

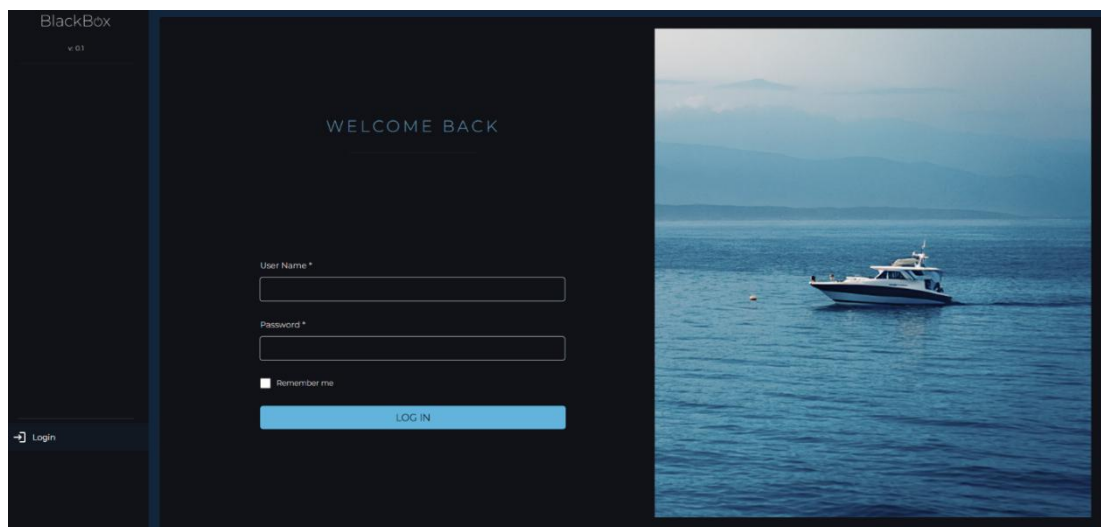
BlackBox: Web App Walkthrough

The “BlackBox” application is a dashboard for monitoring and visualizing data from multiple sources available on modern marine vessels. Below you will find a detailed description of its features and step-by-step instructions for using the interface. The application collects data redundantly, storing it locally on the device and, if the user chooses, also on an external server by transmitting it over the internet. This software is an integral part of the BlackBox device by Yacht Concept and is used to operate it. It enables the collection and analysis of data from NMEA 2000, CAN, Ethernet, RS-485 networks, and any other sensors or devices via integration with the OnBoard system by Yacht Concept, which allows virtually limitless expansion — letting you build a complete monitoring and analysis system for any parameters of any vessel.

1. Application Features

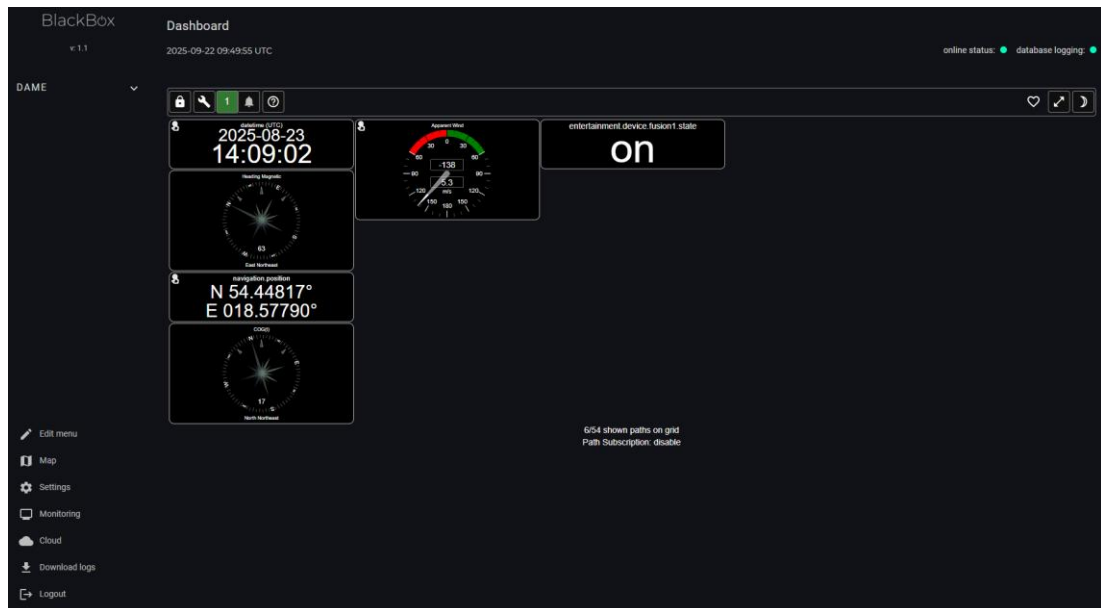
1.1. Login & Authentication

Secure login with a “Remember me” option.



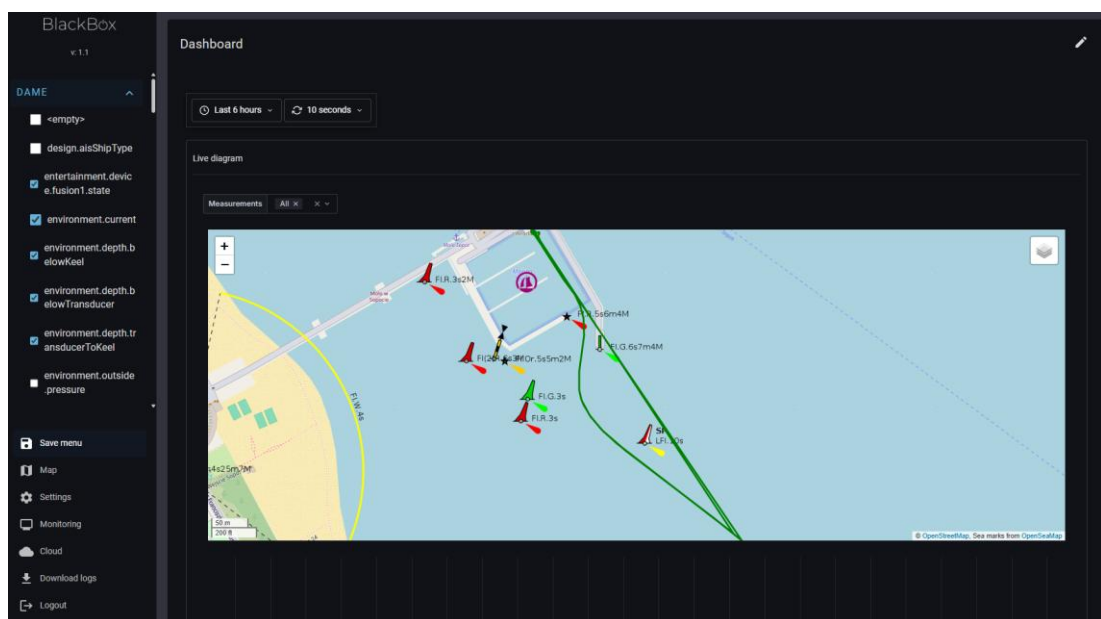
1.2. Configurable Dashboard

Drag-and-drop widgets, edit mode, and save your own layout.



1.3. Metrics Menu

Select and toggle which metrics are shown on charts and logged to file or database.



1.4. Data Visualization

Dynamic, real-time charts with the ability to view historical data.



1.5. Monitoring & Alerts

Set threshold alerts and send email notifications when they are exceeded.

The screenshot shows the BlackBox Monitoring Settings page. It includes a 'Monitoring Configuration' section with an 'Email for alerts' field set to 'michal.dew@yachtconcept.eu'. Below this are checkboxes for 'Monitoring enabled' and 'Notify when metrics have no data'. A section titled 'Below are all the metrics you have selected in the menu. You can adjust the thresholds and alert settings for each of them.' contains a table of metrics with their current values, ranges, and alert settings.

Metric	Current value	Range (Min-Max)	Alert delay (sec)	Email alert
environment.depth.belowTransducer	4.74	-100 - 100	300	☒
environment.outside.pressure	-	-100 - 100	300	☒
environment.water.temperature	291.35	-400 - 400	300	☒
navigation.speedOverGround	0.03	-100 - 100	300	☒
propulsion.1909.coolantTemperature	346.15	-100 - 100	300	☒
propulsion.1909.oilTemperature	-	-100 - 100	300	☒

A 'Save changes' button is located at the bottom of the table.

1.6. Log Download

Export data to CSV over a specified time range or the last 24 hours.

Time (UTC)	lat	lon	environment depth below Transducer	environment outside pressure	environment water temperature	navigation speedOverGround	propulsion_11931 coolantTemperature	propulsion_11931 oilTemperature
2025-09-21 09:54:16	54.448174	18.577933	4.69		291.95	0.03	348.15	
2025-09-21 09:54:17	54.448173	18.577933			291.95	0.03	348.15	
2025-09-21 09:54:18	54.448173	18.577933	4.69		291.95	0.03	348.15	
2025-09-21 09:54:19	54.448173	18.577933			291.95	0.03	348.15	
2025-09-21 09:54:20	54.448173	18.577933			291.95	0.03	348.15	
2025-09-21 09:54:21	54.448173	18.577933	4.75		291.95	0.03	348.15	
2025-09-21 09:54:22	54.448173	18.577933			291.95	0.03	348.15	
2025-09-21 09:54:23	54.448173	18.577933			291.95	0.03	348.15	
2025-09-21 09:54:24	54.448173	18.577933	4.69		291.95	0.03	348.15	
2025-09-21 09:54:25	54.448173	18.577933			291.95	0.03	348.15	
2025-09-21 09:54:26	54.448173	18.577933			291.95	0.03	348.15	
2025-09-21 09:54:27	54.448173	18.577932	4.61		291.95	0.03	348.15	
2025-09-21 09:54:28	54.448173	18.577932			291.95			
2025-09-21 09:54:29	54.448173	18.577932	4.72		291.95	0.03	348.15	
2025-09-21 09:54:30	54.448173	18.577932			291.95	0.03	348.15	
2025-09-21 09:54:31	54.448173	18.577932			291.95	0.03	348.15	

2. Navigating the Application

2.1. Main Menu

The main menu appears on the left side of the application

2.2. Primary Navigation

Menu links include:

- Your selected metrics
- Edit Metrics Menu (based on your access package)
- Map
- Settings
- Monitoring Settings
- Cloud
- Download Logs
- Log Out

3. Adding & Managing Metrics

3.1. To see a metric list, click the button with the name of the yacht (in this case “DAME”) to expand the list; a map with the chart appears automatically. Use the time picker to set your desired time range, and choose a refresh interval for live updates. To view historical data, turn off auto-refresh. Because large data sets may be displayed, the app is optimized for screens of at least 7 inches.

- In normal mode, buttons toggle individual metrics on or off in the chart.
- In edit mode, checkboxes appear next to each metric. Checking one:
 - Makes it clickable in the menu (outside edit mode) to add it to the chart and compare it with others.
 - Enables logging of its data to file and/or database.

3.2. Metric names follow the NMEA 2000 data-structure standard. Click a metric’s name to add it to the current chart; click again to remove it.

3.3. To clear all metrics from the chart, click **Clear**.

3.4. Selected metrics are also summed in the chart below the map, letting you cross-compare them alongside the GPS position (always shown by default).

3.5. Hover over any point on the chart to see the vessel’s position on the map at that exact timestamp — and view all selected metrics at that moment.

4. Dashboard & Widgets

4.1. Go to the Home page (/) or select **Dashboard**.

4.2. Now you will see the ribbon, as shown below



NOTE: The Ribbon hides automatically after a period of inactivity. To show it again, simply move the mouse.

4.3. To add or delete widgets:

- Click the wrench icon
- A list of available widgets appears; to add/delete widget click “show on grid”

4.4. To change the position of the widget:

- Click the locker icon

- Now, when widgets changed its color to yellow, you are able to move widgets.
When finished, click the locker icon again to save your changes

4.5. The Dashboard also shows two status indicators:

- Online Status – whether the device is connected to the internet.
 - Database Logging – whether data is currently being logged.
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5. Monitoring Settings

5.1. Click **Monitoring** in the menu.

5.2. Enter a global email address for alerts.

5.3. Enable or disable monitoring and data-loss notifications.

5.4. For each metric, specify:

- Minimum and maximum acceptable values
- Alert delay (in seconds)
- Whether to send an email on threshold breach

5.5. Click **Save changes**. Metric values refresh automatically every few seconds, depending on the incoming data interval.

6. Downloading Logs

6.1. Go to **Download logs**.

6.2. Select a date and time range (in UTC).

6.3. Click **Load** to fetch data for that interval.

6.4. Or choose **Last Available 24 h** to automatically select the most recent 24 hours of data.

6.5. When the table appears, click **Export CSV** to save the file.

7. Data Storage & Synchronization

7.1. To sync your data, go to **Cloud**

7.2. There are two types of synchronization available:

- **On-demand** – to start synchronization immediately and stop it whenever you want:
 - Click the “Start Synchronization” button. The status indicator will change to Enabled.
 - To stop, click the “Stop Replication” button. The status indicator will change to Disabled.
 - **Total** – to synchronize all your data at once, click the “SYNC ALL” button
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8. Best Practices

- 8.1. After modifying your Dashboard layout, remember to save changes so they persist on your next login.
- 8.2. In Metrics Edit mode, watch your package’s limit on active metrics. If you need more, contact sales@yachtconcept.eu.
- 8.3. Monitoring settings are stored in your browser. Clearing your browser data or using a new device will reset widgets and menu selections.
- 8.4. Always log out when finished — especially on shared devices.

By following these steps, you can fully leverage the “BlackBox” application to monitor real-time data, customize widgets, configure alerts, and download logs for further analysis.