

User guide

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**Network Monitor**



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# 1 Introduction

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This manual helps you get started with Network Monitor. Network Monitor is a tool for monitoring and documenting the data performance of the meters in your network.

In addition to providing a good visual overview of the location of meters and network devices (data collection units) in your network, the tool makes it easy to identify meters with low data performance and to create lists of meters that need further inspection (action lists).

The manual is divided into the following main chapters:

Chapter	Description
Main window overview	Describes the different parts of the main window and how they interact.
Basic working procedures	Contains step-by-step instructions on how to perform basic operations in Network Monitor.
More help	Describes how to contact Kamstrup support.

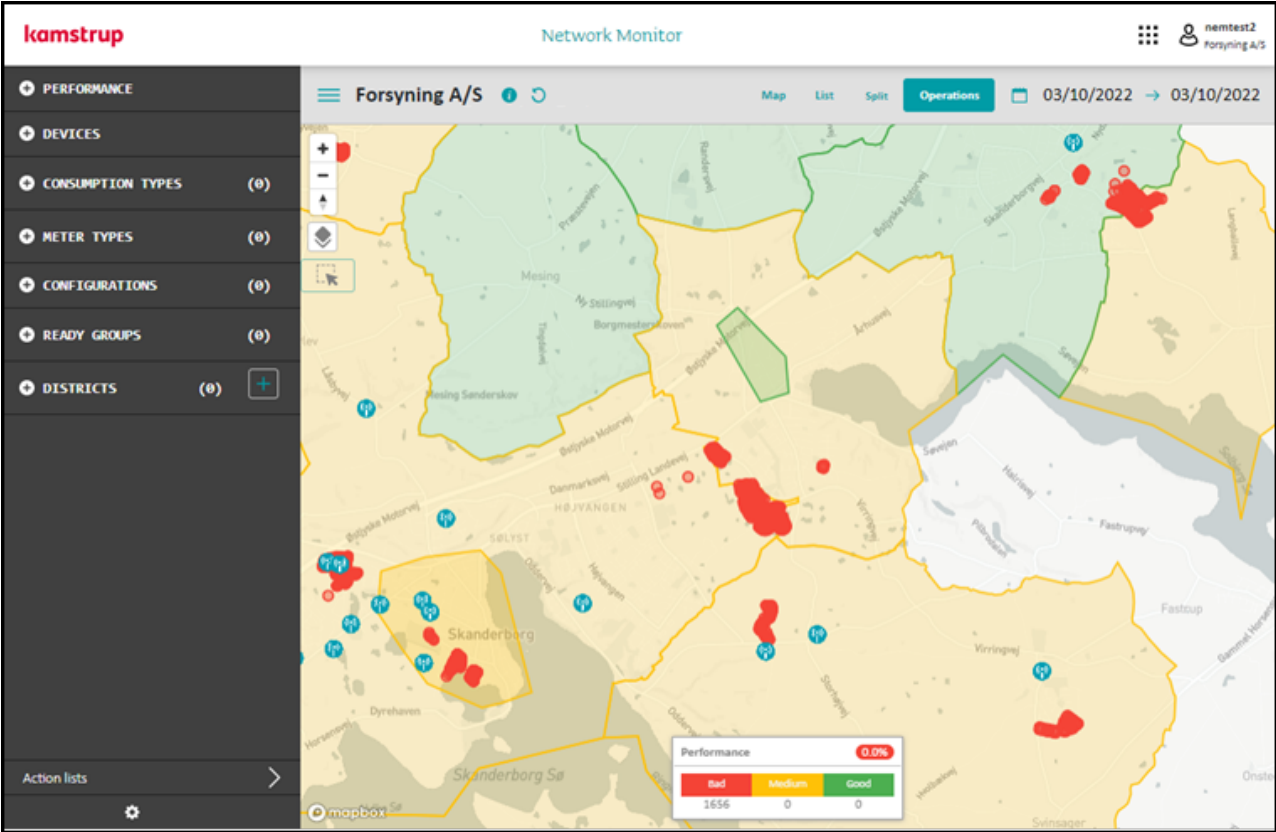
## 1.1 How to open Network Monitor

You open Network Monitor from My Kamstrup.





1. Log in to My Kamstrup.
2. Click the **Network Monitor** tile.

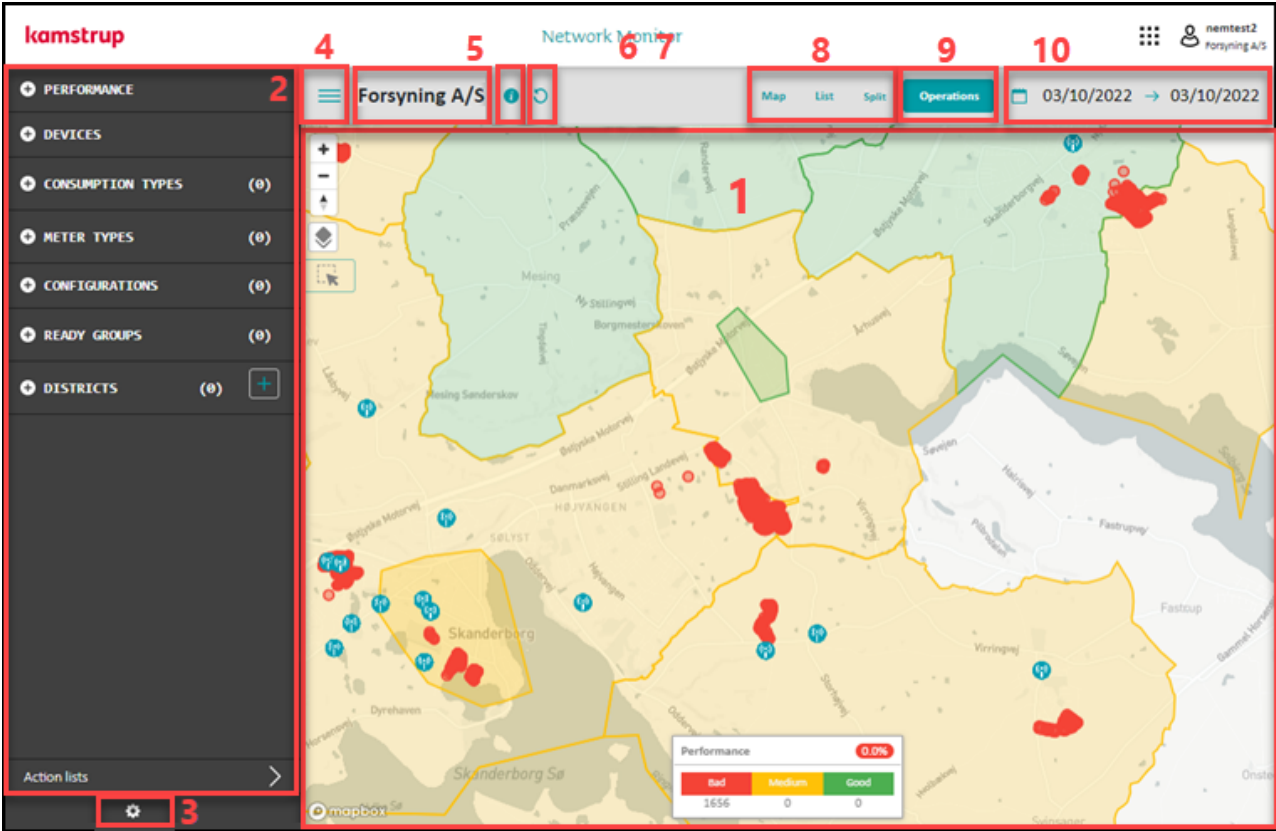
## 2 Main window overview

When you open Network Monitor, the following window appears:




The window consists of 10 main elements (see image below):

1. A map area to the right that shows a map of your supply area possibly divided into districts.
2. A menu area to the left that lets you select which performance, devices and districts you want to show on the map.
3. A  button below the menu area that lets you set performance, export and map options.
4. A  button in the toolbar above the map that lets you show or hide the menu area on the left.
5. The name of your company/utility.
6.  Information about the overall performance and number of devices in your network.
7.  Status for data update from READY.
8. View options that let you display data on a map, in a list or split the view and include both map and list.
9. An **Operations** menu that lets you create action lists, export data and add performance configurations to meters and remove them again.
10. A calendar area that displays and lets you select a date interval for which you want to see data.





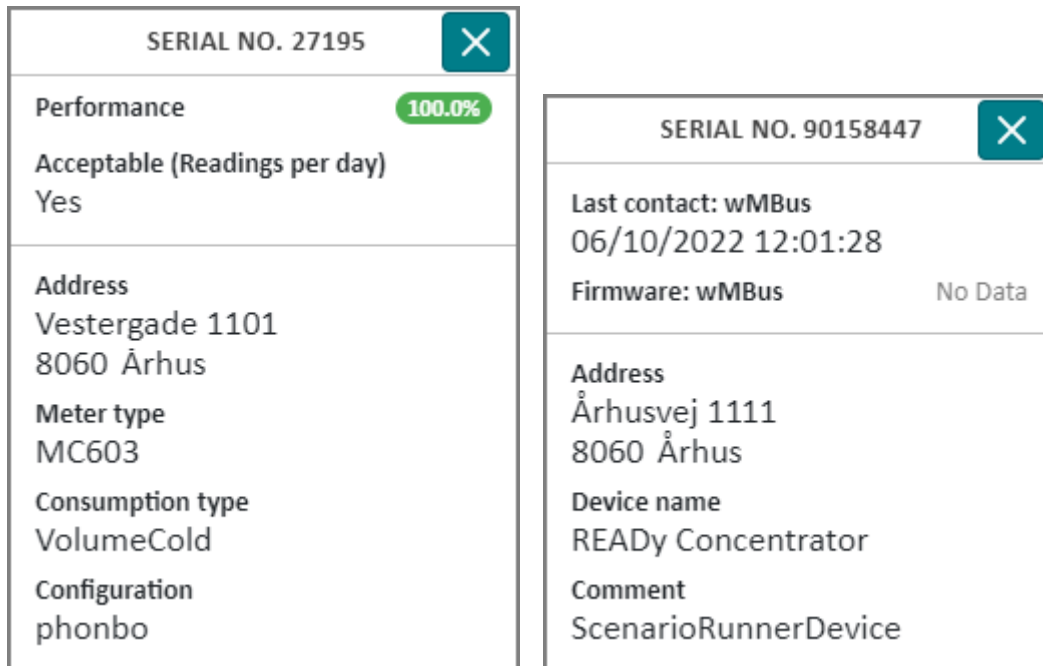
## 2.1 Meter and network device info on map

Meters are represented by green, yellow or red dots on the map - depending on data performance.

Network devices are indicated by the following symbol .

If you click a meter or a network device on the map, an info box appears:

**Hint** Zoom in on the map if you have trouble finding the right spot to click. The hand cursor  changes into a pointing hand  when you hold it above a clickable item.



SERIAL NO. 27195 ✕

**Performance** 100.0%

Acceptable (Readings per day)  
Yes

---

**Address**  
Vestergade 1101  
8060 Århus

**Meter type**  
MC603

**Consumption type**  
VolumeCold

**Configuration**  
phonbo

SERIAL NO. 90158447 ✕

**Last contact: wMBus**  
06/10/2022 12:01:28

**Firmware: wMBus** No Data

---

**Address**  
Århusvej 1111  
8060 Århus

**Device name**  
READY Concentrator

**Comment**  
ScenarioRunnerDevice

For meters, the following information is available:

Information	Description
Performance	The reading performance of the meter in the currently selected time interval.
Acceptable (Readings per day)	Does the meter fulfill the acceptable minimum number of readings per day?
Address	The address of the meter.
Meter type	The type of meter.
Consumption type	The consumption type of the meter.
Configuration	The <a href="#">performance configuration</a> the applies to the meter.

For network devices, the following information is available:

Information	Description
Last contact	The time of latest contact with the network device.
Firmware	The current firmware version in the device.
Address	The address of the network device.
Device name	The type of network device.
Comment	A comment added to the network device in READY, if any.

## 3 Basic working procedures

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Step-by-step instructions on how to perform the most common tasks in Network Monitor are found below.

### What do you want to do?

#### Performance

- [See performance for one or more meters](#)
- [See performance for a district or the entire network](#)
- [See performance for specific time interval](#)
- [Find poorly performing meters](#)
- [Find meters with specific performance percentage](#)
- [Find concentrators and other network devices](#)
- [Find a specific meter or network device](#)

#### Performance criteria

- [Define good, medium and poor performance](#)
- [Set up meter-specific performance criteria](#)
- [Add performance configuration to a meter](#)
- [Remove performance configuration from a meter](#)

#### Action lists

- [Create an action list](#)
- [Remove meters from action list](#)
- [Add meters to action list](#)
- [Change name and description of action list](#)
- [Delete an action list](#)

#### Districts

- [Add a district to the map](#)
- [Edit a district on the map](#)
- [Delete a district](#)

#### Export

- [Export a performance report](#)
- [Export an action list](#)
- [Set up automatic export](#)

#### Map functions

- [Zoom and move around the map](#)
- [Select another type of map](#)
- [Set up a default map display](#)

## 3.1 Finding the performance data you need

There are many ways of finding the performance data you need.

### What do you want to do?

- [See performance for one or more meters](#)
- [See performance for a district or entire network](#)
- [See performance for specific time interval](#)
- [Find poorly performing meters](#)
- [Find meters with specific performance percentage](#)
- [Find concentrators and other network devices](#)
- [Find a meter or network device](#)
- [Define good, medium and poor performance](#)


### 3.1.1 Displaying performance for one or more meters

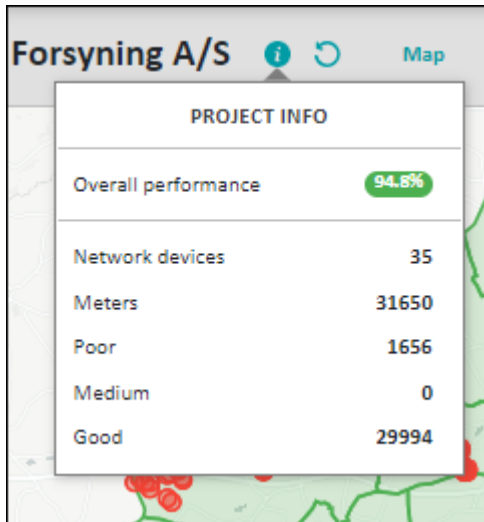
Follow the steps below to see performance for different meters:

1. To see performance for a specific meter, find the meter on the map or in the list. For details, see [Finding a meter or network device](#).
2. To see performance for meters with a specific consumption type, e.g. heat or water meters, select **CONSUMPTION TYPES** in the menu area on the left side and select the desired type(s).
3. To see performance for specific types of meters, e.g. MULTICAL® 21 or 603, select **METER TYPES** in the menu area on the left side and select the desired type(s).
4. To see performance for meters from a specific meter group in READY, select **READY GROUPS** in the menu area on the left side and select the desired group(s).
5. To see performance for meters in a specific district, select **DISTRICTS** in the menu area on the left side and select the desired district(s).

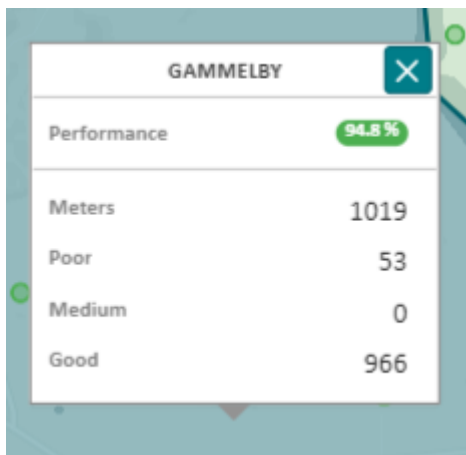
### 3.1.2 Displaying performance for a district or entire network

1. Follow step a or b:

a. To see performance for the entire network, click the  above the map:




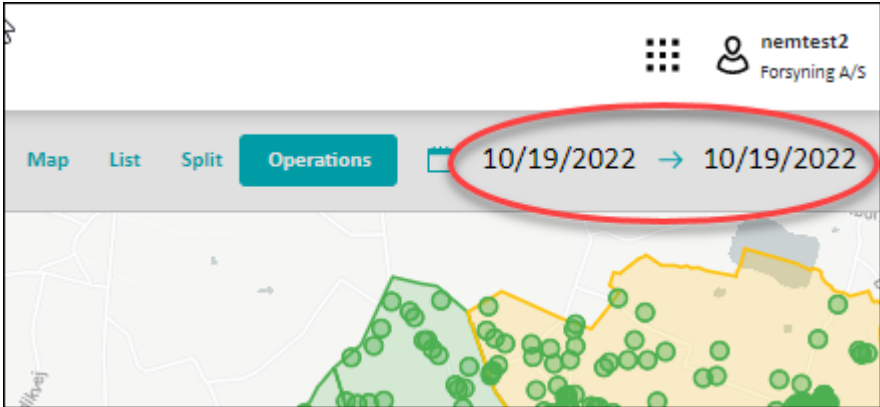
b. To see performance for a district, left-click the district on the map (avoiding the dots):



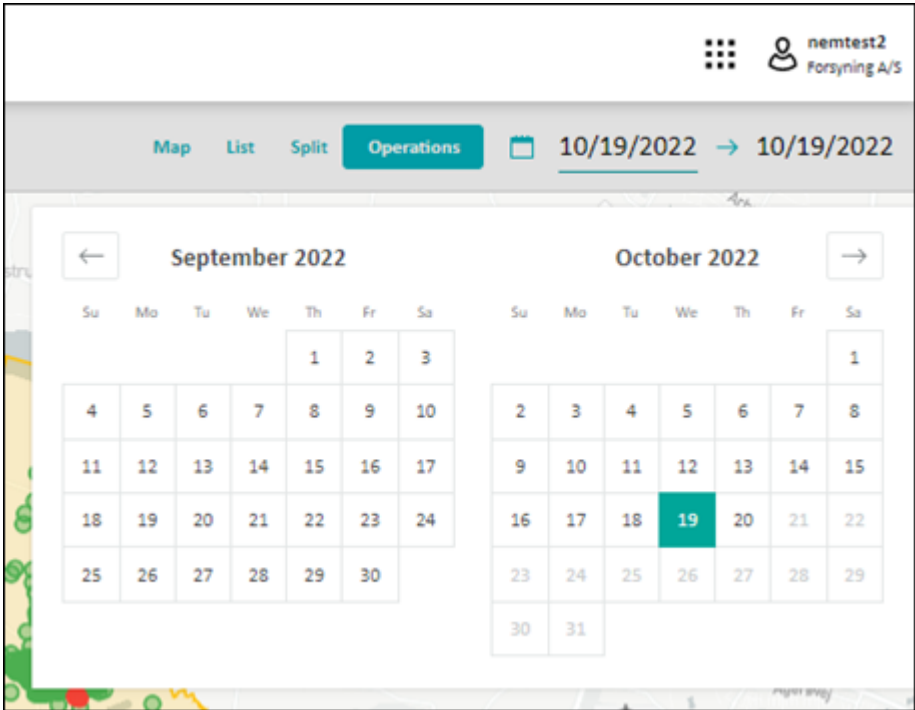
### 3.1.3 Displaying performance for specific time interval

Follow the steps below to select the time interval for which you want to see the performance:

- 1. Click  or the start/end date in the upper-right corner to open the calendar:



- 2. Select the desired start and end dates, or click the the same date twice to only select a single date:

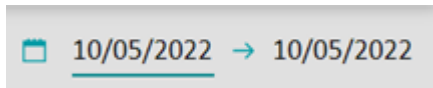


**Note** If a date is unavailable (greyed out) in the calendar, it means that performance data are not available for the selected date.

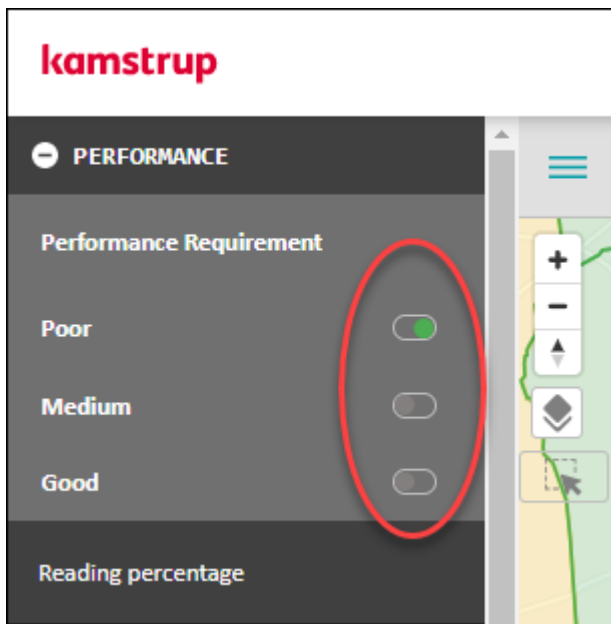
## 3.1.4 Finding poorly performing meters

Follow the steps below to find meters with a poor performance:

1. Make sure that the time interval for which you want to see poorly performing meters is selected in the calendar area:



2. In the menu area on the left side, click **PERFORMANCE** and select **Poor** and deselect **Good** and **Medium**:

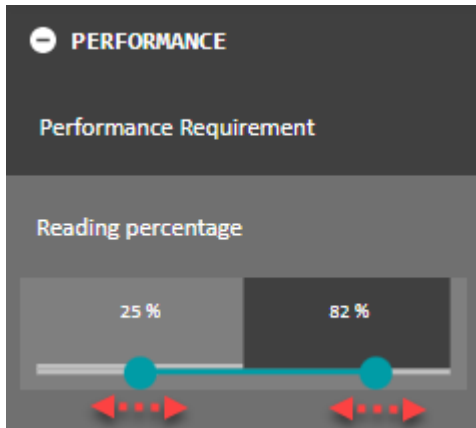


Now only poorly performing meters are shown on the map or in the list.

### 3.1.5 Finding meters with specific performance percentage

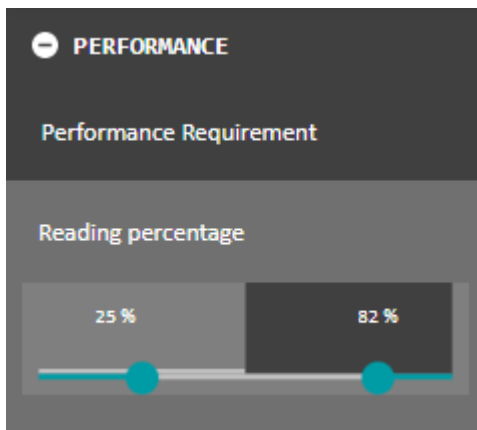
Follow the steps below to only show meters with a specific performance percentage:

1. In the menu area on the left side, click **PERFORMANCE** and select **Reading percentage**:
2. Drag the left slider to the desired minimum value and the right slider to the desired maximum value (the **—** line marks the selected values).



**Note** It is also possible to display only lowest **and** highest values by dragging one of the sliders past the other one so that the left slider becomes the right slider and vice versa.

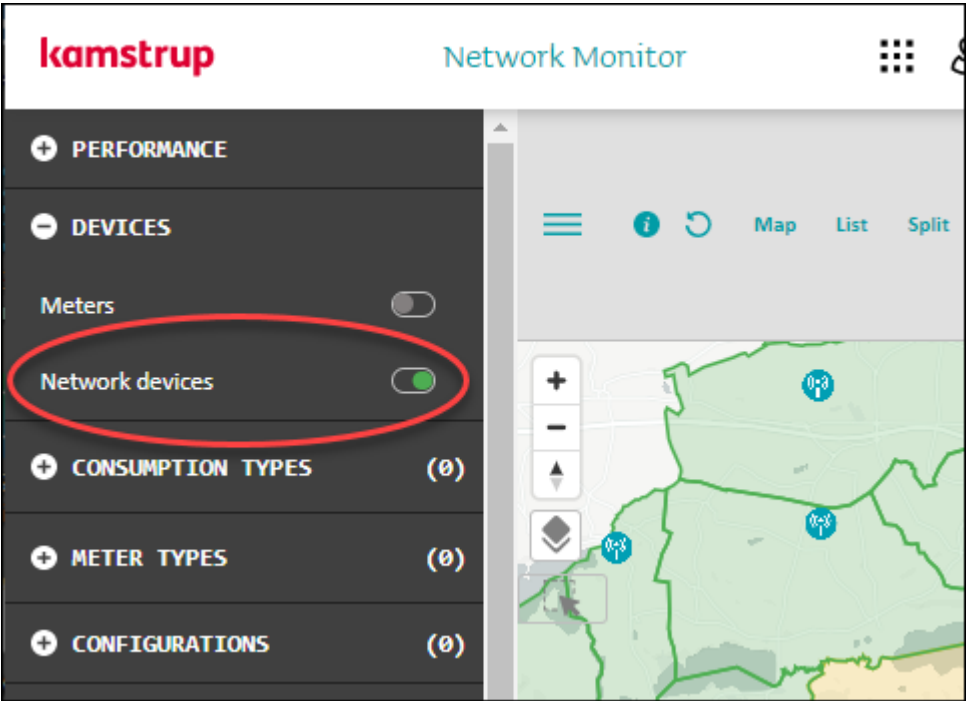
When you exchange the position of the left and right slider, the value interval between the two sliders is not displayed on the map – only the outer values are displayed (the **—** line marks the selected values):



### 3.1.6 Finding concentrators and other network devices

Follow the steps below to find concentrators and other collection units in your network:

- 1. In the menu area on the left side, click **DEVICES** and select **Network devices**:

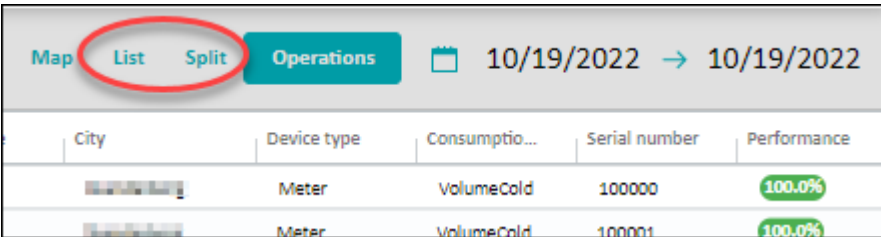


Network devices are indicated by  icons on the map.

### 3.1.7 Finding a specific meter or network device

Follow the steps below to find a specific meter or network device in Network Monitor:

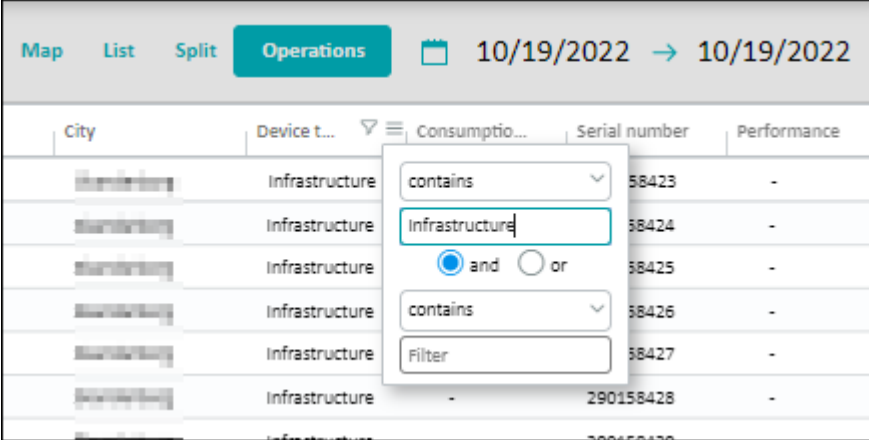
- 1. Make sure your selections in the menu area on the left do not exclude the device you want to find.
- 2. Select **List** or **Split** view:



- 3. In the list, hover the mouse over the column header containing the information you want to search for.

For example, if you want to search for an address or serial number, hover the mouse pointer over the header of the address or serial number column.

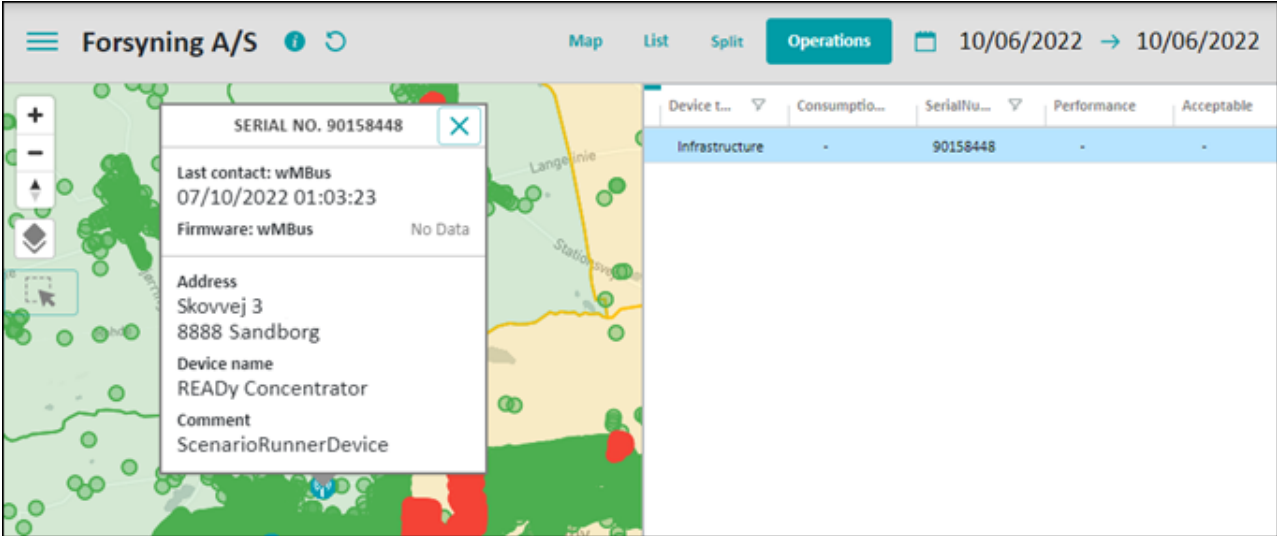
4. Click the  icon that appears to open a search box for that column:



5. Enter your search criteria (for example that the column contains the search string you enter).


You can search in more columns to narrow down your search result.

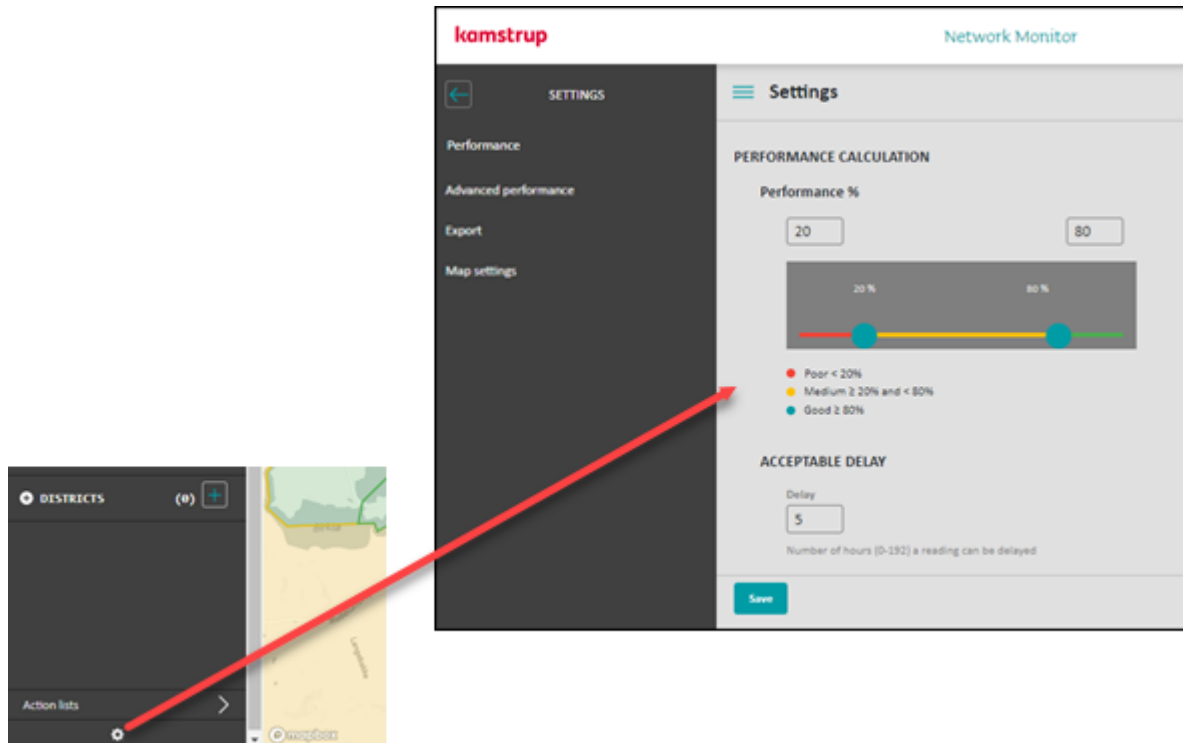
To see the device you have searched for on the map, select **Split** view and select your device in the list part. The map display now switches to the area where your device is located and opens the device info box:



### 3.1.8 Defining good, medium and poor performance

Follow the steps below to define what you consider to be poor, medium and good performance.

1. At the bottom of the menu area on the left side, click the  icon.



2. In **Performance** > **PERFORMANCE CALCULATION**, enter the reading percentages required for medium performance and good performance.
3. In **ACCEPTABLE DELAY**, enter the number of hours past midnight that a reading is allowed to be delayed and still be included in yesterday's performance calculation.
4. Click **Save**.

### 3.2 Setting up meter/register-specific performance

By default, the performance calculation is based on 1 (daily reading licence) or 24 (hourly reading licence) expected readings per day. However, if you have critical meters from which you require more frequent data (e.g. with priority meter reading or 15-minute NB-IoT reading), you can set up other performance criteria for these meters.


Likewise, on register level, you can set up lower performance criteria for less important registers - and higher performance criteria for more important registers.

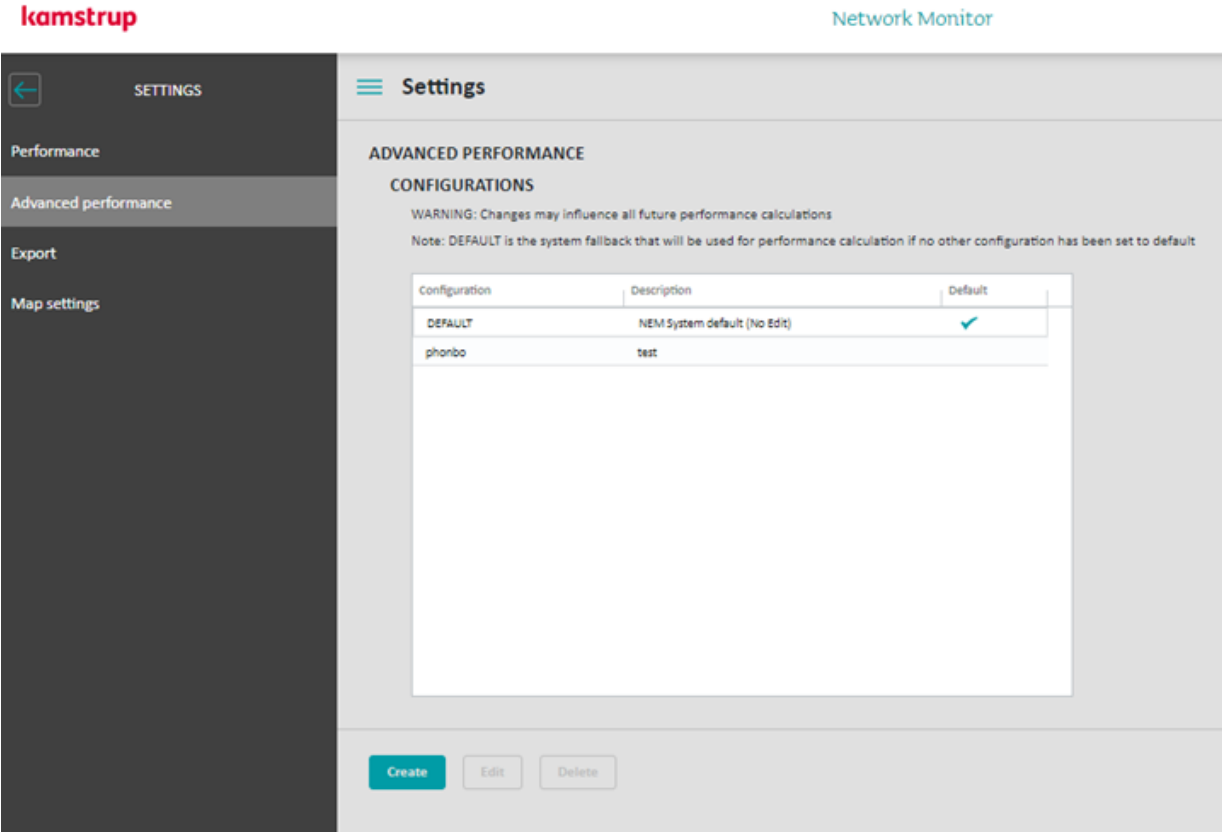
#### What do you want to do?

- [Set up meter-specific performance criteria](#)
- [Add performance configuration to a meter](#)
- [Remove performance configuration from a meter](#)

### 3.2.1 Setting up meter-specific performance criteria

#### How to set up meter-specific performance criteria

- 1. At the bottom of the menu area on the left side, click the  icon.
- 2. Select **Advanced performance** in the menu:



- Click the **Create** button.

### ADVANCED PERFORMANCE

#### REGISTER CONFIGURATIONS

WARNING: Changes may influence all future performance calculations

Name

Description

Default

If you set configuration to default it will be used as the primary register setup for performance calculations

Consumption type

Performance registers

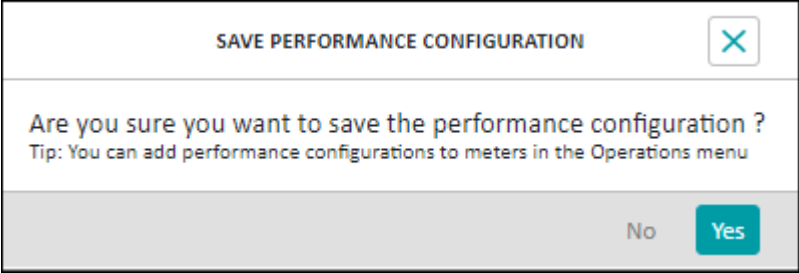
Register	Expected readings/day	Minimum readings/day
<input checked="" type="checkbox"/> Volume1	96	84
<input type="checkbox"/> InfoCode	1	0
<input type="checkbox"/> HourCounter	1	0
<input type="checkbox"/> Flow1	1	0

Only show registers in use

- Enter a name and description for your performance configuration.
- If you want your performance configuration to overrule the system default and be applied to all meters in your network, select the **Default** checkbox. Otherwise leave the **Default** checkbox empty.
- If desired, select a consumption type to only display registers that apply to the selected type.
- Select the checkbox next to the register for which you want to set up performance criteria. Then select expected and minimum readings per day.

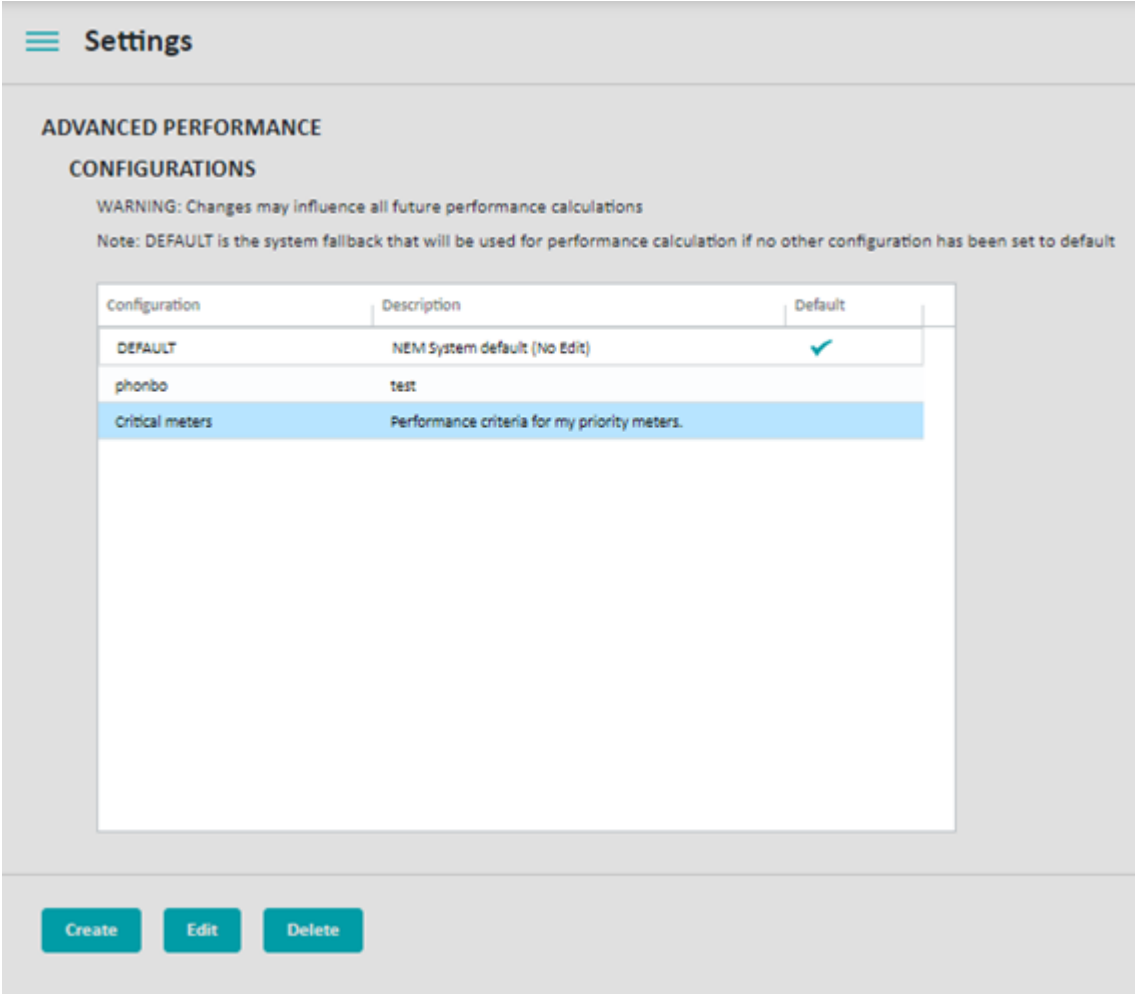
For example, if this is a configuration for NB-IoT meters that are read every 15 minutes, and you require a reading at least every 30 minutes, enter 96 in **Expected readings/day** and 48 in **Minimum readings/day**.

- 8. Repeat step 7 for each register you want to include in your performance calculation.
- 9. Click **Save**.
- 10. In the message that appears, click **Yes** to confirm:



- 11. Click **Close**.

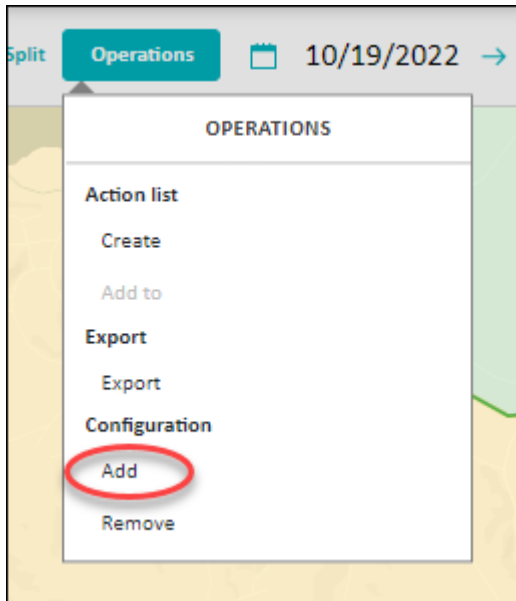
Your performance configuration is now created and can be added to the meters in question:



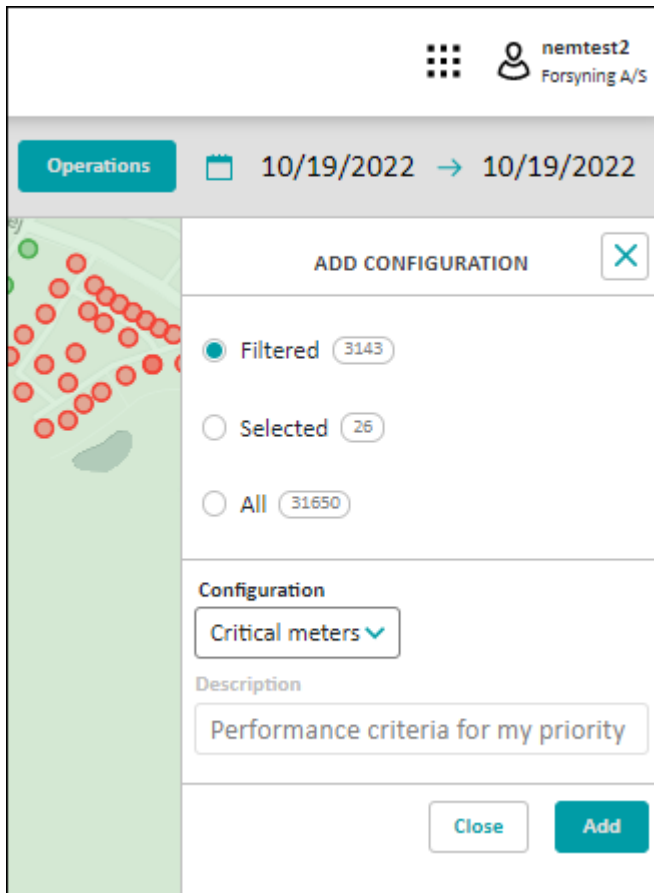
### 3.2.2 Adding performance configuration to a meter

Follow the steps below to add a performance configuration to one or more meters.

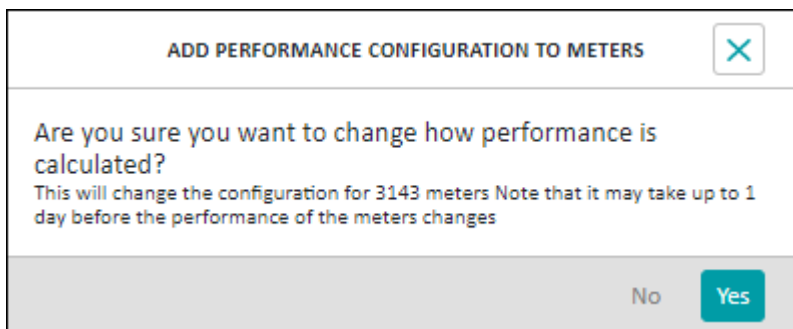
1. Select the meters to which you want to add a new performance configuration.
2. Select **Operations** and choose **Configuration > Add** in the menu that appears:



3. In the **ADD CONFIGURATION** area on the right side, select whether the change applies to:
  - all meters that meet the filtering criteria in the menu area on the left side (**Filtered**)
  - manually selected meters on the map or in the list (**Selected**)
  - all meters in Network Monitor (**All**)



4. In **Configuration**, select the name of the configuration you want to add to the meters.
5. Select **Add**.
6. In the message that appears, click **Yes** to confirm:



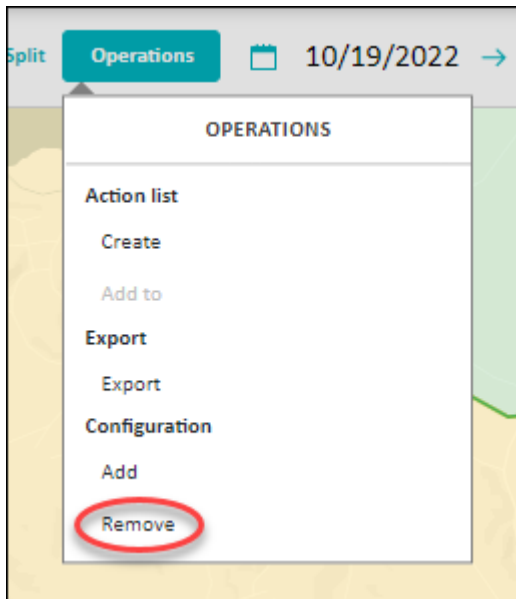
### 3.2.3 Removing performance configuration from a meter

Follow the steps below to remove a performance configuration from one or more meters.

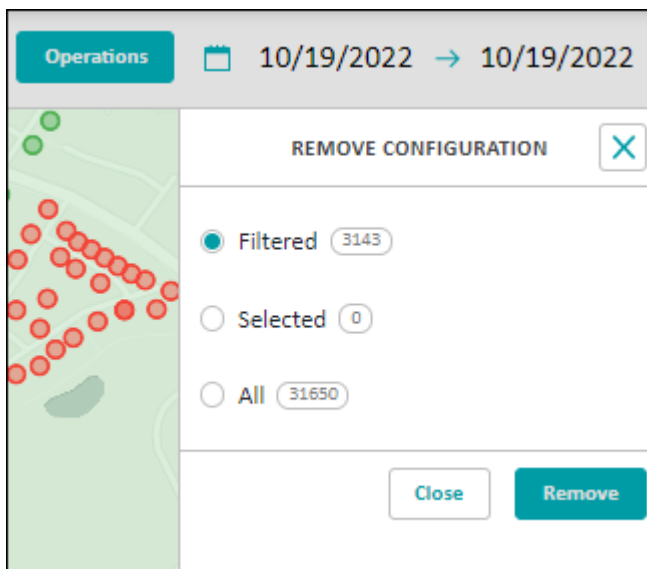
1. Select the meters from which you want to remove a performance configuration.

**Hint** If you want to remove a configuration from all meters with that configuration, select the configuration in question in the menu area on the left side (making sure that no other filtering option is selected) to automatically select the meters.

2. Select **Operations** and choose **Configuration > Remove** in the menu that appears:

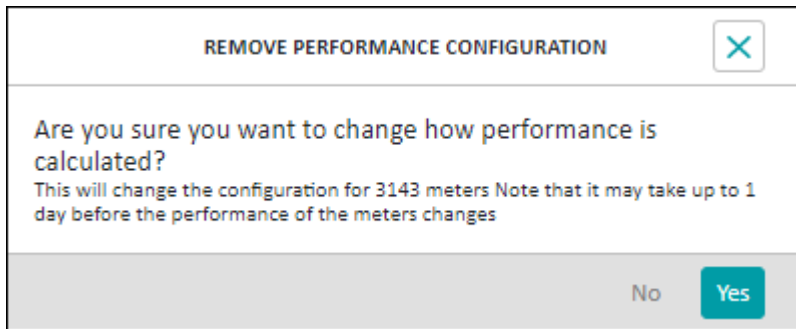


3. In the **REMOVE CONFIGURATION** area on the right side, select whether the change applies to:
  - all meters that meet the filtering criteria in the menu area on the left side (**Filtered**)
  - manually selected meters on the map or in the list (**Selected**)
  - all meters in Network Monitor (**All**)



4. Select **Remove**.

5. In the message that appears, click **Yes** to confirm:



### 3.3 Creating action lists

It is possible to create action lists for meters that needs further investigation.

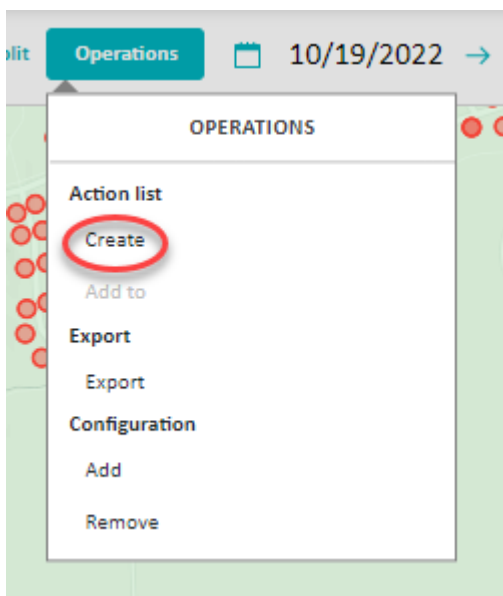
#### What do you want to do?

- [Creating an action list](#)
- [Adding meters to action list](#)
- [Removing meters from action list](#)
- [Changing name and description of action list](#)
- [Deleting an action list](#)

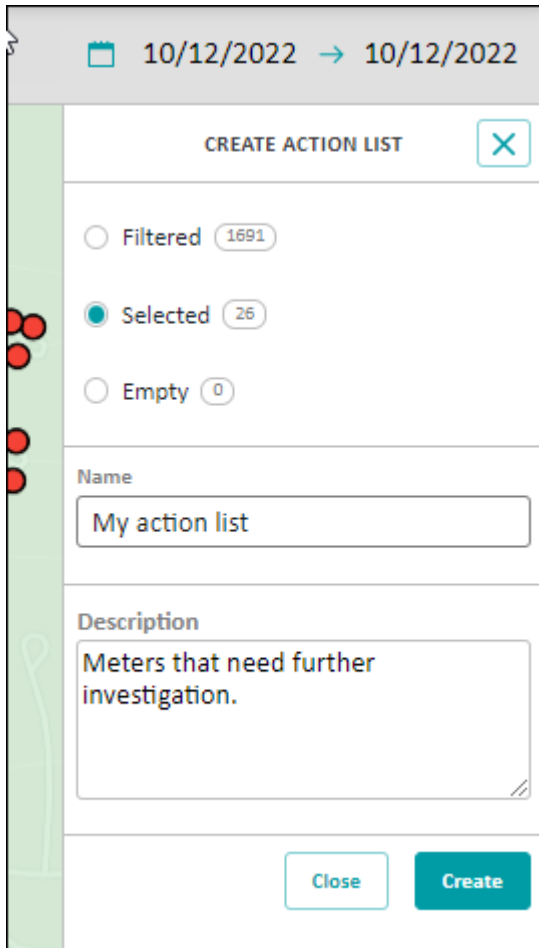
#### 3.3.1 Creating an action list

Follow the steps below to create an action list with meters that need further investigation:

1. Select the meters you want to add to your new action list by selecting the desired filtering criteria in the menu area and/or by selecting the individual meters on the map or in list view.
2. Select **Operations** and choose **Action list > Create** in the menu that appears:



3. In the **CREATE ACTION LIST** area on the right side, select which meters to add to the action list:
  - all meters that meet the filtering criteria in the menu area on the left side (**Filtered**)
  - manually selected meters on the map or in the list (**Selected**)
  - No meters (**Empty**) - and add the meters later on.

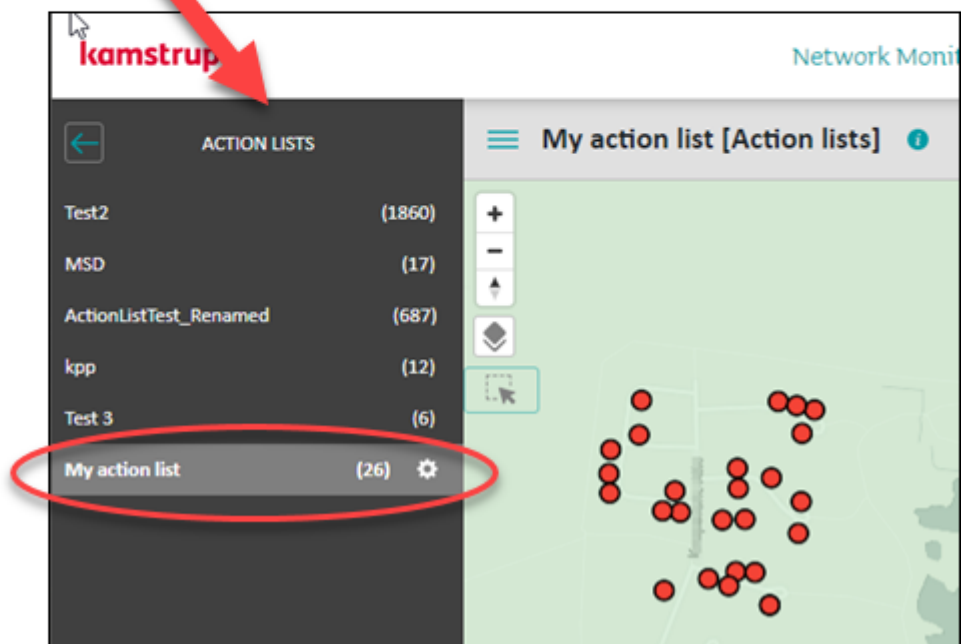
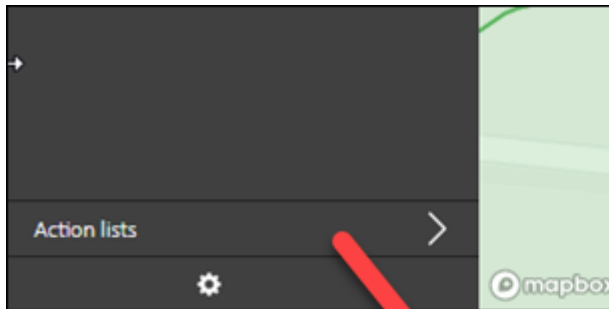


The screenshot shows a 'CREATE ACTION LIST' dialog box. At the top, there is a date range '10/12/2022 → 10/12/2022'. Below this, the dialog has a title bar with 'CREATE ACTION LIST' and a close button. The main content area has three radio button options: 'Filtered' (1691), 'Selected' (26), and 'Empty' (0). The 'Selected' option is currently selected. Below the options are two text input fields: 'Name' with the value 'My action list' and 'Description' with the value 'Meters that need further investigation.'. At the bottom, there are two buttons: 'Close' and 'Create'.

4. Enter the name and, if desired, a description of the new action list in the **Name** and **Description** fields.

5. Select **Create**.

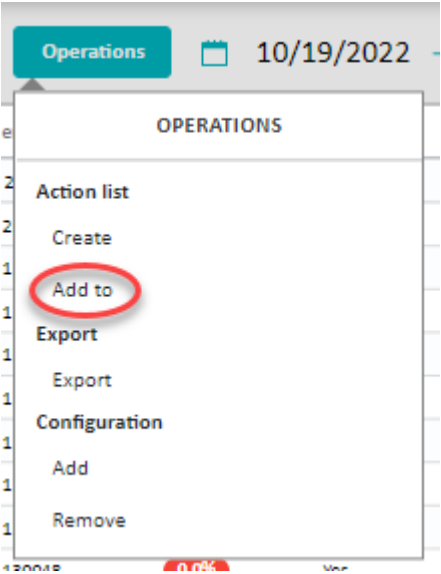
The new action list is now added to the **Action lists** menu in the menu area on the left side:



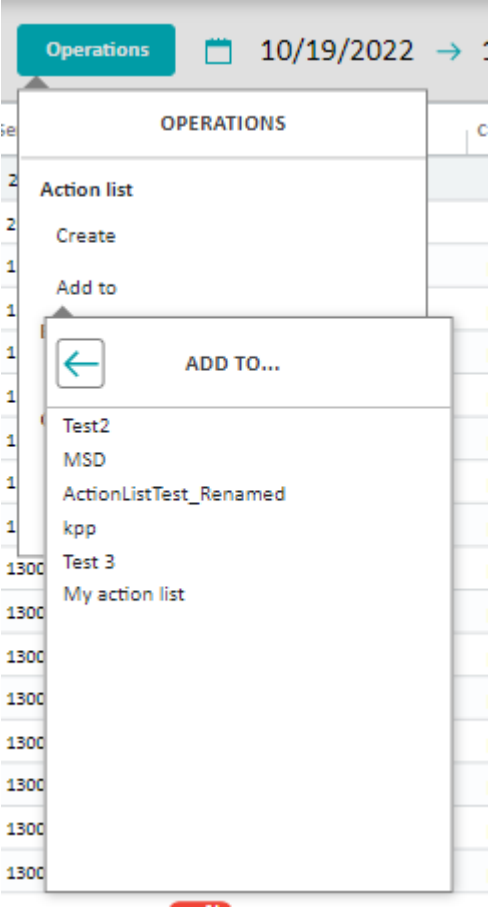
### 3.3.2 Adding meters to action list

Follow the steps below to add one or more meters to an existing action list:

1. Select the meters you want to add to an action list.
2. Select **Operations** and choose **Action list** > **Add to** in the menu that appears:




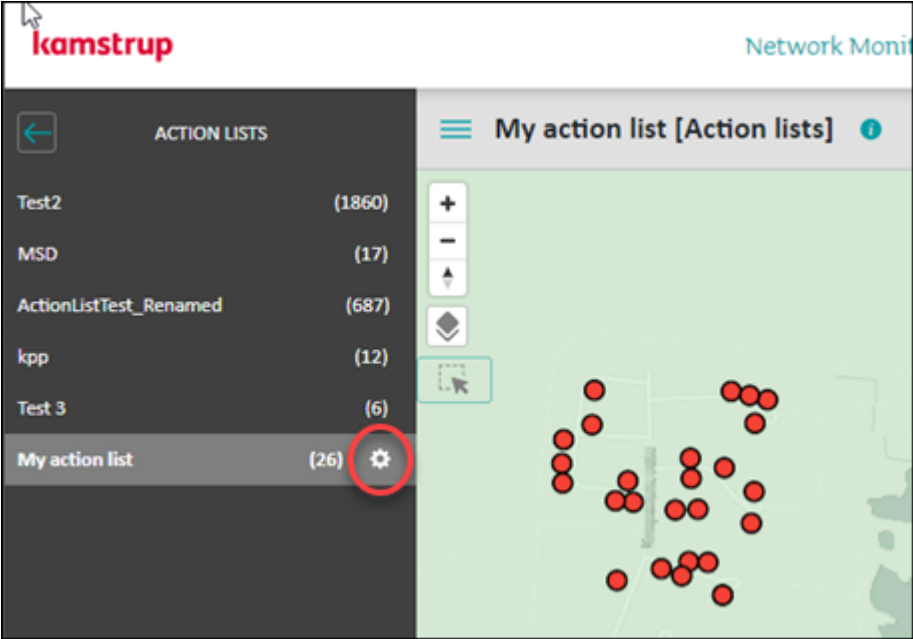
3. In the list of action lists that appears, select the one to which you want to add the meters:



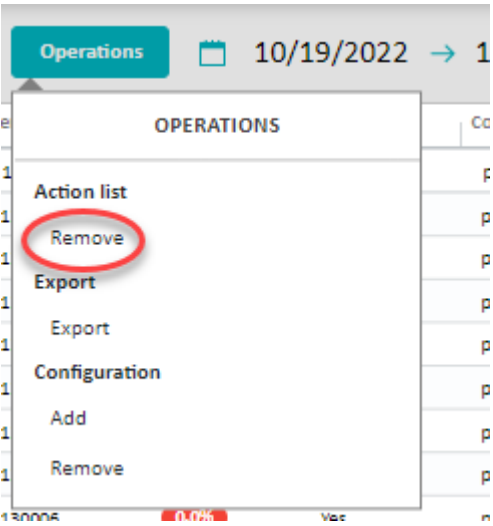
### 3.3.3 Removing meters from action list

Follow the steps below to edit a district on the map

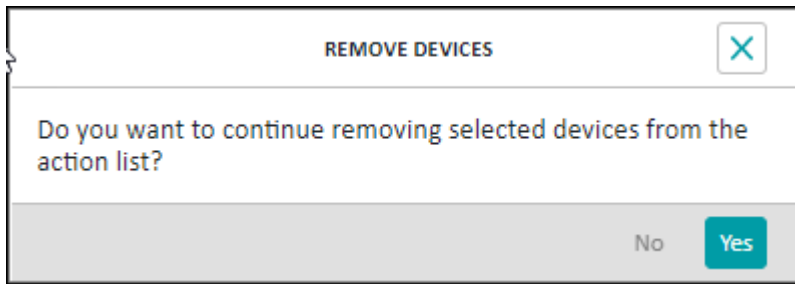
- 1. At the bottom of the menu area on the right side, select **Action lists** and select the action list you want to edit.
- 2. Click the  button next to the action list name:



- 3. Select the meters you want to remove in list view or on the map.
- 4. Select **Operations** and choose **Action list > Remove** in the menu that appears:




- In the message that appears, click **Yes** to confirm:

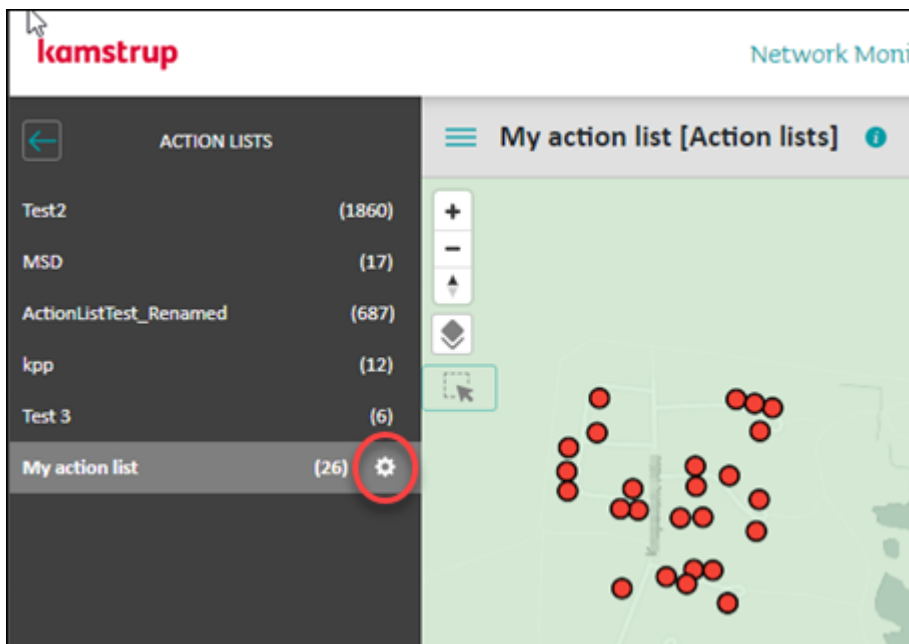


- In the **ACTION LIST SETTINGS** area on the right side, click **Save**.

### 3.3.4 Changing name and description of action list

Follow the steps below to change the name and/or description of an action list:


- At the bottom of the menu area on the right side, select **Action lists** and select the action list you want to edit.
- Click the  button next to the action list name:

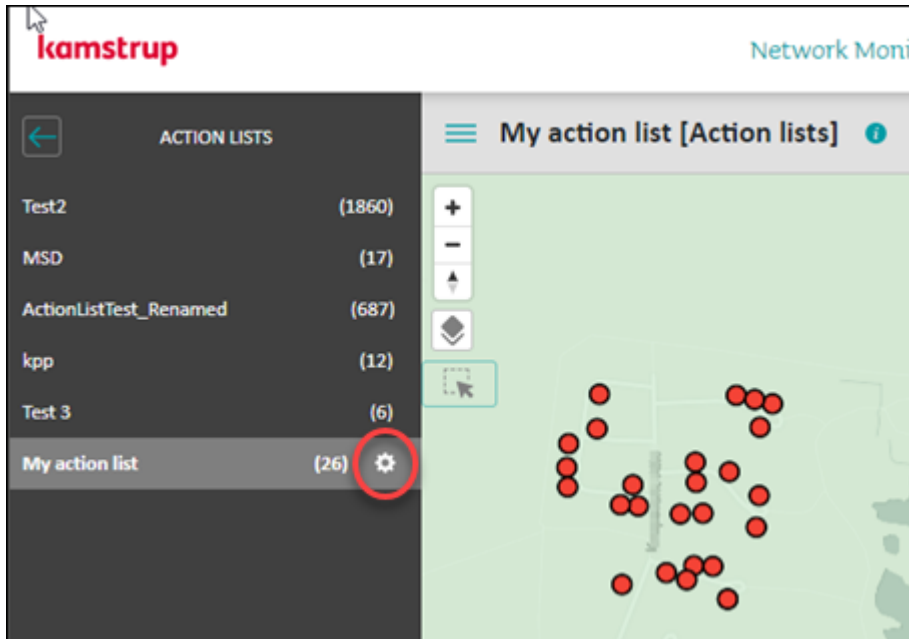


- In the **ACTION LIST SETTINGS** area on the right side, change the **Name** and **Description** fields as desired, and click **Save**.

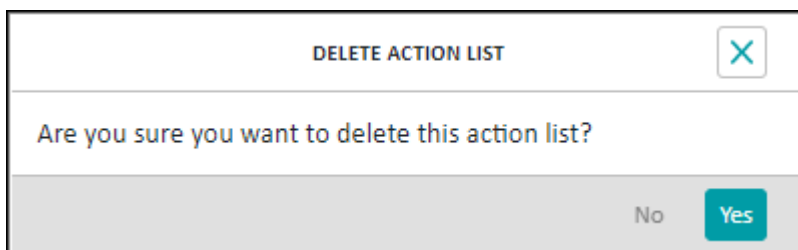
### 3.3.5 Deleting an action list

Follow the steps below to delete an action list:

1. At the bottom of the menu area on the right side, select **Action lists** and select the action list you want to delete.
2. Click the  button next to the action list name:



3. In the **ACTION LIST SETTINGS** area on the right side, select **Delete**.
4. In the message that appears, click **Yes** to confirm:



### 3.4 Dividing your network into districts

It is possible to divide the map of your distribution network into districts by drawing the desired districts on the map.

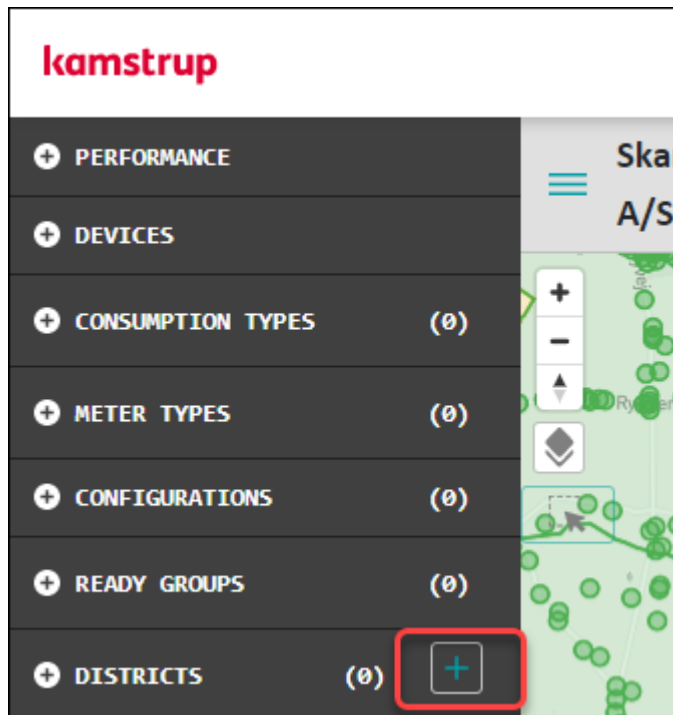
#### What do you want to do?

- [Add a district to the map](#)
- [Edit a district on the map](#)
- [Delete a district](#)

### 3.4.1 Adding a district to the map

Follow the steps below draw a district on the map:

1. Click the  button in the **DISTRICTS** menu to activate the drawing tool:



2. Click the map where you want your district to start and click again each time you want to draw in another direction.
3. Click the starting point to finish your district.
4. In the **DISTRICT SETTINGS** area on the right side, enter the name of your new district in the **District name** field and click **Save**.

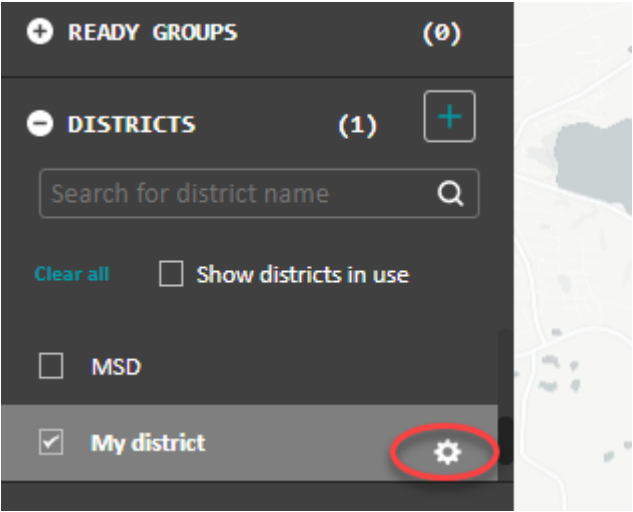
Your district is now added to **DISTRICTS** in the menu area on the left side.

### 3.4.2 Editing a district on the map

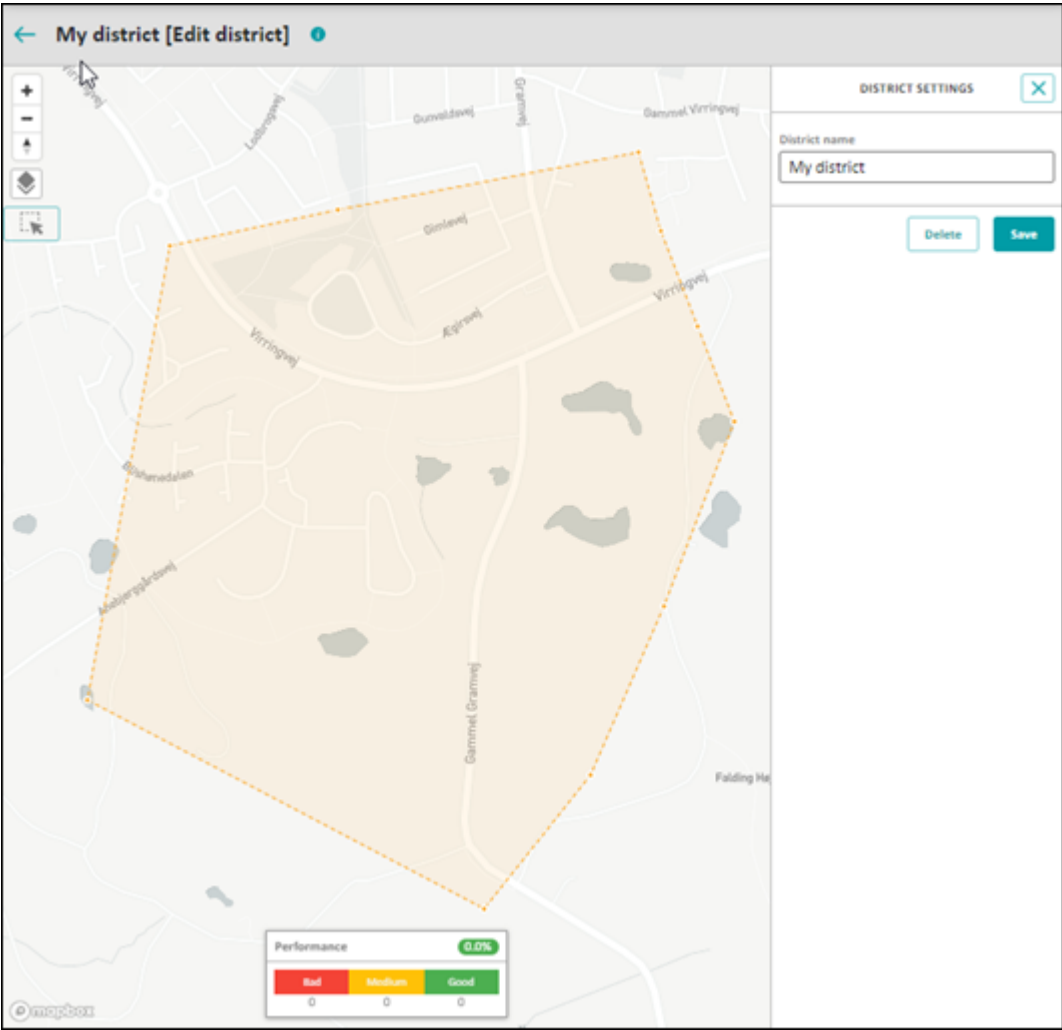
Follow the steps below to edit a district on the map

1. In the menu area on the right side, open the **DISTRICTS** menu and select the district you want to edit.



2. Click the  button next to the district name:

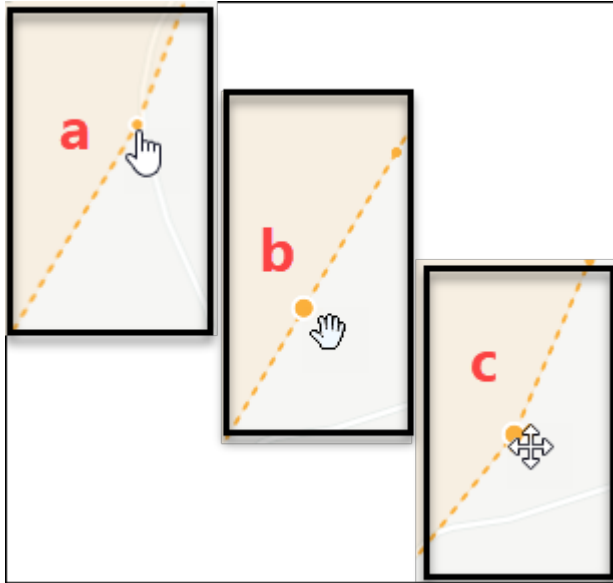


On the map, the district outline now appears:



3. To adjust the district outline:

- a. Hold the cursor over a circle handle on the district outline until the cursor changes to .
- b. Click the circle handle to select it (the handle is now enlarged).
- c. Hold the cursor over the enlarged circle handle until it changes to  and drag it to the desired position:



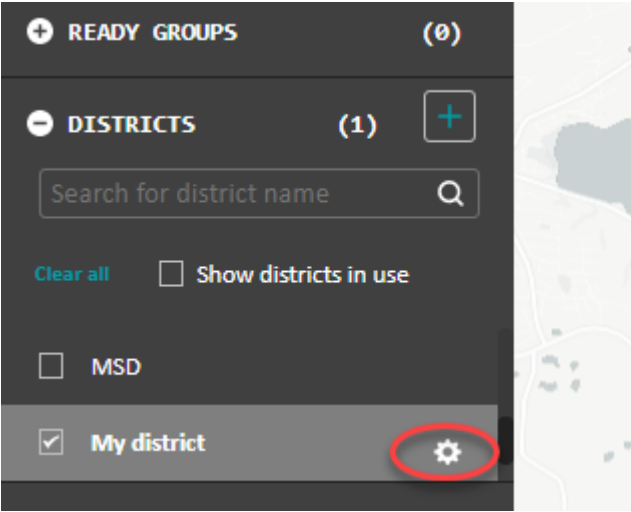
4. To change the name of the district, enter the desired name in **District name** field in the **DISTRICT SETTINGS** area on the right side.
5. Click **Save** in the **DISTRICT SETTINGS** area when you are done editing.

### 3.4.3 Deleting a district

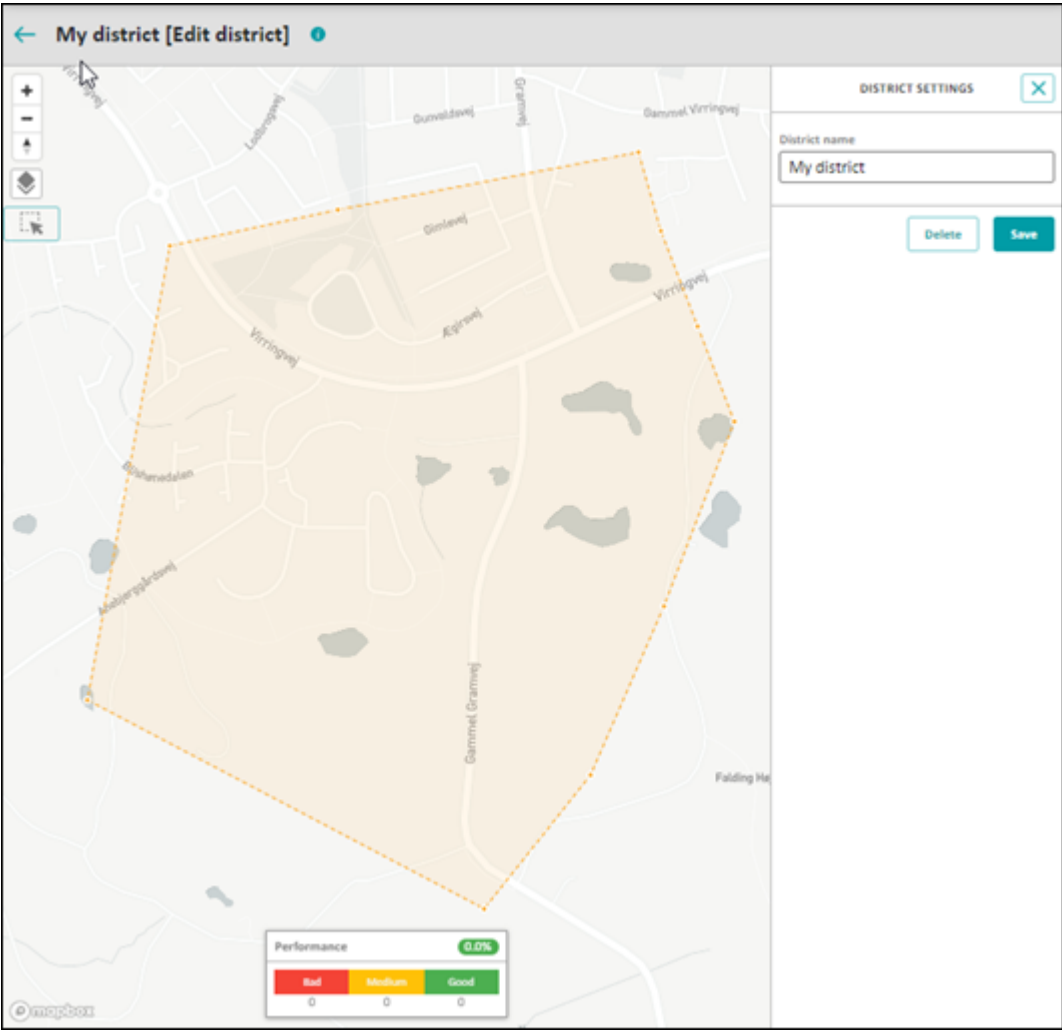
Follow the steps below delete a district:

1. In the menu area on the right side, open the **DISTRICTS** menu and select the district you want to delete.

2. Click the  button next to the district name:

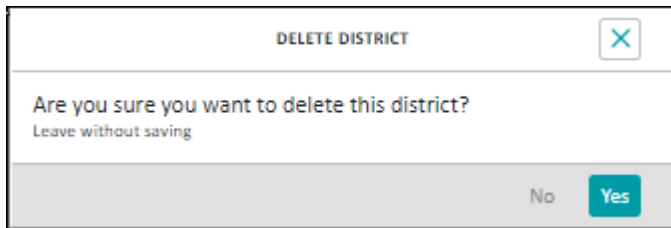


On the map, the district outline now appears:



3. In the **DISTRICT SETTINGS** area on the right side, click **Delete**.

- In the message that appears, click **Yes** to confirm the deletion:



## 3.5 Exporting data

It is possible to export performance reports and action lists from Network Monitor.

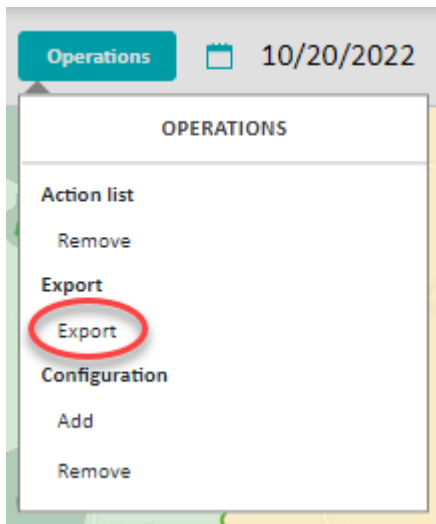
### What do you want to do?

- [Export a performance report](#)
- [Export an action list](#)
- [Set up automatic export](#)

### 3.5.1 Exporting a performance report

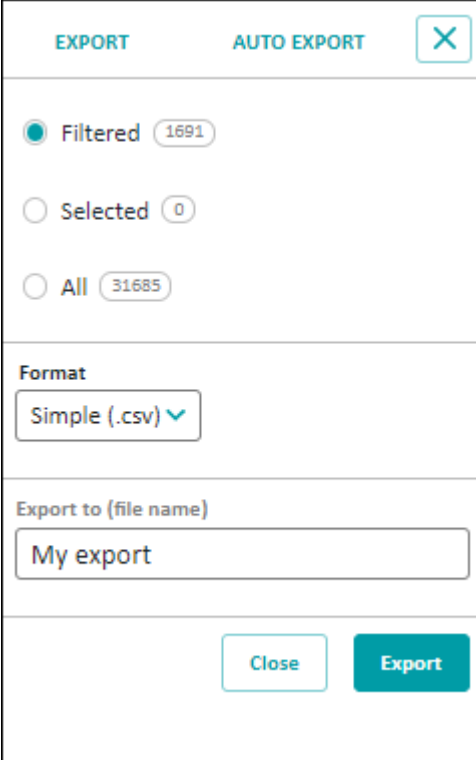
Follow the steps below to export a performance report for one or more meters:

- Select the meters you want to include in your performance report by selecting the desired filtering criteria in the menu area and/or by selecting the individual meters on the map or in list view.
- Select **Operations** and choose **Export > Export** in the menu that appears:



- In the **EXPORT** area on the right side, select which meters to include in your performance report:
  - all meters that meet the filtering criteria in the menu area on the left side (**Filtered**).
  - manually selected meters on the map or in the list (**Selected**).

- all meters in Network Monitor (**All**).



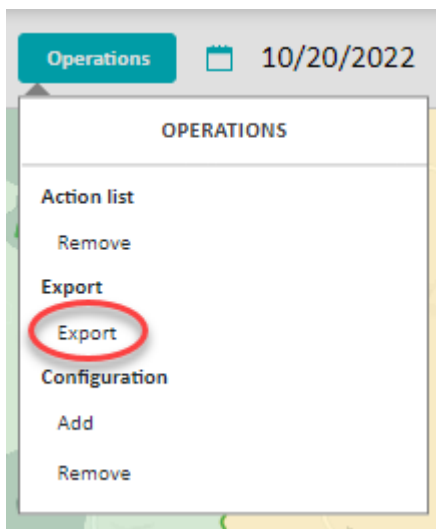
The screenshot shows the 'EXPORT' dialog box in Network Monitor. At the top, there are tabs for 'EXPORT' and 'AUTO EXPORT', and a close button (X). Below the tabs, there are three radio button options: 'Filtered' (selected) with a count of 1691, 'Selected' with a count of 0, and 'All' with a count of 31685. Under the 'Format' section, a dropdown menu is set to 'Simple (.csv)'. The 'Export to (file name)' section has a text input field containing 'My export'. At the bottom, there are two buttons: 'Close' and 'Export'.

4. In **Format**, select the desired format - typically **Performance (.csv)**.
5. In **Export to (file name)**, enter a name for your export file.
6. Select **Export**.
7. Click the export file that appears in the lower-left corner of Network Monitor to open it.

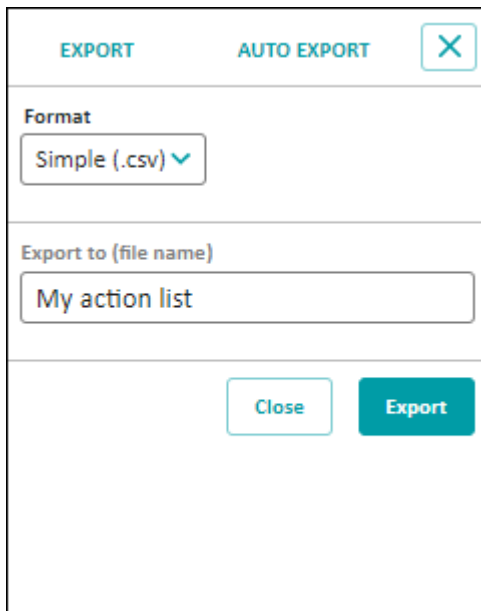
### 3.5.2 Exporting an action list

Follow the steps below to export an action list with one or more meters:

1. At the bottom of the menu area on the left, select **Action lists**. Then select the action list you want to export.
2. Select **Operations** and choose **Export > Export** in the menu that appears:



3. In the **EXPORT** area on the right side, select the desired format - typically **Simple (.csv)**.

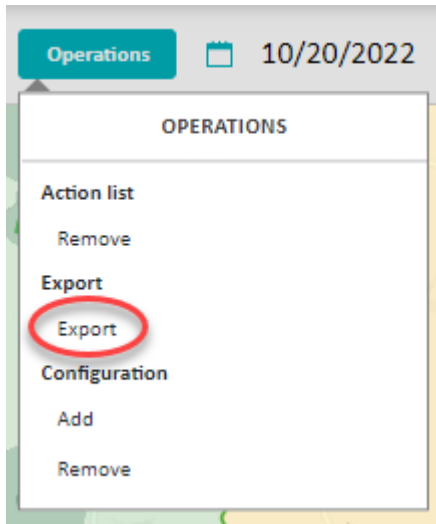


4. In **Export to (file name)**, enter a name for your export file.
5. Select **Export**.
6. Click the export file that appears in the lower-left corner of Network Monitor to open it.

### 3.5.3 Setting up automatic export

Follow the steps below to set up automatic export of performance data for one or more meters:

1. If you do not want to include all meters in your export, select the action list or **READY groups** you want to export.
2. Select **Operations** and choose **Export > Export** in the menu that appears:



3. In the **EXPORT** area on the right side, select which meters you want to include in your automatic export:
  - All meters in Network Monitor (**All**).
  - The groups currently selected in the **READY GROUPS** menu in the menu area on the left side (**Selected groups**).
  - The currently selected action list in the menu area on the left side (**Selected action list**).

**EXPORT**    **AUTO EXPORT**    ✕

All

Selected groups <sup>1</sup>

Selected action list <sup>1</sup>

**Format**

**Export to (file name)**

**Recipient**

+

✕

**Subject**

**Interval**

**Time of day**

**Activate**

- In **Format**, select one of the following export format:
  - Select **Simple (.csv)** if you want to export a simple action list.
  - Select **Blue cockpit (.csv)** if you have a data processing tool that uses this format.
  - Select **Performance report (.csv)** to export a performance report.
- In **Export to (file name)**, enter a name for your export file.

6. In **Recipient**, enter the email address(es) to which the export file is to be sent, and click the plus sign.
7. In **Subject**, enter the subject of the email containing your export file.
8. In **Time of day**, select the time each day that you want to send the file.
9. Select **Activate** to activate your automatic export job, or clear the **Activate** checkbox to just create the job now and activate the automatic export later.
10. Select **Save**.
11. Select **Close**.

### 3.6 Basic map functions


Network Monitor has basic map functions for zooming in and out on the map, going to another map area, changing the map layout and setting up a default map display.

#### What do you want to do?

- [Zoom and move around the map](#)
- [Select another type of map](#)
- [Set up a default map display](#)


#### 3.6.1 Zooming and moving around the map

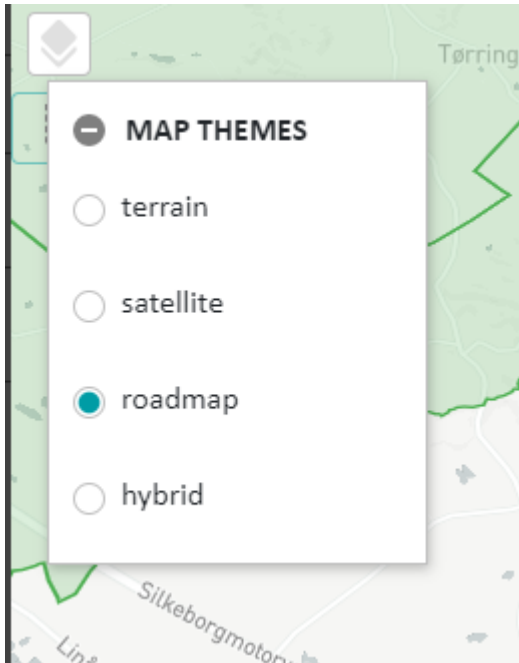
Follow the steps below to zoom in and out and go to other parts of the map:

1. Follow step a, b, c, d or e as required:
  - a. To move to another part of the map: Click the map and drag the mouse pointer in the desired direction.
  - b. To zoom out: Click the map and press the - key, or click the – sign in the upper left corner of the map.
  - c. To zoom in: Double-click the map, click the map and press the + key, or click the + sign in the upper left corner of the map.
  - d. To tilt the map to a side view: Right-drag vertically on the map.
  - e. To rotate the map: Right-drag horizontally on the map. Click the compass  to return to true north.

## 3.6.2 Selecting another type of map

You can choose to see your network on a terrain, satellite, road or hybrid map:


1. Click the  icon on the map, and select the desired map type:

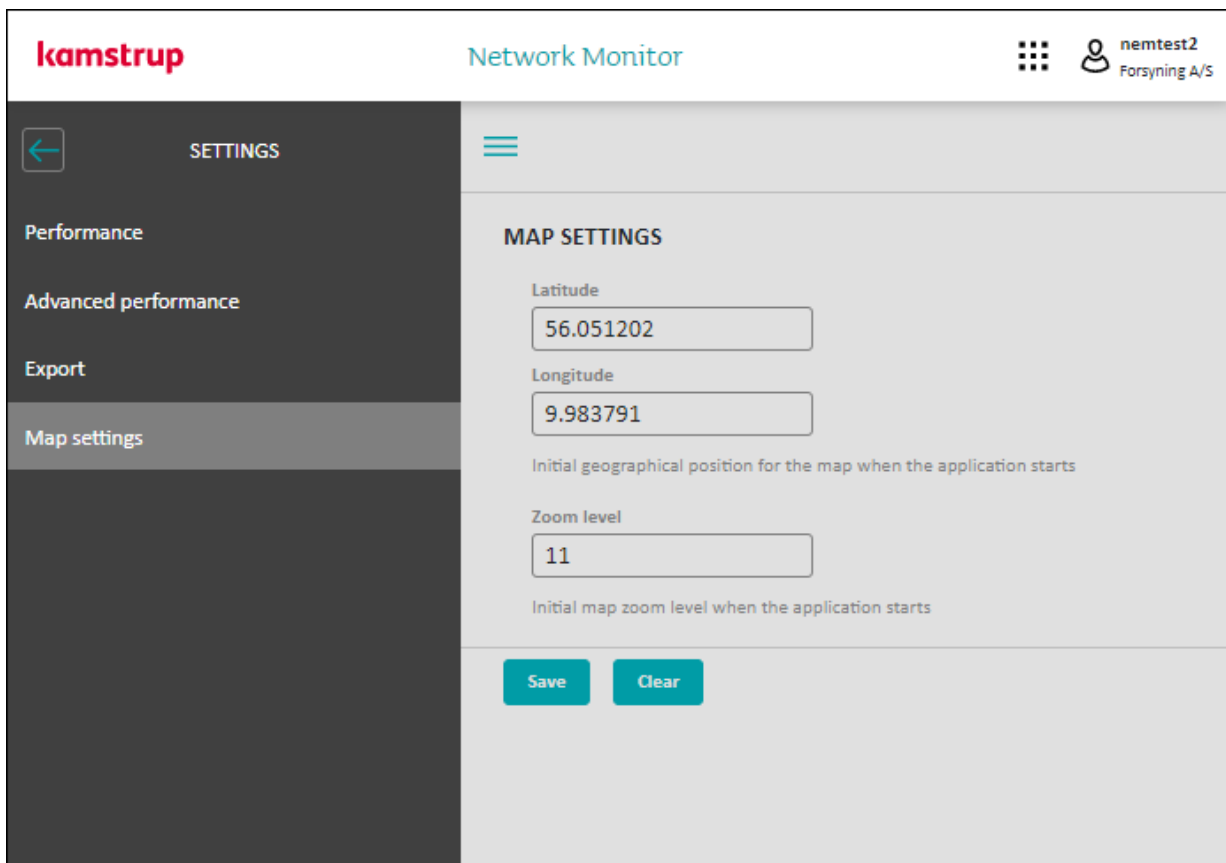


### 3.6.3 Setting up default map display

Follow the steps below to set up the map segment you want to display when you open Network Monitor:

By default, Network Monitor centres your supply area in the map view and makes sure that all your meters are visible.

1. At the bottom of the menu area on the left side, click the  icon.
2. Select **Map settings** in the menu:



The screenshot shows the Network Monitor interface. At the top left is the 'kamstrup' logo, and at the top center is 'Network Monitor'. On the right, there is a user profile icon for 'nemtest2 Forsyning A/S'. A dark sidebar on the left contains a 'SETTINGS' menu with options: Performance, Advanced performance, Export, and Map settings (which is highlighted). The main content area is titled 'MAP SETTINGS' and contains three input fields: 'Latitude' with the value '56.051202', 'Longitude' with the value '9.983791', and 'Zoom level' with the value '11'. Below each field is a small explanatory text: 'Initial geographical position for the map when the application starts' for the first two, and 'Initial map zoom level when the application starts' for the third. At the bottom of the settings area are two buttons: 'Save' and 'Clear'.

3. In the **Latitude** and **Longitude** fields, enter the desired map coordinates.
4. In the **Zoom level** field, enter by how much you want to zoom in on the geographical position selected in the **Latitude** and **Longitude** fields.

Enter a zoom level between 0 and 22 with 0 being the lowest zoom level (fully zoomed out - you can see the earth), 10 being you can see large roads, 15 being you can see buildings and 22 being the highest zoom level (fully zoomed in).

### 4 More help

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#### How to access Kamstrup online service desk 24/7

1. Log in to My Kamstrup.
2. Click the **ServiceDesk** tile to open the customer service portal.
3. Click **Support**.
4. Fill out the text fields and click **Submit**.

#### How to contact Kamstrup support by email or phone

1. Go to <https://www.kamstrup.com/>
2. Click **Contact** at the top.
3. Select your country in **Filter by country**.
4. Click the down arrow to expand **Service & Support**.
5. Contact Kamstrup support by the email or phone provided.