Product family overview

Monitoring Box

Analytical processing of status and application data

SICK
Sensor Intelligence.

Advantages

Transparency about the status, availability and performance of devices and machines

In addition to condition monitoring, the Monitoring Box offers the possibility to analytically assess status and application data. This is based on intelligent data models that can be individually aligned for the sensors, analyzers and systems as well as machines to be connected. Aside from a plug-and-play installation, it also offers the advantage that the data can be used easily and comprehensively.

As well as simple integration, the Monitoring Box also offers additional features that make the digital service especially user-friendly.

Comfortable data access and intuitive operation

international standards
The digital service is available in 18 languages. You also have the choice between the metric and imperial system of units.

Filter results in calendar
The display of historical data for a specific time period can be controlled via the calendar view. The time window can be freely selected.

Pan/Zoom function and CSV export
In the timeline, specific sections of the raw date can be freely selected and displayed. You also have the possibility to export the raw data in CSV format.

Processing of status and application data

The predefined device and application data are securely recorded and archived. As a result, historical information and real-time values are available – for example in the form of raw data, processes or aggregated values.

In the frontend, the device status and operating data are clearly represented in the form of widgets. Problems or deviations can be identified quickly. Newly calculated characteristic values for assessing the performance are available for each machine or production/site.

If the defined limit values are exceeded or not reached, or if there are changes in status, user-defined warnings can be defined, e.g. active notification via e-mail. For a transparent overview, all events are recorded in the log book.

Complete monitoring and assessment of device and machine events at any time.

Flexible and future-proof positioning

The Monitoring Box is based on intelligent algorithms in an IIoT platform with a backend for processing and saving data. There is also a frontend for visualizing the data. The digital service is currently available for a selection of sensors. SICK will support you in the implementation of your individual requirements and complete solutions with a holistic concept for your Industry 4.0 solution.

The Monitoring Box uses a container-based microservice architecture. The aggregation, assessment and storage of data takes place in the backend in the SICK Cloud, or in a virtual machine or an industrial PC on the user's premises. The data is visualized in the frontend (browser).

Data storage according to your needs

SICK Cloud (off-premise)
For the cloud variant, the application software runs in a SICK Cloud . The runtime environment is highly available, scalable and is permanently equipped with the latest updates and releases. As soon as you have successfully closed the contract, register at smartservice.sick.com using your SICK ID.

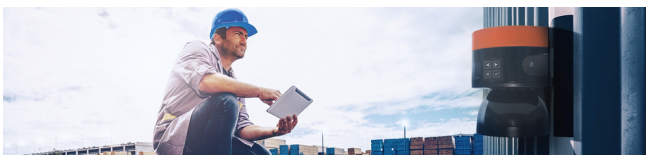
Virtual machine or industrial PC (on-premise)
The local variant runs directly on the user's premises and is configured and put into operation by SICK. Security and feature updates are installed remotely in line with the stipulated conditions. The user accesses it via an encapsulated interface with a role-based access control.

Components of the Monitoring Box

As a basic requirement for monitoring devices and systems, a database tailored to the application is a must. It supplies the application software whose pre-configurable data models and algorithms enable applied data processing.

SICK offers a cloud and a local option for saving and visualizing data. The design depends on the wishes and possibilities of the user. An appropriate runtime environment (Linux VM/Kubernetes Cluster) is absolutely essential. An API interface for the individual use of data is also available.

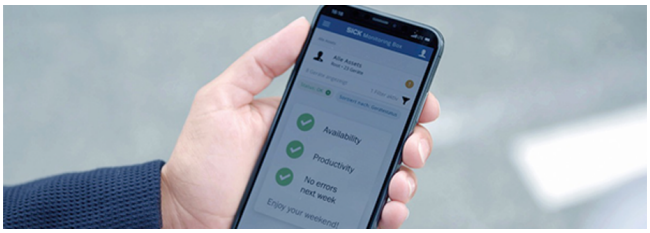
Ensure maximum control over the flow of data with minimal effort for maintenance.



Use resources efficiently

Event-oriented recommended actions on keeping your devices and systems in good condition can be inferred based on diagnoses, statistics and predictions created with the digital service. This in turn makes it possible to carry out inspections, repairs and maintenance in a quick and tailored way, and to reliably plan servicing.

Application-specific maintenance



By recording pre-defined device data, such as hours of operation, visibility, wear, temperature or degree of contamination, the current status can be quickly determined and assessed. The course of the values (history) puts the situation in context and helps, among other things to assess the urgency of any action required.

It is important to avoid faults or device failures by acting early, and to only use maintenance personnel for current maintenance requirements and for planned servicing. Depending on the application and integrated device, it is possible to make predictions for recurring events.

Increase availability and service life of devices, and thus avoid cost-intensive downtimes in manufacturing.

Make targeted increases to performance

The performance of devices, and of entire applications, can be evaluated using specific values. The Monitoring Box helps you to identify these specific values for your application and use them profitable. The information required to do so is obtained by evaluating anomalies, statistical statements about peak and average values, and by aggregating values.

Plannable machine and system utilization

Operating parameters and application settings can be specifically aligned with defined performance properties. Doing so not only ensures that sensors, analyzers and systems are operated in their ideal performance range, but that machines and entire systems are, too.

Optimize the productivity and quality of your machines and processes – sustainably and with no additional effort.

Monitoring Box

Technical data overview

Language	Chinese Danish German English Finnish French Italian Japanese Korean Dutch Polish Portugese Russian Swedish Spanish Taiwanese Czech Turkish (depending on type)
Version	Proof of Concept Release 1 Minimum Viable Product (depending on type)
Application	Condition monitoring Energy Monitoring Compressed Air Monitoring Data Analytics Predictive maintenance (depending on type)
Supported products	AOS LiDAR Backup Assistance System FLOWSIC200 FTMg-E GM32 LMS1xx LMS5xx MCS100FT MCS200HW MCS300P MERCEM300Z microScan3 MPB10 outdoorScan3 VICOTEC320 VICOTEC450 VISIC100SF VISIC50SF (depending on type)

Product description

The **Monitoring Box** from SICK is a digital solution for continuous monitoring of status of devices and plants, as well as the application itself. Its combination of historic and real-time data enables transparent insights into violations of the limit values and changes in status. The analyzed data is used to produce diagnoses, statistics and forecasts that enable predictive and tailored maintenance. Devices and plants can also be operated in the high power range and resources can be utilized efficiently. As a smart extension of existing product solutions from SICK, the Monitoring Box increases the productivity of industrial applications in a targeted way.

At a glance

- Pre-defined data models and data processing
- Browser-based dashboard for data visualization
- Real-time warnings and logbook with result logging
- Plug-and-play installation
- Data storage via SICK Cloud or on-premise solution

Your benefits

- Transparent insights into the productivity and availability of devices and plants at any time
- Intelligent predictions based on application or sensor-specific analyses
- Optimized alignment of operating parameters and application settings
- Quick and tailored action thanks to user-defined notifications
- Simple and quick installation without programming knowledge
- Secure usage and transfer of data

Fields of application

- Remote monitoring of sensors, systems, analyzers, machines and plants in process, factory and logistics automation
- Creation of diagnoses, statistics and forecasts with event-oriented recommendations for action

Ordering information

Other models and accessories ➜ www.sick.com/Monitoring_Box

- **Description:** The Monitoring Box Basic is a scalable digital service for monitoring service and process data. The AOS LiDAR is used to monitor object detections and the health status of the system. This provides an effective means of reducing downtimes.
- **Application:** Condition monitoring
- **Hosting:** Off-premise: smartservice.sick.com, Industrial PC, other solutions on request
- **Contract type:** SaaS (Software as a Service)

Contract interval	Supported products	Vital data	Version	Type	Part no.
Annual	AOS LiDAR	System status, sensor temperature, contamination warning	Proof of Concept	Monitoring Box AOS LiDAR Basic	1614701

- **Description:** The Monitoring Box Basic is a scalable digital service for monitoring service and process data.
- **Application:** Condition monitoring
- **Hosting:** Off-premise: smartservice.sick.com, Industrial PC, other solutions on request
- **Contract type:** SaaS (Software as a Service)
- **Contract interval:** annual

Supported products	Vital data	Version	Type	Part no.
Backup Assistance System	Operating hours, Power-ups, device status	Proof of Concept	Monitoring Box BAS Basic	1617437
FLOWSIC200	Sensor status, servicing instructions, maintenance and error messages, sensor temperature, measured values (flow velocity, sound velocity, temperature)	Release 1	Monitoring Box FLOWSIC200 Basic	1614433
GM32	Operational status, Logbook, temperatures, Light performance, 4Q elements	Release 1	Monitoring Box GM32 Basic	1617825
MCS100FT	Operational status, Logbook, temperatures, Optical unit, Printed-circuit board assembly, Operating voltage, FID, IR cube, Drifts	Release 1	Monitoring Box MCS100FT Basic	1614999
MCS200HW	Operational status, Logbook, temperatures, Optical unit, Printed-circuit board assembly, Operating voltage, Frequencies, Drifts	Release 1	Monitoring Box MCS200HW Basic	1616023
MCS300P	Operational status, Logbook, temperatures, Optical unit, Printed-circuit board assembly, Operating voltage, Frequencies, Drifts, Optional: Monitoring of the SCP3000	Release 1	Monitoring Box MCS300P Basic	1614998
MERCEM300Z	Operating voltage, lamp energy, reference energy, operational status, pressures, control valves, temperatures, availability, measured values	Release 1	Monitoring Box MERCEM300Z Basic	1613798
MPB10	System status, operating hours, Days since the last reset	Proof of Concept	Monitoring Box MPB10 Basic	1617434
VICOTEC320	Sensor status, servicing instructions, maintenance and error messages, sensor temperature, dust concentration, Exposure times, Temperature (optics and spectrometer),	Release 1	Monitoring Box VICOTEC320 Basic	1614431

Supported products	Vital data	Version	Type	Part no.
	pressure, Logbook, Measured values (NO, NO_2, NO_X, VIS)			
VICOTEC450	Sensor status, servicing instructions, maintenance and error messages, Current flow, Amplification, contamination, Logbook, Measured values (VIS, temperature), sensor temperature, dust concentration	Release 1	Monitoring Box VICOTEC450 Basic	1614432
VISIC100SF	Sensor status, servicing instructions, maintenance and error messages, sensor temperature, contamination, Measured values (CO, NO, NO_2, dust concentration, VIS)	Release 1	Monitoring Box VISIC100SF Basic	1614430
VISIC50SF	Sensor status, servicing instructions, maintenance and error messages, sensor temperature, contamination, Measured value (VIS)	Release 1	Monitoring Box VISIC50SF Basic	1614429

- **Description:** The Monitoring Box Basic is a scalable digital service for monitoring service and process data. The FTMg flow sensor is used to continuously monitor compressed air consumption. This lowers costs, optimizes production efficiency or reduces service work.
- **Application:** Energy Monitoring, Compressed Air Monitoring
- **Hosting:** Off-premise: smartservice.sick.com, Industrial PC, other solutions on request
- **Contract type:** SaaS (Software as a Service)

Contract interval	Supported products	Vital data	Version	Type	Part no.
Annual	FTMg-E	System status, device state, Days since the last reset	Release 1	Monitoring Box FTMg Basic	1616449

- **Description:** The Monitoring Box Basic is a scalable digital service for monitoring service and process data. The LMS1xx is used to monitor object detections and the health status of the sensor. This provides an effective means of reducing downtimes.
- **Application:** Condition monitoring
- **Hosting:** Off-premise: smartservice.sick.com, Industrial PC, other solutions on request
- **Contract type:** SaaS (Software as a Service)

Contract interval	Supported products	Vital data	Version	Type	Part no.
Annual	LMS1xx	Device status, device temperature, contamination, operating hours, Power-ups	Release 1	Monitoring Box LMS1xx Basic	1613765

- **Description:** The Monitoring Box Basic is a scalable digital service for monitoring service and process data. The LMS5xx is used to monitor object detections and the health status of the sensor. This provides an effective means of reducing downtimes.
- **Application:** Condition monitoring
- **Hosting:** Off-premise: smartservice.sick.com, Industrial PC, other solutions on request
- **Contract type:** SaaS (Software as a Service)

Contract interval	Supported products	Vital data	Version	Type	Part no.
Annual	LMS5xx	Device status, device temperature, contamination, operating hours, Power-ups	Release 1	Monitoring Box LMS5xx Basic	1613764

- **Description:** The Monitoring Box Basic is a scalable digital service for monitoring service and process data. The microScan3 is used to monitor object detections and the health status of the sensor. This provides an effective means of reducing downtimes.
- **Application:** Condition monitoring
- **Hosting:** Off-premise: smartservice.sick.com, Industrial PC, other solutions on request
- **Contract type:** SaaS (Software as a Service)

Contract interval	Supported products	Vital data	Version	Type	Part no.
Annual	microScan3	Device status, operating hours, Error code, contamination, device temperature	Release 1	Monitoring Box microScan3 Basic	1614149

- **Description:** The Monitoring Box Basic is a scalable digital service for monitoring service and process data. The outdoorScan3 is used to monitor object detections and the health status of the sensor. This provides an effective means of reducing downtimes.
- **Application:** Condition monitoring
- **Hosting:** Off-premise: smartservice.sick.com, Industrial PC, other solutions on request
- **Contract type:** SaaS (Software as a Service)

Contract interval	Supported products	Vital data	Version	Type	Part no.
Annual	outdoorScan3	Device status, operating hours, Error code, contamination, device temperature	Release 1	Monitoring Box outdoorScan3 Basic	1614150

- **Description:** The Monitoring Box Premium is a scalable digital service for monitoring, analyzing and predicting service and process data. The AOS LiDAR is used to monitor object detections and the health status of the system. Through additional analyses of the object detections, opportunities for increasing output can be identified.
- **Application:** Condition monitoring, Data Analytics, Predictive maintenance
- **Hosting:** Off-premise: smartservice.sick.com, Industrial PC, other solutions on request
- **Contract type:** SaaS (Software as a Service)

Contract interval	Supported products	Vital data	Version	Type	Part no.
Annual	AOS LiDAR	System status, device temperature, contamination, operating hours, Power-ups	Proof of Concept	Monitoring Box AOS LiDAR Premium	1617433

- **Description:** The Monitoring Box Premium is a scalable digital service for monitoring, analyzing and predicting service and process data.
- **Application:** Condition monitoring, Data Analytics, Predictive maintenance
- **Hosting:** Off-premise: smartservice.sick.com, Industrial PC, other solutions on request
- **Contract type:** SaaS (Software as a Service)
- **Contract interval:** annual
- **Version:** Proof of Concept

Supported products	Vital data	Type	Part no.
Backup Assistance System	Operating hours, Power-ups, device status	Monitoring Box BAS Premium	1617438
FLOWSIC200	Sensor status, servicing instructions, maintenance and error messages, sensor temperature, measured values (flow velocity, sound velocity, temperature)	Monitoring Box FLOWSIC200 Premium	On request
MCS200HW	Operational status, Logbook, temperatures, Optical unit, Printed-circuit board assembly, Operating voltage, Frequencies, Drifts	Monitoring Box MCS200HW Premium	On request
MCS300P	Operational status, Logbook, temperatures, Optical unit, Printed-circuit board as-	Monitoring Box MCS300P Premium	On request

Supported products	Vital data	Type	Part no.
	sembly, Operating voltage, Frequencies, Drifts, Optional: Monitoring of the SCP3000		
MERCEM300Z	Operating voltage, lamp energy, reference energy, operational status, pressures, control valves, temperatures, availability, measured values	Monitoring Box MERCEM300Z Premium	1615512
MPB10	System status, operating hours, Days since the last reset	Monitoring Box MPB10 Premium	1617435
VICOTEC320	Sensor status, servicing instructions, maintenance and error messages, sensor temperature, dust concentration, Exposure times, Temperature (optics and spectrometer), pressure, Logbook, measured values	Monitoring Box VICOTEC320 Premium	On request
VICOTEC450	Sensor status, servicing instructions, maintenance and error messages, Current flow, Amplification, contamination, Logbook, Measured values (VIS, temperature), sensor temperature, dust concentration	Monitoring Box VICOTEC450 Premium	On request
VISIC100SF	Sensor status, servicing instructions, maintenance and error messages, sensor temperature, contamination, Measured values (CO, NO, NO_2, dust concentration, VIS)	Monitoring Box VISIC100SF Premium	On request
VISIC50SF	Sensor status, servicing instructions, maintenance and error messages, sensor temperature, contamination, Measured value (VIS)	Monitoring Box VISIC50SF Premium	On request

- **Description:** The Monitoring Box Premium is a scalable digital service for monitoring, analyzing and predicting service and process data. The FTMg flow sensor is used to continuously monitor and analyze compressed air consumption. By combining the FTMg and Monitoring Box, you can easily detect static leaks or compare the compressed air consumption per measuring point. This lowers costs, optimizes production efficiency or reduces service work.
- **Application:** Condition monitoring, Data Analytics
- **Hosting:** Off-premise: smartservice.sick.com, Industrial PC, other solutions on request
- **Contract type:** SaaS (Software as a Service)

Contract interval	Supported products	Vital data	Version	Type	Part no.
Annual	FTMg-E	Device state, system status, Days since the last reset	Minimum Viable Product	Monitoring Box FTMg Premium	1617432

- **Description:** The Monitoring Box Premium is a scalable digital service for monitoring, analyzing and predicting service and process data. The LMS1xx is used to monitor object detections and the health status of the sensor. Through additional analyses of the object detections, opportunities for increasing output can be identified.
- **Application:** Condition monitoring, Data Analytics, Predictive maintenance
- **Hosting:** Off-premise: smartservice.sick.com, Industrial PC, other solutions on request
- **Contract type:** SaaS (Software as a Service)

Contract interval	Supported products	Vital data	Version	Type	Part no.
Annual	LMS1xx	Device status, device temperature, contamination, operating hours, Power-ups	Minimum Viable Product	Monitoring Box LMS1xx Premium	1615510

- **Description:** The Monitoring Box Premium is a scalable digital service for monitoring, analyzing and predicting service and process data. The LMS5xx is used to monitor object detections and the health status of the sensor. Through additional analyses of the object detections, opportunities for increasing output can be identified.
- **Application:** Condition monitoring, Data Analytics, Predictive maintenance
- **Hosting:** Off-premise: smartservice.sick.com, Industrial PC, other solutions on request
- **Contract type:** SaaS (Software as a Service)

Contract interval	Supported products	Vital data	Version	Type	Part no.
Annual	LMS5xx	Device status, device temperature, contamination, operating hours, Power-ups	Minimum Viable Product	Monitoring Box LMS5xx Premium	1615511

- **Description:** The Monitoring Box Premium is a scalable digital service for monitoring, analyzing and predicting service and process data. The microScan3 is used to monitor object detections and the health status of the sensor. Through additional analyses of the object detections, opportunities for increasing output can be identified.
- **Application:** Condition monitoring, Data Analytics, Predictive maintenance
- **Hosting:** Off-premise: smartservice.sick.com, Industrial PC, other solutions on request
- **Contract type:** SaaS (Software as a Service)

Contract interval	Supported products	Vital data	Version	Type	Part no.
Annual	microScan3	Device status, operating hours, Error code, contamination, device temperature	Minimum Viable Product	Monitoring Box microScan3 Premium	1615509

- **Description:** The Monitoring Box Premium is a scalable digital service for monitoring, analyzing and predicting service and process data. The outdoorScan3 is used to monitor object detections and the health status of the sensor. Through additional analyses of the object detections, opportunities for increasing output can be identified.
- **Application:** Condition monitoring, Data Analytics, Predictive maintenance
- **Hosting:** Off-premise: smartservice.sick.com, Industrial PC, other solutions on request
- **Contract type:** SaaS (Software as a Service)

Contract interval	Supported products	Vital data	Version	Type	Part no.
Annual	outdoorScan3	Operating hours, contamination, device temperature, device status, Error code	Minimum Viable Product	Monitoring Box outdoorScan3 Premium	1615508

- **Description:** The Monitoring Box On-Premise package is used for the one-off remote commissioning of the subscribed Monitoring Boxes at the user on a virtual machine or an industrial PC (available separately).
- **Application:** Condition monitoring, Predictive maintenance, Data Analytics
- **Prerequisites:** User needs to satisfy the prerequisites specified in the contract for an on-premise solution.
- **Hosting:** Industrial PC, other solutions on request
- **Supported products:** AOS LiDAR, FLOWSIC200, FTMg-E, LMS1xx, LMS5xx, MCS200HW, MCS300P, MERCEM300Z, microScan3, outdoorScan3, VICOTEC320, VICOTEC450, VISIC100SF, VISIC50SF

Type	Part no.
Monitoring Box On-Premise Package L	1617440
Monitoring Box On-Premise Package M	1617441
Monitoring Box On-Premise Package S	1617439

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