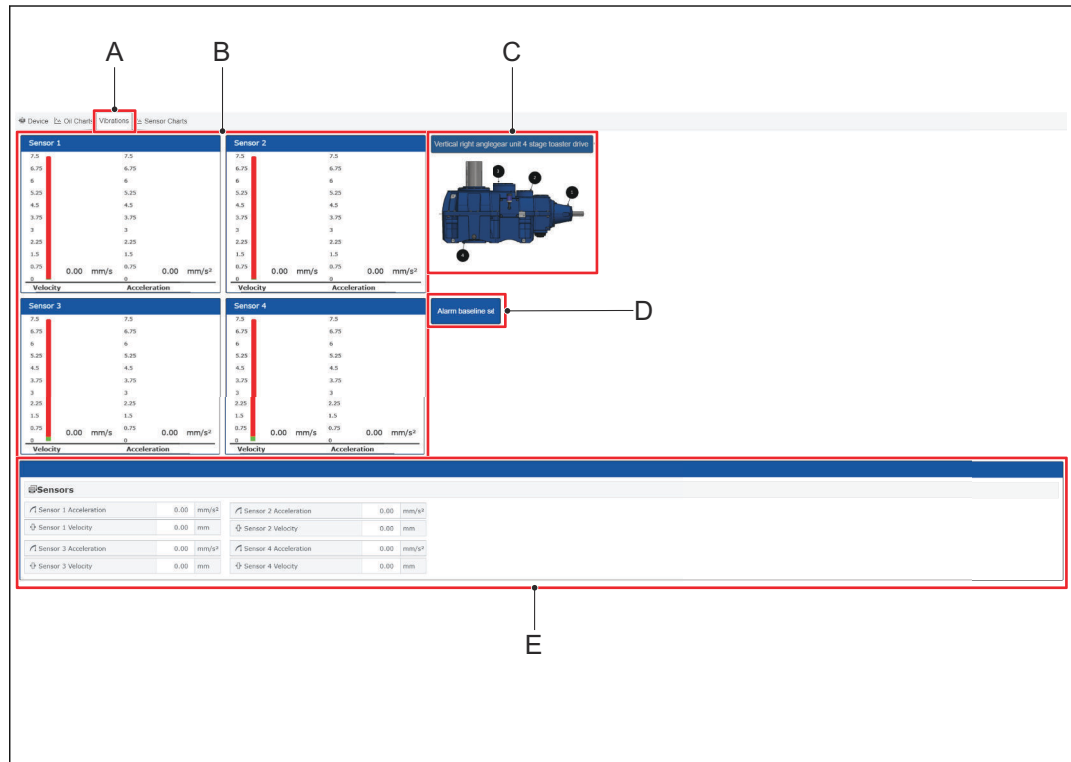
- A Tab name
- B Overview area
- C Tab setting buttons

Item	Description
Tab name	To show the name of the current tab.
Overview area	To show the data for the oil over the last 7 days. These categories are available: <ul style="list-style-type: none"> • Oil temperature • Water saturation • Ferro particles
Tab setting buttons	To select settings for the tab. Refer to section Tab settings buttons on page 42.

8.7.3 Vibrations tab



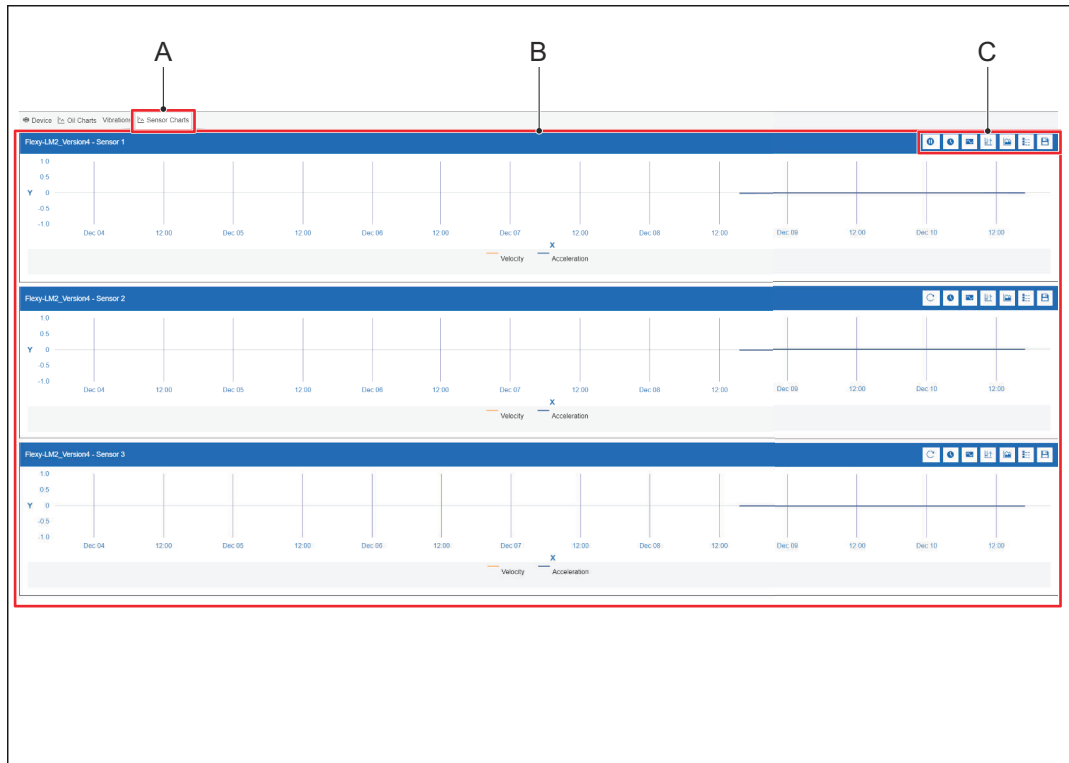
Note: This tab only shows if a vibration box is connected.



- A Tab name
- B Graph of the sensors
- C Overview of the gearbox
- D Alarm baseline set button
- E Overview of the sensors

Item	Description
Tab name	To show the name of the current tab.
Graph of the sensors	To show a graph with the velocity and acceleration of the sensors.
Overview of the gearbox	To show the type of gearbox and the location of the sensors at the gearbox.
Alarm baseline set button	To set the baseline for the sensors.
Overview of the sensors	To show an overview with the velocity and acceleration of the sensors.

8.7.4 Sensor charts tab




- A Tab name
- B Overview area
- C Tab setting buttons

Item	Description
Tab name	To show the name of the current tab.
Overview area	To show an overview of the sensors.
Tab setting buttons	To select settings for the tab. Refer to section Tab settings buttons on page 42.

8.8 Overview of the buttons




8.8.1 Menu buttons

Button	Name	Description
	Main screen	To go to the Main screen.
	Alarm screen	To go to the Alarm screen.

Button	Name	Description
	Expand screen	To expand the menu bar.






8.8.2

Status buttons







Button	Name	Description
	Pending operations	To show the pending operations.
	Server status	To show the status of the servers.
	Actual alarms	To show the actual alarms. A number indicates the number of actual alarms.

8.8.3




User buttons

Button	Name	Description
	Pin tiles	To pin a tile to the Main screen.
	Change language	To change the language of the dashboard.
	User settings	To show the user settings.
	Change password	To change the password.
	Log off	To log off from the dashboard.






8.8.4 Navigation buttons

Button	Name	Description
	Filter	To filter information.
	Enlarge	To increase the size of the current screen.
	Zoom in	To zoom in on the map.
	Zoom out	To zoom out on the map.
	Refresh	To refresh a screen.
	New tab	To open the screen in a new tab of the internet browser.






8.8.5 Site buttons




Button	Name	Description
	Address	To show the address of the site.
	Coordinates	To show the coordinates of the site.
	Weather	To show the weather at the site.

8.8.6 Alarm action buttons







Button	Name	Description
	Acknowledge alarm	To acknowledge an alarm.
	Close alarm	To close an alarm.
	Take ownership	To take ownership of an alarm.
	Assign ownership	To assign ownership of an alarm.
	Prioritize alarm	To prioritize an alarm.

8.8.7 Alarm filter buttons





Button	Name	Description
	Search	To search for an alarm.
	Owner	To view the alarms by owner.
	Acknowledgement	To view the alarms by status of acknowledgement.
	Status	To view the alarms by status: <ul style="list-style-type: none"> • Open • Closed • Closed by current user
	Priority	To view the alarms by priority: <ul style="list-style-type: none"> • Critical • Warning • Attention • Safe

Button	Name	Description
	Category	To view the alarms by category: <ul style="list-style-type: none"> Type of sensor Cleaning time Audit
	Group	To view alarms by group.
	Date	To view alarms by date.







8.8.8 Alarm ranking filter buttons

Button	Name	Description
	Organization	To group the alarm rankings by organization.
	Site	To group the alarm rankings by site.
	Area	To group the alarm rankings by area.
	Device	To group the alarm rankings by device.
	Alarm	To group the alarm rankings by type of alarm.
	Category	To group the alarm rankings by category.







8.8.9 Alarm rankings buttons

Button	Name	Description
	Period	To select a time period.
	KPI	To select a KPI.
	Export	To export the data to a Microsoft Excel file.
	Filter	To filter by organization, site, area or device.

8.8.10 Event Gantt buttons

Button	Name	Description
	Period	To select a time period.
	Number of alarms	To select a maximum number of alarms that is shown.
	Legend	To show the legend for the Gantt.
	Export	To export the data to a Microsoft Excel file.
	Filter	To filter by organization, site, area or device.
	Table view	To show the Gantt in a table view.

8.8.11 Tab settings buttons

Button	Name	Description
	Pause	To pause the timeline.
	Time	To select a time period.
	Save	To save the selected settings.
	Change layout	To change the layout of the graph.
	X and Y axis layout	To change the layout of the X and Y axis.
	Legend layout	To change the layout of the legend.

8.9 Dashboard procedures

8.9.1 Start the dashboard

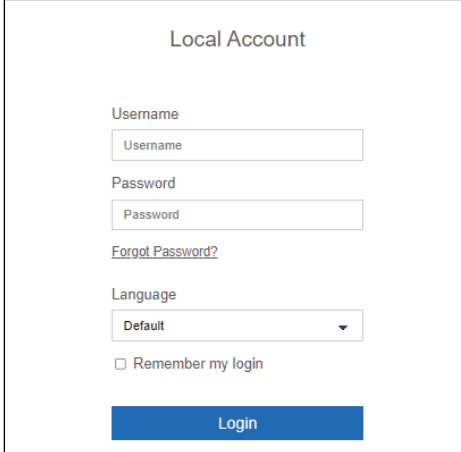
Procedure

1. Go to sumitomo.i4connected.cloud in an internet browser.



Note: Preferably use Google Chrome or Microsoft Edge.

2. Follow the instructions on the screen to log in.
You can find your login information in an email from S.D.T.
After you log in, you see the main screen.



The screenshot shows a login form titled "Local Account". It contains the following fields and elements:

- Username: A text input field with the placeholder "Username".
- Password: A text input field with the placeholder "Password".
- Forgot Password?: A link below the password field.
- Language: A dropdown menu currently set to "Default".
- Remember my login: A checkbox.
- Login: A blue button at the bottom.

8.9.2 Acknowledge an alarm

Procedure

1. On the dashboard, go to the Alarm screen.
2. Go to the Actual alarms screen.
3. Select the alarm.
4. Click on the Acknowledge button to acknowledge the alarm.
Find a solution for the problem that caused the alarm. For information on the alarm categories, refer to section [Overview of the alarm categories](#) on page 12.

8.9.3 Create a new user

- This procedure can only be done by a user with admin rights.
- A new user can also create a profile on invitation. To invite a user, refer to section [Invite a user](#) on page 45.

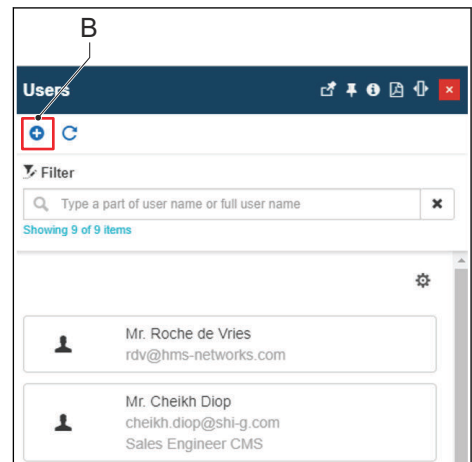
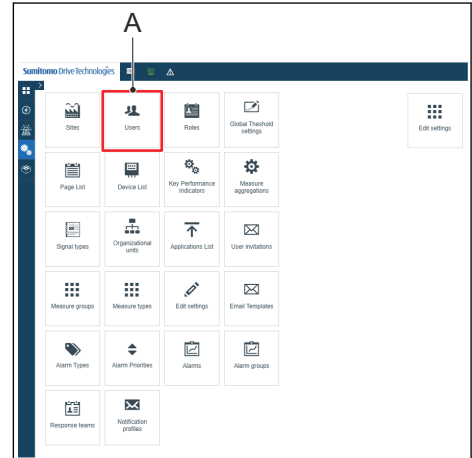
Procedure

1. On the dashboard, go to the Main screen.
2. Click on the Admin button to access the Admin menu.
3. Click on the Users screen (A).
4. Click on the button (B) to add a new user.



Note: All mandatory fields are indicated with an asterisk (*).

5. Complete all mandatory fields. Always use the customer email address and username.
6. Click on the Save button.
7. Click on the Save & AddNew button to add multiple users.

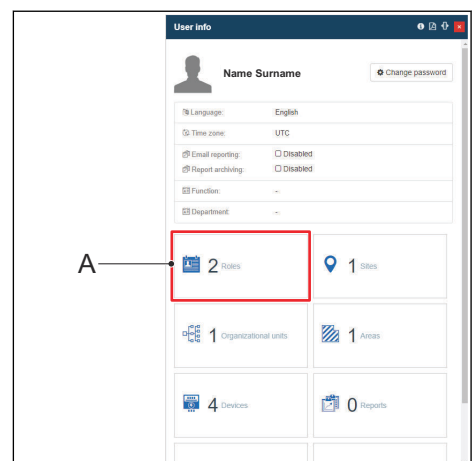


8.9.4 Select a role for a user

This procedure can only be done by a user with admin rights.

Procedure

1. On the dashboard, select the User settings button.
2. Click on the Roles button (A).
3. Select the correct role.
4. Close the screen.

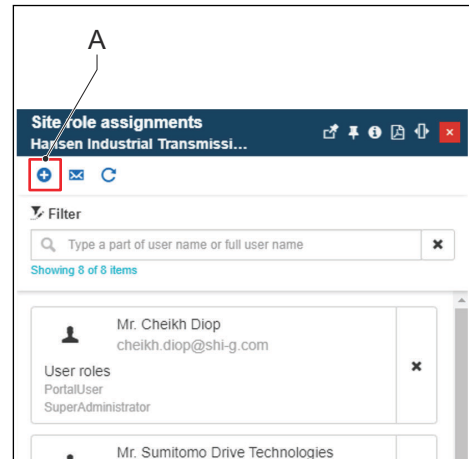


8.9.5 Add a user to a site

- This procedure can only be done by a user with admin rights
- Make sure that the correct role is selected for the user.

Procedure

1. On the dashboard, go to the Site details screen.
2. Click on the User button. The Site role assignments screen opens.
3. Click on the button (A) to add a user to the site.
4. Select a user from the field Select User (B).
5. Select a role from the field Role package (C).
6. Click on the Select button to save the setting.
7. Close the screen.

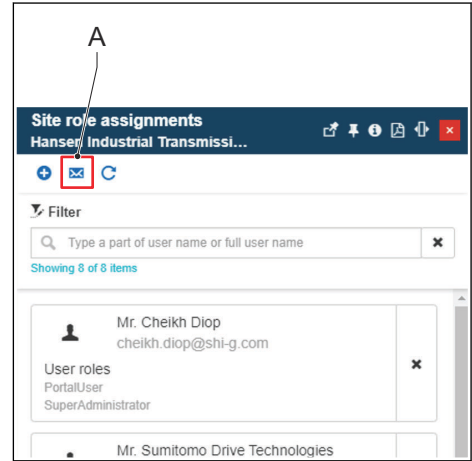


8.9.6 Invite a user

This procedure can only be done by a user with admin rights.

Procedure

1. On the dashboard, go to the Site details screen.
2. Click on the User button. The Site role assignments screen opens.
3. Click on the button (A) to invite a user.
4. Complete the fields in the invitation.
5. Click on the Send button to send the invitation. The user receives an email and can access the dashboard.



9 Maintenance

9.1 Approved work and not approved work

- Do not do other maintenance than in the instructions in this document.
- Do not change or do repairs on the device without the written approval of S.D.T. If you do make changes or repairs without written approval, S.D.T. is not liable.
- Do the maintenance tasks that the maintenance schedule shows.
- Only replace parts with parts from S.D.T.
- If you cannot follow the instructions or if you think that an instruction is not available, speak to S.D.T.

9.2 Maintenance schedule

Task	Limit	Instruction
Clean the device	1 week	Refer to section Clean the device on page 47.
Do a check on the seals	1 week	Refer to section Do a check on the seals on page 47.
Do a check on the measured values	1 week	Refer to section Do a check on the measured values on page 48.
Clean the sensors	When you replace the oil in the installation	Refer to section Clean the sensors on page 48.

9.3 Clean the device

Procedure

1. Remove all contamination from the device. If necessary, use a moist cloth and a non-aggressive cleaning agent.

9.4 Do a check on the seals

Procedure

1. Do a check for damage to the seals of the device.
2. If you see damage, get in contact with S.D.T. immediately.

Caution: Do not use the device if you see damage to the seals.



9.5 Do a check on the measured values

Procedure

1. On the dashboard, go to the Site selector screen.
2. Select a site.
3. Click on the Device button.
4. Select the device.
5. Open the Device tab.
6. Do a check if the values are updated.
7. If the values are not updated, contact S.D.T.
8. Examine the values for irregularities.
Zoom in on irregularities for a detailed display.

9.6 Clean the sensors

Clean the sensors when you replace the oil in the installation.

Procedure

1. Remove the sensor.
2. Move around the part of the sensor that comes into contact with the oil in isopropanol or petrol.
3. Install the sensor.

10 Technical data

10.1 Parts included in the delivery

- The device
- Water saturation - oil temperature sensor
- Wear indicator sensor



Note:

- The sensors include a cable and a connector.
- Two sets of sensor cables are included in the delivery. One cable for the Kinematic 200 and one cable for the VP2500L.

10.2 Device specifications

Table 1: LM2 Gears CMS

Parameter	Specification
Mass [kg]	2.3
Power consumption [W]	35
Operating voltage [V (AC)]	110 or 230
Input frequency [Hz]	50-60
Material (casing)	ABS (IK-rating IK07)

Table 2: Vibration box

Parameter	Specification
Mass [kg]	3.1
Power consumption [W]	60
Operating voltage [V (AC)]	110 or 230
Input frequency [Hz]	50-60
Material (casing)	ABS (IK-rating IK07)

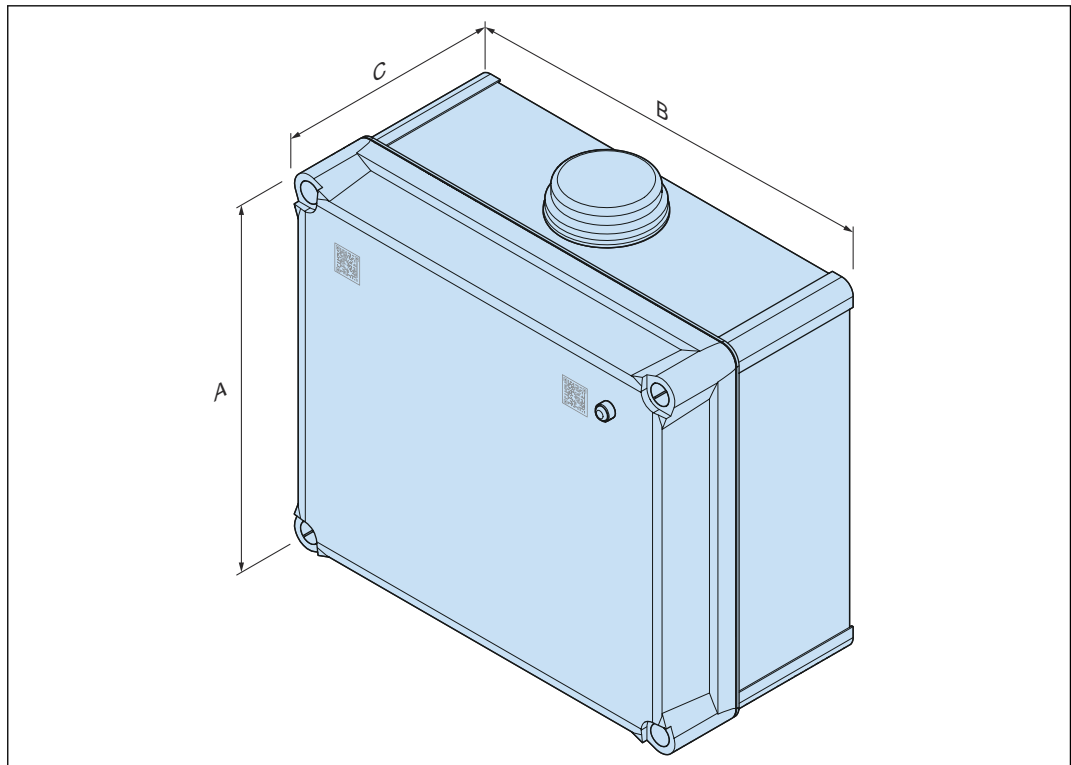
10.3 Ambient conditions during use

Parameter	Specification
Temperature [°C]	-20 to +45
Relative humidity, non-condensing [%]	Maximum 90
General protection	IP66
Vibration	No excessive vibrations

10.4 Ambient conditions during storage

Parameter	Specification
Temperature [°C]	-40 to +70
Relative humidity, non-condensing [%]	Maximum 95
General protection	IP66
Vibration	Not allowed

10.5 Dimensions



- A 268 mm
- B 291 mm
- C 128 mm

10.6 Spare parts

Part	Part number
Wear indicator sensor	350-5100081
Water saturation - oil temperature sensor	350-5100204

10.7 Pre-set alarms



Note: The table only shows minor and major alarms that S.D.T. recommends. For more information about the alarms, contact S.D.T.

Parameter	Minor alarm	Major alarm	Critical alarm
Water saturation [%]	40	50	60
Temperature [°C]	85	90	95
Wear	Detects changed occupancy rate		
Vibrations	Threshold set on baseline measurements		

Headquarters Manufacturing
EMEIA

Hansen Industrial Transmissions NV
Leonardo Da Vincilaan 1 B-2650 Edegem | Antwerp | Belgium
Phone: +32 3 4501211 | Fax: +32 3 4501220
hit.info@shi-g.com

Sumitomo (SHI) Cyclo Drive Germany GmbH
Cyclostraße 92 | 85229 Markt Indersdorf | Germany
Phone: +49 8136 66-0 | Fax: +49 8136 5771
scg.info@shi-g.com

See our worldwide sales service network at

emeia.sumitomodrive.com

