Asset Monitoring System
RELIABLE DETECTION OF RE-USE CYCLES AND PRODUCT VARIANTS

Quality control systems

SICK
Sensor Intelligence.
The condition of equipment such as returnable bottles, crates, or coated baking sheets has a crucial impact on product quality, especially in the food industry. The SICK Asset Monitoring System ensures that equipment remains in top condition by monitoring it at every point of the production line, detecting different products, counting them, and evaluating the data obtained in the process. This quality control system is an all-rounder in every respect.

Identify. Quantify. Analyze.

The Asset Monitoring System is not exclusive to quality assurance in the food and drink sector: it also finds application in many other industries. The system captures product codes directly at the production line, providing detailed information about the objects checked. The data collected can then be read from the touchscreen on the machine itself or exported as a data package.

The Asset Monitoring System reads and reliably identifies the code carried by reusable equipment, which enables the tracking of information such as the number of times a water cooler bottle has been refilled to date. If the bottle has reached its permitted number of refill cycles, the Asset Monitoring System gives a signal indicating that the bottle should be rejected from the production line.

The Asset Monitoring System also detects the different product variants produced on the production line, counts them, and provides accurate production statistics.
Flexible and user-friendly

The Asset Monitoring System has an impressive modular design featuring easy-to-integrate components from the SICK portfolio. Its Lector® series image-based code reader reliably detects and evaluates equipment codes with precision. Regardless of whether an object’s surface is made from metal, glass, plastic, or paper, and regardless of what the object is used for, the Asset Monitoring System offers the right solution.

The machine features a Sensor Integration Unit (SIU) with touchscreen that enables the system to be operated in field. Customized software enables visualizations of current process data and long-term statistics to be viewed on the 7-inch touchscreen. This touchscreen has an intuitive user interface and requires no training to operate. In addition to providing data on ongoing operations, statistics can be retrieved as and when needed. Data is also saved in an internal database and can be accessed remotely by an external PC or other device, independent of location, using the automated export function and customizable FTP connection.

System construction

All the components in the Asset Monitoring System are connected to one another. Photoelectric proximity sensors identify the objects on the conveyor belt, whilst the Lector® series image-based code readers detect their codes. The relevant information is then transferred directly to the machine’s Sensor Integration Unit for evaluation and is also stored on a server so that it can be accessed externally. If the intervention of an operator is required, for instance when a piece of equipment has reached its maximum number of permitted cycles, a signal light illuminates on the production line.
All information at a glance

With the Asset Monitoring System’s clear user interface, the quality control system can be configured according to the task at hand and also displays the read result evaluation. The accompanying software ensures that all information regarding recently read codes and general read statistics, such as the number of objects detected and the number of objects with a failed code read, is kept readily to hand. A real-time visualization of all read code information can be viewed in a live display. This software can also be used to control and configure the Asset Monitoring System’s integrated Lector® series image-based code reader.

The most recently read code and a summary of all read statistics are also displayed in the status window. Code content, the read history for individual codes, the read rate, and the number of recognized and unrecognized codes can all be viewed at a glance.

Every piece of equipment saved in the system is listed alongside its code information and read rates in an easy-to-read table. Data exports can be initiated, counters can be reset, and data sets can be deleted from this view too.

A real-time visualization of all read code information, including read statistics, code information, and visual attributes, can be viewed in the live display.

The auto set-up function means that the Asset Monitoring System’s integrated Lector® series image-based code reader gets up and running in no time: reading distance, exposure times, contrast, and brightness are adjusted automatically.

An FTP connection enables recorded data to be exported easily and securely. Server save locations can also be selected individually.

The network scan function offers an overview of all image-based code readers integrated with the system network.
In use in all sectors

As an individual component, the quality control system can be easily integrated into any production environment and is the perfect solution when retrofitting existing plants. Its low overall costs and ease of installation and operation are yet more compelling reasons to choose the SICK Asset Monitoring System: no time-consuming system integration processes or special training on how to configure the system are required. The Asset Monitoring System is “out-of-the-box ready”, whatever the production environment, and is a reliable way of retaining an oversight of equipment.

Automotive and parts supplier industries

The Asset Monitoring System detects the exact number of parts for different products in the automotive and parts supplier industries and monitors tool use cycles.

Beverage industry

The beverage industry has special requirements when it comes to monitoring reuse cycles: the Asset Monitoring System can be used to monitor, amongst other things, refill cycles for beer and wine barrels.

Packaging industry

Often, packaging lines process a wide variety of different products. The Asset Monitoring System keeps track of them, offering a precise analysis of the parts contained in the individual product variants that pass along the packaging line and through the system over a specific time interval.

Food industry

The Asset Monitoring System offers a reliable way of monitoring reusable equipment in the food industry. It counts reuse cycles for baking sheets and other items and gives a signal whenever a piece of equipment needs to be replaced.
Product description
The Asset Monitoring System quality control system reads codes in order to collect detailed information regarding the use of equipment or the number of product variants manufactured on a production line. This enables the plant operator to keep track of equipment that is wearing out or the quantity of manufactured product variants at all times. As an easy-to-integrate stand-alone solution, the system is especially suited for retrofitting into existing plants. The modular design with code readers from the Lector6xx product family means the system can be used in all kinds of applications.

At a glance
- Code reading to collect production data during operation
- Data export via configurable FTP connection
- Intuitive operation via HMI with touchscreen
- Easy-to-integrate stand-alone solution
- Display of live image and reading statistics

Your benefits
- Quality assurance through the evaluation of detailed equipment usage data
- Low overall costs thanks to simple installation and operation
- Trouble-free retrofitting of existing plants thanks to stand-alone solution
- Easy access to data thanks to automated export function

Additional information
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www.sick.com/Asset_Monitoring_System
For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.
Detailed technical data

The exact device specifications and performance data of the product may deviate from the information provided here, and depend on the application in which the product is being used and the relevant customer specifications.

General notes

<table>
<thead>
<tr>
<th>Items supplied</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASM-1000</td>
</tr>
<tr>
<td>SIU with Asset Monitoring System (ASM) software</td>
</tr>
<tr>
<td>Lector620 Professional with mounting bracket</td>
</tr>
<tr>
<td>Trigger photoelectric sensor with mounting bracket</td>
</tr>
<tr>
<td>Connection unit with voltage supply and network switch</td>
</tr>
<tr>
<td>Cables</td>
</tr>
<tr>
<td>ASM-1100</td>
</tr>
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<tr>
<td>Remote I/O module</td>
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<tr>
<td>Signal lamp</td>
</tr>
<tr>
<td>Cables</td>
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</tbody>
</table>

Features

Applications
- Monitoring the usage cycles of equipment
- Counting products

Laser class
- I (IEC 60825-1 (2007-3))

LED class
- Risk group 1 (IEC 62471 (2006-07) / EN 62471 (2008-09))

Performance

1D code types
- GS1-128 / EAN 128
- UPC / GTIN / EAN
- Interleaved 2 of 5
- GS1 DataBar
- Code 39
- Code 128
- Codabar
- Code 32
- Code 93

2D code types
- Data Matrix ECC200
- GS1 Data-Matrix
- PDF417
- PDF417 Truncated
- QR code

Number of codes per scan
- 1

Number of codes per reading interval
- 1

Number of objects per second
- 3

Minimum object distance
- 2 s

Authorizations
- CE-conformity

Interfaces

<table>
<thead>
<tr>
<th>Ethernet</th>
<th>✔</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB</td>
<td>✔</td>
</tr>
<tr>
<td>Export data format</td>
<td>csv</td>
</tr>
<tr>
<td>Operator interface</td>
<td>Touch display, 7 inch, 800 x 480</td>
</tr>
<tr>
<td>Output data</td>
<td>Data export via configurable FTP connection</td>
</tr>
<tr>
<td>Switching outputs</td>
<td>4, digital outputs</td>
</tr>
<tr>
<td>Switching inputs</td>
<td>1, Digital input, trigger input</td>
</tr>
<tr>
<td>Memory card</td>
<td>4 GB</td>
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Mechanics/electronics

<table>
<thead>
<tr>
<th>Housing dimensions (W x D x H)</th>
<th>254.2 mm x 147.7 mm x 56 mm</th>
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<tbody>
<tr>
<td>Enclosure rating</td>
<td>IP65</td>
</tr>
<tr>
<td>Protection class</td>
<td>III</td>
</tr>
<tr>
<td>Housing color</td>
<td>Black</td>
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<tr>
<td>Housing material</td>
<td>Aluminum</td>
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</table>

Ambient data

<table>
<thead>
<tr>
<th>Ambient temperature operation</th>
<th>0 °C ... +40 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient storage temperature</td>
<td>-40 °C ... +75 °C</td>
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</table>

Ordering information

<table>
<thead>
<tr>
<th>Items supplied</th>
<th>Type</th>
<th>Part no.</th>
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<tbody>
<tr>
<td>SIU with Asset Monitoring System (ASM) software</td>
<td>ASM-1000</td>
<td>1084632</td>
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<tr>
<td>Lector620 Professional with mounting bracket</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trigger photoelectric sensor with mounting bracket</td>
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<td>Remote I/O module</td>
<td>ASM-1100</td>
<td>1086187</td>
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</tbody>
</table>
Dimensional drawings (Dimensions in mm (inch))

Lector62x Professional

- M5 blind tapped holes, 5 mm deep (4 x), for mounting the sensor
- Ethernet connection
- "Power/Serial Data/CAN/I/O" connection
- Sliding nut M5, 5 mm deep (2 x), for mounting (as alternative)
- Swivel connector unit
- Reading field
- Function button (2 x)
- Bar graph display
- LEDs for status display (2 levels), 5 x
- Cover (flap)
- "Micro USB" connection
- Slot for microSD memory card
- LED for microSD memory card
Sensor Integration Unit

Mounting bracket
Accessories

Mounting systems
Mounting brackets and plates

<table>
<thead>
<tr>
<th>Brief description</th>
<th>Type</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bracket with adapter board</td>
<td>Mounting bracket</td>
<td>2042902</td>
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</tbody>
</table>

Further accessories

Sets and kits

<table>
<thead>
<tr>
<th>Brief description</th>
<th>Type</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lector620 Professional including cables and mounting bracket</td>
<td>Lector620 Professional extension kit</td>
<td>2091966</td>
</tr>
</tbody>
</table>

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SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 7,400 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, we are always close to our customers. 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 various 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 round out 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:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations → www.sick.com