

SICK Maritime Suite

The digital solution for the maritime industry

SICK
Sensor Intelligence.

Advantages



SICK Maritime Suite: More transparency on the world's oceans

Benefit from the experience of a leading manufacturer in maritime emission monitoring! Using the digital services in the SICK Maritime Suite such as the MARtracker, the live data of the emission monitoring device of the ship can be combined with other data such as the position of the ship as well as ECA and local emission regulations. The result: Tailored status messages, more transparency over your entire fleet, and an optimization of operating costs.



Maritime emission measurement from a single source

Tried-and-proven emission measurement technology, a global service network, and innovative digital solutions: With SICK, you have a competent partner with longstanding experience in maritime emission measurement on board.

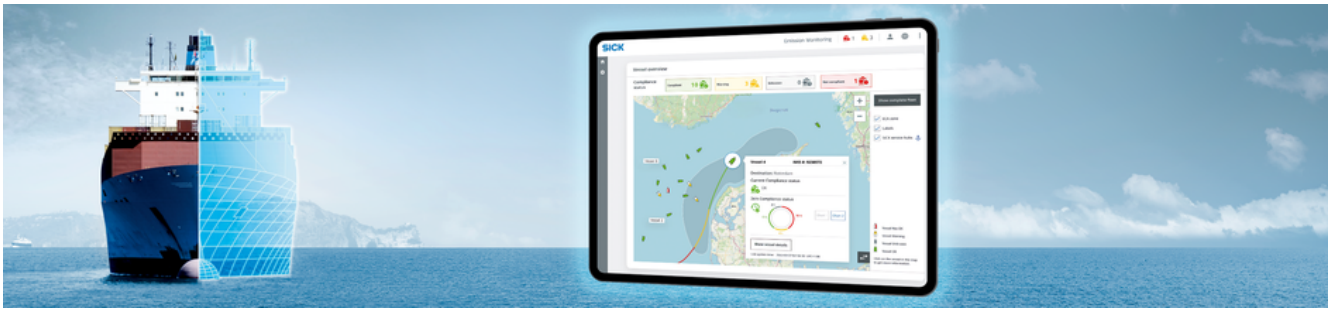


Tailored to your requirements

Overview of the conformity status of the ship or comparison of the performance of the scrubbers: Individual digital services in the SICK Maritime Suite can be selected as needed.



With the SICK Maritime Suite you gain more transparency over your fleet – tailored and in real time



MARtracker: Monitor adherence to emission limit values in real time

The MARtracker digital service is a cloud-based, digital solution for visualizing live data from the ship emission monitoring device. The MARtracker combines this measurement data with information about the ship position and ECA and local emission regulations. This gives ship operators and fleet managers full transparency about their fleet compliance status, current and historical emissions data, equipment status, and information about scrubber efficiency.

Features and dashboards of the MARtracker digital service:



Overview of the entire fleet:

Tailored: in MARtracker, individual users (like a fleet manager or head engineer) can be created and information relevant to each person visually displayed. This enables fleet managers to gain transparency over the conformity status of their entire fleet, anytime and anywhere.



Detailed view of a ship

MARtracker combines the measurement data of the scrubber with the position data and the route prediction data of the ship. A notification occurs when approaching or leaving ECA zones. This enables fleet managers to monitor compliance with the applicable regulations and avoid fines.



Detailed view of the scrubbers:

MARtracker visualizes the performance data of the scrubbers – regardless of manufacturer. This allows the performance of the individual scrubbers to be compared. You can recognize immediately if one of the scrubbers is operating ineffectively – for more cost efficiency.



Automatic notification when defined events occur

Make the right decisions quickly: Individual events - like a status change from “conform” to “non conform” or the operational status of the emission monitoring device - are listed in MARtracker. Automatic notification of selected events can then occur.



Automated reporting

Save time and resources: MARtracker automatically creates reports for the port authorities – in accordance with the applicable standards and regulations.



Chronology of relevant emission values

MARtracker delivers not only current emission values. The change in relevant emission values over time is displayed in a histogram.



MARpems: enables compliance with emission regulations, even in the event of failure of continuous emission measurement

Intelligence through trained machine learning models: The MARpems digital service is an on-premise solution that calculates emission values based on process parameters. Values for seawater flow, engine power or exhaust gas temperature are used here. Should continuous emission measurement fail, MARpems enables temporary emission compliance to ensure the requirements of the IMO directive are met. MARpems also ensures more efficiency during scrubber operation: The continuous monitoring and analysis of the individual process parameters makes operation more efficient and reduces manual work. Additional emissions can also be avoided.

Compliance, process reliability, greater efficiency:



Predictive emission monitoring

MARpems monitors continuously: The machine learning model is trained with the existing operating values of the scrubber. And MARpems monitors itself: The accuracy of the output values is continuously validated and compliance with the IMO directives as per MEPC.1/Circ883/Rev.1 is checked at the same time. The result is an intelligent predictive emission monitoring system (PEMS) for the maritime world.



Compliance even if an individual sensor fails

If continuous emission measurement fails, MARpems provides clarity: MARpems calculates the emission values based on the recorded process parameters. The software also helps the ship operator comply with the recommended measures in the event of failure of the continuous emission measurement in accordance with IMO directive as per MEPC.1/Circ883/Rev.1.



Recognized by flag states

MARpems is tested by classification society DNV based on the "Statement of product capability." In addition, MARpems is a system recognized by flag states that ensures temporary emissions compliance in the event of prolonged failures.

**Increased efficiency during scrubber operation**

MARpems helps optimize operating costs: A CEMS running smoothly contributes to automatic process control of the scrubber and thus efficient use of wash water and chemicals. Thanks to MARpems, emission values can be continuously supplied even if a CEMS does not produce any measured values. This means the scrubber does not have to be controlled manually, which requires a high level of staff resources.

**Overview of the entire fleet:**

With MARpems, you increase the availability of your ship emission data. You also have all the information you need to make the right decisions.

**Automated reporting**

Save time and resources: MARpems enables the automatic generation of reports for port authorities in line with applicable standards and regulations.



Product description

Everything at a glance: With the SICK Maritime Suite ship owners and ship managers gain full transparency over their fleet, thereby saving operating costs. With the help of the SICK Maritime Suite, you can select individual digital services according to your specific requirements. These provide information in real time – for more transparency and simplified error analysis.

At a glance

- Digital services can be activated as needed
- MARtracker: Transparency about the conformity status in real time
- MARpems: Higher availability of emission data and maintaining compliance
- MARtracker and MARpems: Create automatic reports in line with the specifications
- MARtracker: Chronology of relevant emission values in a histogram

Your benefits

- Digital solution for the maritime industry: Saves operating costs and supports you in meeting statutory requirements
- Tailored solution: Digital services can be activated as needed
- Save time: The MARtracker and MARpems digital services reduce manual data entry
- More transparency: The MARtracker digital service reports the conformity status of an entire fleet of ships online
- More process reliability: MARpems continuously monitors operation of the scrubber
- MARpems provides temporary emission compliance in the event of the failure of the gas analyzer to meet IMO directive MEPC.1 / Circ883 / Rev.1

Fields of application

- Emission monitoring on ships
- Monitoring of the conformity status of ships
- Comparison of the performance of scrubbers
- Fleet management in emission control areas

Ordering information

Other models and accessories → www.sick.com/SICK_Maritime_Suite

Description	Type	Part no.
Cloud based app for checking the conformity of the emission values of scrubber systems on one or more ships (fleet) in accordance with MARPOL standards and regulations.	MARtracker	1616171
PEMS stands for Predictive Emission Monitoring System. On-premise solution for calculating emissions based on customer-specific process parameters for redundant compliance in the field of emission monitoring on ships with installed scrubbers.	MARpems	On request

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com